APPENDIX A

PM_{10} Daily Averages and Monthly Statistics

.

(This page intentionally left blank)

PM_{10} Daily Averages, Q19

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)
10/01/2022	34	13.041	18	14.375
10/02/2022	38.208	11.333	21.666	14.666
10/03/2022	23.625	11.833	14.125	11.458
10/04/2022	33.541	17.041	21.583	13.25
10/05/2022	27.5	20.083	32.416	25.666
10/06/2022	42.041	23.625	24.458	21.583
10/07/2022	41.833	21.25	37.833	25.458
10/08/2022	39.041	26.166	29.75	26.041
10/09/2022	37.416	23.291	29.833	23.041
10/10/2022	35.375	23.041	30.166	26.208
10/11/2022	31.625	23.375	42.25	19.083
10/12/2022	38.791	25.333	32.75	18.541
10/13/2022	**51.666**	28.458	32.916	17.583
10/14/2022	26.958	18.958	36.666	17.791
10/15/2022	10.375	6.458	9.583	6.75
10/16/2022	20.083	6.375	17.583	8.583
10/17/2022	13.541	12.708	18.5	13.291
10/18/2022	15.208	12.666	14.333	12.708
10/19/2022	6.333	4.125	6.791	5.25
10/20/2022	10.625	6.416	9.291	6.958
10/21/2022	23.875	19.791	25.333	20.791
10/22/2022	15.416	11.125	16.333	10.833
10/23/2022	15.958	17.333	14.291	12.583
10/24/2022	11.208	10.791	12.166	12.5
10/25/2022	11.916	14.708	11.291	11.041
10/26/2022	17.583	16.541	17	16.083
10/27/2022	18.083	18.208	16.958	16.25
10/28/2022	14.083	12.5	13.291	11.958
10/29/2022	15.208	10.833	12.125	12.166
10/30/2022	8.041	7.458	7.75	7.375
10/31/2022	10.5	8.166	9.958	9.083
11/01/2022	25.333	23.166	23.833	25.5
11/02/2022	11.5	7.333	10.916	9.5
11/03/2022	6.166	5.541	5.875	4.875
11/04/2022	3.708	3.916	4.333	3.125
11/05/2022	5.875	6.25	5.958	6.875

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)
11/06/2022	8.583	7.25	8.166	7.041
11/07/2022	1.416	3	4.125	3.083
11/08/2022	7.291	0.958	2.458	0.916
11/09/2022	5.541	8.666	3.875	4
11/10/2022	0.791	1.5	0.916	1.583
11/11/2022	1.208	2.833	0.958	1.75
11/12/2022	2.625	6.666	4.5	3.5
11/13/2022	11.708	13.041	8.791	8.625
11/14/2022	5.416	5.416	5.208	4.833
11/15/2022	7.958	6.375	6.375	8.708
11/16/2022	22.5	26.625	18.916	31.708
11/17/2022	3.291	2.041	2.375	2.916
11/18/2022	3.625	3.125	3.208	3.416
11/19/2022	9.375	8.833	8.083	10.833
11/20/2022	1.791	1.75	1.916	2.208
11/21/2022	3.416	2.375	2.291	1.833
11/22/2022	3.416	2.041	2.791	2.333
11/23/2022	3.208	3.25	3.833	3.25
11/24/2022	20	18.875	18.833	25.75
11/25/2022	2.75	1.958	2.458	3.333
11/26/2022	9.916	10.708	7.541	8.875
11/27/2022	9.708	8.875	9.958	9.708
11/28/2022	29.458	26.041	29.541	33.458
11/29/2022	15.416	13.833	13.208	14.708
11/30/2022	16.916	14.625	14.875	16.166
12/01/2022	3.75	7.166	7	6.416
12/02/2022	0	1	1.041	-0.041
12/03/2022	2.75	2.75	1.958	1.583
12/04/2022	0.25	-0.25	1.125	0.875
12/05/2022	5.333	2.583	5.791	6.083
12/06/2022	9.833	6.291	10.916	6.083
12/07/2022	5.583	1.375	5.458	5.083
12/08/2022	4.625	2.208	3	3.25
12/09/2022	6.875	3.041	2.625	4.875
12/10/2022	2.416	2.5	1.708	2.625
12/11/2022	5.291	5.333	2.75	3.833
12/12/2022	6	7.708	5.791	4.208

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)
12/13/2022	2.166	3.833	3.416	3.416
12/14/2022	4.791	4.791	3.833	3.916
12/15/2022	10.875	3.708	3.166	3.458
12/16/2022	2.208	2.208	2.041	2.791
12/17/2022	1.75	1.375	1.083	2.25
12/18/2022	6.583	4.125	7.125	4.375
12/19/2022	10.833	7.583	7.041	7.333
12/20/2022	5.625	4.333	4.875	3.916
12/21/2022	2.333	2.333	2.333	1.833
12/22/2022	4.291	4.166	3.708	3.125
12/23/2022	4.541	4.75	4.791	5.458
12/24/2022	1.25	1.833	1.833	2.041
12/25/2022	0.333	1.041	0.75	0.708
12/26/2022	2.541	1.541	2.708	1.583
12/27/2022	10.666	9.791	13.25	11.625
12/28/2022	25.25	8.416	14.958	6.333
12/29/2022	6.666	5.5	10.125	3.916
12/30/2022	2.458	1.625	8.916	2.333
12/31/2022	-1.166	-0.958	3.208	-0.583

Notes:

Negative values mean the background exceeded the particulate count.

Bold numbers indicate value exceeded CAAQS but is below the NAAQS of 150 µg/m³.

PM_{10} Daily Averages, Q16 through Q19

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)
Q16				
01/01/22	3.083	2.375	5.667	3.875
01/02/22	0.708	0.791	0.875	2.583
01/03/22	2.625	4.541	6.958	6
01/04/22	3.958	19.416	10.708	7.25
01/05/22	0.708	1.875	1.166	2.25
01/06/22	3.291	6.333	3.541	8.791
01/07/22	19.791	26.333	28.166	22.833
01/08/22	15.5	29.041	34.041	32.458

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)
01/09/22	3.583	7.041	1.75	5.791
01/10/22	1.188	1.708	1	2.625
01/11/22	1.708	2.541	1.958	4.541
01/12/22	0.75	0.916	0.833	2.041
01/13/22	7	4.25	5.125	5.625
01/14/22	5.5	5.958	10.041	7.333
01/15/22	4.125	11.583	4.166	9.125
01/16/22	—	3.416	4.75	6.375
01/17/22	17.467	23.791	11.833	44.75
01/18/22	18.666	18.125	19.25	27
01/19/22	10.291	8.291	7.333	12.458
01/20/22	3.313	2.75	2.458	4.708
01/21/22	15.958	12.458	13.833	15.75
01/22/22	—	8.416	10.416	12.708
01/23/22	—	1.208	1.791	2.375
01/24/22	9.5	8.166	6.916	19.083
01/25/22	8.867	8.458	8.625	15.708
01/26/22	2.188	1.541	3.125	3.541
01/27/22	2.833	2.375	2.666	3.958
01/28/22	6.429	5.625	6.083	8.125
01/29/22	1.916	2.166	1.833	3.875
01/30/22	4.708	4.666	4.541	—
01/31/22	25.416	19.708	24.958	—
02/01/22	25.041	25.125	24.875	—
02/02/22	12.125	11.25	11	—
02/03/22	7.458	6.583	8.25	—
02/04/22	5.541	5.375	5.5	—
02/05/22	1.458	2.375	1.916	—
02/06/22	1.708	2.083	2.166	—
02/07/22	2.875	1.666	2.125	—
02/08/22	2.125	1.5	2.291	—
02/09/22	2.833	2.166	1.708	—
02/10/22	4.958	5.541	5.458	—
02/11/22	2.541	1.833	2	—
02/12/22	3.333	2.958	3.291	—
02/13/22	5.166	4.333	4.333	—
02/14/22	—	8.5	8.166	—

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)
02/15/22	—	10	11.5	—
02/16/22	12.333	8.166	8.291	—
02/17/22	10.791	9.375	10.291	—
02/18/22	4.416	3.791	19.666	—
02/19/22	—	4.291	4.583	—
02/20/22	—	13.375	13.75	—
02/21/22	13.067	11.25	12.333	—
02/22/22	9.291	9.458	12.625	—
02/23/22	—	2.583	3.083	—
02/24/22	4.938	2.958	4.708	—
02/25/22	5.75	4.416	4.458	—
02/26/22	4.625	3.416	3.958	—
02/27/22	3.708	3	2.958	—
02/28/22	4.958	3.625	2.958	—
03/01/22	2.958	1.958	3.041	—
03/02/22	9.625	7.541	7.75	—
03/03/22	12.875	11.875	14.083	—
03/04/22	7.125	6.333	7.416	—
03/05/22	10.916	11.708	13.291	—
03/06/22	5.291	4.875	6.333	—
03/07/22	—	5.208	6.583	—
03/08/22	5.933	3.916	4.875	—
03/09/22	11	9.541	10.708	—
03/10/22	12.375	11.416	11.75	—
03/11/22	8.458	6.708	7.333	—
03/12/22	—	5.25	5.666	—
03/13/22	—	9.833	10.625	—
03/14/22	4.5	6.291	7.083	—
03/15/22	9.541	7.625	7.791	15.214
03/16/22	8.938	6.625	6.5	10.291
03/17/22	9.471	6.958	8.458	11.666
03/18/22	9.923	7.208	6.875	8.208
03/19/22	11.958	10.041	12.666	13.25
03/20/22	5.041	4.625	5.333	6.125
03/21/22	8.5	6.375	6.875	8.041
03/22/22	—	5.5	6.041	6.791
03/23/22	7.125	5.583	8.166	5.875

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)
03/24/22	7.458	5.875	6.5	6.541
03/25/22	5.583	4.583	4.083	4.863
03/26/22	10.875	28.666	12.125	10.083
03/27/22	14.791	12.083	13	13.958
03/28/22	4.083	8.208	4.708	3.666
03/29/22	3.375	4.458	6.666	5.375
03/30/22	11.083	10.625	11.875	9.958
03/31/22	11.304	12.608	13.695	14.043
Q17				
04/01/22	12.666	21.541	11.458	15.625
04/02/22	10.833	9.75	11.416	13.666
04/03/22	9.791	9.083	12.458	9.333
04/04/22	12.416	13.041	12.666	12.708
04/05/22	8.875	7.541	8.458	9.458
04/06/22	15.541	10.5	11.166	12.166
04/07/22	11.75	12.041	11.5	13.041
04/08/22	10.375	10.083	10.291	11.125
04/09/22	26.708	22.125	24.25	24.75
04/10/22	37.333	48.958	37.458	42
04/11/22	31.375	27.791	28.416	30.416
04/12/22	17.125	12.208	13.625	12.416
04/13/22	12.208	11	12.583	12.083
04/14/22	13.833	13.541	16.625	16.583
04/15/22	14.375	11.583	13.25	17.416
04/16/22	5.666	6.708	6.625	7.291
04/17/22	8.333	7.25	8.375	11.916
04/18/22	15.333	15.041	16.5	13.791
04/19/22	15.25	20.333	16.708	16.125
04/20/22	10.333	9.041	11.875	16.166
04/21/22	7.708	23.25	7.625	9.958
04/22/22	8.5	6.166	7.083	7.625
04/23/22	6.375	4.541	5.333	7.5
04/24/22	5.625	4.25	5.875	6.583
04/25/22	7.625	6.375	5.833	6.791
04/26/22	19.916	14.916	22.5	18.375
04/27/22	26.041	41.875	29.708	29.75
04/28/22	20.666	20.708	20.375	22.333

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)
04/29/22	20.375	16	19.375	18.333
04/30/22	21.541	18.625	20.416	20.833
05/01/22	26.541	35.458	21.875	26.166
05/02/22	21.625	16.5	25.333	20.166
05/03/22	20.458	16.916	17.958	22.333
05/04/22	21.208	27.416	21.666	20.125
05/05/22	22.208	29.583	29.75	18.708
05/06/22	15.75	19.25	18.083	15.083
05/07/22	20.166	18.958	29.125	23.125
05/08/22	21.208	21.25	21.083	25.041
05/09/22	20.583	15.666	20.666	18.375
05/10/22	11	10.666	13.291	14.041
05/11/22	8.875	8.208	9.541	9.416
05/12/22	10.708	10.791	10.958	11.791
05/13/22	9.458	9.25	8.916	10.708
05/14/22	10.166	9.416	10.791	10.041
05/15/22	14.75	12.791	16.583	14.25
05/16/22	23.541	21.375	22.041	23
05/17/22	20.916	17.625	17.291	25.833
05/18/22	24.291	23.25	26.166	27.208
05/19/22	21.583	18.916	18.958	25.708
05/20/22	9.25	15.708	11.75	13.416
05/21/22	13.583	13.083	19.458	14.5
05/22/22	16.625	16.125	13.208	26.916
05/23/22	23.916	30.458	23.291	28.708
05/24/22	21.5	18.166	22.666	24.625
05/25/22	19.75	18.541	23.5	29.375
05/26/22	19.583	24.375	31.916	20.208
05/27/22	14.916	16.75	10.5	16.041
05/28/22	11.375	11.458	10.666	13.291
05/29/22	15.75	10.5	13.791	15.25
05/30/22	27.458	41.375	22.833	28.375
05/31/22	22.083	36.541	15.75	17.333
06/01/22	27.208	19.916	19.166	16.458
06/02/22	29.958	33.625	42.5	42.416
06/03/22	20.208	20.791	18.708	23.125
06/04/22	14.666	21.041	20.916	19.666

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)
06/05/22	11.375	16.25	12.125	15.708
06/06/22	13.875	18.333	14.708	29.75
06/07/22	20.208	15.125	17.75	20
06/08/22	21.625	25.041	27.041	21.041
06/09/22	23.041	23.125	18.833	21.041
06/10/22	24.25	17.208	25	20.791
06/11/22	13.166	13.333	13.083	15.5
06/12/22	15.875	12.5	16.75	15.708
06/13/22	18.666	18.875	14.583	15.208
06/14/22	23.166	18.958	20.083	24.125
06/15/22	24.666	25.25	31.25	26.833
06/16/22	25.125	25.541	35.583	38.5
06/17/22	16.875	18.125	22.125	18.125
06/18/22	15.916	16.958	15.333	18.25
06/19/22	10.583	15.75	10.458	12.791
06/20/22	13.375	12.541	—	12
06/21/22	19.791	17.333	—	13.375
06/22/22	20.458	12.875	—	13.75
06/23/22	11.291	8.791	—	10.916
06/24/22	13.791	7.833	15.318	9.208
06/25/22	11.375	8.708	11.875	10.916
06/26/22	14.875	11.375	14.25	12.166
06/27/22	22.083	19.458	24.875	22.458
06/28/22	14.708	15.458	17.166	13.5
06/29/22	19.833	16.625	21.625	16.875
06/30/22	21.208	17.708	18.083	16.041
Q18				
07/01/22	23.708	23.041	18.041	17.625
07/02/22	15.666	15.708	19.625	14.916
07/03/22	19.208	16.041	18.041	17.958
07/04/22	17.541	16.958	15.916	20.208
07/05/22	27.166	21.125	27.416	29.5
07/06/22	14.125	13	11.833	11.041
07/07/22	13.625	10.625	11.416	11
07/08/22	14.291	12.375	15.375	13.083
07/09/22	8.708	7.583	8.625	9.416
07/10/22	12.458	11.833	12.166	12.75

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)
07/11/22	15.708	17.166	14.791	14.375
07/12/22	14.291	26.5	15.166	18.208
07/13/22	16.333	17	10.333	12.125
07/14/22	13.833	13.708	12.458	12.958
07/15/22	18.416	26.5	16.083	17.75
07/16/22	20.541	25.333	18.916	17.833
07/17/22	23.333	15.416	16.541	17.041
07/18/22	13.916	12.25	14.5	14.791
07/19/22	7.5	8.041	8.833	8.541
07/20/22	10.916	9.5	12.375	12.25
07/21/22	16.625	14.416	14.75	13.75
07/22/22	19.916	18.708	20	18.75
07/23/22	20.791	24.958	23.166	21.833
07/24/22	21.625	26.291	21.083	25.583
07/25/22	24.208	17.208	17.458	18.166
07/26/22	12.25	18.416	15.083	17.375
07/27/22	17.583	23.375	14.708	12.958
07/28/22	16.208	19.875	19.75	16.25
07/29/22	15.166	18.333	15.583	16.833
07/30/22	12.125	21.958	15.5	11.791
07/31/22	14.958	9.541	9.833	12.166
08/01/22	14.583	10.625	12.75	11.333
08/02/22	13.041	13.25	14.875	11.541
08/03/22	20.083	19.25	15.583	13.708
08/04/22	15.625	16.166	21.583	17.5
08/05/22	13.958	12.541	18.125	13.875
08/06/22	9.208	8	10.416	9.958
08/07/22	10.583	—	11.291	11.333
08/08/22	16.291	—	15.125	15
08/09/22	15.875	—	15.875	15.041
08/10/22	11.416	—	12.875	10.166
08/11/22	10.208	—	8.708	9.458
08/12/22	13.416	—	13.541	12.666
08/13/22	15.291	—	16.208	15.333
08/14/22	12.958	—	12.041	11.583
08/15/22	15.916	—	16.541	15.541
08/16/22	16.875	—	16.583	15.083

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)
08/17/22	14	—	17.125	13.625
08/18/22	13.083	—	12.041	11.375
08/19/22	18.125	—	16.083	15.833
08/20/22	20.25	15.416	22.458	19.416
08/21/22	15.458	15.625	24.875	29.875
08/22/22	14.125	13.5	15	20.75
08/23/22	23.958	16.458	21.583	26.166
08/24/22	19.916	17.916	22.625	20.708
08/25/22	16.916	13.375	15.375	18.916
08/26/22	17.25	12.541	15.791	17.166
08/27/22	13.041	11.5	14.875	17.958
08/28/22	11.416	14.291	22.833	27.166
08/29/22	13.75	13	17.875	17.083
08/30/22	12.291	10.083	13	12.458
08/31/22	9.833	9.5	10.166	13.708
09/01/22	30.333	22.208	23.875	21.333
09/02/22	24.041	21.333	28.5	22
09/03/22	16.875	17	16.916	17.25
09/04/22	12.916	13.041	13.666	13.583
09/05/22	17.125	15.75	16.708	16.25
09/06/22	21.916	17.791	19.875	18
09/07/22	15.416	14.5	18	15.416
09/08/22	17.541	14.375	21.916	15.333
09/09/22	27.083	23.083	40.333	25.875
09/10/22	6.625	8.833	31.5	30.916
09/11/22	11.208	8.333	22.958	18.083
09/12/22	9.166	6.666	20.208	24.083
09/13/22	15.958	14.916	24.083	22.791
09/14/22	18.541	17.416	24.375	28.375
09/15/22	14.416	13.208	20.416	25.333
09/16/22	17.083	18.416	20.458	24.666
09/17/22	—	17.708	34.625	38.625
09/18/22	—	13.125	16.291	25.583
09/19/22	—	8.416	12	13.083
09/20/22	30.583	4.166	9.833	12.125
09/21/22	44.333	6.333	12.333	16.875
09/22/22	24.708	9.75	12.25	16.583

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	**PM_{10} ($\mu g/m^3$) (CAAQS 50 $\mu g/m^3$)**	**PM_{10} ($\mu g/m^3$) (CAAQS 50 $\mu g/m^3$)**	**PM_{10} ($\mu g/m^3$) (CAAQS 50 $\mu g/m^3$)**	**PM_{10} ($\mu g/m^3$) (CAAQS 50 $\mu g/m^3$)**
09/23/22	14.708	10.958	12.833	13.166
09/24/22	8.208	10.375	6.916	8.083
09/25/22	6	5.416	5.291	5
09/26/22	7.25	5.5	6.875	7.75
09/27/22	13.333	10.708	10.833	11.083
09/28/22	20.166	15.291	15.916	15.916
09/29/22	35.166	16	16.625	18.666
09/30/22	47.291	19.583	23.833	21.583
Q19				
10/01/22	34	13.041	18	14.375
10/02/22	38.208	11.333	21.666	14.666
10/03/22	23.625	11.833	14.125	11.458
10/04/22	33.541	17.041	21.583	13.25
10/05/22	27.5	20.083	32.416	25.666
10/06/22	42.041	23.625	24.458	21.583
10/07/22	41.833	21.25	37.833	25.458
10/08/22	39.041	26.166	29.75	26.041
10/09/22	37.416	23.291	29.833	23.041
10/10/22	35.375	23.041	30.166	26.208
10/11/22	31.625	23.375	42.25	19.083
10/12/22	38.791	25.333	32.75	18.541
10/13/22	**51.666**	28.458	32.916	17.583
10/14/22	26.958	18.958	36.666	17.791
10/15/22	10.375	6.458	9.583	6.75
10/16/22	20.083	6.375	17.583	8.583
10/17/22	13.541	12.708	18.5	13.291
10/18/22	15.208	12.666	14.333	12.708
10/19/22	6.333	4.125	6.791	5.25
10/20/22	10.625	6.416	9.291	6.958
10/21/22	23.875	19.791	25.333	20.791
10/22/22	15.416	11.125	16.333	10.833
10/23/22	15.958	17.333	14.291	12.583
10/24/22	11.208	10.791	12.166	12.5
10/25/22	11.916	14.708	11.291	11.041
10/26/22	17.583	16.541	17	16.083
10/27/22	18.083	18.208	16.958	16.25
10/28/22	14.083	12.5	13.291	11.958

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)	PM_{10} (µg/m³) (CAAQS 50 µg/m³)
10/29/22	15.208	10.833	12.125	12.166
10/30/22	8.041	7.458	7.75	7.375
10/31/22	10.5	8.166	9.958	9.083
11/01/22	25.333	23.166	23.833	25.5
11/02/22	11.5	7.333	10.916	9.5
11/03/22	6.166	5.541	5.875	4.875
11/04/22	3.708	3.916	4.333	3.125
11/05/22	5.875	6.25	5.958	6.875
11/06/22	8.583	7.25	8.166	7.041
11/07/22	1.416	3	4.125	3.083
11/08/22	7.291	0.958	2.458	0.916
11/09/22	5.541	8.666	3.875	4
11/10/22	0.791	1.5	0.916	1.583
11/11/22	1.208	2.833	0.958	1.75
11/12/22	2.625	6.666	4.5	3.5
11/13/22	11.708	13.041	8.791	8.625
11/14/22	5.416	5.416	5.208	4.833
11/15/22	7.958	6.375	6.375	8.708
11/16/22	22.5	26.625	18.916	31.708
11/17/22	3.291	2.041	2.375	2.916
11/18/22	3.625	3.125	3.208	3.416
11/19/22	9.375	8.833	8.083	10.833
11/20/22	1.791	1.75	1.916	2.208
11/21/22	3.416	2.375	2.291	1.833
11/22/22	3.416	2.041	2.791	2.333
11/23/22	3.208	3.25	3.833	3.25
11/24/22	20	18.875	18.833	25.75
11/25/22	2.75	1.958	2.458	3.333
11/26/22	9.916	10.708	7.541	8.875
11/27/22	9.708	8.875	9.958	9.708
11/28/22	29.458	26.041	29.541	33.458
11/29/22	15.416	13.833	13.208	14.708
11/30/22	16.916	14.625	14.875	16.166
12/01/22	3.75	7.166	7	6.416
12/02/22	0	1	1.041	-0.041
12/03/22	2.75	2.75	1.958	1.583
12/04/22	0.25	-0.25	1.125	0.875

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	**PM_{10} ($\mu g/m^3$) (CAAQS 50 $\mu g/m^3$)**	**PM_{10} ($\mu g/m^3$) (CAAQS 50 $\mu g/m^3$)**	**PM_{10} ($\mu g/m^3$) (CAAQS 50 $\mu g/m^3$)**	**PM_{10} ($\mu g/m^3$) (CAAQS 50 $\mu g/m^3$)**
12/05/22	5.333	2.583	5.791	6.083
12/06/22	9.833	6.291	10.916	6.083
12/07/22	5.583	1.375	5.458	5.083
12/08/22	4.625	2.208	3	3.25
12/09/22	6.875	3.041	2.625	4.875
12/10/22	2.416	2.5	1.708	2.625
12/11/22	5.291	5.333	2.75	3.833
12/12/22	6	7.708	5.791	4.208
12/13/22	2.166	3.833	3.416	3.416
12/14/22	4.791	4.791	3.833	3.916
12/15/22	10.875	3.708	3.166	3.458
12/16/22	2.208	2.208	2.041	2.791
12/17/22	1.75	1.375	1.083	2.25
12/18/22	6.583	4.125	7.125	4.375
12/19/22	10.833	7.583	7.041	7.333
12/20/22	5.625	4.333	4.875	3.916
12/21/22	2.333	2.333	2.333	1.833
12/22/22	4.291	4.166	3.708	3.125
12/23/22	4.541	4.75	4.791	5.458
12/24/22	1.25	1.833	1.833	2.041
12/25/22	0.333	1.041	0.75	0.708
12/26/22	2.541	1.541	2.708	1.583
12/27/22	10.666	9.791	13.25	11.625
12/28/22	25.25	8.416	14.958	6.333
12/29/22	6.666	5.5	10.125	3.916
12/30/22	2.458	1.625	8.916	2.333
12/31/22	-1.166	-0.958	3.208	-0.583

Notes:

Gray-shaded boxes indicate a filter sensor pressure failure.

Bold numbers indicate value exceeded CAAQS but is below the NAAQS of 150 $\mu g/m^3$.

PM_{10} Monthly Statistics, Q19

Location ID	October 2022			November 2022			December 2022		
	PM_{10}			PM_{10}			PM_{10}		
	High	Low	95th PCTL	High	Low	95th PCTL	High	Low	95th PCTL
DOE-1	51.66600	6.33300	41.93700	29.45800	0.79100	24.05815	25.25000	-1.16600	10.85400
DOE-2	28.45800	4.12500	25.74950	26.62500	0.95800	24.74725	9.79100	-0.95800	8.06200
DOE-3	42.25000	6.79100	25.74950	29.54100	0.91600	21.37450	14.95800	0.75000	10.10830
DOE-4	26.20800	5.25000	25.85350	33.45800	0.91600	29.02690	11.62500	-0.58300	6.87450

PCTL = percentile

PM_{10} Monthly Statistics, Q16 through Q19

Location ID	January 2022			February 2022			March 2022		
	PM_{10}			PM_{10}			PM_{10}		
	High	Low	95th PCTL	High	Low	95th PCTL	High	Low	95th PCTL
DOE-1	19.79100	0.70800	19.39725	25.04100	1.45800	13.01900	14.79100	3.37500	12.31245
DOE-2	29.04100	0.79100	25.06200	25.12500	1.50000	12.62500	28.66600	3.91600	12.42425
DOE-3	34.04100	0.83300	26.56200	24.87500	1.70800	16.87450	13.69500	4.08300	13.18915
DOE-4	44.75000	2.04100	30.27480	—	—	—	15.21400	3.66600	14.27720
Location ID	April 2022			May 2022			June 2022		
	PM_{10}			PM_{10}			PM_{10}		
	High	Low	95th PCTL	High	Low	95th PCTL	High	Low	95th PCTL
DOE-1	37.70800	9.83300	32.45800	31.91600	9.75000	26.97900	30.08300	7.91600	27.84550
DOE-2	33.25000	9.33300	30.12500	26.54100	6.50000	25.99950	26.00000	5.83300	22.85975
DOE-3	36.04100	8.83300	34.33300	29.20800	7.83300	26.52050	33.29100	7.75000	29.66630
DOE-4	41.16600	10.25000	34.58300	62.08300	7.83300	29.22900	29.00000	7.70800	25.09565

	July 2022			August 2022			September 2022		
	PM_{10}			PM_{10}			PM_{10}		
Location ID	High	Low	95th PCTL	High	Low	95th PCTL	High	Low	95th PCTL
DOE-1	27.16600	7.50000	23.95800	23.95800	9.20800	20.16650	47.29100	6.00000	41.58290
DOE-2	26.50000	7.58300	26.39550	19.25000	8.00000	18.11610	23.08300	4.16600	21.81425
DOE-3	27.41600	8.62500	26.39550	24.87500	8.70800	22.72900	40.33300	5.29100	28.65000
DOE-4	29.50000	8.54100	23.70800	29.87500	9.45800	26.66600	38.62500	5.00000	29.77255
	October 2022			November 2022			December 2022		
	PM_{10}			PM_{10}			PM_{10}		
Location ID	High	Low	95th PCTL	High	Low	95th PCTL	High	Low	95th PCTL
DOE-1	51.66600	6.33300	41.93700	29.45800	0.79100	24.05815	25.25000	-1.16600	10.85400
DOE-2	28.45800	4.12500	25.74950	26.62500	0.95800	24.74725	9.79100	-0.95800	8.06200
DOE-3	42.25000	6.79100	25.74950	29.54100	0.91600	21.37450	14.95800	0.75000	10.10830
DOE-4	26.20800	5.25000	25.85350	33.45800	0.91600	29.02690	11.62500	-0.58300	6.87450

Note: DOE-4 had no valid readings in February 2022.

(This page intentionally left blank)

APPENDIX B

Analytical Results for Ambient Air VOCs

(This page intentionally left blank)

Table B-1. Ambient air VOC detection results compared to RSLs.

Location ID	Sample Date	Analyte	Result (µg/m³)	Screening Level Value (µg/m³)	Screening Level Source
DOE-1	10/13/2022	Dichlorodifluoromethane	2.1	100	US EPA RSL
DOE-1	10/13/2022	Ethyl acetate	15 (;J)	73	US EPA RSL
DOE-1	10/13/2022	Toluene	1 (;J)	310	DTSC HHRA NOTE 3
DOE-1	10/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-2	10/13/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-2	10/13/2022	Ethyl acetate	6	73	US EPA RSL
DOE-2	10/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	10/13/2022	2-butanone	1.5	5200	US EPA RSL
DOE-3	10/13/2022	Benzene	**0.93**	0.097	DTSC HHRA NOTE 3
DOE-3	10/13/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-3	10/13/2022	Ethyl acetate	**120**	73	US EPA RSL
DOE-3	10/13/2022	Toluene	2.6	310	DTSC HHRA NOTE 3
DOE-3	10/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-4	10/13/2022	2-butanone	1.4	5200	US EPA RSL
DOE-4	10/13/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-4	10/13/2022	Ethyl acetate	4.8	73	US EPA RSL
DOE-4	10/13/2022	Trichloroethene	1.3	0.48	US EPA RSL
DOE-4	10/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	10/26/2022	Dichlorodifluoromethane	2	100	US EPA RSL
DOE-1	10/26/2022	Ethyl acetate	14	73	US EPA RSL
DOE-1	10/26/2022	Naphthalene	**2.3**	0.083	US EPA RSL
DOE-1	10/26/2022	Toluene	0.77	310	DTSC HHRA NOTE 3
DOE-1	10/26/2022	Trichlorofluoromethane	1	1300	DTSC HHRA NOTE 3
DOE-2	10/26/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-2	10/26/2022	Ethyl acetate	21	73	US EPA RSL
DOE-2	10/26/2022	Isopropanol	1.8	210	US EPA RSL
DOE-2	10/26/2022	Toluene	0.98	310	DTSC HHRA NOTE 3
DOE-2	10/26/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	10/26/2022	Dichlorodifluoromethane	2.6	100	US EPA RSL
DOE-3	10/26/2022	Ethyl acetate	8	73	US EPA RSL
DOE-3	10/26/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-4	10/26/2022	Dichlorodifluoromethane	2	100	US EPA RSL
DOE-4	10/26/2022	Ethyl acetate	21	73	US EPA RSL
DOE-4	10/26/2022	Toluene	1	310	DTSC HHRA NOTE 3
DOE-4	10/26/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	11/11/2022	Dichlorodifluoromethane	2.8	100	US EPA RSL
DOE-1	11/11/2022	Ethyl acetate	10	73	US EPA RSL
DOE-1	11/11/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3

Location ID	Sample Date	Analyte	Result (µg/m³)	Screening Level Value (µg/m³)	Screening Level Source
DOE-2	11/11/2022	Dichlorodifluoromethane	3	100	US EPA RSL
DOE-2	11/11/2022	Ethyl acetate	10	73	US EPA RSL
DOE-3	11/11/2022	Dichlorodifluoromethane	2.8	100	US EPA RSL
DOE-3	11/11/2022	Ethyl acetate	14	73	US EPA RSL
DOE-3	11/11/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-4	11/11/2022	Ethyl acetate	5.5	73	US EPA RSL
DOE-4	11/11/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-1	11/22/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-1	11/22/2022	Ethyl acetate	9.2	73	US EPA RSL
DOE-1	11/22/2022	Trichlorofluoromethane	1.0	1300	DTSC HHRA NOTE 3
DOE-2	11/22/2022	Dichlorodifluoromethane	2.1	100	US EPA RSL
DOE-2	11/22/2022	Ethyl acetate	8.9	73	US EPA RSL
DOE-2	11/22/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	11/22/2022	Benzene	**0.74**	0.097	DTSC HHRA NOTE 3
DOE-3	11/22/2022	Dichlorodifluoromethane	1.8	100	US EPA RSL
DOE-3	11/22/2022	Ethyl acetate	**120**	73	US EPA RSL
DOE-3	11/22/2022	Toluene	1.2	310	DTSC HHRA NOTE 3
DOE-3	11/22/2022	Trichlorofluoromethane	0.97	1300	DTSC HHRA NOTE 3
DOE-4	11/22/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-4	11/22/2022	Ethyl acetate	18	73	US EPA RSL
DOE-4	11/22/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	12/07/2022	Dichlorodifluoromethane	2.5	100	US EPA RSL
DOE-1	12/07/2022	Ethyl acetate	16	73	US EPA RSL
DOE-1	12/07/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-2	12/07/2022	Ethyl acetate	48	73	US EPA RSL
DOE-2	12/07/2022	Toluene	1.0	310	DTSC HHRA NOTE 3
DOE-2	12/07/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-3	12/07/2022	Dichlorodifluoromethane	2.6	100	US EPA RSL
DOE-3	12/07/2022	Ethyl acetate	10	73	US EPA RSL
DOE-3	12/07/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-4	12/07/2022	Dichlorodifluoromethane	2.5	100	US EPA RSL
DOE-4	12/07/2022	Ethyl acetate	3.4	73	US EPA RSL
DOE-4	12/07/2022	Trichlorofluoromethane	1.3	1300	DTSC HHRA NOTE 3
DOE-1	12/16/2022	Dichlorodifluoromethane	1.8	100	US EPA RSL
DOE-1	12/16/2022	Ethyl acetate	10	73	US EPA RSL
DOE-1	12/16/2022	Trichlorofluoromethane	0.98	1300	DTSC HHRA NOTE 3
DOE-2	12/16/2022	Dichlorodifluoromethane	1.8	100	US EPA RSL
DOE-2	12/16/2022	Ethyl acetate	4.7	73	US EPA RSL

Location ID	Sample Date	Analyte	Result (µg/m³)	Screening Level Value (µg/m³)	Screening Level Source
DOE-2	12/16/2022	Trichlorofluoromethane	0.99	1300	DTSC HHRA NOTE 3
DOE-3	12/16/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-3	12/16/2022	Ethyl acetate	35	73	US EPA RSL
DOE-3	12/16/2022	Trichlorofluoromethane	1	1300	DTSC HHRA NOTE 3
DOE-4	12/16/2022	Dichlorodifluoromethane	1.8	100	US EPA RSL
DOE-4	12/16/2022	Ethyl acetate	59	73	US EPA RSL
DOE-4	12/16/2022	Toluene	1.3	310	DTSC HHRA NOTE 3
DOE-4	12/16/2022	Trichlorofluoromethane	0.99	1300	DTSC HHRA NOTE 3

Notes:
Bold text and gray-shaded boxes indicate detection above reporting limit, and also exceeds the EPA or DTSC Screening Level.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table B-2. Year 5 Ambient air VOC detection results compared to RSLs.

Location ID	Sample Date	Analyte	Result (µg/m^3)	Screening Level Value (µg/m^3)	Screening Level Source
DOE-1	01/06/2022	Dichlorodifluoromethane	2.4	100	US EPA RSL
DOE-1	01/06/2022	Ethyl acetate	17	73	US EPA RSL
DOE-1	01/06/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-2	01/06/2022	Dichlorodifluoromethane	2.4	100	US EPA RSL
DOE-2	01/06/2022	Ethyl acetate	3.4	73	US EPA RSL
DOE-2	01/06/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-3	01/06/2022	Dichlorodifluoromethane	2.5	100	US EPA RSL
DOE-3	01/06/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-4	01/06/2022	Dichlorodifluoromethane	2.5	100	US EPA RSL
DOE-4	01/06/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-1	01/21/2022	Dichlorodifluoromethane	2.6	100	US EPA RSL
DOE-1	01/21/2022	Trichlorofluoromethane	1.4	1300	DTSC HHRA NOTE 3
DOE-2	01/21/2022	Dichlorodifluoromethane	2.7	100	US EPA RSL
DOE-2	01/21/2022	Trichlorofluoromethane	1.4	1300	DTSC HHRA NOTE 3
DOE-3	01/21/2022	Dichlorodifluoromethane	2.6	100	US EPA RSL
DOE-3	01/21/2022	Trichlorofluoromethane	1.4	1300	DTSC HHRA NOTE 3
DOE-4	01/21/2022	Dichlorodifluoromethane	2.7	100	US EPA RSL
DOE-4	01/21/2022	Trichlorofluoromethane	1.4	1300	DTSC HHRA NOTE 3
DOE-1	02/04/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-1	02/04/2022	Ethyl acetate	8.8	73	US EPA RSL
DOE-1	02/04/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-2	02/04/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-2	02/04/2022	Ethyl acetate	5.3	73	US EPA RSL
DOE-2	02/04/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	02/04/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-3	02/04/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-4	02/04/2022	Dichlorodifluoromethane	2.1	100	US EPA RSL
DOE-4	02/04/2022	Ethyl acetate	3.8	73	US EPA RSL
DOE-4	02/04/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	02/17/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-1	02/17/2022	Trichlorofluoromethane	1.0	1300	DTSC HHRA NOTE 3
DOE-2	02/17/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-2	02/17/2022	Trichlorofluoromethane	1.0	1300	DTSC HHRA NOTE 3
DOE-3	02/17/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-3	02/17/2022	Trichlorofluoromethane	1.0	1300	DTSC HHRA NOTE 3
DOE-4	02/17/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-4	02/17/2022	Trichlorofluoromethane	1.0	1300	DTSC HHRA NOTE 3
DOE-1	03/02/2022	Dichlorodifluoromethane	2.1	100	US EPA RSL
DOE-1	03/02/2022	Trichlorofluoromethane	1.0	1300	DTSC HHRA NOTE 3
DOE-2	03/02/2022	Dichlorodifluoromethane	2.1	100	US EPA RSL
DOE-2	03/02/2022	Trichlorofluoromethane	1.0	1300	DTSC HHRA NOTE 3

Location ID	Sample Date	Analyte	Result (µg/m³)	Screening Level Value (µg/m³)	Screening Level Source
DOE-3	03/02/2022	Dichlorodifluoromethane	2.0	100	US EPA RSL
DOE-3	03/02/2022	Ethyl acetate	4.0	73	US EPA RSL
DOE-3	03/02/2022	Trichlorofluoromethane	0.99	1300	DTSC HHRA NOTE 3
DOE-4	03/02/2022	Dichlorodifluoromethane	2.1	100	US EPA RSL
DOE-4	03/02/2022	Ethyl acetate	18	73	US EPA RSL
DOE-4	03/02/2022	Trichlorofluoromethane	1.0	1300	DTSC HHRA NOTE 3
DOE-1	03/15/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-1	03/15/2022	Ethyl acetate	2.9	73	US EPA RSL
DOE-1	03/15/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-2	03/15/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-2	03/15/2022	Ethyl acetate	28 (;J)	73	US EPA RSL
DOE-2	03/15/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	03/15/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-3	03/15/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-4	03/15/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-4	03/15/2022	Ethyl acetate	6.4	73	US EPA RSL
DOE-4	03/15/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	03/29/2022	Dichlorodifluoromethane	2.1	100	US EPA RSL
DOE-1	03/29/2022	Ethyl acetate	3.9	73	US EPA RSL
DOE-1	03/29/2022	Naphthalene	**1.2**	0.083	US EPA RSL
DOE-1	03/29/2022	Trichlorofluoromethane	1.0	1300	DTSC HHRA NOTE 3
DOE-2	03/29/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-2	03/29/2022	Ethyl acetate	17	73	US EPA RSL
DOE-2	03/29/2022	Methylene chloride	**1.3**	1	DTSC HHRA NOTE 3
DOE-2	03/29/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	03/29/2022	Dichlorodifluoromethane	2.0	100	US EPA RSL
DOE-3	03/29/2022	Ethyl acetate	3.0	73	US EPA RSL
DOE-3	03/29/2022	Trichlorofluoromethane	1.0	1300	DTSC HHRA NOTE 3
DOE-4	03/29/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-4	03/29/2022	Ethyl acetate	5.3	73	US EPA RSL
DOE-4	03/29/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	04/13/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-1	04/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-2	04/13/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-2	04/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	04/13/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-3	04/13/2022	Ethyl acetate	20	73	US EPA RSL
DOE-3	04/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-4	04/13/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-4	04/13/2022	Ethyl acetate	5 (;J)	73	US EPA RSL
DOE-4	04/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-4	04/13/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL

Location ID	Sample Date	Analyte	Result (µg/m³)	Screening Level Value (µg/m³)	Screening Level Source
DOE-4	04/13/2022	Ethyl acetate	14 (;J)	73	US EPA RSL
DOE-4	04/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	04/28/2022	Dichlorodifluoromethane	2.4	100	US EPA RSL
DOE-1	04/28/2022	Ethyl acetate	16	73	US EPA RSL
DOE-1	04/28/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-1	04/28/2022	Dichlorodifluoromethane	2.4	100	US EPA RSL
DOE-1	04/28/2022	Ethyl acetate	14	73	US EPA RSL
DOE-1	04/28/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-2	04/28/2022	Dichlorodifluoromethane	2.4	100	US EPA RSL
DOE-2	04/28/2022	Ethyl acetate	8.1	73	US EPA RSL
DOE-2	04/28/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-3	04/28/2022	Dichlorodifluoromethane	2.4	100	US EPA RSL
DOE-3	04/28/2022	Ethyl acetate	3.7	73	US EPA RSL
DOE-3	04/28/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-4	04/28/2022	Dichlorodifluoromethane	2.4	100	US EPA RSL
DOE-4	04/28/2022	Ethyl acetate	6.1	73	US EPA RSL
DOE-4	04/28/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-1	05/13/2022	Dichlorodifluoromethane	2.4	100	US EPA RSL
DOE-1	05/13/2022	Ethyl acetate	18	73	US EPA RSL
DOE-1	05/13/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-2	05/13/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-2	05/13/2022	Ethyl acetate	13	73	US EPA RSL
DOE-2	05/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-2	05/13/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-2	05/13/2022	Ethyl acetate	3.3	73	US EPA RSL
DOE-2	05/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	05/13/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-3	05/13/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-4	05/13/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-4	05/13/2022	Ethyl acetate	28	73	US EPA RSL
DOE-4	05/13/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-1	05/27/2022	Ethyl acetate	12 (V;)	73	US EPA RSL
DOE-1	05/27/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-2	05/27/2022	Dichlorodifluoromethane	2.5	100	US EPA RSL
DOE-2	05/27/2022	Ethyl acetate	8.1 (V;)	73	US EPA RSL
DOE-2	05/27/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-3	05/27/2022	Dichlorodifluoromethane	2.5	100	US EPA RSL
DOE-3	05/27/2022	Ethyl acetate	7.8 (V;)	73	US EPA RSL
DOE-3	05/27/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-3	05/27/2022	Dichlorodifluoromethane	2.6	100	US EPA RSL
DOE-3	05/27/2022	Ethyl acetate	20 (V;)	73	US EPA RSL
DOE-3	05/27/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3

Location ID	Sample Date	Analyte	Result (µg/m³)	Screening Level Value (µg/m³)	Screening Level Source
DOE-4	05/27/2022	Dichlorodifluoromethane	2.6	100	US EPA RSL
DOE-4	05/27/2022	Ethyl acetate	9.6 (V;)	73	US EPA RSL
DOE-4	05/27/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-1	06/09/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-1	06/09/2022	Ethyl acetate	12	73	US EPA RSL
DOE-1	06/09/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-2	06/09/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-2	06/09/2022	Ethyl acetate	13	73	US EPA RSL
DOE-2	06/09/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	06/09/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-3	06/09/2022	Ethyl acetate	6.0	73	US EPA RSL
DOE-3	06/09/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-4	06/09/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-4	06/09/2022	Ethyl acetate	8.1	73	US EPA RSL
DOE-4	06/09/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-4	06/09/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-4	06/09/2022	Ethyl acetate	15	73	US EPA RSL
DOE-4	06/09/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	06/22/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-1	06/22/2022	Hexane, n-	1.3	730	US EPA RSL
DOE-1	06/22/2022	N-heptane	0.86	420	US EPA RSL
DOE-1	06/22/2022	Toluene	0.95	310	DTSC HHRA NOTE 3
DOE-1	06/22/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	06/22/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-1	06/22/2022	Ethyl acetate	3.7	73	US EPA RSL
DOE-1	06/22/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-2	06/22/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-2	06/22/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	06/22/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-3	06/22/2022	Ethyl acetate	10	73	US EPA RSL
DOE-3	06/22/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-4	06/22/2022	Dichlorodifluoromethane	2.4	100	US EPA RSL
DOE-1	07/06/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-1	07/06/2022	Ethyl acetate	26	73	US EPA RSL
DOE-1	07/06/2022	Toluene	1.1	310	DTSC HHRA NOTE 3
DOE-1	07/06/2022	Trichlorofluoromethane	1	1300	DTSC HHRA NOTE 3
DOE-2	07/06/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-2	07/06/2022	Ethyl acetate	26	73	US EPA RSL
DOE-2	07/06/2022	Toluene	1	310	DTSC HHRA NOTE 3
DOE-2	07/06/2022	Trichlorofluoromethane	1	1300	DTSC HHRA NOTE 3
DOE-3	07/06/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-3	07/06/2022	Ethyl acetate	44 (;J)	73	US EPA RSL

Location ID	Sample Date	Analyte	Result (µg/m³)	Screening Level Value (µg/m³)	Screening Level Source
DOE-3	07/06/2022	Toluene	1.5 (;J)	310	DTSC HHRA NOTE 3
DOE-3	07/06/2022	Trichlorofluoromethane	1	1300	DTSC HHRA NOTE 3
DOE-4	07/06/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-4	07/06/2022	Ethyl acetate	19	73	US EPA RSL
DOE-4	07/06/2022	Isopropanol	1.5	210	US EPA RSL
DOE-4	07/06/2022	Toluene	0.94	310	DTSC HHRA NOTE 3
DOE-4	07/06/2022	Trichlorofluoromethane	1	1300	DTSC HHRA NOTE 3
DOE-1	07/19/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-1	07/19/2022	Ethyl acetate	25	73	US EPA RSL
DOE-1	07/19/2022	Trichlorofluoromethane	0.95	1300	DTSC HHRA NOTE 3
DOE-2	07/19/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-2	07/19/2022	Ethyl acetate	15	73	US EPA RSL
DOE-2	07/19/2022	Trichlorofluoromethane	0.95	1300	DTSC HHRA NOTE 3
DOE-3	07/19/2022	Dichlorodifluoromethane	2.0	100	US EPA RSL
DOE-3	07/19/2022	Trichlorofluoromethane	0.98	1300	DTSC HHRA NOTE 3
DOE-4	07/19/2022	Dichlorodifluoromethane	2.0	100	US EPA RSL
DOE-4	07/19/2022	Ethyl acetate	13	73	US EPA RSL
DOE-4	07/19/2022	Trichlorofluoromethane	0.99	1300	DTSC HHRA NOTE 3
DOE-1	08/02/2022	Dichlorodifluoromethane	1.7	100	US EPA RSL
DOE-1	08/02/2022	Ethyl acetate	35	73	US EPA RSL
DOE-1	08/02/2022	Toluene	1.7	310	DTSC HHRA NOTE 3
DOE-1	08/02/2022	Trichlorofluoromethane	0.82	1300	DTSC HHRA NOTE 3
DOE-2	08/02/2022	Dichlorodifluoromethane	1.7	100	US EPA RSL
DOE-2	08/02/2022	Ethyl acetate	33	73	US EPA RSL
DOE-2	08/02/2022	Toluene	1.3	310	DTSC HHRA NOTE 3
DOE-2	08/02/2022	Trichlorofluoromethane	0.86	1300	DTSC HHRA NOTE 3
DOE-3	08/02/2022	Dichlorodifluoromethane	1.7	100	US EPA RSL
DOE-3	08/02/2022	Ethyl acetate	22	73	US EPA RSL
DOE-3	08/02/2022	Toluene	1.2	310	DTSC HHRA NOTE 3
DOE-3	08/02/2022	Trichlorofluoromethane	0.83	1300	DTSC HHRA NOTE 3
DOE-4	08/02/2022	Dichlorodifluoromethane	1.7	100	US EPA RSL
DOE-4	08/02/2022	Ethyl acetate	12	73	US EPA RSL
DOE-4	08/02/2022	Trichlorofluoromethane	0.84	1300	DTSC HHRA NOTE 3
DOE-1	09/01/2022	2-butanone	2.4	5200	US EPA RSL
DOE-1	09/01/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-1	09/01/2022	Ethyl acetate	11	73	US EPA RSL
DOE-1	09/01/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-2	09/01/2022	Dichlorodifluoromethane	2.1	100	US EPA RSL
DOE-2	09/01/2022	Ethyl acetate	23	73	US EPA RSL
DOE-2	09/01/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	09/01/2022	Ethyl acetate	18	73	US EPA RSL
DOE-3	09/01/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-4	09/01/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL

Location ID	Sample Date	Analyte	Result (µg/m³)	Screening Level Value (µg/m³)	Screening Level Source
DOE-4	09/01/2022	Ethyl acetate	11	73	US EPA RSL
DOE-4	09/01/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	09/16/2022	Dichlorodifluoromethane	2.4	100	US EPA RSL
DOE-1	09/16/2022	Ethyl acetate	4.7	73	US EPA RSL
DOE-1	09/16/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-2	09/16/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-2	09/16/2022	Ethyl acetate	19	73	US EPA RSL
DOE-3	09/16/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-3	09/16/2022	Ethyl acetate	9 (;J)	73	US EPA RSL
DOE-3	09/16/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-4	09/16/2022	Dichlorodifluoromethane	2.4	100	US EPA RSL
DOE-4	09/16/2022	Ethyl acetate	10	73	US EPA RSL
DOE-4	09/16/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	09/30/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-1	09/30/2022	Ethyl acetate	27	73	US EPA RSL
DOE-1	09/30/2022	Toluene	1.4	310	DTSC HHRA NOTE 3
DOE-1	09/30/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-2	09/30/2022	Dichlorodifluoromethane	2.4	100	US EPA RSL
DOE-2	09/30/2022	Ethyl acetate	22	73	US EPA RSL
DOE-2	09/30/2022	Toluene	0.99	310	DTSC HHRA NOTE 3
DOE-2	09/30/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-3	09/30/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-3	09/30/2022	Ethyl acetate	31	73	US EPA RSL
DOE-3	09/30/2022	Toluene	1.3	310	DTSC HHRA NOTE 3
DOE-3	09/30/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-4	09/30/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-4	09/30/2022	Ethyl acetate	11	73	US EPA RSL
DOE-4	09/30/2022	Toluene	0.94	310	DTSC HHRA NOTE 3
DOE-4	09/30/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	10/13/2022	Dichlorodifluoromethane	2.1	100	US EPA RSL
DOE-1	10/13/2022	Ethyl acetate	15 (;J)	73	US EPA RSL
DOE-1	10/13/2022	Toluene	1 (;J)	310	DTSC HHRA NOTE 3
DOE-1	10/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-2	10/13/2022	Dichlorodifluoromethane	2.3	100	US EPA RSL
DOE-2	10/13/2022	Ethyl acetate	6	73	US EPA RSL
DOE-2	10/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	10/13/2022	2-butanone	1.5	5200	US EPA RSL
DOE-3	10/13/2022	Benzene	**0.93**	0.097	DTSC HHRA NOTE 3
DOE-3	10/13/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-3	10/13/2022	Ethyl acetate	**120**	73	US EPA RSL
DOE-3	10/13/2022	Toluene	2.6	310	DTSC HHRA NOTE 3
DOE-3	10/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-4	10/13/2022	2-butanone	1.4	5200	US EPA RSL

Location ID	Sample Date	Analyte	Result (µg/m³)	Screening Level Value (µg/m³)	Screening Level Source
DOE-4	10/13/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-4	10/13/2022	Ethyl acetate	4.8	73	US EPA RSL
DOE-4	10/13/2022	Trichloroethene	1.3	0.48	US EPA RSL
DOE-4	10/13/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	10/26/2022	Dichlorodifluoromethane	2	100	US EPA RSL
DOE-1	10/26/2022	Ethyl acetate	14	73	US EPA RSL
DOE-1	10/26/2022	Naphthalene	**2.3**	0.083	US EPA RSL
DOE-1	10/26/2022	Toluene	0.77	310	DTSC HHRA NOTE 3
DOE-1	10/26/2022	Trichlorofluoromethane	1	1300	DTSC HHRA NOTE 3
DOE-2	10/26/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL
DOE-2	10/26/2022	Ethyl acetate	21	73	US EPA RSL
DOE-2	10/26/2022	Isopropanol	1.8	210	US EPA RSL
DOE-2	10/26/2022	Toluene	0.98	310	DTSC HHRA NOTE 3
DOE-2	10/26/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	10/26/2022	Dichlorodifluoromethane	2.6	100	US EPA RSL
DOE-3	10/26/2022	Ethyl acetate	8	73	US EPA RSL
DOE-3	10/26/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-4	10/26/2022	Dichlorodifluoromethane	2	100	US EPA RSL
DOE-4	10/26/2022	Ethyl acetate	21	73	US EPA RSL
DOE-4	10/26/2022	Toluene	1	310	DTSC HHRA NOTE 3
DOE-4	10/26/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	11/11/2022	Dichlorodifluoromethane	2.8	100	US EPA RSL
DOE-1	11/11/2022	Ethyl acetate	10	73	US EPA RSL
DOE-1	11/11/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-2	11/11/2022	Dichlorodifluoromethane	3	100	US EPA RSL
DOE-2	11/11/2022	Ethyl acetate	10	73	US EPA RSL
DOE-3	11/11/2022	Dichlorodifluoromethane	2.8	100	US EPA RSL
DOE-3	11/11/2022	Ethyl acetate	14	73	US EPA RSL
DOE-3	11/11/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-4	11/11/2022	Ethyl acetate	5.5	73	US EPA RSL
DOE-4	11/11/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-1	11/22/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-1	11/22/2022	Ethyl acetate	9.2	73	US EPA RSL
DOE-1	11/22/2022	Trichlorofluoromethane	1.0	1300	DTSC HHRA NOTE 3
DOE-2	11/22/2022	Dichlorodifluoromethane	2.1	100	US EPA RSL
DOE-2	11/22/2022	Ethyl acetate	8.9	73	US EPA RSL
DOE-2	11/22/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-3	11/22/2022	Benzene	**0.74**	0.097	DTSC HHRA NOTE 3
DOE-3	11/22/2022	Dichlorodifluoromethane	1.8	100	US EPA RSL
DOE-3	11/22/2022	Ethyl acetate	**120**	73	US EPA RSL
DOE-3	11/22/2022	Toluene	1.2	310	DTSC HHRA NOTE 3
DOE-3	11/22/2022	Trichlorofluoromethane	0.97	1300	DTSC HHRA NOTE 3
DOE-4	11/22/2022	Dichlorodifluoromethane	2.2	100	US EPA RSL

Location ID	Sample Date	Analyte	Result (µg/m³)	Screening Level Value (µg/m³)	Screening Level Source
DOE-4	11/22/2022	Ethyl acetate	18	73	US EPA RSL
DOE-4	11/22/2022	Trichlorofluoromethane	1.1	1300	DTSC HHRA NOTE 3
DOE-1	12/07/2022	Dichlorodifluoromethane	2.5	100	US EPA RSL
DOE-1	12/07/2022	Ethyl acetate	16	73	US EPA RSL
DOE-1	12/07/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-2	12/07/2022	Ethyl acetate	48	73	US EPA RSL
DOE-2	12/07/2022	Toluene	1.0	310	DTSC HHRA NOTE 3
DOE-2	12/07/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-3	12/07/2022	Dichlorodifluoromethane	2.6	100	US EPA RSL
DOE-3	12/07/2022	Ethyl acetate	10	73	US EPA RSL
DOE-3	12/07/2022	Trichlorofluoromethane	1.2	1300	DTSC HHRA NOTE 3
DOE-4	12/07/2022	Dichlorodifluoromethane	2.5	100	US EPA RSL
DOE-4	12/07/2022	Ethyl acetate	3.4	73	US EPA RSL
DOE-4	12/07/2022	Trichlorofluoromethane	1.3	1300	DTSC HHRA NOTE 3
DOE-1	12/16/2022	Dichlorodifluoromethane	1.8	100	US EPA RSL
DOE-1	12/16/2022	Ethyl acetate	10	73	US EPA RSL
DOE-1	12/16/2022	Trichlorofluoromethane	0.98	1300	DTSC HHRA NOTE 3
DOE-2	12/16/2022	Dichlorodifluoromethane	1.8	100	US EPA RSL
DOE-2	12/16/2022	Ethyl acetate	4.7	73	US EPA RSL
DOE-2	12/16/2022	Trichlorofluoromethane	0.99	1300	DTSC HHRA NOTE 3
DOE-3	12/16/2022	Dichlorodifluoromethane	1.9	100	US EPA RSL
DOE-3	12/16/2022	Ethyl acetate	35	73	US EPA RSL
DOE-3	12/16/2022	Trichlorofluoromethane	1	1300	DTSC HHRA NOTE 3
DOE-4	12/16/2022	Dichlorodifluoromethane	1.8	100	US EPA RSL
DOE-4	12/16/2022	Ethyl acetate	59	73	US EPA RSL
DOE-4	12/16/2022	Toluene	1.3	310	DTSC HHRA NOTE 3
DOE-4	12/16/2022	Trichlorofluoromethane	0.99	1300	DTSC HHRA NOTE 3

Notes:

Bold text and gray-shaded boxes indicate detection above reporting limit, and also exceeds the EPA or DTSC Screening Level.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

(This page intentionally left blank)

APPENDIX C

Radiological Results

(This page intentionally left blank)

Table C-1. Gross alpha and gross beta air sample results for air samplers, Q19

Quarter	Air Station ID	Sample Collection Date	Gross Alpha (µCi/mL)	Gross Alpha MDC (µCi/mL)	Gross Beta (µCi/mL)	Gross Beta MDC (µCi/mL)
Sample Location – DOE-1						
Q19	DOE-1	10/3/2022	2.48E-15	6.46E-15	5.68E-17	2.97E-14
Q19	DOE-1	10/7/2022	5.42E-15	4.82E-15	7.92E-14	2.21E-14
Q19	DOE-1	10/10/2022	5.28E-15	6.55E-15	9.78E-14	3.01E-14
Q19	DOE-1	10/14/2022	7.15E-15	4.79E-15	1.06E-13	2.20E-14
Q19	DOE-1	10/17/2022	7.90E-15	6.42E-15	3.67E-14	2.95E-14
Q19	DOE-1	10/21/2022	5.53E-15	4.92E-15	7.65E-14	2.26E-14
Q19	DOE-1	10/26/2022	4.36E-15	3.88E-15	5.98E-14	1.78E-14
Q19	DOE-1	10/28/2022	5.22E-15	9.61E-15	7.87E-14	4.41E-14
Q19	DOE-1	10/31/2022	2.48E-15	6.45E-15	8.15E-14	2.96E-14
Q19	DOE-1	11/4/2022	1.89E-15	5.01E-15	5.16E-14	2.13E-14
Q19	DOE-1	11/7/2022	-2.18E-15	6.70E-15	2.60E-14	2.85E-14
Q19	DOE-1	11/11/2022	-6.15E-16	4.94E-15	4.93E-15	2.10E-14
Q19	DOE-1	11/14/2022	-1.79E-15	6.50E-15	4.47E-14	2.76E-14
Q19	DOE-1	11/18/2022	-1.23E-16	5.12E-15	5.32E-14	2.17E-14
Q19	DOE-1	11/21/2022	1.85E-15	6.67E-15	7.94E-14	2.83E-14
Q19	DOE-1	11/23/2022	-5.82E-15	1.01E-14	8.91E-14	4.29E-14
Q19	DOE-1	11/28/2022	1.09E-15	3.95E-15	8.03E-14	1.68E-14
Q19	DOE-1	12/2/2022	4.59E-15	5.00E-15	6.89E-14	2.19E-14
Q19	DOE-1	12/5/2022	-1.97E-15	6.61E-15	-1.08E-14	2.90E-14
Q19	DOE-1	12/9/2022	-1.23E-15	4.98E-15	1.41E-14	2.18E-14
Q19	DOE-1	12/13/2022	7.81E-16	4.94E-15	9.50E-15	2.16E-14
Q19	DOE-1	12/16/2022	-3.46E-15	6.28E-15	4.45E-14	2.75E-14
Q19	DOE-1	12/19/2022	3.95E-17	6.50E-15	7.40E-14	2.85E-14
Q19	DOE-1	12/22/2022	4.19E-17	6.89E-15	7.56E-14	3.02E-14
Q19	DOE-1	12/26/2022	1.86E-15	5.16E-15	7.33E-14	2.26E-14
Sample Location – DOE-2						
Q19	DOE-2	10/3/2022	1.46E-15	6.45E-15	1.49E-14	2.96E-14
Q19	DOE-2	10/7/2022	7.98E-15	4.83E-15	7.32E-14	2.22E-14
Q19	DOE-2	10/10/2022	6.67E-15	6.55E-15	1.00E-13	3.01E-14
Q19	DOE-2	10/14/2022	4.88E-15	4.79E-15	1.07E-13	2.20E-14
Q19	DOE-2	10/17/2022	4.16E-15	6.42E-15	5.33E-14	2.95E-14
Q19	DOE-2	10/21/2022	4.75E-15	4.92E-15	1.05E-13	2.26E-14
Q19	DOE-2	10/26/2022	8.76E-16	3.88E-15	6.03E-14	1.78E-14

Quarter	Air Station ID	Sample Collection Date	Gross Alpha (µCi/mL)	Gross Alpha MDC (µCi/mL)	Gross Beta (µCi/mL)	Gross Beta MDC (µCi/mL)
Q19	DOE-2	10/28/2022	6.74E-15	9.61E-15	3.75E-14	4.41E-14
Q19	DOE-2	10/31/2022	2.14E-15	6.45E-15	8.54E-14	2.96E-14
Q19	DOE-2	11/4/2022	3.15E-15	5.01E-15	5.18E-14	2.13E-14
Q19	DOE-2	11/7/2022	-1.61E-16	6.71E-15	3.48E-14	2.84E-14
Q19	DOE-2	11/11/2022	2.61E-16	1.00E-14	4.46E-14	4.25E-14
Q19	DOE-2	11/14/2022	3.75E-15	6.50E-15	6.44E-14	2.76E-14
Q19	DOE-2	11/18/2022	6.47E-16	5.12E-15	7.49E-14	2.17E-14
Q19	DOE-2	11/21/2022	1.13E-15	6.42E-15	6.70E-14	2.72E-14
Q19	DOE-2	11/23/2022	-3.49E-15	1.07E-14	9.52E-14	4.56E-14
Q19	DOE-2	11/28/2022	-2.93E-16	3.95E-15	5.99E-14	1.68E-14
Q19	DOE-2	12/2/2022	2.06E-15	5.00E-15	6.07E-14	2.19E-14
Q19	DOE-2	12/5/2022	-1.30E-15	6.59E-15	2.50E-14	2.89E-14
Q19	DOE-2	12/9/2022	-2.23E-16	4.99E-15	3.06E-14	2.19E-14
Q19	DOE-2	12/13/2022	5.30E-16	4.93E-15	1.05E-14	2.16E-14
Q19	DOE-2	12/16/2022	-5.98E-16	6.27E-15	4.58E-14	2.75E-14
Q19	DOE-2	12/19/2022	3.69E-16	6.50E-15	4.68E-14	2.85E-14
Q19	DOE-2	12/22/2022	-1.36E-15	6.89E-15	6.72E-14	3.02E-14
Q19	DOE-2	12/26/2022	5.55E-16	5.16E-15	5.08E-14	2.26E-14
Sample Location – DOE-3						
Q19	DOE-3	10/3/2022	2.47E-15	6.43E-15	1.21E-14	2.96E-14
Q19	DOE-3	10/7/2022	9.74E-15	4.82E-15	9.18E-14	2.21E-14
Q19	DOE-3	10/10/2022	1.29E-14	6.57E-15	1.11E-13	3.02E-14
Q19	DOE-3	10/14/2022	7.92E-15	4.80E-15	1.07E-13	2.20E-14
Q19	DOE-3	10/17/2022	2.47E-15	6.42E-15	3.50E-14	2.95E-14
Q19	DOE-3	10/21/2022	3.19E-15	4.92E-15	7.51E-14	2.26E-14
Q19	DOE-3	10/26/2022	2.31E-15	3.88E-15	5.96E-14	1.78E-14
Q19	DOE-3	10/28/2022	-2.90E-15	9.61E-15	7.81E-14	4.41E-14
Q19	DOE-3	10/31/2022	3.16E-15	6.45E-15	8.25E-14	2.96E-14
Q19	DOE-3	11/4/2022	5.91E-15	5.01E-15	5.36E-14	2.13E-14
Q19	DOE-3	11/7/2022	-1.84E-15	6.71E-15	2.78E-14	2.85E-14
Q19	DOE-3	11/11/2022	-1.48E-15	5.38E-15	7.34E-15	2.28E-14
Q19	DOE-3	11/14/2022	1.80E-15	6.51E-15	5.36E-14	2.76E-14
Q19	DOE-3	11/18/2022	1.93E-15	5.12E-15	6.76E-14	2.17E-14
Q19	DOE-3	11/21/2022	-4.76E-16	6.41E-15	8.85E-14	2.72E-14
Q19	DOE-3	11/23/2022	2.98E-15	1.08E-14	3.89E-14	4.56E-14

Quarter	Air Station ID	Sample Collection Date	Gross Alpha (µCi/mL)	Gross Alpha MDC (µCi/mL)	Gross Beta (µCi/mL)	Gross Beta MDC (µCi/mL)
Q19	DOE-3	11/28/2022	6.98E-16	3.95E-15	6.94E-14	1.68E-14
Q19	DOE-3	12/2/2022	3.08E-17	5.06E-15	5.84E-14	2.22E-14
Q19	DOE-3	12/5/2022	4.01E-17	6.59E-15	6.60E-14	2.89E-14
Q19	DOE-3	12/9/2022	7.90E-16	4.99E-15	3.43E-14	2.19E-14
Q19	DOE-3	12/13/2022	9.22E-16	5.83E-15	4.13E-14	2.55E-14
Q19	DOE-3	12/16/2022	3.81E-17	6.26E-15	1.24E-14	2.74E-14
Q19	DOE-3	12/19/2022	1.03E-15	6.52E-15	3.19E-15	2.86E-14
Q19	DOE-3	12/22/2022	-1.01E-15	6.89E-15	-1.17E-14	3.02E-14
Q19	DOE-3	12/26/2022	2.13E-15	5.16E-15	6.38E-14	2.26E-14
Sample Location – DOE-4						
Q19	DOE-4	10/3/2022	4.34E-16	6.42E-15	1.35E-14	2.95E-14
Q19	DOE-4	10/7/2022	5.67E-15	4.82E-15	7.13E-14	2.22E-14
Q19	DOE-4	10/10/2022	1.15E-14	6.57E-15	9.89E-14	3.02E-14
Q19	DOE-4	10/14/2022	7.41E-15	4.79E-15	8.45E-14	2.20E-14
Q19	DOE-4	10/17/2022	3.15E-15	6.42E-15	5.33E-14	2.95E-14
Q19	DOE-4	10/21/2022	2.67E-15	4.92E-15	8.91E-14	2.26E-14
Q19	DOE-4	10/26/2022	4.56E-15	3.88E-15	6.62E-14	1.78E-14
Q19	DOE-4	10/28/2022	-3.65E-16	9.60E-15	2.96E-14	4.41E-14
Q19	DOE-4	10/31/2022	6.91E-15	6.45E-15	4.61E-14	2.96E-14
Q19	DOE-4	11/4/2022	2.39E-15	5.01E-15	4.84E-14	2.13E-14
Q19	DOE-4	11/7/2022	-1.17E-15	6.71E-15	4.40E-14	2.85E-14
Q19	DOE-4	11/11/2022	-3.66E-16	4.93E-15	1.24E-14	2.09E-14
Q19	DOE-4	11/14/2022	3.11E-15	6.51E-15	4.92E-14	2.76E-14
Q19	DOE-4	11/18/2022	9.03E-16	5.12E-15	8.25E-14	2.17E-14
Q19	DOE-4	11/21/2022	2.42E-15	6.41E-15	7.33E-14	2.72E-14
Q19	DOE-4	11/23/2022	-1.34E-15	1.08E-14	1.10E-13	4.57E-14
Q19	DOE-4	11/28/2022	3.01E-16	3.95E-15	7.80E-14	1.68E-14
Q19	DOE-4	12/2/2022	1.80E-15	4.99E-15	5.89E-14	2.19E-14
Q19	DOE-4	12/5/2022	3.05E-15	6.61E-15	5.98E-14	2.90E-14
Q19	DOE-4	12/9/2022	3.07E-15	5.00E-15	4.63E-14	2.19E-14
Q19	DOE-4	12/13/2022	-1.97E-15	4.92E-15	6.86E-15	2.16E-14
Q19	DOE-4	12/16/2022	-9.13E-16	6.25E-15	2.97E-14	2.74E-14
Q19	DOE-4	12/19/2022	3.97E-17	6.53E-15	1.78E-14	2.86E-14
Q19	DOE-4	12/22/2022	3.91E-16	6.89E-15	-9.45E-15	3.02E-14
Q19	DOE-4	12/26/2022	4.75E-15	5.17E-15	6.35E-14	2.26E-14

Note: Results less than the MDC are noted in the table as negative numbers.

Table C-2. Gross alpha and gross beta air sample results for air samplers, Q16–Q19.

Quarter	Air Station ID	Sample collection date	Result Alpha (µCi/mL)	MDC - Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC - Beta (µCi/mL)
Sample location DOE-1						
Q16	DOE-1	1/4/2022	-1.18E-15	5.24E-15	1.80E-14	2.18E-14
Q16	DOE-1	1/7/2022	-1.58E-15	7.06E-15	1.02E-14	2.94E-14
Q16	DOE-1	1/10/2022	-2.55E-15	6.95E-15	2.19E-14	2.90E-14
Q16	DOE-1	1/14/2022	-1.48E-15	5.45E-15	3.26E-14	2.27E-14
Q16	DOE-1	1/18/2022	-1.21E-15	5.40E-15	5.72E-14	2.25E-14
Q16	DOE-1	1/21/2022	4.33E-16	7.11E-15	7.18E-14	2.96E-14
Q16	DOE-1	1/24/2022	-9.07E-16	7.02E-15	3.89E-14	2.93E-14
Q16	DOE-1	1/27/2022	4.29E-16	7.06E-15	6.21E-14	2.94E-14
Q16	DOE-1	1/31/2022	-2.17E-15	5.24E-15	3.22E-14	2.18E-14
Q16	DOE-1	2/4/2022	2.27E-15	5.27E-15	4.92E-14	2.28E-14
Q16	DOE-1	2/7/2022	-2.30E-15	6.60E-15	3.43E-15	2.85E-14
Q16	DOE-1	2/10/2022	1.60E-15	6.80E-15	4.94E-14	2.93E-14
Q16	DOE-1	2/14/2022	4.86E-16	5.42E-15	2.18E-14	2.34E-14
Q16	DOE-1	2/18/2022	-1.26E-15	5.01E-15	1.55E-14	2.16E-14
Q16	DOE-1	2/21/2022	-4.08E-16	7.22E-15	4.24E-14	3.12E-14
Q16	DOE-1	2/25/2022	-7.84E-16	5.09E-15	8.94E-15	2.20E-14
Q16	DOE-1	2/28/2022	-2.19E-15	7.29E-15	5.15E-14	3.15E-14
Q16	DOE-1	3/3/2022	4.69E-15	7.06E-15	5.70E-14	2.92E-14
Q16	DOE-1	3/7/2022	1.95E-15	5.13E-15	1.32E-14	2.12E-14
Q16	DOE-1	3/11/2022	3.51E-15	5.28E-15	3.80E-14	2.19E-14
Q16	DOE-1	3/14/2022	-6.67E-16	7.19E-15	1.05E-14	2.98E-14
Q16	DOE-1	3/18/2022	2.37E-15	5.54E-15	2.53E-14	2.29E-14
Q16	DOE-1	3/21/2022	3.48E-16	7.07E-15	1.03E-14	2.93E-14
Q16	DOE-1	3/24/2022	1.01E-17	5.33E-15	1.70E-14	2.21E-14
Q16	DOE-1	3/29/2022	2.55E-16	5.18E-15	4.26E-14	2.15E-14
Q17	DOE-1	4/1/2021	3.51E-15	6.94E-15	8.38E-14	3.02E-14
Q17	DOE-1	4/1/2022	-2.43E-15	7.37E-15	1.90E-14	2.99E-14
Q17	DOE-1	4/4/2022	1.40E-17	7.37E-15	3.40E-14	2.99E-14
Q17	DOE-1	4/8/2022	1.80E-15	5.41E-15	2.74E-14	2.19E-14
Q17	DOE-1	4/11/2022	-2.96E-15	6.97E-15	3.94E-14	2.82E-14
Q17	DOE-1	4/15/2022	-1.80E-15	5.47E-15	1.87E-14	2.22E-14
Q17	DOE-1	4/18/2022	-2.33E-15	7.07E-15	-2.24E-15	2.86E-14
Q17	DOE-1	4/22/2022	-1.52E-15	5.39E-15	1.84E-14	2.18E-14
Q17	DOE-1	4/25/2022	-2.97E-15	6.99E-15	5.00E-14	2.83E-14

Quarter	Air Station ID	Sample collection date	Result Alpha (µCi/mL)	MDC - Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC - Beta (µCi/mL)
Q17	DOE-1	4/29/2022	-5.05E-16	5.44E-15	2.08E-14	2.21E-14
Q17	DOE-1	5/2/2022	3.76E-15	6.59E-15	4.04E-14	2.84E-14
Q17	DOE-1	5/6/2022	3.66E-15	5.07E-15	2.58E-14	2.19E-14
Q17	DOE-1	5/9/2022	-1.83E-15	6.54E-15	3.19E-15	2.82E-14
Q17	DOE-1	5/13/2022	-1.50E-16	5.00E-15	9.82E-15	2.16E-14
Q17	DOE-1	5/16/2022	1.40E-15	6.37E-15	3.71E-14	2.75E-14
Q17	DOE-1	5/20/2022	-1.40E-15	4.98E-15	2.45E-14	2.15E-14
Q17	DOE-1	5/23/2022	2.47E-15	6.67E-15	1.17E-14	2.88E-14
Q17	DOE-1	5/27/2022	-1.94E-15	5.09E-15	5.32E-14	2.20E-14
Q17	DOE-1	5/31/2022	-4.05E-16	5.06E-15	1.24E-14	2.19E-14
Q17	DOE-1	6/3/2022	1.88E-15	6.88E-15	2.33E-14	2.99E-14
Q17	DOE-1	6/6/2022	4.55E-16	6.58E-15	1.49E-14	2.86E-14
Q17	DOE-1	6/10/2022	6.08E-16	5.06E-15	2.33E-14	2.20E-14
Q17	DOE-1	6/13/2022	-3.54E-15	6.53E-15	4.40E-14	2.84E-14
Q17	DOE-1	6/17/2022	-9.51E-16	5.13E-15	1.30E-14	2.23E-14
Q17	DOE-1	6/20/2022	1.22E-16	6.67E-15	1.76E-14	2.90E-14
Q17	DOE-1	6/24/2022	5.23E-15	5.05E-15	3.81E-14	2.19E-14
Q18	DOE-1	7/1/2022	1.85E-15	4.63E-15	3.38E-14	2.14E-14
Q18	DOE-1	7/5/2022	2.17E-15	4.80E-15	1.40E-14	2.22E-14
Q18	DOE-1	7/8/2022	5.10E-16	6.32E-15	-9.35E-15	2.92E-14
Q18	DOE-1	7/11/2022	2.59E-15	6.48E-15	1.45E-14	3.00E-14
Q18	DOE-1	7/15/2022	-6.28E-16	4.77E-15	1.98E-14	2.21E-14
Q18	DOE-1	7/18/2022	-1.60E-16	6.26E-15	3.09E-14	2.90E-14
Q18	DOE-1	7/22/2022	-3.75E-16	4.78E-15	1.04E-14	2.21E-14
Q18	DOE-1	7/25/2022	1.51E-15	6.28E-15	5.50E-14	2.91E-14
Q18	DOE-1	7/29/2022	-3.83E-16	4.88E-15	4.14E-14	2.26E-14
Q18	DOE-1	8/1/2022	-1.17E-15	6.86E-15	2.91E-14	2.89E-14
Q18	DOE-1	8/5/2022	2.13E-15	5.18E-15	4.11E-14	2.19E-14
Q18	DOE-1	8/8/2022	-3.77E-15	6.76E-15	2.34E-14	2.85E-14
Q18	DOE-1	8/12/2022	1.64E-15	5.23E-15	3.36E-14	2.21E-14
Q18	DOE-1	8/15/2022	3.39E-15	7.37E-15	4.12E-14	3.11E-14
Q18	DOE-1	8/19/2022	1.38E-15	5.22E-15	6.32E-14	2.20E-14
Q18	DOE-1	8/22/2022	-2.22E-15	7.03E-15	2.44E-14	2.96E-14
Q18	DOE-1	8/26/2022	-8.79E-16	5.15E-15	5.79E-14	2.17E-14
Q18	DOE-1	8/29/2022	-1.51E-15	6.90E-15	2.79E-14	2.91E-14
Q18	DOE-1	9/2/2022	5.49E-15	4.82E-15	5.17E-14	2.18E-14

Quarter	Air Station ID	Sample collection date	Result Alpha (µCi/mL)	MDC - Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC - Beta (µCi/mL)
Q18	DOE-1	9/6/2022	5.48E-15	4.81E-15	7.33E-14	2.18E-14
Q18	DOE-1	9/9/2022	1.71E-15	6.54E-15	8.33E-14	2.96E-14
Q18	DOE-1	9/12/2022	2.38E-15	6.51E-15	7.94E-15	2.95E-14
Q18	DOE-1	9/16/2022	1.27E-15	4.83E-15	3.40E-14	2.19E-14
Q18	DOE-1	9/19/2022	2.60E-17	6.29E-15	3.17E-14	2.85E-14
Q18	DOE-1	9/23/2022	-9.30E-16	4.60E-15	7.13E-15	2.08E-14
Q18	DOE-1	9/26/2022	1.11E-15	6.97E-15	7.18E-14	3.16E-14
Q18	DOE-1	9/30/2022	2.02E-17	4.89E-15	6.36E-14	2.21E-14
Q19	DOE-1	10/3/2022	2.48E-15	6.46E-15	5.68E-17	2.97E-14
Q19	DOE-1	10/7/2022	5.42E-15	4.82E-15	7.92E-14	2.21E-14
Q19	DOE-1	10/10/2022	5.28E-15	6.55E-15	9.78E-14	3.01E-14
Q19	DOE-1	10/14/2022	7.15E-15	4.79E-15	1.06E-13	2.20E-14
Q19	DOE-1	10/17/2022	7.90E-15	6.42E-15	3.67E-14	2.95E-14
Q19	DOE-1	10/21/2022	5.53E-15	4.92E-15	7.65E-14	2.26E-14
Q19	DOE-1	10/26/2022	4.36E-15	3.88E-15	5.98E-14	1.78E-14
Q19	DOE-1	10/28/2022	5.22E-15	9.61E-15	7.87E-14	4.41E-14
Q19	DOE-1	10/31/2022	2.48E-15	6.45E-15	8.15E-14	2.96E-14
Q19	DOE-1	11/4/2022	1.89E-15	5.01E-15	5.16E-14	2.13E-14
Q19	DOE-1	11/7/2022	-2.18E-15	6.70E-15	2.60E-14	2.85E-14
Q19	DOE-1	11/11/2022	-6.15E-16	4.94E-15	4.93E-15	2.10E-14
Q19	DOE-1	11/14/2022	-1.79E-15	6.50E-15	4.47E-14	2.76E-14
Q19	DOE-1	11/18/2022	-1.23E-16	5.12E-15	5.32E-14	2.17E-14
Q19	DOE-1	11/21/2022	1.85E-15	6.67E-15	7.94E-14	2.83E-14
Q19	DOE-1	11/23/2022	-5.82E-15	1.01E-14	8.91E-14	4.29E-14
Q19	DOE-1	11/28/2022	1.09E-15	3.95E-15	8.03E-14	1.68E-14
Q19	DOE-1	12/2/2022	4.59E-15	5.00E-15	6.89E-14	2.19E-14
Q19	DOE-1	12/5/2022	-1.97E-15	6.61E-15	-1.08E-14	2.90E-14
Q19	DOE-1	12/9/2022	-1.23E-15	4.98E-15	1.41E-14	2.18E-14
Q19	DOE-1	12/13/2022	7.81E-16	4.94E-15	9.50E-15	2.16E-14
Q19	DOE-1	12/16/2022	-3.46E-15	6.28E-15	4.45E-14	2.75E-14
Q19	DOE-1	12/19/2022	3.95E-17	6.50E-15	7.40E-14	2.85E-14
Q19	DOE-1	12/22/2022	4.19E-17	6.89E-15	7.56E-14	3.02E-14
Q19	DOE-1	12/26/2022	1.86E-15	5.16E-15	7.33E-14	2.26E-14
Sample location DOE-2						
Q16	DOE-2	1/4/2022	-1.42E-15	5.24E-15	1.07E-14	2.18E-14
Q16	DOE-2	1/7/2022	-3.93E-15	7.05E-15	1.62E-14	2.94E-14

Quarter	Air Station ID	Sample collection date	Result Alpha (µCi/mL)	MDC - Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC - Beta (µCi/mL)
Q16	DOE-2	1/10/2022	-2.22E-15	6.96E-15	5.12E-14	2.90E-14
Q16	DOE-2	1/14/2022	-1.99E-15	5.44E-15	5.87E-14	2.27E-14
Q16	DOE-2	1/18/2022	2.39E-15	5.41E-15	6.90E-14	2.26E-14
Q16	DOE-2	1/21/2022	7.71E-16	7.11E-15	9.35E-14	2.96E-14
Q16	DOE-2	1/24/2022	4.27E-16	7.02E-15	4.84E-14	2.93E-14
Q16	DOE-2	1/27/2022	4.29E-16	7.06E-15	5.15E-14	2.94E-14
Q16	DOE-2	1/31/2022	-1.79E-16	5.24E-15	5.57E-14	2.18E-14
Q16	DOE-2	2/4/2022	1.24E-15	5.27E-15	5.49E-14	2.27E-14
Q16	DOE-2	2/7/2022	2.71E-16	6.61E-15	3.27E-14	2.85E-14
Q16	DOE-2	2/10/2022	6.10E-16	6.80E-15	2.88E-14	2.94E-14
Q16	DOE-2	2/14/2022	4.86E-16	5.42E-15	5.11E-14	2.34E-14
Q16	DOE-2	2/18/2022	9.37E-16	5.01E-15	3.20E-14	2.16E-14
Q16	DOE-2	2/21/2022	-2.17E-15	7.23E-15	4.96E-14	3.12E-14
Q16	DOE-2	2/25/2022	-1.53E-15	5.09E-15	3.41E-14	2.20E-14
Q16	DOE-2	2/28/2022	-3.60E-15	7.28E-15	4.43E-14	3.14E-14
Q16	DOE-2	3/3/2022	4.70E-15	7.07E-15	3.94E-14	2.93E-14
Q16	DOE-2	3/7/2022	7.38E-16	5.13E-15	3.83E-14	2.12E-14
Q16	DOE-2	3/11/2022	3.76E-15	5.28E-15	4.16E-14	2.19E-14
Q16	DOE-2	3/14/2022	1.36E-17	7.19E-15	5.18E-14	2.98E-14
Q16	DOE-2	3/18/2022	5.35E-16	5.54E-15	5.28E-14	2.29E-14
Q16	DOE-2	3/21/2022	3.48E-16	7.06E-15	3.11E-14	2.92E-14
Q16	DOE-2	3/24/2022	7.69E-16	5.34E-15	5.02E-14	2.21E-14
Q16	DOE-2	3/29/2022	-1.46E-15	5.18E-15	1.34E-14	2.15E-14
Q17	DOE-2	4/1/2022	-1.38E-15	7.38E-15	-5.28E-15	2.99E-14
Q17	DOE-2	4/4/2022	-1.38E-15	7.37E-15	2.23E-14	2.99E-14
Q17	DOE-2	4/8/2022	2.67E-16	5.41E-15	5.52E-14	2.19E-14
Q17	DOE-2	4/11/2022	-1.99E-15	7.04E-15	6.61E-14	2.85E-14
Q17	DOE-2	4/15/2022	7.88E-16	5.48E-15	3.81E-14	2.22E-14
Q17	DOE-2	4/18/2022	1.34E-17	7.07E-15	2.73E-14	2.86E-14
Q17	DOE-2	4/22/2022	-1.01E-15	5.39E-15	2.54E-14	2.18E-14
Q17	DOE-2	4/25/2022	2.66E-15	6.99E-15	1.48E-14	2.83E-14
Q17	DOE-2	4/29/2022	-5.05E-16	5.44E-15	3.68E-14	2.21E-14
Q17	DOE-2	5/2/2022	6.07E-15	6.59E-15	3.42E-14	2.84E-14
Q17	DOE-2	5/6/2022	8.63E-16	5.07E-15	3.19E-14	2.19E-14
Q17	DOE-2	5/9/2022	3.08E-15	6.54E-15	6.32E-14	2.82E-14
Q17	DOE-2	5/13/2022	-1.15E-15	4.99E-15	4.09E-14	2.16E-14

Quarter	Air Station ID	Sample collection date	Result Alpha (µCi/mL)	MDC - Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC - Beta (µCi/mL)
Q17	DOE-2	5/16/2022	-5.11E-16	6.38E-15	6.20E-14	2.75E-14
Q17	DOE-2	5/20/2022	3.49E-16	4.98E-15	3.58E-14	2.15E-14
Q17	DOE-2	5/23/2022	-2.54E-15	6.67E-15	2.93E-14	2.88E-14
Q17	DOE-2	5/27/2022	1.63E-15	5.09E-15	2.45E-14	2.20E-14
Q17	DOE-2	5/31/2022	-2.69E-15	5.06E-15	2.20E-14	2.19E-14
Q17	DOE-2	6/3/2022	-9.23E-16	6.87E-15	2.98E-14	2.99E-14
Q17	DOE-2	6/6/2022	1.79E-15	6.56E-15	2.62E-15	2.85E-14
Q17	DOE-2	6/10/2022	5.00E-15	5.08E-15	2.26E-14	2.21E-14
Q17	DOE-2	6/13/2022	4.52E-16	6.53E-15	6.95E-14	2.84E-14
Q17	DOE-2	6/17/2022	-4.28E-16	5.13E-15	4.28E-14	2.23E-14
Q17	DOE-2	6/20/2022	-1.58E-15	6.67E-15	3.08E-14	2.90E-14
Q17	DOE-2	6/24/2022	1.89E-15	5.05E-15	4.29E-14	2.20E-14
Q17	DOE-2	6/27/2022	4.70E-16	6.79E-15	4.04E-14	2.95E-14
Q18	DOE-2	7/1/2022	2.34E-15	4.63E-15	3.46E-14	2.14E-14
Q18	DOE-2	7/5/2022	2.43E-15	4.80E-15	1.10E-14	2.22E-14
Q18	DOE-2	7/8/2022	-1.17E-15	6.32E-15	1.70E-14	2.92E-14
Q18	DOE-2	7/11/2022	-5.09E-16	6.48E-15	5.13E-14	3.00E-14
Q18	DOE-2	7/15/2022	6.38E-16	4.77E-15	4.69E-14	2.21E-14
Q18	DOE-2	7/18/2022	5.06E-16	6.27E-15	4.86E-14	2.90E-14
Q18	DOE-2	7/22/2022	8.92E-16	4.78E-15	4.19E-14	2.21E-14
Q18	DOE-2	7/25/2022	-1.60E-16	6.28E-15	2.39E-14	2.91E-14
Q18	DOE-2	7/29/2022	1.95E-15	4.88E-15	2.13E-14	2.26E-14
Q18	DOE-2	8/1/2022	2.15E-15	6.86E-15	5.05E-14	2.89E-14
Q18	DOE-2	8/5/2022	1.63E-15	5.18E-15	3.81E-14	2.19E-14
Q18	DOE-2	8/8/2022	1.47E-15	6.76E-15	5.25E-14	2.85E-14
Q18	DOE-2	8/12/2022	3.93E-15	5.23E-15	5.45E-14	2.21E-14
Q18	DOE-2	8/15/2022	5.29E-16	7.37E-15	6.83E-14	3.11E-14
Q18	DOE-2	8/19/2022	4.17E-15	5.22E-15	7.68E-14	2.20E-14
Q18	DOE-2	8/22/2022	1.63E-16	7.02E-15	2.62E-14	2.96E-14
Q18	DOE-2	8/26/2022	8.69E-16	5.15E-15	3.12E-14	2.17E-14
Q18	DOE-2	8/29/2022	1.61E-16	6.90E-15	3.32E-14	2.91E-14
Q18	DOE-2	9/2/2022	1.01E-15	4.82E-15	4.19E-14	2.18E-14
Q18	DOE-2	9/6/2022	5.49E-15	4.81E-15	7.47E-14	2.18E-14
Q18	DOE-2	9/9/2022	3.40E-15	6.54E-15	8.62E-14	2.96E-14
Q18	DOE-2	9/12/2022	2.38E-15	6.51E-15	6.53E-14	2.95E-14
Q18	DOE-2	9/16/2022	1.76E-15	4.82E-15	4.57E-14	2.18E-14

Quarter	Air Station ID	Sample collection date	Result Alpha (µCi/mL)	MDC - Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC - Beta (µCi/mL)
Q18	DOE-2	9/19/2022	6.78E-16	6.31E-15	7.27E-14	2.86E-14
Q18	DOE-2	9/23/2022	-2.18E-16	4.60E-15	7.39E-15	2.08E-14
Q18	DOE-2	9/26/2022	4.70E-15	6.97E-15	5.44E-14	3.16E-14
Q18	DOE-2	9/30/2022	-1.74E-15	4.89E-15	4.79E-14	2.21E-14
Q19	DOE-2	10/3/2022	1.46E-15	6.45E-15	1.49E-14	2.96E-14
Q19	DOE-2	10/7/2022	7.98E-15	4.83E-15	7.32E-14	2.22E-14
Q19	DOE-2	10/10/2022	6.67E-15	6.55E-15	1.00E-13	3.01E-14
Q19	DOE-2	10/14/2022	4.88E-15	4.79E-15	1.07E-13	2.20E-14
Q19	DOE-2	10/17/2022	4.16E-15	6.42E-15	5.33E-14	2.95E-14
Q19	DOE-2	10/21/2022	4.75E-15	4.92E-15	1.05E-13	2.26E-14
Q19	DOE-2	10/26/2022	8.76E-16	3.88E-15	6.03E-14	1.78E-14
Q19	DOE-2	10/28/2022	6.74E-15	9.61E-15	3.75E-14	4.41E-14
Q19	DOE-2	10/31/2022	2.14E-15	6.45E-15	8.54E-14	2.96E-14
Q19	DOE-2	11/4/2022	3.15E-15	5.01E-15	5.18E-14	2.13E-14
Q19	DOE-2	11/7/2022	-1.61E-16	6.71E-15	3.48E-14	2.84E-14
Q19	DOE-2	11/11/2022	2.61E-16	1.00E-14	4.46E-14	4.25E-14
Q19	DOE-2	11/14/2022	3.75E-15	6.50E-15	6.44E-14	2.76E-14
Q19	DOE-2	11/18/2022	6.47E-16	5.12E-15	7.49E-14	2.17E-14
Q19	DOE-2	11/21/2022	1.13E-15	6.42E-15	6.70E-14	2.72E-14
Q19	DOE-2	11/23/2022	-3.49E-15	1.07E-14	9.52E-14	4.56E-14
Q19	DOE-2	11/28/2022	-2.93E-16	3.95E-15	5.99E-14	1.68E-14
Q19	DOE-2	12/2/2022	2.06E-15	5.00E-15	6.07E-14	2.19E-14
Q19	DOE-2	12/5/2022	-1.30E-15	6.59E-15	2.50E-14	2.89E-14
Q19	DOE-2	12/9/2022	-2.23E-16	4.99E-15	3.06E-14	2.19E-14
Q19	DOE-2	12/13/2022	5.30E-16	4.93E-15	1.05E-14	2.16E-14
Q19	DOE-2	12/16/2022	-5.98E-16	6.27E-15	4.58E-14	2.75E-14
Q19	DOE-2	12/19/2022	3.69E-16	6.50E-15	4.68E-14	2.85E-14
Q19	DOE-2	12/22/2022	-1.36E-15	6.89E-15	6.72E-14	3.02E-14
Q19	DOE-2	12/26/2022	5.55E-16	5.16E-15	5.08E-14	2.26E-14
Sample location DOE-3						
Q16	DOE-3	1/4/2022	1.31E-15	5.23E-15	1.59E-14	2.18E-14
Q16	DOE-3	1/7/2022	-5.76E-16	7.04E-15	5.49E-14	2.93E-14
Q16	DOE-3	1/10/2022	4.24E-16	6.98E-15	4.50E-14	2.91E-14
Q16	DOE-3	1/14/2022	8.46E-16	5.43E-15	5.02E-14	2.26E-14
Q16	DOE-3	1/18/2022	-1.47E-15	5.42E-15	4.58E-14	2.26E-14
Q16	DOE-3	1/21/2022	-8.71E-16	6.73E-15	6.53E-14	2.81E-14

Quarter	Air Station ID	Sample collection date	Result Alpha (µCi/mL)	MDC - Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC - Beta (µCi/mL)
Q16	DOE-3	1/24/2022	-3.24E-15	7.02E-15	1.47E-14	2.93E-14
Q16	DOE-3	1/27/2022	-5.77E-16	7.06E-15	5.36E-14	2.94E-14
Q16	DOE-3	1/31/2022	6.87E-17	5.16E-15	6.01E-14	2.15E-14
Q16	DOE-3	2/4/2022	1.01E-14	5.34E-15	6.45E-14	2.31E-14
Q16	DOE-3	2/7/2022	-1.34E-15	6.61E-15	1.33E-14	2.85E-14
Q16	DOE-3	2/10/2022	-2.03E-15	6.77E-15	2.45E-14	2.92E-14
Q16	DOE-3	2/14/2022	-8.38E-16	5.44E-15	3.81E-14	2.35E-14
Q16	DOE-3	2/18/2022	-1.02E-15	5.01E-15	3.64E-14	2.16E-14
Q16	DOE-3	2/21/2022	-2.87E-15	7.23E-15	3.06E-14	3.12E-14
Q16	DOE-3	2/25/2022	-2.52E-15	5.09E-15	-8.11E-15	2.20E-14
Q16	DOE-3	2/28/2022	-4.67E-15	7.28E-15	2.55E-14	3.14E-14
Q16	DOE-3	3/3/2022	1.04E-14	7.07E-15	5.81E-14	2.93E-14
Q16	DOE-3	3/7/2022	2.43E-15	5.11E-15	2.80E-14	2.12E-14
Q16	DOE-3	3/11/2022	3.02E-15	5.29E-15	5.43E-14	2.19E-14
Q16	DOE-3	3/14/2022	-2.03E-15	7.19E-15	5.88E-14	2.98E-14
Q16	DOE-3	3/18/2022	2.72E-16	5.53E-15	4.30E-14	2.29E-14
Q16	DOE-3	3/21/2022	1.02E-15	7.07E-15	3.83E-15	2.93E-14
Q16	DOE-3	3/24/2022	7.69E-16	5.34E-15	2.14E-14	2.21E-14
Q16	DOE-3	3/29/2022	-1.24E-15	6.60E-15	7.27E-15	2.73E-14
Q17	DOE-3	4/1/2022	-1.73E-15	7.38E-15	-1.63E-14	2.99E-14
Q17	DOE-3	4/4/2022	3.62E-16	7.36E-15	4.50E-14	2.98E-14
Q17	DOE-3	4/8/2022	3.60E-15	5.42E-15	4.06E-14	2.20E-14
Q17	DOE-3	4/11/2022	1.32E-17	6.95E-15	2.65E-14	2.82E-14
Q17	DOE-3	4/15/2022	-1.03E-15	5.48E-15	1.60E-14	2.22E-14
Q17	DOE-3	4/18/2022	-3.67E-15	7.07E-15	-1.60E-14	2.86E-14
Q17	DOE-3	4/22/2022	-2.76E-15	5.85E-15	1.62E-14	2.37E-14
Q17	DOE-3	4/25/2022	-4.29E-15	6.99E-15	1.24E-14	2.83E-14
Q17	DOE-3	4/29/2022	-1.02E-15	5.44E-15	3.46E-14	2.21E-14
Q17	DOE-3	5/2/2022	2.44E-15	6.58E-15	1.26E-14	2.84E-14
Q17	DOE-3	5/6/2022	3.56E-16	5.07E-15	5.04E-14	2.19E-14
Q17	DOE-3	5/9/2022	2.09E-15	6.54E-15	4.49E-14	2.82E-14
Q17	DOE-3	5/13/2022	3.56E-16	5.08E-15	1.12E-14	2.16E-14
Q17	DOE-3	5/16/2022	-1.51E-15	6.54E-15	3.44E-14	2.78E-14
Q17	DOE-3	5/20/2022	1.12E-15	5.09E-15	9.59E-15	2.16E-14
Q17	DOE-3	5/23/2022	1.50E-15	6.80E-15	4.68E-15	2.89E-14
Q17	DOE-3	5/27/2022	-1.71E-15	5.19E-15	3.57E-14	2.21E-14

Quarter	Air Station ID	Sample collection date	Result Alpha (µCi/mL)	MDC - Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC - Beta (µCi/mL)
Q17	DOE-3	5/31/2022	-6.73E-16	5.17E-15	1.06E-14	2.20E-14
Q17	DOE-3	6/3/2022	6.06E-15	6.86E-15	2.14E-14	2.98E-14
Q17	DOE-3	6/6/2022	-1.55E-15	6.57E-15	-8.94E-15	2.86E-14
Q17	DOE-3	6/10/2022	1.90E-15	5.07E-15	2.21E-14	2.21E-14
Q17	DOE-3	6/13/2022	7.85E-16	6.53E-15	7.78E-14	2.84E-14
Q17	DOE-3	6/17/2022	1.14E-15	5.13E-15	5.05E-14	2.23E-14
Q17	DOE-3	6/20/2022	1.22E-16	6.67E-15	1.95E-15	2.90E-14
Q17	DOE-3	6/24/2022	9.25E-17	5.05E-15	4.67E-14	2.19E-14
Q17	DOE-3	6/27/2022	-1.26E-15	6.79E-15	3.24E-14	2.95E-14
Q18	DOE-3	7/1/2022	4.53E-15	4.61E-15	4.30E-14	2.13E-14
Q18	DOE-3	7/8/2022	-1.61E-16	6.32E-15	4.17E-15	2.92E-14
Q18	DOE-3	7/11/2022	5.23E-16	6.48E-15	1.56E-14	3.00E-14
Q18	DOE-3	7/15/2022	-1.64E-15	4.76E-15	1.52E-14	2.20E-14
Q18	DOE-3	7/18/2022	-1.60E-16	6.28E-15	2.43E-14	2.91E-14
Q18	DOE-3	7/22/2022	8.93E-16	4.78E-15	1.90E-14	2.21E-14
Q18	DOE-3	7/25/2022	-1.60E-16	6.28E-15	4.34E-14	2.91E-14
Q18	DOE-3	7/29/2022	-1.16E-15	4.88E-15	3.86E-14	2.26E-14
Q18	DOE-3	8/1/2022	2.82E-15	6.86E-15	2.81E-14	2.89E-14
Q18	DOE-3	8/5/2022	3.39E-15	5.19E-15	4.51E-14	2.19E-14
Q18	DOE-3	8/8/2022	1.14E-15	6.76E-15	6.37E-14	2.85E-14
Q18	DOE-3	8/12/2022	2.15E-15	5.23E-15	2.79E-14	2.21E-14
Q18	DOE-3	8/15/2022	-1.97E-15	7.37E-15	3.97E-14	3.11E-14
Q18	DOE-3	8/19/2022	3.66E-15	5.22E-15	6.89E-14	2.20E-14
Q18	DOE-3	8/22/2022	2.89E-15	7.03E-15	2.91E-14	2.96E-14
Q18	DOE-3	8/26/2022	1.62E-15	5.15E-15	5.10E-14	2.17E-14
Q18	DOE-3	8/29/2022	-1.85E-15	6.90E-15	2.46E-14	2.91E-14
Q18	DOE-3	9/2/2022	2.75E-15	4.82E-15	4.80E-14	2.18E-14
Q18	DOE-3	9/6/2022	4.99E-15	4.81E-15	9.54E-14	2.18E-14
Q18	DOE-3	9/9/2022	5.09E-15	6.54E-15	8.66E-14	2.96E-14
Q18	DOE-3	9/12/2022	1.71E-15	6.51E-15	1.73E-14	2.95E-14
Q18	DOE-3	9/16/2022	-4.78E-16	4.82E-15	1.68E-14	2.18E-14
Q18	DOE-3	9/19/2022	-2.96E-16	6.24E-15	1.80E-14	2.83E-14
Q18	DOE-3	9/23/2022	-1.18E-15	4.64E-15	1.75E-14	2.10E-14
Q18	DOE-3	9/26/2022	1.83E-15	6.96E-15	5.48E-14	3.16E-14
Q18	DOE-3	9/30/2022	1.28E-15	4.89E-15	6.42E-14	2.21E-14
Q19	DOE-3	10/3/2022	2.47E-15	6.43E-15	1.21E-14	2.96E-14

Quarter	Air Station ID	Sample collection date	Result Alpha (µCi/mL)	MDC - Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC - Beta (µCi/mL)
Q19	DOE-3	10/7/2022	9.74E-15	4.82E-15	9.18E-14	2.21E-14
Q19	DOE-3	10/10/2022	1.29E-14	6.57E-15	1.11E-13	3.02E-14
Q19	DOE-3	10/14/2022	7.92E-15	4.80E-15	1.07E-13	2.20E-14
Q19	DOE-3	10/17/2022	2.47E-15	6.42E-15	3.50E-14	2.95E-14
Q19	DOE-3	10/21/2022	3.19E-15	4.92E-15	7.51E-14	2.26E-14
Q19	DOE-3	10/26/2022	2.31E-15	3.88E-15	5.96E-14	1.78E-14
Q19	DOE-3	10/28/2022	-2.90E-15	9.61E-15	7.81E-14	4.41E-14
Q19	DOE-3	10/31/2022	3.16E-15	6.45E-15	8.25E-14	2.96E-14
Q19	DOE-3	11/4/2022	5.91E-15	5.01E-15	5.36E-14	2.13E-14
Q19	DOE-3	11/7/2022	-1.84E-15	6.71E-15	2.78E-14	2.85E-14
Q19	DOE-3	11/11/2022	-1.48E-15	5.38E-15	7.34E-15	2.28E-14
Q19	DOE-3	11/14/2022	1.80E-15	6.51E-15	5.36E-14	2.76E-14
Q19	DOE-3	11/18/2022	1.93E-15	5.12E-15	6.76E-14	2.17E-14
Q19	DOE-3	11/21/2022	-4.76E-16	6.41E-15	8.85E-14	2.72E-14
Q19	DOE-3	11/23/2022	2.98E-15	1.08E-14	3.89E-14	4.56E-14
Q19	DOE-3	11/28/2022	6.98E-16	3.95E-15	6.94E-14	1.68E-14
Q19	DOE-3	12/2/2022	3.08E-17	5.06E-15	5.84E-14	2.22E-14
Q19	DOE-3	12/5/2022	4.01E-17	6.59E-15	6.60E-14	2.89E-14
Q19	DOE-3	12/9/2022	7.90E-16	4.99E-15	3.43E-14	2.19E-14
Q19	DOE-3	12/13/2022	9.22E-16	5.83E-15	4.13E-14	2.55E-14
Q19	DOE-3	12/16/2022	3.81E-17	6.26E-15	1.24E-14	2.74E-14
Q19	DOE-3	12/19/2022	1.03E-15	6.52E-15	3.19E-15	2.86E-14
Q19	DOE-3	12/22/2022	-1.01E-15	6.89E-15	-1.17E-14	3.02E-14
Q19	DOE-3	12/26/2022	2.13E-15	5.16E-15	6.38E-14	2.26E-14
Sample location DOE-4						
Q16	DOE-4	1/4/2022	-1.79E-16	5.24E-15	3.01E-14	2.18E-14
Q16	DOE-4	1/7/2022	-1.91E-15	7.01E-15	2.62E-14	2.92E-14
Q16	DOE-4	1/10/2022	-2.23E-15	6.98E-15	2.93E-14	2.91E-14
Q16	DOE-4	1/14/2022	5.89E-16	5.44E-15	3.72E-14	2.27E-14
Q16	DOE-4	1/18/2022	-4.44E-16	5.43E-15	6.43E-14	2.26E-14
Q16	DOE-4	1/21/2022	2.12E-15	7.11E-15	7.32E-14	2.96E-14
Q16	DOE-4	1/24/2022	-5.74E-16	7.02E-15	4.66E-14	2.93E-14
Q16	DOE-4	1/27/2022	-1.25E-15	7.06E-15	3.28E-14	2.94E-14
Q16	DOE-4	1/31/2022	-9.12E-16	5.16E-15	4.49E-14	2.15E-14
Q16	DOE-4	2/4/2022	4.91E-15	5.34E-15	4.19E-14	2.31E-14
Q16	DOE-4	2/7/2022	-3.91E-15	6.60E-15	2.39E-14	2.85E-14

Quarter	Air Station ID	Sample collection date	Result Alpha (µCi/mL)	MDC - Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC - Beta (µCi/mL)
Q16	DOE-4	2/10/2022	9.42E-16	6.80E-15	2.04E-14	2.94E-14
Q16	DOE-4	2/14/2022	2.09E-15	5.48E-15	3.19E-14	2.37E-14
Q16	DOE-4	2/18/2022	-3.90E-17	5.00E-15	2.58E-14	2.16E-14
Q16	DOE-4	2/21/2022	-2.52E-15	7.23E-15	1.12E-14	3.12E-14
Q16	DOE-4	2/25/2022	-1.30E-15	5.17E-15	1.63E-14	2.23E-14
Q16	DOE-4	2/28/2022	-2.19E-15	7.28E-15	5.52E-14	3.14E-14
Q16	DOE-4	3/3/2022	2.69E-15	7.07E-15	3.98E-14	2.93E-14
Q16	DOE-4	3/7/2022	7.36E-16	5.11E-15	4.26E-14	2.12E-14
Q16	DOE-4	3/11/2022	4.02E-15	5.29E-15	4.41E-14	2.19E-14
Q16	DOE-4	3/14/2022	3.76E-15	7.19E-15	4.08E-14	2.98E-14
Q16	DOE-4	3/18/2022	2.11E-15	5.54E-15	3.32E-14	2.29E-14
Q16	DOE-4	3/21/2022	3.48E-16	7.06E-15	6.70E-15	2.92E-14
Q16	DOE-4	3/24/2022	2.03E-15	5.34E-15	2.27E-14	2.21E-14
Q16	DOE-4	3/29/2022	1.24E-15	5.18E-15	3.15E-14	2.14E-14
Q17	DOE-4	4/1/2022	2.46E-15	7.38E-15	-1.60E-15	2.99E-14
Q17	DOE-4	4/4/2022	3.63E-16	7.36E-15	1.38E-14	2.98E-14
Q17	DOE-4	4/8/2022	1.03E-17	5.42E-15	3.50E-14	2.20E-14
Q17	DOE-4	4/11/2022	-3.28E-15	6.95E-15	4.11E-14	2.82E-14
Q17	DOE-4	4/15/2022	-2.49E-16	5.48E-15	2.80E-14	2.22E-14
Q17	DOE-4	4/18/2022	1.35E-15	7.07E-15	-8.31E-16	2.86E-14
Q17	DOE-4	4/22/2022	1.02E-17	5.39E-15	4.07E-14	2.18E-14
Q17	DOE-4	4/25/2022	-1.64E-15	6.99E-15	4.05E-15	2.83E-14
Q17	DOE-4	4/29/2022	-2.31E-15	5.44E-15	4.33E-14	2.21E-14
Q17	DOE-4	5/2/2022	2.83E-15	6.72E-15	2.81E-14	2.86E-14
Q17	DOE-4	5/6/2022	2.96E-15	5.18E-15	4.91E-14	2.20E-14
Q17	DOE-4	5/9/2022	1.34E-16	6.67E-15	2.96E-14	2.84E-14
Q17	DOE-4	5/13/2022	2.13E-15	5.08E-15	7.46E-15	2.16E-14
Q17	DOE-4	5/16/2022	2.10E-15	6.54E-15	5.42E-14	2.78E-14
Q17	DOE-4	5/20/2022	2.39E-15	5.09E-15	1.09E-14	2.16E-14
Q17	DOE-4	5/23/2022	-5.45E-16	6.80E-15	4.71E-14	2.89E-14
Q17	DOE-4	5/27/2022	1.40E-15	5.19E-15	3.27E-14	2.21E-14
Q17	DOE-4	5/31/2022	8.81E-16	5.18E-15	2.70E-14	2.20E-14
Q17	DOE-4	6/3/2022	-1.62E-15	6.85E-15	9.67E-15	2.98E-14
Q17	DOE-4	6/6/2022	4.14E-15	6.57E-15	1.87E-14	2.86E-14
Q17	DOE-4	6/10/2022	-6.82E-16	5.07E-15	2.39E-14	2.21E-14
Q17	DOE-4	6/13/2022	1.20E-16	6.53E-15	4.51E-14	2.84E-14

Quarter	Air Station ID	Sample collection date	Result Alpha (µCi/mL)	MDC - Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC - Beta (µCi/mL)
Q17	DOE-4	6/17/2022	3.55E-16	5.13E-15	1.82E-14	2.23E-14
Q17	DOE-4	6/20/2022	2.50E-15	6.68E-15	6.58E-15	2.90E-14
Q17	DOE-4	6/24/2022	6.06E-16	5.05E-15	2.68E-14	2.19E-14
Q17	DOE-4	6/27/2022	-5.67E-16	6.79E-15	7.12E-14	2.95E-14
Q18	DOE-4	7/1/2022	3.80E-15	4.61E-15	4.07E-14	2.13E-14
Q18	DOE-4	7/5/2022	3.89E-16	4.83E-15	1.21E-14	2.23E-14
Q18	DOE-4	7/8/2022	1.18E-15	6.31E-15	-4.36E-15	2.92E-14
Q18	DOE-4	7/11/2022	3.28E-15	6.49E-15	2.36E-14	3.00E-14
Q18	DOE-4	7/15/2022	1.39E-15	4.75E-15	5.37E-14	2.20E-14
Q18	DOE-4	7/18/2022	3.18E-15	6.29E-15	1.65E-14	2.91E-14
Q18	DOE-4	7/22/2022	2.16E-15	4.78E-15	5.27E-14	2.21E-14
Q18	DOE-4	7/25/2022	-3.16E-15	6.28E-15	1.65E-14	2.91E-14
Q18	DOE-4	7/29/2022	3.50E-15	4.87E-15	2.13E-14	2.25E-14
Q18	DOE-4	8/1/2022	4.15E-15	6.87E-15	2.17E-14	2.90E-14
Q18	DOE-4	8/5/2022	3.14E-15	5.19E-15	1.64E-14	2.19E-14
Q18	DOE-4	8/8/2022	1.80E-15	6.76E-15	3.15E-14	2.85E-14
Q18	DOE-4	8/12/2022	2.66E-15	5.23E-15	5.28E-14	2.21E-14
Q18	DOE-4	8/15/2022	8.86E-16	7.37E-15	7.18E-14	3.11E-14
Q18	DOE-4	8/19/2022	2.40E-15	5.22E-15	6.70E-14	2.20E-14
Q18	DOE-4	8/22/2022	1.18E-15	7.03E-15	5.71E-14	2.96E-14
Q18	DOE-4	8/26/2022	-6.29E-16	5.15E-15	3.42E-14	2.17E-14
Q18	DOE-4	8/29/2022	-2.18E-15	6.90E-15	1.21E-14	2.91E-14
Q18	DOE-4	9/2/2022	6.48E-15	4.82E-15	3.95E-14	2.18E-14
Q18	DOE-4	9/6/2022	4.99E-15	4.81E-15	7.33E-14	2.18E-14
Q18	DOE-4	9/6/2022	6.44E-15	6.54E-15	7.13E-14	2.96E-14
Q18	DOE-4	9/12/2022	1.71E-15	6.52E-15	1.37E-14	2.95E-14
Q18	DOE-4	9/16/2022	1.02E-15	4.82E-15	4.70E-14	2.18E-14
Q18	DOE-4	9/19/2022	2.92E-15	6.24E-15	3.94E-14	2.83E-14
Q18	DOE-4	9/23/2022	4.98E-16	4.64E-15	2.39E-14	2.10E-14
Q18	DOE-4	9/26/2022	3.62E-15	6.96E-15	2.28E-14	3.16E-14
Q18	DOE-4	9/30/2022	2.02E-17	4.89E-15	5.14E-14	2.21E-14
Q19	DOE-4	10/3/2022	4.34E-16	6.42E-15	1.35E-14	2.95E-14
Q19	DOE-4	10/7/2022	5.67E-15	4.82E-15	7.13E-14	2.22E-14
Q19	DOE-4	10/10/2022	1.15E-14	6.57E-15	9.89E-14	3.02E-14
Q19	DOE-4	10/14/2022	7.41E-15	4.79E-15	8.45E-14	2.20E-14
Q19	DOE-4	10/17/2022	3.15E-15	6.42E-15	5.33E-14	2.95E-14

Quarter	Air Station ID	Sample collection date	Result Alpha (µCi/mL)	MDC - Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC - Beta (µCi/mL)
Q19	DOE-4	10/21/2022	2.67E-15	4.92E-15	8.91E-14	2.26E-14
Q19	DOE-4	10/26/2022	4.56E-15	3.88E-15	6.62E-14	1.78E-14
Q19	DOE-4	10/28/2022	-3.65E-16	9.60E-15	2.96E-14	4.41E-14
Q19	DOE-4	10/31/2022	6.91E-15	6.45E-15	4.61E-14	2.96E-14
Q19	DOE-4	11/4/2022	2.39E-15	5.01E-15	4.84E-14	2.13E-14
Q19	DOE-4	11/7/2022	-1.17E-15	6.71E-15	4.40E-14	2.85E-14
Q19	DOE-4	11/11/2022	-3.66E-16	4.93E-15	1.24E-14	2.09E-14
Q19	DOE-4	11/14/2022	3.11E-15	6.51E-15	4.92E-14	2.76E-14
Q19	DOE-4	11/18/2022	9.03E-16	5.12E-15	8.25E-14	2.17E-14
Q19	DOE-4	11/21/2022	2.42E-15	6.41E-15	7.33E-14	2.72E-14
Q19	DOE-4	11/23/2022	-1.34E-15	1.08E-14	1.10E-13	4.57E-14
Q19	DOE-4	11/28/2022	3.01E-16	3.95E-15	7.80E-14	1.68E-14
Q19	DOE-4	12/2/2022	1.80E-15	4.99E-15	5.89E-14	2.19E-14
Q19	DOE-4	12/5/2022	3.05E-15	6.61E-15	5.98E-14	2.90E-14
Q19	DOE-4	12/9/2022	3.07E-15	5.00E-15	4.63E-14	2.19E-14
Q19	DOE-4	12/13/2022	-1.97E-15	4.92E-15	6.86E-15	2.16E-14
Q19	DOE-4	12/16/2022	-9.13E-16	6.25E-15	2.97E-14	2.74E-14
Q19	DOE-4	12/19/2022	3.97E-17	6.53E-15	1.78E-14	2.86E-14
Q19	DOE-4	12/22/2022	3.91E-16	6.89E-15	-9.45E-15	3.02E-14
Q19	DOE-4	12/26/2022	4.75E-15	5.17E-15	6.35E-14	2.26E-14

Note: Results less than the MDC are noted in the table as negative numbers.

Table C-3. Individual radionuclide analysis for composite filter samples, Q19.

Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier[1]	Airborne Concentration (µCi/mL)
Location DOE-1 – Air volume/sample = 9.41E+08				**9.41E+08**
Cesium-137	-3.46	7.32	U U	-3.677E-15
Strontium-90	0.57	2.64	U U	6.057E-16
Cobalt-60	2.68	11.7	U U	2.848E-15
Potassium-40	108	78.3	UI UJ	1.148E-13
Beryllium-7	151	82.7		1.605E-13
Plutonium-238	0.143	0.384	U U	1.520E-16
Polonium-210	12.8	0.745	J	1.360E-14
Plutonium-241	4.85	67.2	U U	5.154E-15
Thorium-230	1.04	0.783	UJ	1.105E-15
Thorium-228	0.528	0.693	U U	5.611E-16
Actinium-228	-2.18	37.3	U U	-2.317E-15
Americium-241	0.0614	0.184	U U	6.525E-17
Plutonium-239	-0.0251	0.545	U U	-2.667E-17
Ra-228 - total	-0.528	4.3	U U	-5.611E-16
Radium-226, -228 combined	1.73	1.74	U U	1.838E-15
Thorium-232	0.58	0.511	UJ	6.164E-16
Uranium-238	0.599	0.517	UJ	6.366E-16
Uranium-233/234	0.434	0.537	U U	4.612E-16
Uranium-235/236	0.0657	0.414	U U	6.982E-17
Location DOE-2 – Air volume/sample =9.19E+08				**9.19E+08**
Cesium-137	-3.34	10.9	U U	-3.634E-15
Strontium-90	1.69	2.83	U U	1.839E-15
Cobalt-60	4.78	12.7	U U	5.201E-15
Potassium-40	91.3	80.4	UI UJ	9.935E-14
Beryllium-7	237	70.4		2.579E-13
Plutonium-238	-0.0114	0.398	U U	-1.240E-17
Polonium-210	11.1	0.613	J	1.208E-14
Plutonium-241	-2.85	71.1	U U	-3.101E-15
Thorium-230	0.793	1.02	U U	8.629E-16
Thorium-228	0.525	0.855	U U	5.713E-16
Actinium-228	-22.3	39	U U	-2.427E-14
Americium-241	0.069	0.329	U U	7.508E-17
Plutonium-239	-0.0272	0.314	U U	-2.960E-17
Ra-228 - total	2.24	3.01	U U	2.437E-15
Radium-226, -228 combined	1.56	1.69	U U	1.697E-15
Thorium-232	0.836	0.638	UJ	9.097E-16
Uranium-238	1.19	0.363	UJ	1.295E-15
Uranium-233/234	0.777	0.578	UJ	8.455E-16

Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier[1]	Airborne Concentration (µCi/mL)
Uranium-235/236	0.0936	0.281	U U	1.018E-16
Location DOE-3 – Air volume/sample = 9.31E+08				**9.31E+08**
Cesium-137	-0.546	10.1	U U	-5.865E-16
Strontium-90	0.0608	2.1	U U	6.531E-17
Cobalt-60	3.49	10.6	U U	3.749E-15
Potassium-40	122	83.2		1.310E-13
Beryllium-7	98.4	103	U U	1.057E-13
Plutonium-238	0	0.158	U UJ	0.000E+0
Polonium-210	10.1	0.545	J	1.085E-14
Plutonium-241	-0.277	68.1	U UJ	-2.975E-16
Thorium-230	0.717	0.811	U U	7.701E-16
Thorium-228	0.402	0.636	U U	4.318E-16
Actinium-228	12.2	41.8	U U	1.310E-14
Americium-241	0.0328	0.349	U U	3.523E-17
Plutonium-239	0.0525	0.158	U UJ	5.639E-17
Ra-228 - total	2.99	3.76	U U	3.212E-15
Radium-226, -228 combined	1.37	1.91	U U	1.472E-15
Thorium-232	0.41	0.556	U U	4.404E-16
Uranium-238	0.676	0.567	UJ	7.261E-16
Uranium-233/234	0.915	0.623	UJ	9.828E-16
Uranium-235/236	0	0.344	U U	0.000E+0
Location DOE-4 – Air volume/sample = 9.41E+08				**9.41E+08**
Cesium-137	0.411	9.11	U U	4.368E-16
Strontium-90	2.27	2.91	U U	2.412E-15
Cobalt-60	-2.86	4.25	U U	-3.039E-15
Potassium-40	34.8	172	U U	3.698E-14
Beryllium-7	173	85.7		1.838E-13
Plutonium-238	-0.0655	0.383	U U	-6.961E-17
Polonium-210	7.06	0.555	J	7.503E-15
Plutonium-241	-7.21	64.5	U U	-7.662E-15
Thorium-230	0.189	0.759	U U	2.009E-16
Thorium-228	0.487	0.698	U U	5.175E-16
Actinium-228	-17.2	31.8	U U	-1.828E-14
Americium-241	0.00442	0.446	U U	4.697E-18
Plutonium-239	-0.0371	0.423	U U	-3.943E-17
Ra-228 - total	3.67	3.17		3.900E-15
Radium-226, -228 combined	2.61	1.72		2.774E-15
Thorium-232	-0.00784	0.429	U U	-8.332E-18
Uranium-238	0.509	0.428	UJ	5.409E-16
Uranium-233/234	0.712	0.54	UJ	7.566E-16

Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier[1]	Airborne Concentration (µCi/mL)
Uranium-235/236	-0.0415	0.479	U UJ	-4.410E-17

[1] Qualifier column contains laboratory flags; validation qualifiers.

Notes:

U = Sample result is less than MDC and/or two sigma uncertainty.

UU = Sample was analyzed for but not detected and is qualified as a non-detect.

UJ = Sample was rejected by laboratory due to spectra issues and was determined to be an estimated value.

Table C-4. Individual radionuclide analysis for composite filter samples, Q16 through Q19.

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier[1]	Airborne Concentration (µCi/mL)
Q16					
Location DOE-1 – Air volume/sample = 9.54E+08					**9.54E+08**
Q16	Cesium-137	0.815	7.05	U U	8.543E-16
Q16	Strontium-90	-0.230	2.29	U U	-2.411E-16
Q16	Cobalt-60	-0.757	7.20	U U	-7.935E-16
Q16	Potassium-40	10.1	108	U U	1.059E-14
Q16	Beryllium-7	239	80.6		2.505E-13
Q16	Plutonium-238	-0.0464	0.529	U U	-4.864E-17
Q16	Polonium-210	14.0	0.769		1.468E-14
Q16	Plutonium-241	26.9	40.2	U U	2.820E-14
Q16	Thorium-230	1.22	1.25	U U	1.279E-15
Q16	Thorium-228	0.586	1.37	U U	6.143E-16
Q16	Actinium-228	4.16	31.2	U	4.361E-15
Q16	Americium-241	9.81	38.0	U U	1.028E-14
Q16	Plutonium-239	-0.193	1.39	U U	-2.023E-16
Q16	Ra-228 - total	-0.0490	0.416	U U	-5.136E-17
Q16	Radium-226, -228 combined	4.84	6.89	U UJ	5.073E-15
Q16	Thorium-232	9.94	7.61	UJ	1.042E-14
Q16	Uranium-238	0.656	0.617	U	6.876E-16
Q16	Uranium-233/234	0.621	0.497	UJ	6.509E-16
Q16	Uranium-235/236	1.30	0.557	UJ	1.363E-15
Location DOE-2 – Air volume/sample = 9.54E+08					**9.54E+08**
Q16	Cesium-137	1.39	6.66	U U	1.457E-15
Q16	Strontium-90	2.28	2.73	U U	2.390E-15
Q16	Cobalt-60	-1.95	5.25	U U	-2.044E-15
Q16	Potassium-40	39	55.9	U U	4.088E-14
Q16	Beryllium-7	163	98.1		1.709E-13
Q16	Plutonium-238	0.0731	0.349	U UJ	7.662E-17
Q16	Polonium-210	12.3	1.09		1.289E-14
Q16	Plutonium-241	18.5	33.1	U UJ	1.939E-14
Q16	Thorium-230	0.901	0.466	UJ	9.444E-16
Q16	Thorium-228	0.524	0.608	U U	5.493E-16
Q16	Actinium-228	3.22	30.1	U U	3.375E-15
Q16	Americium-241	0.108	1.19	U UJ	1.132E-16
Q16	Plutonium-239	-0.151	0.51	U UJ	-1.583E-16
Q16	Ra-228 - total	7.36	5.55	J	7.715E-15

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier[1]	Airborne Concentration (µCi/mL)
Q16	Radium-226, -228 combined	3.42	11.3	U U	3.585E-15
Q16	Thorium-232	0.344	0.425	U U	3.606E-16
Q16	Uranium-238	0.813	0.44	UJ	8.522E-16
Q16	Uranium-233/234	0.629	0.572	UJ	6.593E-16
Q16	Uranium-235/236	0.177	0.389	U U	1.855E-16
Location DOE-3 – Air volume/sample = 9.46E+08					**9.46E+08**
Q16	Cesium-137	0.908	8.27	U U	9.598E-16
Q16	Strontium-90	-1.3	2.24	U U	-1.374E-15
Q16	Cobalt-60	-0.524	7.19	U U	-5.539E-16
Q16	Potassium-40	127	65.4		1.342E-13
Q16	Beryllium-7	113	108		1.195E-13
Q16	Plutonium-238	0.0614	0.184	U U	6.490E-17
Q16	Polonium-210	13.6	0.818		1.438E-14
Q16	Plutonium-241	-5.43	40.9	U U	-5.740E-15
Q16	Thorium-230	1.46	0.692	UJ	1.543E-15
Q16	Thorium-228	0.845	0.545		8.932E-16
Q16	Actinium-228	-9.47	36.4	U U	-1.001E-14
Q16	Americium-241	0.113	1.09	U UJ	1.195E-16
Q16	Plutonium-239	0.0956	0.453	U U	1.011E-16
Q16	Ra-228 - total	9.57	4.8	J	1.012E-14
Q16	Radium-226, -228 combined	6.7	6.88	U U	7.082E-15
Q16	Thorium-232	0.681	0.475	UJ	7.199E-16
Q16	Uranium-238	0.738	0.482	UJ	7.801E-16
Q16	Uranium-233/234	0.265	0.604	U U	2.801E-16
Q16	Uranium-235/236	-0.0142	0.498	U U	-1.501E-17
Location DOE-4 – Air volume/sample = 9.62E+08					**9.62E+08**
Q16	Cesium-137	4.09	9.69	U U	4.292E-15
Q16	Strontium-90	0.0165	2.68	U U	1.731E-17
Q16	Cobalt-60	-5.46	7.7	U U	-5.729E-15
Q16	Potassium-40	-16.8	159	U U	-1.763E-14
Q16	Beryllium-7	118	130	U U	1.238E-13
Q16	Plutonium-238	0.0524	0.332	U U	5.498E-17
Q16	Polonium-210	15.8	0.831		1.658E-14
Q16	Plutonium-241	18.1	31	U U	1.899E-14
Q16	Thorium-230	0.62	0.609	UJ	6.506E-16
Q16	Thorium-228	0.781	0.586		8.195E-16
Q16	Actinium-228	-2.31	49.1	U U	-2.424E-15

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier[1]	Airborne Concentration (µCi/mL)
Q16	Americium-241	-0.194	1.48	U UJ	-2.036E-16
Q16	Plutonium-239	-0.0101	0.353	U U	-1.060E-17
Q16	Ra-228 - total	4.83	5.88	U UJ	5.068E-15
Q16	Radium-226, -228 combined	1.92	12.6	U U	2.015E-15
Q16	Thorium-232	0.559	0.451	UJ	5.866E-16
Q16	Uranium-238	0.616	0.462	UJ	6.464E-16
Q16	Uranium-233/234	0.511	0.506	UJ	5.362E-16
Q16	Uranium-235/236	0.056	0.354	U U	5.876E-17
Q17					
Location DOE-1 – Air volume/sample = 9.72E+08					**9.72E+08**
Q17	Cesium-137	-1.85	5.44	U U	-1.903E-15
Q17	Strontium-90	1.79	8.18	U U	1.842E-15
Q17	Cobalt-60	0.268	8.08	U U	2.757E-16
Q17	Potassium-40	143	53.3		1.471E-13
Q17	Beryllium-7	106	58.4		1.091E-13
Q17	Plutonium-238	0.0614	0.271	U UJ	6.317E-17
Q17	Polonium-210	6.1	0.188	J	6.276E-15
Q17	Plutonium-241	18.4	29.5	U UJ	1.893E-14
Q17	Thorium-230	1.37	0.667	UJ	1.409E-15
Q17	Thorium-228	0.58	0.731	U U	5.967E-16
Q17	Actinium-228	-6.48	30.6	U U	-6.667E-15
Q17	Americium-241	0.133	0.223	U U	1.368E-16
Q17	Plutonium-239	-0.0322	0.344	U UJ	-3.313E-17
Q17	Ra-228 - total	-4.82	15.2	U U	-4.959E-15
Q17	Radium-226, -228 combined	4.02	4.65	U U	4.136E-15
Q17	Thorium-232	0.846	0.317	UJ	8.704E-16
Q17	Uranium-238	0.958	0.173	UJ	9.856E-16
Q17	Uranium-233/234	0.986	0.216	UJ	1.014E-15
Q17	Uranium-235/236	0.121	0.214	U U	1.245E-16
Location DOE-2 – Air volume/sample = 9.72E+08					**9.72E+08**
Q17	Cesium-137	1.4	7.61	U U	1.440E-15
Q17	Strontium-90	2.79	7.29	U U	2.870E-15
Q17	Cobalt-60	4.19	9.21	U U	4.311E-15
Q17	Potassium-40	128	85.1		1.317E-13
Q17	Beryllium-7	86	70.6	UI UJ	8.848E-14
Q17	Plutonium-238	-0.0168	0.26	U UJ	-1.728E-17
Q17	Polonium-210	6.37	0.257	J	6.553E-15

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier[1]	Airborne Concentration (µCi/mL)
Q17	Plutonium-241	22	34.5	U UJ	2.263E-14
Q17	Thorium-230	1.36	0.568	UJ	1.399E-15
Q17	Thorium-228	0.413	0.42	U U	4.249E-16
Q17	Actinium-228	5.37	31.6	U U	5.525E-15
Q17	Americium-241	0.0405	0.361	U U	4.167E-17
Q17	Plutonium-239	-0.0165	0.191	U UJ	-1.698E-17
Q17	Ra-228 - total	2.56	12.3	U U	2.634E-15
Q17	Radium-226, -228 combined	-1.99	5.37	U U	-2.047E-15
Q17	Thorium-232	0.742	0.243	UJ	7.634E-16
Q17	Uranium-238	0.458	0.242	UJ	4.712E-16
Q17	Uranium-233/234	0.855	0.259	UJ	8.796E-16
Q17	Uranium-235/236	0.0148	0.175	U U	1.523E-17
Location DOE-3 – Air volume/sample = 9.69E+08					**9.69E+08**
Q17	Cesium-137	0.659	7.77	U U	6.801E-16
Q17	Strontium-90	4	7.45	U U	4.128E-15
Q17	Cobalt-60	-0.246	7.88	U U	-2.539E-16
Q17	Potassium-40	84.4	76.9		8.710E-14
Q17	Beryllium-7	136	66.9		1.404E-13
Q17	Plutonium-238	0.0319	0.227	U U	3.292E-17
Q17	Polonium-210	5.65	0.318	J	5.831E-15
Q17	Plutonium-241	3.54	37.9	U U	3.653E-15
Q17	Thorium-230	0.994	0.729	UJ	1.026E-15
Q17	Thorium-228	0.866	0.704	UJ	8.937E-16
Q17	Actinium-228	-15.7	32	U U	-1.620E-14
Q17	Americium-241	-0.0819	0.505	U U	-8.452E-17
Q17	Plutonium-239	0.0319	0.227	U U	3.292E-17
Q17	Ra-228 - total	-7.09	16.4	U U	-7.317E-15
Q17	Radium-226, -228 combined	6.08	6.79	U U	6.275E-15
Q17	Thorium-232	0.538	0.506	UJ	5.552E-16
Q17	Uranium-238	0.875	0.295	UJ	9.030E-16
Q17	Uranium-233/234	0.619	0.343	J	6.388E-16
Q17	Uranium-235/236	0.0933	0.315	U U	9.628E-17
Location DOE-4 – Air volume/sample = 9.72E+08					**9.72E+08**
Q17	Cesium-137	-1.5	5.95	U U	-1.543E-15
Q17	Strontium-90	4.77	6.75	U U	4.907E-15
Q17	Cobalt-60	1.37	7.05	U U	1.409E-15
Q17	Potassium-40	163	63.8		1.677E-13

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier[1]	Airborne Concentration (µCi/mL)
Q17	Beryllium-7	90.3	69.4		9.290E-14
Q17	Plutonium-238	-0.0186	0.287	U UJ	-1.914E-17
Q17	Polonium-210	6.07	0.131	J	6.245E-15
Q17	Plutonium-241	17.8	42.4	U UJ	1.831E-14
Q17	Thorium-230	1.36	0.5	UJ	1.399E-15
Q17	Thorium-228	0.535	0.6	U U	5.504E-16
Q17	Actinium-228	-33.3	29.1	U U	-3.426E-14
Q17	Americium-241	0.0725	0.109	U U	7.459E-17
Q17	Plutonium-239	-0.0185	0.287	U UJ	-1.903E-17
Q17	Ra-228 - total	1.58	8.92	U U	1.626E-15
Q17	Radium-226, -228 combined	5.04	3.91		5.185E-15
Q17	Thorium-232	0.282	0.421	U U	2.901E-16
Q17	Uranium-238	0.405	0.328	UJ	4.167E-16
Q17	Uranium-233/234	0.866	0.294	UJ	8.909E-16
Q17	Uranium-235/236	-0.000972	0.325	U U	-1.000E-18
Q18					
Location DOE-1 – Air volume/sample = 1.03+09					**1.03E+09**
Q18	Cesium-137	-0.359	7.6	U U	-3.485E-16
Q18	Strontium-90	0.957	2.89	U U	9.291E-16
Q18	Cobalt-60	-2.8	10	U U	-2.718E-15
Q18	Potassium-40	53	166	U U	5.146E-14
Q18	Beryllium-7	119	74.9		1.155E-13
Q18	Plutonium-238	0.101	0.151	U U	9.806E-17
Q18	Polonium-210	8.85	0.632	J	8.592E-15
Q18	Plutonium-241	7.17	31	U U	6.961E-15
Q18	Thorium-230	0.115	1.02	U U	1.117E-16
Q18	Thorium-228	0.764	1.23	U U	7.417E-16
Q18	Actinium-228	-1.35	33.6	U U	-1.311E-15
Q18	Americium-241	-0.216	0.912	U U	-2.097E-16
Q18	Plutonium-239	0.0262	0.279	U U	2.544E-17
Q18	Ra-228 - total	9.14	6.12	UJ	8.874E-15
Q18	Radium-226, -228 combined	0.536	2.74	U U	5.204E-16
Q18	Thorium-232	0.0277	0.781	U U	2.689E-17
Q18	Uranium-238	0.736	0.374	UJ	7.146E-16
Q18	Uranium-233/234	0.495	0.527	U U	4.806E-16
Q18	Uranium-235/236	0.0343	0.365	U U	3.330E-17

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier[1]	Airborne Concentration (µCi/mL)
Location DOE-2 – Air volume/sample =1.03+09					**1.03E+09**
Q18	Cesium-137	-1.88	4.65	U U	-1.825E-15
Q18	Strontium-90	-1.01	2.34	U U	-9.806E-16
Q18	Cobalt-60	-2.11	6.5	U U	-2.049E-15
Q18	Potassium-40	103	59.8	UJ	1.000E-13
Q18	Beryllium-7	132	61.3		1.282E-13
Q18	Plutonium-238	0.0432	0.571	U U	4.194E-17
Q18	Polonium-210	9.3	0.428	J	9.029E-15
Q18	Plutonium-241	18	47.1	U U	1.748E-14
Q18	Thorium-230	0.222	1.24	U U	2.155E-16
Q18	Thorium-228	0.202	1.34	U U	1.961E-16
Q18	Actinium-228	18.2	31.9	U U	1.767E-14
Q18	Americium-241	-0.171	0.837	U U	-1.660E-16
Q18	Plutonium-239	-0.0524	0.597	U U	-5.087E-17
Q18	Ra-228 - total	1.69	3.53	U U	1.641E-15
Q18	Radium-226, -228 combined	3.4	2.78	UJ	3.301E-15
Q18	Thorium-232	0.822	0.713	UJ	7.981E-16
Q18	Uranium-238	0.549	0.534	UJ	5.330E-16
Q18	Uranium-233/234	0.0781	0.712	U U	7.583E-17
Q18	Uranium-235/236	0.0821	0.518	U U	7.971E-17
Location DOE-3 – Air volume/sample = 1.03+09					**1.03E+09**
Q18	Cesium-137	3.72	8.56	U U	3.612E-15
Q18	Strontium-90	-0.464	2.92	U U	-4.505E-16
Q18	Cobalt-60	-0.647	7.68	U U	-6.282E-16
Q18	Potassium-40	38.6	83.3	U U	3.748E-14
Q18	Beryllium-7	115	120	U U	1.117E-13
Q18	Plutonium-238	-0.0492	0.432	U U	-4.777E-17
Q18	Polonium-210	10.4	0.469		1.010E-14
Q18	Plutonium-241	-0.273	33.1	U U	-2.650E-16
Q18	Thorium-230	0.111	1.01	U U	1.078E-16
Q18	Thorium-228	0.31	0.431	U U	3.010E-16
Q18	Actinium-228	15.5	39.8	U U	1.505E-14
Q18	Americium-241	-0.0184	0.647	U U	-1.786E-17
Q18	Plutonium-239	0.0577	0.432	U U	5.602E-17
Q18	Ra-228 - total	9.74	3.16	J	9.456E-15
Q18	Radium-226, -228 combined	2.77	3.48	U U	2.689E-15
Q18	Thorium-232	0.443	0.578	U U	4.301E-16

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier[1]	Airborne Concentration (µCi/mL)
Q18	Uranium-238	0.686	0.531	UJ	6.660E-16
Q18	Uranium-233/234	0.418	0.743	U U	4.058E-16
Q18	Uranium-235/236	0.00355	0.585	U U	3.447E-18
Location DOE-4 – Air volume/sample = 1.03+09					**1.03E+09**
Q18	Cesium-137	0.685	4.83	U U	6.650E-16
Q18	Strontium-90	-0.823	2.94	U U	-7.990E-16
Q18	Cobalt-60	-0.375	6.28	U U	-3.641E-16
Q18	Potassium-40	76	71.6	UI UJ	7.379E-14
Q18	Beryllium-7	186	59.5		1.806E-13
Q18	Plutonium-238	-0.0528	0.448	U U	-5.126E-17
Q18	Polonium-210	9.68	0.434		9.398E-15
Q18	Plutonium-241	17.7	50.3	U U	1.718E-14
Q18	Thorium-230	0.343	1.08	U U	3.330E-16
Q18	Thorium-228	0.605	0.984	U U	5.874E-16
Q18	Actinium-228	-14	26.2	U U	-1.359E-14
Q18	Americium-241	0.0106	0.818	U U	1.029E-17
Q18	Plutonium-239	0.0615	0.614	U U	5.971E-17
Q18	Ra-228 - total	0.842	3.94	U U	8.175E-16
Q18	Radium-226, -228 combined	2.68	2.47	UJ	2.602E-15
Q18	Thorium-232	0.798	0.797	UJ	7.748E-16
Q18	Uranium-238	0.888	0.393	UJ	8.621E-16
Q18	Uranium-233/234	0.423	0.568	U U	4.107E-16
Q18	Uranium-235/236	-0.021	0.42	U U	-2.039E-17
Q19					
Location DOE-1 – Air volume/sample = 9.41E+08					**9.41E+08**
Q19	Cesium-137	-3.46	7.32	U U	-3.677E-15
Q19	Strontium-90	0.57	2.64	U U	6.057E-16
Q19	Cobalt-60	2.68	11.7	U U	2.848E-15
Q19	Potassium-40	108	78.3	UI UJ	1.148E-13
Q19	Beryllium-7	151	82.7		1.605E-13
Q19	Plutonium-238	0.143	0.384	U U	1.520E-16
Q19	Polonium-210	12.8	0.745	J	1.360E-14
Q19	Plutonium-241	4.85	67.2	U U	5.154E-15
Q19	Thorium-230	1.04	0.783	UJ	1.105E-15
Q19	Thorium-228	0.528	0.693	U U	5.611E-16
Q19	Actinium-228	-2.18	37.3	U U	-2.317E-15
Q19	Americium-241	0.0614	0.184	U U	6.525E-17
Q19	Plutonium-239	-0.0251	0.545	U U	-2.667E-17

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier[1]	Airborne Concentration (µCi/mL)
Q19	Ra-228 - total	-0.528	4.3	U U	-5.611E-16
Q19	Radium-226, -228 combined	1.73	1.74	U U	1.838E-15
Q19	Thorium-232	0.58	0.511	UJ	6.164E-16
Q19	Uranium-238	0.599	0.517	UJ	6.366E-16
Q19	Uranium-233/234	0.434	0.537	U U	4.612E-16
Q19	Uranium-235/236	0.0657	0.414	U U	6.982E-17
Location DOE-2 – Air volume/sample = 9.19E+08					**9.19E+08**
Q19	Cesium-137	-3.34	10.9	U U	-3.634E-15
Q19	Strontium-90	1.69	2.83	U U	1.839E-15
Q19	Cobalt-60	4.78	12.7	U U	5.201E-15
Q19	Potassium-40	91.3	80.4	UI UJ	9.935E-14
Q19	Beryllium-7	237	70.4		2.579E-13
Q19	Plutonium-238	-0.0114	0.398	U U	-1.240E-17
Q19	Polonium-210	11.1	0.613	J	1.208E-14
Q19	Plutonium-241	-2.85	71.1	U U	-3.101E-15
Q19	Thorium-230	0.793	1.02	U U	8.629E-16
Q19	Thorium-228	0.525	0.855	U U	5.713E-16
Q19	Actinium-228	-22.3	39	U U	-2.427E-14
Q19	Americium-241	0.069	0.329	U U	7.508E-17
Q19	Plutonium-239	-0.0272	0.314	U U	-2.960E-17
Q19	Ra-228 - total	2.24	3.01	U U	2.437E-15
Q19	Radium-226, -228 combined	1.56	1.69	U U	1.697E-15
Q19	Thorium-232	0.836	0.638	UJ	9.097E-16
Q19	Uranium-238	1.19	0.363	UJ	1.295E-15
Q19	Uranium-233/234	0.777	0.578	UJ	8.455E-16
Q19	Uranium-235/236	0.0936	0.281	U U	1.018E-16
Location DOE-3 – Air volume/sample = 9.31E+08					**9.31E+08**
Q19	Cesium-137	-0.546	10.1	U U	-5.865E-16
Q19	Strontium-90	0.0608	2.1	U U	6.531E-17
Q19	Cobalt-60	3.49	10.6	U U	3.749E-15
Q19	Potassium-40	122	83.2		1.310E-13
Q19	Beryllium-7	98.4	103	U U	1.057E-13
Q19	Plutonium-238	0	0.158	U UJ	0.000E+0
Q19	Polonium-210	10.1	0.545	J	1.085E-14
Q19	Plutonium-241	-0.277	68.1	U UJ	-2.975E-16
Q19	Thorium-230	0.717	0.811	U U	7.701E-16
Q19	Thorium-228	0.402	0.636	U U	4.318E-16

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier[1]	Airborne Concentration (µCi/mL)
Q19	Actinium-228	12.2	41.8	U U	1.310E-14
Q19	Americium-241	0.0328	0.349	U U	3.523E-17
Q19	Plutonium-239	0.0525	0.158	U UJ	5.639E-17
Q19	Ra-228 - total	2.99	3.76	U U	3.212E-15
Q19	Radium-226, -228 combined	1.37	1.91	U U	1.472E-15
Q19	Thorium-232	0.41	0.556	U U	4.404E-16
Q19	Uranium-238	0.676	0.567	UJ	7.261E-16
Q19	Uranium-233/234	0.915	0.623	UJ	9.828E-16
Q19	Uranium-235/236	0	0.344	U U	0.000E+0
Location DOE-4 – Air volume/sample = 9.41E+08					**9.41E+08**
Q19	Cesium-137	0.411	9.11	U U	4.368E-16
Q19	Strontium-90	2.27	2.91	U U	2.412E-15
Q19	Cobalt-60	-2.86	4.25	U U	-3.039E-15
Q19	Potassium-40	34.8	172	U U	3.698E-14
Q19	Beryllium-7	173	85.7		1.838E-13
Q19	Plutonium-238	-0.0655	0.383	U U	-6.961E-17
Q19	Polonium-210	7.06	0.555	J	7.503E-15
Q19	Plutonium-241	-7.21	64.5	U U	-7.662E-15
Q19	Thorium-230	0.189	0.759	U U	2.009E-16
Q19	Thorium-228	0.487	0.698	U U	5.175E-16
Q19	Actinium-228	-17.2	31.8	U U	-1.828E-14
Q19	Americium-241	0.00442	0.446	U U	4.697E-18
Q19	Plutonium-239	-0.0371	0.423	U U	-3.943E-17
Q19	Ra-228 - total	3.67	3.17		3.900E-15
Q19	Radium-226, -228 combined	2.61	1.72		2.774E-15
Q19	Thorium-232	-0.00784	0.429	U U	-8.332E-18
Q19	Uranium-238	0.509	0.428	UJ	5.409E-16
Q19	Uranium-233/234	0.712	0.54	UJ	7.566E-16
Q19	Uranium-235/236	-0.0415	0.479	U UJ	-4.410E-17

[1] Qualifier column contains laboratory flags; validation qualifiers.

Notes:

U = Sample result is less than MDC and/or two sigma uncertainty.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

UU = Sample was analyzed for but not detected and is qualified as a non-detect.

UJ = Sample was rejected by laboratory due to spectra issues and was determined to be an estimated value.

(This page intentionally left blank)

APPENDIX D

Q19 PM_{10} Monthly Audit Reports and Flow Verification Results

(This page intentionally left blank)

One-Point Flow Rate Bias Estimate

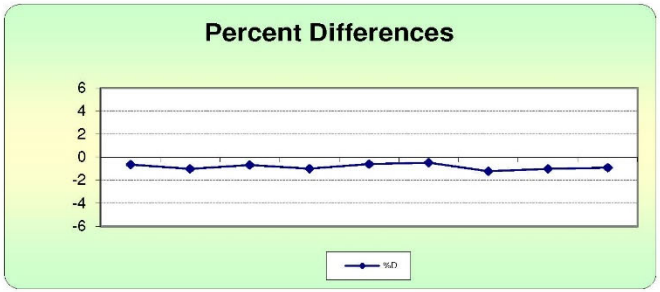
ETEC Site: DOE-1	Pollutant type: PM10	Bias (%)

Quarter	E-BAM	Date	Meas Val (Y)	Audit Val (X)	d (Eqn. 1)	Percentile	d^2	$\|d\|$	$\|d\|^2$
19	X16067	10/21/2022	14.00	14.09	-0.639		0.408	0.639	0.408
			16.70	16.87	-1.008	**25th**	1.015	1.008	1.015
			17.50	17.62	-0.681	-1.008	0.464	0.681	0.464
19	X16067	11/22/2022	14.00	14.14	-0.990		0.980	0.990	0.980
			16.70	16.80	-0.595	**75th**	0.354	0.595	0.354
			17.50	17.58	-0.455	-0.639	0.207	0.455	0.207
19	X16067	12/22/2022	14.00	14.17	-1.200		1.439	1.200	1.439
			16.70	16.87	-1.008		1.015	1.008	1.015
			17.50	17.66	-0.906		0.821	0.906	0.821

n	$\Sigma\|d\|$	"AB" (Eqn 4)
9	7.481	0.831
n-1	$\Sigma\|d\|^2$	**"AS" (Eqn 5)**
8	6.705	0.246

Bias (%) (Eqn 3)	Both Signs Positive
0.98	FALSE
Signed Bias (%)	Both Signs Negative
-0.98	TRUE

Note: No quality issues reported this quarter.



Reference: U.S. EPA, Ambient Monitoring Technology Information Center (AMTIC)
Quality Indicator Assessment Reports
Data Assessment Statistical Calculator - Software to calculate precision and bias statistics
MS EXCEL filename - "*11/3/2017 (dasc)11_3_17.xls)*"
https://www3.epa.gov/tnn/amtic/qareport.html

NORTHWIND PORTAGE, INC.

One-Point Flow Rate Bias Estimate

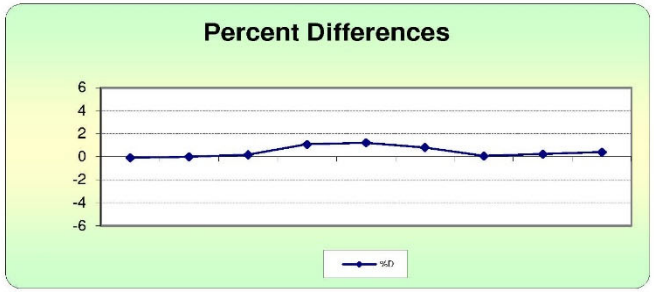
ETEC Site: DOE-2	Pollutant type: PM10	Bias (%)

Quarter	E-BAM	Date	Meas Val (Y)	Audit Val (X)	d (Eqn. 1)	Percentile	d^2	|d|	$\|d\|^2$
19	W23313	10/21/2022	14.00	14.01	-0.071		0.005	0.071	0.005
			16.70	16.70	0.000	25th	0.000	0.000	0.000
			17.50	17.47	0.172	0.071	0.029	0.172	0.029
19	W23313	11/22/2022	14.00	13.85	1.083		1.173	1.083	1.173
			16.70	16.50	1.212	75th	1.469	1.212	1.469
			17.50	17.36	0.806	0.806	0.650	0.806	0.650
19	W23313	12/22/2022	14.00	13.99	0.071		0.005	0.071	0.005
			16.70	16.66	0.240		0.058	0.240	0.058
			17.50	17.43	0.402		0.161	0.402	0.161

n	$\Sigma\|d\|$	"AB" (Eqn 4)
9	4.058	0.451
n-1	$\Sigma\|d\|^2$	"AS" (Eqn 5)
8	3.551	0.464

Bias (%) (Eqn 3)	Both Signs Positive
0.74	TRUE
Signed Bias (%)	Both Signs Negative
+0.74	FALSE

Note: No quality issues reported this quarter.



Reference: U.S. EPA, Ambient Monitoring Technology Information Center (AMTIC)
Quality Indicator Assessment Reports
Data Assessment Statistical Calculator - Software to calculate precision and bias statistics
MS EXCEL filename - *"11/3/2017 (dasc)11_3_17.xls)"*
https://www3.epa.gov/ttn/amtic/qareport.html

NORTHWIND PORTAGE, INC.

One-Point Flow Rate Bias Estimate

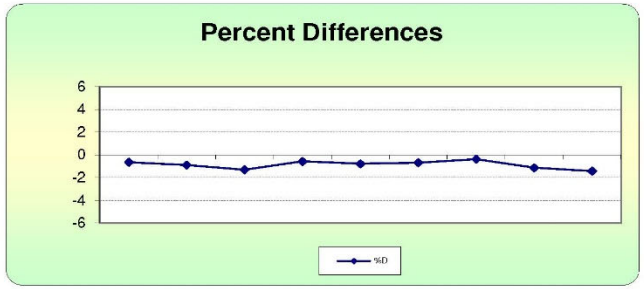
ETEC Site: DOE-3	Pollutant type: PM10	Bias (%)

Quarter	E-BAM	Date	Meas Val (Y)	Audit Val (X)	d (Eqn. 1)	Percentile	d^2	$\|d\|$	$\|d\|^2$
19	W23314	10/21/2022	14.00	14.09	-0.639		0.408	0.639	0.408
			16.70	16.85	-0.890	**25th**	0.792	0.890	0.792
			17.50	17.73	-1.297	-1.125	1.683	1.297	1.683
19	W23314	11/22/2022	14.00	14.08	-0.568		0.323	0.568	0.323
			16.70	16.83	-0.772	**75th**	0.597	0.772	0.597
			17.50	17.62	-0.681	-0.639	0.464	0.681	0.464
19	W23314	12/22/2022	14.00	14.05	-0.356		0.127	0.356	0.127
			16.70	16.89	-1.125		1.265	1.125	1.265
			17.50	17.75	-1.408		1.984	1.408	1.984

n	$\Sigma\|d\|$	"AB" (Eqn 4)
9	7.737	0.860
n-1	$\Sigma\|d\|^2$	"AS" (Eqn 5)
8	7.642	0.352

Bias (%) (Eqn 3)	Both Signs Positive
1.08	FALSE
Signed Bias (%)	Both Signs Negative
-1.08	TRUE

Note: No quality issues reported this quarter.



Reference: U.S. EPA, Ambient Monitoring Technology Information Center (AMTIC)
Quality Indicator Assessment Reports
Data Assessment Statistical Calculator - Software to calculate precision and bias statistics
MS EXCEL filename - "*11/3/2017 (dasc)11_3_17.xls)*"
https://www3.epa.gov/ttn/amtic/qareport.html

NORTHWIND PORTAGE, INC.

One-Point Flow Rate Bias Estimate

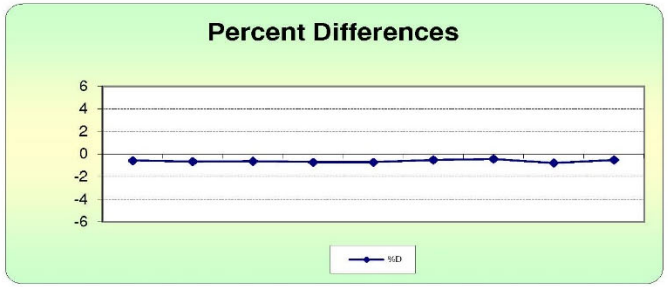
ETEC Site: DOE-4	Pollutant type: PM10	Bias (%)

Quarter	E-BAM	Date	Meas Val (Y)	Audit Val (X)	d (Eqn. 1)	Percentile	d^2	$\|d\|$	$\|d\|^2$
19	W23310	10/21/2022	14.00	14.08	-0.568		0.323	0.568	0.323
			16.70	16.81	-0.654	**25th**	0.428	0.654	0.428
			17.50	17.61	-0.625	-0.709	0.390	0.625	0.390
19	W23310	11/22/2022	14.00	14.10	-0.709		0.503	0.709	0.503
			16.70	16.82	-0.713	**75th**	0.509	0.713	0.509
			17.50	17.59	-0.512	-0.512	0.262	0.512	0.262
19	W23310	12/22/2022	14.00	14.06	-0.427		0.182	0.427	0.182
			16.70	16.83	-0.772		0.597	0.772	0.597
			17.50	17.59	-0.512		0.262	0.512	0.262

n	$\Sigma\|d\|$	"AB" (Eqn 4)
9	5.492	0.610
n-1	$\Sigma\|d\|^2$	**"AS" (Eqn 5)**
8	3.456	0.114

Bias (%) (Eqn 3)	Both Signs Positive
0.68	FALSE
Signed Bias (%)	Both Signs Negative
-0.68	TRUE

Note: No quality issues reported this quarter.



Reference: U.S. EPA, Ambient Monitoring Technology Information Center (AMTIC)
Quality Indicator Assessment Reports
Data Assessment Statistical Calculator - Software to calculate precision and bias statistics
MS EXCEL filename - *"11/3/2017 (dasc)11_3_17.xls)"*
https://www3.epa.gov/tnn/amtic/qareport.html

NORTHWIND INC.

Baseline Air Monitoring Program - DOE

E-BAM Monthly Audit and Maintenance

Station # DOE-1 Serial # X16067

Audit Date: 10/21/2022 Audited By : TS W. Ilford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 3/23/2022

Leak Check Value: as found: 0.5 as left: 0.5

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	21.7 °C	20.6 °C	as left:	21.7 °C	20.6 °C
Barometric Pressure:	as found:	713.9 mmHg	714.0 mmHg	as left:	713.9 mmHg	714.0 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	16.87 lpm	as left:	16.7 lpm	16.87 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	14.09 lpm	as left:	14.0 lpm	14.09 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.62 lpm	as left:	17.5 lpm	17.62 lpm

Mechanical Audits (Y = Yes N = No)

Sample nozzle clean:	as found	N	as left	Y
Tape support vane clean:	as found	N	as left	Y
Tape spool covers tight:	as found	Y	as left	Y
PM10 particle trap clean:	as found	Y	as left	Y
PM10 drip jar empty:	as found	Y	as left	Y
PM10 bug screen clear:	as found	Y	as left	Y

Manual Span Membrane Test		Pump Test		
Expected Span Mass (mg/cm2) :	0.950	Flow Rate 14.0 - 15.0 (lpm)	Vacuum Value (Hg)	Quality Category Good / Marginal / Poor
Measured Span Mass (mg/cm2) :	0.941			
Difference (mg/cm2) :	0.009			
% Difference / Pass or Fail:	0.95%	14.0	420.7	Marginal

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	0743	0743	Analog Mode	Hourly	Hourly	Flow Type	Actual	Act
Location	1	1	Baud Rate	9600	9600	Restart Voltage	12.5 v	12.5v
Tape Advance	24 hrs	24hr	RH Setpoint	45%	45%	Std Cond Temp	25 C	25C
Realtime Avg	60 mins	60min	Delta T Setpoint	15 C	15C	DAC	8.0 v	8.0v
Machine Type	PM-10	PM-10	RH Control	On	On	RH Connect	No	No
Analog FS	1.0 v	1.0v	Flow Setpoint	16.7	16.7	Pump Protect	Off	off

Last 6 Errors in E-BAM Error Log

Error	Date	Time	Error	Date	Time
1 No new messages	10/21/22	0750	4		
2			5		
3			6		

Audit Notes:

NORTHWIND INC.

Baseline Air Monitoring Program - DOE

E-BAM Monthly Audit and Maintenance

Station # DOE-2 Serial # W23313

Audit Date: 10/21/2022 Audited By: TSWilliford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 3/23/2022

Leak Check Value: as found: 0.6 as left: 0.6

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	23.6 °C	23.2 °C	as left:	23.6 °C	23.2 °C
Barometric Pressure:	as found:	711.9 mmHg	711.5 mmHg	as left:	711.9 mmHg	711.5 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	16.7 lpm	as left:	16.7 lpm	16.7 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	14.01 lpm	as left:	14.0 lpm	14.01 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.47 lpm	as left:	17.5 lpm	17.47 lpm

Mechanical Audits (Y = Yes N = No)

Sample nozzle clean:	as found	Y	as left	Y
Tape support vane clean:	as found	Y	as left	Y
Tape spool covers tight:	as found	Y	as left	Y
PM10 particle trap clean:	as found	Y	as left	Y
PM10 drip jar empty:	as found	Y	as left	Y
PM10 bug screen clear:	as found	Y	as left	Y

Manual Span Membrane Test	
Expected Span Mass (mg/cm2) :	0.885
Measured Span Mass (mg/cm2) :	0.898
Difference (mg/cm2) :	0.013
% Difference / Pass or Fail:	1.46%

Pump Test		
Flow Rate 14.0 - 15.0 (lpm)	Vacuum Value (Hg)	Quality Category Good / Marginal / Poor
14.9	426.7	Marginal

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	0838	0838	Analog Mode	Hourly	Hourly	Flow Type	Actual	Act
Location	DOE-2	2	Baud Rate	9600	9600	Restart Voltage	12.5 v	12.5V
Tape Advance	24 hrs	24 hr	RH Setpoint	45%	45%	Std Cond Temp	25 C	25°C
Realtime Avg	60 mins	60 min	Delta T Setpoint	15 C	15C	DAC	8.0 v	8.0V
Machine Type	PM-10	PM-10	RH Control	On	On	RH Connect	No	NO
Analog FS	1.0 v	1.0V	Flow Setpoint	16.7	16.7	Pump Protect	Off	off

Last 6 Errors in E-BAM Error Log

Error	Date	Time	Error	Date	Time
1 No new messages	10/21/22	0843	4		
2			5		
3			6		

Audit Notes:

NORTHWIND INC.

Baseline Air Monitoring Program - DOE

E-BAM Monthly Audit and Maintenance

Station # DOE-3 Serial # W23314

Audit Date: 10/21/22 Audited By : TS Williford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 3/23/2022

Leak Check Value: as found: 0.4 as left: 0.4

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	25.2 °C	24.7 °C	as left:	25.2 °C	24.7 °C
Barometric Pressure:	as found:	710.9 mmHg	713.5 mmHg	as left:	710.9 mmHg	713.5 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	16.85 lpm	as left:	16.7 lpm	16.85 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	14.09 lpm	as left:	14.0 lpm	14.09 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.73 lpm	as left:	17.5 lpm	17.73 lpm

Mechanical Audits (Y = Yes N = No)

Sample nozzle clean:	as found	Y	as left	Y
Tape support vane clean:	as found	Y	as left	Y
Tape spool covers tight:	as found	Y	as left	Y
PM10 particle trap clean:	as found	Y	as left	Y
PM10 drip jar empty:	as found	Y	as left	Y
PM10 bug screen clear:	as found	Y	as left	Y

Manual Span Membrane Test	Pump Test		
Expected Span Mass (mg/cm2) : 0.919	Flow Rate 14.0 - 15.0 (lpm)	Vacuum Value (Hg)	Quality Category Good / Marginal / Poor
Measured Span Mass (mg/cm2) : 0.923			
Difference (mg/cm2) : 0.004			
% Difference / Pass or Fail: 0.43%	14.0	395.2	Good

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	0936	0936	Analog Mode	Hourly	Hourly	Flow Type	Actual	Act
Location	3	3	Baud Rate	9600	9600	Restart Voltage	12.5 v	12.5V
Tape Advance	24 hrs	24hr	RH Setpoint	45%	45%	Std Cond Temp	25 C	~~25~~ 25C
Realtime Avg	60 mins	60min	Delta T Setpoint	15 C	15C	DAC	8.0 v	8.0V
Machine Type	PM-10	PM-10	RH Control	On	On	RH Connect	No	No
Analog FS	1.0 v	1.0V	Flow Setpoint	16.7	16.7	Pump Protect	Off	off

Last 6 Errors in E-BAM Error Log

Error	Date	Time	Error	Date	Time
1 No new messages	10/21/22	0946	4		
2			5		
3			6		

Audit Notes:

NORTHWIND INC.

Baseline Air Monitoring Program - DOE

E-BAM Monthly Audit and Maintenance

Station # DOE-4 Serial # W23310

Audit Date: 10/21/2022 Audited By: TS Williford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 3/23/2022

Leak Check Value: as found: 0.4 as left: 0.4

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	17.7 °C	18.0 °C	as left:	17.7 °C	18.0 °C
Barometric Pressure:	as found:	702.9 mmHg	704.0 mmHg	as left:	702.9 mmHg	704.0 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	16.81 lpm	as left:	16.7 lpm	16.81 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	14.08 lpm	as left:	14.0 lpm	14.08 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.61 lpm	as left:	17.5 lpm	17.61 lpm

Mechanical Audits (Y = Yes N = No)

Sample nozzle clean:	as found	Y	as left	Y
Tape support vane clean:	as found	Y	as left	Y
Tape spool covers tight:	as found	Y	as left	Y
PM10 particle trap clean:	as found	Y	as left	Y
PM10 drip jar empty:	as found	Y	as left	Y
PM10 bug screen clear:	as found	Y	as left	Y

Manual Span Membrane Test		Pump Test		
Expected Span Mass (mg/cm2) :	0.915	Flow Rate 14.0 - 15.0 (lpm)	Vacuum Value (Hg)	Quality Category Good / Marginal / Poor
Measured Span Mass (mg/cm2) :	0.922			
Difference (mg/cm2)	~~0.768~~ 0.007			
% Difference / Pass or Fail:	0.76%	14.9	423.6	Marginal

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	0648	0648	Analog Mode	Hourly	Hourly	Flow Type	Actual	Act
Location	4	4	Baud Rate	9600	9600	Restart Voltage	12.5 v	12.5v
Tape Advance	24 hrs	24hr	RH Setpoint	45%	45%	Std Cond Temp	25 C	25C
Realtime Avg	60 mins	60 min	Delta T Setpoint	15 C	15C	DAC	8.0 v	8.0v
Machine Type	PM-10	PM-10	RH Control	On	On	RH Connect	No	NO
Analog FS	1.0 v	1.0v	Flow Setpoint	16.7	16.7	Pump Protect	Off	Off

Last 6 Errors in E-BAM Error Log

Error	Date	Time	Error	Date	Time
1 No new messages	10/21/22	0659	4		
2			5		
3			6		

Audit Notes:

NORTHWIND INC.

Baseline Air Monitoring Program - DOE

E-BAM Monthly Audit and Maintenance

Station # DOE-1 Serial # X-16067

Audit Date: 11/22/2022 Audited By: T. S Williford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 3/23/2022

Leak Check Value: as found: 0.4 as left: 0.4

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	13.6 °C	12.8 °C	as left:	13.6 °C	12.8 °C
Barometric Pressure:	as found:	715.1 mmHg	714.5 mmHg	as left:	715.1 mmHg	714.5 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	16.8 lpm	as left:	16.7 lpm	16.8 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	14.14 lpm	as left:	14.0 lpm	14.14 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.58 lpm	as left:	17.5 lpm	17.58 lpm

Mechanical Audits (Y = Yes N = No)

Sample nozzle clean:	as found	Y	as left	Y
Tape support vane clean:	as found	Y	as left	Y
Tape spool covers tight:	as found	Y	as left	Y
PM10 particle trap clean:	as found	Y	as left	Y
PM10 drip jar empty:	as found	Y	as left	Y
PM10 bug screen clear:	as found	Y	as left	Y

Manual Span Membrane Test	Pump Test		
Expected Span Mass (mg/cm2) : 0.950	Flow Rate 14.0 - 15.0 (lpm)	Vacuum Value (Hg)	Quality Category Good / Marginal / Poor
Measured Span Mass (mg/cm2) : 0.949			
Difference (mg/cm2) : 0.001			
% Difference / Pass or Fail: 0.11%	14.3	412.8	Marginal

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	0716	0716	Analog Mode	Hourly	Hourly	Flow Type	Actual	Act
Location	1	1	Baud Rate	9600	9600	Restart Voltage	12.5 v	12v
Tape Advance	24 hrs	24hr	RH Setpoint	45%	45%	Std Cond Temp	25 C	25C
Realtime Avg	60 mins	60 min	Delta T Setpoint	15 C	15C	DAC	8.0 v	8.0v
Machine Type	PM-10	PM-10	RH Control	On	On	RH Connect	No	NO
Analog FS	1.0 v	1.0v	Flow Setpoint	16.7	16.7	Pump Protect	Off	off

Last 6 Errors in E-BAM Error Log

Error	Date	Time	Error	Date	Time
1 No new messages	11/22/22	0721	4		
2			5		
3			6		

Audit Notes:

NORTHWIND INC.

Baseline Air Monitoring Program - DOE

E-BAM Monthly Audit and Maintenance

Station # DOE-2 Serial # W23313

Audit Date: 11/22/2022 Audited By : T.S Williford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 3/23/2022

Leak Check Value: as found: 0.6 as left: 0.6

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	14.9 °C	14.5 °C	as left:	14.9 °C	14.5 °C
Barometric Pressure:	as found:	711.9 mmHg	711.5 mmHg	as left:	711.9 mmHg	711.5 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	16.5 lpm	as left:	16.7 lpm	16.5 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	13.85 lpm	as left:	14.0 lpm	13.85 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.36 lpm	as left:	17.5 lpm	17.36 lpm

Mechanical Audits (Y = Yes N = No)

Sample nozzle clean:	as found	Y	as left	Y
Tape support vane clean:	as found	Y	as left	Y
Tape spool covers tight:	as found	Y	as left	Y
PM10 particle trap clean:	as found	Y	as left	Y
PM10 drip jar empty:	as found	Y	as left	Y
PM10 bug screen clear:	as found	Y	as left	Y

Manual Span Membrane Test	Pump Test		
Expected Span Mass (mg/cm2) : 0.885	Flow Rate 14.0 - 15.0 (lpm)	Vacuum Value (Hg)	Quality Category Good / Marginal / Poor
Measured Span Mass (mg/cm2) : 0.885			
Difference (mg/cm2) : 0.000			
% Difference / Pass or Fail: 0%	14.8	423.6	Marginal

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	0952	0952	Analog Mode	Hourly	Hourly	Flow Type	Actual	Act
Location	2	2	Baud Rate	9600	9600	Restart Voltage	12.5 v	12.5V
Tape Advance	24 hrs	24hrs	RH Setpoint	45%	45%	Std Cond Temp	25 C	25C
Realtime Avg	60 mins	60min	Delta T Setpoint	15 C	15C	DAC	8.0 v	8.0V
Machine Type	PM-10	PM-10	RH Control	On	On	RH Connect	No	NO
Analog FS	1.0 v	1.0V	Flow Setpoint	16.7	16.7	Pump Protect	Off	~~Off~~

Last 6 Errors in E-BAM Error Log

Error	Date	Time	Error	Date	Time
1 No new messages	1009	11/22/22	4		
2			5		
3			6		

Audit Notes:

NORTHWIND INC.

Baseline Air Monitoring Program - DOE

E-BAM Monthly Audit and Maintenance

Station # DOE-3 Serial # W23314

Audit Date: 11/22/2022 Audited By: TS Williford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 3/23/2022

Leak Check Value: as found: 0.4 as left: 0.4

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	13.2 °C	13.4 °C	as left:	13.2 °C	13.4 °C
Barometric Pressure:	as found:	710.6 mmHg	712.0 mmHg	as left:	710.6 mmHg	712.0 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	16.83 lpm	as left:	16.7 lpm	16.83 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	14.08 lpm	as left:	14.0 lpm	14.08 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.62 lpm	as left:	17.5 lpm	17.62 lpm

Mechanical Audits (Y = Yes N = No)

Sample nozzle clean:	as found	Y	as left	Y
Tape support vane clean:	as found	Y	as left	Y
Tape spool covers tight:	as found	Y	as left	Y
PM10 particle trap clean:	as found	Y	as left	Y
PM10 drip jar empty:	as found	Y	as left	Y
PM10 bug screen clear:	as found	Y	as left	Y

Manual Span Membrane Test	Pump Test		
Expected Span Mass (mg/cm2): 0.919	Flow Rate 14.0 - 15.0 (lpm)	Vacuum Value (Hg)	Quality Category Good / Marginal / Poor
Measured Span Mass (mg/cm2): 0.921			
Difference (mg/cm2): 0.002			
% Difference / Pass or Fail: 0.22%	14.6	410.1	Marginal

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	1158	1158	Analog Mode	Hourly	Hourly	Flow Type	Actual	Act
Location	3	3	Baud Rate	9600	9600	Restart Voltage	12.5 v	12.5v
Tape Advance	24 hrs	24hr	RH Setpoint	45%	45%	Std Cond Temp	25 C	25C
Realtime Avg	60 mins	60min	Delta T Setpoint	15 C	15°C	DAC	8.0 v	8.0V
Machine Type	PM-10	PM-10	RH Control	On	On	RH Connect	No	NO
Analog FS	1.0 v	1.0V	Flow Setpoint	16.7	16.7	Pump Protect	Off	~~off~~

Last 6 Errors in E-BAM Error Log

Error	Date	Time	Error	Date	Time
1 No new messages	11/22/22	1206	4		
2			5		
3			6		

Audit Notes:

NORTHWIND INC.

Baseline Air Monitoring Program - DOE

E-BAM Monthly Audit and Maintenance

Station # DOE-4 Serial # W23310

Audit Date: 11/22/2022 Audited By: TS Williford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 3/23/2022

Leak Check Value: as found: 0.4 as left: 0.4

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	12.9 °C	13.9 °C	as left:	12.9 °C	13.9 °C
Barometric Pressure:	as found:	702.9 mmHg	704.0 mmHg	as left:	702.9 mmHg	704.0 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	16.82 lpm	as left:	16.7 lpm	16.82 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	14.10 lpm	as left:	14.0 lpm	14.10 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.59 lpm	as left:	17.5 lpm	17.59 lpm

Mechanical Audits (Y = Yes N = No)

Sample nozzle clean:	as found	Y	as left	Y
Tape support vane clean:	as found	Y	as left	Y
Tape spool covers tight:	as found	Y	as left	Y
PM10 particle trap clean:	as found	Y	as left	Y
PM10 drip jar empty:	as found	Y	as left	Y
PM10 bug screen clear:	as found	Y	as left	Y

Manual Span Membrane Test		Pump Test		
Expected Span Mass (mg/cm2) :	0.915	Flow Rate 14.0 - 15.0 (lpm)	Vacuum Value (Hg)	Quality Category Good / Marginal / Poor
Measured Span Mass (mg/cm2) :	0.917			
Difference (mg/cm2) :	0.002			
% Difference / Pass or Fail:	0.22%	14.3	401.9	Marginal

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	1321	1321	Analog Mode	Hourly	Hourly	Flow Type	Actual	Act
Location	4	4	Baud Rate	9600	9600	Restart Voltage	12.5 v	12.5V
Tape Advance	24 hrs	24hrs	RH Setpoint	45%	45%	Std Cond Temp	25 C	25C
Realtime Avg	60 mins	60min	Delta T Setpoint	15 C	15C	DAC	8.0 v	8.0V
Machine Type	PM-10	PM-10	RH Control	On	On	RH Connect	No	NO
Analog FS	1.0 v	1.0V	Flow Setpoint	16.7	16.7	Pump Protect	Off	off

Last 6 Errors in E-BAM Error Log

Error	Date	Time	Error	Date	Time
1 No new messages	11/22/22	1340	4		
2			5		
3			6		

Audit Notes:

NORTHWIND INC.

Baseline Air Monitoring Program - DOE

E-BAM Monthly Audit and Maintenance

Station # DOE-1 Serial # X-16067

Audit Date: 12/22/2022 Audited By : TSWillford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 3/23/2022

Leak Check Value: as found: 0.6 as left: 0.6

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	20.5 °C	19.3 °C	as left:	20.5 °C	19.3 °C
Barometric Pressure:	as found:	717.0 mmHg	717.0 mmHg	as left:	717.0 mmHg	717.0 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	16.87 lpm	as left:	16.7 lpm	16.87 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	14.17 lpm	as left:	14.0 lpm	14.17 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.66 lpm	as left:	17.5 lpm	17.66 lpm

Mechanical Audits (Y = Yes N = No)

Sample nozzle clean:	as found	Y	as left	Y
Tape support vane clean:	as found	Y	as left	Y
Tape spool covers tight:	as found	Y	as left	Y
PM10 particle trap clean:	as found	Y	as left	Y
PM10 drip jar empty:	as found	Y	as left	Y
PM10 bug screen clear:	as found	Y	as left	Y

Manual Span Membrane Test	Pump Test		
Expected Span Mass (mg/cm2) : 0.950	Flow Rate 14.0 - 15.0 (lpm)	Vacuum Value (Hg)	Quality Category Good / Marginal / Poor
Measured Span Mass (mg/cm2) : 0.948			
Difference (mg/cm2) : 0.002			
% Difference / (Pass) or Fail: 0.21%	14.7	435.5	Marginal

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	1121	1121	Analog Mode	Hourly	Hourly	Flow Type	Actual	Act
Location	1	1	Baud Rate	9600	9600	Restart Voltage	12.5 v	12.5v
Tape Advance	24 hrs	24	RH Setpoint	45%	45%	Std Cond Temp	25 C	25C
Realtime Avg	60 mins	60	Delta T Setpoint	15 C	15C	DAC	8.0 v	8.0 V
Machine Type	PM-10	PM-10	RH Control	On	On	RH Connect	No	NO
Analog FS	1.0 v	1.0V	Flow Setpoint	16.7	16.7	Pump Protect	Off	off

Last 6 Errors in E-BAM Error Log

Error	Date	Time	Error	Date	Time
1 No new errors messages	12/22/22	1128	4		
2			5		
3			6		

Audit Notes:

NORTHWIND INC.

Baseline Air Monitoring Program - DOE

E-BAM Monthly Audit and Maintenance

Station # DOE-2 Serial # W23313

Audit Date: 12/22/2022 Audited By : TS Williford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 3/23/2022

Leak Check Value: as found: 0.6 as left: 0.6

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	20.1 °C	20.1 °C	as left:	20.1 °C	20.1 °C
Barometric Pressure:	as found:	714.1 mmHg	714.0 mmHg	as left:	714.1 mmHg	714.0 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	16.66 lpm	as left:	16.7 lpm	16.66 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	13.99 lpm	as left:	14.0 lpm	13.99 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.43 lpm	as left:	17.5 lpm	17.43 lpm

Mechanical Audits (Y = Yes N = No)

Sample nozzle clean:	as found	Y	as left	Y
Tape support vane clean:	as found	Y	as left	Y
Tape spool covers tight:	as found	Y	as left	Y
PM10 particle trap clean:	as found	Y	as left	Y
PM10 drip jar empty:	as found	Y	as left	Y
PM10 bug screen clear:	as found	Y	as left	Y

Manual Span Membrane Test	Pump Test		
Expected Span Mass (mg/cm2) : 0.885	Flow Rate 14.0 - 15.0 (lpm)	Vacuum Value (Hg)	Quality Category Good / Marginal / Poor
Measured Span Mass (mg/cm2) : 0.884			
Difference (mg/cm2) : 0.001			
% Difference / Pass or Fail: 0.11%	15.0	430.0	Marginal

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	1210	1210	Analog Mode	Hourly	Hourly	Flow Type	Actual	Act
Location	2	2	Baud Rate	9600	9600	Restart Voltage	12.5 v	12.5V
Tape Advance	24 hrs	24hr	RH Setpoint	45%	45%	Std Cond Temp	25 C	25C
Realtime Avg	60 mins	60 min	Delta T Setpoint	15 C	15C	DAC	8.0 v	8.0V
Machine Type	PM-10	PM-10	RH Control	On	ON	RH Connect	No	NO
Analog FS	1.0 v	1.0V	Flow Setpoint	16.7	16.7	Pump Protect	Off	OFF

Last 6 Errors in E-BAM Error Log

	Error	Date	Time		Error	Date	Time
1	No new messages	12/22/22	~~1720~~ 1244	4			
2				5			
3				6			

Audit Notes:

NORTHWIND INC.

Baseline Air Monitoring Program - DOE

E-BAM Monthly Audit and Maintenance

Station # DOE-3 Serial # W23314

Audit Date: 12/22/2022 Audited By : TS Williford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 3/23/2022

Leak Check Value: as found: 0.4 as left: 0.4

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	19.5 °C	19.0 °C	as left:	19.5 °C	19.0 °C
Barometric Pressure:	as found:	713.0 mmHg	714.1 mmHg	as left:	713.0 mmHg	714.1 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	16.89 lpm	as left:	16.7 lpm	16.89 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	14.05 lpm	as left:	14.0 lpm	14.05 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.75 lpm	as left:	17.5 lpm	17.75 lpm

Mechanical Audits (Y = Yes N = No)

Sample nozzle clean:	as found	Y	as left	Y
Tape support vane clean:	as found	Y	as left	Y
Tape spool covers tight:	as found	Y	as left	Y
PM10 particle trap clean:	as found	Y	as left	Y
PM10 drip jar empty:	as found	Y	as left	Y
PM10 bug screen clear:	as found	Y	as left	Y

Manual Span Membrane Test	Pump Test		
Expected Span Mass (mg/cm2) : 0.919	Flow Rate 14.0 - 15.0 (lpm)	Vacuum Value (Hg)	Quality Category Good / Marginal / Poor
Measured Span Mass (mg/cm2) : 0.918			
Difference (mg/cm2) : 0.001			
% Difference / Pass or Fail: 0.11 %	14.0	420.2	Marginal

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	1246	1246	Analog Mode	Hourly	Hourly	Flow Type	Actual	Act
Location	3	3	Baud Rate	9600	9600	Restart Voltage	12.5 v	12.5V
Tape Advance	24 hrs	24hr	RH Setpoint	45%	45%	Std Cond Temp	25 C	25C
Realtime Avg	60 mins	60 min	Delta T Setpoint	15 C	15C	DAC	8.0 v	8.0V
Machine Type	PM-10	PM-10	RH Control	On	On	RH Connect	No	No
Analog FS	1.0 v	1.0 V	Flow Setpoint	16.7	16.7	Pump Protect	Off	Off

Last 6 Errors in E-BAM Error Log

Error	Date	Time	Error	Date	Time
1 No new messages	12/22/22	1251	4		
2			5		
3			6		

Audit Notes:

NORTHWIND INC.

Baseline Air Monitoring Program - DOE

E-BAM Monthly Audit and Maintenance

Station # DOE-4 Serial # W2 3310

Audit Date: 12/22/2022 Audited By : TS Williford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 3/23/2022

Leak Check Value: as found: 0.5 as left: 0.5

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	19.0 °C	18.6 °C	as left:	19.0 °C	18.6 °C
Barometric Pressure:	as found:	705.6 mmHg	707.0 mmHg	as left:	705.6 mmHg	707.0 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	16.83 lpm	as left:	16.7 lpm	16.83 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	14.06 lpm	as left:	14.0 lpm	14.06 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.59 lpm	as left:	17.5 lpm	17.59 lpm

Mechanical Audits (Y = Yes N = No)

Sample nozzle clean:	as found	Y	as left	Y
Tape support vane clean:	as found	Y	as left	Y
Tape spool covers tight:	as found	Y	as left	Y
PM10 particle trap clean:	as found	Y	as left	Y
PM10 drip jar empty:	as found	Y	as left	Y
PM10 bug screen clear:	as found	Y	as left	Y

Manual Span Membrane Test	Pump Test		
Expected Span Mass (mg/cm2) : 0.915	Flow Rate 14.0 - 15.0 (lpm)	Vacuum Value (Hg)	Quality Category Good / Marginal / Poor
Measured Span Mass (mg/cm2) : 0.921			
Difference (mg/cm2) : 0.006			
% Difference / Pass or Fail: 0.65%	14.9	405.6	Good

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	1340	1340	Analog Mode	Hourly	Hourly	Flow Type	Actual	Act
Location	4	4	Baud Rate	9600	9600	Restart Voltage	12.5 v	12.5v
Tape Advance	24 hrs	24hrs	RH Setpoint	45%	45%	Std Cond Temp	25 C	25C
Realtime Avg	60 mins	60mins	Delta T Setpoint	15 C	15 C	DAC	8.0 v	8.0v
Machine Type	PM-10	PM-10	RH Control	On	On	RH Connect	No	No
Analog FS	1.0 v	1.0v	Flow Setpoint	16.7	16.7	Pump Protect	Off	Off

Last 6 Errors in E-BAM Error Log

	Error	Date	Time		Error	Date	Time
1	No new messages	1347	12/22/~~22~~	4			
2				5			
3				6			

Audit Notes:

APPENDIX E

VOC Analytical Data Packages, Q16 through Q19

Appendix E is available via separate attachment.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

January 29, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on January 6, 2022. For your reference, these analyses have been assigned our service request number P2200062.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Nicole White
By Nicole.White at 3:38 pm, Jan 29, 2022

Nicole White
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: North Wind, Inc. Service Request No: P2200062
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on January 6, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The lower control criterion was exceeded for MTBE in the Continuing Calibration Verification (CCV), Laboratory Control Sample (LCS), and Duplicate Laboratory Control Sample (DLCS) analyzed on January 14, 2022. The error associated with the reduced recovery equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analyte of concern was analyzed and verified that instrument sensitivity was adequate to detect the analyte at the MRL on the day of analysis. Since the sensitivity was verified and the sample(s) were non-detect, the data quality has not been significantly affected. No further corrective action was necessary.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2200062

Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 1/6/2022

Time Received: 15:00

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_010622_S	P2200062-001	Air	1/6/2022	11:00	AC02162	-2.27	4.10	X
DOE-2_010622_S	P2200062-002	Air	1/6/2022	11:15	AC02283	-2.01	4.35	X
DOE-3_010622_S	P2200062-003	Air	1/6/2022	11:30	AC02414	-1.96	4.11	X
DOE-4_010622_S	P2200062-004	Air	1/6/2022	11:45	AC02352	-2.24	4.30	X
DOE-1_010622_D	P2200062-005	Air	1/6/2022	11:01	AC02195	-2.33	3.88	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time In Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. R2206C2

Company Name & Address (Reporting Information)	North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304
Project Manager	Trina Cesnik
Phone	805-587-0691
Fax	
Email Address for Result Reporting	cchristensen@northwindgrp.com; denise.gonzalez@northwindg
Project Name	DOE Perimeter Air
Project Number	080153.015.15
P.O. # / Billing Information	PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Sampler (Print & Sign)	T. Stewart Williford
ALS Contact:	Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_010622_S	1	1/6/2022	1100	AC02162	FCR00397	- 30.0	- 3.0		X		
DOE-2_010622_S	2	1/6/2022	1115	AC02283	FCR00058	-28.5	- 1.0		X		
DOE-3_010622_S	3	1/6/2022	1130	AC02414	FCR00439	- 28.5	- 2.0		X		
DOE-4_010622_S	4	1/6/2022	1145	AC02352	FCR00289	- 28.0	- 1.5		X		
DOE-1_010622_D	1R	1/6/2022	1101	AC02195	FCR00488	-29.0	- 3.5		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries) ✓
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Data Validation Package) 10% Surcharge ✓

EDD required Yes / No
Type: EQuIS Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature) T. Stewart Williford	Date: 1/6/22	Time: 1550	Received by: (Signature)	Date: 1-6-22	Time: 1550	Cooler / Blank Temperature ____ °C
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	

5 of 126

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2200062

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 1/6/22 Date opened: 1/6/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2200062-001.01	6.0 L Ambient Can					
P2200062-002.01	6.0 L Ambient Can					
P2200062-003.01	6.0 L Ambient Can					
P2200062-004.01	6.0 L Ambient Can					
P2200062-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_010622_S** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-001

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02162

Initial Pressure (psig): -2.27 Final Pressure (psig): 4.10

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.80	**0.48**	0.16	
74-87-3	Chloromethane	ND	0.77	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.82	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.79	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.79	ND	0.36	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.77	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.66	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.79	**0.20**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.70	
75-35-4	1,1-Dichloroethene	ND	0.82	ND	0.21	
75-09-2	Methylene Chloride	ND	0.79	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	**V**
108-05-4	Vinyl Acetate	ND	7.6	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	0.79	ND	0.20	
141-78-6	Ethyl Acetate	**17**	3.2	**4.6**	0.88	
110-54-3	n-Hexane	ND	0.80	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_010622_S** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-001

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02162

Initial Pressure (psig): -2.27 Final Pressure (psig): 4.10

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.82	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.79	ND	0.14	
71-43-2	Benzene	ND	0.76	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.76	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	0.76	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.79	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.79	ND	0.22	
142-82-5	n-Heptane	ND	0.80	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.76	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.79	ND	0.14	
108-88-3	Toluene	ND	0.79	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.094	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.79	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_010622_S** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-001

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02162

Initial Pressure (psig): -2.27 Final Pressure (psig): 4.10

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.38	
75-25-2	Bromoform	ND	0.79	ND	0.076	
100-42-5	Styrene	ND	0.76	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.79	ND	0.11	
98-82-8	Cumene	ND	0.79	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.79	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.79	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.79	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.22	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.79	ND	0.074	
104-51-8	n-Butylbenzene	ND	0.79	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.80	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_010622_S** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-002

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02283

Initial Pressure (psig): -2.01 Final Pressure (psig): 4.35

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.80	**0.49**	0.16	
74-87-3	Chloromethane	ND	0.77	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.81	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.78	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.78	ND	0.35	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.77	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.65	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.78	**0.21**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.69	
75-35-4	1,1-Dichloroethene	ND	0.81	ND	0.20	
75-09-2	Methylene Chloride	ND	0.78	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.81	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	**V**
108-05-4	Vinyl Acetate	ND	7.5	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	0.78	ND	0.20	
141-78-6	Ethyl Acetate	**3.4**	3.2	**0.93**	0.87	
110-54-3	n-Hexane	ND	0.80	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_010622_S** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-002

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02283

Initial Pressure (psig): -2.01 Final Pressure (psig): 4.35

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.81	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.78	ND	0.14	
71-43-2	Benzene	ND	0.75	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.75	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	0.75	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.78	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.78	ND	0.22	
142-82-5	n-Heptane	ND	0.80	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.75	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.40	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.78	ND	0.14	
108-88-3	Toluene	ND	0.78	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.40	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.093	
106-93-4	1,2-Dibromoethane	ND	0.78	ND	0.10	
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.78	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_010622_S** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-002

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02283

Initial Pressure (psig): -2.01 Final Pressure (psig): 4.35

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.78	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.38	
75-25-2	Bromoform	ND	0.78	ND	0.075	
100-42-5	Styrene	ND	0.75	ND	0.18	
95-47-6	o-Xylene	ND	0.78	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.78	ND	0.11	
98-82-8	Cumene	ND	0.78	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.78	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.78	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.78	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.78	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.78	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.78	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.22	
91-20-3	Naphthalene	ND	0.78	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.78	ND	0.073	
104-51-8	n-Butylbenzene	ND	0.78	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.80	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_010622_S** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-003

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02414

Initial Pressure (psig): -1.96 Final Pressure (psig): 4.11

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	0.78	**0.50**	0.16	
74-87-3	Chloromethane	ND	0.75	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.75	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.65	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.77	**0.21**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.60	
107-13-1	Acrylonitrile	ND	1.5	ND	0.68	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.80	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.78	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	**V**
108-05-4	Vinyl Acetate	ND	7.4	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.19	
141-78-6	Ethyl Acetate	ND	3.1	ND	0.86	
110-54-3	n-Hexane	ND	0.78	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_010622_S** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-003

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02414

Initial Pressure (psig): -1.96 Final Pressure (psig): 4.11

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.50	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.74	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.21	
142-82-5	n-Heptane	ND	0.78	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.74	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.40	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	ND	0.77	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.40	
124-48-1	Dibromochloromethane	ND	0.78	ND	0.092	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
111-65-9	n-Octane	ND	0.78	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.77	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_010622_S** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-003

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02414

Initial Pressure (psig): -1.96 Final Pressure (psig): 4.11

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.77	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.77	ND	0.074	
100-42-5	Styrene	ND	0.74	ND	0.17	
95-47-6	o-Xylene	ND	0.77	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.78	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.78	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.77	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.77	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.78	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.77	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.072	
104-51-8	n-Butylbenzene	ND	0.77	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.78	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_010622_S** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-004

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02352

Initial Pressure (psig): -2.24 Final Pressure (psig): 4.30

Canister Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	0.81	**0.50**	0.16	
74-87-3	Chloromethane	ND	0.78	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.82	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.79	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.79	ND	0.36	
74-83-9	Bromomethane	ND	0.78	ND	0.20	
75-00-3	Chloroethane	ND	0.78	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.66	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.79	**0.21**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.62	
107-13-1	Acrylonitrile	ND	1.5	ND	0.70	
75-35-4	1,1-Dichloroethene	ND	0.82	ND	0.21	
75-09-2	Methylene Chloride	ND	0.79	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.81	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.81	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.81	ND	0.22	**V**
108-05-4	Vinyl Acetate	ND	7.6	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	
156-59-2	cis-1,2-Dichloroethene	ND	0.79	ND	0.20	
141-78-6	Ethyl Acetate	ND	3.2	ND	0.89	
110-54-3	n-Hexane	ND	0.81	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_010622_S** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-004

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02352

Initial Pressure (psig): -2.24 Final Pressure (psig): 4.30

Canister Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.82	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.52	
107-06-2	1,2-Dichloroethane	ND	0.81	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.79	ND	0.14	
71-43-2	Benzene	ND	0.76	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.76	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.76	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.81	ND	0.12	
79-01-6	Trichloroethene	ND	0.79	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.79	ND	0.22	
142-82-5	n-Heptane	ND	0.81	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.76	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.78	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.79	ND	0.14	
108-88-3	Toluene	ND	0.79	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.81	ND	0.095	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
111-65-9	n-Octane	ND	0.81	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.79	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_010622_S** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-004

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02352

Initial Pressure (psig): -2.24 Final Pressure (psig): 4.30

Canister Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.79	ND	0.076	
100-42-5	Styrene	ND	0.76	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.79	ND	0.12	
98-82-8	Cumene	ND	0.79	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.81	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.81	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.79	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.79	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.79	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.81	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.79	ND	0.074	
104-51-8	n-Butylbenzene	ND	0.79	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.81	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_010622_D** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-005

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02195

Initial Pressure (psig): -2.33 Final Pressure (psig): 3.88

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	0.80	**0.50**	0.16	
74-87-3	Chloromethane	ND	0.77	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.81	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.78	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.78	ND	0.35	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.77	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.65	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.78	**0.21**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.69	
75-35-4	1,1-Dichloroethene	ND	0.81	ND	0.20	
75-09-2	Methylene Chloride	ND	0.78	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.81	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	**V**
108-05-4	Vinyl Acetate	ND	7.5	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	0.78	ND	0.20	
141-78-6	Ethyl Acetate	ND	3.2	ND	0.87	
110-54-3	n-Hexane	ND	0.80	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_010622_D** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-005

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02195

Initial Pressure (psig): -2.33 Final Pressure (psig): 3.88

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.81	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.78	ND	0.14	
71-43-2	Benzene	ND	0.75	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.75	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	0.75	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.78	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.78	ND	0.22	
142-82-5	n-Heptane	ND	0.80	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.75	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.40	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.78	ND	0.14	
108-88-3	Toluene	ND	0.78	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.40	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.093	
106-93-4	1,2-Dibromoethane	ND	0.78	ND	0.10	
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.78	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_010622_D** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200062-005

Test Code: EPA TO-15 Date Collected: 1/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/6/22
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02195

Initial Pressure (psig): -2.33 Final Pressure (psig): 3.88

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.78	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.38	
75-25-2	Bromoform	ND	0.78	ND	0.075	
100-42-5	Styrene	ND	0.75	ND	0.18	
95-47-6	o-Xylene	ND	0.78	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.78	ND	0.11	
98-82-8	Cumene	ND	0.78	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.78	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.78	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.78	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.78	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.78	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.78	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.22	
91-20-3	Naphthalene	ND	0.78	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.78	ND	0.073	
104-51-8	n-Butylbenzene	ND	0.78	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.80	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220114-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	**V**
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220114-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220114-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2200062

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 1/6/22
Analyst: Simon Cao Date(s) Received: 1/6/22
Sample Type: 6.0 L Summa Canister(s) Date(s) Analyzed: 1/14/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220114-MB	**114**	**87**	**105**	70-130	
Lab Control Sample	P220114-LCS	**111**	**84**	**106**	70-130	
Duplicate Lab Control Sample	P220114-DLCS	**110**	**84**	**103**	70-130	
DOE-1_010622_S	P2200062-001	**106**	**90**	**112**	70-130	
DOE-2_010622_S	P2200062-002	**107**	**89**	**111**	70-130	
DOE-3_010622_S	P2200062-003	**109**	**89**	**110**	70-130	
DOE-4_010622_S	P2200062-004	**109**	**87**	**110**	70-130	
DOE-1_010622_D	P2200062-005	**110**	**88**	**113**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220114-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	218	214	**105**	**103**	71-112	2	25	
74-87-3	Chloromethane	206	234	230	**114**	**112**	53-126	2	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	211	211	**101**	**101**	62-121	0	25	
75-01-4	Vinyl Chloride	208	236	234	**113**	**113**	63-123	0	25	
106-99-0	1,3-Butadiene	206	211	221	**102**	**107**	63-135	5	25	
74-83-9	Bromomethane	206	197	206	**96**	**100**	71-112	4	25	
75-00-3	Chloroethane	206	229	229	**111**	**111**	66-117	0	25	
107-02-8	Acrolein	416	451	465	**108**	**112**	71-123	4	25	
75-69-4	Trichlorofluoromethane (CFC 11)	202	209	206	**103**	**102**	71-114	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	476	484	**119**	**121**	61-124	2	25	
107-13-1	Acrylonitrile	402	446	459	**111**	**114**	65-130	3	25	
75-35-4	1,1-Dichloroethene	210	219	222	**104**	**106**	74-114	2	25	
75-09-2	Methylene Chloride	208	212	214	**102**	**103**	75-112	1	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	208	207	**96**	**96**	73-114	0	25	
75-15-0	Carbon Disulfide	414	431	435	**104**	**105**	70-113	1	25	
156-60-5	trans-1,2-Dichloroethene	208	233	237	**112**	**114**	76-119	2	25	
75-34-3	1,1-Dichloroethane	214	228	231	**107**	**108**	70-114	0.9	25	
1634-04-4	Methyl tert-Butyl Ether	206	123	116	**60**	**56**	72-118	7	25	**L**
108-05-4	Vinyl Acetate	942	1050	1060	**111**	**113**	56-137	2	25	
78-93-3	2-Butanone (MEK)	408	435	442	**107**	**108**	74-121	0.9	25	
156-59-2	cis-1,2-Dichloroethene	206	225	231	**109**	**112**	73-117	3	25	
141-78-6	Ethyl Acetate	580	597	597	**103**	**103**	59-161	0	25	
110-54-3	n-Hexane	208	219	224	**105**	**108**	55-130	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220114-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	210	222	223	**106**	**106**	71-114	0	25	
109-99-9	Tetrahydrofuran (THF)	404	428	435	**106**	**108**	73-114	2	25	
107-06-2	1,2-Dichloroethane	210	228	226	**109**	**108**	71-119	0.9	25	
71-55-6	1,1,1-Trichloroethane	208	212	210	**102**	**101**	73-119	1	25	
71-43-2	Benzene	208	199	202	**96**	**97**	72-113	1	25	
56-23-5	Carbon Tetrachloride	202	203	200	**100**	**99**	67-123	1	25	
110-82-7	Cyclohexane	412	396	399	**96**	**97**	70-119	1	25	
78-87-5	1,2-Dichloropropane	206	220	222	**107**	**108**	70-118	0.9	25	
75-27-4	Bromodichloromethane	208	224	222	**108**	**107**	74-119	0.9	25	
79-01-6	Trichloroethene	204	206	204	**101**	**100**	74-115	1	25	
123-91-1	1,4-Dioxane	206	215	216	**104**	**105**	77-124	1	25	
142-82-5	n-Heptane	206	214	218	**104**	**106**	70-119	2	25	
10061-01-5	cis-1,3-Dichloropropene	208	227	227	**109**	**109**	81-126	0	25	
108-10-1	4-Methyl-2-pentanone	412	454	461	**110**	**112**	73-129	2	25	
10061-02-6	trans-1,3-Dichloropropene	200	228	229	**114**	**115**	80-127	0.9	25	
79-00-5	1,1,2-Trichloroethane	208	220	222	**106**	**107**	78-117	0.9	25	
108-88-3	Toluene	206	168	170	**82**	**83**	70-118	1	25	
591-78-6	2-Hexanone	406	385	391	**95**	**96**	74-132	1	25	
124-48-1	Dibromochloromethane	210	172	172	**82**	**82**	69-137	0	25	
106-93-4	1,2-Dibromoethane	208	176	176	**85**	**85**	76-128	0	25	
111-65-9	n-Octane	208	189	191	**91**	**92**	68-120	1	25	
127-18-4	Tetrachloroethene	212	163	164	**77**	**77**	63-130	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2200062
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220114-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 1/14/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	206	175	176	**85**	**85**	71-123	0	25	
179601-23-1	m,p-Xylenes	416	350	352	**84**	**85**	67-127	1	25	
75-25-2	Bromoform	210	175	173	**83**	**82**	65-149	1	25	
100-42-5	Styrene	202	181	182	**90**	**90**	76-132	0	25	
95-47-6	o-Xylene	208	178	178	**86**	**86**	69-124	0	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	182	184	**88**	**88**	69-128	0	25	
98-82-8	Cumene	206	168	170	**82**	**83**	69-125	1	25	
103-65-1	n-Propylbenzene	208	175	176	**84**	**85**	70-127	1	25	
622-96-8	4-Ethyltoluene	208	173	174	**83**	**84**	69-127	1	25	
108-67-8	1,3,5-Trimethylbenzene	208	178	179	**86**	**86**	66-129	0	25	
95-63-6	1,2,4-Trimethylbenzene	206	179	179	**87**	**87**	63-142	0	25	
100-44-7	Benzyl Chloride	416	415	418	**100**	**100**	73-145	0	25	
541-73-1	1,3-Dichlorobenzene	208	173	174	**83**	**84**	67-136	1	25	
106-46-7	1,4-Dichlorobenzene	210	176	175	**84**	**83**	63-134	1	25	
135-98-8	sec-Butylbenzene	204	170	170	**83**	**83**	68-130	0	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	162	160	**79**	**78**	60-139	1	25	
95-50-1	1,2-Dichlorobenzene	210	171	171	**81**	**81**	64-139	0	25	
120-82-1	1,2,4-Trichlorobenzene	420	387	389	**92**	**93**	62-154	1	25	
91-20-3	Naphthalene	210	219	222	**104**	**106**	62-156	2	25	
87-68-3	Hexachlorobutadiene	212	160	157	**75**	**74**	55-142	1	25	
104-51-8	n-Butylbenzene	208	181	181	**87**	**87**	70-131	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2200062

Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 01142202.D

Analyst: Simon Cao Date Analyzed: 1/14/22

Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 01:55

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	105405	7.15	471207	8.51	136152	12.46
	Upper Limit	147567	7.48	659690	8.84	190613	12.79
	Lower Limit	63243	6.82	282724	8.18	81691	12.13
	Client Sample ID						
01	Method Blank	100065	7.11	460092	8.48	128154	12.45
02	Lab Control Sample	101134	7.15	454721	8.50	130760	12.46
03	Duplicate Lab Control Sample	104497	7.15	470920	8.51	134176	12.46
04	DOE-1_010622_S	111553	7.11	511292	8.48	138633	12.45
05	DOE-2_010622_S	109465	7.11	506436	8.48	138379	12.45
06	DOE-3_010622_S	105673	7.11	489536	8.48	135066	12.45
07	DOE-4_010622_S	103700	7.11	477717	8.48	133583	12.45
08	DOE-1_010622_D	100522	7.11	461859	8.48	127969	12.45
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142229.D Vial: 3
Acq On : 14 Jan 2022 19:46 Operator: SC
Sample : P2200062-001 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 10:44:11 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/15/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	111553	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	8.48	114	511292	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	12.45	54	138633	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.64	65	282531	13.278	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%				
57) Toluene-d8 (SS2)	10.64	98	604598	11.252	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
73) Bromofluorobenzene (SS3)	13.89	174	198381	13.974	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.76%				
Target Compounds							Qvalue
2) Propene	4.06	42	2769	N.D.			
3) Dichlorodifluoromethan...	4.12	85	40362	1.574	ng		99
4) Chloromethane	4.26	50	4974	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	741	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.68	94	187	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.90	45	20333	2.106	ng		79
11) Acetonitrile	5.05	41	3714	N.D.			
12) Acrolein	5.12	56	3350	0.559	ng		93
13) Acetone	5.20	58	43312	5.611	ng	#	56
14) Trichlorofluoromethane	5.30	101	18575	0.755	ng		99
15) 2-Propanol (Isopropanol)	5.34	45	5059	N.D.			
16) Acrylonitrile	5.58	53	362	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.71	59	707	N.D.			
19) Methylene Chloride	5.75	84	3126	N.D.			
20) 3-Chloro-1-propene (Al...	5.72	41	362	N.D.			
21) Trichlorotrifluoroethane	5.91	151	3056	N.D.			
22) Carbon Disulfide	6.01	76	1236	N.D.			
23) trans-1,2-Dichloroethene	6.36	61	109	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.62	73	262	N.D.			
26) Vinyl Acetate	6.50	86	2571	1.183	ng	#	61
27) 2-Butanone (MEK)	6.69	72	6000	0.857	ng	#	92
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d		
29) Diisopropyl Ether	7.08	87	696	N.D.			
30) Ethyl Acetate	7.08	61	42461	11.042	ng		93
31) n-Hexane	7.11	57	731	N.D.			
32) Chloroform	7.19	83	1053	N.D.			
34) Tetrahydrofuran (THF)	7.48	72	134	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	7.72	62	717	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	8.48	61	16783	No Calib		#	
40) 1-Butanol	8.10	56	7345	No Calib		#	
41) Benzene	8.27	78	7805	N.D.			
42) Carbon Tetrachloride	8.38	117	4138	N.D.			
43) Cyclohexane	8.48	84	830	N.D.			
44) tert-Amyl Methyl Ether	8.48	73	7901	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	9.11	57	1442	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS09\Data\2022 01\14\01142229.D Vial: 3
Acq On : 14 Jan 2022 19:46 Operator: SC
Sample : P2200062-001 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 10:44:11 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

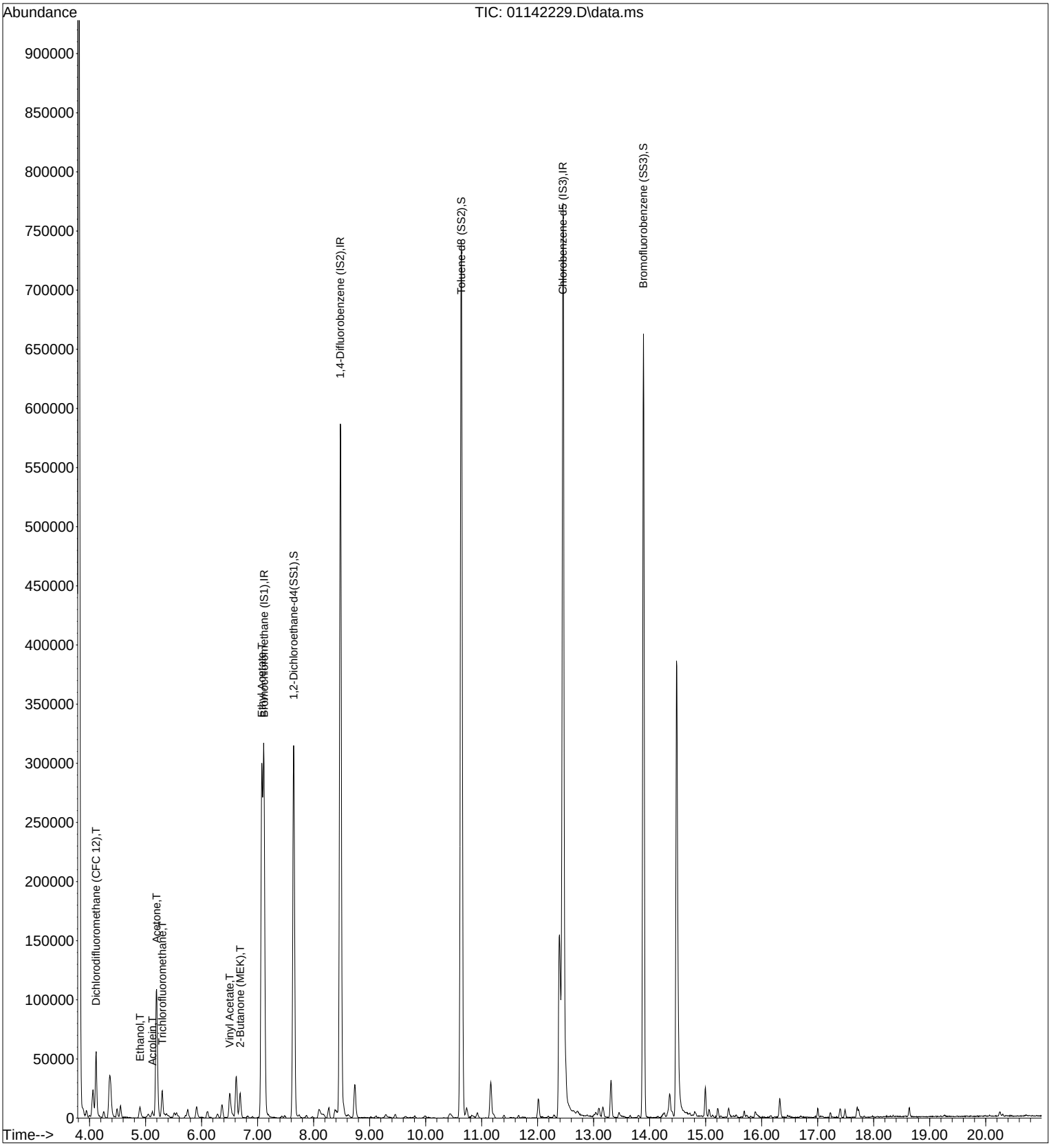
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	9.29	71	413	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	9.81	58	344	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	10.73	91	6711	N.D.	
59) 2-Hexanone	10.92	43	4860	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	11.52	43	1194	N.D.	
63) n-Octane	11.66	57	469	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	12.50	112	13829	N.D.	
66) Ethylbenzene	12.84	91	874	N.D.	
67) m- & p-Xylenes	13.01	91	2021	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	13.36	104	120	N.D.	
70) o-Xylene	13.46	91	668	N.D.	
71) n-Nonane	13.65	43	1654	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	13.89	105	284	N.D.	
75) alpha-Pinene	14.40	93	1164	N.D.	
76) n-Propylbenzene	14.50	91	706	N.D.	
77) 3-Ethyltoluene	13.89	105	284	No Calib	#
78) 4-Ethyltoluene	14.65	105	392	N.D.	
79) 1,3,5-Trimethylbenzene	14.72	105	192	N.D.	
80) alpha-Methylstyrene	13.89	118	942	No Calib	#
81) 2-Ethyltoluene	14.65	105	392	No Calib	#
82) 1,2,4-Trimethylbenzene	15.13	105	881	N.D.	
83) n-Decane	14.26	58	1066	No Calib	#
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	15.35	146	178	N.D.	
86) 1,4-Dichlorobenzene	15.35	146	178	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	15.55	119	1289	N.D.	
89) 1,2,3-Trimethylbenzene	14.36	105	6564	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	15.69	68	1335	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	15.00	58	145	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	17.50	128	458	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	13.05	55	159	No Calib	#
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	15.96	91	239	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142229.D Vial: 3
Acq On : 14 Jan 2022 19:46 Operator: SC
Sample : P2200062-001 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 10:44:11 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142229.D Vial: 3
Acq On : 14 Jan 2022 19:46 Operator: SC
Sample : P2200062-001 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 10:44:11 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/15/22

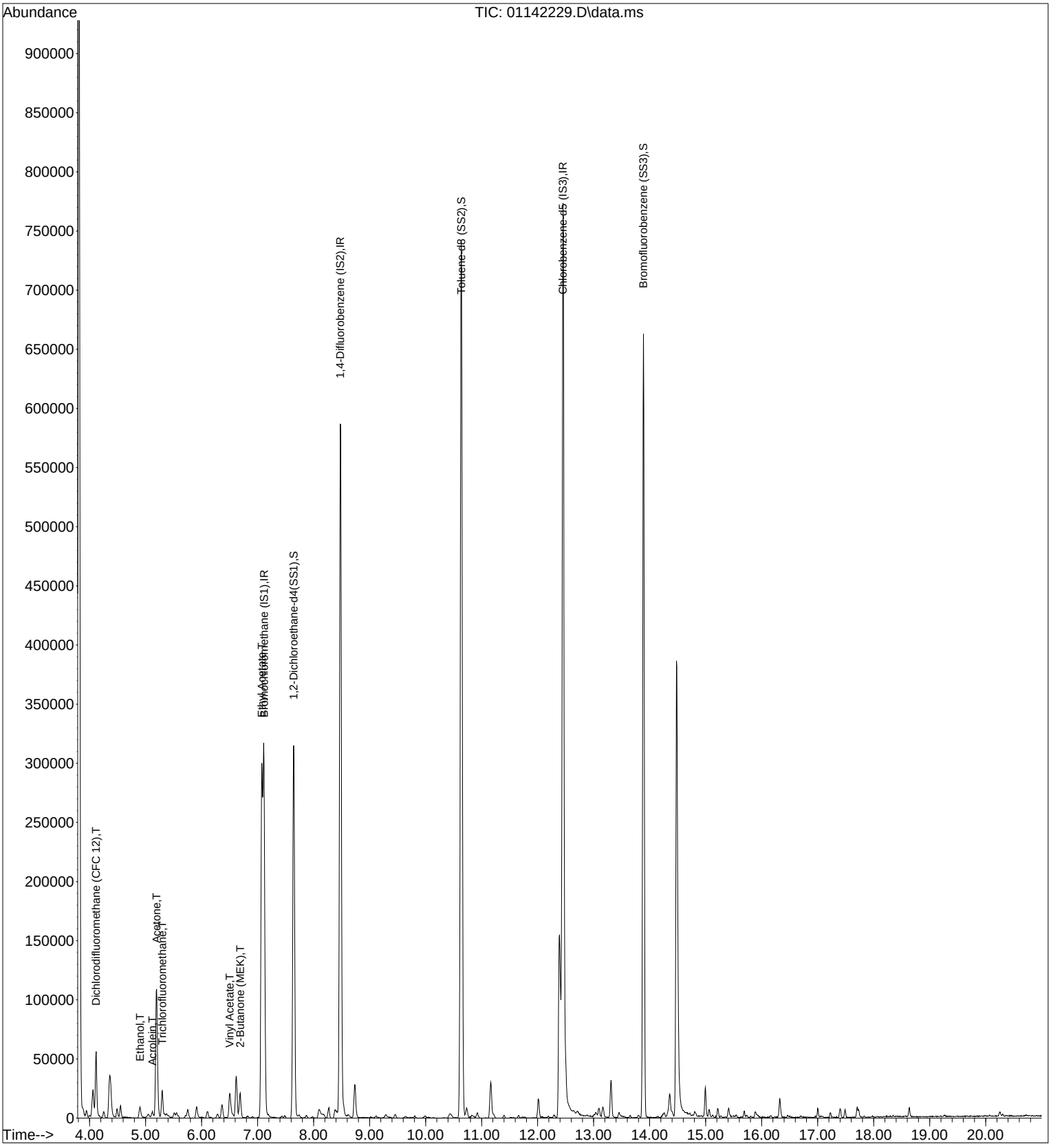
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	111553	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	8.48	114	511292	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	12.45	54	138633	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.64	65	282531	13.278	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%				
57) Toluene-d8 (SS2)	10.64	98	604598	11.252	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
73) Bromofluorobenzene (SS3)	13.89	174	198381	13.974	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.76%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.12	85	40362	1.574	ng		99
10) Ethanol	4.90	45	20333	2.106	ng		79
12) Acrolein	5.12	56	3350	0.559	ng		93
13) Acetone	5.20	58	43312	5.611	ng	#	56
14) Trichlorofluoromethane	5.30	101	18575	0.755	ng		99
26) Vinyl Acetate	6.50	86	2571	1.183	ng	#	61
27) 2-Butanone (MEK)	6.69	72	6000	0.857	ng	#	92
30) Ethyl Acetate	7.08	61	42461	11.042	ng		93

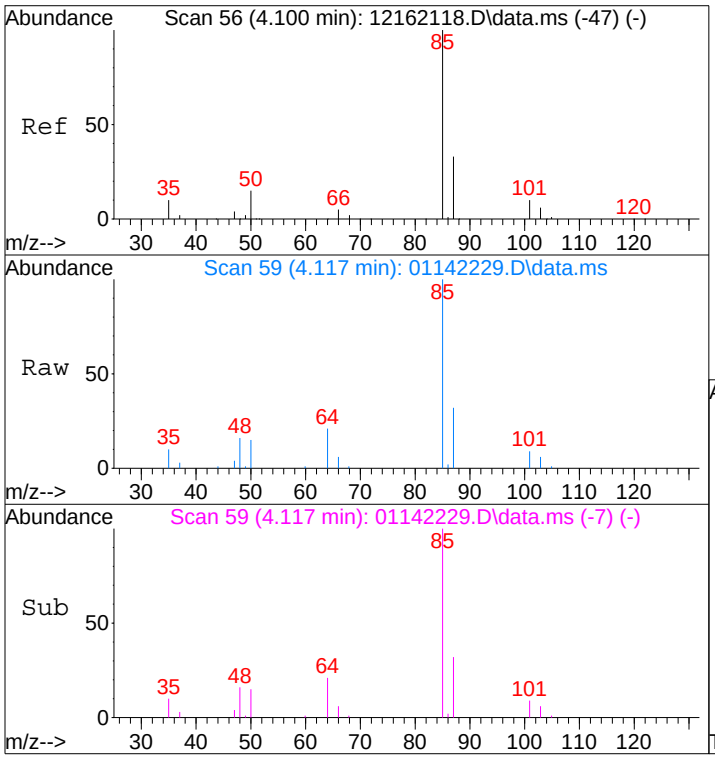
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142229.D Vial: 3
Acq On : 14 Jan 2022 19:46 Operator: SC
Sample : P2200062-001 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 10:44:11 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

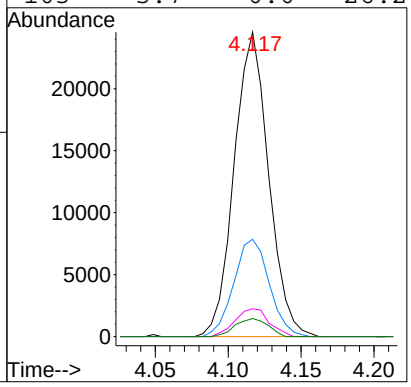


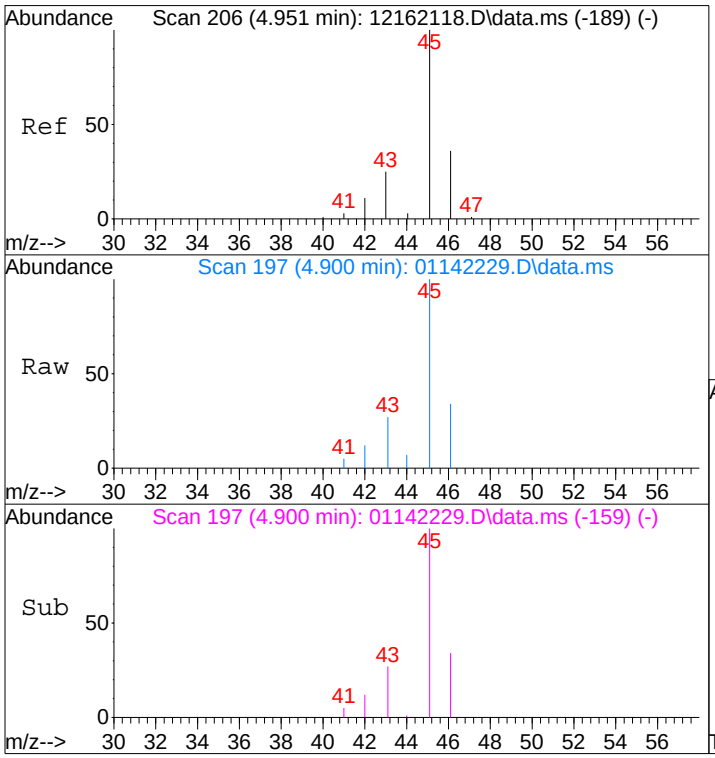


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.57 ng
RT: 4.12 min Scan# 59
Delta R.T. 0.043 min
Lab File: 01142229.D
Acq: 14 Jan 2022 19:46

Tgt Ion: 85 Resp: 40362

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.8	52.8
101	9.1	0.0	29.9
103	5.7	0.0	26.2

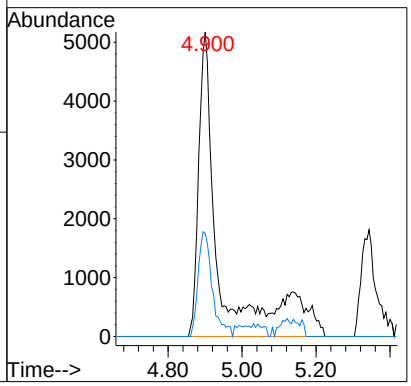


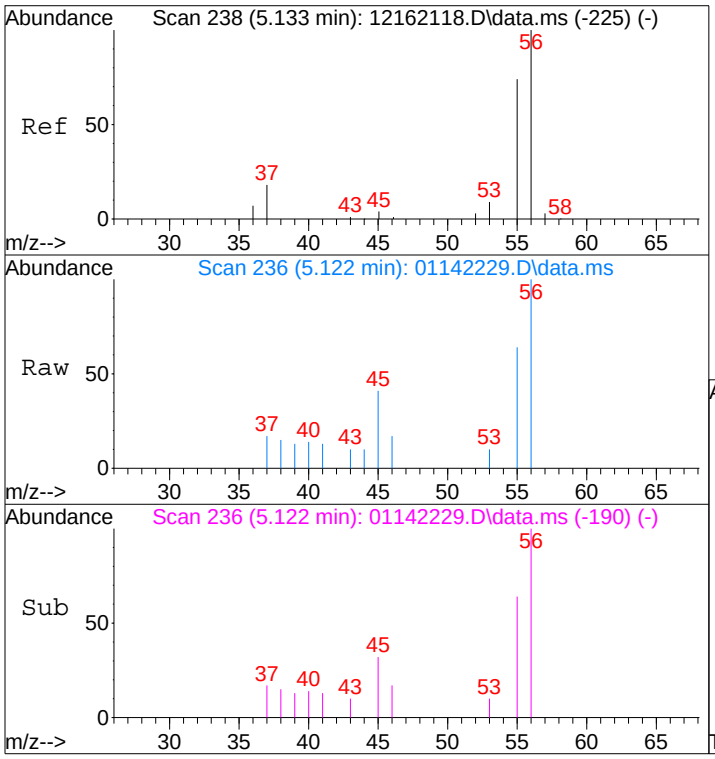


#10
Ethanol
Concen: 2.11 ng
RT: 4.90 min Scan# 197
Delta R.T. -0.037 min
Lab File: 01142229.D
Acq: 14 Jan 2022 19:46

Tgt Ion: 45 Resp: 20333

Ion	Ratio	Lower	Upper
45	100		
46	23.2	15.7	55.7

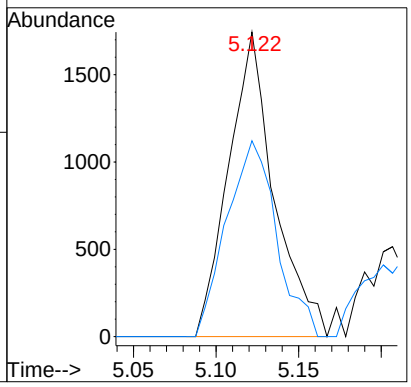


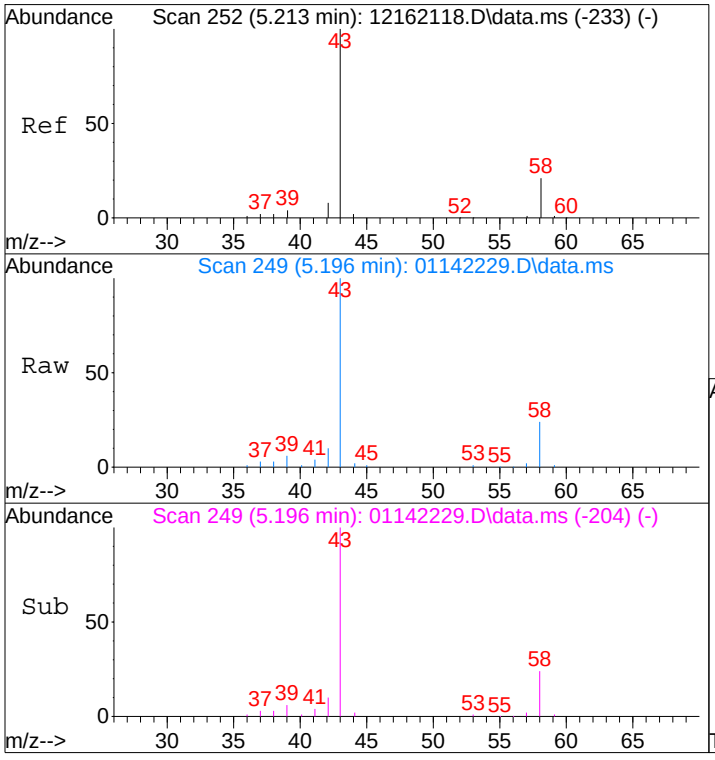


#12
Acrolein
Concen: 0.56 ng
RT: 5.12 min Scan# 236
Delta R.T. 0.010 min
Lab File: 01142229.D
Acq: 14 Jan 2022 19:46

Tgt Ion: 56 Resp: 3350

Ion	Ratio	Lower	Upper
56	100		
55	70.2	56.6	96.6

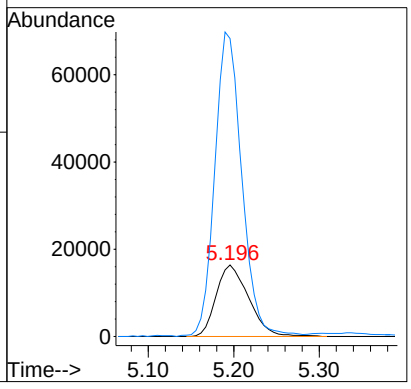


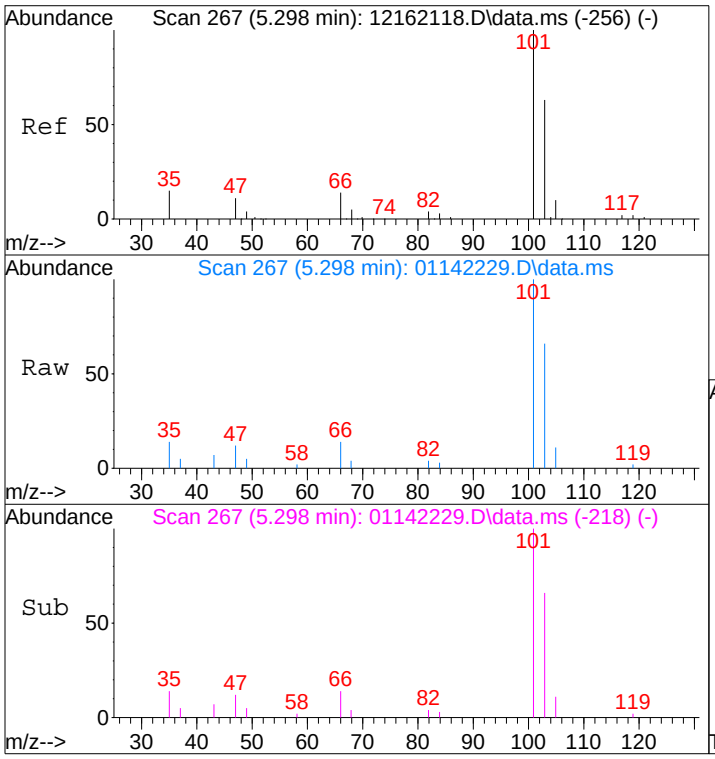


#13
Acetone
Concen: 5.61 ng
RT: 5.20 min Scan# 249
Delta R.T. 0.004 min
Lab File: 01142229.D
Acq: 14 Jan 2022 19:46

Tgt Ion: 58 Resp: 43312

Ion	Ratio	Lower	Upper
58	100		
43	354.7	440.4	500.4#

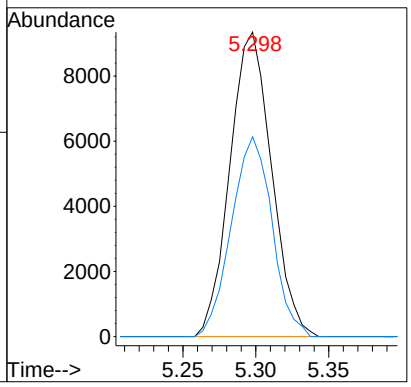


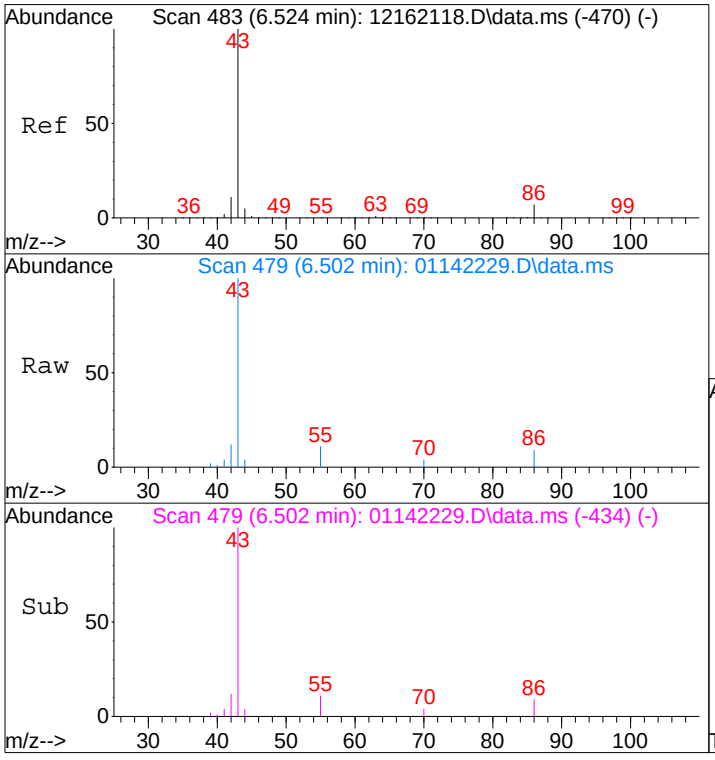


#14
Trichlorofluoromethane
Concen: 0.76 ng
RT: 5.30 min Scan# 267
Delta R.T. 0.028 min
Lab File: 01142229.D
Acq: 14 Jan 2022 19:46

Tgt Ion:101 Resp: 18575

Ion	Ratio	Lower	Upper
101	100		
103	64.0	43.6	83.6

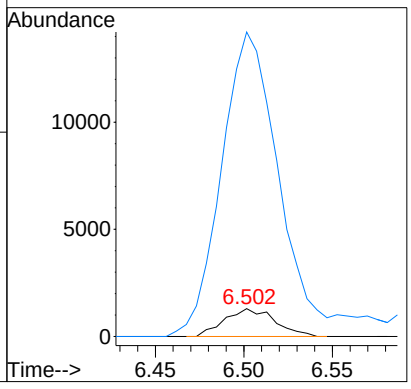


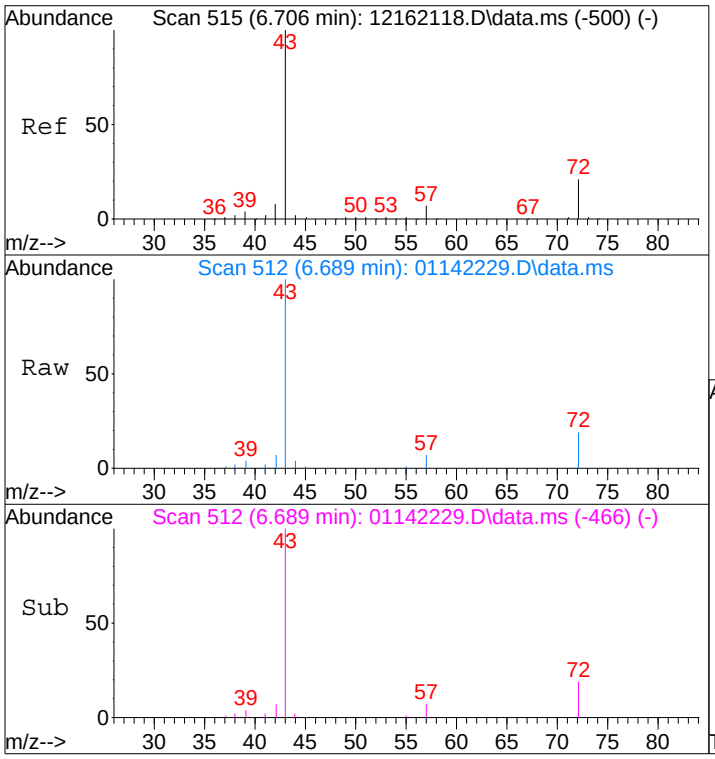


#26
Vinyl Acetate
Concen: 1.18 ng
RT: 6.50 min Scan# 479
Delta R.T. 0.007 min
Lab File: 01142229.D
Acq: 14 Jan 2022 19:46

Tgt Ion: 86 Resp: 2571

Ion	Ratio	Lower	Upper
86	100		
43	1299.4	1513.4	1553.4#

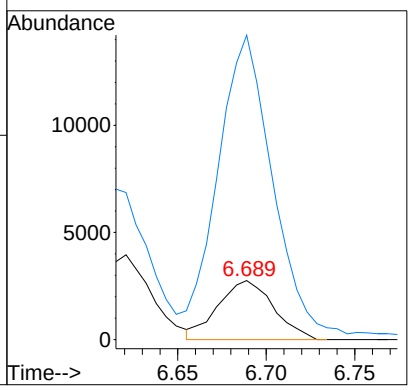


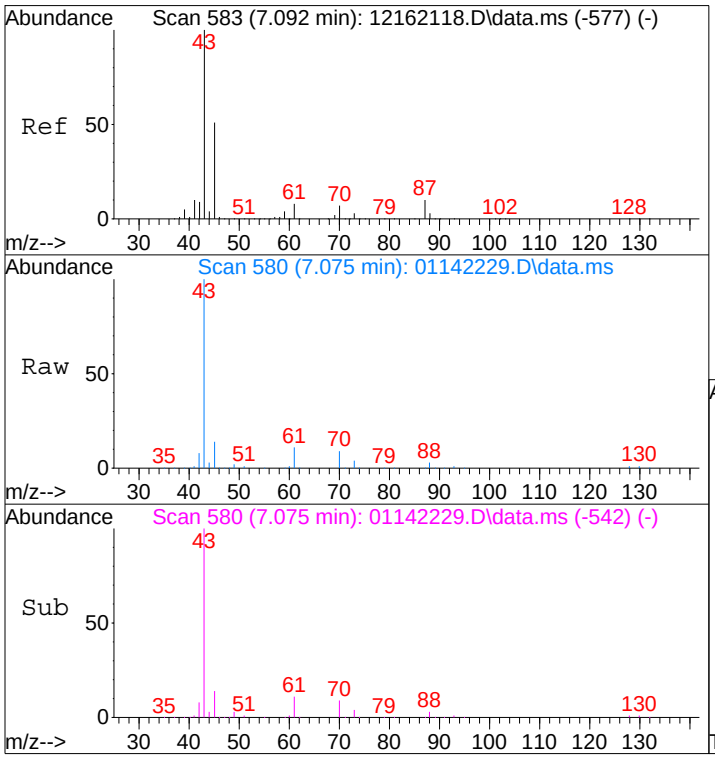


#27
2-Butanone (MEK)
Concen: 0.86 ng
RT: 6.69 min Scan# 512
Delta R.T. 0.014 min
Lab File: 01142229.D
Acq: 14 Jan 2022 19:46

Tgt Ion: 72 Resp: 6000

Ion	Ratio	Lower	Upper
72	100		
43	510.6	470.2	510.2#

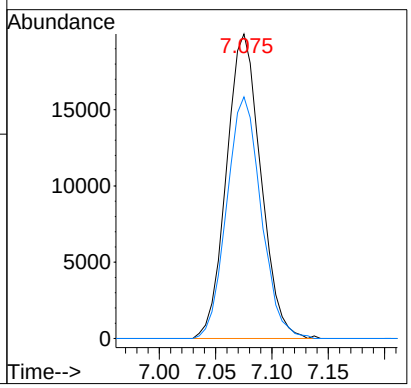




#30
Ethyl Acetate
Concen: 11.04 ng
RT: 7.08 min Scan# 580
Delta R.T. 0.016 min
Lab File: 01142229.D
Acq: 14 Jan 2022 19:46

Tgt Ion: 61 Resp: 42461

Ion	Ratio	Lower	Upper
61	100		
70	79.4	66.2	106.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142230.D Vial: 10
Acq On : 14 Jan 2022 20:18 Operator: SC
Sample : P2200062-002 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 10:45:34 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/15/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	109465	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	8.48	114	506436	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	12.45	54	138379	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.64	65	280350	13.427	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.44%				
57) Toluene-d8 (SS2)	10.64	98	598551	11.160	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%				
73) Bromofluorobenzene (SS3)	13.89	174	195926	13.827	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.64%				
Target Compounds							Qvalue
2) Propene	4.07	42	2541	N.D.			
3) Dichlorodifluoromethan...	4.12	85	40437	1.607	ng		99
4) Chloromethane	4.26	50	5269	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	635	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.73	94	180	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.91	45	13886	1.466	ng		75
11) Acetonitrile	5.05	41	3457	N.D.			
12) Acrolein	5.12	56	827	N.D.			
13) Acetone	5.21	58	23142	3.055	ng	#	80
14) Trichlorofluoromethane	5.30	101	19018	0.788	ng		100
15) 2-Propanol (Isopropanol)	5.35	45	8324	N.D.			
16) Acrylonitrile	5.59	53	131	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.73	59	109	N.D.			
19) Methylene Chloride	5.76	84	3331	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.91	151	2911	N.D.			
22) Carbon Disulfide	6.01	76	728	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.50	86	342	N.D.			
27) 2-Butanone (MEK)	6.69	72	2346	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.08	61	8462	2.242	ng		89
31) n-Hexane	7.13	57	744	N.D.			
32) Chloroform	7.19	83	940	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	7.72	62	632	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	8.48	61	17199	No Calib		#	
40) 1-Butanol	8.13	56	2442	No Calib		#	
41) Benzene	8.27	78	6481	N.D.			
42) Carbon Tetrachloride	8.38	117	5391	N.D.			
43) Cyclohexane	8.48	84	672	N.D.			
44) tert-Amyl Methyl Ether	8.48	73	8166	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	9.11	57	2353	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142230.D Vial: 10
Acq On : 14 Jan 2022 20:18 Operator: SC
Sample : P2200062-002 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 10:45:34 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

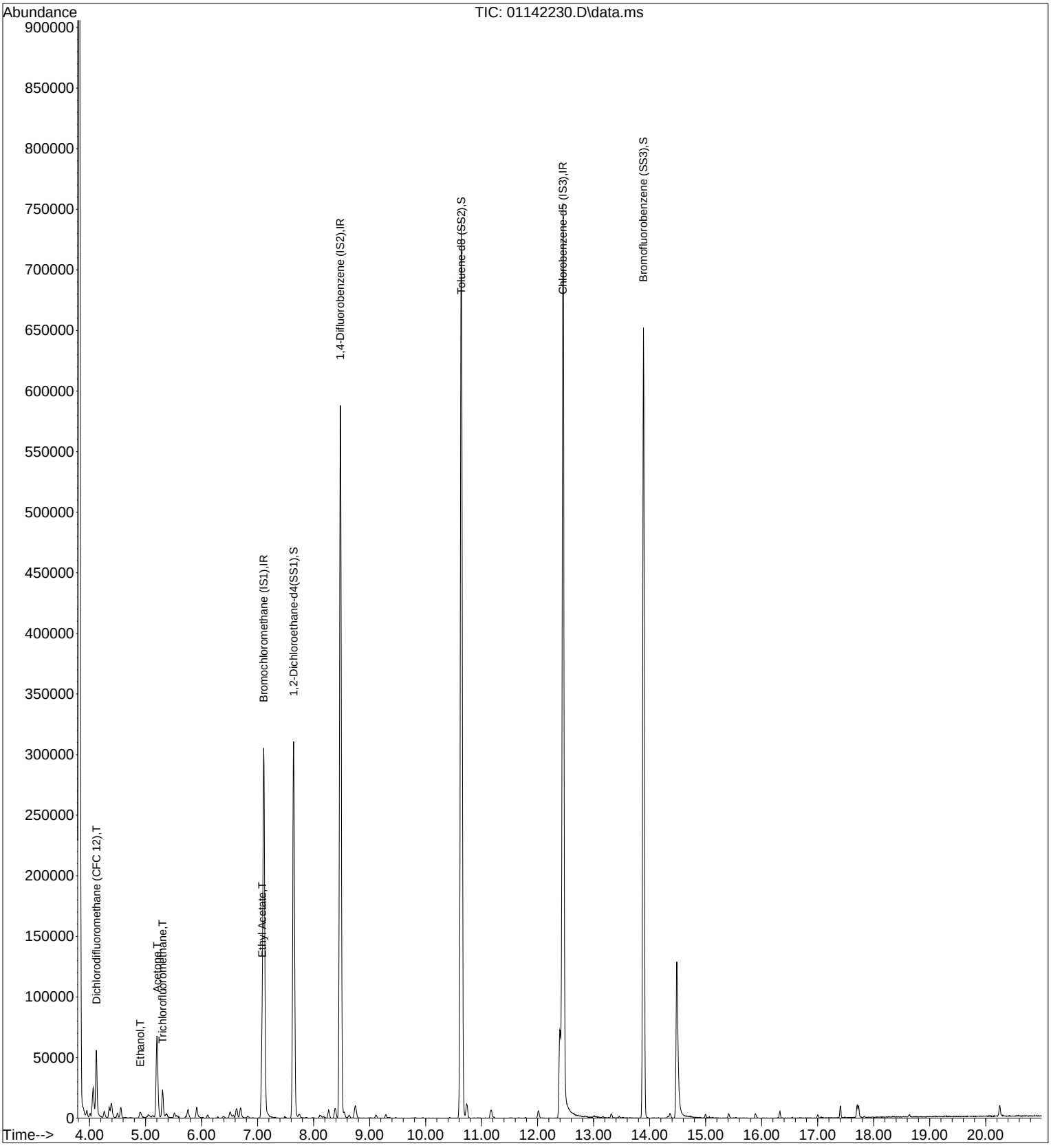
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	9.30	71	572	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	10.74	91	10058	N.D.	
59) 2-Hexanone	10.92	43	813	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	11.54	43	729	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	12.85	91	990	N.D.	
67) m- & p-Xylenes	13.00	91	1600	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	13.46	91	543	N.D.	
71) n-Nonane	13.66	43	383	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	13.89	105	205	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	13.89	105	205	No Calib	#
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	13.89	118	863	No Calib	#
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	15.13	105	176	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	15.54	119	380	N.D.	
89) 1,2,3-Trimethylbenzene	14.36	105	1433	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	17.49	128	124	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	13.17	55	435	No Calib	#
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142230.D Vial: 10
Acq On : 14 Jan 2022 20:18 Operator: SC
Sample : P2200062-002 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 10:45:34 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142230.D Vial: 10
Acq On : 14 Jan 2022 20:18 Operator: SC
Sample : P2200062-002 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 10:45:34 2022 1/15/22
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

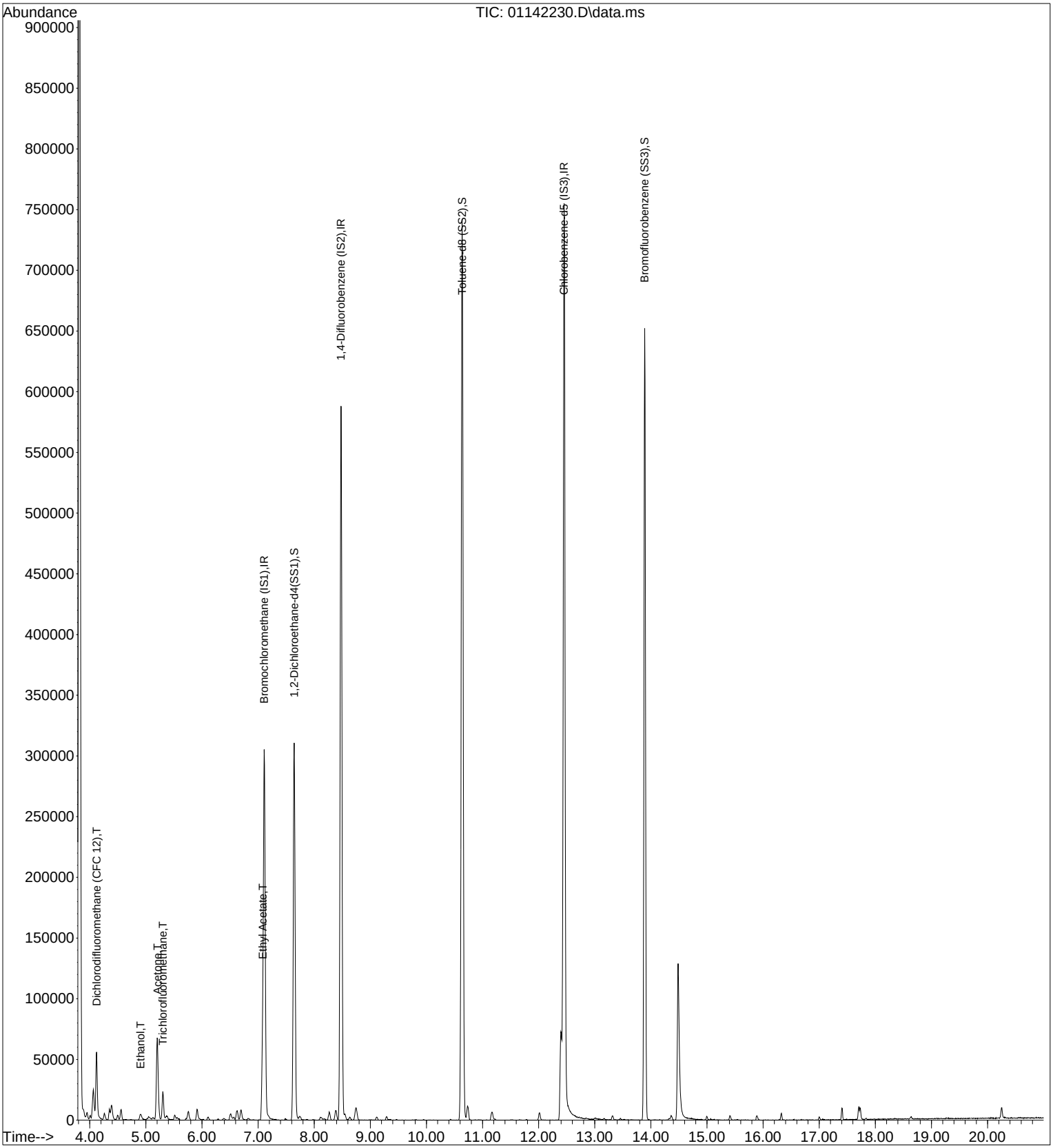
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	109465	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	8.48	114	506436	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	12.45	54	138379	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.64	65	280350	13.427	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.44%				
57) Toluene-d8 (SS2)	10.64	98	598551	11.160	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%				
73) Bromofluorobenzene (SS3)	13.89	174	195926	13.827	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.64%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.12	85	40437	1.607	ng		99
10) Ethanol	4.91	45	13886	1.466	ng		75
13) Acetone	5.21	58	23142	3.055	ng	#	80
14) Trichlorofluoromethane	5.30	101	19018	0.788	ng		100
30) Ethyl Acetate	7.08	61	8462	2.242	ng		89

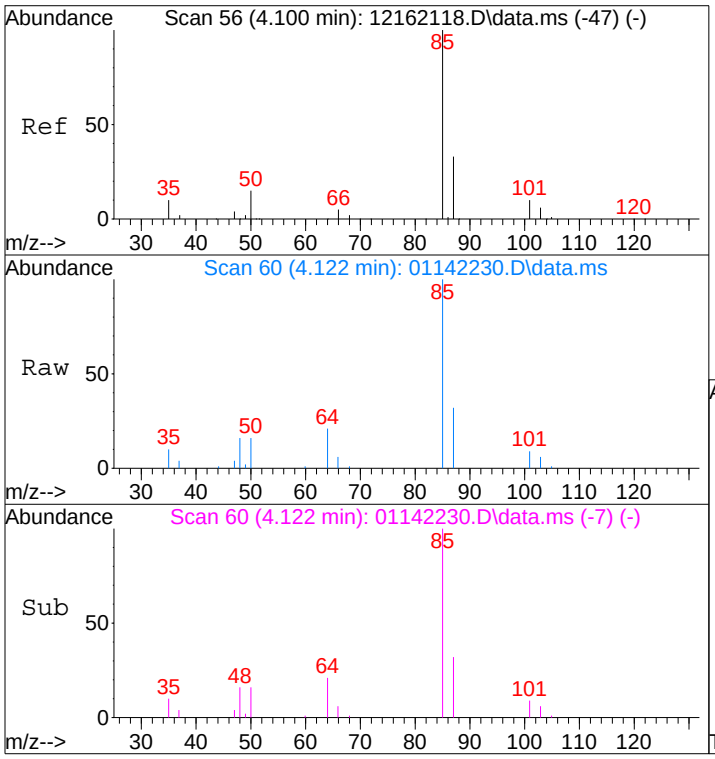
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142230.D Vial: 10
Acq On : 14 Jan 2022 20:18 Operator: SC
Sample : P2200062-002 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 10:45:34 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

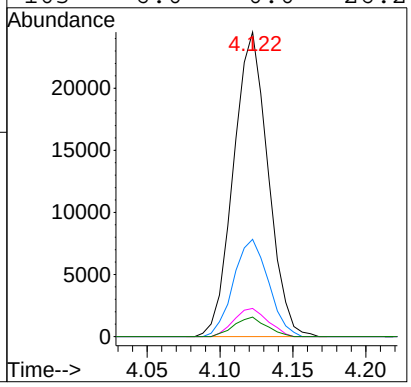


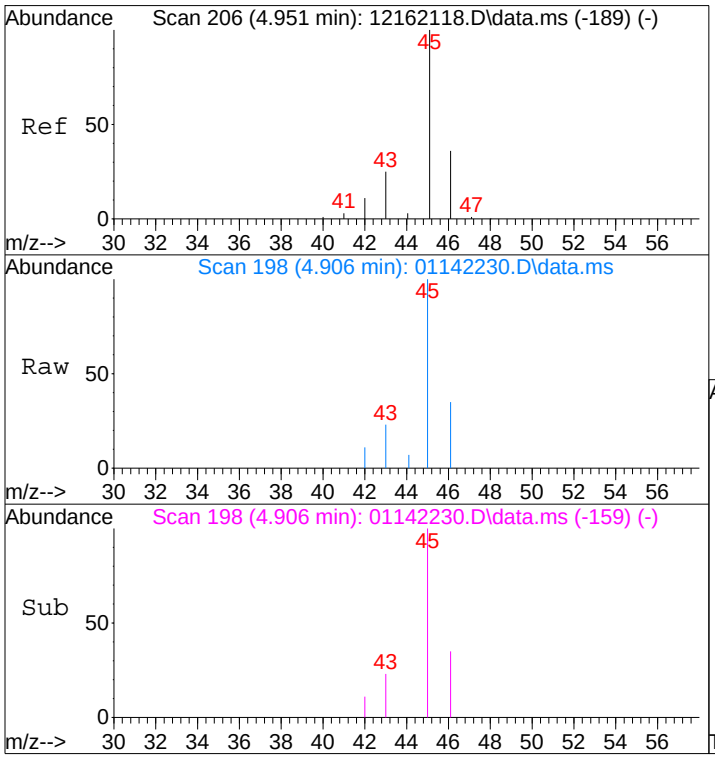


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.61 ng
RT: 4.12 min Scan# 60
Delta R.T. 0.048 min
Lab File: 01142230.D
Acq: 14 Jan 2022 20:18

Tgt Ion: 85 Resp: 40437

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.8	52.8
101	9.1	0.0	29.9
103	6.0	0.0	26.2

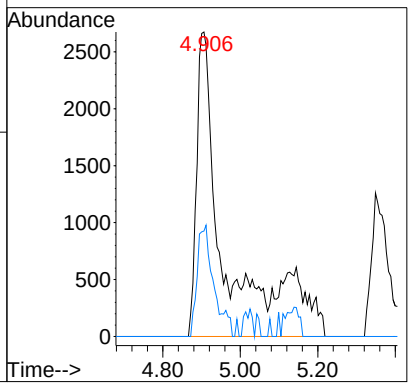


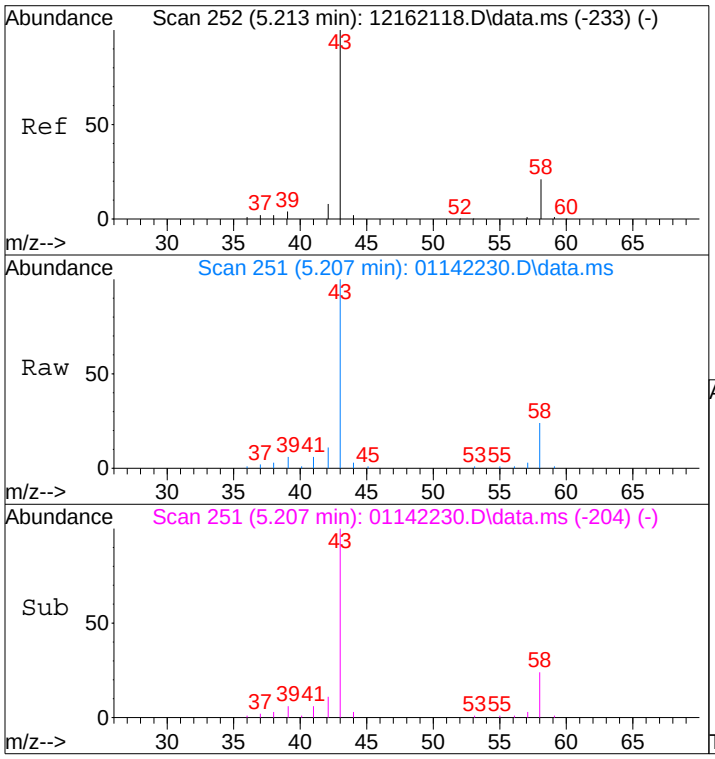


#10
Ethanol
Concen: 1.47 ng
RT: 4.91 min Scan# 198
Delta R.T. -0.031 min
Lab File: 01142230.D
Acq: 14 Jan 2022 20:18

Tgt Ion: 45 Resp: 13886

Ion	Ratio	Lower	Upper
45	100		
46	20.8	15.7	55.7

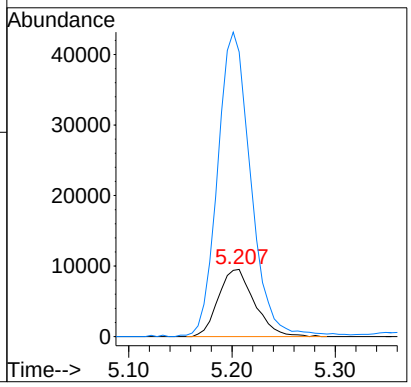


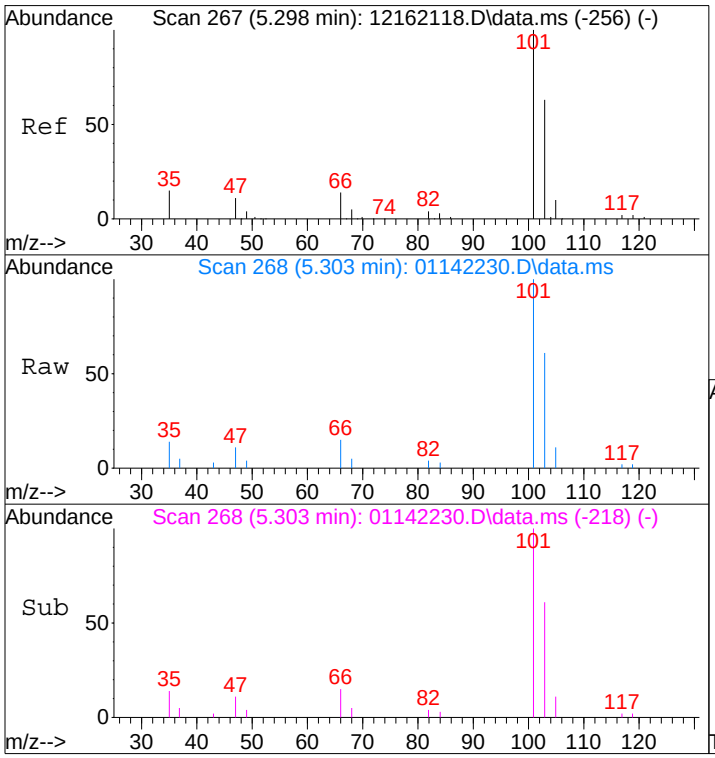


#13
Acetone
Concen: 3.05 ng
RT: 5.21 min Scan# 251
Delta R.T. 0.016 min
Lab File: 01142230.D
Acq: 14 Jan 2022 20:18

Tgt Ion: 58 Resp: 23142

Ion	Ratio	Lower	Upper
58	100		
43	418.0	440.4	500.4#

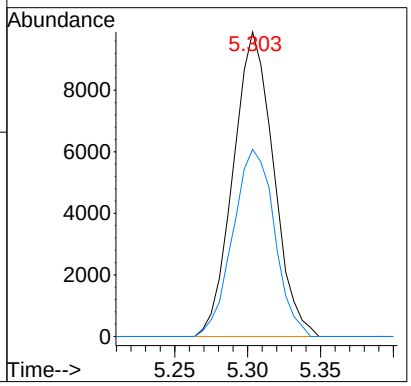


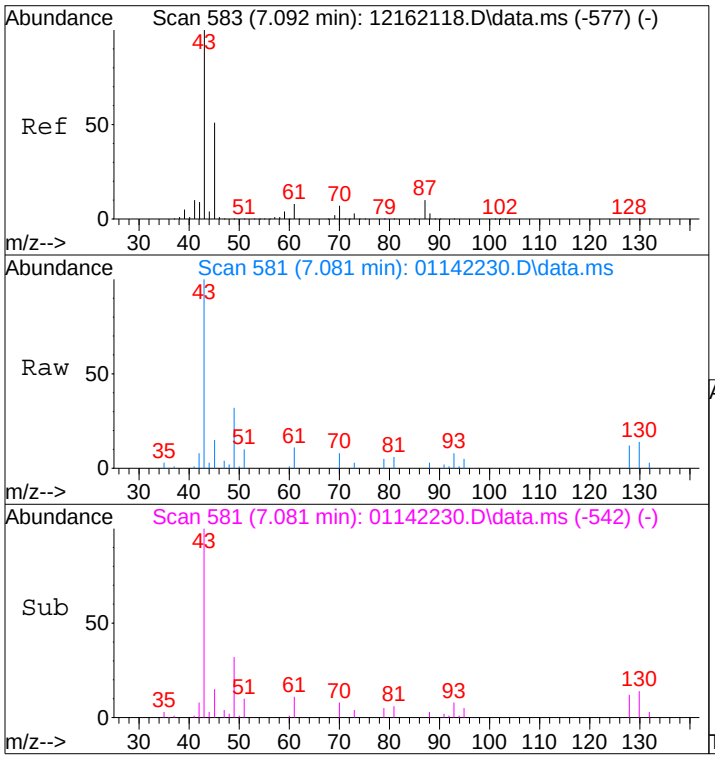


#14
Trichlorofluoromethane
Concen: 0.79 ng
RT: 5.30 min Scan# 268
Delta R.T. 0.033 min
Lab File: 01142230.D
Acq: 14 Jan 2022 20:18

Tgt Ion:101 Resp: 19018

Ion	Ratio	Lower	Upper
101	100		
103	63.3	43.6	83.6

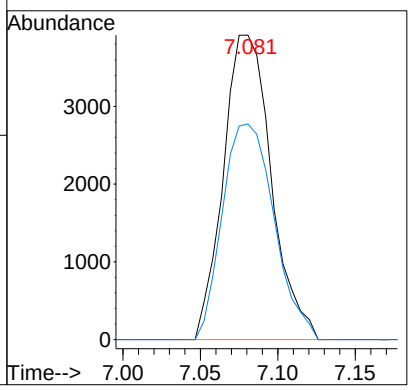




#30
Ethyl Acetate
Concen: 2.24 ng
RT: 7.08 min Scan# 581
Delta R.T. 0.022 min
Lab File: 01142230.D
Acq: 14 Jan 2022 20:18

Tgt Ion: 61 Resp: 8462

Ion	Ratio	Lower	Upper
61	100		
70	76.2	66.2	106.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142231.D Vial: 13
Acq On : 14 Jan 2022 20:49 Operator: SC
Sample : P2200062-003 (1000mL) Inst : MS09
Misc : S34-12272101

1/15/22

Quant Time: Jan 15 07:50:39 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	105673	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	8.48	114	489536	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	12.45	54	135066	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.64	65	275547	13.671	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.36%				
57) Toluene-d8 (SS2)	10.64	98	581989	11.118	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.96%				
73) Bromofluorobenzene (SS3)	13.89	174	190479	13.772	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%				
Target Compounds							Qvalue
2) Propene	4.07	42	2356	N.D.			
3) Dichlorodifluoromethan...	4.12	85	40776	1.678	ng		98
4) Chloromethane	4.26	50	4819	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	645	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.91	45	11270	1.232	ng		77
11) Acetonitrile	5.05	41	2840	N.D.			
12) Acrolein	5.12	56	570	N.D.			
13) Acetone	5.20	58	17316	2.368	ng	#	82
14) Trichlorofluoromethane	5.30	101	18930	0.812	ng		100
15) 2-Propanol (Isopropanol)	5.36	45	8529	N.D.			
16) Acrylonitrile	5.59	53	289	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.73	59	65	N.D.			
19) Methylene Chloride	5.75	84	2504	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.92	151	3143	N.D.			
22) Carbon Disulfide	6.01	76	529	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	2177	N.D.			
28) cis-1,2-Dichloroethene	7.09	61	2345	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.09	61	2345	0.644	ng		90
31) n-Hexane	7.11	57	463	N.D.			
32) Chloroform	7.19	83	1004	N.D.			
34) Tetrahydrofuran (THF)	7.64	72	103	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	7.72	62	650	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	8.48	61	18097	No Calib		#	
40) 1-Butanol	8.13	56	3050	No Calib		#	
41) Benzene	8.27	78	6082	N.D.			
42) Carbon Tetrachloride	8.39	117	5055	N.D.			
43) Cyclohexane	8.48	84	546	N.D.			
44) tert-Amyl Methyl Ether	8.47	73	7919	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	9.11	57	841	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142231.D Vial: 13
Acq On : 14 Jan 2022 20:49 Operator: SC
Sample : P2200062-003 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 07:50:39 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

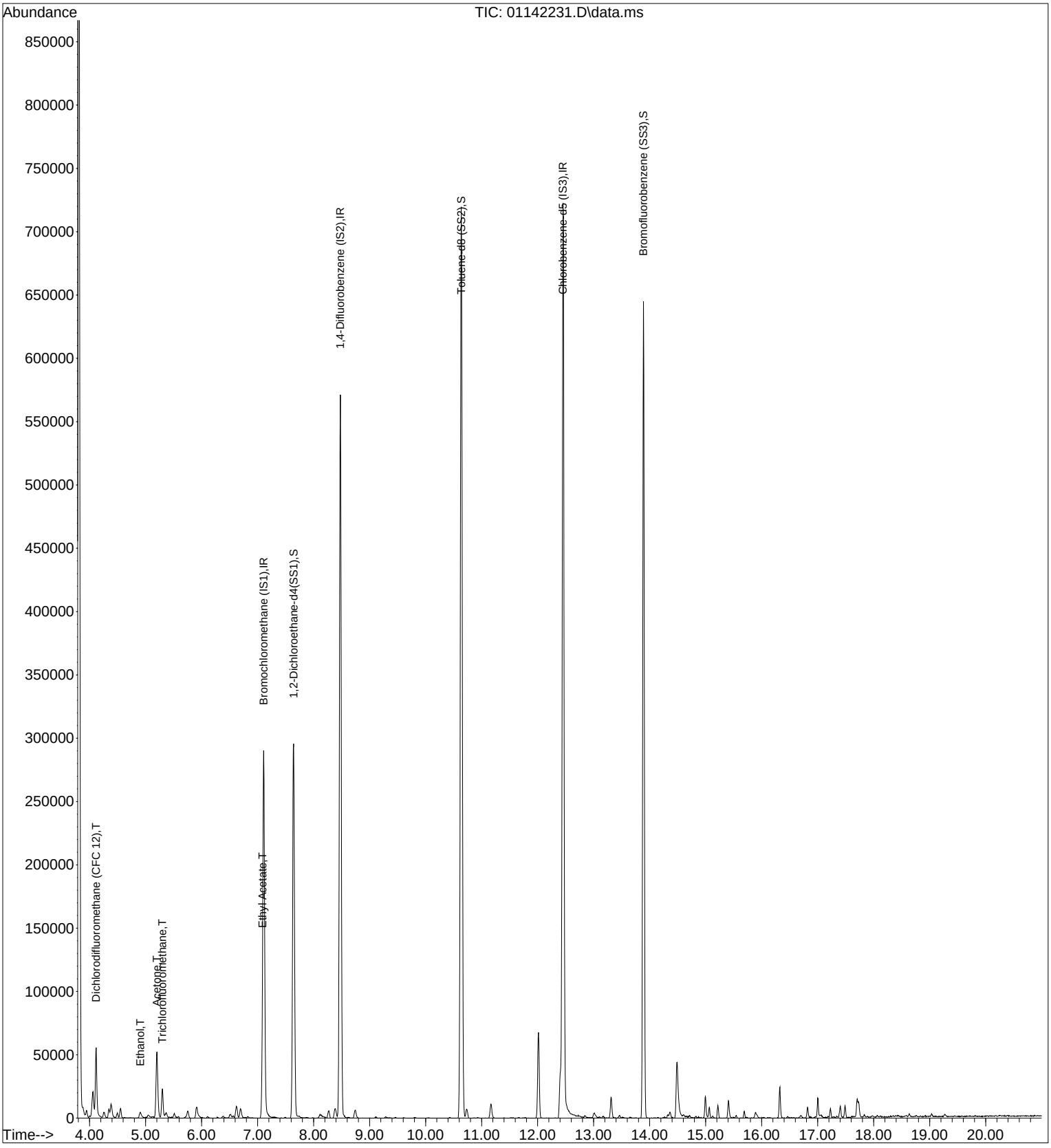
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	9.28	71	185	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	10.74	91	6126	N.D.	
59) 2-Hexanone	10.92	43	915	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	11.53	43	879	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	12.84	91	1459	N.D.	
67) m- & p-Xylenes	13.00	91	3735	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	13.36	104	213	N.D.	
70) o-Xylene	13.47	91	1292	N.D.	
71) n-Nonane	13.64	43	599	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	13.89	105	244	N.D.	
75) alpha-Pinene	14.41	93	361	N.D.	
76) n-Propylbenzene	14.51	91	553	N.D.	
77) 3-Ethyltoluene	13.89	105	244	No Calib	#
78) 4-Ethyltoluene	14.66	105	583	N.D.	
79) 1,3,5-Trimethylbenzene	14.72	105	282	N.D.	
80) alpha-Methylstyrene	13.89	118	931	No Calib	#
81) 2-Ethyltoluene	14.66	105	583	No Calib	#
82) 1,2,4-Trimethylbenzene	15.13	105	1661	N.D.	
83) n-Decane	14.26	58	196	No Calib	#
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	15.54	105	369	N.D.	
88) 4-Isopropyltoluene (p-...	15.54	119	1240	N.D.	
89) 1,2,3-Trimethylbenzene	14.36	105	1913	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	15.68	68	1318	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	17.49	128	261	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	13.17	55	701	No Calib	#
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	15.94	91	126	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142231.D Vial: 13
Acq On : 14 Jan 2022 20:49 Operator: SC
Sample : P2200062-003 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 07:50:39 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142231.D Vial: 13
Acq On : 14 Jan 2022 20:49 Operator: SC
Sample : P2200062-003 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 07:50:39 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/15/22

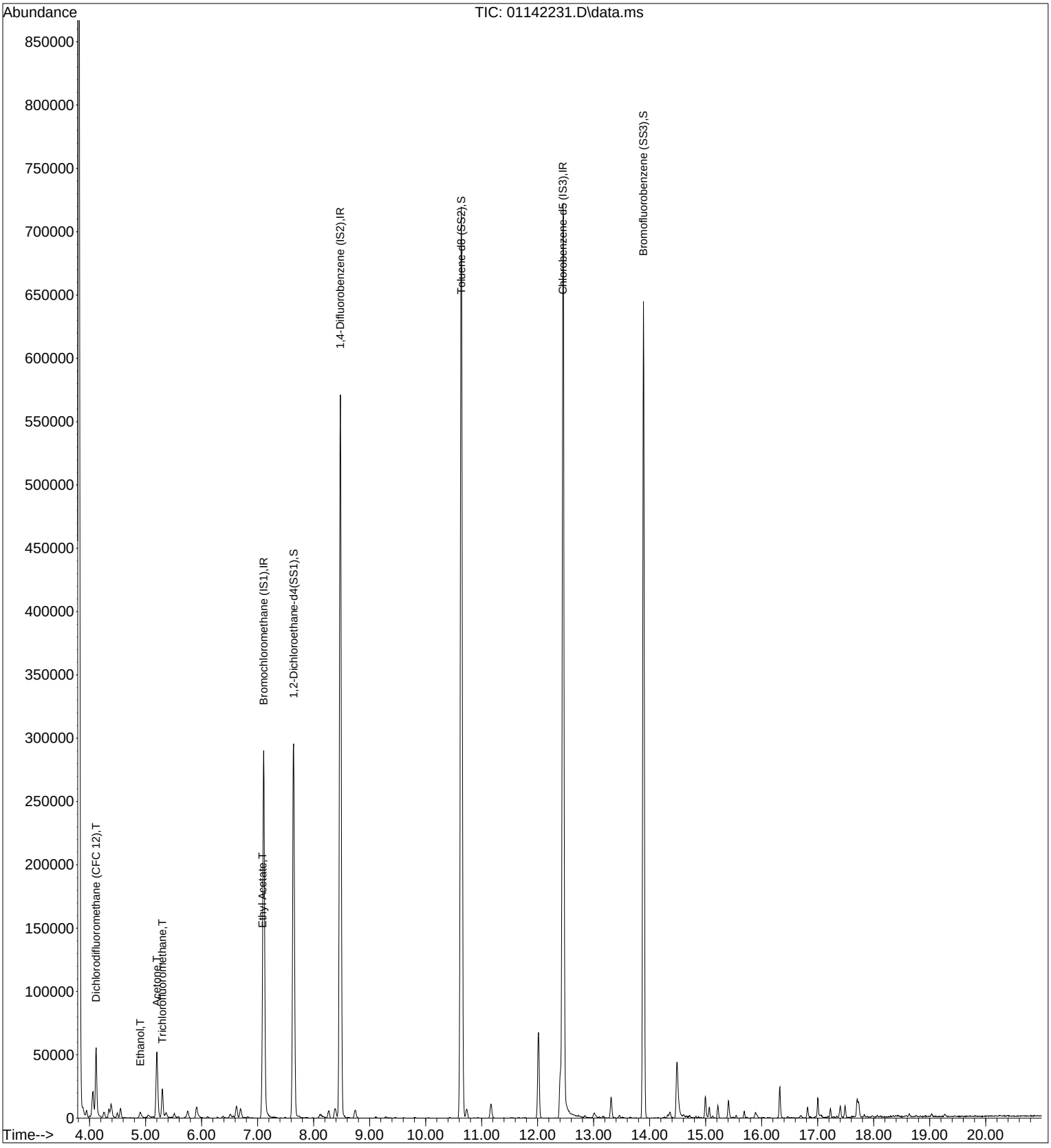
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	105673	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	8.48	114	489536	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	12.45	54	135066	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.64	65	275547	13.671	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.36%				
57) Toluene-d8 (SS2)	10.64	98	581989	11.118	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.96%				
73) Bromofluorobenzene (SS3)	13.89	174	190479	13.772	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.12	85	40776	1.678	ng		98
10) Ethanol	4.91	45	11270	1.232	ng		77
13) Acetone	5.20	58	17316	2.368	ng	#	82
14) Trichlorofluoromethane	5.30	101	18930	0.812	ng		100
30) Ethyl Acetate	7.09	61	2345	0.644	ng		90

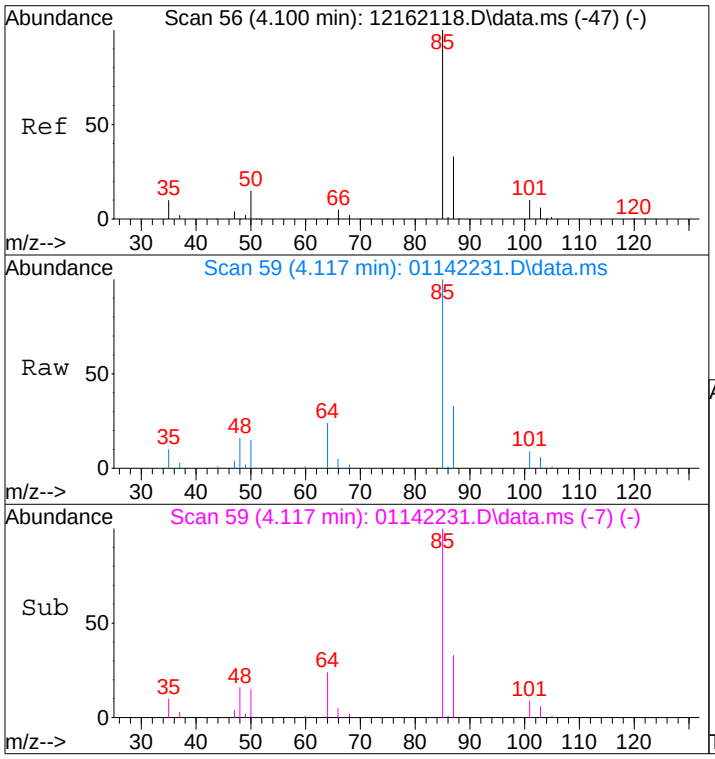
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142231.D Vial: 13
Acq On : 14 Jan 2022 20:49 Operator: SC
Sample : P2200062-003 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 07:50:39 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

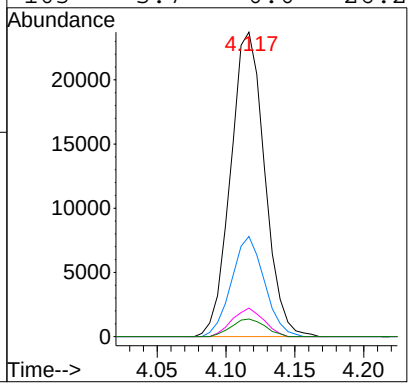


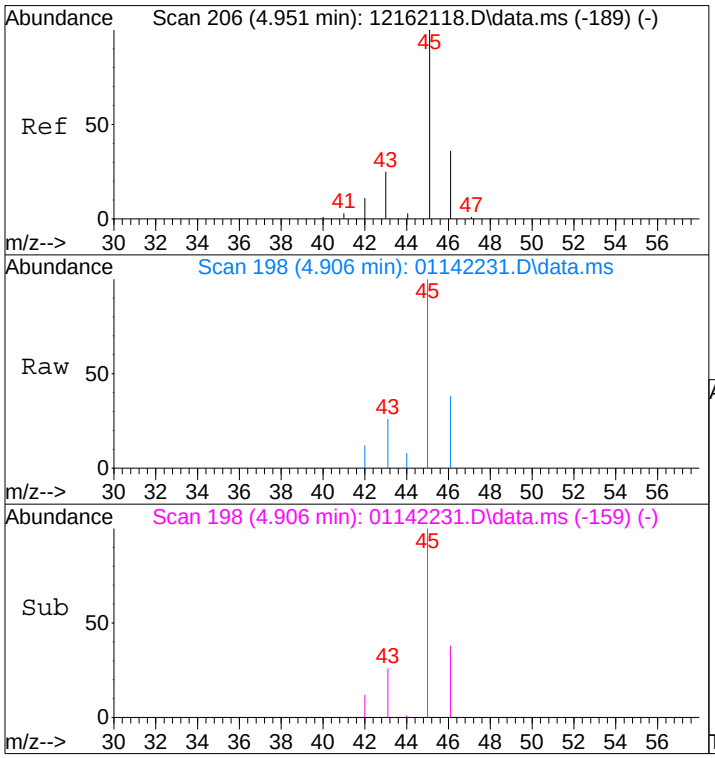


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.68 ng
RT: 4.12 min Scan# 59
Delta R.T. 0.043 min
Lab File: 01142231.D
Acq: 14 Jan 2022 20:49

Tgt Ion: 85 Resp: 40776

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.8	52.8
101	8.7	0.0	29.9
103	5.7	0.0	26.2

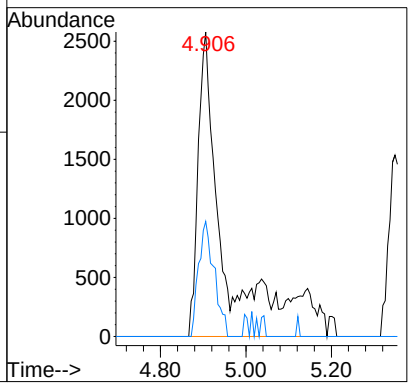


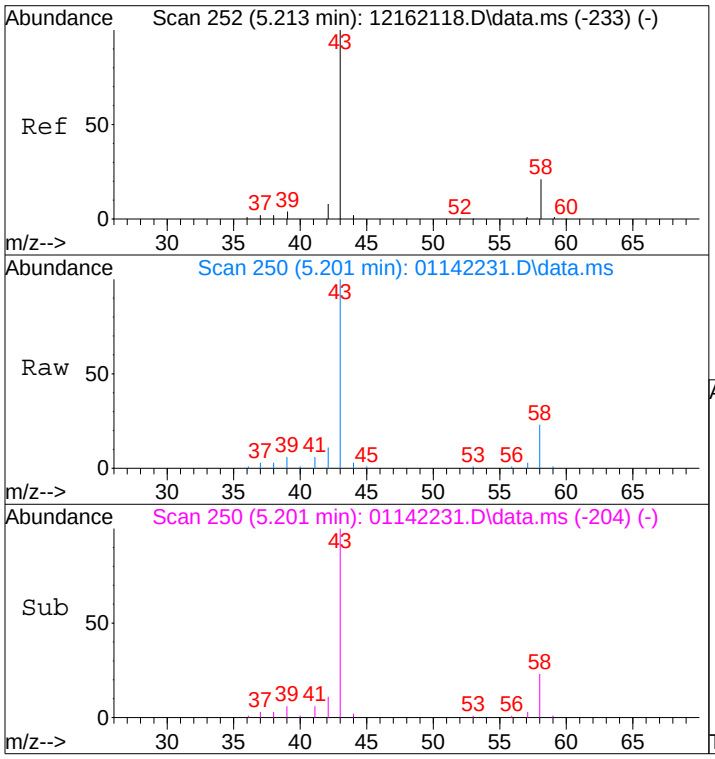


#10
Ethanol
Concen: 1.23 ng
RT: 4.91 min Scan# 198
Delta R.T. -0.031 min
Lab File: 01142231.D
Acq: 14 Jan 2022 20:49

Tgt Ion: 45 Resp: 11270

Ion	Ratio	Lower	Upper
45	100		
46	22.0	15.7	55.7

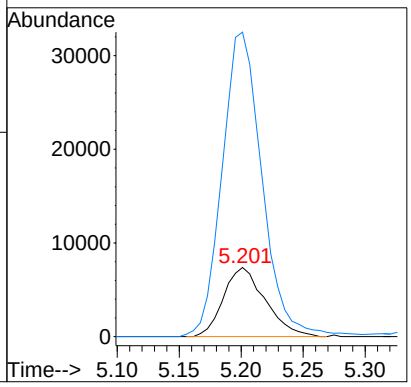


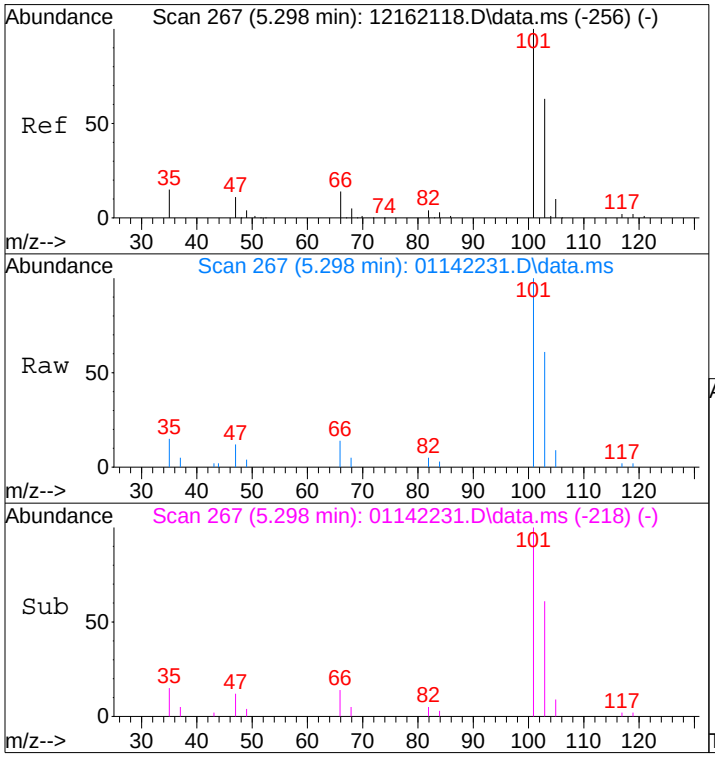


#13
Acetone
Concen: 2.37 ng
RT: 5.20 min Scan# 250
Delta R.T. 0.010 min
Lab File: 01142231.D
Acq: 14 Jan 2022 20:49

Tgt Ion: 58 Resp: 17316

Ion	Ratio	Lower	Upper
58	100		
43	421.9	440.4	500.4#

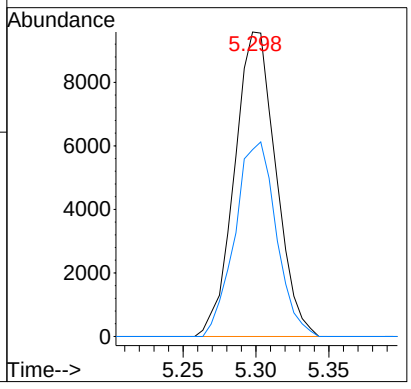


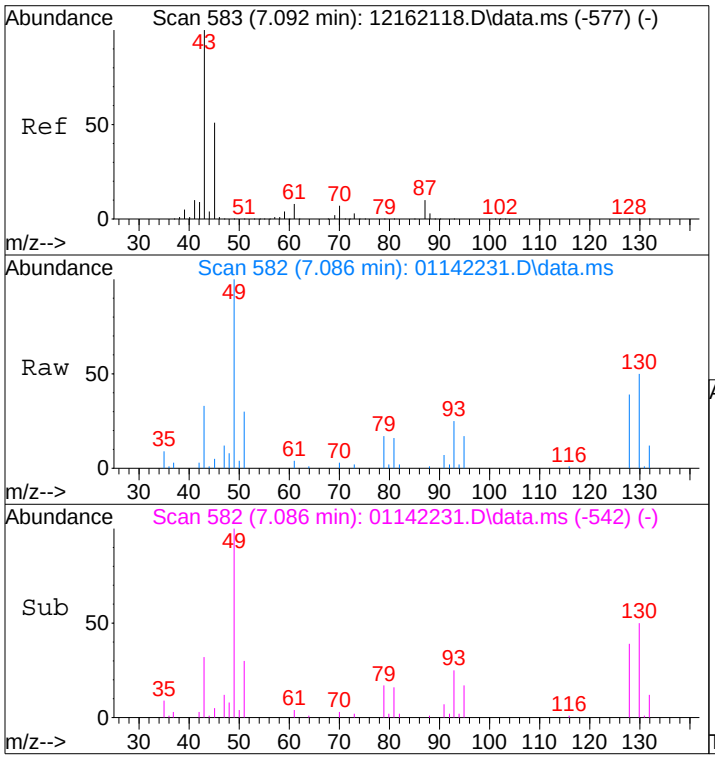


#14
Trichlorofluoromethane
Concen: 0.81 ng
RT: 5.30 min Scan# 267
Delta R.T. 0.028 min
Lab File: 01142231.D
Acq: 14 Jan 2022 20:49

Tgt Ion:101 Resp: 18930

Ion	Ratio	Lower	Upper
101	100		
103	63.8	43.6	83.6

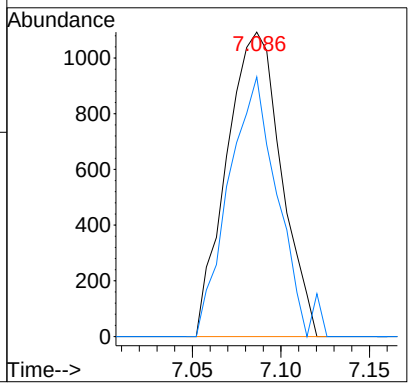




#30
Ethyl Acetate
Concen: 0.64 ng
RT: 7.09 min Scan# 582
Delta R.T. 0.028 min
Lab File: 01142231.D
Acq: 14 Jan 2022 20:49

Tgt Ion: 61 Resp: 2345

Ion	Ratio	Lower	Upper
61	100		
70	76.8	66.2	106.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142232.D Vial: 14
Acq On : 14 Jan 2022 21:22 Operator: SC
Sample : P2200062-004 (1000mL) Inst : MS09
Misc : S34-12272101

1/15/22

Quant Time: Jan 15 07:50:50 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	103700	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	8.48	114	477717	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	12.45	54	133583	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.64	65	269878	13.644	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.12%			
57) Toluene-d8 (SS2)	10.64	98	563209	10.878	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.04%			
73) Bromofluorobenzene (SS3)	13.89	174	188299	13.765	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%			
Target Compounds						Qvalue
2) Propene	4.07	42	1785	N.D.		
3) Dichlorodifluoromethan...	4.12	85	38712	1.624	ng	98
4) Chloromethane	4.27	50	4756	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	600	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.91	45	5510	0.614	ng	97
11) Acetonitrile	5.06	41	2147	N.D.		
12) Acrolein	5.13	56	58	N.D.		
13) Acetone	5.21	58	16630	2.317	ng	93
14) Trichlorofluoromethane	5.30	101	18045	0.789	ng	100
15) 2-Propanol (Isopropanol)	5.36	45	2426	N.D.		
16) Acrylonitrile	5.59	53	56	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.74	59	111	N.D.		
19) Methylene Chloride	5.76	84	2084	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.91	151	2909	N.D.		
22) Carbon Disulfide	6.01	76	1879	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	6.70	72	1301	N.D.		
28) cis-1,2-Dichloroethene	7.09	61	6688	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.09	61	6688	1.871	ng	92
31) n-Hexane	7.13	57	389	N.D.		
32) Chloroform	7.18	83	725	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	7.72	62	641	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	8.48	61	16624	No Calib	#	
40) 1-Butanol	8.13	56	477	No Calib	#	
41) Benzene	8.27	78	5603	N.D.		
42) Carbon Tetrachloride	8.39	117	5043	N.D.		
43) Cyclohexane	8.48	84	680	N.D.		
44) tert-Amyl Methyl Ether	8.48	73	7660	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	9.06	88	285	N.D.		
49) 2,2,4-Trimethylpentane...	9.11	57	786	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142232.D Vial: 14
Acq On : 14 Jan 2022 21:22 Operator: SC
Sample : P2200062-004 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 07:50:50 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

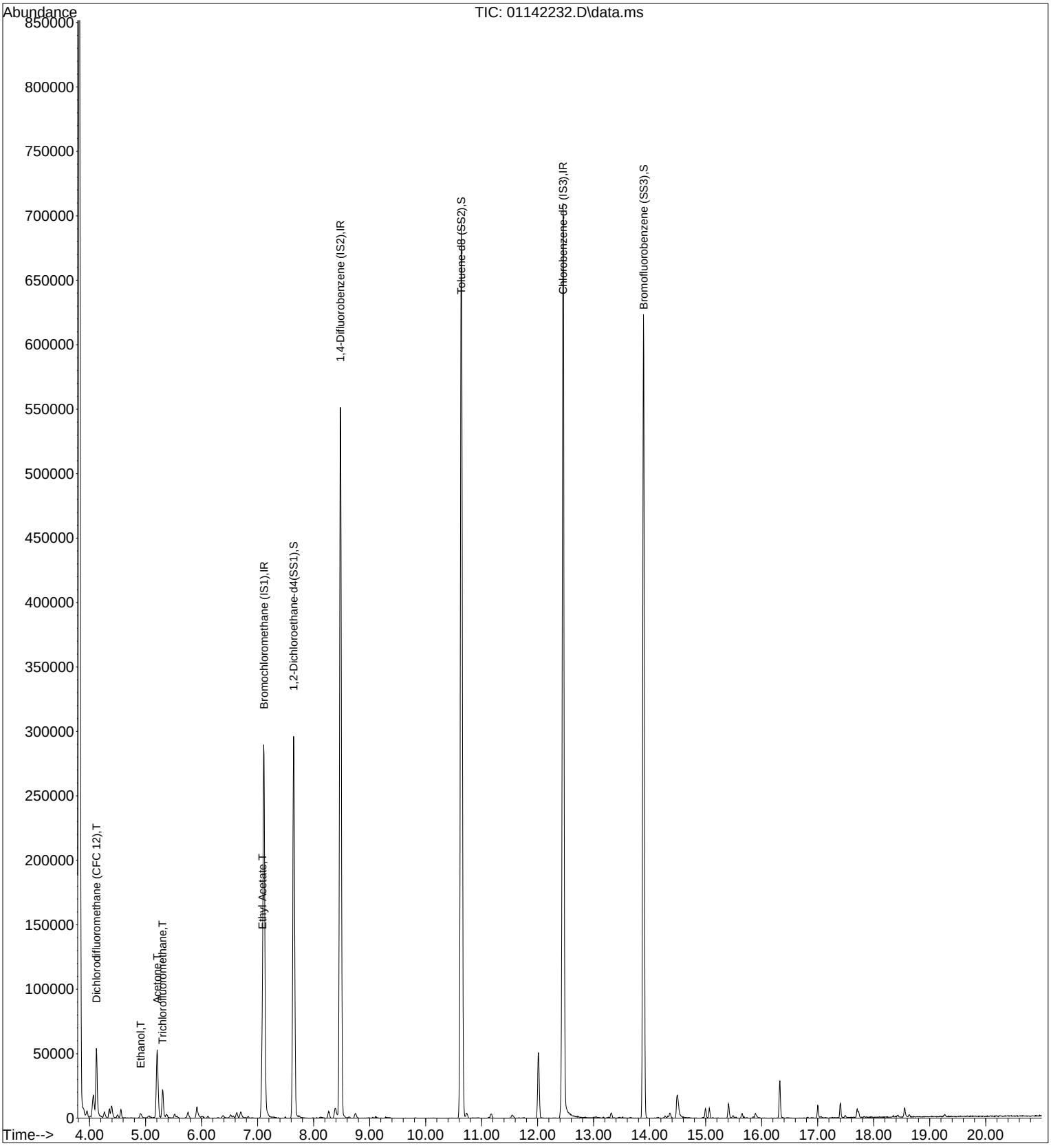
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	10.73	91	3377	N.D.		
59) 2-Hexanone	10.93	43	890	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	11.53	43	480	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	12.85	91	458	N.D.		
67) m- & p-Xylenes	13.01	91	906	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	13.46	91	495	N.D.		
71) n-Nonane	13.64	43	603	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	13.89	105	207	N.D.		
75) alpha-Pinene	14.41	93	194	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	13.89	105	207	No Calib		#
78) 4-Ethyltoluene	14.61	105	123	N.D.		
79) 1,3,5-Trimethylbenzene	14.61	105	123	N.D.		
80) alpha-Methylstyrene	13.89	118	823	No Calib		#
81) 2-Ethyltoluene	14.61	105	123	No Calib		#
82) 1,2,4-Trimethylbenzene	15.13	105	380	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	15.55	119	598	N.D.		
89) 1,2,3-Trimethylbenzene	14.37	105	1601	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	15.68	68	389	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	17.49	128	620	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	13.16	55	113	No Calib		#
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142232.D Vial: 14
Acq On : 14 Jan 2022 21:22 Operator: SC
Sample : P2200062-004 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 07:50:50 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142232.D Vial: 14
Acq On : 14 Jan 2022 21:22 Operator: SC
Sample : P2200062-004 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 07:50:50 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/15/22

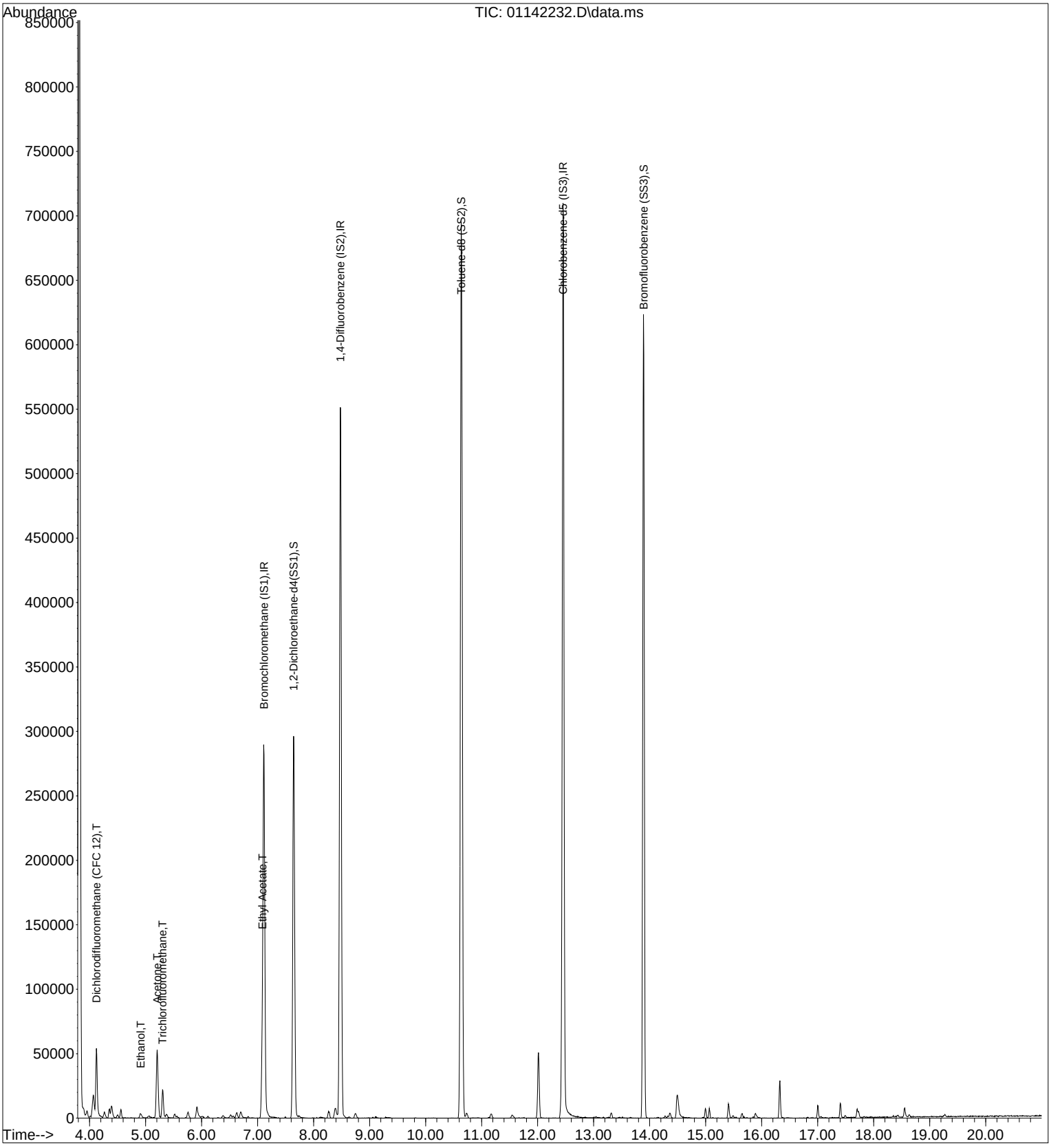
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	103700	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	8.48	114	477717	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	12.45	54	133583	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.64	65	269878	13.644	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.12%			
57) Toluene-d8 (SS2)	10.64	98	563209	10.878	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.04%			
73) Bromofluorobenzene (SS3)	13.89	174	188299	13.765	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.12	85	38712	1.624	ng	98
10) Ethanol	4.91	45	5510	0.614	ng	97
13) Acetone	5.21	58	16630	2.317	ng	93
14) Trichlorofluoromethane	5.30	101	18045	0.789	ng	100
30) Ethyl Acetate	7.09	61	6688	1.871	ng	92

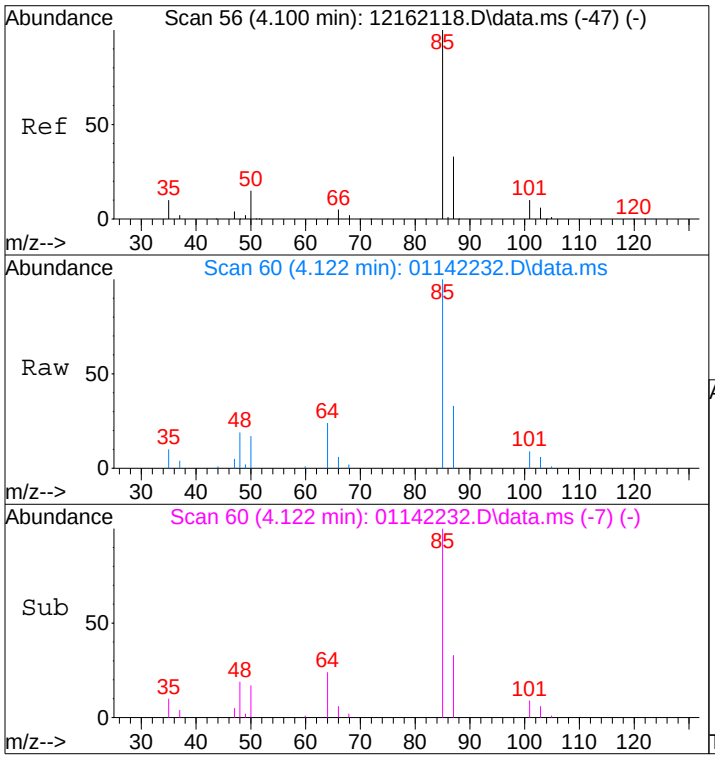
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142232.D Vial: 14
Acq On : 14 Jan 2022 21:22 Operator: SC
Sample : P2200062-004 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 07:50:50 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

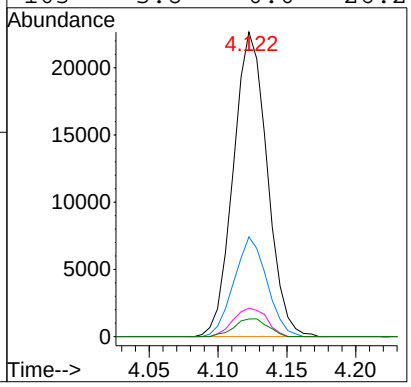


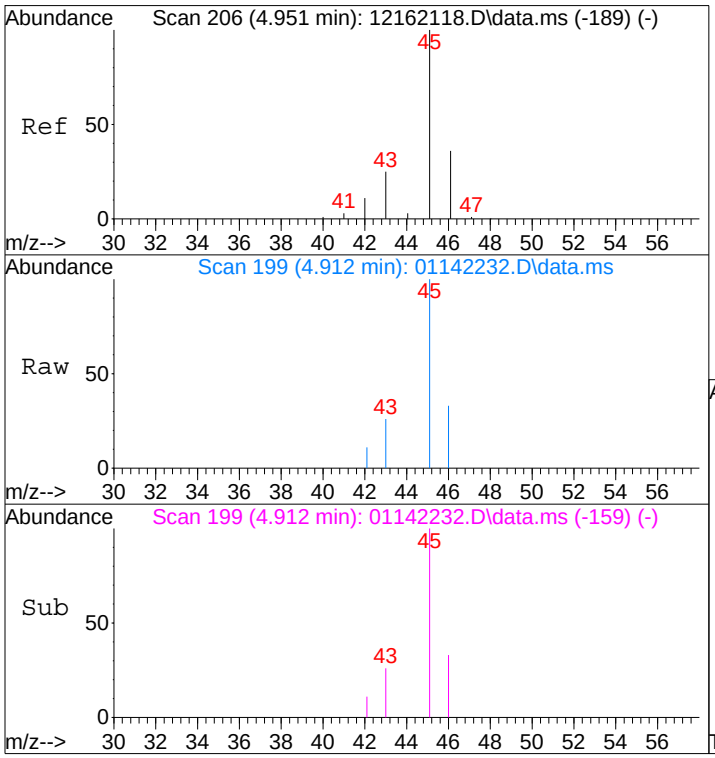


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.62 ng
RT: 4.12 min Scan# 60
Delta R.T. 0.049 min
Lab File: 01142232.D
Acq: 14 Jan 2022 21:22

Tgt Ion: 85 Resp: 38712

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.8	52.8
101	9.3	0.0	29.9
103	5.8	0.0	26.2

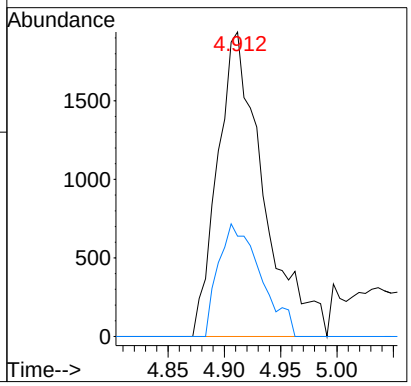


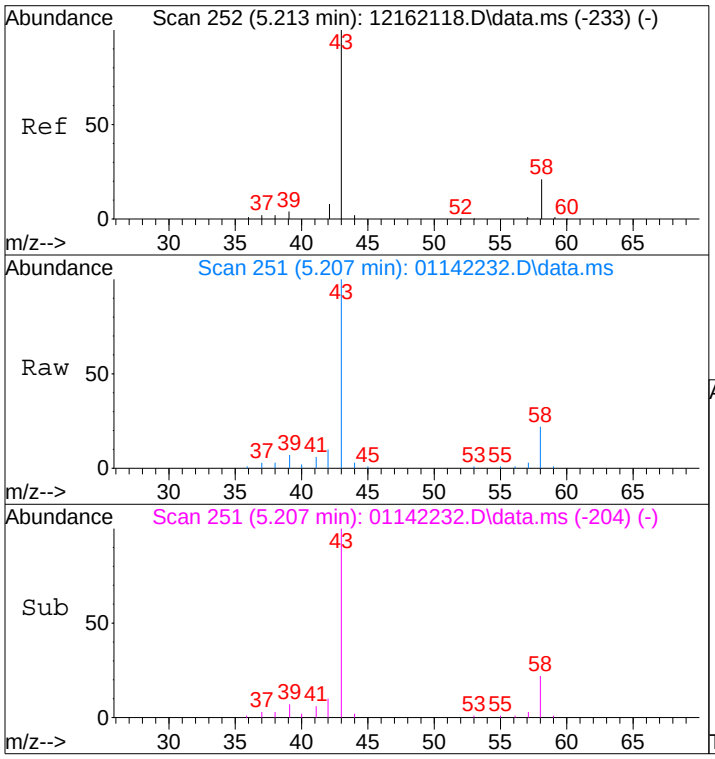


#10
Ethanol
Concen: 0.61 ng
RT: 4.91 min Scan# 199
Delta R.T. -0.026 min
Lab File: 01142232.D
Acq: 14 Jan 2022 21:22

Tgt Ion: 45 Resp: 5510

Ion	Ratio	Lower	Upper
45	100		
46	34.0	15.7	55.7

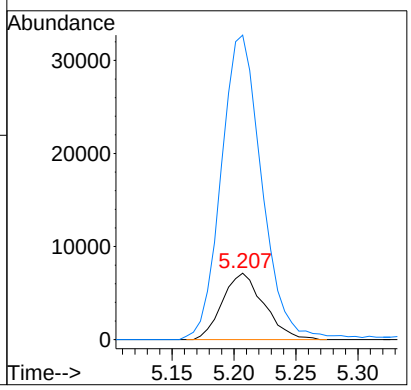


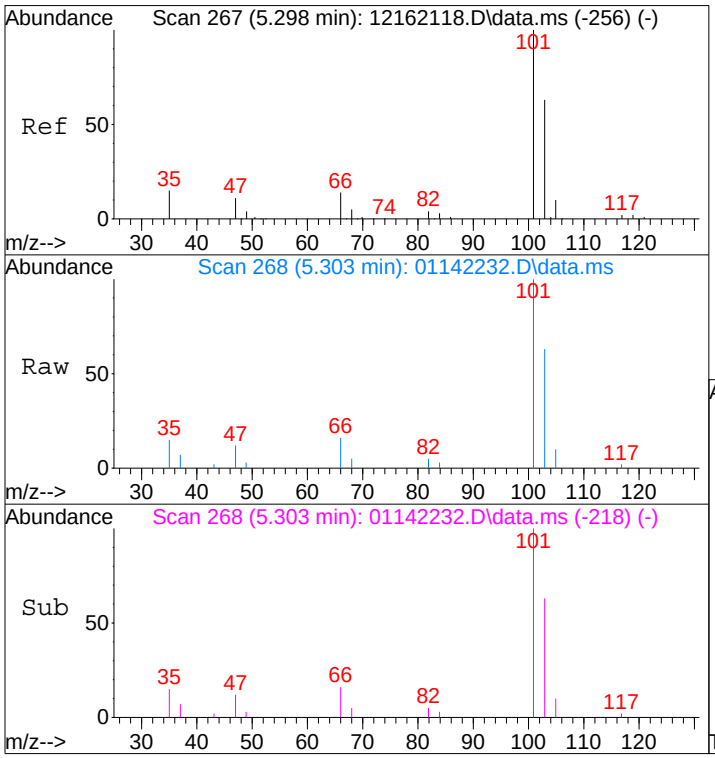


#13
Acetone
Concen: 2.32 ng
RT: 5.21 min Scan# 251
Delta R.T. 0.016 min
Lab File: 01142232.D
Acq: 14 Jan 2022 21:22

Tgt Ion: 58 Resp: 16630

Ion	Ratio	Lower	Upper
58	100		
43	452.1	440.4	500.4

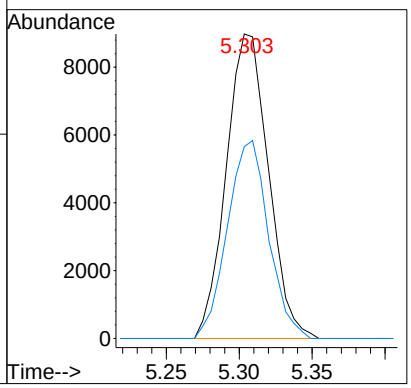


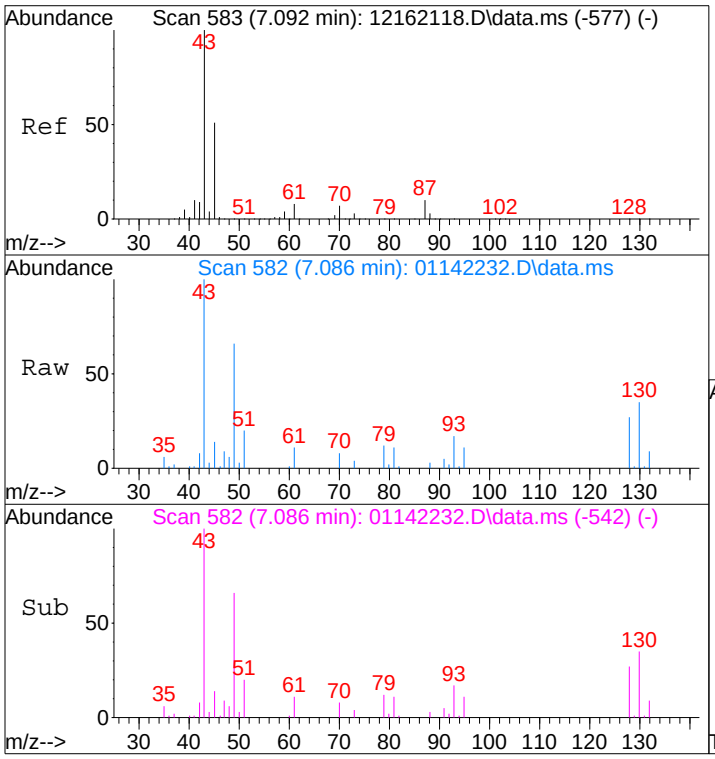


#14
Trichlorofluoromethane
Concen: 0.79 ng
RT: 5.30 min Scan# 268
Delta R.T. 0.033 min
Lab File: 01142232.D
Acq: 14 Jan 2022 21:22

Tgt Ion:101 Resp: 18045

Ion	Ratio	Lower	Upper
101	100		
103	63.4	43.6	83.6

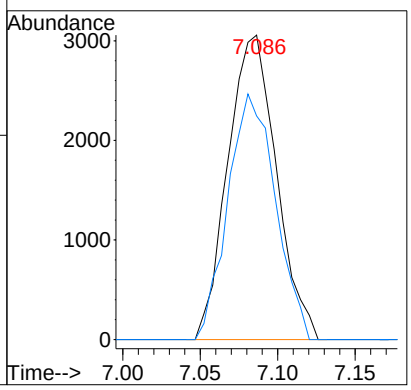




#30
Ethyl Acetate
Concen: 1.87 ng
RT: 7.09 min Scan# 582
Delta R.T. 0.028 min
Lab File: 01142232.D
Acq: 14 Jan 2022 21:22

Tgt Ion: 61 Resp: 6688

Ion	Ratio	Lower	Upper
61	100		
70	78.9	66.2	106.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142233.D Vial: 15
Acq On : 14 Jan 2022 21:53 Operator: SC
Sample : P2200062-005 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 07:51:03 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 1/15/22
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	100522	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	8.48	114	461859	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	12.45	54	127969	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.64	65	263046	13.719	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.76%				
57) Toluene-d8 (SS2)	10.64	98	546226	11.013	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
73) Bromofluorobenzene (SS3)	13.89	174	184750	14.098	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.80%				
Target Compounds							Qvalue
2) Propene	4.07	42	2174	N.D.			
3) Dichlorodifluoromethan...	4.12	85	38273	1.656	ng		99
4) Chloromethane	4.28	50	4428	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	644	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.92	45	10705	1.231	ng		74
11) Acetonitrile	5.06	41	2239	N.D.			
12) Acrolein	5.13	56	358	N.D.			
13) Acetone	5.21	58	15334	2.204	ng	#	88
14) Trichlorofluoromethane	5.30	101	17632	0.795	ng		100
15) 2-Propanol (Isopropanol)	5.36	45	3428	N.D.			
16) Acrylonitrile	5.59	53	317	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.75	84	2386	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.92	151	2809	N.D.			
22) Carbon Disulfide	6.02	76	530	N.D.			
23) trans-1,2-Dichloroethene	6.38	61	109	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.52	86	179	N.D.			
27) 2-Butanone (MEK)	6.70	72	1589	N.D.			
28) cis-1,2-Dichloroethene	7.09	61	1362	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.09	61	1362	N.D.			
31) n-Hexane	7.13	57	773	N.D.			
32) Chloroform	7.19	83	813	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	7.73	62	695	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	8.48	61	16122	No Calib		#	
40) 1-Butanol	8.14	56	1927	No Calib		#	
41) Benzene	8.27	78	5625	N.D.			
42) Carbon Tetrachloride	8.39	117	5020	N.D.			
43) Cyclohexane	8.48	84	614	N.D.			
44) tert-Amyl Methyl Ether	8.48	73	7620	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	9.11	57	771	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142233.D Vial: 15
Acq On : 14 Jan 2022 21:53 Operator: SC
Sample : P2200062-005 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 07:51:03 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

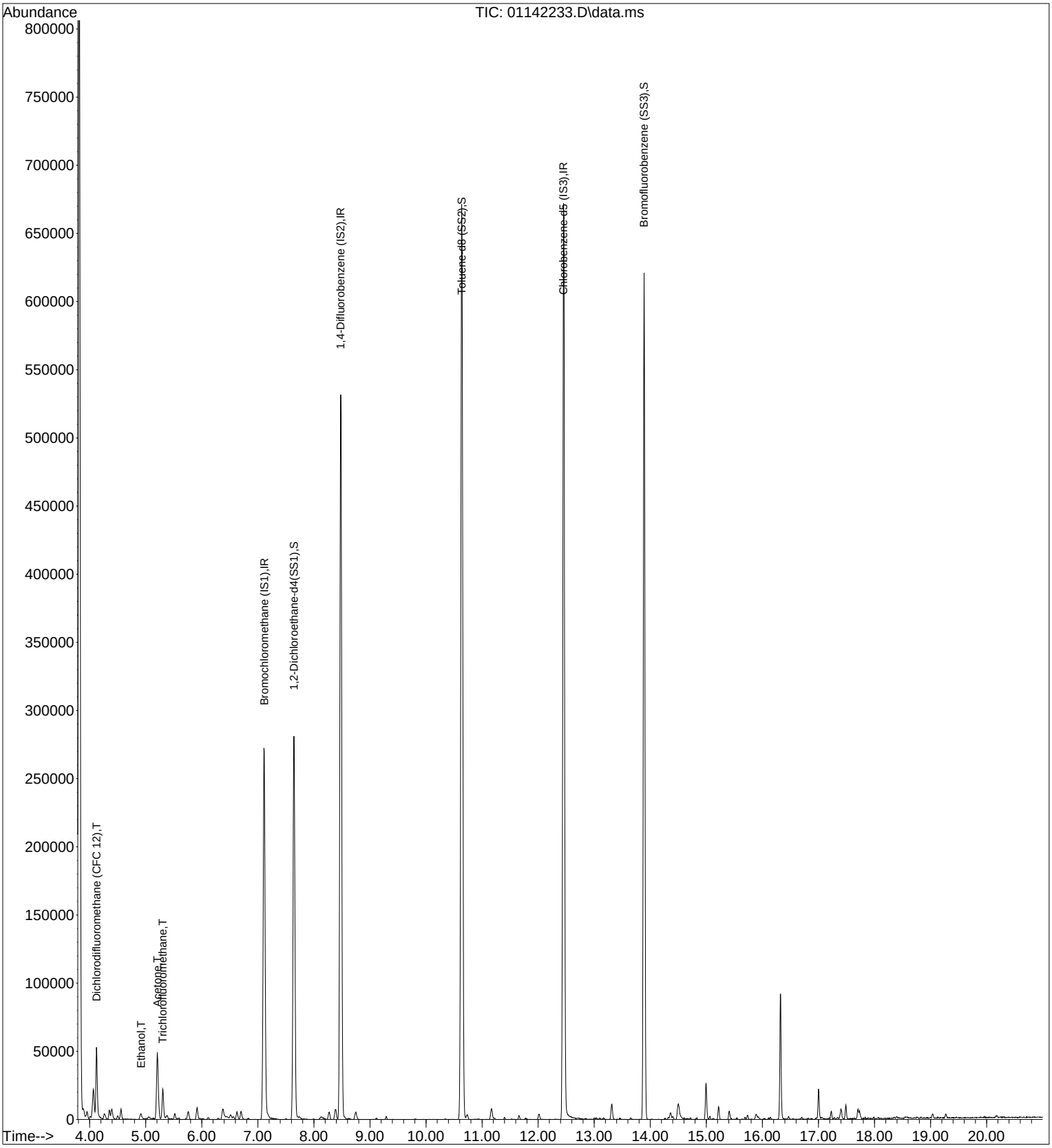
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	9.28	71	238	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	10.74	91	3012	N.D.	
59) 2-Hexanone	10.94	43	985	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	11.52	43	577	N.D.	
63) n-Octane	11.66	57	454	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	12.85	91	702	N.D.	
67) m- & p-Xylenes	13.00	91	1552	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	13.35	104	111	N.D.	
70) o-Xylene	13.47	91	569	N.D.	
71) n-Nonane	13.65	43	820	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	13.89	105	307	N.D.	
75) alpha-Pinene	14.41	93	1104	N.D.	
76) n-Propylbenzene	14.51	91	320	N.D.	
77) 3-Ethyltoluene	13.89	105	307	No Calib	#
78) 4-Ethyltoluene	14.64	105	180	N.D.	
79) 1,3,5-Trimethylbenzene	14.72	105	443	N.D.	
80) alpha-Methylstyrene	13.89	118	885	No Calib	#
81) 2-Ethyltoluene	14.64	105	180	No Calib	#
82) 1,2,4-Trimethylbenzene	15.13	105	815	N.D.	
83) n-Decane	14.27	58	176	No Calib	#
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	15.54	119	870	N.D.	
89) 1,2,3-Trimethylbenzene	14.36	105	2072	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	15.68	68	617	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	14.99	58	184	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	17.50	128	535	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	13.17	55	399	No Calib	#
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	15.95	91	465	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142233.D Vial: 15
Acq On : 14 Jan 2022 21:53 Operator: SC
Sample : P2200062-005 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 07:51:03 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142233.D Vial: 15
Acq On : 14 Jan 2022 21:53 Operator: SC
Sample : P2200062-005 (1000mL) Inst : MS09
Misc : S34-12272101

1/15/22

Quant Time: Jan 15 07:51:03 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

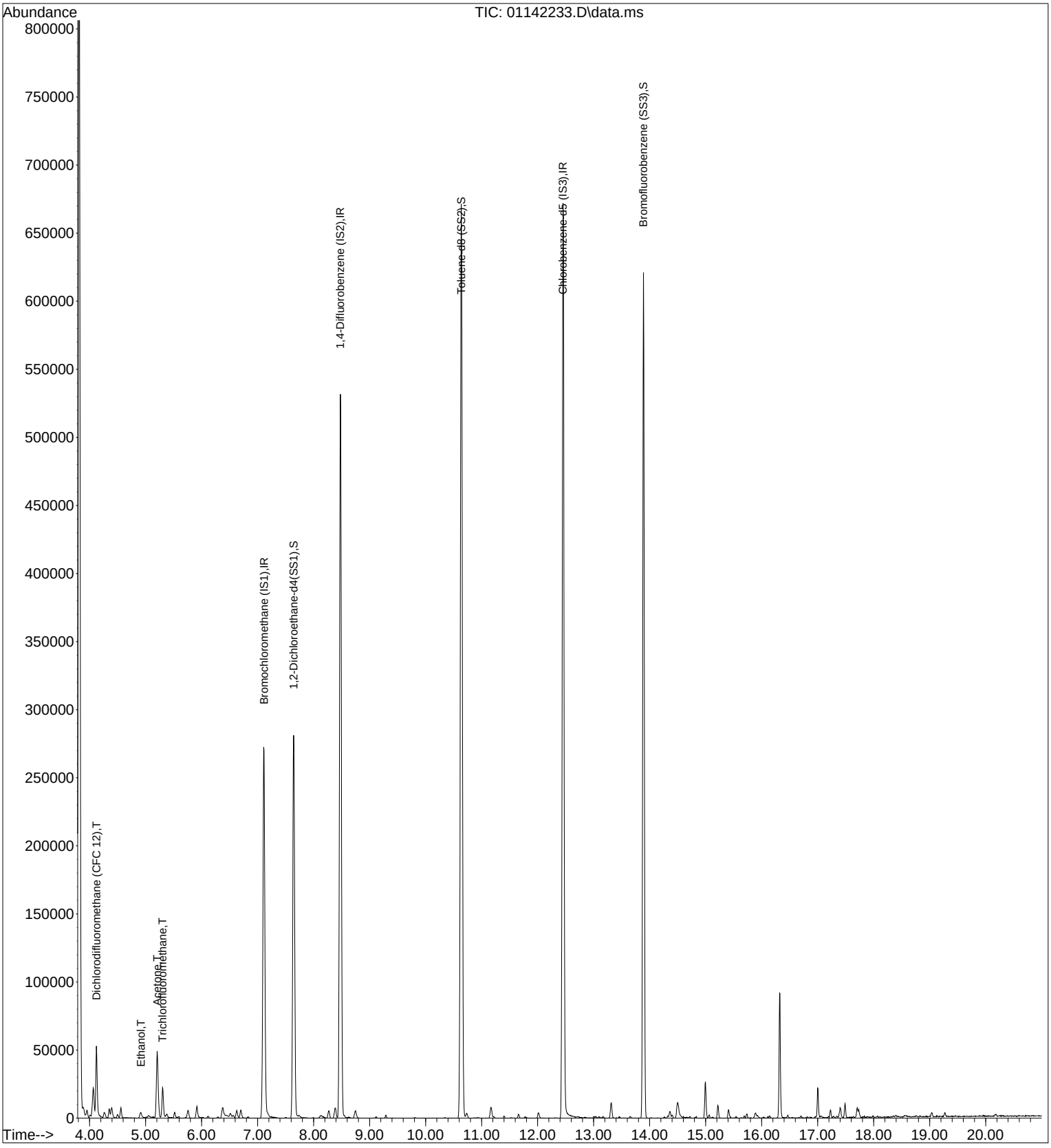
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	100522	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	8.48	114	461859	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	12.45	54	127969	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.64	65	263046	13.719	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.76%				
57) Toluene-d8 (SS2)	10.64	98	546226	11.013	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
73) Bromofluorobenzene (SS3)	13.89	174	184750	14.098	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.80%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.12	85	38273	1.656	ng		99
10) Ethanol	4.92	45	10705	1.231	ng		74
13) Acetone	5.21	58	15334	2.204	ng	#	88
14) Trichlorofluoromethane	5.30	101	17632	0.795	ng		100

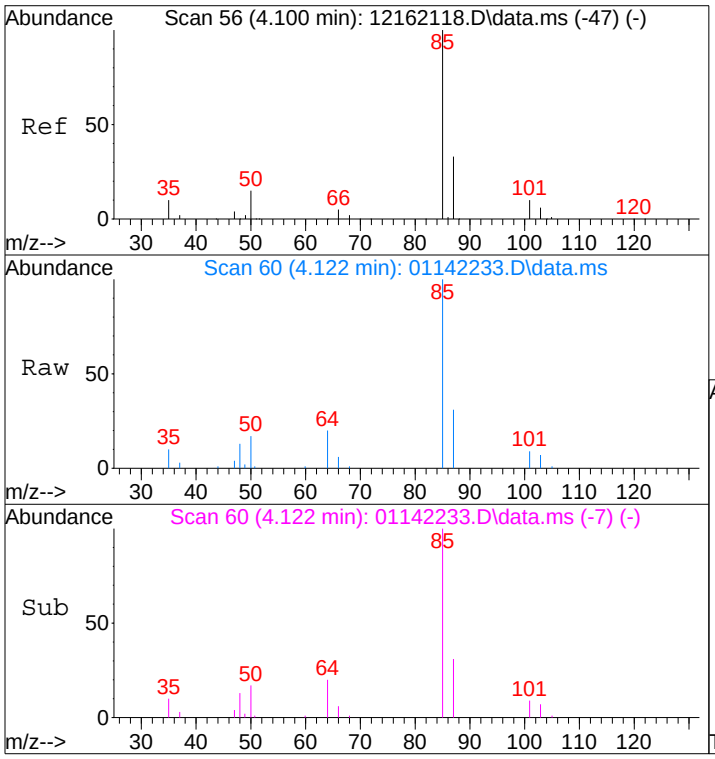
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142233.D Vial: 15
Acq On : 14 Jan 2022 21:53 Operator: SC
Sample : P2200062-005 (1000mL) Inst : MS09
Misc : S34-12272101

Quant Time: Jan 15 07:51:03 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

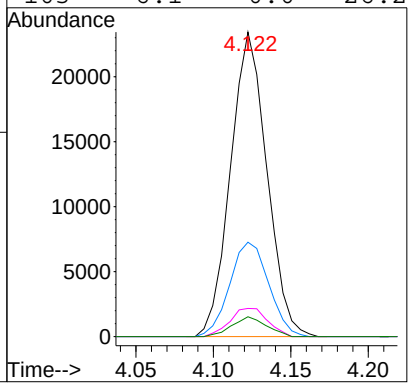


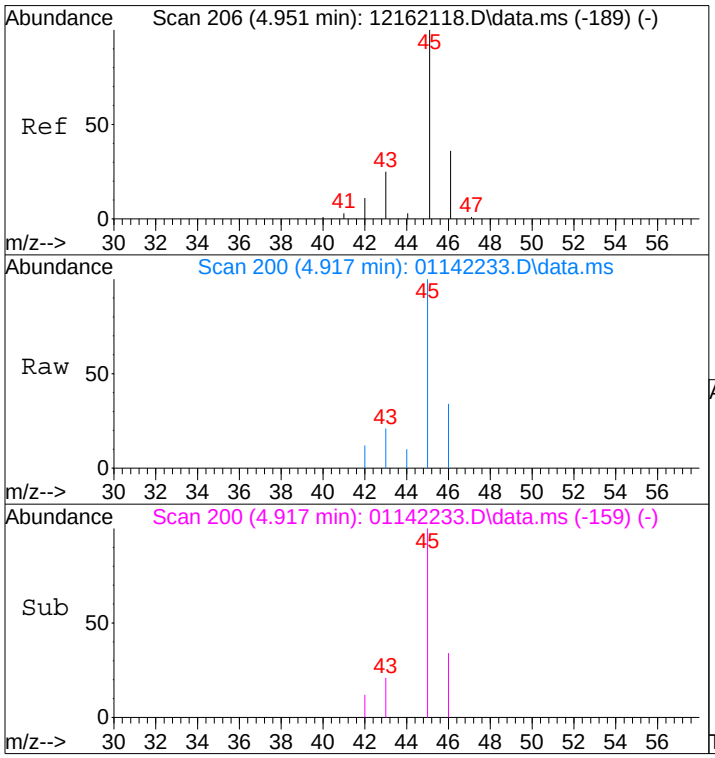


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.66 ng
RT: 4.12 min Scan# 60
Delta R.T. 0.048 min
Lab File: 01142233.D
Acq: 14 Jan 2022 21:53

Tgt Ion: 85 Resp: 38273

Ion	Ratio	Lower	Upper
85	100		
87	33.2	12.8	52.8
101	9.7	0.0	29.9
103	6.1	0.0	26.2

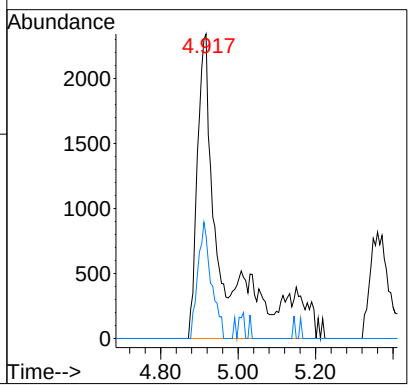


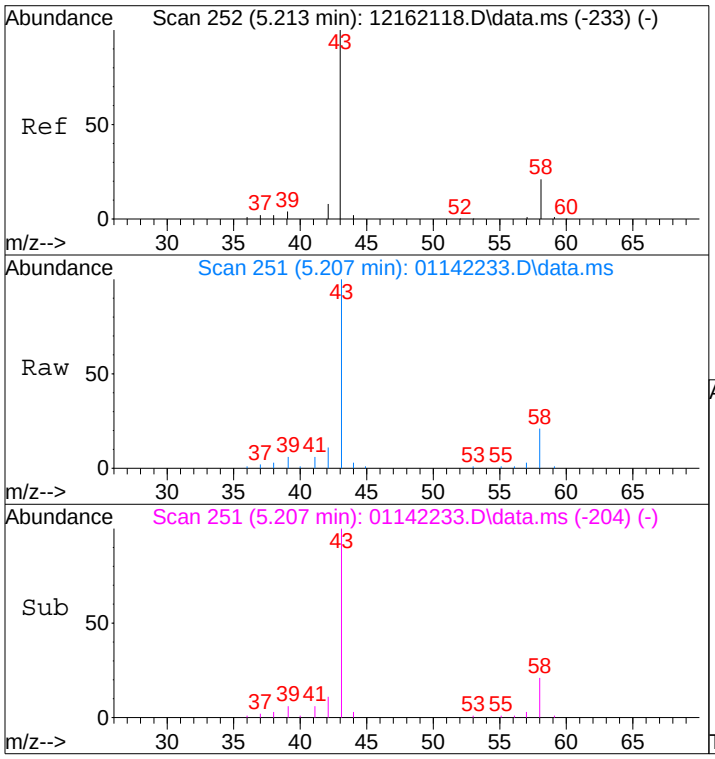


#10
Ethanol
Concen: 1.23 ng
RT: 4.92 min Scan# 200
Delta R.T. -0.020 min
Lab File: 01142233.D
Acq: 14 Jan 2022 21:53

Tgt Ion: 45 Resp: 10705

Ion	Ratio	Lower	Upper
45	100		
46	20.2	15.7	55.7

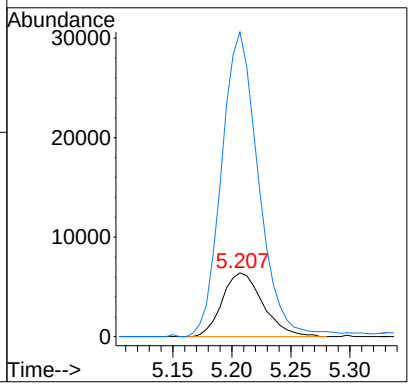


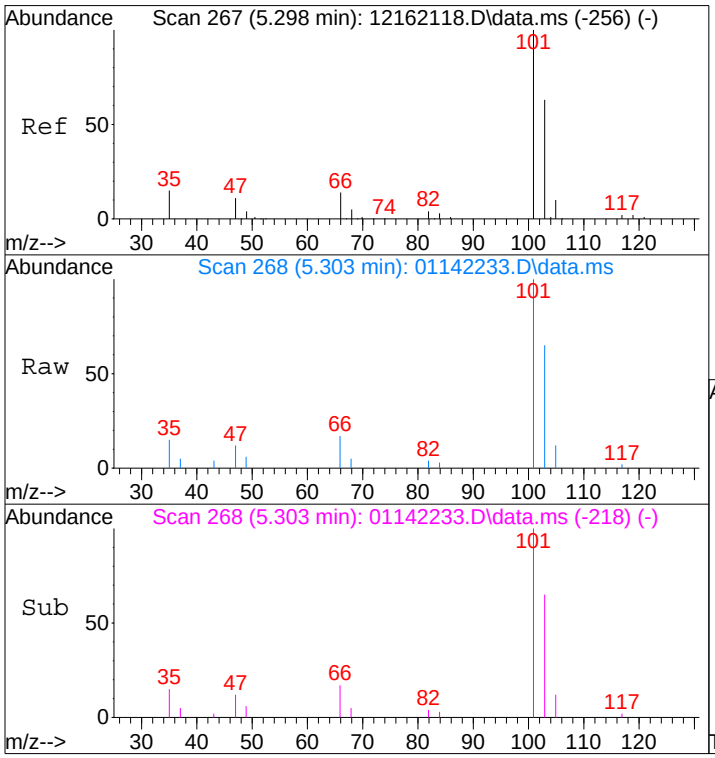


#13
Acetone
Concen: 2.20 ng
RT: 5.21 min Scan# 251
Delta R.T. 0.016 min
Lab File: 01142233.D
Acq: 14 Jan 2022 21:53

Tgt Ion: 58 Resp: 15334

Ion	Ratio	Lower	Upper
58	100		
43	439.5	440.4	500.4#

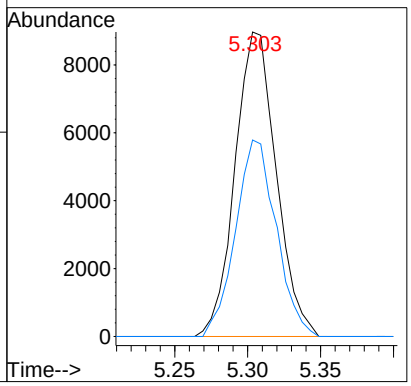




#14
Trichlorofluoromethane
Concen: 0.80 ng
RT: 5.30 min Scan# 268
Delta R.T. 0.033 min
Lab File: 01142233.D
Acq: 14 Jan 2022 21:53

Tgt Ion:101 Resp: 17632

Ion	Ratio	Lower	Upper
101	100		
103	63.7	43.6	83.6



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142205.D Vial: 2
Acq On : 14 Jan 2022 3:27 Operator: SC
Sample : MB R9011422 1000mL Inst : MS09
Misc : S34-12272101

Quant Time: Jan 14 08:22:05 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/14/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	100065	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	8.48	114	460092	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	12.45	54	128154	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.64	65	271893	14.245	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.00%				
57) Toluene-d8 (SS2)	10.64	98	539819	10.868	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.96%				
73) Bromofluorobenzene (SS3)	13.89	174	173010	13.184	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.93	45	853	0.099	ng	#	49
11) Acetonitrile	5.09	41	55	N.D.			
12) Acrolein	5.14	56	115	N.D.			
13) Acetone	5.22	58	2455	0.355	ng	#	62
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	5.38	45	52	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	6.02	76	510	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.63	72	248	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	8.47	61	17208	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.26	78	1507	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	8.46	84	221	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142205.D Vial: 2
Acq On : 14 Jan 2022 3:27 Operator: SC
Sample : MB R9011422 1000mL Inst : MS09
Misc : S34-12272101

Quant Time: Jan 14 08:22:05 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

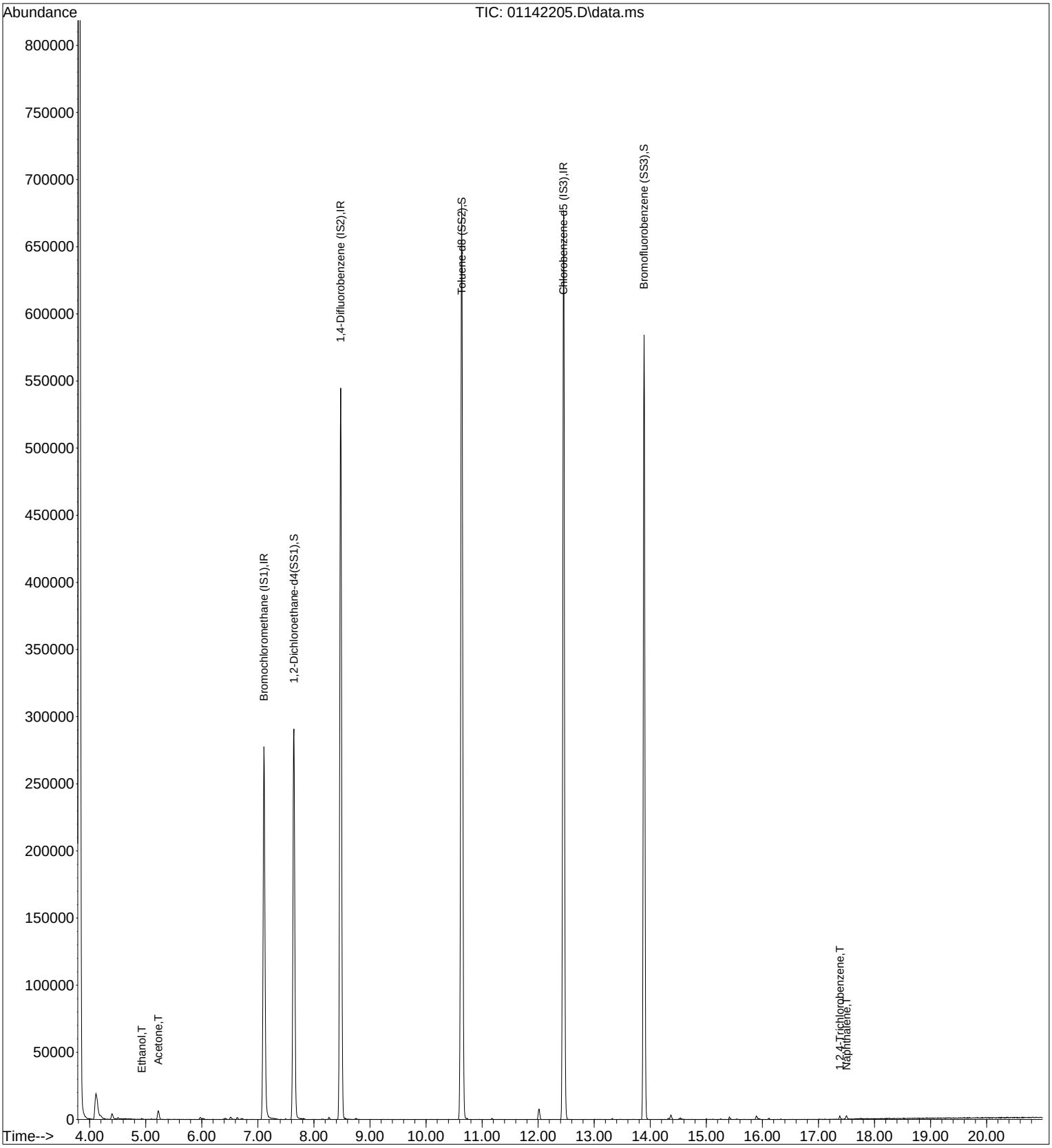
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	0.00	91	0	N.D.	
59) 2-Hexanone	10.96	43	130	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	12.50	112	358	N.D.	
66) Ethylbenzene	13.01	91	185	N.D.	
67) m- & p-Xylenes	13.01	91	185	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	0.00	91	0	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	13.89	105	268	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	14.51	91	198	N.D.	
77) 3-Ethyltoluene	13.89	105	268	No Calib	#
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	13.89	118	816	No Calib	#
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	15.25	91	790	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	15.39	105	118	N.D.	
88) 4-Isopropyltoluene (p-...	15.54	119	118	N.D.	
89) 1,2,3-Trimethylbenzene	14.37	105	1449	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	16.11	157	264	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	17.38	180	1056	0.051 ng	# 90
95) Naphthalene	17.50	128	2988	0.058 ng	84
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	15.13	119	121	N.D.	
100) n-Butylbenzene	15.96	91	136	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142205.D Vial: 2
Acq On : 14 Jan 2022 3:27 Operator: SC
Sample : MB R9011422 1000mL Inst : MS09
Misc : S34-12272101

Quant Time: Jan 14 08:22:05 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142207.D Vial: 2
Acq On : 14 Jan 2022 4:29 Operator: SC
Sample : LCS R9011422 25ng Inst : MS09
Misc : S34-12272101/S35-12272104 (1/26)

Quant Time: Jan 14 08:24:51 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/14/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.15	130	101134	12.500	ng		0.04
37) 1,4-Difluorobenzene (IS2)	8.50	114	454721	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	12.46	54	130760	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.68	65	267337	13.859	ng		0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.88%				
57) Toluene-d8 (SS2)	10.65	98	531324	10.484	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.84%				
73) Bromofluorobenzene (SS3)	13.89	174	176730	13.199	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%				
Target Compounds							Qvalue
2) Propene	4.03	42	357206	29.026	ng		99
3) Dichlorodifluoromethan...	4.10	85	635002	27.310	ng		100
4) Chloromethane	4.24	50	383149	29.246	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	249674	26.392	ng		99
6) Vinyl Chloride	4.41	62	358549	29.500	ng		100
7) 1,3-Butadiene	4.51	54	249164	26.365	ng	#	60
8) Bromomethane	4.70	94	166069	24.622	ng		99
9) Chloroethane	4.82	64	172347	28.649	ng		98
10) Ethanol	4.97	45	991357	113.280	ng		99
11) Acetonitrile	5.09	41	551196	25.697	ng		100
12) Acrolein	5.14	56	306028	56.361	ng		100
13) Acetone	5.22	58	905808	129.424	ng		99
14) Trichlorofluoromethane	5.30	101	581946	26.094	ng		100
15) 2-Propanol (Isopropanol)	5.40	45	1782280	59.525	ng		100
16) Acrylonitrile	5.51	53	668517	55.765	ng		100
17) 1,1-Dichloroethene	5.70	96	238618	27.395	ng		93
18) 2-Methyl-2-Propanol (t...	5.76	59	1498092	57.641	ng		99
19) Methylene Chloride	5.79	84	243643	26.466	ng		92
20) 3-Chloro-1-propene (Al...	5.84	41	527551	26.489	ng		96
21) Trichlorotrifluoroethane	5.92	151	226687	25.992	ng		95
22) Carbon Disulfide	6.00	76	1740051	53.889	ng		100
23) trans-1,2-Dichloroethene	6.36	61	422937	29.101	ng		96
24) 1,1-Dichloroethane	6.50	63	516715	28.528	ng		99
25) Methyl tert-Butyl Ether	6.49	73	405890	15.354	ng		96
26) Vinyl Acetate	6.53	86	258206	131.035	ng	#	90
27) 2-Butanone (MEK)	6.71	72	344752	54.328	ng	#	89
28) cis-1,2-Dichloroethene	7.03	61	414200	28.169	ng		95
29) Diisopropyl Ether	7.10	87	427799	52.239	ng	#	79
30) Ethyl Acetate	7.10	61	260383	74.686	ng		98
31) n-Hexane	7.13	57	441955	27.386	ng		99
32) Chloroform	7.23	83	528169	27.780	ng		99
34) Tetrahydrofuran (THF)	7.48	72	328075	53.534	ng	#	91
35) Ethyl tert-Butyl Ether	7.47	87	671156	63.579	ng		92
36) 1,2-Dichloroethane	7.75	62	536844	28.554	ng		100
38) 1,1,1-Trichloroethane	7.95	97	518431	26.555	ng		98
39) Isopropyl Acetate	8.29	61	11072	No Calib		#	
40) 1-Butanol	8.11	56	7204	No Calib			
41) Benzene	8.29	78	1014203	24.934	ng		99
42) Carbon Tetrachloride	8.41	117	429787	25.407	ng		100
43) Cyclohexane	8.51	84	759394	49.479	ng		94
44) tert-Amyl Methyl Ether	8.69	73	1581198	69.421	ng		97
45) 1,2-Dichloropropane	8.92	63	258201	27.438	ng		100
46) Bromodichloromethane	9.06	83	456985	27.954	ng		99
47) Trichloroethene	9.10	130	264549	25.719	ng		99
48) 1,4-Dioxane	9.06	88	208250	26.845	ng		95
49) 2,2,4-Trimethylpentane...	9.12	57	1127164	27.744	ng		100
50) Methyl Methacrylate	9.18	100	217365	54.813	ng		90

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142207.D Vial: 2
Acq On : 14 Jan 2022 4:29 Operator: SC
Sample : LCS R9011422 25ng Inst : MS09
Misc : S34-12272101/S35-12272104 (1/26)

Quant Time: Jan 14 08:24:51 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

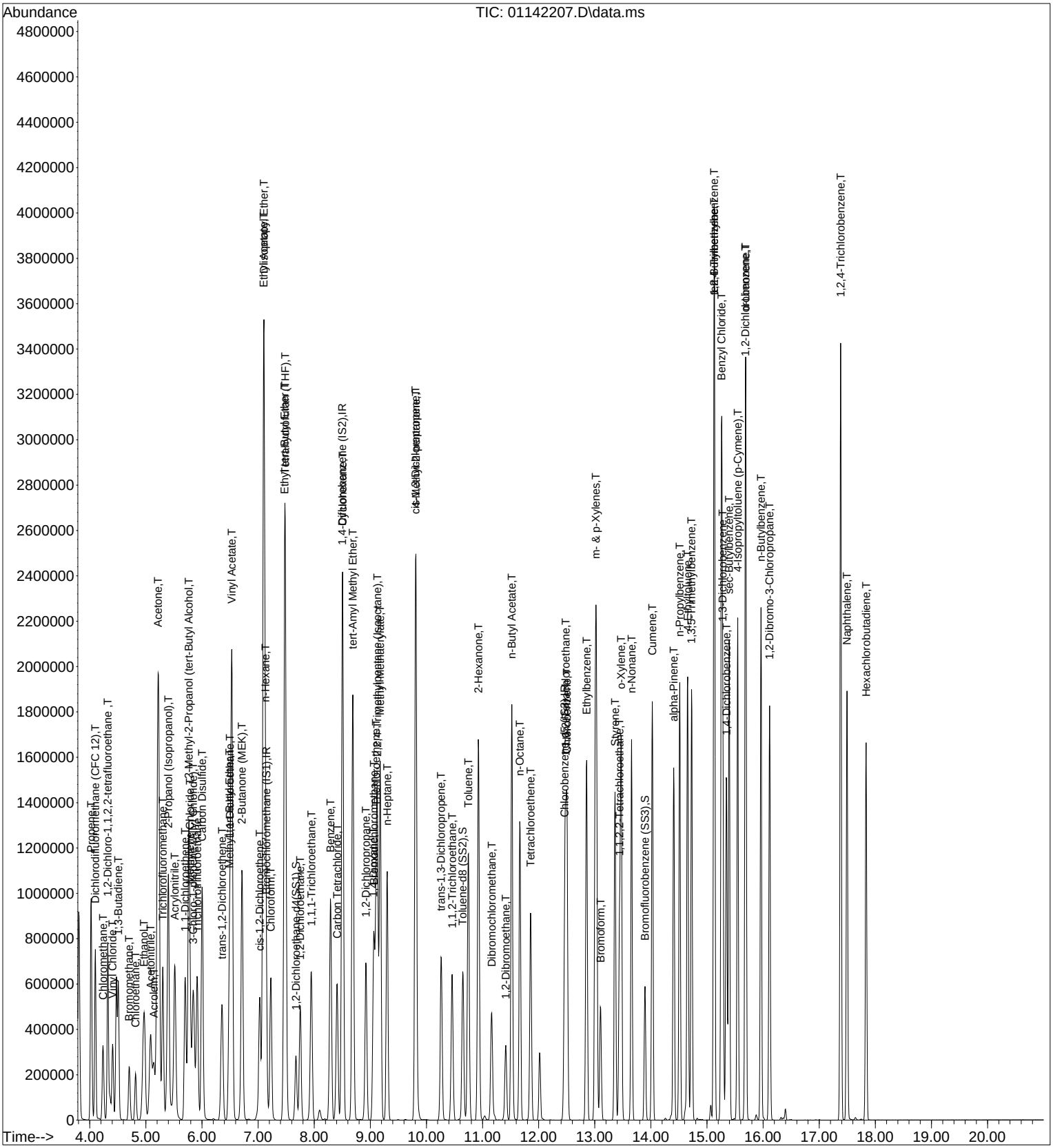
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	9.30	71	260849	26.800 ng		96
52) cis-1,3-Dichloropropene	9.81	75	468467	28.338 ng		99
53) 4-Methyl-2-pentanone	9.81	58	509243	56.707 ng		95
54) trans-1,3-Dichloropropene	10.26	75	479522	28.471 ng		100
55) 1,1,2-Trichloroethane	10.46	97	241826	27.463 ng		97
58) Toluene	10.75	91	1063731	20.997 ng		99
59) 2-Hexanone	10.92	43	1568371	48.093 ng		98
60) Dibromochloromethane	11.16	129	315614	21.526 ng		99
61) 1,2-Dibromoethane	11.41	107	278344	21.939 ng		100
62) n-Butyl Acetate	11.52	43	1722650	48.989 ng		98
63) n-Octane	11.66	57	239067	23.615 ng		94
64) Tetrachloroethene	11.86	166	306365	20.400 ng		99
65) Chlorobenzene	12.50	112	695302	21.698 ng		100
66) Ethylbenzene	12.86	91	1301654	21.840 ng		98
67) m- & p-Xylenes	13.02	91	2091582	43.751 ng		98
68) Bromoform	13.11	173	276230	21.824 ng		99
69) Styrene	13.36	104	728743	22.611 ng		98
70) o-Xylene	13.47	91	1071694	22.209 ng		98
71) n-Nonane	13.66	43	692871	24.527 ng		96
72) 1,1,2,2-Tetrachloroethane	13.44	83	436040	22.759 ng		99
74) Cumene	14.03	105	1289340	21.057 ng		99
75) alpha-Pinene	14.41	93	598151	32.905 ng		96
76) n-Propylbenzene	14.51	91	1592479	21.910 ng		98
77) 3-Ethyltoluene	14.03	105	1289340	No Calib		
78) 4-Ethyltoluene	14.66	105	1300870	21.616 ng		99
79) 1,3,5-Trimethylbenzene	14.72	105	1117488	22.191 ng		98
80) alpha-Methylstyrene	13.89	118	720	No Calib	#	
81) 2-Ethyltoluene	14.66	105	1300870	No Calib		
82) 1,2,4-Trimethylbenzene	15.13	105	1174741	22.368 ng		98
83) n-Decane	14.42	58	3618	No Calib	#	
84) Benzyl Chloride	15.26	91	2158800	51.833 ng		98
85) 1,3-Dichlorobenzene	15.28	146	610623	21.657 ng		100
86) 1,4-Dichlorobenzene	15.35	146	607675	22.004 ng		100
87) sec-Butylbenzene	15.39	105	1425460	21.280 ng		98
88) 4-Isopropyltoluene (p-...	15.55	119	1259504	20.217 ng		99
89) 1,2,3-Trimethylbenzene	14.41	105	70757	No Calib		
90) 1,2-Dichlorobenzene	15.68	146	579382	21.344 ng		100
91) d-Limonene	15.69	68	452037	25.590 ng		96
92) 1,2-Dibromo-3-Chloropr...	16.11	157	443988	40.812 ng		85
93) n-Undecane	15.14	58	58693	No Calib		
94) 1,2,4-Trichlorobenzene	17.38	180	1025476	48.386 ng		100
95) Naphthalene	17.49	128	1448044	27.334 ng		100
96) n-Dodecane	15.68	58	3212	No Calib	#	
97) Hexachlorobutadiene	17.84	225	317722	20.008 ng		99
98) Cyclohexanone	13.01	55	1646	No Calib		
99) tert-Butylbenzene	15.13	119	1083386	21.335 ng		99
100) n-Butylbenzene	15.96	91	1247228	22.652 ng		99
101) 1,1,1,2-Tetrachloroethane	12.48	131	270504	20.844 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142207.D Vial: 2
Acq On : 14 Jan 2022 4:29 Operator: SC
Sample : LCS R9011422 25ng Inst : MS09
Misc : S34-12272101/S35-12272104 (1/26)

Quant Time: Jan 14 08:24:51 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142208.D Vial: 2
Acq On : 14 Jan 2022 4:59 Operator: SC
Sample : LCSD R9011422 25ng Inst : MS09
Misc : S34-12272101/S35-12272104 (1/26)

Quant Time: Jan 14 08:29:07 2022 1/14/22
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.15	130	104497	12.500	ng		0.04
37) 1,4-Difluorobenzene (IS2)	8.51	114	470920	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	12.46	54	134176	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.68	65	273821	13.738	ng		0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.92%				
57) Toluene-d8 (SS2)	10.65	98	547929	10.536	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.32%				
73) Bromofluorobenzene (SS3)	13.89	174	177499	12.919	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
Target Compounds							Qvalue
2) Propene	4.03	42	367753	28.921	ng		99
3) Dichlorodifluoromethan...	4.11	85	643038	26.766	ng		100
4) Chloromethane	4.24	50	390007	28.811	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	258168	26.412	ng		99
6) Vinyl Chloride	4.41	62	367682	29.278	ng		100
7) 1,3-Butadiene	4.51	54	269537	27.603	ng	#	65
8) Bromomethane	4.71	94	179853	25.808	ng		100
9) Chloroethane	4.82	64	177943	28.627	ng		100
10) Ethanol	4.97	45	1061030	117.339	ng		99
11) Acetonitrile	5.08	41	593699	26.787	ng		99
12) Acrolein	5.14	56	326302	58.161	ng		99
13) Acetone	5.22	58	965307	133.487	ng		98
14) Trichlorofluoromethane	5.30	101	594096	25.782	ng		100
15) 2-Propanol (Isopropanol)	5.40	45	1872350	60.520	ng		99
16) Acrylonitrile	5.52	53	710545	57.364	ng		100
17) 1,1-Dichloroethene	5.70	96	249579	27.731	ng		94
18) 2-Methyl-2-Propanol (t...	5.76	59	1530689	56.999	ng		99
19) Methylene Chloride	5.79	84	255027	26.811	ng		92
20) 3-Chloro-1-propene (Al...	5.85	41	557024	27.069	ng		95
21) Trichlorotrifluoroethane	5.92	151	232719	25.824	ng		94
22) Carbon Disulfide	6.01	76	1815232	54.408	ng		100
23) trans-1,2-Dichloroethene	6.36	61	444228	29.582	ng		96
24) 1,1-Dichloroethane	6.50	63	540060	28.858	ng		99
25) Methyl tert-Butyl Ether	6.49	73	395478	14.479	ng		95
26) Vinyl Acetate	6.54	86	269366	132.299	ng	#	88
27) 2-Butanone (MEK)	6.72	72	362496	55.286	ng	#	88
28) cis-1,2-Dichloroethene	7.03	61	438257	28.846	ng		94
29) Diisopropyl Ether	7.10	87	443212	52.380	ng	#	80
30) Ethyl Acetate	7.10	61	268885	74.642	ng		100
31) n-Hexane	7.13	57	467420	28.032	ng		99
32) Chloroform	7.23	83	546928	27.841	ng		99
34) Tetrahydrofuran (THF)	7.49	72	344197	54.357	ng	#	90
35) Ethyl tert-Butyl Ether	7.48	87	696640	63.869	ng		92
36) 1,2-Dichloroethane	7.75	62	549062	28.264	ng		100
38) 1,1,1-Trichloroethane	7.95	97	531946	26.310	ng		98
39) Isopropyl Acetate	8.29	61	10936	No Calib		#	
40) 1-Butanol	8.11	56	7418	No Calib			
41) Benzene	8.30	78	1062146	25.214	ng		100
42) Carbon Tetrachloride	8.41	117	438731	25.043	ng		99
43) Cyclohexane	8.51	84	793731	49.937	ng		94
44) tert-Amyl Methyl Ether	8.69	73	1647047	69.825	ng		97
45) 1,2-Dichloropropane	8.92	63	270243	27.730	ng		99
46) Bromodichloromethane	9.06	83	468948	27.700	ng		100
47) Trichloroethene	9.10	130	272157	25.548	ng		100
48) 1,4-Dioxane	9.06	88	217083	27.021	ng		95
49) 2,2,4-Trimethylpentane...	9.12	57	1178401	28.008	ng		97
50) Methyl Methacrylate	9.18	100	228416	55.619	ng		91

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142208.D Vial: 2
Acq On : 14 Jan 2022 4:59 Operator: SC
Sample : LCSD R9011422 25ng Inst : MS09
Misc : S34-12272101/S35-12272104 (1/26)

Quant Time: Jan 14 08:29:07 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

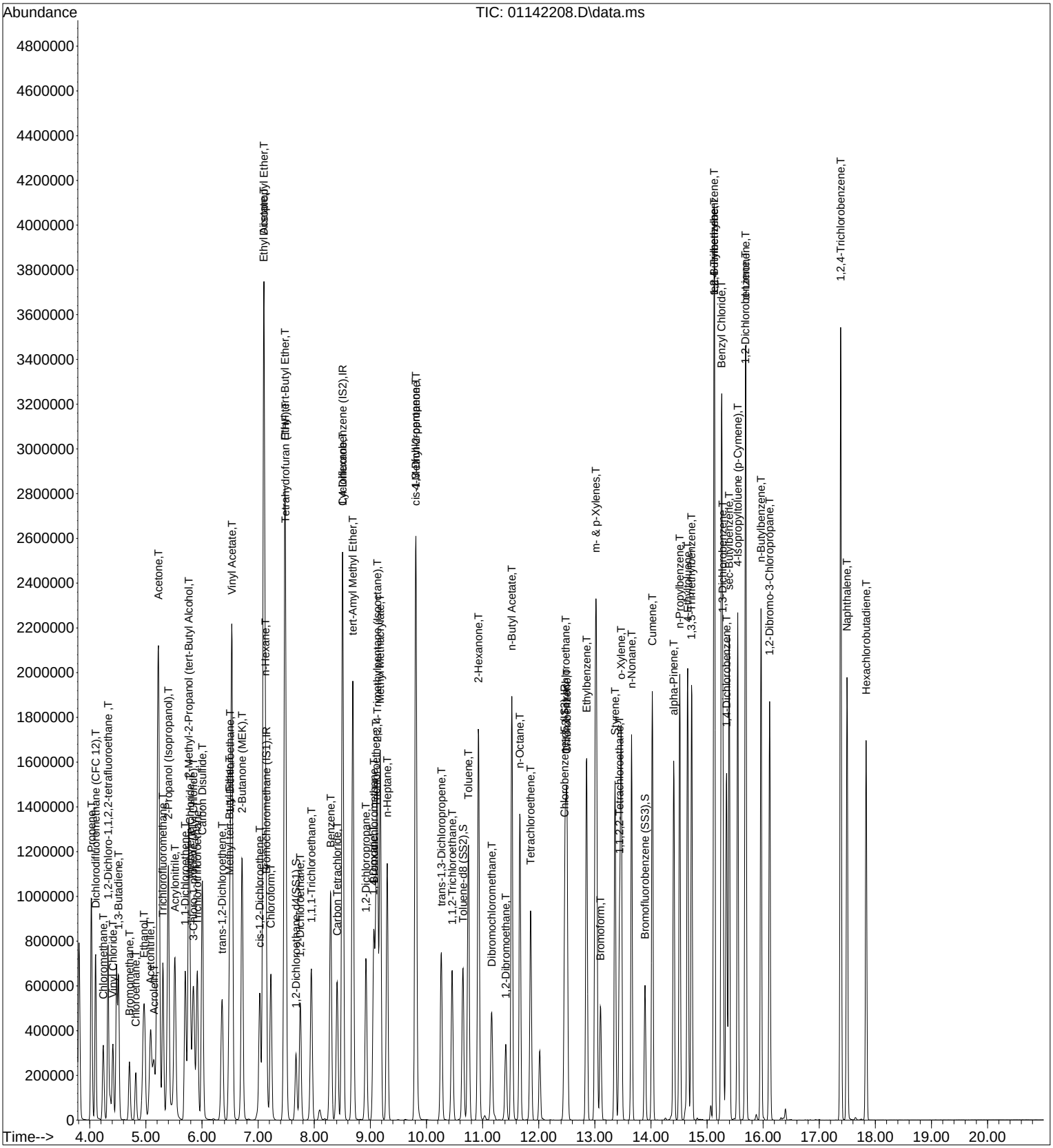
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	9.30	71	274740	27.256 ng		96
52) cis-1,3-Dichloropropene	9.81	75	485977	28.386 ng		100
53) 4-Methyl-2-pentanone	9.81	58	535897	57.622 ng		95
54) trans-1,3-Dichloropropene	10.27	75	499101	28.614 ng		100
55) 1,1,2-Trichloroethane	10.46	97	253443	27.792 ng		98
58) Toluene	10.75	91	1104055	21.238 ng		99
59) 2-Hexanone	10.92	43	1637334	48.930 ng		98
60) Dibromochloromethane	11.16	129	322539	21.438 ng		99
61) 1,2-Dibromoethane	11.41	107	286896	22.037 ng		99
62) n-Butyl Acetate	11.52	43	1809301	50.143 ng		98
63) n-Octane	11.66	57	248663	23.937 ng		94
64) Tetrachloroethene	11.86	166	315711	20.487 ng		99
65) Chlorobenzene	12.50	112	701482	21.333 ng		100
66) Ethylbenzene	12.86	91	1343377	21.966 ng		98
67) m- & p-Xylenes	13.02	91	2155827	43.947 ng		99
68) Bromoform	13.10	173	280891	21.627 ng		100
69) Styrene	13.36	104	751586	22.726 ng		98
70) o-Xylene	13.47	91	1103821	22.293 ng		98
71) n-Nonane	13.66	43	719966	24.837 ng		96
72) 1,1,2,2-Tetrachloroethane	13.44	83	451810	22.982 ng		99
74) Cumene	14.03	105	1333688	21.226 ng		99
75) alpha-Pinene	14.41	93	621184	33.302 ng		98
76) n-Propylbenzene	14.51	91	1641244	22.006 ng		98
77) 3-Ethyltoluene	14.03	105	1333688	No Calib		
78) 4-Ethyltoluene	14.66	105	1340350	21.705 ng		99
79) 1,3,5-Trimethylbenzene	14.72	105	1154149	22.336 ng		98
80) alpha-Methylstyrene	13.89	118	941	No Calib	#	
81) 2-Ethyltoluene	14.66	105	1340350	No Calib		
82) 1,2,4-Trimethylbenzene	15.13	105	1208133	22.418 ng		98
83) n-Decane	14.41	58	3213	No Calib	#	
84) Benzyl Chloride	15.26	91	2230625	52.194 ng		98
85) 1,3-Dichlorobenzene	15.28	146	627961	21.705 ng		100
86) 1,4-Dichlorobenzene	15.35	146	620306	21.890 ng		100
87) sec-Butylbenzene	15.39	105	1464195	21.302 ng		98
88) 4-Isopropyltoluene (p-...	15.55	119	1281676	20.049 ng		99
89) 1,2,3-Trimethylbenzene	14.41	105	73039	No Calib	#	
90) 1,2-Dichlorobenzene	15.68	146	594656	21.349 ng		100
91) d-Limonene	15.69	68	468688	25.857 ng		94
92) 1,2-Dibromo-3-Chloropr...	16.11	157	455425	40.797 ng		85
93) n-Undecane	15.13	58	71775	No Calib		
94) 1,2,4-Trichlorobenzene	17.38	180	1056730	48.591 ng		99
95) Naphthalene	17.49	128	1509620	27.771 ng		100
96) n-Dodecane	15.69	58	3591	No Calib	#	
97) Hexachlorobutadiene	17.84	225	320756	19.685 ng		100
98) Cyclohexanone	13.02	55	1714	No Calib		
99) tert-Butylbenzene	15.13	119	1109699	21.297 ng		99
100) n-Butylbenzene	15.96	91	1277572	22.613 ng		99
101) 1,1,1,2-Tetrachloroethane	12.48	131	277601	20.847 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142208.D Vial: 2
Acq On : 14 Jan 2022 4:59 Operator: SC
Sample : LCSD R9011422 25ng Inst : MS09
Misc : S34-12272101/S35-12272104 (1/26)

Quant Time: Jan 14 08:29:07 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9121621.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Dec 16 17:20:09 2021
Response Via : Initial Calibration

TR 12/17/21

Calibration Files
0.1 =12162113.D 0.2 =12162114.D 0.5 =12162115.D 1.0 =12162116.D 5.0 =12162117.D 25 =12162118.D 50 =12162119.D
100 =12162120.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	1.608	1.497	1.645	1.401	1.694	1.326	1.425	1.574	1.521	8.54
3)	T	Dichlorodifluo...	3.173	2.919	3.104	2.797	3.406	2.618	2.548	2.426	2.874	11.80
4)	T	Chloromethane		1.530	1.804	1.653	1.975	1.470	1.284		1.619	15.24
5)	T	1,2-Dichloro-1...	1.155	1.174	1.350	1.178	1.368	1.069	1.046	1.015	1.169	11.26
6)	T	Vinyl Chloride	1.560	1.523	1.574	1.458	1.774	1.401	1.376	1.353	1.502	9.19
7)	T	1,3-Butadiene	1.099	1.089	1.217	1.140	1.360	1.104	1.152	1.184	1.168	7.63
8)	T	Bromomethane	0.948	0.826	0.918	0.838	1.008	0.722	0.715	0.693	0.834	14.12
9)	T	Chloroethane	0.745	0.810	0.818	0.750	0.898	0.660	0.650	0.617	0.744	13.01
10)	T	Ethanol	1.258	1.061	1.280	1.149	1.222	0.908	0.897	0.879	1.082	15.65
11)	T	Acetonitrile	2.725	2.807	2.811	2.555	2.982	2.264	2.305	2.761	2.651	9.62
12)	T	Acrolein	0.569	0.695	0.720	0.687	0.818	0.630	0.630	0.620	0.671	11.42
13)	T	Acetone	1.046	0.926	0.951	0.854	0.977	0.736	0.726	0.706	0.865	15.00
14)	T	Trichlorofluor...	2.953	2.819	3.023	2.730	3.281	2.520	2.419	2.307	2.756	11.97
15)	T	2-Propanol (Is...	3.658	4.060	4.298	3.788	4.492	3.430	3.177	2.703	3.701	16.04
16)	T	Acrylonitrile	1.465	1.430	1.632	1.433	1.795	1.378	1.367	1.353	1.482	10.40
17)	T	1,1-Dichloroet...	1.131	1.064	1.160	1.073	1.274	0.983	0.973	0.954	1.077	10.15
18)	T	2-Methyl-2-Pro...	3.552	3.261	3.600	3.258	4.279	3.295	2.651	1.803	3.212	22.68
19)	T	Methylene Chlo...	1.292	1.195	1.179	1.090	1.322	1.021	1.007	0.996	1.138	11.31
20)	T	3-Chloro-1-pro...	2.542	2.619	2.917	2.579	2.895	2.132	2.051	1.959	2.462	15.12
21)	T	Trichlorotrifl...	1.179	1.012	1.167	1.083	1.276	0.994	0.973	0.940	1.078	11.02
22)	T	Carbon Disulfide	4.381	3.934	4.370	3.897	4.677	3.647	3.576	3.446	3.991	11.07
23)	T	trans-1,2-Dich...	1.797	1.696	1.947	1.764	2.145	1.698	1.676	1.647	1.796	9.46
24)	T	1,1-Dichloroet...	2.326	2.232	2.450	2.243	2.637	2.051	2.016	1.954	2.239	10.36
25)	T	Methyl tert-Bu...	3.886	3.622	3.860	3.600	3.930	2.913	2.516	1.812	3.267	23.76
26)	T	Vinyl Acetate	0.207	0.239	0.267	0.234	0.302	0.237	0.236	0.228	0.244	11.84
27)	T	2-Butanone (MEK)	0.846	0.781	0.839	0.744	0.925	0.728	0.717	0.695	0.784	10.07
28)	T	cis-1,2-Dichlo...	1.884	1.851	1.893	1.741	2.141	1.670	1.696	1.663	1.817	8.87
29)	T	Diisopropyl Ether	1.109	1.000	1.102	0.977	1.174	0.916	0.911	0.909	1.012	10.22
30)	T	Ethyl Acetate	0.464	0.444	0.475	0.422	0.500	0.385	0.375	0.383	0.431	10.95
31)	T	n-Hexane	2.342	1.983	2.134	1.922	2.312	1.776	1.752	1.736	1.995	12.27
32)	T	Chloroform	2.657	2.276	2.568	2.306	2.764	2.144	2.082	2.003	2.350	11.99
33)	S	1,2-Dichloroet...	2.359	2.385	2.420	2.422	2.389	2.376	2.383	2.339	2.384	1.18
34)	T	Tetrahydrofura...	0.789	0.809	0.806	0.731	0.886	0.692	0.680	0.666	0.757	10.21
35)	T	Ethyl tert-But...	1.251	1.170	1.354	1.203	1.563	1.292	1.304	1.300	1.305	9.20
36)	T	1,2-Dichloroet...	2.438	2.295	2.514	2.326	2.762	2.161	2.091	2.003	2.324	10.60
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.527	0.528	0.594	0.532	0.657	0.512	0.487	0.457	0.537	11.67

39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.500	1.283	1.161	1.043	1.220	0.947	0.914	0.878	1.118	19.11
42)	T	Carbon Tetrach...	0.488	0.455	0.488	0.468	0.564	0.443	0.422	0.393	0.465	11.09
43)	T	Cyclohexane	0.488	0.454	0.457	0.407	0.487	0.374	0.361	0.346	0.422	13.58
44)	T	tert-Amyl Meth...	0.576	0.559	0.638	0.573	0.734	0.636	0.649	0.644	0.626	9.08
45)	T	1,2-Dichloropr...	0.292	0.256	0.286	0.246	0.304	0.236	0.228	0.221	0.259	12.20
46)	T	Bromodichlorom...	0.479	0.428	0.459	0.429	0.547	0.432	0.418	0.402	0.449	10.27
47)	T	Trichloroethene	0.285	0.284	0.294	0.278	0.339	0.269	0.260	0.253	0.283	9.33
48)	T	1,4-Dioxane	0.216	0.217	0.231	0.212	0.252	0.199	0.192	0.187	0.213	9.99
49)	T	2,2,4-Trimethy...	1.190	1.117	1.216	1.094	1.318	1.026	1.002	0.972	1.117	10.63
50)	T	Methyl Methacr...	0.095	0.103	0.114	0.107	0.137	0.109	0.106	0.102	0.109	11.61
51)	T	n-Heptane	0.277	0.274	0.292	0.261	0.321	0.247	0.239	0.231	0.268	11.14
52)	T	cis-1,3-Dichlo...	0.433	0.435	0.491	0.433	0.557	0.441	0.430	0.416	0.454	10.34
53)	T	4-Methyl-2-pen...	0.252	0.231	0.264	0.236	0.301	0.236	0.231	0.224	0.247	10.32
54)	T	trans-1,3-Dich...	0.420	0.424	0.481	0.450	0.575	0.465	0.454	0.435	0.463	10.69
55)	T	1,1,2-Trichlor...	0.232	0.205	0.266	0.245	0.303	0.235	0.229	0.222	0.242	12.45
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	5.071	4.998	4.932	4.847	4.831	4.744	4.719	4.617	4.845	3.12
58)	T	Toluene	5.753	5.188	5.207	4.627	5.579	4.295	4.138	3.957	4.843	14.07
59)	T	2-Hexanone	3.218	3.099	3.288	3.016	3.824	2.941	2.849	2.704	3.117	11.00
60)	T	Dibromochlorom...	1.341	1.353	1.484	1.362	1.732	1.368	1.317	1.256	1.402	10.54
61)	T	1,2-Dibromoethane	1.266	1.201	1.303	1.153	1.455	1.146	1.110	1.069	1.213	10.30
62)	T	n-Butyl Acetate	3.540	3.270	3.575	3.230	4.117	3.181	3.079	2.902	3.362	11.22
63)	T	n-Octane	0.964	0.933	1.095	0.960	1.160	0.898	0.877	0.855	0.968	11.07
64)	T	Tetrachloroethene	1.518	1.498	1.545	1.366	1.708	1.338	1.284	1.229	1.436	11.09
65)	T	Chlorobenzene	3.406	3.198	3.216	2.874	3.628	2.814	2.735	2.637	3.063	11.48
66)	T	Ethylbenzene	6.443	5.771	6.032	5.420	6.796	5.260	5.062	4.795	5.698	12.17
67)	T	m- & p-Xylenes	5.086	4.525	4.878	4.397	5.488	4.237	4.078	3.869	4.570	11.93
68)	T	Bromoform	1.190	1.115	1.243	1.113	1.489	1.214	1.180	1.134	1.210	10.09
69)	T	Styrene	3.088	2.951	3.100	2.880	3.845	3.027	2.943	2.813	3.081	10.52
70)	T	o-Xylene	4.980	4.530	4.987	4.406	5.584	4.314	4.155	3.948	4.613	11.61
71)	T	n-Nonane	2.750	2.690	2.948	2.623	3.252	2.525	2.455	2.361	2.700	10.67
72)	T	1,1,2,2-Tetrac...	1.902	1.794	1.966	1.767	2.207	1.716	1.679	1.622	1.831	10.31
73)	S	Bromofluoroben...	1.308	1.303	1.300	1.286	1.301	1.287	1.253	1.203	1.280	2.79
74)	T	Cumene	6.645	5.928	6.206	5.609	7.021	5.410	5.170	4.839	5.853	12.70
75)	T	alpha-Pinene			1.358	1.278	1.961	1.867	1.974	1.988	1.738	18.93
76)	T	n-Propylbenzene	7.827	6.919	7.420	6.672	8.372	6.454	6.169	5.751	6.948	12.62
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	6.402	5.751	6.065	5.480	6.985	5.365	5.143	4.832	5.753	12.26
79)	T	1,3,5-Trimethy...	4.856	4.624	5.239	4.650	5.932	4.615	4.433	4.163	4.814	11.38
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	5.372	4.688	5.217	4.686	6.184	4.892	4.706	4.419	5.021	11.20
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	3.898	3.769	3.576	3.424	5.029	4.194	4.105	3.857	3.981	12.38
85)	T	1,3-Dichlorobe...	2.891	2.777	2.683	2.490	3.257	2.570	2.505	2.390	2.695	10.39
86)	T	1,4-Dichlorobe...	2.891	2.864	2.612	2.332	3.178	2.529	2.416	2.298	2.640	11.78
87)	T	sec-Butylbenzene	6.831	6.489	6.762	6.099	7.847	6.076	5.764	5.360	6.404	11.95
88)	T	4-Isopropyltol...	6.503	5.847	6.607	5.767	7.317	5.559	5.240	4.804	5.956	13.64
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.832	2.686	2.649	2.380	3.126	2.464	2.379	2.243	2.595	11.12
91)	T	d-Limonene			1.574	1.460	2.014	1.700	1.702	1.683	1.689	10.97

92)	T	1,2-Dibromo-3-...	1.041	1.063	1.026	0.952	1.273	1.031	0.991	0.942	1.040	9.95
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.040	2.009	1.694	1.606	2.672	2.163	2.100	1.923	2.026	16.03
95)	T	Naphthalene	5.180	4.791	3.975	3.734	6.831	5.577	5.385	5.040	5.064	19.08
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.605	1.574	1.535	1.417	1.854	1.463	1.395	1.302	1.518	11.09
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	5.136	4.910	5.171	4.647	5.877	4.607	4.406	4.080	4.854	11.37
100)	T	n-Butylbenzene	5.557	5.158	5.491	4.959	6.568	5.082	4.822	4.470	5.263	12.02
101)	T	1,1,1,2-Tetrac...	1.256	1.294	1.320	1.171	1.511	1.175	1.125	1.074	1.241	11.10

(#) = Out of Range

R9121621.M Fri Dec 17 09:22:03 2021

JMM 12/30/21

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S35-12102104
20ng/L Std. ID: S35-12102103
40ng/L Std. ID:
200ng/L Std. ID: S35-12072101
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | **40ng/L Std. ID:**
4ng/L Std. ID: S35-12102104 | **200ng/L Std. ID:** S35-12072101
20ng/L Std. ID: S35-12102103 | **1000ng/L Std. ID:**

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.			Primary Working Standards				Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Calibration Status Report MS09

Method : I:\MS09\Methods\R9121621.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Dec 16 17:20:09 2021
Response via : Initial Calibration

TL 12/17/21

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\Data\2021_12\16\12162113.D
2	0.2	0	13	I:\MS09\Data\2021_12\16\12162114.D
3	0.5	1	13	I:\MS09\Data\2021_12\16\12162115.D
4	1.0	1	13	I:\MS09\Data\2021_12\16\12162116.D
5	5.0	5	13	I:\MS09\Data\2021_12\16\12162117.D
6	25	26	13	I:\MS09\Data\2021_12\16\12162118.D
7	50	52	13	I:\MS09\Data\2021_12\16\12162119.D
8	100	104	13	I:\MS09\Data\2021_12\16\12162120.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Dec 16 16:18 2021	Dec 16 16:17 2021	16 Dec 2021 13:16
2	0.2	Dec 16 16:18 2021	Dec 16 16:17 2021	16 Dec 2021 13:47
3	0.5	Dec 16 16:18 2021	Dec 16 16:17 2021	16 Dec 2021 14:17
4	1.0	Dec 16 16:18 2021	Dec 16 16:17 2021	16 Dec 2021 14:48
5	5.0	Dec 16 16:18 2021	Dec 16 16:17 2021	16 Dec 2021 15:19
6	25	Dec 16 16:18 2021	Dec 16 16:17 2021	16 Dec 2021 15:49
7	50	Dec 16 16:55 2021	Dec 16 16:55 2021	16 Dec 2021 16:20
8	100	Dec 16 17:20 2021	Dec 16 17:19 2021	16 Dec 2021 16:50

R9121621.M Fri Dec 17 09:22:57 2021

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162113.D Vial: 14
Acq On : 16 Dec 2021 13:16 Operator: TZ
Sample : 0.1ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12102104 (1/9)

TZ 12/17/21

Quant Time: Dec 16 16:17:40 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	102330	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	8.48	114	456305	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	12.45	54	103089	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.64	65	241380	15.219	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 121.76%				
57) Toluene-d8 (SS2)	10.64	98	522753	11.505	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
73) Bromofluorobenzene (SS3)	13.89	174	134882	11.516	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.16%				
Target Compounds							Qvalue
2) Propene	4.08	42	1369	0.073	ng		93
3) Dichlorodifluoromethan...	4.14	85	2727	0.121	ng	#	87
4) Chloromethane	4.28	50	1674	0.087	ng		87
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	1021	0.102	ng		99
6) Vinyl Chloride	4.44	62	1328	0.090	ng		95
7) 1,3-Butadiene	4.53	54	936	0.087	ng	#	87
8) Bromomethane	4.74	94	792	0.097	ng		100
9) Chloroethane	4.84	64	622	0.076	ng	#	42
10) Ethanol	4.90	45	3729	0.295	ng		95
11) Acetonitrile	5.06	41	2075	0.063	ng		90
12) Acrolein	5.13	56	932	0.115	ng		91
13) Acetone	5.21	58	4443	0.462	ng		98
14) Trichlorofluoromethane	5.31	101	2490	0.115	ng		98
15) 2-Propanol (Isopropanol)	5.36	45	6049	0.156	ng		97
16) Acrylonitrile	5.47	53	2434	0.138	ng		94
17) 1,1-Dichloroethene	5.71	96	991	0.097	ng		97
18) 2-Methyl-2-Propanol (t...	5.77	59	6107	0.207	ng		83
19) Methylene Chloride	5.75	84	1100	0.101	ng		89
20) 3-Chloro-1-propene (Al...	5.83	41	2185	0.075	ng		77
21) Trichlorotrifluoroethane	5.92	151	1042	0.110	ng		100
22) Carbon Disulfide	6.01	76	7531	0.198	ng		96
23) trans-1,2-Dichloroethene	6.33	61	1559	0.090	ng		97
24) 1,1-Dichloroethane	6.46	63	1999	0.095	ng		93
25) Methyl tert-Butyl Ether	6.50	73	3340	0.098	ng		94
26) Vinyl Acetate	6.50	86	575	0.242	ng	#	17
27) 2-Butanone (MEK)	6.70	72	1426	0.194	ng	#	86
28) cis-1,2-Dichloroethene	6.99	61	1604	0.093	ng		99
29) Diisopropyl Ether	7.10	87	1924	0.219	ng	#	92
30) Ethyl Acetate	7.08	61	1550	0.352	ng		90
31) n-Hexane	7.13	57	2013	0.093	ng	#	80
32) Chloroform	7.18	83	2327	0.119	ng		93
34) Tetrahydrofuran (THF)	7.48	72	1272	0.183	ng	#	91
35) Ethyl tert-Butyl Ether	7.46	87	2151	0.166	ng		95
36) 1,2-Dichloroethane	7.72	62	2116	0.124	ng		87
38) 1,1,1-Trichloroethane	7.92	97	2002	0.102	ng		92
39) Isopropyl Acetate	8.48	61	16441	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.27	78	5693	0.124	ng		94
42) Carbon Tetrachloride	8.39	117	1871	0.106	ng		98
43) Cyclohexane	8.49	84	3690	0.203	ng	#	1
44) tert-Amyl Methyl Ether	8.68	73	4393	0.139	ng		98
45) 1,2-Dichloropropane	8.90	63	1098	0.089	ng		84
46) Bromodichloromethane	9.05	83	1836	0.109	ng		91
47) Trichloroethene	9.08	130	1073	0.090	ng		98
48) 1,4-Dioxane	9.04	88	821	0.096	ng		82
49) 2,2,4-Trimethylpentane...	9.11	57	4604	0.081	ng		96
50) Methyl Methacrylate	9.16	100	720	0.162	ng	#	74

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162113.D Vial: 14
Acq On : 16 Dec 2021 13:16 Operator: TZ
Sample : 0.1ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12102104 (1/9)

Quant Time: Dec 16 16:17:40 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

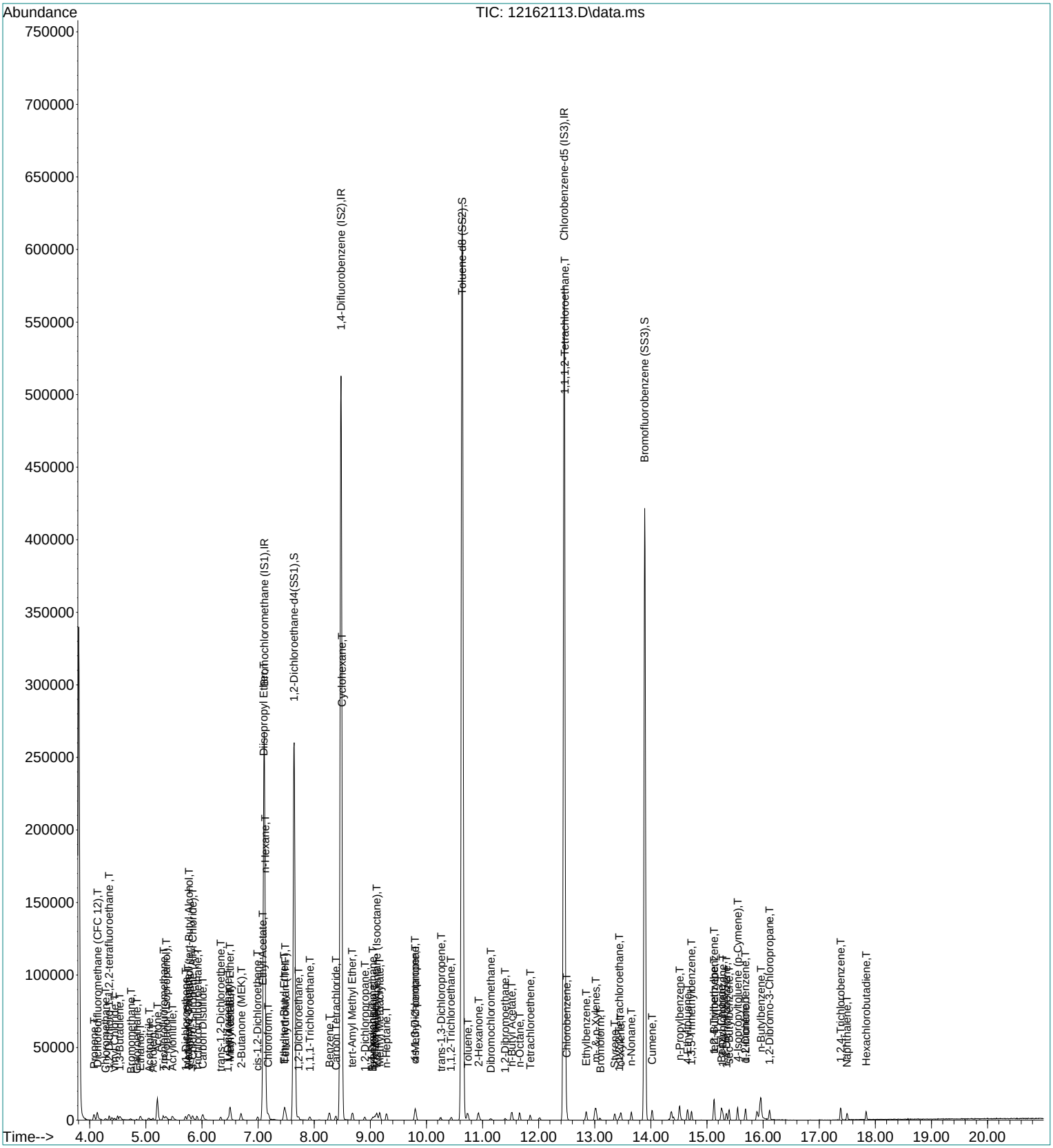
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	9.28	71	1060	0.091 ng		88
52) cis-1,3-Dichloropropene	9.79	75	1659	0.094 ng		97
53) 4-Methyl-2-pentanone	9.80	58	1911	0.167 ng		93
54) trans-1,3-Dichloropropene	10.26	75	1549	0.090 ng		95
55) 1,1,2-Trichloroethane	10.44	97	879	0.080 ng		86
58) Toluene	10.74	91	4887	0.100 ng		99
59) 2-Hexanone	10.93	43	5441	0.158 ng		97
60) Dibromochloromethane	11.15	129	1161	0.083 ng		96
61) 1,2-Dibromoethane	11.40	107	1086	0.084 ng		91
62) n-Butyl Acetate	11.52	43	5955	0.156 ng		96
63) n-Octane	11.66	57	835	0.072 ng		94
64) Tetrachloroethene	11.85	166	1302	0.095 ng		94
65) Chlorobenzene	12.50	112	2921	0.093 ng		99
66) Ethylbenzene	12.84	91	5473	0.099 ng		97
67) m- & p-Xylenes	13.02	91	8641	0.202 ng		100
68) Bromoform	13.10	173	1021	0.085 ng		86
69) Styrene	13.36	104	2623	0.084 ng		99
70) o-Xylene	13.46	91	4271	0.098 ng		93
71) n-Nonane	13.65	43	2359	0.072 ng		97
72) 1,1,2,2-Tetrachloroethane	13.43	83	1631	0.082 ng		98
74) Cumene	14.02	105	5699	0.103 ng		97
75) alpha-Pinene	14.41	93	978	N.D.		
76) n-Propylbenzene	14.51	91	6778	0.101 ng		88
77) 3-Ethyltoluene	14.02	105	5699	No Calib		
78) 4-Ethyltoluene	14.65	105	5597	0.106 ng		96
79) 1,3,5-Trimethylbenzene	14.72	105	4165	0.093 ng		99
80) alpha-Methylstyrene	13.90	118	472	No Calib	#	
81) 2-Ethyltoluene	14.65	105	5597	No Calib		
82) 1,2,4-Trimethylbenzene	15.13	105	4563	0.101 ng		94
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	15.26	91	6622	0.180 ng		97
85) 1,3-Dichlorobenzene	15.28	146	2480	0.093 ng		94
86) 1,4-Dichlorobenzene	15.35	146	2480	0.094 ng		98
87) sec-Butylbenzene	15.39	105	5859	0.097 ng		98
88) 4-Isopropyltoluene (p-...	15.55	119	5578	0.105 ng		89
89) 1,2,3-Trimethylbenzene	14.36	105	2975	No Calib	#	
90) 1,2-Dichlorobenzene	15.68	146	2452	0.096 ng		98
91) d-Limonene	15.69	68	912	0.061 ng		98
92) 1,2-Dibromo-3-Chloropr...	16.11	157	1717	0.176 ng		85
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	17.38	180	3432	0.178 ng		95
95) Naphthalene	17.49	128	4443	0.089 ng		97
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	17.84	225	1363	0.095 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	15.13	119	4405	0.098 ng		94
100) n-Butylbenzene	15.96	91	4766	0.096 ng		99
101) 1,1,1,2-Tetrachloroethane	12.46	131	1077	0.091 ng	#	90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162113.D Vial: 14
Acq On : 16 Dec 2021 13:16 Operator: TZ
Sample : 0.1ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12102104 (1/9)

Quant Time: Dec 16 16:17:40 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162114.D Vial: 14
Acq On : 16 Dec 2021 13:47 Operator: TZ
Sample : 0.2ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12102104 (1/9)

TZ 12/17/21

Quant Time: Dec 16 16:17:41 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	96490	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	8.48	114	429165	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	12.45	54	98738	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.64	65	230150	15.389	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 123.12%				
57) Toluene-d8 (SS2)	10.64	98	493487	11.340	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.72%				
73) Bromofluorobenzene (SS3)	13.89	174	128649	11.468	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%				
Target Compounds							Qvalue
2) Propene	4.08	42	2403	0.135	ng		99
3) Dichlorodifluoromethan...	4.13	85	4732	0.223	ng		97
4) Chloromethane	4.28	50	2409	0.133	ng		91
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	1957	0.208	ng		90
6) Vinyl Chloride	4.43	62	2445	0.176	ng		89
7) 1,3-Butadiene	4.53	54	1748	0.172	ng	#	77
8) Bromomethane	4.72	94	1301	0.168	ng		95
9) Chloroethane	4.83	64	1276	0.165	ng		79
10) Ethanol	4.90	45	5927	0.497	ng		98
11) Acetonitrile	5.05	41	4030	0.129	ng		97
12) Acrolein	5.13	56	2146	0.282	ng		96
13) Acetone	5.20	58	7417	0.818	ng		98
14) Trichlorofluoromethane	5.31	101	4483	0.219	ng		99
15) 2-Propanol (Isopropanol)	5.34	45	12660	0.347	ng		94
16) Acrylonitrile	5.47	53	4483	0.269	ng		98
17) 1,1-Dichloroethene	5.70	96	1758	0.182	ng		97
18) 2-Methyl-2-Propanol (t...	5.77	59	10573	0.380	ng		90
19) Methylene Chloride	5.75	84	1919	0.187	ng		90
20) 3-Chloro-1-propene (Al...	5.83	41	4245	0.155	ng		87
21) Trichlorotrifluoroethane	5.91	151	1687	0.189	ng		93
22) Carbon Disulfide	6.01	76	12753	0.355	ng		97
23) trans-1,2-Dichloroethene	6.33	61	2775	0.170	ng		99
24) 1,1-Dichloroethane	6.47	63	3618	0.183	ng		91
25) Methyl tert-Butyl Ether	6.49	73	5872	0.183	ng		98
26) Vinyl Acetate	6.51	86	1255	0.560	ng	#	89
27) 2-Butanone (MEK)	6.69	72	2484	0.358	ng	#	85
28) cis-1,2-Dichloroethene	7.00	61	2972	0.184	ng		97
29) Diisopropyl Ether	7.09	87	3272	0.396	ng	#	95
30) Ethyl Acetate	7.08	61	2796	0.673	ng		90
31) n-Hexane	7.13	57	3215	0.158	ng	#	96
32) Chloroform	7.19	83	3760	0.205	ng		99
34) Tetrahydrofuran (THF)	7.48	72	2460	0.376	ng		94
35) Ethyl tert-Butyl Ether	7.46	87	3793	0.311	ng		94
36) 1,2-Dichloroethane	7.72	62	3755	0.233	ng		96
38) 1,1,1-Trichloroethane	7.93	97	3768	0.203	ng		99
39) Isopropyl Acetate	8.47	61	15426	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.27	78	9163	0.212	ng		98
42) Carbon Tetrachloride	8.39	117	3281	0.198	ng		100
43) Cyclohexane	8.49	84	6457	0.377	ng	#	1
44) tert-Amyl Methyl Ether	8.68	73	8026	0.269	ng		98
45) 1,2-Dichloropropane	8.90	63	1810	0.156	ng		96
46) Bromodichloromethane	9.03	83	3087	0.195	ng		98
47) Trichloroethene	9.08	130	2006	0.179	ng		88
48) 1,4-Dioxane	9.05	88	1549	0.192	ng		88
49) 2,2,4-Trimethylpentane...	9.11	57	8128	0.153	ng		94
50) Methyl Methacrylate	9.16	100	1464	0.350	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162114.D Vial: 14
Acq On : 16 Dec 2021 13:47 Operator: TZ
Sample : 0.2ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12102104 (1/9)

Quant Time: Dec 16 16:17:41 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

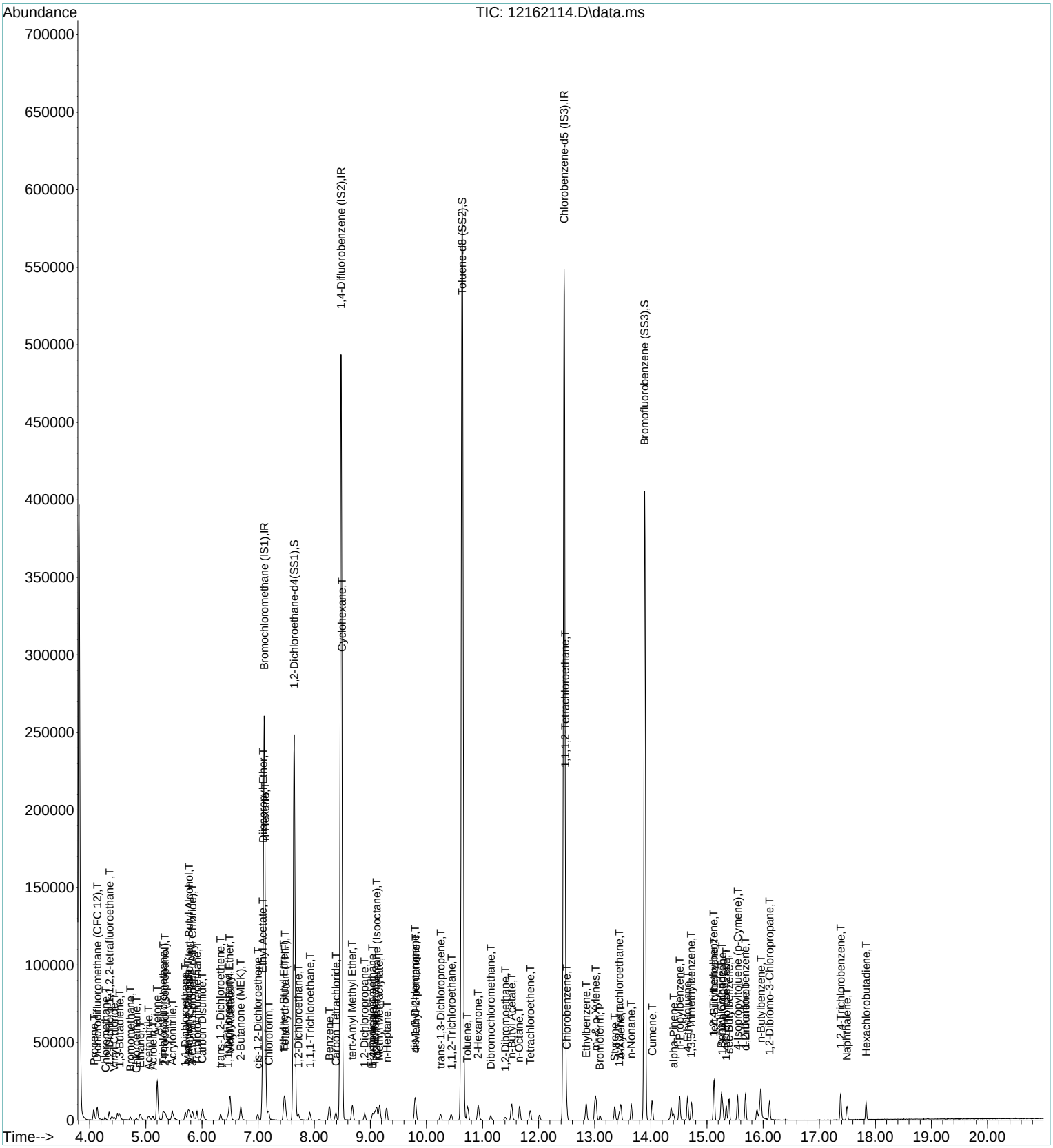
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	9.30	71	1979	0.180 ng		93
52) cis-1,3-Dichloropropene	9.79	75	3134	0.188 ng		99
53) 4-Methyl-2-pentanone	9.81	58	3296	0.307 ng		97
54) trans-1,3-Dichloropropene	10.25	75	2944	0.181 ng		90
55) 1,1,2-Trichloroethane	10.45	97	1466	0.142 ng		83
58) Toluene	10.73	91	8442	0.181 ng		98
59) 2-Hexanone	10.92	43	10038	0.304 ng		100
60) Dibromochloromethane	11.15	129	2244	0.168 ng		100
61) 1,2-Dibromoethane	11.41	107	1973	0.160 ng		99
62) n-Butyl Acetate	11.52	43	10537	0.287 ng		99
63) n-Octane	11.65	57	1547	0.138 ng		93
64) Tetrachloroethene	11.85	166	2461	0.188 ng		93
65) Chlorobenzene	12.50	112	5255	0.175 ng		95
66) Ethylbenzene	12.84	91	9391	0.177 ng		98
67) m- & p-Xylenes	13.01	91	14727	0.359 ng		98
68) Bromoform	13.09	173	1832	0.159 ng		96
69) Styrene	13.36	104	4802	0.161 ng		99
70) o-Xylene	13.46	91	7442	0.178 ng		99
71) n-Nonane	13.65	43	4420	0.142 ng		94
72) 1,1,2,2-Tetrachloroethane	13.43	83	2948	0.155 ng		94
74) Cumene	14.03	105	9740	0.184 ng		98
75) alpha-Pinene	14.41	93	1962	0.085 ng	#	1
76) n-Propylbenzene	14.51	91	11477	0.179 ng		93
77) 3-Ethyltoluene	14.03	105	9740	No Calib		
78) 4-Ethyltoluene	14.65	105	9631	0.190 ng		94
79) 1,3,5-Trimethylbenzene	14.72	105	7597	0.177 ng		99
80) alpha-Methylstyrene	13.89	118	489	No Calib	#	
81) 2-Ethyltoluene	14.65	105	9631	No Calib		
82) 1,2,4-Trimethylbenzene	15.12	105	7629	0.176 ng		96
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	15.26	91	12266	0.348 ng		98
85) 1,3-Dichlorobenzene	15.27	146	4562	0.178 ng		99
86) 1,4-Dichlorobenzene	15.34	146	4705	0.186 ng		94
87) sec-Butylbenzene	15.39	105	10661	0.183 ng		97
88) 4-Isopropyltoluene (p-...	15.55	119	9606	0.189 ng		92
89) 1,2,3-Trimethylbenzene	14.36	105	3935	No Calib	#	
90) 1,2-Dichlorobenzene	15.68	146	4455	0.182 ng		99
91) d-Limonene	15.69	68	1814	0.126 ng		95
92) 1,2-Dibromo-3-Chloropr...	16.11	157	3359	0.359 ng		94
93) n-Undecane	15.13	58	152	No Calib	#	
94) 1,2,4-Trichlorobenzene	17.38	180	6475	0.351 ng		95
95) Naphthalene	17.49	128	7872	0.165 ng		95
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	17.84	225	2561	0.186 ng		92
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	15.13	119	8067	0.188 ng		96
100) n-Butylbenzene	15.96	91	8475	0.178 ng		97
101) 1,1,1,2-Tetrachloroethane	12.48	131	2126	0.188 ng	#	89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162114.D Vial: 14
Acq On : 16 Dec 2021 13:47 Operator: TZ
Sample : 0.2ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12102104 (1/9)

Quant Time: Dec 16 16:17:41 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162115.D Vial: 15
Acq On : 16 Dec 2021 14:17 Operator: TZ
Sample : 0.5ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12102103 (1/9)

TZ 12/17/21

Quant Time: Dec 16 16:17:44 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	95728	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	8.48	114	425840	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	12.45	54	99789	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.64	65	231659	15.613	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 124.88%				
57) Toluene-d8 (SS2)	10.64	98	492121	11.189	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.52%				
73) Bromofluorobenzene (SS3)	13.89	174	129734	11.443	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.52%				
Target Compounds							Qvalue
2) Propene	4.06	42	6549	0.371	ng		97
3) Dichlorodifluoromethan...	4.12	85	12480	0.592	ng		99
4) Chloromethane	4.26	50	7044	0.393	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	5581	0.598	ng		95
6) Vinyl Chloride	4.42	62	6267	0.455	ng		99
7) 1,3-Butadiene	4.52	54	4845	0.481	ng	#	68
8) Bromomethane	4.72	94	3586	0.468	ng		99
9) Chloroethane	4.83	64	3196	0.417	ng		96
10) Ethanol	4.89	45	17749	1.499	ng		89
11) Acetonitrile	5.04	41	10009	0.323	ng		96
12) Acrolein	5.12	56	5516	0.730	ng		98
13) Acetone	5.20	58	18896	2.102	ng		97
14) Trichlorofluoromethane	5.30	101	11923	0.588	ng		98
15) 2-Propanol (Isopropanol)	5.33	45	33247	0.918	ng		88
16) Acrylonitrile	5.47	53	12684	0.767	ng		95
17) 1,1-Dichloroethene	5.70	96	4753	0.497	ng		98
18) 2-Methyl-2-Propanol (t...	5.71	59	28946	1.050	ng	#	76
19) Methylene Chloride	5.75	84	4695	0.460	ng		100
20) 3-Chloro-1-propene (Al...	5.83	41	11727	0.431	ng		90
21) Trichlorotrifluoroethane	5.91	151	4826	0.545	ng		94
22) Carbon Disulfide	6.00	76	35142	0.986	ng		100
23) trans-1,2-Dichloroethene	6.33	61	7904	0.489	ng		99
24) 1,1-Dichloroethane	6.47	63	9850	0.501	ng		96
25) Methyl tert-Butyl Ether	6.48	73	15520	0.488	ng		98
26) Vinyl Acetate	6.51	86	3481	1.566	ng	#	96
27) 2-Butanone (MEK)	6.69	72	6616	0.962	ng	#	88
28) cis-1,2-Dichloroethene	7.00	61	7539	0.470	ng		100
29) Diisopropyl Ether	7.09	87	8946	1.091	ng		98
30) Ethyl Acetate	7.08	61	7419	1.800	ng		95
31) n-Hexane	7.13	57	8580	0.425	ng		99
32) Chloroform	7.19	83	10520	0.577	ng		97
34) Tetrahydrofuran (THF)	7.48	72	6083	0.936	ng		94
35) Ethyl tert-Butyl Ether	7.46	87	10891	0.899	ng		98
36) 1,2-Dichloroethane	7.73	62	10203	0.638	ng		99
38) 1,1,1-Trichloroethane	7.92	97	10530	0.573	ng		99
39) Isopropyl Acetate	8.48	61	16133	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.27	78	20572	0.481	ng		99
42) Carbon Tetrachloride	8.39	117	8721	0.532	ng		97
43) Cyclohexane	8.49	84	16125	0.950	ng	#	21
44) tert-Amyl Methyl Ether	8.68	73	22705	0.768	ng		97
45) 1,2-Dichloropropane	8.90	63	5021	0.435	ng		97
46) Bromodichloromethane	9.05	83	8201	0.522	ng		97
47) Trichloroethene	9.09	130	5159	0.464	ng		99
48) 1,4-Dioxane	9.05	88	4091	0.512	ng		98
49) 2,2,4-Trimethylpentane...	9.11	57	21953	0.415	ng		93
50) Methyl Methacrylate	9.16	100	4029	0.971	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162115.D Vial: 15
Acq On : 16 Dec 2021 14:17 Operator: TZ
Sample : 0.5ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12102103 (1/9)

Quant Time: Dec 16 16:17:44 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

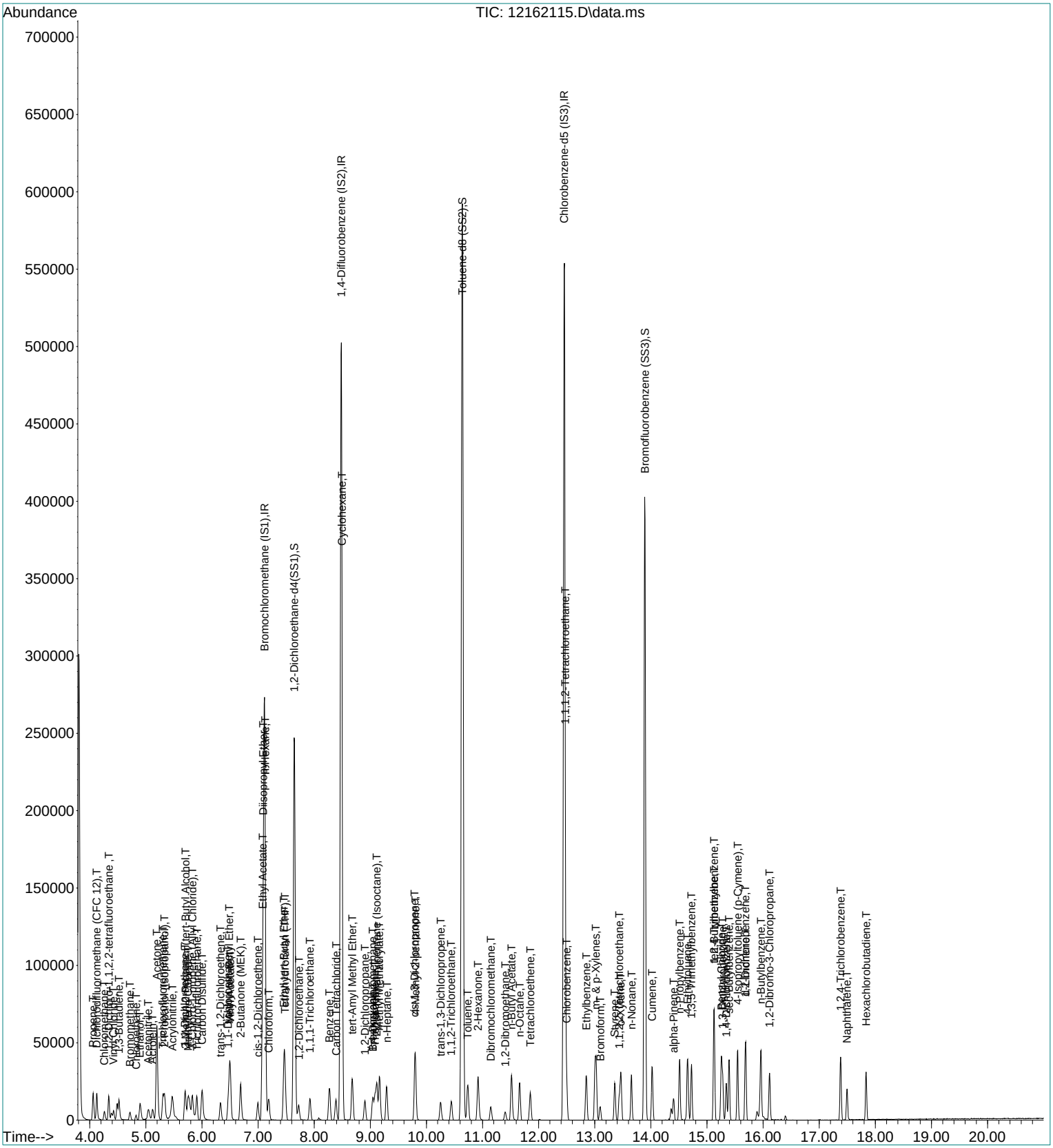
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	9.30	71	5220	0.479 ng		100
52) cis-1,3-Dichloropropene	9.79	75	8774	0.531 ng		97
53) 4-Methyl-2-pentanone	9.81	58	9366	0.878 ng		99
54) trans-1,3-Dichloropropene	10.25	75	8267	0.512 ng		97
55) 1,1,2-Trichloroethane	10.44	97	4713	0.461 ng		98
58) Toluene	10.74	91	21407	0.454 ng		99
59) 2-Hexanone	10.92	43	26907	0.807 ng		100
60) Dibromochloromethane	11.15	129	6219	0.462 ng		100
61) 1,2-Dibromoethane	11.41	107	5410	0.435 ng		97
62) n-Butyl Acetate	11.52	43	29107	0.785 ng		99
63) n-Octane	11.66	57	4588	0.406 ng		97
64) Tetrachloroethene	11.85	166	6413	0.485 ng		99
65) Chlorobenzene	12.50	112	13350	0.439 ng		97
66) Ethylbenzene	12.85	91	24801	0.463 ng		99
67) m- & p-Xylenes	13.02	91	40114	0.968 ng		99
68) Bromoform	13.10	173	5158	0.444 ng		98
69) Styrene	13.36	104	12745	0.423 ng		98
70) o-Xylene	13.46	91	20703	0.490 ng		97
71) n-Nonane	13.66	43	12239	0.388 ng		99
72) 1,1,2,2-Tetrachloroethane	13.43	83	8160	0.423 ng		98
74) Cumene	14.02	105	25761	0.480 ng		99
75) alpha-Pinene	14.41	93	5854	0.250 ng		100
76) n-Propylbenzene	14.51	91	31099	0.481 ng		97
77) 3-Ethyltoluene	14.02	105	25761	No Calib		
78) 4-Ethyltoluene	14.65	105	25661	0.502 ng		97
79) 1,3,5-Trimethylbenzene	14.72	105	21747	0.502 ng		99
80) alpha-Methylstyrene	13.89	118	507	No Calib	#	
81) 2-Ethyltoluene	14.65	105	25661	No Calib		
82) 1,2,4-Trimethylbenzene	15.13	105	21450	0.491 ng		100
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	15.26	91	29403	0.826 ng		98
85) 1,3-Dichlorobenzene	15.28	146	11139	0.431 ng		98
86) 1,4-Dichlorobenzene	15.34	146	10842	0.423 ng		98
87) sec-Butylbenzene	15.39	105	28070	0.478 ng		99
88) 4-Isopropyltoluene (p-...	15.55	119	27428	0.534 ng		98
89) 1,2,3-Trimethylbenzene	14.36	105	3953	No Calib	#	
90) 1,2-Dichlorobenzene	15.68	146	11103	0.449 ng		99
91) d-Limonene	15.69	68	6596	0.453 ng		97
92) 1,2-Dibromo-3-Chloropr...	16.11	157	8191	0.867 ng		96
93) n-Undecane	15.12	58	1057	No Calib	#	
94) 1,2,4-Trichlorobenzene	17.38	180	13797	0.739 ng		97
95) Naphthalene	17.49	128	16500	0.343 ng		97
96) n-Dodecane	15.54	58	431	No Calib	#	
97) Hexachlorobutadiene	17.84	225	6310	0.452 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	15.13	119	21468	0.495 ng		98
100) n-Butylbenzene	15.96	91	22795	0.474 ng		99
101) 1,1,1,2-Tetrachloroethane	12.48	131	5479	0.480 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162115.D Vial: 15
Acq On : 16 Dec 2021 14:17 Operator: TZ
Sample : 0.5ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12102103 (1/9)

Quant Time: Dec 16 16:17:44 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162116.D Vial: 15
Acq On : 16 Dec 2021 14:48 Operator: TZ
Sample : 1.0ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12102103 (1/9)

TZ 12/17/21

Quant Time: Dec 16 16:17:46 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.11	130	94831	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	8.48	114	418069	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	12.45	54	99360	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.64	65	229694	15.627	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 125.04%				
57) Toluene-d8 (SS2)	10.64	98	481566	10.997	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%				
73) Bromofluorobenzene (SS3)	13.89	174	127737	11.315	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.56%				
Target Compounds							Qvalue
2) Propene	4.05	42	11050	0.633	ng		96
3) Dichlorodifluoromethan...	4.11	85	22283	1.067	ng		99
4) Chloromethane	4.25	50	12788	0.721	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	9651	1.044	ng		98
6) Vinyl Chloride	4.41	62	11501	0.843	ng		99
7) 1,3-Butadiene	4.51	54	8992	0.901	ng	#	69
8) Bromomethane	4.70	94	6485	0.854	ng		96
9) Chloroethane	4.81	64	5806	0.765	ng		91
10) Ethanol	4.89	45	31547	2.690	ng		94
11) Acetonitrile	5.03	41	18024	0.588	ng		96
12) Acrolein	5.11	56	10422	1.391	ng		95
13) Acetone	5.18	58	33638	3.777	ng		95
14) Trichlorofluoromethane	5.29	101	21330	1.063	ng		98
15) 2-Propanol (Isopropanol)	5.33	45	58047	1.618	ng		91
16) Acrylonitrile	5.47	53	22069	1.347	ng		98
17) 1,1-Dichloroethene	5.68	96	8709	0.919	ng		95
18) 2-Methyl-2-Propanol (t...	5.70	59	51912	1.900	ng		98
19) Methylene Chloride	5.74	84	8599	0.850	ng		100
20) 3-Chloro-1-propene (Al...	5.82	41	20542	0.762	ng		92
21) Trichlorotrifluoroethane	5.91	151	8873	1.012	ng		96
22) Carbon Disulfide	5.99	76	62087	1.759	ng		98
23) trans-1,2-Dichloroethene	6.32	61	14183	0.886	ng		97
24) 1,1-Dichloroethane	6.46	63	17869	0.918	ng		98
25) Methyl tert-Butyl Ether	6.47	73	28675	0.911	ng		99
26) Vinyl Acetate	6.50	86	6023	2.736	ng	#	85
27) 2-Butanone (MEK)	6.68	72	11634	1.707	ng	#	85
28) cis-1,2-Dichloroethene	6.99	61	13733	0.863	ng		99
29) Diisopropyl Ether	7.08	87	15711	1.934	ng		97
30) Ethyl Acetate	7.07	61	13072	3.202	ng		97
31) n-Hexane	7.12	57	15307	0.766	ng		99
32) Chloroform	7.18	83	18720	1.037	ng		100
34) Tetrahydrofuran (THF)	7.47	72	10931	1.698	ng		99
35) Ethyl tert-Butyl Ether	7.46	87	19164	1.597	ng		99
36) 1,2-Dichloroethane	7.72	62	18702	1.180	ng		99
38) 1,1,1-Trichloroethane	7.92	97	18504	1.026	ng		99
39) Isopropyl Acetate	8.26	61	186	No Calib		#	
40) 1-Butanol	8.11	56	388	No Calib		#	
41) Benzene	8.27	78	36265	0.863	ng		99
42) Carbon Tetrachloride	8.39	117	16424	1.020	ng		95
43) Cyclohexane	8.49	84	28177	1.691	ng	#	56
44) tert-Amyl Methyl Ether	8.67	73	40030	1.379	ng		100
45) 1,2-Dichloropropane	8.90	63	8475	0.748	ng		98
46) Bromodichloromethane	9.04	83	15073	0.977	ng		100
47) Trichloroethene	9.08	130	9587	0.878	ng		99
48) 1,4-Dioxane	9.05	88	7372	0.939	ng		99
49) 2,2,4-Trimethylpentane...	9.11	57	38779	0.747	ng		98
50) Methyl Methacrylate	9.16	100	7424	1.823	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162116.D Vial: 15
Acq On : 16 Dec 2021 14:48 Operator: TZ
Sample : 1.0ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12102103 (1/9)

Quant Time: Dec 16 16:17:46 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

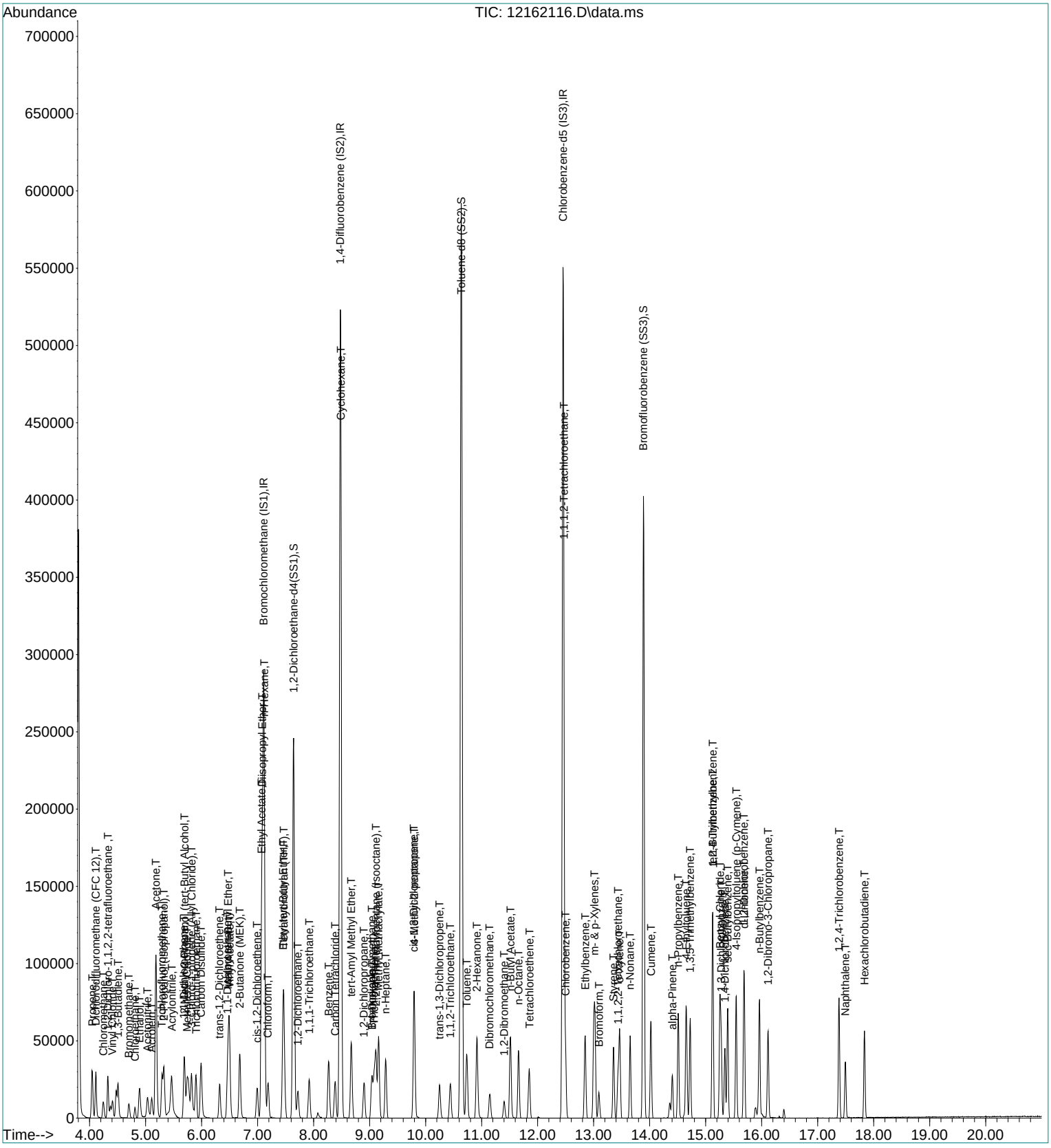
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	9.28	71	9174	0.857 ng		99
52) cis-1,3-Dichloropropene	9.79	75	15196	0.937 ng		100
53) 4-Methyl-2-pentanone	9.79	58	16436	1.569 ng		98
54) trans-1,3-Dichloropropene	10.25	75	15201	0.959 ng		100
55) 1,1,2-Trichloroethane	10.44	97	8536	0.851 ng		99
58) Toluene	10.73	91	37883	0.807 ng		99
59) 2-Hexanone	10.91	43	49147	1.480 ng		98
60) Dibromochloromethane	11.14	129	11371	0.848 ng		98
61) 1,2-Dibromoethane	11.40	107	9528	0.769 ng		99
62) n-Butyl Acetate	11.52	43	52370	1.419 ng		99
63) n-Octane	11.66	57	8016	0.713 ng		99
64) Tetrachloroethene	11.86	166	11289	0.857 ng		99
65) Chlorobenzene	12.50	112	23757	0.785 ng		98
66) Ethylbenzene	12.85	91	44371	0.831 ng		100
67) m- & p-Xylenes	13.01	91	72001	1.745 ng		98
68) Bromoform	13.09	173	9204	0.796 ng		100
69) Styrene	13.36	104	23583	0.786 ng		100
70) o-Xylene	13.46	91	36426	0.866 ng		99
71) n-Nonane	13.65	43	21681	0.691 ng		99
72) 1,1,2,2-Tetrachloroethane	13.43	83	14604	0.761 ng		99
74) Cumene	14.03	105	46372	0.868 ng		99
75) alpha-Pinene	14.41	93	10969	0.471 ng		100
76) n-Propylbenzene	14.51	91	55683	0.865 ng		98
77) 3-Ethyltoluene	14.03	105	46372	No Calib		
78) 4-Ethyltoluene	14.65	105	46176	0.906 ng		98
79) 1,3,5-Trimethylbenzene	14.72	105	38438	0.892 ng		99
80) alpha-Methylstyrene	13.89	118	474	No Calib	#	
81) 2-Ethyltoluene	14.65	105	46176	No Calib		
82) 1,2,4-Trimethylbenzene	15.13	105	38364	0.882 ng		98
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	15.26	91	56071	1.583 ng		99
85) 1,3-Dichlorobenzene	15.28	146	20581	0.800 ng		97
86) 1,4-Dichlorobenzene	15.34	146	19280	0.756 ng		100
87) sec-Butylbenzene	15.39	105	50416	0.862 ng		99
88) 4-Isopropyltoluene (p-...	15.55	119	47673	0.932 ng		98
89) 1,2,3-Trimethylbenzene	14.36	105	5335	No Calib		
90) 1,2-Dichlorobenzene	15.68	146	19867	0.806 ng		97
91) d-Limonene	15.69	68	12187	0.840 ng		100
92) 1,2-Dibromo-3-Chloropr...	16.11	157	15140	1.610 ng		95
93) n-Undecane	15.12	58	2333	No Calib		
94) 1,2,4-Trichlorobenzene	17.38	180	26049	1.402 ng		99
95) Naphthalene	17.49	128	30870	0.645 ng		98
96) n-Dodecane	15.54	58	1280	No Calib	#	
97) Hexachlorobutadiene	17.84	225	11600	0.835 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	15.13	119	38417	0.889 ng		99
100) n-Butylbenzene	15.96	91	40994	0.856 ng		98
101) 1,1,1,2-Tetrachloroethane	12.47	131	9679	0.852 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162116.D Vial: 15
Acq On : 16 Dec 2021 14:48 Operator: TZ
Sample : 1.0ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12102103 (1/9)

Quant Time: Dec 16 16:17:46 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162117.D Vial: 16
Acq On : 16 Dec 2021 15:19 Operator: TZ
Sample : 5.0ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12072101 (1/6)

TZ 12/17/21

Quant Time: Dec 16 16:17:48 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.13	130	94565	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	8.49	114	415772	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	12.46	54	98480	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.65	65	225954	15.416	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 123.36%				
57) Toluene-d8 (SS2)	10.64	98	475736	10.960	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.68%				
73) Bromofluorobenzene (SS3)	13.89	174	128113	11.450	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%				
Target Compounds							Qvalue
2) Propene	4.03	42	66655	3.827	ng		99
3) Dichlorodifluoromethan...	4.11	85	135269	6.497	ng		99
4) Chloromethane	4.24	50	76218	4.307	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	55880	6.059	ng		99
6) Vinyl Chloride	4.41	62	69798	5.133	ng		100
7) 1,3-Butadiene	4.50	54	53500	5.376	ng	#	68
8) Bromomethane	4.70	94	38891	5.135	ng		99
9) Chloroethane	4.81	64	34628	4.574	ng		98
10) Ethanol	4.92	45	167266	14.305	ng		100
11) Acetonitrile	5.05	41	104908	3.431	ng		99
12) Acrolein	5.12	56	61855	8.281	ng		100
13) Acetone	5.20	58	191768	21.592	ng		97
14) Trichlorofluoromethane	5.30	101	127831	6.386	ng		100
15) 2-Propanol (Isopropanol)	5.35	45	343257	9.592	ng		97
16) Acrylonitrile	5.48	53	137835	8.437	ng		99
17) 1,1-Dichloroethene	5.70	96	51566	5.455	ng		99
18) 2-Methyl-2-Propanol (t...	5.72	59	339888	12.478	ng		100
19) Methylene Chloride	5.76	84	52021	5.159	ng		91
20) 3-Chloro-1-propene (Al...	5.83	41	114964	4.274	ng		96
21) Trichlorotrifluoroethane	5.91	151	52136	5.964	ng		100
22) Carbon Disulfide	6.00	76	371482	10.553	ng		100
23) trans-1,2-Dichloroethene	6.34	61	86018	5.388	ng		100
24) 1,1-Dichloroethane	6.48	63	104734	5.398	ng		100
25) Methyl tert-Butyl Ether	6.48	73	156096	4.972	ng		100
26) Vinyl Acetate	6.51	86	38822	17.683	ng		98
27) 2-Butanone (MEK)	6.69	72	72052	10.601	ng		98
28) cis-1,2-Dichloroethene	7.01	61	84209	5.309	ng		99
29) Diisopropyl Ether	7.09	87	94127	11.619	ng		97
30) Ethyl Acetate	7.08	61	77111	18.941	ng		100
31) n-Hexane	7.13	57	91824	4.607	ng		100
32) Chloroform	7.21	83	111884	6.214	ng		99
34) Tetrahydrofuran (THF)	7.47	72	66032	10.289	ng		99
35) Ethyl tert-Butyl Ether	7.46	87	124157	10.374	ng		99
36) 1,2-Dichloroethane	7.73	62	110737	7.004	ng		100
38) 1,1,1-Trichloroethane	7.93	97	113597	6.332	ng		100
39) Isopropyl Acetate	8.28	61	2119	No Calib		#	
40) 1-Butanol	8.10	56	2018	No Calib		#	
41) Benzene	8.28	78	211071	5.051	ng		100
42) Carbon Tetrachloride	8.39	117	98561	6.155	ng		100
43) Cyclohexane	8.50	84	167756	10.121	ng		95
44) tert-Amyl Methyl Ether	8.68	73	255195	8.842	ng		100
45) 1,2-Dichloropropane	8.91	63	52109	4.625	ng		99
46) Bromodichloromethane	9.05	83	95592	6.233	ng		100
47) Trichloroethene	9.09	130	58005	5.344	ng		99
48) 1,4-Dioxane	9.05	88	43579	5.583	ng		98
49) 2,2,4-Trimethylpentane...	9.12	57	232393	4.502	ng		99
50) Methyl Methacrylate	9.16	100	47444	11.711	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162117.D Vial: 16
Acq On : 16 Dec 2021 15:19 Operator: TZ
Sample : 5.0ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12072101 (1/6)

Quant Time: Dec 16 16:17:48 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

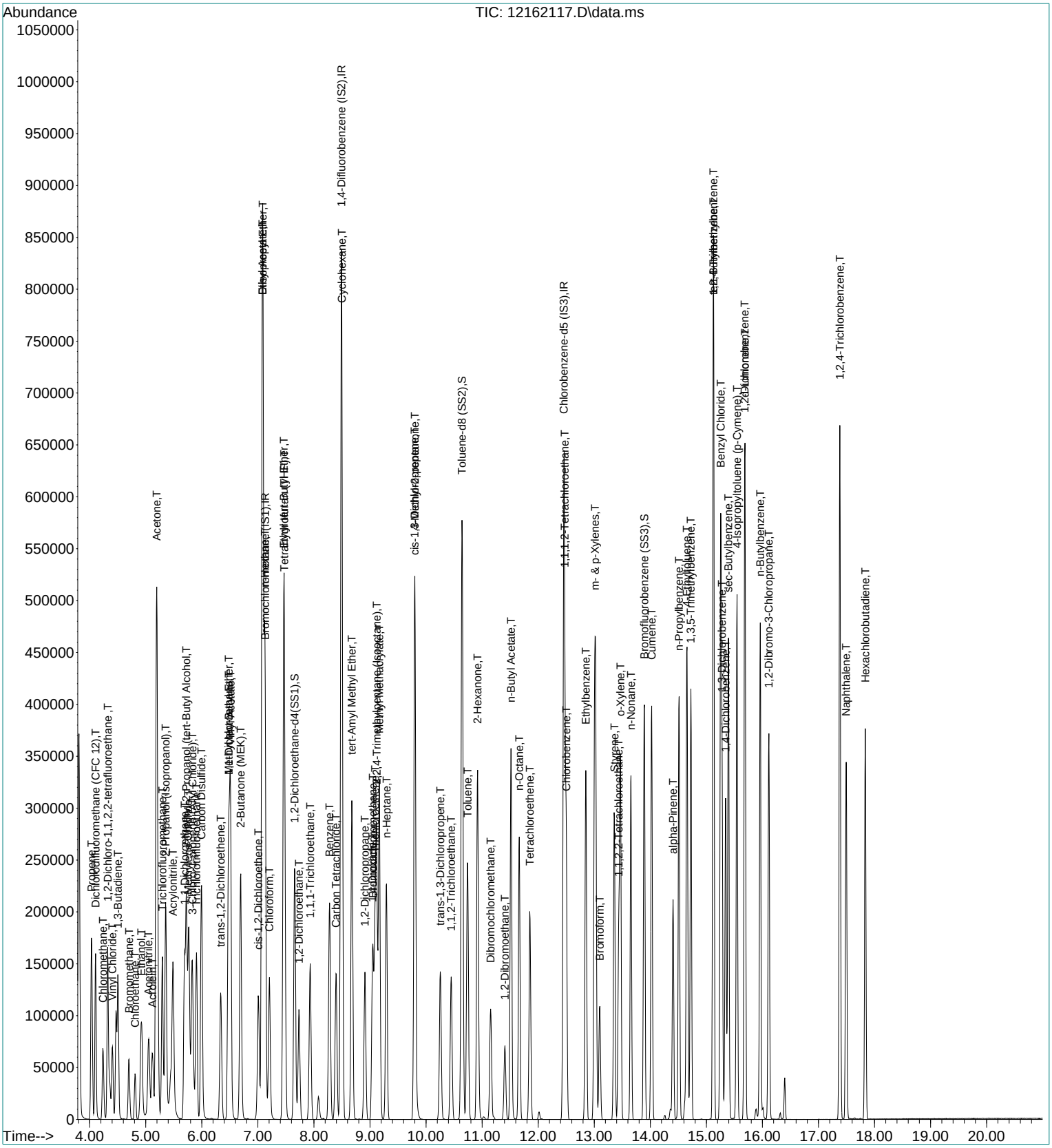
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	9.30	71	55986	5.259 ng		99
52) cis-1,3-Dichloropropene	9.79	75	97331	6.038 ng		99
53) 4-Methyl-2-pentanone	9.80	58	104142	9.998 ng		99
54) trans-1,3-Dichloropropene	10.25	75	96551	6.126 ng		100
55) 1,1,2-Trichloroethane	10.45	97	52342	5.246 ng		100
58) Toluene	10.74	91	226359	4.867 ng		100
59) 2-Hexanone	10.92	43	308820	9.380 ng		99
60) Dibromochloromethane	11.15	129	71620	5.387 ng		99
61) 1,2-Dibromoethane	11.41	107	59611	4.853 ng		100
62) n-Butyl Acetate	11.52	43	330822	9.046 ng		100
63) n-Octane	11.66	57	47991	4.307 ng		99
64) Tetrachloroethene	11.85	166	69986	5.363 ng		100
65) Chlorobenzene	12.50	112	148612	4.955 ng		100
66) Ethylbenzene	12.85	91	275751	5.212 ng		99
67) m- & p-Xylenes	13.01	91	445356	10.890 ng		100
68) Bromoform	13.10	173	61011	5.321 ng		99
69) Styrene	13.36	104	156007	5.247 ng		100
70) o-Xylene	13.47	91	228770	5.489 ng		100
71) n-Nonane	13.66	43	133230	4.282 ng		98
72) 1,1,2,2-Tetrachloroethane	13.43	83	90401	4.754 ng		100
74) Cumene	14.03	105	287619	5.434 ng		99
75) alpha-Pinene	14.41	93	83425	3.617 ng		100
76) n-Propylbenzene	14.51	91	346270	5.424 ng		100
77) 3-Ethyltoluene	14.03	105	287619	No Calib		
78) 4-Ethyltoluene	14.65	105	291660	5.776 ng		99
79) 1,3,5-Trimethylbenzene	14.72	105	243001	5.689 ng		99
80) alpha-Methylstyrene	13.90	118	495	No Calib	#	
81) 2-Ethyltoluene	14.65	105	291660	No Calib		
82) 1,2,4-Trimethylbenzene	15.13	105	250903	5.819 ng		100
83) n-Decane	14.41	58	486	No Calib	#	
84) Benzyl Chloride	15.26	91	408106	11.623 ng		99
85) 1,3-Dichlorobenzene	15.28	146	133441	5.234 ng		99
86) 1,4-Dichlorobenzene	15.34	146	130175	5.149 ng		99
87) sec-Butylbenzene	15.39	105	321484	5.545 ng		99
88) 4-Isopropyltoluene (p-...	15.55	119	299758	5.915 ng		99
89) 1,2,3-Trimethylbenzene	14.41	105	9993	No Calib	#	
90) 1,2-Dichlorobenzene	15.68	146	129298	5.294 ng		100
91) d-Limonene	15.69	68	83301	5.794 ng		100
92) 1,2-Dibromo-3-Chloropr...	16.11	157	100328	10.761 ng		99
93) n-Undecane	15.12	58	11941	No Calib		
94) 1,2,4-Trichlorobenzene	17.38	180	214696	11.656 ng		100
95) Naphthalene	17.49	128	279863	5.898 ng		100
96) n-Dodecane	15.69	58	535	No Calib	#	
97) Hexachlorobutadiene	17.84	225	75212	5.463 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	15.13	119	240762	5.621 ng		100
100) n-Butylbenzene	15.96	91	269077	5.670 ng		99
101) 1,1,1,2-Tetrachloroethane	12.47	131	61889	5.494 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162117.D Vial: 16
Acq On : 16 Dec 2021 15:19 Operator: TZ
Sample : 5.0ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12072101 (1/6)

Quant Time: Dec 16 16:17:48 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162118.D Vial: 16 TZ 12/17/21
Acq On : 16 Dec 2021 15:49 Operator: TZ
Sample : 25ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12072101 (1/6)

Quant Time: Dec 16 16:17:50 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.14	130	97834	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	8.50	114	427593	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	12.46	54	102937	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.67	65	232502	15.333	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 122.64%			
57) Toluene-d8 (SS2)	10.65	98	488307	10.763	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.08%			
73) Bromofluorobenzene (SS3)	13.89	174	132429	11.323	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.56%			
Target Compounds						Qvalue
2) Propene	4.03	42	269804	14.974	ng	100
3) Dichlorodifluoromethan...	4.10	85	537812	24.966	ng	100
4) Chloromethane	4.24	50	293399	16.025	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	226003	23.687	ng	100
6) Vinyl Chloride	4.41	62	285034	20.260	ng	100
7) 1,3-Butadiene	4.51	54	224694	21.824	ng	100
8) Bromomethane	4.70	94	144036	18.382	ng	100
9) Chloroethane	4.82	64	131686	16.812	ng	100
10) Ethanol	4.95	45	642980	53.150	ng	100
11) Acetonitrile	5.07	41	411939	13.022	ng	100
12) Acrolein	5.13	56	246469	31.895	ng	100
13) Acetone	5.21	58	747071	81.304	ng	100
14) Trichlorofluoromethane	5.30	101	507782	24.518	ng	100
15) 2-Propanol (Isopropanol)	5.38	45	1355825	36.622	ng	100
16) Acrylonitrile	5.51	53	547430	32.388	ng	100
17) 1,1-Dichloroethene	5.70	96	205908	21.055	ng	100
18) 2-Methyl-2-Propanol (t...	5.75	59	1353802	48.041	ng	100
19) Methylene Chloride	5.78	84	207738	19.912	ng	100
20) 3-Chloro-1-propene (Al...	5.84	41	438108	15.743	ng	100
21) Trichlorotrifluoroethane	5.91	151	210157	23.238	ng	100
22) Carbon Disulfide	6.00	76	1498564	41.149	ng	100
23) trans-1,2-Dichloroethene	6.35	61	352173	21.323	ng	100
24) 1,1-Dichloroethane	6.49	63	421417	20.993	ng	100
25) Methyl tert-Butyl Ether	6.48	73	598531	18.429	ng	100
26) Vinyl Acetate	6.52	86	157345	69.275	ng	100
27) 2-Butanone (MEK)	6.71	72	293404	41.725	ng	100
28) cis-1,2-Dichloroethene	7.02	61	339934	20.714	ng	100
29) Diisopropyl Ether	7.10	87	380178	45.361	ng	100
30) Ethyl Acetate	7.09	61	307551	73.022	ng	100
31) n-Hexane	7.13	57	364825	17.691	ng	100
32) Chloroform	7.22	83	448864	24.098	ng	100
34) Tetrahydrofuran (THF)	7.48	72	266620	40.156	ng	100
35) Ethyl tert-Butyl Ether	7.47	87	530814	42.870	ng	100
36) 1,2-Dichloroethane	7.75	62	448207	27.402	ng	100
38) 1,1,1-Trichloroethane	7.94	97	455107	24.668	ng	100
39) Isopropyl Acetate	8.29	61	8788	No Calib	#	
40) 1-Butanol	8.10	56	9924	No Calib		
41) Benzene	8.29	78	842136	19.597	ng	100
42) Carbon Tetrachloride	8.40	117	397399	24.129	ng	100
43) Cyclohexane	8.51	84	662586	38.870	ng	100
44) tert-Amyl Methyl Ether	8.68	73	1137227	38.311	ng	100
45) 1,2-Dichloropropane	8.92	63	207894	17.940	ng	100
46) Bromodichloromethane	9.06	83	388172	24.612	ng	100
47) Trichloroethene	9.10	130	237035	21.232	ng	100
48) 1,4-Dioxane	9.05	88	176803	22.026	ng	100
49) 2,2,4-Trimethylpentane...	9.12	57	930206	17.524	ng	100
50) Methyl Methacrylate	9.18	100	194512	46.687	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162118.D Vial: 16
Acq On : 16 Dec 2021 15:49 Operator: TZ
Sample : 25ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12072101 (1/6)

Quant Time: Dec 16 16:17:50 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

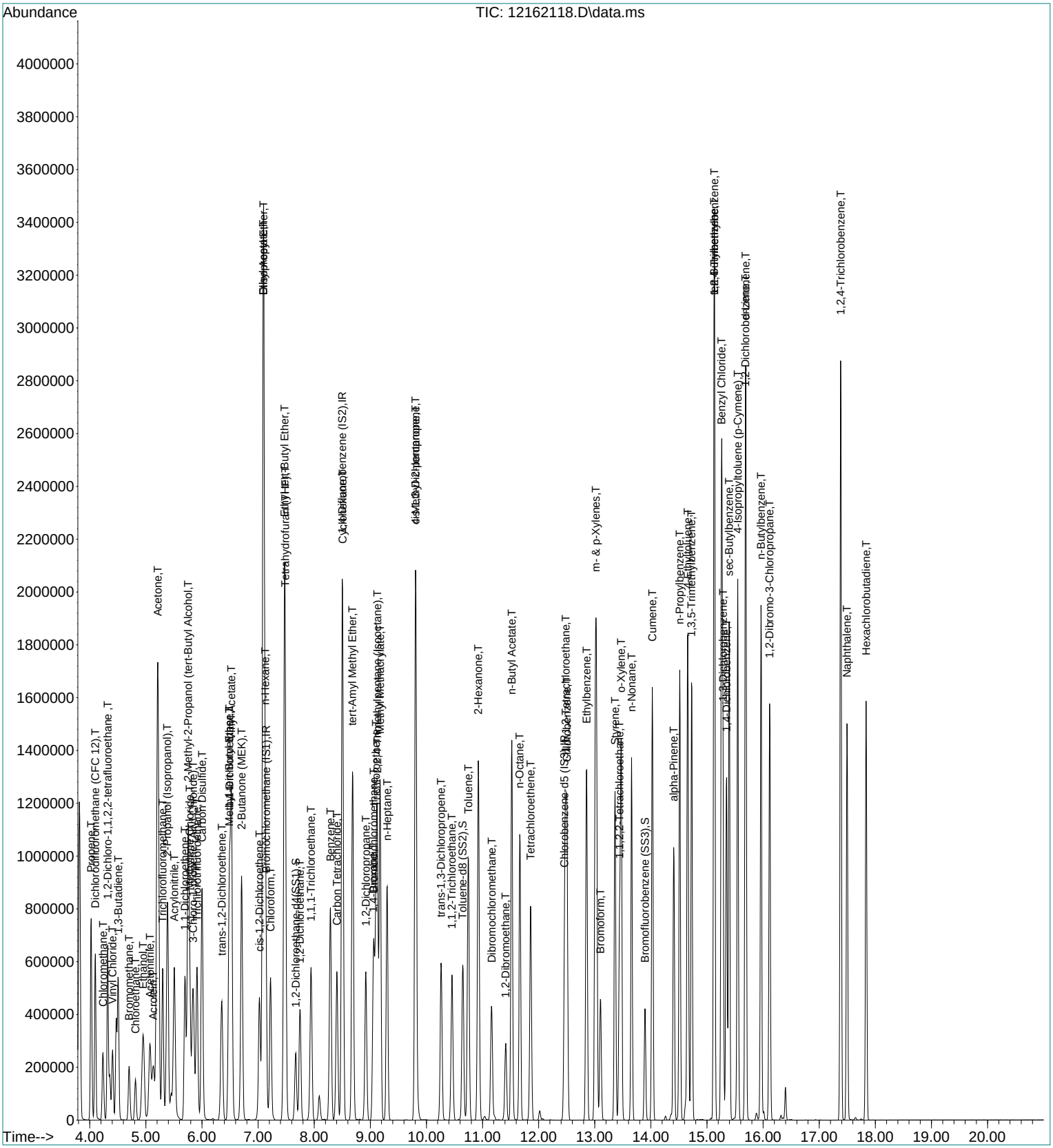
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	9.30	71	221475	20.228 ng		100
52) cis-1,3-Dichloropropene	9.81	75	396413	23.911 ng		100
53) 4-Methyl-2-pentanone	9.81	58	420149	39.221 ng		100
54) trans-1,3-Dichloropropene	10.26	75	401595	24.775 ng		100
55) 1,1,2-Trichloroethane	10.45	97	209116	20.378 ng		100
58) Toluene	10.75	91	910772	18.734 ng		100
59) 2-Hexanone	10.92	43	1241034	36.061 ng		100
60) Dibromochloromethane	11.16	129	295769	21.281 ng		100
61) 1,2-Dibromoethane	11.41	107	245349	19.110 ng		100
62) n-Butyl Acetate	11.52	43	1335851	34.947 ng		100
63) n-Octane	11.66	57	194183	16.673 ng		100
64) Tetrachloroethene	11.86	166	286509	21.005 ng		100
65) Chlorobenzene	12.50	112	602444	19.217 ng		100
66) Ethylbenzene	12.86	91	1115490	20.172 ng		100
67) m- & p-Xylenes	13.02	91	1797076	42.039 ng		100
68) Bromoform	13.10	173	260014	21.695 ng		100
69) Styrene	13.36	104	641917	20.656 ng		100
70) o-Xylene	13.47	91	923626	21.203 ng		100
71) n-Nonane	13.66	43	540540	16.622 ng		100
72) 1,1,2,2-Tetrachloroethane	13.44	83	367400	18.482 ng		100
74) Cumene	14.03	105	1158290	20.935 ng		100
75) alpha-Pinene	14.41	93	415199	17.221 ng		100
76) n-Propylbenzene	14.51	91	1395149	20.908 ng		100
77) 3-Ethyltoluene	14.03	105	1158290	No Calib		
78) 4-Ethyltoluene	14.66	105	1170709	22.180 ng		100
79) 1,3,5-Trimethylbenzene	14.72	105	988189	22.135 ng		100
80) alpha-Methylstyrene	13.89	118	460	No Calib	#	
81) 2-Ethyltoluene	14.66	105	1170709	No Calib		
82) 1,2,4-Trimethylbenzene	15.13	105	1037344	23.018 ng		100
83) n-Decane	14.41	58	2196	No Calib	#	
84) Benzyl Chloride	15.26	91	1778749	48.464 ng		100
85) 1,3-Dichlorobenzene	15.29	146	550211	20.645 ng		100
86) 1,4-Dichlorobenzene	15.35	146	541529	20.494 ng		100
87) sec-Butylbenzene	15.39	105	1300878	21.466 ng		100
88) 4-Isopropyltoluene (p-...	15.55	119	1190319	22.473 ng		100
89) 1,2,3-Trimethylbenzene	14.41	105	49743	No Calib		
90) 1,2-Dichlorobenzene	15.68	146	532711	20.869 ng		100
91) d-Limonene	15.69	68	367399	24.446 ng		100
92) 1,2-Dibromo-3-Chloropr...	16.11	157	424309	43.541 ng		100
93) n-Undecane	15.13	58	38469	No Calib		
94) 1,2,4-Trichlorobenzene	17.38	180	908523	47.190 ng		100
95) Naphthalene	17.49	128	1194101	24.074 ng		100
96) n-Dodecane	15.69	58	2894	No Calib	#	
97) Hexachlorobutadiene	17.84	225	310322	21.566 ng		100
98) Cyclohexanone	13.03	55	1449	No Calib		
99) tert-Butylbenzene	15.13	119	986297	22.030 ng		100
100) n-Butylbenzene	15.96	91	1088116	21.937 ng		100
101) 1,1,1,2-Tetrachloroethane	12.48	131	251565	21.365 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162118.D Vial: 16
Acq On : 16 Dec 2021 15:49 Operator: TZ
Sample : 25ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12072101 (1/6)

Quant Time: Dec 16 16:17:50 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:17:29 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162119.D Vial: 16
Acq On : 16 Dec 2021 16:20 Operator: TZ
Sample : 50ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12072101 (1/6)

TZ 12/17/21

Quant Time: Dec 16 16:55:44 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:18:46 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.15	130	100323	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	8.51	114	445061	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	12.46	54	107407	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.68	65	239063	12.453	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
57) Toluene-d8 (SS2)	10.65	98	506849	12.029	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
73) Bromofluorobenzene (SS3)	13.89	174	134569	12.071	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
Target Compounds							Qvalue
2) Propene	4.03	42	594717	48.485	ng		99
3) Dichlorodifluoromethan...	4.10	85	1073546	44.546	ng		100
4) Chloromethane	4.24	50	525650	37.654	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	453285	46.463	ng		99
6) Vinyl Chloride	4.41	62	574189	46.211	ng		100
7) 1,3-Butadiene	4.51	54	480824	51.288	ng	#	60
8) Bromomethane	4.71	94	292772	41.606	ng		100
9) Chloroethane	4.82	64	266185	42.510	ng		100
10) Ethanol	4.97	45	1303655	141.711	ng		99
11) Acetonitrile	5.09	41	860402	39.844	ng		92
12) Acrolein	5.14	56	505682	91.783	ng		100
13) Acetone	5.22	58	1511462	205.855	ng		98
14) Trichlorofluoromethane	5.30	101	999907	43.145	ng		99
15) 2-Propanol (Isopropanol)	5.41	45	2575318	81.145	ng		100
16) Acrylonitrile	5.52	53	1113839	91.173	ng		98
17) 1,1-Dichloroethene	5.71	96	417712	46.705	ng		100
18) 2-Methyl-2-Propanol (t...	5.77	59	2233688	78.600	ng		99
19) Methylene Chloride	5.79	84	420324	44.262	ng		100
20) 3-Chloro-1-propene (Al...	5.85	41	864103	41.190	ng		99
21) Trichlorotrifluoroethane	5.92	151	421482	46.952	ng		100
22) Carbon Disulfide	6.01	76	3013766	90.465	ng		99
23) trans-1,2-Dichloroethene	6.36	61	713126	48.261	ng		99
24) 1,1-Dichloroethane	6.50	63	849547	45.564	ng		100
25) Methyl tert-Butyl Ether	6.49	73	1059994	36.331	ng		99
26) Vinyl Acetate	6.54	86	321868	162.044	ng	#	94
27) 2-Butanone (MEK)	6.72	72	593038	91.179	ng		99
28) cis-1,2-Dichloroethene	7.04	61	707938	47.339	ng		97
29) Diisopropyl Ether	7.10	87	774932	92.287	ng	#	96
30) Ethyl Acetate	7.10	61	613261	170.430	ng		96
31) n-Hexane	7.13	57	738361	44.271	ng		100
32) Chloroform	7.23	83	893922	45.416	ng		99
34) Tetrahydrofuran (THF)	7.49	72	537531	85.261	ng		99
35) Ethyl tert-Butyl Ether	7.48	87	1099304	104.914	ng		99
36) 1,2-Dichloroethane	7.76	62	889640	45.883	ng		100
38) 1,1,1-Trichloroethane	7.95	97	901427	45.347	ng		99
39) Isopropyl Acetate	8.29	61	17391	No Calib		#	
40) 1-Butanol	8.11	56	20653	No Calib			
41) Benzene	8.30	78	1691754	39.852	ng		100
42) Carbon Tetrachloride	8.41	117	788214	45.716	ng		99
43) Cyclohexane	8.51	84	1330596	84.027	ng		100
44) tert-Amyl Methyl Ether	8.69	73	2415463	109.540	ng		100
45) 1,2-Dichloropropane	8.93	63	417713	43.442	ng		99
46) Bromodichloromethane	9.07	83	781642	47.473	ng		100
47) Trichloroethene	9.10	130	477471	46.002	ng		100
48) 1,4-Dioxane	9.06	88	356205	45.242	ng		100
49) 2,2,4-Trimethylpentane...	9.13	57	1890242	45.763	ng		98
50) Methyl Methacrylate	9.18	100	391391	99.291	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162119.D Vial: 16
Acq On : 16 Dec 2021 16:20 Operator: TZ
Sample : 50ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12072101 (1/6)

Quant Time: Dec 16 16:55:44 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:18:46 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

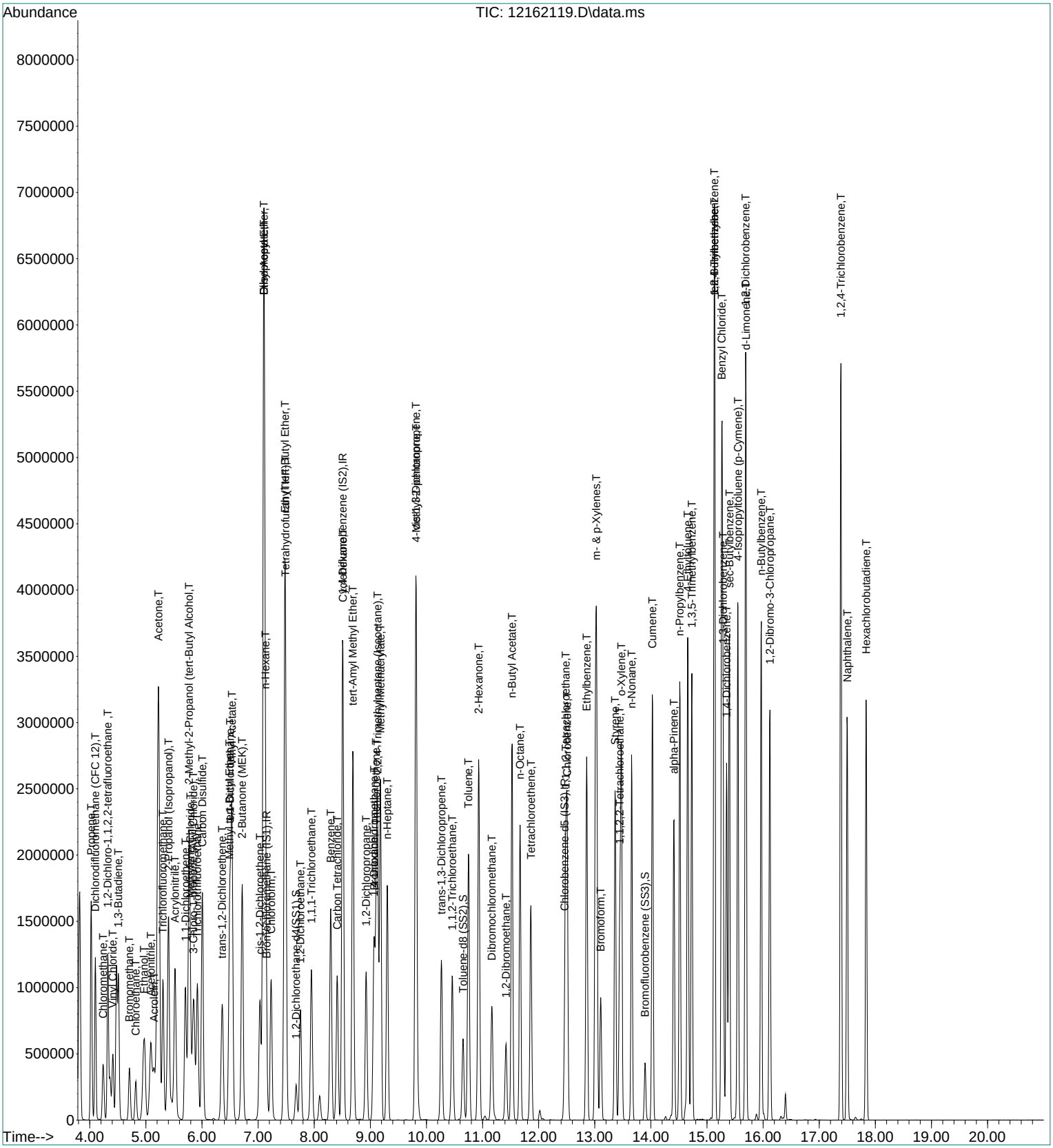
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	9.30	71	445957	44.963 ng		99
52) cis-1,3-Dichloropropene	9.81	75	803013	48.509 ng		100
53) 4-Methyl-2-pentanone	9.82	58	854990	94.769 ng		99
54) trans-1,3-Dichloropropene	10.27	75	815560	48.824 ng		100
55) 1,1,2-Trichloroethane	10.46	97	423929	48.074 ng		100
58) Toluene	10.75	91	1831251	41.721 ng		100
59) 2-Hexanone	10.93	43	2508820	90.363 ng		100
60) Dibromochloromethane	11.16	129	594145	48.021 ng		99
61) 1,2-Dibromoethane	11.42	107	495835	46.018 ng		100
62) n-Butyl Acetate	11.53	43	2698593	90.115 ng		100
63) n-Octane	11.67	57	395501	45.947 ng		99
64) Tetrachloroethene	11.86	166	573585	44.637 ng		100
65) Chlorobenzene	12.51	112	1222031	44.595 ng		100
66) Ethylbenzene	12.86	91	2240111	43.788 ng		100
67) m- & p-Xylenes	13.03	91	3609327	88.084 ng		99
68) Bromoform	13.11	173	527427	50.006 ng		100
69) Styrene	13.36	104	1302226	48.133 ng		100
70) o-Xylene	13.47	91	1856408	45.009 ng		100
71) n-Nonane	13.66	43	1096798	45.620 ng		100
72) 1,1,2,2-Tetrachloroethane	13.45	83	750145	46.148 ng		99
74) Cumene	14.03	105	2310088	43.812 ng		100
75) alpha-Pinene	14.41	93	916052	73.423 ng		99
76) n-Propylbenzene	14.51	91	2783090	44.508 ng		100
77) 3-Ethyltoluene	14.03	105	2310088	No Calib		
78) 4-Ethyltoluene	14.66	105	2342023	45.366 ng		100
79) 1,3,5-Trimethylbenzene	14.73	105	1980728	46.234 ng		100
80) alpha-Methylstyrene	13.89	118	462	No Calib	#	
81) 2-Ethyltoluene	14.66	105	2342870	No Calib		
82) 1,2,4-Trimethylbenzene	15.13	105	2082489	46.849 ng		100
83) n-Decane	14.41	58	4704	No Calib	#	
84) Benzyl Chloride	15.26	91	3632696	106.178 ng		99
85) 1,3-Dichlorobenzene	15.29	146	1119259	46.890 ng		100
86) 1,4-Dichlorobenzene	15.35	146	1079678	45.954 ng		100
87) sec-Butylbenzene	15.40	105	2575648	44.847 ng		100
88) 4-Isopropyltoluene (p-...	15.55	119	2341146	43.477 ng		100
89) 1,2,3-Trimethylbenzene	14.41	105	107170	No Calib	#	
90) 1,2-Dichlorobenzene	15.69	146	1073342	46.445 ng		100
91) d-Limonene	15.69	68	767626	60.265 ng		99
92) 1,2-Dibromo-3-Chloropr...	16.12	157	851592	93.111 ng		99
93) n-Undecane	15.14	58	88472	No Calib		
94) 1,2,4-Trichlorobenzene	17.39	180	1840519	105.475 ng		99
95) Naphthalene	17.50	128	2406039	55.838 ng		100
96) n-Dodecane	15.69	58	4728	No Calib	#	
97) Hexachlorobutadiene	17.84	225	617161	45.617 ng		100
98) Cyclohexanone	13.03	55	3240	No Calib		
99) tert-Butylbenzene	15.13	119	1968591	45.296 ng		99
100) n-Butylbenzene	15.97	91	2154580	45.848 ng		99
101) 1,1,1,2-Tetrachloroethane	12.48	131	502657	45.431 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162119.D Vial: 16
Acq On : 16 Dec 2021 16:20 Operator: TZ
Sample : 50ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12072101 (1/6)

Quant Time: Dec 16 16:55:44 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:18:46 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

TZ 12/17/21

Data File : I:\MS09\Data\2021 12\16\12162120.D Vial: 16
Acq On : 16 Dec 2021 16:50 Operator: TZ
Sample : 100ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12072101 (1/6)

Quant Time: Dec 16 17:19:57 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:55:55 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.17	130	106023	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	8.52	114	475471	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	12.47	54	115274	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.69	65	247974	12.229	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
57) Toluene-d8 (SS2)	10.66	98	532241	11.834	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
73) Bromofluorobenzene (SS3)	13.90	174	138659	11.646	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%				
Target Compounds							Qvalue
2) Propene	4.04	42	1388192	108.134	ng		100
3) Dichlorodifluoromethan...	4.11	85	2160757	86.716	ng		100
4) Chloromethane	4.25	50	743898	52.382	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	929693	92.007	ng		99
6) Vinyl Chloride	4.42	62	1193475	92.357	ng		99
7) 1,3-Butadiene	4.53	54	1044334	105.614	ng	#	62
8) Bromomethane	4.72	94	599801	82.836	ng		100
9) Chloroethane	4.83	64	533759	82.625	ng		100
10) Ethanol	5.00	45	2697462	286.337	ng		100
11) Acetonitrile	5.10	41	2177519	97.408	ng		95
12) Acrolein	5.16	56	1051683	182.767	ng		100
13) Acetone	5.24	58	3105732	412.428	ng		93
14) Trichlorofluoromethane	5.31	101	2015475	84.243	ng		99
15) 2-Propanol (Isopropanol)	5.42	45	4630753	142.054	ng		99
16) Acrylonitrile	5.54	53	2329959	183.126	ng		98
17) 1,1-Dichloroethene	5.72	96	865555	93.269	ng		99
18) 2-Methyl-2-Propanol (t...	5.79	59	3211444	110.914	ng		97
19) Methylene Chloride	5.80	84	878940	89.483	ng		98
20) 3-Chloro-1-propene (Al...	5.87	41	1744334	81.177	ng		97
21) Trichlorotrifluoroethane	5.93	151	861348	92.518	ng		99
22) Carbon Disulfide	6.02	76	6138079	177.860	ng		99
23) trans-1,2-Dichloroethene	6.37	61	1481032	96.068	ng		99
24) 1,1-Dichloroethane	6.51	63	1740525	90.031	ng		100
25) Methyl tert-Butyl Ether	6.50	73	1613534	54.739	ng		98
26) Vinyl Acetate	6.55	86	656306	314.757	ng	#	86
27) 2-Butanone (MEK)	6.73	72	1213916	179.547	ng		98
28) cis-1,2-Dichloroethene	7.05	61	1466916	94.022	ng		97
29) Diisopropyl Ether	7.11	87	1634586	187.666	ng	#	87
30) Ethyl Acetate	7.11	61	1324267	356.622	ng		95
31) n-Hexane	7.14	57	1546395	89.744	ng		100
32) Chloroform	7.25	83	1817552	89.304	ng		99
34) Tetrahydrofuran (THF)	7.50	72	1113638	170.416	ng		99
35) Ethyl tert-Butyl Ether	7.48	87	2315876	209.163	ng		99
36) 1,2-Dichloroethane	7.77	62	1801216	89.622	ng		100
38) 1,1,1-Trichloroethane	7.96	97	1806734	86.660	ng		99
39) Isopropyl Acetate	8.30	61	35323	No Calib		#	
40) 1-Butanol	8.12	56	44561	No Calib			
41) Benzene	8.30	78	3472357	79.208	ng		99
42) Carbon Tetrachloride	8.42	117	1569502	86.811	ng		100
43) Cyclohexane	8.52	84	2721712	165.327	ng		99
44) tert-Amyl Methyl Ether	8.70	73	5118336	215.781	ng		99
45) 1,2-Dichloropropane	8.94	63	867053	86.335	ng		99
46) Bromodichloromethane	9.08	83	1606718	92.610	ng		100
47) Trichloroethene	9.11	130	989745	90.641	ng		100
48) 1,4-Dioxane	9.07	88	738975	89.517	ng		98
49) 2,2,4-Trimethylpentane...	9.14	57	3919789	90.596	ng		99
50) Methyl Methacrylate	9.19	100	807964	193.110	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162120.D Vial: 16
Acq On : 16 Dec 2021 16:50 Operator: TZ
Sample : 100ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12072101 (1/6)

Quant Time: Dec 16 17:19:57 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:55:55 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

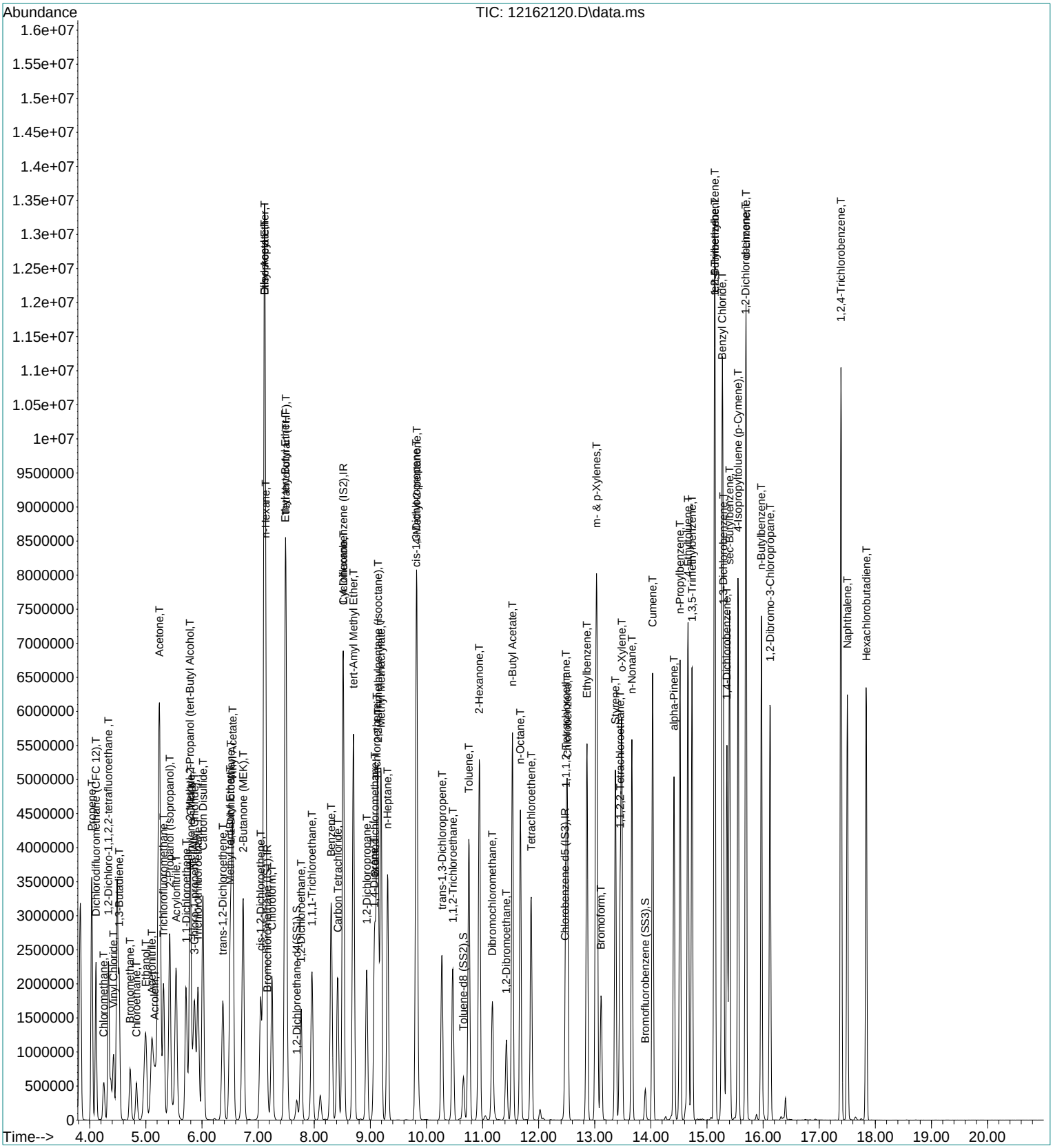
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	9.31	71	920732	88.714 ng		99
52) cis-1,3-Dichloropropene	9.82	75	1662723	95.050 ng		100
53) 4-Methyl-2-pentanone	9.83	58	1769714	185.971 ng		97
54) trans-1,3-Dichloropropene	10.28	75	1672901	94.190 ng		100
55) 1,1,2-Trichloroethane	10.47	97	876265	94.029 ng		100
58) Toluene	10.75	91	3758144	82.003 ng		99
59) 2-Hexanone	10.94	43	5112209	174.518 ng		99
60) Dibromochloromethane	11.17	129	1216358	92.731 ng		99
61) 1,2-Dibromoethane	11.42	107	1025344	90.148 ng		100
62) n-Butyl Acetate	11.53	43	5460296	172.769 ng		99
63) n-Octane	11.67	57	827740	91.227 ng		99
64) Tetrachloroethene	11.87	166	1178299	87.203 ng		99
65) Chlorobenzene	12.51	112	2528906	87.773 ng		100
66) Ethylbenzene	12.86	91	4554585	84.766 ng		99
67) m- & p-Xylenes	13.03	91	7350688	170.678 ng		99
68) Bromoform	13.11	173	1088068	96.650 ng		100
69) Styrene	13.37	104	2672234	92.899 ng		99
70) o-Xylene	13.48	91	3786315	87.210 ng		99
71) n-Nonane	13.66	43	2264319	89.319 ng		100
72) 1,1,2,2-Tetrachloroethane	13.45	83	1555789	90.635 ng		99
74) Cumene	14.03	105	4641391	83.907 ng		99
75) alpha-Pinene	14.41	93	1980201	140.657 ng		99
76) n-Propylbenzene	14.52	91	5568247	84.816 ng		99
77) 3-Ethyltoluene	14.03	105	4641267	No Calib		
78) 4-Ethyltoluene	14.66	105	4723577	87.045 ng		99
79) 1,3,5-Trimethylbenzene	14.74	105	3992961	88.241 ng		99
80) alpha-Methylstyrene	13.90	118	516	No Calib	#	
81) 2-Ethyltoluene	14.66	105	4724199	No Calib		
82) 1,2,4-Trimethylbenzene	15.14	105	4197360	89.133 ng		99
83) n-Decane	14.41	58	10075	No Calib		
84) Benzyl Chloride	15.27	91	7326378	198.649 ng		98
85) 1,3-Dichlorobenzene	15.29	146	2291877	90.736 ng		100
86) 1,4-Dichlorobenzene	15.35	146	2203523	88.863 ng		99
87) sec-Butylbenzene	15.40	105	5140839	85.075 ng		99
88) 4-Isopropyltoluene (p-...	15.55	119	4607586	81.639 ng		99
89) 1,2,3-Trimethylbenzene	14.41	105	230894	No Calib	#	
90) 1,2-Dichlorobenzene	15.69	146	2171531	89.019 ng		99
91) d-Limonene	15.69	68	1629443	116.728 ng		97
92) 1,2-Dibromo-3-Chloropr...	16.13	157	1737828	178.803 ng		99
93) n-Undecane	15.14	58	171307	No Calib		
94) 1,2,4-Trichlorobenzene	17.39	180	3618450	192.276 ng		99
95) Naphthalene	17.50	128	4833907	103.436 ng		99
96) n-Dodecane	15.69	58	10243	No Calib	#	
97) Hexachlorobutadiene	17.84	225	1237134	86.614 ng		99
98) Cyclohexanone	13.02	55	6823	No Calib		
99) tert-Butylbenzene	15.14	119	3913374	85.473 ng		98
100) n-Butylbenzene	15.97	91	4287485	86.469 ng		98
101) 1,1,1,2-Tetrachloroethane	12.49	131	1029635	88.302 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162120.D Vial: 16
Acq On : 16 Dec 2021 16:50 Operator: TZ
Sample : 100ng R9121621 ICAL Std. Inst : MS09
Misc : S34-10072101/S35-12072101 (1/6)

Quant Time: Dec 16 17:19:57 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 16:55:55 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162123.D Vial: 2
Acq On : 16 Dec 2021 18:22 Operator: TZ
Sample : 25ng R9121621 ICV Std. Inst : MS09
Misc : S34-10072101/S35-12092101 (1/8)

TZ 12/17/21

Quant Time: Dec 17 08:14:34 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 17:20:09 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.14	130	114037	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	8.50	114	501942	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	12.46	54	115502	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.67	65	263241	12.102	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
57) Toluene-d8 (SS2)	10.65	98	573797	12.818	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
73) Bromofluorobenzene (SS3)	13.89	174	145727	12.321	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
Target Compounds							Qvalue
2) Propene	4.03	42	335627	24.186	ng		98
3) Dichlorodifluoromethan...	4.10	85	601245	22.933	ng		100
4) Chloromethane	4.24	50	356244	24.115	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	255655	23.967	ng		98
6) Vinyl Chloride	4.41	62	352818	25.744	ng		100
7) 1,3-Butadiene	4.51	54	261914	24.578	ng		95
8) Bromomethane	4.70	94	175941	23.134	ng		100
9) Chloroethane	4.81	64	168867	24.894	ng		99
10) Ethanol	4.96	45	976012	98.908	ng		99
11) Acetonitrile	5.08	41	529520	21.893	ng		99
12) Acrolein	5.13	56	322808	52.725	ng		98
13) Acetone	5.21	58	934965	118.475	ng		89
14) Trichlorofluoromethane	5.30	101	557659	22.176	ng		99
15) 2-Propanol (Isopropanol)	5.39	45	1683610	49.867	ng		98
16) Acrylonitrile	5.51	53	672980	49.786	ng		98
17) 1,1-Dichloroethene	5.70	96	241989	24.639	ng		99
18) 2-Methyl-2-Propanol (t...	5.75	59	1523928	52.000	ng		99
19) Methylene Chloride	5.78	84	247362	23.829	ng		100
20) 3-Chloro-1-propene (Al...	5.84	41	495796	22.078	ng		99
21) Trichlorotrifluoroethane	5.91	151	235826	23.980	ng		99
22) Carbon Disulfide	6.00	76	1738105	47.738	ng		100
23) trans-1,2-Dichloroethene	6.35	61	411427	25.106	ng		99
24) 1,1-Dichloroethane	6.50	63	507293	24.839	ng		100
25) Methyl tert-Butyl Ether	6.48	73	651724	21.864	ng		98
26) Vinyl Acetate	6.53	86	274360	123.479	ng	#	91
27) 2-Butanone (MEK)	6.71	72	347954	48.629	ng		98
28) cis-1,2-Dichloroethene	7.02	61	405913	24.482	ng		98
29) Diisopropyl Ether	7.10	87	440596	47.714	ng	#	70
30) Ethyl Acetate	7.09	61	260207	66.191	ng		98
31) n-Hexane	7.13	57	439955	24.177	ng		100
32) Chloroform	7.22	83	514930	24.019	ng		100
34) Tetrahydrofuran (THF)	7.48	72	332518	48.120	ng		98
35) Ethyl tert-Butyl Ether	7.47	87	618908	51.995	ng		97
36) 1,2-Dichloroethane	7.74	62	499948	23.583	ng		100
38) 1,1,1-Trichloroethane	7.94	97	506073	23.483	ng		99
39) Isopropyl Acetate	8.29	61	9856	No Calib		#	
40) 1-Butanol	8.10	56	6952	No Calib			
41) Benzene	8.29	78	1016750	22.645	ng		100
42) Carbon Tetrachloride	8.40	117	416506	22.305	ng		100
43) Cyclohexane	8.51	84	783470	46.245	ng		98
44) tert-Amyl Methyl Ether	8.69	73	1350974	53.733	ng		99
45) 1,2-Dichloropropane	8.92	63	252814	24.338	ng		100
46) Bromodichloromethane	9.06	83	439697	24.367	ng		100
47) Trichloroethene	9.10	130	277407	24.432	ng		100
48) 1,4-Dioxane	9.05	88	209968	24.520	ng		99
49) 2,2,4-Trimethylpentane...	9.12	57	1104401	24.627	ng		96
50) Methyl Methacrylate	9.18	100	228242	52.141	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162123.D Vial: 2
Acq On : 16 Dec 2021 18:22 Operator: TZ
Sample : 25ng R9121621 ICV Std. Inst : MS09
Misc : S34-10072101/S35-12092101 (1/8)

Quant Time: Dec 17 08:14:34 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 17:20:09 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

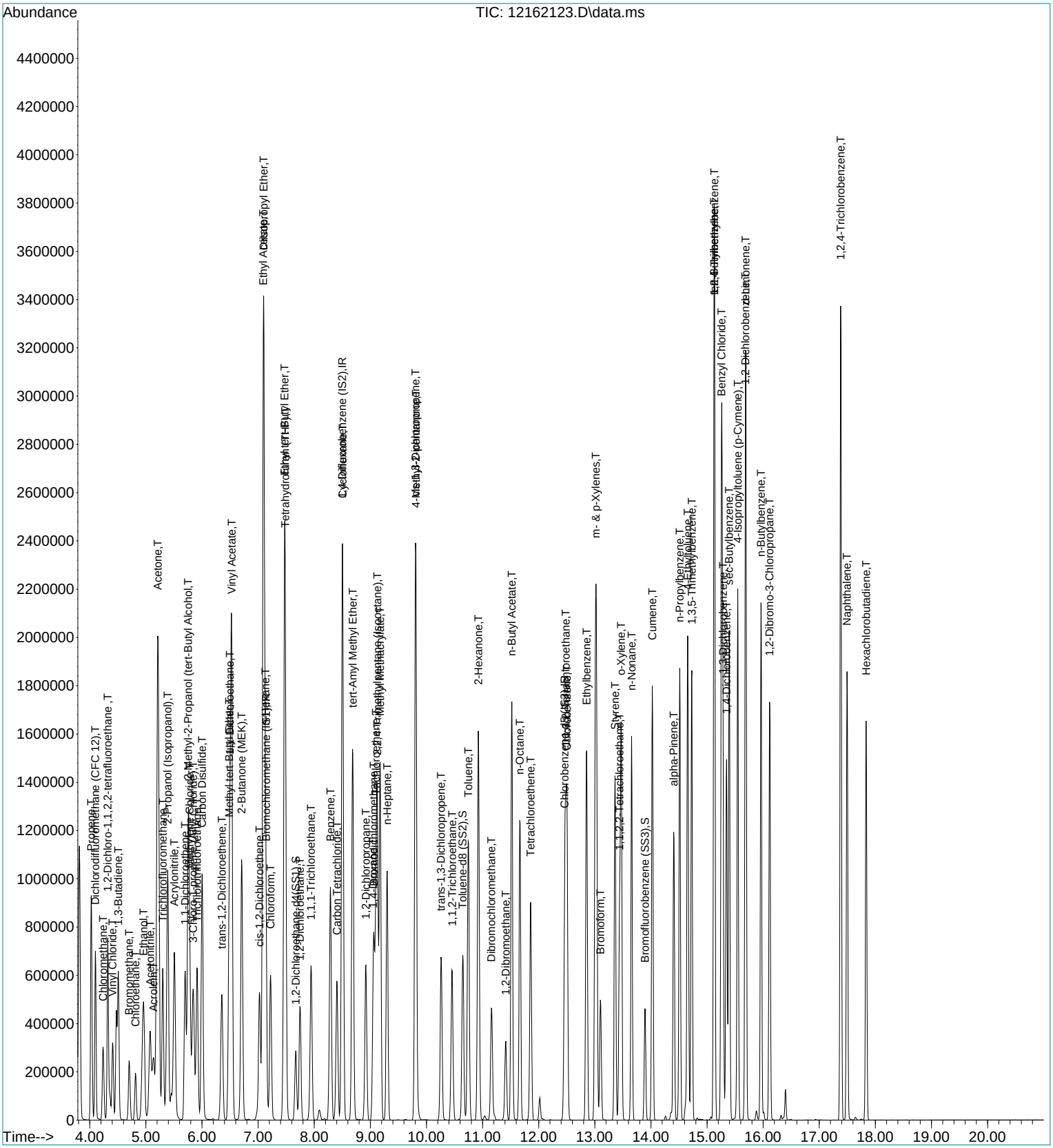
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	9.30	71	262294	24.413 ng		98
52) cis-1,3-Dichloropropene	9.81	75	466479	25.563 ng		100
53) 4-Methyl-2-pentanone	9.81	58	506630	51.108 ng		98
54) trans-1,3-Dichloropropene	10.26	75	467239	25.132 ng		100
55) 1,1,2-Trichloroethane	10.46	97	245097	25.216 ng		100
58) Toluene	10.75	91	1071007	23.933 ng		100
59) 2-Hexanone	10.92	43	1480437	51.394 ng		99
60) Dibromochloromethane	11.16	129	320801	24.770 ng		100
61) 1,2-Dibromoethane	11.41	107	279865	24.973 ng		99
62) n-Butyl Acetate	11.52	43	1630187	52.483 ng		99
63) n-Octane	11.66	57	231436	25.881 ng		98
64) Tetrachloroethene	11.86	166	319746	24.104 ng		99
65) Chlorobenzene	12.50	112	693850	24.513 ng		100
66) Ethylbenzene	12.86	91	1294444	24.588 ng		100
67) m- & p-Xylenes	13.02	91	2073312	49.098 ng		99
68) Bromoform	13.10	173	282417	25.260 ng		100
69) Styrene	13.36	104	745096	26.173 ng		99
70) o-Xylene	13.47	91	1061931	24.914 ng		100
71) n-Nonane	13.66	43	643286	25.780 ng		99
72) 1,1,2,2-Tetrachloroethane	13.44	83	430143	25.417 ng		100
74) Cumene	14.03	105	1299324	24.023 ng		100
75) alpha-Pinene	14.41	93	482911	30.075 ng		98
76) n-Propylbenzene	14.51	91	1571769	24.482 ng		100
77) 3-Ethyltoluene	14.03	105	1299324	No Calib		
78) 4-Ethyltoluene	14.66	105	1305492	24.559 ng		100
79) 1,3,5-Trimethylbenzene	14.73	105	1122549	25.236 ng		100
80) alpha-Methylstyrene	13.89	118	554	No Calib	#	
81) 2-Ethyltoluene	14.66	105	1305492	No Calib		
82) 1,2,4-Trimethylbenzene	15.13	105	1170461	25.231 ng		100
83) n-Decane	14.41	58	2566	No Calib	#	
84) Benzyl Chloride	15.26	91	2089883	56.807 ng		100
85) 1,3-Dichlorobenzene	15.29	146	633423	25.433 ng		100
86) 1,4-Dichlorobenzene	15.35	146	628966	25.784 ng		99
87) sec-Butylbenzene	15.39	105	1435932	24.268 ng		100
88) 4-Isopropyltoluene (p-...	15.55	119	1300320	23.629 ng		99
89) 1,2,3-Trimethylbenzene	14.41	105	56929	No Calib	#	
90) 1,2-Dichlorobenzene	15.68	146	599212	24.991 ng		100
91) d-Limonene	15.69	68	431017	27.623 ng		97
92) 1,2-Dibromo-3-Chloropr...	16.11	157	474281	49.356 ng		99
93) n-Undecane	15.12	58	50861	No Calib		
94) 1,2,4-Trichlorobenzene	17.38	180	1079790	57.679 ng		99
95) Naphthalene	17.49	128	1494239	31.932 ng		100
96) n-Dodecane	15.69	58	3192	No Calib	#	
97) Hexachlorobutadiene	17.84	225	323411	23.056 ng		100
98) Cyclohexanone	13.03	55	1788	No Calib		
99) tert-Butylbenzene	15.13	119	1092096	24.348 ng		100
100) n-Butylbenzene	15.96	91	1220688	25.099 ng		100
101) 1,1,1,2-Tetrachloroethane	12.48	131	275133	24.002 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2021 12\16\12162123.D Vial: 2
Acq On : 16 Dec 2021 18:22 Operator: TZ
Sample : 25ng R9121621 ICV Std. Inst : MS09
Misc : S34-10072101/S35-12092101 (1/8)

Quant Time: Dec 17 08:14:34 2021
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 16 17:20:09 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **12162123.D** Acq. Method File: **TO15.M**
Data File Path: **I:\MS09\Data\2021_12\16** Sample Name: **25ng R9121621 ICV Std.**
Operator: **TZ** Misc Info: **S34-10072101/S35-12092101 (**
Date Acquired: **12/16/2021 18:22** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.03**	**24.2**	**25.75**	94	**56**	**128**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.10**	**22.9**	**26.00**	88	**71**	**112**	*	*
4)	**Chloromethane**	**4.24**	**24.1**	**25.75**	94	**53**	**126**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.32**	**24.0**	**26.00**	92	**62**	**121**	*	*
6)	**Vinyl Chloride**	**4.41**	**25.7**	**26.00**	99	**63**	**123**	*	*
7)	**1,3-Butadiene**	**4.51**	**24.6**	**25.75**	96	**63**	**135**	*	*
8)	**Bromomethane**	**4.70**	**23.1**	**25.75**	90	**71**	**112**	*	*
9)	**Chloroethane**	**4.81**	**24.9**	**25.75**	97	**66**	**117**	*	*
10)	**Ethanol**	**4.96**	**99**	**104.00**	95	**57**	**117**	*	*
11)	**Acetonitrile**	**5.08**	**21.9**	**25.25**	87	**59**	**131**	*	*
12)	**Acrolein**	**5.13**	**52.7**	**52.00**	101	**71**	**123**	*	*
13)	**Acetone**	**5.21**	**118**	**128.00**	92	**60**	**117**	*	*
14)	**Trichlorofluoromethane**	**5.30**	**22.2**	**25.25**	88	**71**	**114**	*	*
15)	**2-Propanol (Isopropanol)**	**5.39**	**49.9**	**50.00**	100	**61**	**124**	*	*
16)	**Acrylonitrile**	**5.51**	**49.8**	**50.25**	99	**65**	**130**	*	*
17)	**1,1-Dichloroethene**	**5.70**	**24.6**	**26.25**	94	**74**	**114**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	5.75	52.0	51.00	102	56	135	*	*
19)	**Methylene Chloride**	**5.78**	**23.8**	**26.00**	92	**75**	**112**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**5.84**	**22.1**	**25.50**	87	**57**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**5.91**	**24.0**	**27.00**	89	**73**	**114**	*	*
22)	**Carbon Disulfide**	**6.00**	**47.7**	**51.75**	92	**70**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**6.35**	**25.1**	**26.00**	97	**76**	**119**	*	*
24)	**1,1-Dichloroethane**	**6.50**	**24.8**	**26.75**	93	**70**	**114**	*	*
25)	**Methyl tert-Butyl Ether**	**6.48**	**21.9**	**25.75**	85	**72**	**118**	*	*
26)	**Vinyl Acetate**	**6.53**	**123**	**117.75**	104	**56**	**137**	*	*
27)	**2-Butanone (MEK)**	**6.71**	**48.6**	**51.00**	95	**74**	**121**	*	*
28)	**cis-1,2-Dichloroethene**	**7.02**	**24.5**	**25.75**	95	**73**	**117**	*	*
29)	Diisopropyl Ether	7.10	47.7	52.25	91	58	124	*	*
30)	**Ethyl Acetate**	**7.09**	**66.2**	**72.50**	91	**59**	**161**	*	*
31)	**n-Hexane**	**7.13**	**24.2**	**26.00**	93	**55**	**130**	*	*
32)	**Chloroform**	**7.22**	**24.0**	**26.25**	91	**71**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**7.48**	**48.1**	**50.50**	95	**73**	**114**	*	*
35)	Ethyl tert-Butyl Ether	7.47	52.0	51.75	100	76	119	*	*
36)	**1,2-Dichloroethane**	**7.74**	**23.6**	**26.25**	90	**71**	**119**	*	*
38)	**1,1,1-Trichloroethane**	**7.94**	**23.5**	**26.00**	90	**73**	**119**	*	*
41)	**Benzene**	**8.29**	**22.6**	**26.00**	87	**72**	**113**	*	*
42)	**Carbon Tetrachloride**	**8.40**	**22.3**	**25.25**	88	**67**	**123**	*	*
43)	**Cyclohexane**	**8.51**	**46.2**	**51.50**	90	**70**	**119**	*	*
44)	tert-Amyl Methyl Ether	8.69	53.7	**51.50**	104	74	120	*	*
45)	**1,2-Dichloropropane**	**8.92**	**24.3**	**25.75**	94	**70**	**118**	*	*
46)	**Bromodichloromethane**	**9.06**	**24.4**	**26.00**	94	**74**	**119**	*	*
47)	**Trichloroethene**	**9.10**	**24.4**	**25.50**	96	**74**	**115**	*	*
48)	**1,4-Dioxane**	**9.05**	**24.5**	**25.75**	95	**77**	**124**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	9.12	24.6	26.25	94	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **12162123.D** **TO15.M**
Data File Path: **I:\MS09\Data\2021_12\16** Sample Name: **25ng R9121621 ICV Std.**
Operator: **TZ** Misc Info: **S34-10072101/S35-12092101 (**
Date Acquired: **12/16/2021 18:22** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**9.18**	**52.1**	**51.25**	102	**78**	**126**	*	*
51)	**n-Heptane**	**9.30**	**24.4**	**25.75**	95	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**9.81**	**25.6**	**26.00**	98	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**9.81**	**51.1**	**51.50**	99	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**10.26**	**25.1**	**25.00**	100	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**10.46**	**25.2**	**26.00**	97	**78**	**117**	*	*
58)	**Toluene**	**10.75**	**23.9**	**25.75**	93	**70**	**118**	*	*
59)	**2-Hexanone**	**10.92**	**51.4**	**50.75**	101	**74**	**132**	*	*
60)	**Dibromochloromethane**	**11.16**	**24.8**	**26.25**	94	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**11.41**	**25.0**	**26.00**	96	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**11.52**	**52.5**	**50.75**	103	**75**	**134**	*	*
63)	**n-Octane**	**11.66**	**25.9**	**26.00**	100	**68**	**120**	*	*
64)	**Tetrachloroethene**	**11.86**	**24.1**	**26.50**	91	**63**	**130**	*	*
65)	**Chlorobenzene**	**12.50**	**24.5**	**25.75**	95	**70**	**118**	*	*
66)	**Ethylbenzene**	**12.86**	**24.6**	**25.75**	96	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**13.02**	**49.1**	**52.00**	94	**67**	**127**	*	*
68)	**Bromoform**	**13.10**	**25.3**	**26.25**	96	**65**	**149**	*	*
69)	**Styrene**	**13.36**	**26.2**	**25.25**	104	**76**	**132**	*	*
70)	**o-Xylene**	**13.47**	**24.9**	**26.00**	96	**69**	**124**	*	*
71)	**n-Nonane**	**13.66**	**25.8**	**26.00**	99	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**13.44**	**25.4**	**26.00**	98	**69**	**128**	*	*
74)	**Cumene**	**14.03**	**24.0**	**25.75**	93	**69**	**125**	*	*
75)	**alpha-Pinene**	**14.41**	**30.1**	**26.25**	115	**68**	**129**	*	*
76)	**n-Propylbenzene**	**14.51**	**24.5**	**26.00**	94	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**14.66**	**24.6**	**26.00**	**95**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**14.73**	**25.2**	**26.00**	**97**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**15.13**	**25.2**	**25.75**	**98**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**15.26**	**56.8**	**52.00**	**109**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**15.29**	**25.4**	**26.00**	**98**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**15.35**	**25.8**	**26.25**	**98**	**63**	**134**	*	*
87)	sec-Butylbenzene	15.39	24.3	25.50	**95**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	15.55	23.6	25.75	**92**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**15.68**	**25.0**	**26.25**	**95**	**64**	**139**	*	*
91)	**d-Limonene**	**15.69**	**27.6**	**25.75**	**107**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**16.11**	**49.4**	**50.50**	**98**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**17.38**	**57.7**	**52.50**	**110**	**62**	**154**	*	*
95)	**Naphthalene**	**17.49**	**31.9**	**26.25**	**122**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**17.84**	**23.1**	**26.50**	**87**	55	142	*	*
99)	tert-Butylbenzene	15.13	24.3	25.75	94	61	140	*	*
100)	n-Butylbenzene	15.96	25.1	26.00	97	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	12.48	24.0	25.75	93	70	130	*	*

Bold = 75 Compound List
*** = Pass**

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 01\14\01142202.D Vial: 2
Acq On : 14 Jan 2022 1:55 Operator: SC
Sample : CCV R9011422 25ng Inst : MS09
Misc : S34-12272101/S35-12202101 (1/19)

Quant Time: Jan 14 08:17:14 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/14/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	108	0.05
2	T	Propene	1.521	1.593	-4.7	129	0.04
3	T	Dichlorodifluoromethane (CF	2.874	2.814	2.1	116	0.04
4	T	Chloromethane	1.619	1.681	-3.8	123	0.04
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.169	1.076	8.0	108	0.04
6	T	Vinyl Chloride	1.502	1.550	-3.2	119	0.03
7	T	1,3-Butadiene	1.168	1.090	6.7	106	0.04
8	T	Bromomethane	0.834	0.831	0.4	124	0.04
9	T	Chloroethane	0.744	0.758	-1.9	124	0.04
10	T	Ethanol	1.082	1.042	3.7	124	0.03
11	T	Acetonitrile	2.651	2.722	-2.7	130	0.03
12	T	Acrolein	0.671	0.707	-5.4	121	0.03
13	T	Acetone	0.865	0.807	6.7	118	0.03
14	T	Trichlorofluoromethane	2.756	2.623	4.8	112	0.04
15	T	2-Propanol (Isopropanol)	3.701	3.888	-5.1	122	0.03
16	T	Acrylonitrile	1.482	1.537	-3.7	120	0.03
17	T	1,1-Dichloroethene	1.077	1.036	3.8	114	0.04
18	T	2-Methyl-2-Propanol (tert-B	3.212	3.137	2.3	103	0.04
19	T	Methylene Chloride	1.138	1.076	5.4	114	0.04
20	T	3-Chloro-1-propene (Allyl C	2.462	2.496	-1.4	126	0.04
21	T	Trichlorotrifluoroethane	1.078	0.977	9.4	106	0.04
22	T	Carbon Disulfide	3.991	3.927	1.6	116	0.04
23	T	trans-1,2-Dichloroethene	1.796	1.881	-4.7	119	0.04
24	T	1,1-Dichloroethane	2.239	2.242	-0.1	118	0.04
25	T	Methyl tert-Butyl Ether	3.267	2.139	34.5#	79	0.05
26	T	Vinyl Acetate	0.244	0.245	-0.4	112	0.04
27	T	2-Butanone (MEK)	0.784	0.774	1.3	115	0.04
28	T	cis-1,2-Dichloroethene	1.817	1.884	-3.7	122	0.04
29	T	Diisopropyl Ether	1.012	0.945	6.6	111	0.04
30	T	Ethyl Acetate	0.431	0.411	4.6	115	0.04
31	T	n-Hexane	1.995	1.972	1.2	120	0.05
32	T	Chloroform	2.350	2.284	2.8	115	0.04
33	S	1,2-Dichloroethane-d4(SS1)	2.384	2.620	-9.9	119	0.05
34	T	Tetrahydrofuran (THF)	0.757	0.741	2.1	115	0.05
35	T	Ethyl tert-Butyl Ether	1.305	1.472	-12.8	123	0.05
36	T	1,2-Dichloroethane	2.324	2.370	-2.0	118	0.05
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	110	0.03
38	T	1,1,1-Trichloroethane	0.537	0.519	3.4	112	0.03
39	T	Isopropyl Acetate	0.000	0.000	0.0	118	0.03
40	T	1-Butanol	0.000	0.000	0.0	133	0.03
41	T	Benzene	1.118	0.996	10.9	116	0.03
42	T	Carbon Tetrachloride	0.465	0.446	4.1	111	0.03
43	T	Cyclohexane	0.422	0.382	9.5	113	0.03
44	T	tert-Amyl Methyl Ether	0.626	0.789	-26.0	137	0.03
45	T	1,2-Dichloropropane	0.259	0.256	1.2	120	0.03
46	T	Bromodichloromethane	0.449	0.453	-0.9	115	0.03
47	T	Trichloroethene	0.283	0.263	7.1	108	0.03
48	T	1,4-Dioxane	0.213	0.199	6.6	110	0.02
49	T	2,2,4-Trimethylpentane (Iso	1.117	1.128	-1.0	121	0.03
50	T	Methyl Methacrylate	0.109	0.110	-0.9	111	0.03
51	T	n-Heptane	0.268	0.262	2.2	117	0.03
52	T	cis-1,3-Dichloropropene	0.454	0.463	-2.0	115	0.03
53	T	4-Methyl-2-pentanone	0.247	0.252	-2.0	117	0.03
54	T	trans-1,3-Dichloropropene	0.463	0.497	-7.3	118	0.03
55	T	1,1,2-Trichloroethane	0.242	0.245	-1.2	115	0.03

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 01\14\01142202.D Vial: 2
Acq On : 14 Jan 2022 1:55 Operator: SC
Sample : CCV R9011422 25ng Inst : MS09
Misc : S34-12272101/S35-12202101 (1/19)

Quant Time: Jan 14 08:17:14 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	132	0.01
57	S	Toluene-d8 (SS2)	4.845	4.062	16.2	113	0.00
58	T	Toluene	4.843	3.704	23.5	114	0.00
59	T	2-Hexanone	3.117	2.696	13.5	121	0.00
60	T	Dibromochloromethane	1.402	1.125	19.8	109	0.00
61	T	1,2-Dibromoethane	1.213	0.983	19.0	113	0.00
62	T	n-Butyl Acetate	3.362	2.958	12.0	123	0.00
63	T	n-Octane	0.968	0.831	14.2	122	0.00
64	T	Tetrachloroethene	1.436	1.066	25.8	105	0.00
65	T	Chlorobenzene	3.063	2.364	22.8	111	0.00
66	T	Ethylbenzene	5.698	4.542	20.3	114	0.00
67	T	m- & p-Xylenes	4.570	3.629	20.6	113	0.00
68	T	Bromoform	1.210	0.972	19.7	106	0.00
69	T	Styrene	3.081	2.597	15.7	113	0.00
70	T	o-Xylene	4.613	3.702	19.7	113	0.00
71	T	n-Nonane	2.700	2.408	10.8	126	0.00
72	T	1,1,2,2-Tetrachloroethane	1.831	1.514	17.3	117	0.00
73	S	Bromofluorobenzene (SS3)	1.280	1.376	-7.5	141	0.00
74	T	Cumene	5.853	4.548	22.3	111	0.00
75	T	alpha-Pinene	1.738	2.051	-18.0	145	0.00
76	T	n-Propylbenzene	6.948	5.588	19.6	115	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	111	0.00
78	T	4-Ethyltoluene	5.753	4.529	21.3	112	0.00
79	T	1,3,5-Trimethylbenzene	4.814	3.901	19.0	112	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	210#	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	112	0.00
82	T	1,2,4-Trimethylbenzene	5.021	4.115	18.0	111	0.00
83	T	n-Decane	0.000	0.000	0.0	142	0.00
84	T	Benzyl Chloride	3.981	3.865	2.9	122	0.00
85	T	1,3-Dichlorobenzene	2.695	2.133	20.9	110	0.00
86	T	1,4-Dichlorobenzene	2.640	2.125	19.5	111	0.00
87	T	sec-Butylbenzene	6.404	5.122	20.0	111	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.956	4.499	24.5	107	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	149	0.00
90	T	1,2-Dichlorobenzene	2.595	2.040	21.4	110	0.00
91	T	d-Limonene	1.689	1.576	6.7	123	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.040	0.832	20.0	107	0.00
93	T	n-Undecane	0.000	0.000	0.0	187	0.00
94	T	1,2,4-Trichlorobenzene	2.026	1.853	8.5	113	0.00
95	T	Naphthalene	5.064	5.258	-3.8	125	0.00
96	T	n-Dodecane	0.000	0.000	0.0	110	0.00
97	T	Hexachlorobutadiene	1.518	1.150	24.2	104	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	118	-0.02
99	T	tert-Butylbenzene	4.854	3.798	21.8	109	0.00
100	T	n-Butylbenzene	5.263	4.432	15.8	115	0.00
101	T	1,1,1,2-Tetrachloroethane	1.241	0.957	22.9	108	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142202.D Vial: 2
Acq On : 14 Jan 2022 1:55 Operator: SC
Sample : CCV R9011422 25ng Inst : MS09
Misc : S34-12272101/S35-12202101 (1/19)

Quant Time: Jan 14 08:17:14 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 1/14/22
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.15	130	105405	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	8.51	114	471207	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	12.46	54	136152	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.68	65	276137	13.735	ng		0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%				
57) Toluene-d8 (SS2)	10.65	98	553038	10.480	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.84%				
73) Bromofluorobenzene (SS3)	13.89	174	187325	13.436	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.52%				
Target Compounds							Qvalue
2) Propene	4.04	42	349362	27.238	ng		99
3) Dichlorodifluoromethan...	4.11	85	622922	25.705	ng		99
4) Chloromethane	4.25	50	361543	26.478	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	244925	24.841	ng		99
6) Vinyl Chloride	4.42	62	339852	26.829	ng		100
7) 1,3-Butadiene	4.52	54	238906	24.255	ng	#	56
8) Bromomethane	4.71	94	178720	25.424	ng		100
9) Chloroethane	4.83	64	163001	25.997	ng		99
10) Ethanol	4.97	45	795383	87.204	ng		100
11) Acetonitrile	5.09	41	533616	23.869	ng		99
12) Acrolein	5.14	56	297897	52.641	ng		99
13) Acetone	5.22	58	882471	120.981	ng		99
14) Trichlorofluoromethane	5.31	101	569584	24.505	ng		100
15) 2-Propanol (Isopropanol)	5.40	45	1655523	53.051	ng		99
16) Acrylonitrile	5.52	53	657648	52.636	ng		99
17) 1,1-Dichloroethene	5.71	96	233769	25.751	ng		94
18) 2-Methyl-2-Propanol (t...	5.77	59	1388788	51.270	ng		98
19) Methylene Chloride	5.79	84	235945	24.591	ng		91
20) 3-Chloro-1-propene (Al...	5.85	41	552592	26.622	ng		96
21) Trichlorotrifluoroethane	5.92	151	222393	24.466	ng		95
22) Carbon Disulfide	6.01	76	1738307	51.653	ng		100
23) trans-1,2-Dichloroethene	6.36	61	420394	27.754	ng		95
24) 1,1-Dichloroethane	6.50	63	496220	26.287	ng		99
25) Methyl tert-Butyl Ether	6.50	73	473431	17.183	ng		98
26) Vinyl Acetate	6.54	86	175583	85.495	ng	#	84
27) 2-Butanone (MEK)	6.72	72	336196	50.833	ng	#	87
28) cis-1,2-Dichloroethene	7.04	61	413033	26.952	ng		94
29) Diisopropyl Ether	7.10	87	422179	49.464	ng	#	80
30) Ethyl Acetate	7.10	61	353176	97.197	ng		100
31) n-Hexane	7.14	57	436558	25.955	ng		99
32) Chloroform	7.23	83	515207	26.000	ng		99
34) Tetrahydrofuran (THF)	7.49	72	307590	48.158	ng	#	91
35) Ethyl tert-Butyl Ether	7.48	87	651539	59.219	ng		93
36) 1,2-Dichloroethane	7.76	62	529661	27.031	ng		99
38) 1,1,1-Trichloroethane	7.95	97	509110	25.165	ng		98
39) Isopropyl Acetate	8.30	61	10356	No Calib		#	
40) 1-Butanol	8.11	56	13243	No Calib			
41) Benzene	8.30	78	976422	23.165	ng		99
42) Carbon Tetrachloride	8.41	117	441230	25.171	ng		99
43) Cyclohexane	8.51	84	745424	46.869	ng		95
44) tert-Amyl Methyl Ether	8.69	73	1553775	65.831	ng		97
45) 1,2-Dichloropropane	8.93	63	248832	25.517	ng		99
46) Bromodichloromethane	9.07	83	447829	26.436	ng		99
47) Trichloroethene	9.10	130	255403	23.961	ng		100
48) 1,4-Dioxane	9.06	88	195081	24.268	ng		94
49) 2,2,4-Trimethylpentane...	9.13	57	1127221	26.775	ng		97
50) Methyl Methacrylate	9.18	100	215963	52.554	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142202.D Vial: 2
Acq On : 14 Jan 2022 1:55 Operator: SC
Sample : CCV R9011422 25ng Inst : MS09
Misc : S34-12272101/S35-12202101 (1/19)

Quant Time: Jan 14 08:17:14 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M

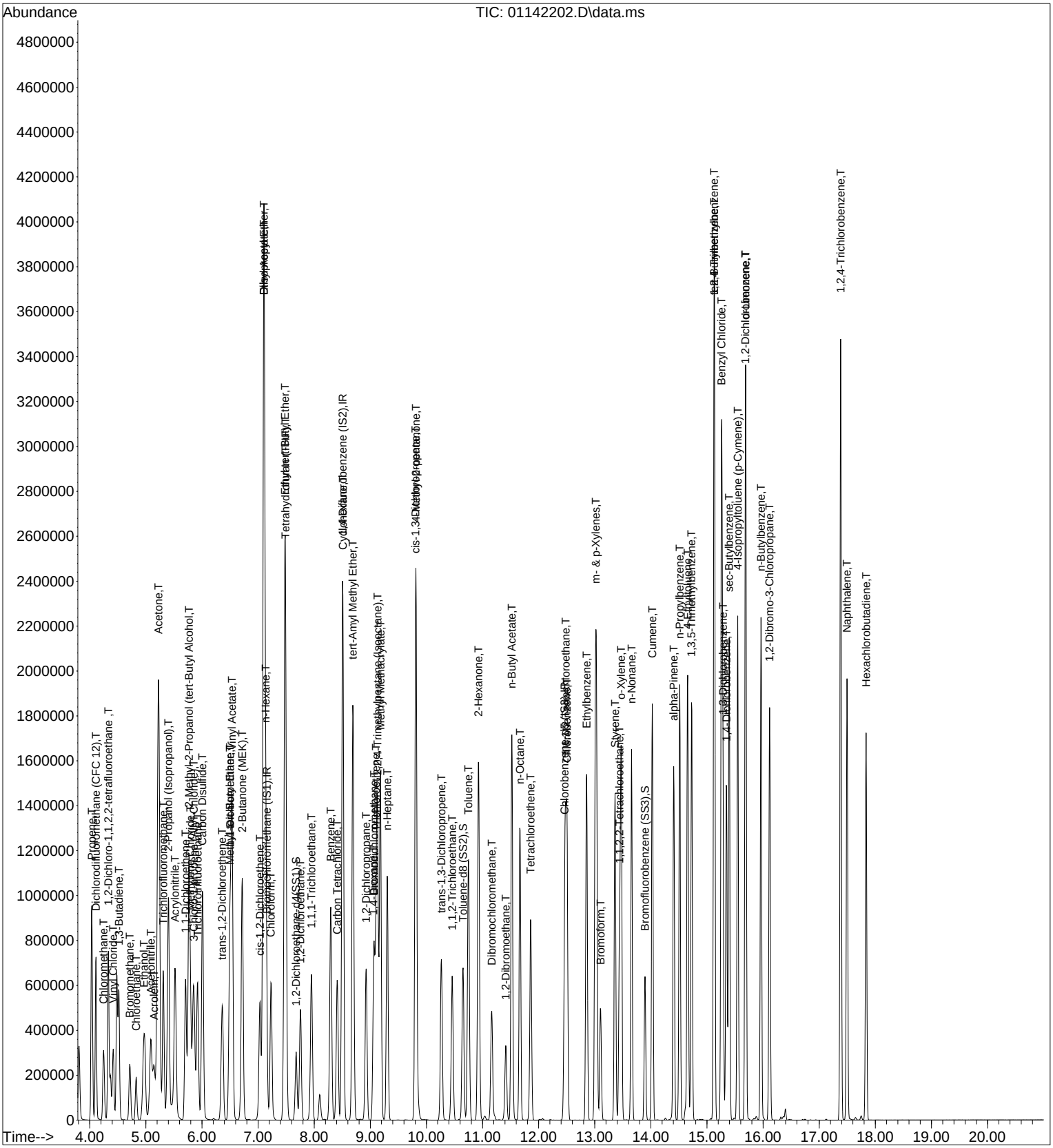
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	9.30	71	259207	25.699 ng		97
52) cis-1,3-Dichloropropene	9.81	75	457846	26.726 ng		100
53) 4-Methyl-2-pentanone	9.81	58	493102	52.988 ng		95
54) trans-1,3-Dichloropropene	10.27	75	473492	27.129 ng		100
55) 1,1,2-Trichloroethane	10.46	97	239755	26.275 ng		98
58) Toluene	10.75	91	1038798	19.693 ng		100
59) 2-Hexanone	10.92	43	1504725	44.314 ng		98
60) Dibromochloromethane	11.16	129	321710	21.073 ng		99
61) 1,2-Dibromoethane	11.41	107	278334	21.069 ng		100
62) n-Butyl Acetate	11.52	43	1643176	44.878 ng		98
63) n-Octane	11.67	57	237524	22.533 ng		94
64) Tetrachloroethene	11.86	166	301988	19.312 ng		100
65) Chlorobenzene	12.50	112	669424	20.063 ng		100
66) Ethylbenzene	12.86	91	1273864	20.527 ng		98
67) m- & p-Xylenes	13.02	91	2035427	40.890 ng		99
68) Bromoform	13.11	173	275305	20.889 ng		100
69) Styrene	13.36	104	728500	21.708 ng		98
70) o-Xylene	13.47	91	1048301	20.864 ng		98
71) n-Nonane	13.66	43	681852	23.181 ng		96
72) 1,1,2,2-Tetrachloroethane	13.44	83	428874	21.499 ng		99
74) Cumene	14.03	105	1287888	20.200 ng		99
75) alpha-Pinene	14.41	93	603234	31.870 ng		98
76) n-Propylbenzene	14.51	91	1597581	21.110 ng		98
77) 3-Ethyltoluene	14.03	105	1287888	No Calib		
78) 4-Ethyltoluene	14.66	105	1307237	20.862 ng		99
79) 1,3,5-Trimethylbenzene	14.72	105	1104624	21.067 ng		98
80) alpha-Methylstyrene	13.89	118	967	No Calib	#	
81) 2-Ethyltoluene	14.66	105	1307237	No Calib		
82) 1,2,4-Trimethylbenzene	15.13	105	1154144	21.106 ng		99
83) n-Decane	14.41	58	3129	No Calib	#	
84) Benzyl Chloride	15.26	91	2167984	49.992 ng		98
85) 1,3-Dichlorobenzene	15.29	146	604043	20.575 ng		100
86) 1,4-Dichlorobenzene	15.35	146	601873	20.931 ng		100
87) sec-Butylbenzene	15.39	105	1450431	20.795 ng		98
88) 4-Isopropyltoluene (p-...	15.55	119	1274099	19.641 ng		99
89) 1,2,3-Trimethylbenzene	14.41	105	74269	No Calib		
90) 1,2-Dichlorobenzene	15.68	146	583338	20.639 ng		100
91) d-Limonene	15.69	68	450544	24.495 ng		96
92) 1,2-Dibromo-3-Chloropr...	16.11	157	453343	40.022 ng		86
93) n-Undecane	15.13	58	71911	No Calib		
94) 1,2,4-Trichlorobenzene	17.38	180	1029537	46.653 ng		100
95) Naphthalene	17.49	128	1489149	26.997 ng		100
96) n-Dodecane	15.69	58	3185	No Calib	#	
97) Hexachlorobutadiene	17.84	225	322640	19.513 ng		100
98) Cyclohexanone	13.01	55	1707	No Calib		
99) tert-Butylbenzene	15.13	119	1075635	20.344 ng		99
100) n-Butylbenzene	15.96	91	1255146	21.893 ng		99
101) 1,1,1,2-Tetrachloroethane	12.48	131	270925	20.050 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 01\14\01142202.D Vial: 2
Acq On : 14 Jan 2022 1:55 Operator: SC
Sample : CCV R9011422 25ng Inst : MS09
Misc : S34-12272101/S35-12202101 (1/19)

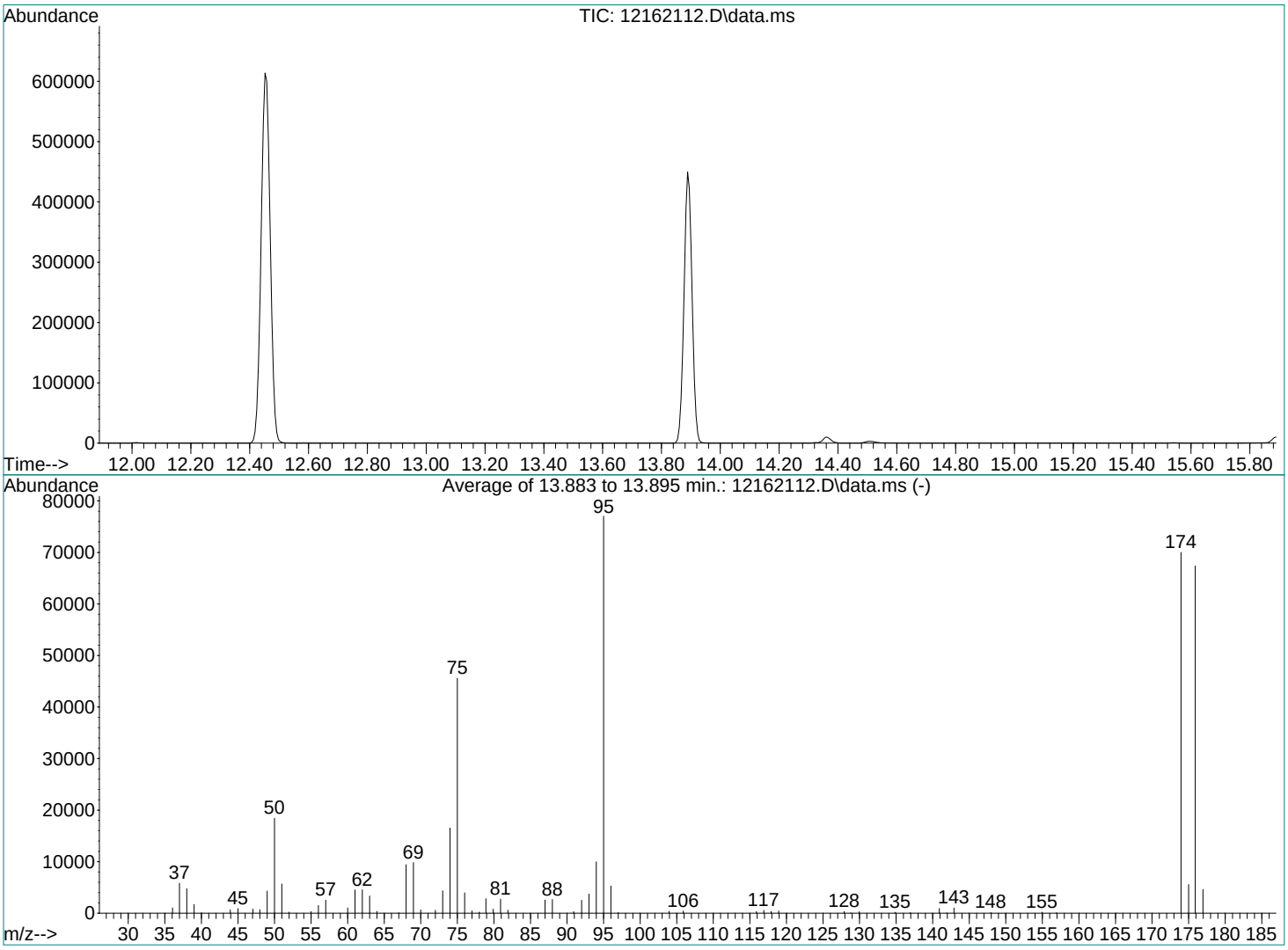
Quant Time: Jan 14 08:17:14 2022
Quant Method : I:\MS09\Methods\R9121621.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 27 10:51:03 2021
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS09\Data\2021 12\16\
Data File : 12162112.D
Acq On : 16 Dec 2021 12:45
Operator : TZ
Sample : TO-15 BFB Std.
Misc : S34-10072101
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9121621.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Dec 16 17:20:09 2021



AutoFind: Scans 1779, 1780, 1781; Background Corrected with Scan 1771

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.9	18421	PASS
75	95	30	66	59.2	45584	PASS
95	95	100	100	100.0	77035	PASS
96	95	5	9	6.9	5278	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.9	69989	PASS
175	174	4	9	8.0	5585	PASS
176	174	93	101	96.2	67357	PASS
177	176	5	9	6.9	4629	PASS

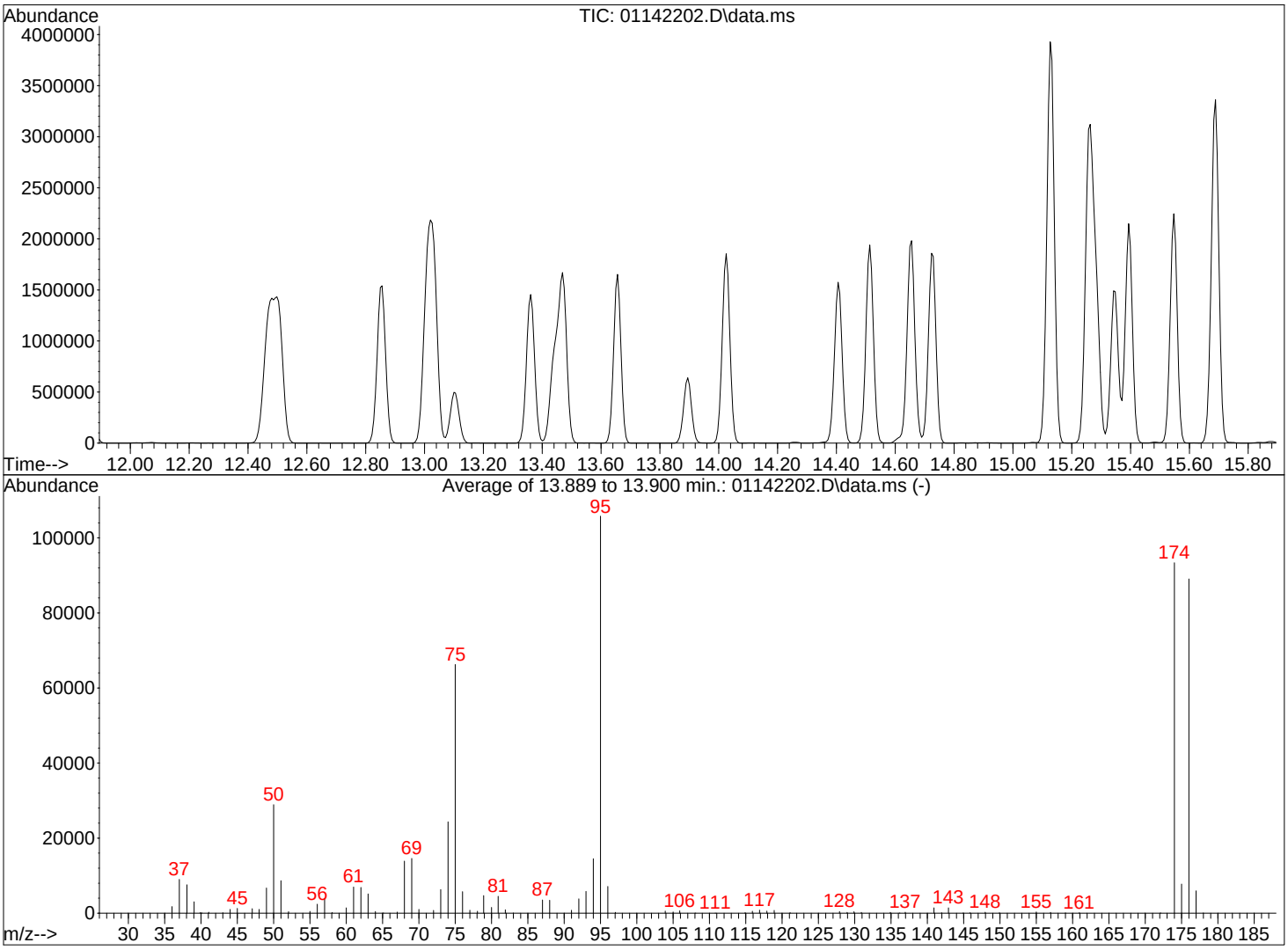
TZ 12/17/21

Data Path : I:\MS09\Data\2022 01\14\
Data File : 01142202.D
Acq On : 14 Jan 2022 1:55
Operator : SC
Sample : CCV R9011422 25ng
Misc : S34-12272101/S35-12202101 (1/19)
ALS Vial : 2 Sample Multiplier: 1

1/14/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9121621.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Mon Dec 27 10:51:03 2021



AutoFind: Scans 1780, 1781, 1782; Background Corrected with Scan 1772

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	27.3	28912	PASS
75	95	30	66	62.6	66245	PASS
95	95	100	100	100.0	105784	PASS
96	95	5	9	6.7	7117	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	88.3	93384	PASS
175	174	4	9	8.3	7769	PASS
176	174	93	101	95.4	89069	PASS
177	176	5	9	6.7	5950	PASS

TZ 12/17/21

Injection Log

Directory: J:\MS09\Data\2021_12\16\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	12/16/21 12:45	12162112.D	TO-15 BFB Std.	S34-10072101	TZ	2	passed
2	12/16/21 13:16	12162113.D	0.1ng R9121621 ICAL Std.	S34-10072101/S35-12102104 (1/9)	TZ	14	R9121621.M
3	12/16/21 13:47	12162114.D	0.2ng R9121621 ICAL Std.	S34-10072101/S35-12102104 (1/9)	TZ	14	
4	12/16/21 14:17	12162115.D	0.5ng R9121621 ICAL Std.	S34-10072101/S35-12102103 (1/9)	TZ	15	
5	12/16/21 14:48	12162116.D	1.0ng R9121621 ICAL Std.	S34-10072101/S35-12102103 (1/9)	TZ	15	
6	12/16/21 15:19	12162117.D	5.0ng R9121621 ICAL Std.	S34-10072101/S35-12072101 (1/6)	TZ	16	
7	12/16/21 15:49	12162118.D	25ng R9121621 ICAL Std.	S34-10072101/S35-12072101 (1/6)	TZ	16	
8	12/16/21 16:20	12162119.D	50ng R9121621 ICAL Std.	S34-10072101/S35-12072101 (1/6)	TZ	16	
9	12/16/21 16:50	12162120.D	100ng R9121621 ICAL Std.	S34-10072101/S35-12072101 (1/6)	TZ	16	
10	12/16/21 17:21	12162121.D	Blank	S34-10072101	TZ	2	
11	12/16/21 17:51	12162122.D	5.0ng R9121621 ICAL Std.	S34-10072101/S35-12102103 (1/9)	TZ	15	not used
12	12/16/21 18:22	12162123.D	25ng R9121621 ICV Std.	S34-10072101/S35-12092101 (1/8)	TZ	2	passed
13	12/16/21 18:52	12162124.D	25ng R9121621 ICV Std.	S34-10072101/S35-12092101 (1/8)	TZ	2	not used

R9121621.M ranges from 0.1ng->100ng except: chloromethane: 0.2ng->50ng, alpha-pinene and d-limonene: 0.5ng->100ng

Injection Log

Directory: I:\MS09\Data\2022_01\14\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	1/14/22 1:24	01142201.D	CCV C9011422_25ng	S34-12272101/S35-01032202 (2/2)	SC	16	pass
2	1/14/22 1:55	01142202.D	CCV R9011422_25ng	S34-12272101/S35-12202101 (1/19)	SC	2	pass
3	1/14/22 2:26	01142203.D	CCV R9011422_5.0ng	S34-12272101/S35-12202101 (1/19)	SC	2	not used
4	1/14/22 2:57	01142204.D	Blank	S34-12272101	SC	1	
5	1/14/22 3:27	01142205.D	MB R9011422_1000mL	S34-12272101	SC	2	pass
6	1/14/22 3:58	01142206.D	RL R9011422_0.5ng	S34-12272101/S35-12282102 (1/27)	SC	4	pass
7	1/14/22 4:29	01142207.D	LCS R9011422_25ng	S34-12272101/S35-12272104 (1/26)	SC	2	pass
8	1/14/22 4:59	01142208.D	LCSD R9011422_25ng	S34-12272101/S35-12272104 (1/26)	SC	2	pass
9	1/14/22 8:52	01142209.D	P2200056-001Dil (1.0mL)	S34-12272101	SC	1	
10	1/14/22 9:27	01142210.D	P2200108-001Dil (1.0mL)	S34-12272101	SC	1	
11	1/14/22 9:58	01142211.D	P2106776-001 (100mL)	S34-12272101	SC	15	
12	1/14/22 10:29	01142212.D	P2106776-001dup (100mL)	S34-12272101	SC	15	pass
13	1/14/22 11:08	01142213.D	011422_28806_GEO00151	S34-12272101	SC	5	pass
14	1/14/22 11:39	01142214.D	P2106796-001 (800mL)	S34-12272101	SC	6	
15	1/14/22 12:10	01142215.D	P2200163-001 (15mL)	S34-12272101	SC	7	IS/Surr failed
16	1/14/22 12:41	01142216.D	P2200163-002 (100mL)	S34-12272101	SC	8	
17	1/14/22 13:12	01142217.D	P2200163-003 (100mL)	S34-12272101	SC	9	Surr failed
18	1/14/22 13:43	01142218.D	P2200163-004 (100mL)	S34-12272101	SC	10	
19	1/14/22 14:14	01142219.D	P2200163-001 (3.0mL)	S34-12272101	SC	1	
20	1/14/22 14:45	01142220.D	P2200163-003 (30mL)	S34-12272101	SC	9	
21	1/14/22 15:16	01142221.D	P2200163-005 (0.3mL)	S34-12272101	SC	1	
22	1/14/22 15:47	01142222.D	P2200163-006 (0.03mL)	S34-12272101	SC	1	
23	1/14/22 16:18	01142223.D	P2200163-007 (0.03mL)	S34-12272101	SC	1	
24	1/14/22 16:49	01142224.D	P2200163-009 (25mL)	S34-12272101	SC	11	
25	1/14/22 17:20	01142225.D	P2200163-010 (25mL)	S34-12272101	SC	12	
26	1/14/22 18:13	01142226.D	P2200163-008 (0.1mL)	S34-12272101	SC	1	
27	1/14/22 18:44	01142227.D	P2200163-009 (100mL)	S34-12272101	SC	11	
28	1/14/22 19:15	01142228.D	P2200163-010 (100mL)	S34-12272101	SC	12	
29	1/14/22 19:46	01142229.D	P2200062-001 (1000mL)	S34-12272101	SC	3	
30	1/14/22 20:18	01142230.D	P2200062-002 (1000mL)	S34-12272101	SC	10	
31	1/14/22 20:49	01142231.D	P2200062-003 (1000mL)	S34-12272101	SC	13	
32	1/14/22 21:22	01142232.D	P2200062-004 (1000mL)	S34-12272101	SC	14	
33	1/14/22 21:53	01142233.D	P2200062-005 (1000mL)	S34-12272101	SC	15	
							1/15/22

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-07
Cycles: 30
Batch: 28598

Batch Started By: ANAKLOWYCZ on 11/23/21 0924
Finished Cleaning By: ANAKLOWYCZ on 11/23/21 0940

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02454	11/23/21	11/23/21	Pass w/ Conditions	-14.3	11/23/21 0940	ANAKLOWYCZ	-14.0	11/30/21 1111		MS21_11/23/21
AS00981	11/23/21		Pass w/ Conditions	-14.3	11/23/21 0941	ANAKLOWYCZ	-14.0	1/6/22 1100		
AC02414	11/23/21		Pass w/ Conditions	-14.3	11/23/21 0941	ANAKLOWYCZ	-14.0	1/4/22 0259		
AC02195	11/23/21		Pass w/ Conditions	-14.3	11/23/21 0941	ANAKLOWYCZ	-14.0	1/4/22 0259		
AC01910	11/23/21		Pass w/ Conditions	-14.3	11/23/21 0941	ANAKLOWYCZ	-14.0	1/10/22 0942		
AC02162	11/23/21		Pass w/ Conditions	-14.3	11/23/21 0941	ANAKLOWYCZ	-14.0	1/4/22 0259		
AC01466	11/23/21		Pass w/ Conditions	-14.3	11/23/21 0941	ANAKLOWYCZ	-14.0	1/6/22 1100		
AC02298	11/23/21		Pass w/ Conditions	-14.3	11/23/21 0941	ANAKLOWYCZ	-14.0	1/6/22 1100		
AC02283	11/23/21		Pass w/ Conditions	-14.3	11/23/21 0941	ANAKLOWYCZ	-14.0	1/4/22 0259		
AC02352	11/23/21		Pass w/ Conditions	-14.3	11/23/21 0941	ANAKLOWYCZ	-14.0	1/4/22 0259		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2021 11\23\
Data File : 11232125.D
Acq On : 24 Nov 2021 00:07
Operator : RVT
Sample : 112321 AC02454 28598
Misc : LL+TICS (Sig #1); S34-09242101 (Sig #2)
ALS Vial : 203 Sample Multiplier: 1

RVT 11/30/21

Quant Time: Nov 24 07:09:16 2021
Quant Method : I:\MS21\Methods\F21091821.M
Quant Title : EPA TO-15
QLast Update : Mon Sep 20 12:19:59 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane (IS1)	7.483	130	31751	1000.00	pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.646	114	54200	1000.00	pg	0.00
56) Chlorobenzene-d5 (IS3)	14.674	54	9316	1000.00	pg	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4 ...	8.291	65	35831	855.13	pg	0.00
Spiked Amount 1000.000			Recovery = 85.51%			
57) Toluene-d8 (SS2)	12.566	98	44957	844.81	pg	0.00
Spiked Amount 1000.000			Recovery = 84.48%			
74) Bromofluorobenzene (SS3)	16.112	174	17498	867.72	pg	0.00
Spiked Amount 1000.000			Recovery = 86.77%			
Target Compounds						Qvalue
2] * Propene	3.487	42	77	3.05	pg #	1
3] * Dichlorodifluoromethane	3.547	85	91	1.03	pg #	42
4] * Chloromethane	3.676	50	241	3.62	pg #	41
5] * 1,2-Dichloro-1,1,2,2...	3.547	85	91	1.06	pg #	42
6) * Vinyl Chloride	0.000		0	N.D.		
7] * 1,3-Butadiene	3.969	54	19	0.36	pg #	9
8) * Bromomethane	0.000		0	N.D.		
9) * Chloroethane	0.000		0	N.D.		
10] * Ethanol	4.410	45	981	29.11	pg	97
11] * Acetonitrile	4.571	41	242	2.74	pg #	82
12] * Acrolein	4.680	56	370	11.07	pg #	59
13] * Acetone	4.795	58	2858	73.15	pg #	58
14) * Trichlorofluoromethane	0.000		0	N.D.		
15] * 2-Propanol (Isopropa...	5.013	45	592	6.05	pg #	69
16) * Acrylonitrile	0.000		0	N.D.		
17] * 1,1-Dichloroethene	5.401	96	312	6.21	pg #	51
18] tert-Butanol	5.007	59	445	78.15	pg #	1
19] * Methylene Chloride	5.522	84	225	4.52	pg #	17
20) * 3-Chloro-1-propene (...	0.000		0	N.D.		
21) * Trichlorotrifluoroet...	0.000		0	N.D.		
22] * Carbon Disulfide	5.785	76	3813	24.18	pg	96
23) * trans-1,2-Dichloroet...	0.000		0	N.D.		
24) * 1,1-Dichloroethane	0.000		0	N.D.		
25) * Methyl tert-Butyl Ether	0.000		0	N.D.		
26] * Vinyl Acetate	6.660	86	114	25.85	pg #	1
27] * 2-Butanone (MEK)	6.936	72	119	7.91	pg #	44
28) * cis-1,2-Dichloroethene	0.000		0	N.D.		
29) DIPE	0.000		0	N.D.		
30) * Ethyl Acetate	0.000		0	N.D.		
31] * n-Hexane	7.574	57	53	1.87	pg #	51
32) * Chloroform	0.000		0	N.D.		
34) * Tetrahydrofuran	0.000		0	N.D.		
35) ETBE	0.000		0	N.D.		
36) * 1,2-Dichloroethane	0.000		0	N.D.		
38) * 1,1,1-Trichloroethane	0.000		0	N.D.		
39] * Benzene	9.230	78	852	11.06	pg	98
40) Isopropyl Acetate	0.000		0	N.D.		
41) 1-Butanol	9.172	56	702	No Calib	#	
42) * Carbon Tetrachloride	0.000		0	N.D.		
43) * Cyclohexane	0.000		0	N.D.		
44) TAME	0.000		0	N.D.		
45) * 1,2-Dichloropropane	0.000		0	N.D.		
46) * Bromodichloromethane	0.000		0	N.D.		
47] * Trichloroethene	10.393	130	165	4.89	pg #	15

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2021 11\23\
Data File : 11232125.D
Acq On : 24 Nov 2021 00:07
Operator : RVT
Sample : 112321 AC02454 28598
Misc : LL+TICS (Sig #1); S34-09242101 (Sig #2)
ALS Vial : 203 Sample Multiplier: 1

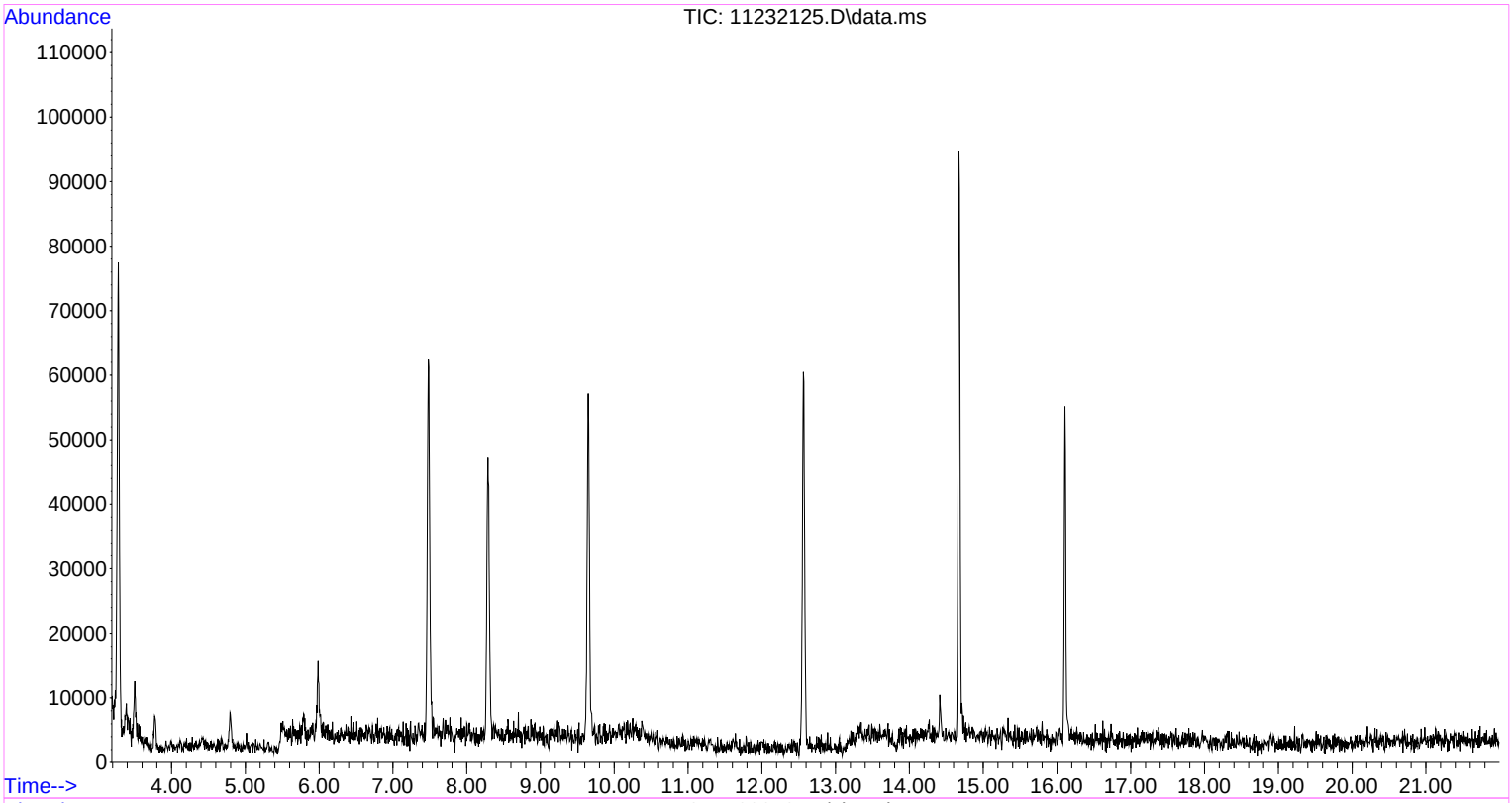
Quant Time: Nov 24 07:09:16 2021
Quant Method : I:\MS21\Methods\F21091821.M
Quant Title : EPA TO-15
QLast Update : Mon Sep 20 12:19:59 2021
Response via : Initial Calibration

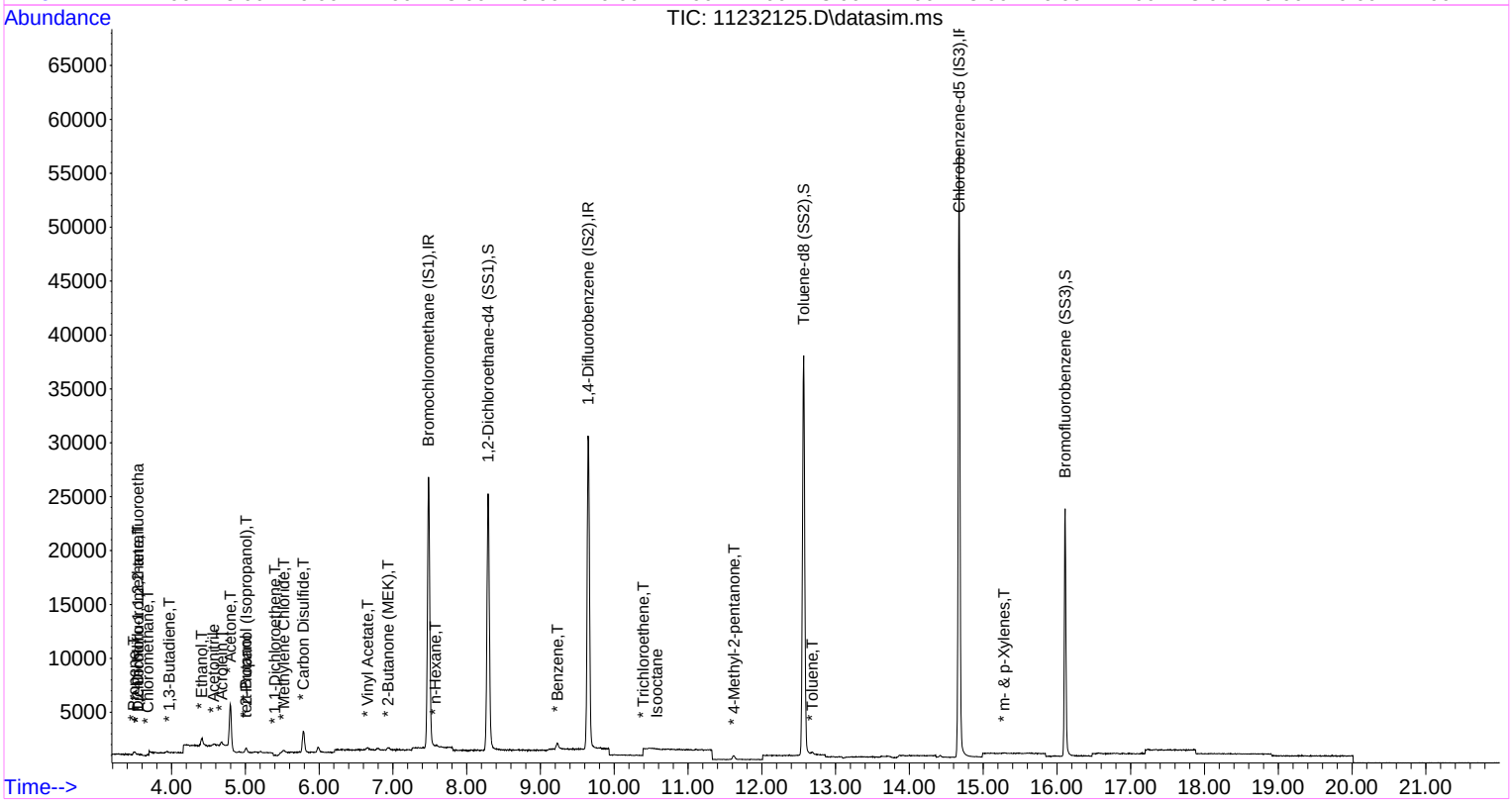
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
48) * 1,4-Dioxane	0.000		0	N.D.			
49] Isooctane	10.579	56	213	7.41	pg	#	1
50) * Methyl Methacrylate	0.000		0	N.D.			
51) * n-Heptane	0.000		0	N.D.			
52) * cis-1,3-Dichloropropene	0.000		0	N.D.			
53] * 4-Methyl-2-pentanone	11.622	58	226	27.58	pg		91
54) * trans-1,3-Dichloropr...	0.000		0	N.D.			
55) * 1,1,2-Trichloroethane	0.000		0	N.D.			
58] * Toluene	12.685	91	247	3.60	pg		86
59) * 2-Hexanone	0.000		0	N.D.			
60) * Dibromochloromethane	0.000		0	N.D.			
61) * 1,2-Dibromoethane	0.000		0	N.D.			
62) * n-Butyl Acetate	0.000		0	N.D.			
63) * n-Octane	0.000		0	N.D.			
64) * Tetrachloroethene	0.000		0	N.D.			
65) * Chlorobenzene	0.000		0	N.D.			
66) * Ethylbenzene	0.000		0	N.D.			
67] * m- & p-Xylenes	15.284	91	64	1.55	pg	#	29
68) * Bromoform	0.000		0	N.D.			
69) Cyclohexanone	15.745	98	67	No Calib		#	
70) * Styrene	0.000		0	N.D.			
71) * o-Xylene	0.000		0	N.D.			
72) * n-Nonane	0.000		0	N.D.			
73) * 1,1,2,2-Tetrachloroe...	0.000		0	N.D.			
75) * Cumene	0.000		0	N.D.			
76) * alpha-Pinene	0.000		0	N.D.			
77) * n-Propylbenzene	0.000		0	N.D.			
78) 3-Ethyltoluene	0.000		0	N.D.			
79) * 4-Ethyltoluene	0.000		0	N.D.			
80) * 1,3,5-Trimethylbenzene	0.000		0	N.D.			
81) alpha-Methylstyrene	0.000		0	N.D.			
82) 2-Ethyltoluene	0.000		0	N.D.			
83) tert-Butylbenzene	0.000		0	N.D.			
84) * 1,2,4-Trimethylbenzene	0.000		0	N.D.			
85) * Benzyl Chloride	0.000		0	N.D.			
86) * 1,3-Dichlorobenzene	0.000		0	N.D.			
87) * 1,4-Dichlorobenzene	0.000		0	N.D.			
88) n-Decane	0.000		0	N.D.			
89) sec-Butylbenzene	0.000		0	N.D.			
90) 1,2,3-Trimethylbenzene	0.000		0	N.D.			
91) p-Isopropyltoluene	0.000		0	N.D.			
92) * 1,2-Dichlorobenzene	0.000		0	N.D.			
93) * D-Limonene	0.000		0	N.D.			
94) n-Butylbenzene	0.000		0	N.D.			
95) * 1,2-Dibromo-3-chloro...	0.000		0	N.D.			
96) n-Undecane	0.000		0	N.D.			
97) * 1,2,4-Trichlorobenzene	0.000		0	N.D.			
98) * Naphthalene	0.000		0	N.D.			
99) n-Dodecane	0.000		0	N.D.			
100) * Hexachlorobutadiene	0.000		0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS21\DATA\2021 11\23\
Data File : 11232125.D
Acq On : 24 Nov 2021 00:07
Operator : RVT
Sample : 112321 AC02454 28598
Misc : LL+TICS (Sig #1); S34-09242101 (Sig #2)
ALS Vial : 203 Sample Multiplier: 1

Quant Time: Nov 24 07:09:16 2021
Quant Method : I:\MS21\Methods\F21091821.M
Quant Title : EPA TO-15
QLast Update : Mon Sep 20 12:19:59 2021
Response via : Initial Calibration





2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

February 10, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Candace:

Enclosed are the results of the samples submitted to our laboratory on January 21, 2022. For your reference, these analyses have been assigned our service request number P2200279.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 5:18 pm, Feb 10, 2022

Nicole Bryson
Laboratory Director

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: North Wind, Inc. Service Request No: P2200279
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on January 21, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The upper control criterion was exceeded for 2-hexanone in the Laboratory Control Sample (LCS) and for 4-methyl-2-pentanone in the Duplicate Laboratory Control Sample (DLCS) analyzed on January 26, 2022. Since the apparent problem equates to a potential high bias and the field sample(s) analyzed in this sequence did not contain the analyte(s) in question, the data quality is not affected. No corrective action was required.

The spike recovery of bromomethane, chloroethane, acrolein, and 1, 2-DCP for the Laboratory Control Sample (LCS) and of 1, 2-DCP for the Duplicate Laboratory Control Sample analyzed on January 26, 2022 was outside the Laboratory generated control criterion. The recovery error equates to a potential high bias. However, the spike recovery of the analyte(s) in question were within the method criteria; therefore, the data quality has not been significantly affected. No further corrective action was required.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: North Wind, Inc. Service Request No: P2200279
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2200279

Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 1/21/2022

Time Received: 16:35

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_012122_S	P2200279-001	Air	1/21/2022	11:00	AS01276	-2.71	4.30	X
DOE-2_012122_S	P2200279-002	Air	1/21/2022	11:15	AC02159	-2.83	4.37	X
DOE-3_012122_S	P2200279-003	Air	1/21/2022	11:30	AC01862	-2.63	4.11	X
DOE-4_012122_S	P2200279-004	Air	1/21/2022	11:45	AC01902	-2.56	3.98	X
DOE-2_012122_D	P2200279-005	Air	1/21/2022	11:16	AS01636	-2.47	4.14	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. R2202279

Company Name & Address (Reporting Information)	Project Name	ALS Contact:
North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304	DOE Perimeter Air	Hayden Akers
Project Manager: Trina Cesnik	Project Number: 080153.015.15	**Analysis Method**
Phone: 805-587-0691 / Fax:	P.O. # / Billing Information: PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com	
Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg	Sampler (Print & Sign): T. Stewart Williford	

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_012122_S	1	1/21/2022	1100	AS01276	FCR00234				X		
DOE-2_012122_S	2	1/21/2022	1115	AC02159	FCR00244				X		
DOE-3_012122_S	3	1/21/2022	1130	AC01862	FCR00043				X		
DOE-4_012122_S	4	1/21/2022	1145	AC01902	FCR00381				X		
DOE-2_012122_D	5	1/21/2022	1116	AS01636	FCR00528				X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ✓ Tier IV (Data Validation Package) 10% Surcharge ✓

EDD required: Yes / No
Type: EQuIS Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
T. Stewart Williford	1/21/22	1631		1-21-22	1638
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2200279

Project: DOE Perimeter Air / 080153.007.15

Sample(s) received on: 1/21/22 Date opened: 1/21/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2200279-001.01	6.0 L Silonite Can					
P2200279-002.01	6.0 L Ambient Can					
P2200279-003.01	6.0 L Ambient Can					
P2200279-004.01	6.0 L Ambient Can					
P2200279-005.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-001

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01276

Initial Pressure (psig): -2.71 Final Pressure (psig): 4.30

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.6**	0.84	**0.53**	0.17	
74-87-3	Chloromethane	ND	0.81	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.85	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.82	ND	0.37	
74-83-9	Bromomethane	ND	0.81	ND	0.21	
75-00-3	Chloroethane	ND	0.81	ND	0.31	
107-02-8	Acrolein	ND	1.6	ND	0.69	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.4**	0.82	**0.24**	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.64	
107-13-1	Acrylonitrile	ND	1.6	ND	0.73	
75-35-4	1,1-Dichloroethene	ND	0.85	ND	0.22	
75-09-2	Methylene Chloride	ND	0.82	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.85	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.56	
156-60-5	trans-1,2-Dichloroethene	ND	0.84	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.84	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.84	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.9	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.54	
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
141-78-6	Ethyl Acetate	ND	3.3	ND	0.92	
110-54-3	n-Hexane	ND	0.84	ND	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-001

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01276

Initial Pressure (psig): -2.71 Final Pressure (psig): 4.30

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.85	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.54	
107-06-2	1,2-Dichloroethane	ND	0.84	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.82	ND	0.15	
71-43-2	Benzene	ND	0.79	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.79	ND	0.13	
110-82-7	Cyclohexane	ND	1.7	ND	0.51	
78-87-5	1,2-Dichloropropane	ND	0.79	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.84	ND	0.13	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.82	ND	0.23	
142-82-5	n-Heptane	ND	0.84	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.79	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.42	
10061-02-6	trans-1,3-Dichloropropene	ND	0.81	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.82	ND	0.15	
108-88-3	Toluene	ND	0.82	ND	0.22	
591-78-6	2-Hexanone	ND	1.7	ND	0.42	
124-48-1	Dibromochloromethane	ND	0.84	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.82	ND	0.11	
111-65-9	n-Octane	ND	0.84	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.82	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-001

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01276

Initial Pressure (psig): -2.71 Final Pressure (psig): 4.30

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.82	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.40	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.79	ND	0.19	
95-47-6	o-Xylene	ND	0.82	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
98-82-8	Cumene	ND	0.82	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.84	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.84	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.82	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.82	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.34	
541-73-1	1,3-Dichlorobenzene	ND	0.82	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.82	ND	0.14	
135-98-8	sec-Butylbenzene	ND	0.82	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.82	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.84	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.82	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.82	ND	0.077	
104-51-8	n-Butylbenzene	ND	0.82	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.84	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-002

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02159

Initial Pressure (psig): -2.83 Final Pressure (psig): 4.37

Canister Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.7**	0.85	**0.54**	0.17	
74-87-3	Chloromethane	ND	0.82	ND	0.40	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.87	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.84	ND	0.33	
106-99-0	1,3-Butadiene	ND	0.84	ND	0.38	
74-83-9	Bromomethane	ND	0.82	ND	0.21	
75-00-3	Chloroethane	ND	0.82	ND	0.31	
107-02-8	Acrolein	ND	1.6	ND	0.70	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.4**	0.84	**0.24**	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.66	
107-13-1	Acrylonitrile	ND	1.6	ND	0.74	
75-35-4	1,1-Dichloroethene	ND	0.87	ND	0.22	
75-09-2	Methylene Chloride	ND	0.84	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.87	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.8	ND	0.57	
156-60-5	trans-1,2-Dichloroethene	ND	0.85	ND	0.22	
75-34-3	1,1-Dichloroethane	ND	0.85	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.85	ND	0.24	
108-05-4	Vinyl Acetate	ND	8.1	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.55	
156-59-2	cis-1,2-Dichloroethene	ND	0.84	ND	0.21	
141-78-6	Ethyl Acetate	ND	3.4	ND	0.94	
110-54-3	n-Hexane	ND	0.85	ND	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-002

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02159

Initial Pressure (psig): -2.83 Final Pressure (psig): 4.37

Canister Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.87	ND	0.18	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.55	
107-06-2	1,2-Dichloroethane	ND	0.85	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.84	ND	0.15	
71-43-2	Benzene	ND	0.81	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.81	ND	0.13	
110-82-7	Cyclohexane	ND	1.8	ND	0.51	
78-87-5	1,2-Dichloropropane	ND	0.81	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.85	ND	0.13	
79-01-6	Trichloroethene	ND	0.84	ND	0.16	
123-91-1	1,4-Dioxane	ND	0.84	ND	0.23	
142-82-5	n-Heptane	ND	0.85	ND	0.21	
10061-01-5	cis-1,3-Dichloropropene	ND	0.81	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	1.8	ND	0.43	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.84	ND	0.15	
108-88-3	Toluene	ND	0.84	ND	0.22	
591-78-6	2-Hexanone	ND	1.8	ND	0.43	
124-48-1	Dibromochloromethane	ND	0.85	ND	0.10	
106-93-4	1,2-Dibromoethane	ND	0.84	ND	0.11	
111-65-9	n-Octane	ND	0.85	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.84	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-002

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02159

Initial Pressure (psig): -2.83 Final Pressure (psig): 4.37

Canister Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.84	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.8	ND	0.41	
75-25-2	Bromoform	ND	0.84	ND	0.081	
100-42-5	Styrene	ND	0.81	ND	0.19	
95-47-6	o-Xylene	ND	0.84	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.84	ND	0.12	
98-82-8	Cumene	ND	0.84	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.85	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.85	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.84	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.84	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.8	ND	0.34	
541-73-1	1,3-Dichlorobenzene	ND	0.84	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.84	ND	0.14	
135-98-8	sec-Butylbenzene	ND	0.84	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.84	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.85	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	ND	0.24	
91-20-3	Naphthalene	ND	0.84	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.84	ND	0.079	
104-51-8	n-Butylbenzene	ND	0.84	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.85	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-003

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01862

Initial Pressure (psig): -2.63 Final Pressure (psig): 4.11

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.6**	0.83	**0.53**	0.17	
74-87-3	Chloromethane	ND	0.80	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.84	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.81	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.81	ND	0.37	
74-83-9	Bromomethane	ND	0.80	ND	0.20	
75-00-3	Chloroethane	ND	0.80	ND	0.30	
107-02-8	Acrolein	ND	1.6	ND	0.68	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.4**	0.81	**0.24**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.63	
107-13-1	Acrylonitrile	ND	1.6	ND	0.72	
75-35-4	1,1-Dichloroethene	ND	0.84	ND	0.21	
75-09-2	Methylene Chloride	ND	0.81	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.84	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.55	
156-60-5	trans-1,2-Dichloroethene	ND	0.83	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.83	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.83	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.8	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.53	
156-59-2	cis-1,2-Dichloroethene	ND	0.81	ND	0.20	
141-78-6	Ethyl Acetate	ND	3.3	ND	0.91	
110-54-3	n-Hexane	ND	0.83	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-003

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01862

Initial Pressure (psig): -2.63 Final Pressure (psig): 4.11

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.84	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.53	
107-06-2	1,2-Dichloroethane	ND	0.83	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.81	ND	0.15	
71-43-2	Benzene	ND	0.78	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.78	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.50	
78-87-5	1,2-Dichloropropane	ND	0.78	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.83	ND	0.12	
79-01-6	Trichloroethene	ND	0.81	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.81	ND	0.23	
142-82-5	n-Heptane	ND	0.83	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.78	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.42	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.81	ND	0.15	
108-88-3	Toluene	ND	0.81	ND	0.22	
591-78-6	2-Hexanone	ND	1.7	ND	0.42	
124-48-1	Dibromochloromethane	ND	0.83	ND	0.097	
106-93-4	1,2-Dibromoethane	ND	0.81	ND	0.11	
111-65-9	n-Octane	ND	0.83	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.81	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-003

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01862

Initial Pressure (psig): -2.63 Final Pressure (psig): 4.11

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.81	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.40	
75-25-2	Bromoform	ND	0.81	ND	0.078	
100-42-5	Styrene	ND	0.78	ND	0.18	
95-47-6	o-Xylene	ND	0.81	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.81	ND	0.12	
98-82-8	Cumene	ND	0.81	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.83	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.83	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.81	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.81	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.81	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.81	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.81	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.81	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.83	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.81	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.81	ND	0.076	
104-51-8	n-Butylbenzene	ND	0.81	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.83	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-004

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01902

Initial Pressure (psig): -2.56 Final Pressure (psig): 3.98

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.7**	0.82	**0.54**	0.17	
74-87-3	Chloromethane	ND	0.79	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.83	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.79	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
107-02-8	Acrolein	ND	1.5	ND	0.67	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.4**	0.80	**0.25**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.63	
107-13-1	Acrylonitrile	ND	1.5	ND	0.71	
75-35-4	1,1-Dichloroethene	ND	0.83	ND	0.21	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.83	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.82	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.82	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.7	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
141-78-6	Ethyl Acetate	ND	3.2	ND	0.90	
110-54-3	n-Hexane	ND	0.82	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-004

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01902

Initial Pressure (psig): -2.56 Final Pressure (psig): 3.98

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.83	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.52	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
142-82-5	n-Heptane	ND	0.82	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.77	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.79	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	ND	0.80	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.82	ND	0.096	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
111-65-9	n-Octane	ND	0.82	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-004

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01902

Initial Pressure (psig): -2.56 Final Pressure (psig): 3.98

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.82	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.80	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.80	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.82	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	
104-51-8	n-Butylbenzene	ND	0.80	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.82	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_012122_D** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-005

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01636

Initial Pressure (psig): -2.47 Final Pressure (psig): 4.14

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.6**	0.82	**0.53**	0.17	
74-87-3	Chloromethane	ND	0.79	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.83	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.79	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
107-02-8	Acrolein	ND	1.5	ND	0.67	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.4**	0.80	**0.24**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.63	
107-13-1	Acrylonitrile	ND	1.5	ND	0.71	
75-35-4	1,1-Dichloroethene	ND	0.83	ND	0.21	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.83	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.82	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.82	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.7	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
141-78-6	Ethyl Acetate	ND	3.2	ND	0.90	
110-54-3	n-Hexane	ND	0.82	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_012122_D** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-005

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01636

Initial Pressure (psig): -2.47 Final Pressure (psig): 4.14

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.83	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.52	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
142-82-5	n-Heptane	ND	0.82	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.77	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.79	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	ND	0.80	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.82	ND	0.096	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
111-65-9	n-Octane	ND	0.82	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_012122_D** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-005

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01636

Initial Pressure (psig): -2.47 Final Pressure (psig): 4.14

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.82	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.80	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.80	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.82	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	
104-51-8	n-Butylbenzene	ND	0.80	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.82	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220126-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220126-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220126-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2200279

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date(s) Collected: 1/21/22
Analyst: Jessie Macaluso Date(s) Received: 1/21/22
Sample Type: 6.0 L Silonite Canister(s) / 6.0 L Summa Canister(s) Date(s) Analyzed: 1/26/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220126-MB	**98**	**95**	**88**	70-130	
Lab Control Sample	P220126-LCS	**99**	**102**	**99**	70-130	
Duplicate Lab Control Sample	P220126-DLCS	**100**	**95**	**86**	70-130	
DOE-1_012122_S	P2200279-001	**97**	**94**	**87**	70-130	
DOE-2_012122_S	P2200279-002	**95**	**94**	**90**	70-130	
DOE-2_012122_S	P2200279-002DUP	**96**	**93**	**90**	70-130	
DOE-3_012122_S	P2200279-003	**96**	**95**	**87**	70-130	
DOE-4_012122_S	P2200279-004	**98**	**94**	**86**	70-130	
DOE-2_012122_D	P2200279-005	**97**	**93**	**85**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220126-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	216	209	**104**	**100**	71-112	4	25	
74-87-3	Chloromethane	206	242	221	**117**	**107**	53-126	9	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	215	209	**103**	**100**	62-121	3	25	
75-01-4	Vinyl Chloride	208	243	229	**117**	**110**	63-123	6	25	
106-99-0	1,3-Butadiene	206	263	254	**128**	**123**	63-135	4	25	
74-83-9	Bromomethane	206	236	225	**115**	**109**	71-112	5	25	**L**
75-00-3	Chloroethane	206	253	241	**123**	**117**	66-117	5	25	**L**
107-02-8	Acrolein	416	528	513	**127**	**123**	71-123	3	25	**L**
75-69-4	Trichlorofluoromethane (CFC 11)	202	211	209	**104**	**103**	71-114	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	477	468	**119**	**117**	61-124	2	25	
107-13-1	Acrylonitrile	402	521	515	**130**	**128**	65-130	2	25	
75-35-4	1,1-Dichloroethene	210	237	232	**113**	**110**	74-114	3	25	
75-09-2	Methylene Chloride	208	224	218	**108**	**105**	75-112	3	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	226	224	**105**	**104**	73-114	1	25	
75-15-0	Carbon Disulfide	414	442	435	**107**	**105**	70-113	2	25	
156-60-5	trans-1,2-Dichloroethene	208	245	242	**118**	**116**	76-119	2	25	
75-34-3	1,1-Dichloroethane	214	243	240	**114**	**112**	70-114	2	25	
1634-04-4	Methyl tert-Butyl Ether	206	231	220	**112**	**107**	72-118	5	25	
108-05-4	Vinyl Acetate	942	1250	1240	**133**	**132**	56-137	0.8	25	
78-93-3	2-Butanone (MEK)	408	421	416	**103**	**102**	74-121	1	25	
156-59-2	cis-1,2-Dichloroethene	206	239	238	**116**	**116**	73-117	0	25	
141-78-6	Ethyl Acetate	580	728	728	**126**	**126**	59-161	0	25	
110-54-3	n-Hexane	208	255	253	**123**	**122**	55-130	0.8	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220126-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	210	233	230	**111**	**110**	71-114	0.9	25	
109-99-9	Tetrahydrofuran (THF)	404	456	451	**113**	**112**	73-114	0.9	25	
107-06-2	1,2-Dichloroethane	210	224	223	**107**	**106**	71-119	0.9	25	
71-55-6	1,1,1-Trichloroethane	208	223	222	**107**	**107**	73-119	0	25	
71-43-2	Benzene	208	233	231	**112**	**111**	72-113	0.9	25	
56-23-5	Carbon Tetrachloride	202	212	210	**105**	**104**	67-123	1	25	
110-82-7	Cyclohexane	412	465	462	**113**	**112**	70-119	0.9	25	
78-87-5	1,2-Dichloropropane	206	247	246	**120**	**119**	70-118	0.8	25	**L**
75-27-4	Bromodichloromethane	208	236	234	**113**	**113**	74-119	0	25	
79-01-6	Trichloroethene	204	225	224	**110**	**110**	74-115	0	25	
123-91-1	1,4-Dioxane	206	248	247	**120**	**120**	77-124	0	25	
142-82-5	n-Heptane	206	240	240	**117**	**117**	70-119	0	25	
10061-01-5	cis-1,3-Dichloropropene	208	245	247	**118**	**119**	81-126	0.8	25	
108-10-1	4-Methyl-2-pentanone	412	528	546	**128**	**133**	73-129	4	25	**L**
10061-02-6	trans-1,3-Dichloropropene	200	252	250	**126**	**125**	80-127	0.8	25	
79-00-5	1,1,2-Trichloroethane	208	231	231	**111**	**111**	78-117	0	25	
108-88-3	Toluene	206	224	206	**109**	**100**	70-118	9	25	
591-78-6	2-Hexanone	406	540	515	**133**	**127**	74-132	5	25	**L**
124-48-1	Dibromochloromethane	210	230	215	**110**	**102**	69-137	8	25	
106-93-4	1,2-Dibromoethane	208	227	211	**109**	**101**	76-128	8	25	
111-65-9	n-Octane	208	241	235	**116**	**113**	68-120	3	25	
127-18-4	Tetrachloroethene	212	199	206	**94**	**97**	63-130	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220126-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	206	204	211	**99**	**102**	71-123	3	25	
179601-23-1	m,p-Xylenes	416	420	406	**101**	**98**	67-127	3	25	
75-25-2	Bromoform	210	218	197	**104**	**94**	65-149	10	25	
100-42-5	Styrene	202	237	200	**117**	**99**	76-132	17	25	
95-47-6	o-Xylene	208	230	197	**111**	**95**	69-124	16	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	238	204	**114**	**98**	69-128	15	25	
98-82-8	Cumene	206	223	190	**108**	**92**	69-125	16	25	
103-65-1	n-Propylbenzene	208	230	200	**111**	**96**	70-127	14	25	
622-96-8	4-Ethyltoluene	208	234	206	**113**	**99**	69-127	13	25	
108-67-8	1,3,5-Trimethylbenzene	208	233	201	**112**	**97**	66-129	14	25	
95-63-6	1,2,4-Trimethylbenzene	206	240	221	**117**	**107**	63-142	9	25	
100-44-7	Benzyl Chloride	416	528	489	**127**	**118**	73-145	7	25	
541-73-1	1,3-Dichlorobenzene	208	232	217	**112**	**104**	67-136	7	25	
106-46-7	1,4-Dichlorobenzene	210	230	214	**110**	**102**	63-134	8	25	
135-98-8	sec-Butylbenzene	204	227	213	**111**	**104**	68-130	7	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	226	212	**110**	**103**	60-139	7	25	
95-50-1	1,2-Dichlorobenzene	210	232	217	**110**	**103**	64-139	7	25	
120-82-1	1,2,4-Trichlorobenzene	420	482	446	**115**	**106**	62-154	8	25	
91-20-3	Naphthalene	210	221	203	**105**	**97**	62-156	8	25	
87-68-3	Hexachlorobutadiene	212	219	205	**103**	**97**	55-142	6	25	
104-51-8	n-Butylbenzene	208	236	223	**113**	**107**	70-131	5	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-002DUP

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02159

Initial Pressure (psig): -2.83 Final Pressure (psig): 4.37

Canister Dilution Factor: 1.61

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Dichlorodifluoromethane (CFC 12)	2.65	0.537	2.52	0.510	2.585	**5**	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Trichlorofluoromethane	1.37	0.244	1.33	0.237	1.35	**3**	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	ND	ND	-	-	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Vinyl Acetate	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	ND	ND	-	-	25	
n-Hexane	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-002DUP

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02159

Initial Pressure (psig): -2.83 Final Pressure (psig): 4.37

Canister Dilution Factor: 1.61

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Chloroform	ND	ND	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Trichloroethene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	ND	ND	ND	ND	-	-	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Octane	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_012122_S** ALS Project ID: P2200279
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200279-002DUP

Test Code: EPA TO-15 Date Collected: 1/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 1/21/22
Analyst: Jessie Macaluso Date Analyzed: 1/26/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02159

Initial Pressure (psig): -2.83 Final Pressure (psig): 4.37

Canister Dilution Factor: 1.61

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
sec-Butylbenzene	ND	ND	ND	ND	-	-	25	
4-Isopropyltoluene (p-Cymene)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	
n-Butylbenzene	ND	ND	ND	ND	-	-	25	
Xylenes, Total	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **North Wind, Inc.** ALS Project ID: P2200279

Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Lab File ID: 01262202.D

Analyst: Jessie Macaluso Date Analyzed: 1/26/22

Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 01:17

Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	131800		11.34	609061		13.45		142260		17.75	
	Upper Limit	184520		11.67	852685		13.78		199164		18.08	
	Lower Limit	79080		11.01	365437		13.12		85356		17.42	
	Client Sample ID											
01	Method Blank	117263		11.32	548332		13.44		129452		17.75	
02	DOE-1_012122_S	113723		11.32	529599		13.44		125996		17.75	
03	DOE-3_012122_S	111366		11.32	518657		13.44		123317		17.75	
04	DOE-4_012122_S	109077		11.32	504673		13.44		121138		17.75	
05	DOE-2_012122_D	107958		11.32	503226		13.44		122790		17.75	
06	Lab Control Sample	138024		11.34	626594		13.45		138088		17.75	
07	DOE-2_012122_S	117967		11.32	540162		13.44		129543		17.75	
08	DOE-2_012122_S (Lab Duplicate)	116254		11.32	535211		13.44		129372		17.75	
09	Duplicate Lab Control Sample	136004		11.34	611902		13.45		144931		17.75	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262205.D Vial: 2
Acq On : 26 Jan 2022 2:57 Operator: JMM
Sample : P2200279-001 (1000mL) Inst : GCMS13
Misc : S35-01102002

JMM 1/27/22

Quant Time: Jan 26 09:12:49 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	113723	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	529599	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	125996	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	226411	12.101	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%			
57) Toluene-d8 (SS2)	15.90	98	645053	11.810	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%			
73) Bromofluorobenzene (SS3)	19.12	174	178984	10.913	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.28%			
Target Compounds						Qvalue
2) Propene	4.27	42	490	N.D.		
3) Dichlorodifluoromethan...	4.41	85	29254	1.660	ng	99
4) Chloromethane	4.71	50	3795	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.97	135	515	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.50	45	7338	1.054	ng	96
11) Acetonitrile	6.79	41	2302	N.D.		
12) Acrolein	6.99	56	114	N.D.		
13) Acetone	7.19	58	22953	2.985	ng	94
14) Trichlorofluoromethane	7.44	101	14004	0.871	ng	99
15) 2-Propanol (Isopropanol)	7.70	45	5184	N.D.		
16) Acrylonitrile	8.19	53	231	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	8.61	84	2227	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.04	151	2435	N.D.		
22) Carbon Disulfide	8.90	76	1890	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.36	86	211	N.D.		
27) 2-Butanone (MEK)	10.67	72	1444	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.49	61	636	N.D.		
31) n-Hexane	11.43	57	463	N.D.		
32) Chloroform	11.49	83	589	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.29	62	427	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.05	78	4946	N.D.		
42) Carbon Tetrachloride	13.22	117	4008	N.D.		
43) Cyclohexane	13.44	84	527	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.22	57	1288	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262205.D Vial: 2
Acq On : 26 Jan 2022 2:57 Operator: JMM
Sample : P2200279-001 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:49 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

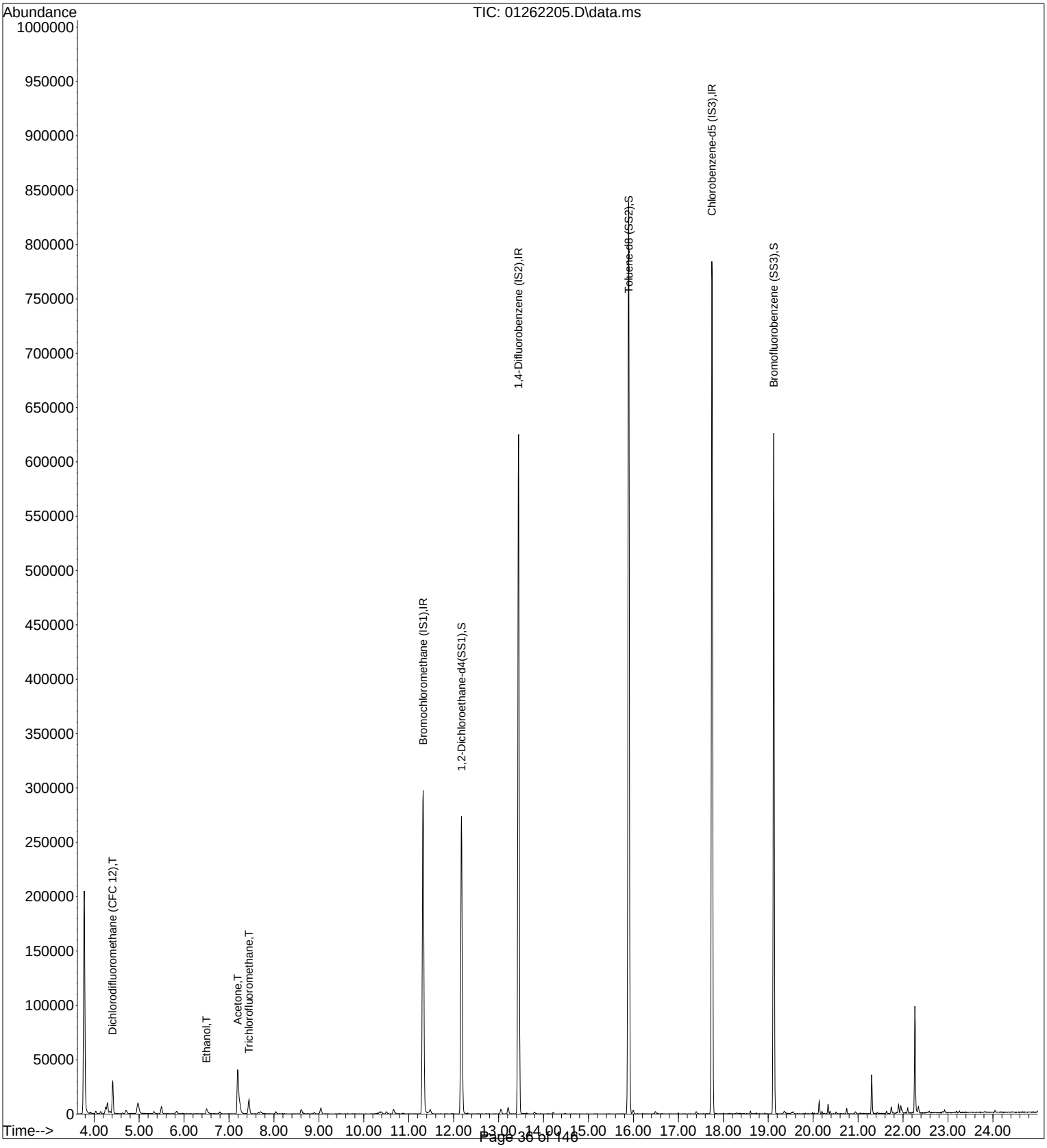
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.99	91	3438	N.D.		
59) 2-Hexanone	16.27	43	314	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.99	43	567	N.D.		
63) n-Octane	17.00	57	117	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.14	91	498	N.D.		
67) m- & p-Xylenes	18.30	91	1087	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.72	91	463	N.D.		
71) n-Nonane	18.92	43	138	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.13	105	122	N.D.		
75) alpha-Pinene	19.59	93	112	N.D.		
76) n-Propylbenzene	19.69	91	104	N.D.		
77) 3-Ethyltoluene	19.82	105	130	No Calib		#
78) 4-Ethyltoluene	19.82	105	130	N.D.		
79) 1,3,5-Trimethylbenzene	19.82	105	130	N.D.		
80) alpha-Methylstyrene	20.02	118	115	No Calib		#
81) 2-Ethyltoluene	19.82	105	130	No Calib		#
82) 1,2,4-Trimethylbenzene	20.24	105	422	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.24	105	279	N.D.		
88) 4-Isopropyltoluene (p-...	20.62	119	350	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.74	68	1312	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.43	57	414	No Calib		#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.36	128	815	N.D.		
96) n-Dodecane	22.34	57	2039	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.46	55	292	No Calib		#
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262205.D Vial: 2
Acq On : 26 Jan 2022 2:57 Operator: JMM
Sample : P2200279-001 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:49 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262205.D Vial: 2
Acq On : 26 Jan 2022 2:57 Operator: JMM
Sample : P2200279-001 (1000mL) Inst : GCMS13
Misc : S35-01102002

JMM 1/27/22

Quant Time: Jan 26 09:12:49 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

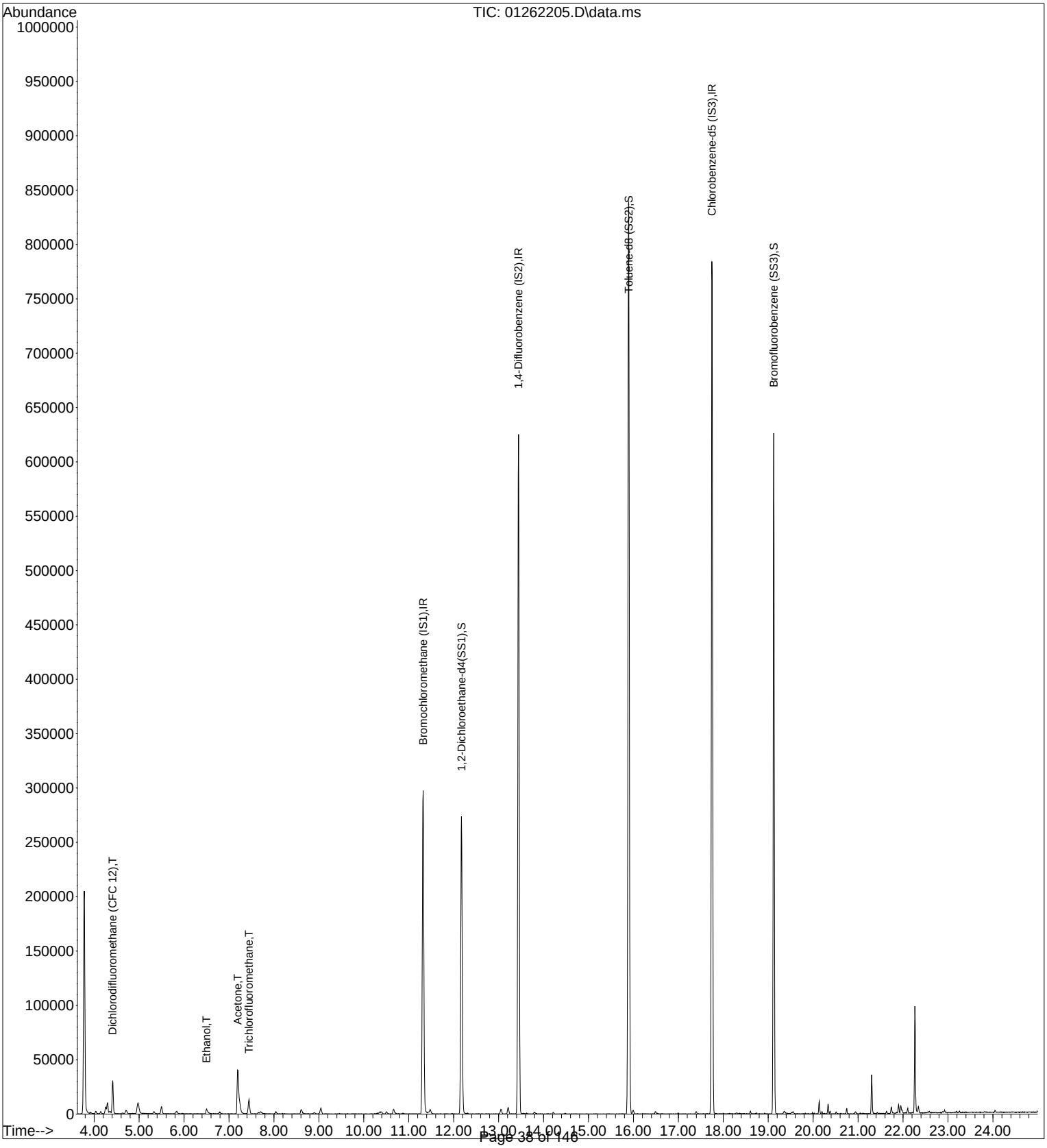
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	113723	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	529599	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	125996	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	226411	12.101	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%			
57) Toluene-d8 (SS2)	15.90	98	645053	11.810	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%			
73) Bromofluorobenzene (SS3)	19.12	174	178984	10.913	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.28%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.41	85	29254	1.660	ng	99
10) Ethanol	6.50	45	7338	1.054	ng	96
13) Acetone	7.19	58	22953	2.985	ng	94
14) Trichlorofluoromethane	7.44	101	14004	0.871	ng	99

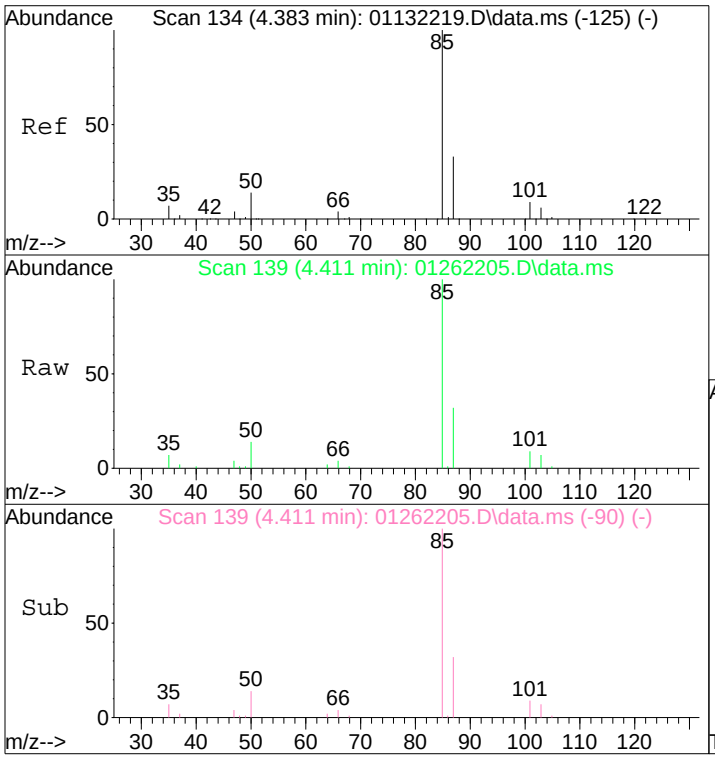
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262205.D Vial: 2
Acq On : 26 Jan 2022 2:57 Operator: JMM
Sample : P2200279-001 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:49 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

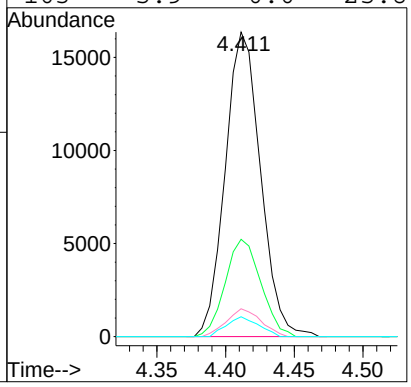


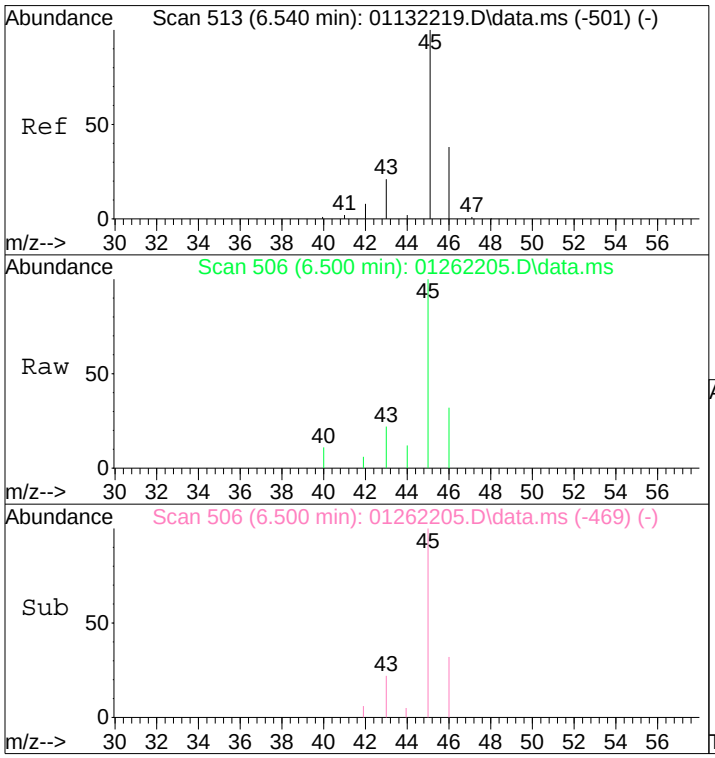


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.66 ng
RT: 4.41 min Scan# 139
Delta R.T. 0.028 min
Lab File: 01262205.D
Acq: 26 Jan 2022 2:57

Tgt Ion: 85 Resp: 29254

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.5	52.5
101	8.9	0.0	29.1
103	5.9	0.0	25.8

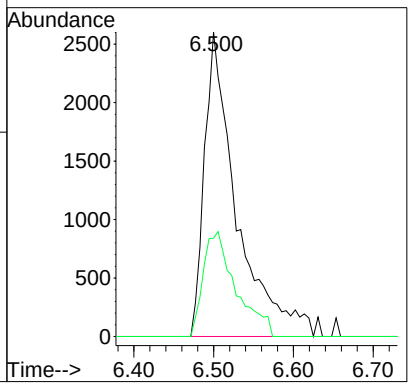


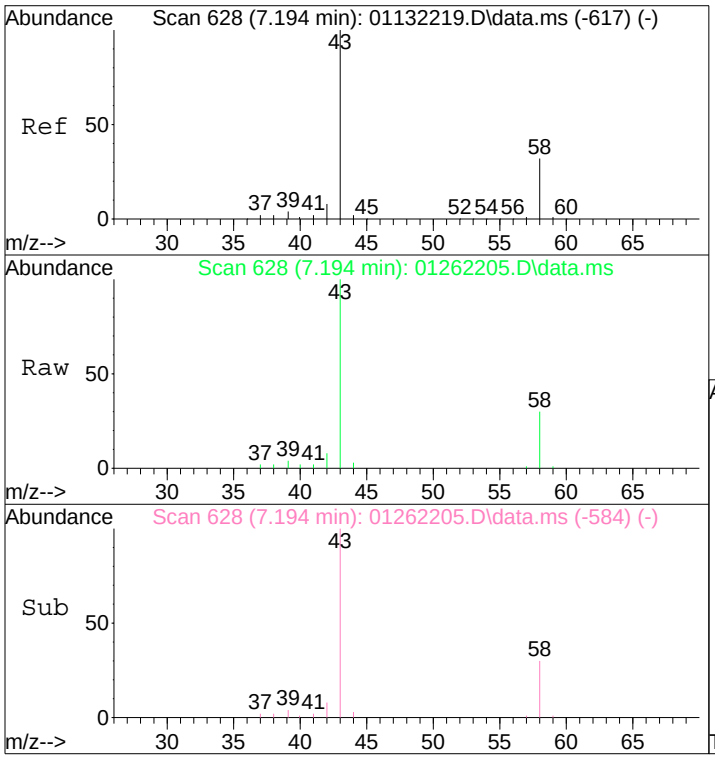


#10
Ethanol
Concen: 1.05 ng
RT: 6.50 min Scan# 506
Delta R.T. -0.040 min
Lab File: 01262205.D
Acq: 26 Jan 2022 2:57

Tgt Ion: 45 Resp: 7338

Ion	Ratio	Lower	Upper
45	100		
46	34.7	17.1	57.1

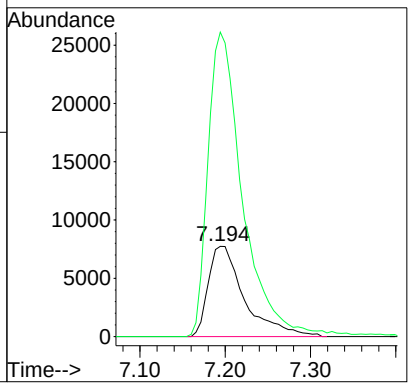


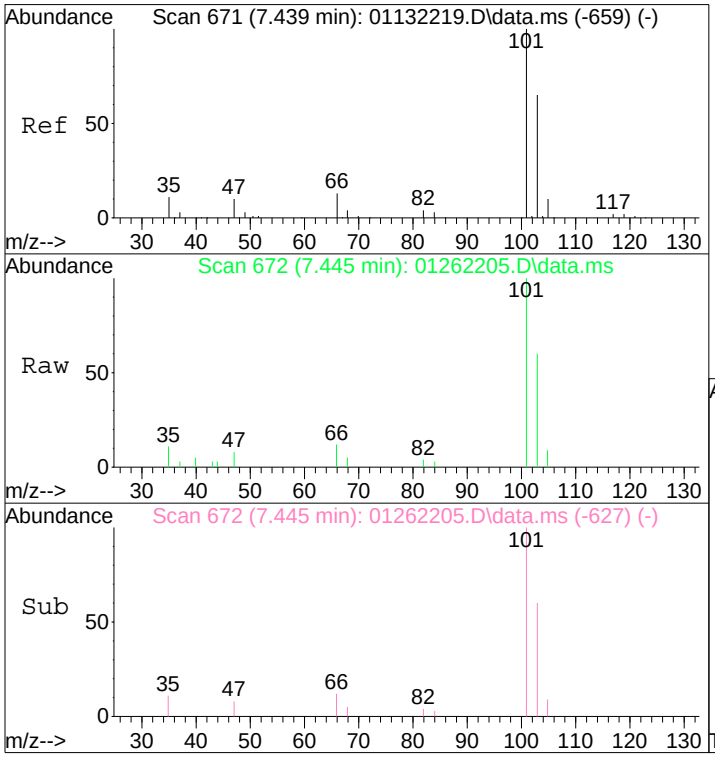


#13
Acetone
Concen: 2.99 ng
RT: 7.19 min Scan# 628
Delta R.T. 0.000 min
Lab File: 01262205.D
Acq: 26 Jan 2022 2:57

Tgt Ion: 58 Resp: 22953

Ion	Ratio	Lower	Upper
58	100		
43	324.2	282.8	342.8

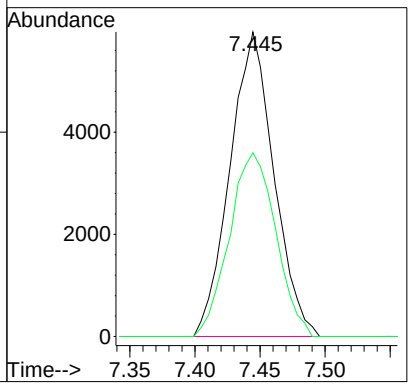




#14
Trichlorofluoromethane
Concen: 0.87 ng
RT: 7.44 min Scan# 672
Delta R.T. 0.006 min
Lab File: 01262205.D
Acq: 26 Jan 2022 2:57

Tgt Ion:101 Resp: 14004

Ion	Ratio	Lower	Upper
101	100		
103	63.6	44.6	84.6



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262212.D Vial: 10
Acq On : 26 Jan 2022 11:23 Operator: JMM
Sample : P2200279-002 (1000mL) Inst : GCMS13 JMM 1/27/22
Misc : S35-01102002

Quant Time: Jan 26 12:48:57 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	117967	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	540162	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	129543	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	231469	11.927	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.90	98	657000	11.699	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%				
73) Bromofluorobenzene (SS3)	19.12	174	189288	11.225	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
Target Compounds							Qvalue
2) Propene	4.27	42	1050	N.D.			
3) Dichlorodifluoromethan...	4.41	85	30134	1.648	ng		99
4) Chloromethane	4.70	50	3635	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.97	135	574	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.50	45	10593	1.467	ng		92
11) Acetonitrile	6.79	41	2723	N.D.			
12) Acrolein	6.99	56	1436	N.D.			
13) Acetone	7.19	58	29551	3.705	ng	#	84
14) Trichlorofluoromethane	7.44	101	14165	0.850	ng		99
15) 2-Propanol (Isopropanol)	7.68	45	8656	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.63	59	55	N.D.			
19) Methylene Chloride	8.61	84	3203	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.04	151	2410	N.D.			
22) Carbon Disulfide	8.91	76	1989	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.35	86	552	N.D.			
27) 2-Butanone (MEK)	10.65	72	2474	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.47	61	927	N.D.			
31) n-Hexane	11.44	57	729	N.D.			
32) Chloroform	11.49	83	645	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.29	62	442	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	13.06	56	1357	No Calib		#	
41) Benzene	13.06	78	5315	N.D.			
42) Carbon Tetrachloride	13.21	117	3466	N.D.			
43) Cyclohexane	13.44	84	444	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.22	57	1395	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262212.D Vial: 10
Acq On : 26 Jan 2022 11:23 Operator: JMM
Sample : P2200279-002 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 12:48:57 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

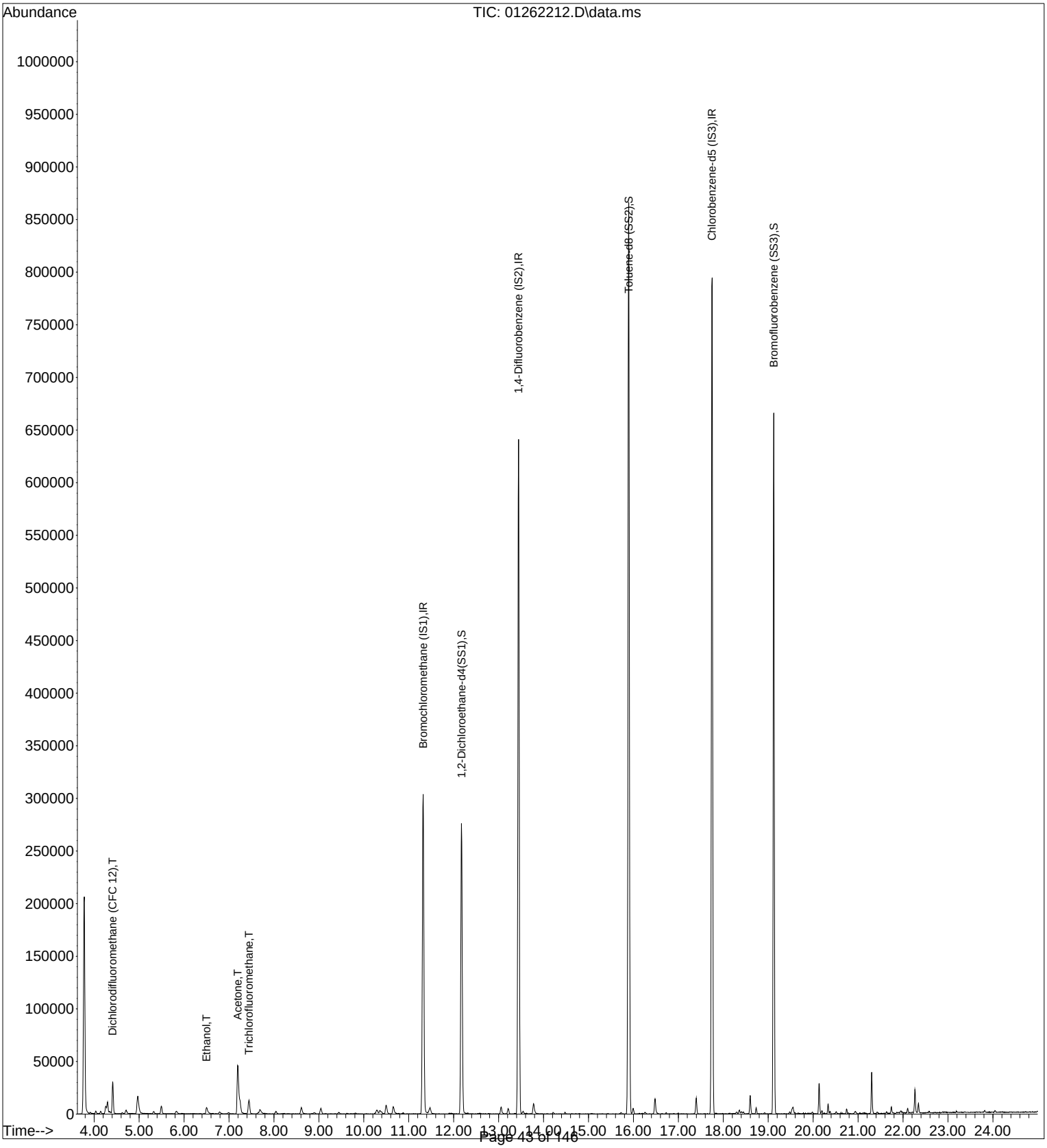
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.48	71	276	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	16.00	91	4920	N.D.		
59) 2-Hexanone	16.25	43	1908	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.89	43	639	N.D.		
63) n-Octane	17.00	57	123	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.15	91	748	N.D.		
67) m- & p-Xylenes	18.29	91	1851	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.62	104	193	N.D.		
70) o-Xylene	18.73	91	777	N.D.		
71) n-Nonane	18.92	43	581	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.73	83	112	N.D.		
74) Cumene	19.13	105	244	N.D.		
75) alpha-Pinene	19.59	93	442	N.D.		
76) n-Propylbenzene	19.70	91	263	N.D.		
77) 3-Ethyltoluene	19.89	105	123	No Calib		#
78) 4-Ethyltoluene	19.82	105	293	N.D.		
79) 1,3,5-Trimethylbenzene	19.89	105	123	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.89	105	123	No Calib		#
82) 1,2,4-Trimethylbenzene	20.24	105	773	N.D.		
83) n-Decane	20.14	58	330	No Calib		#
84) Benzyl Chloride	20.37	91	160	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.61	105	142	N.D.		
88) 4-Isopropyltoluene (p-...	20.62	119	707	N.D.		
89) 1,2,3-Trimethylbenzene	20.61	105	142	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.74	68	1359	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.43	57	711	No Calib		#
94) 1,2,4-Trichlorobenzene	22.25	180	169	N.D.		
95) Naphthalene	22.36	128	1081	N.D.		
96) n-Dodecane	22.34	57	3186	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.45	55	1034	No Calib		#
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	20.96	91	256	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262212.D Vial: 10
Acq On : 26 Jan 2022 11:23 Operator: JMM
Sample : P2200279-002 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 12:48:57 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262212.D Vial: 10
Acq On : 26 Jan 2022 11:23 Operator: JMM
Sample : P2200279-002 (1000mL) Inst : GCMS13
Misc : S35-01102002

JMM 1/27/22

Quant Time: Jan 26 12:48:57 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

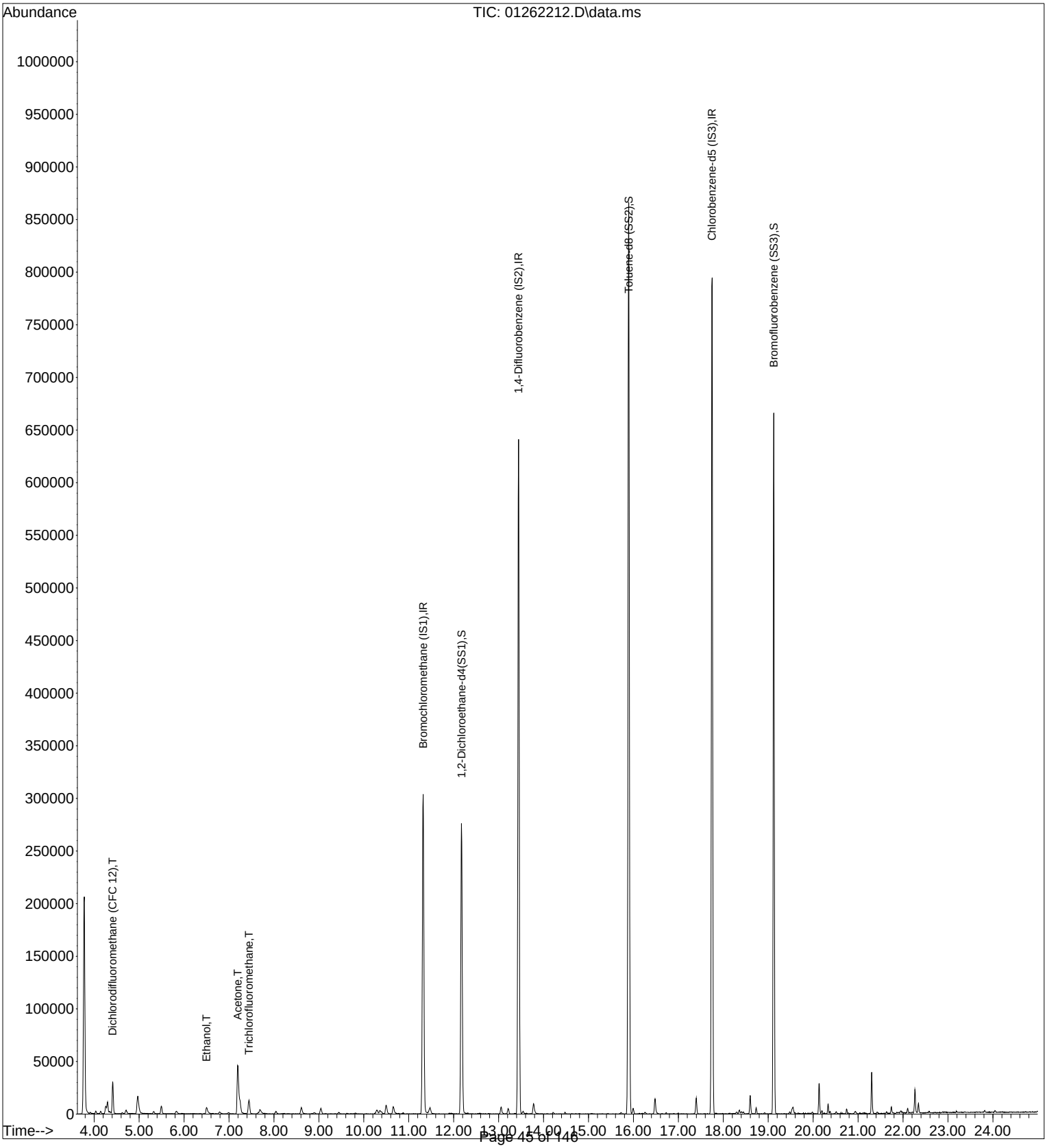
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	117967	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	540162	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	129543	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	231469	11.927	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.90	98	657000	11.699	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%				
73) Bromofluorobenzene (SS3)	19.12	174	189288	11.225	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.41	85	30134	1.648	ng		99
10) Ethanol	6.50	45	10593	1.467	ng		92
13) Acetone	7.19	58	29551	3.705	ng	#	84
14) Trichlorofluoromethane	7.44	101	14165	0.850	ng		99

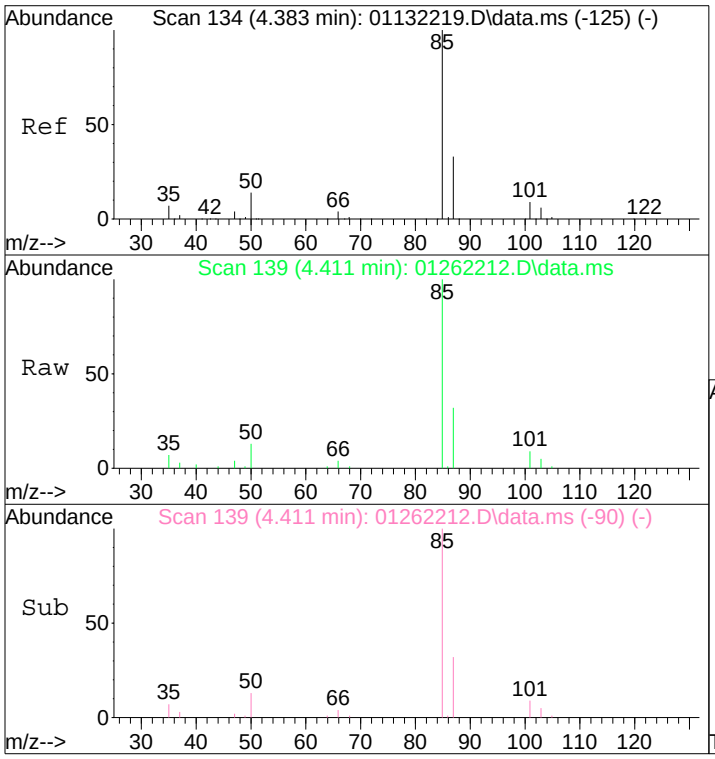
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262212.D Vial: 10
Acq On : 26 Jan 2022 11:23 Operator: JMM
Sample : P2200279-002 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 12:48:57 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

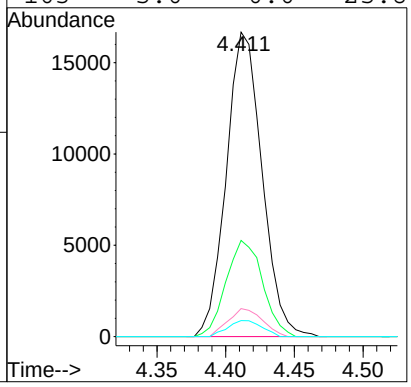


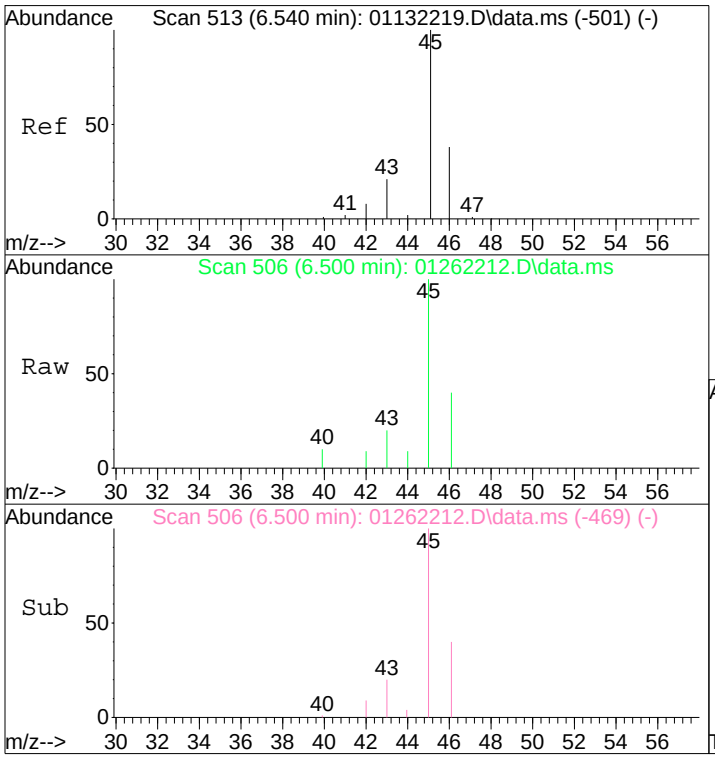


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.65 ng
RT: 4.41 min Scan# 139
Delta R.T. 0.028 min
Lab File: 01262212.D
Acq: 26 Jan 2022 11:23

Tgt Ion: 85 Resp: 30134

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.5	52.5
101	8.8	0.0	29.1
103	5.0	0.0	25.8

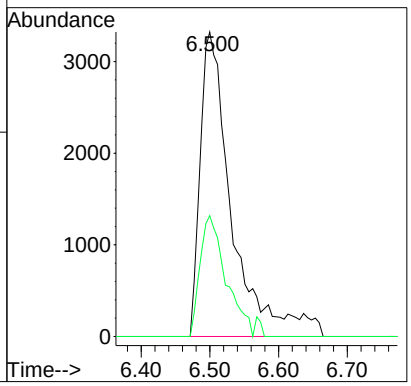


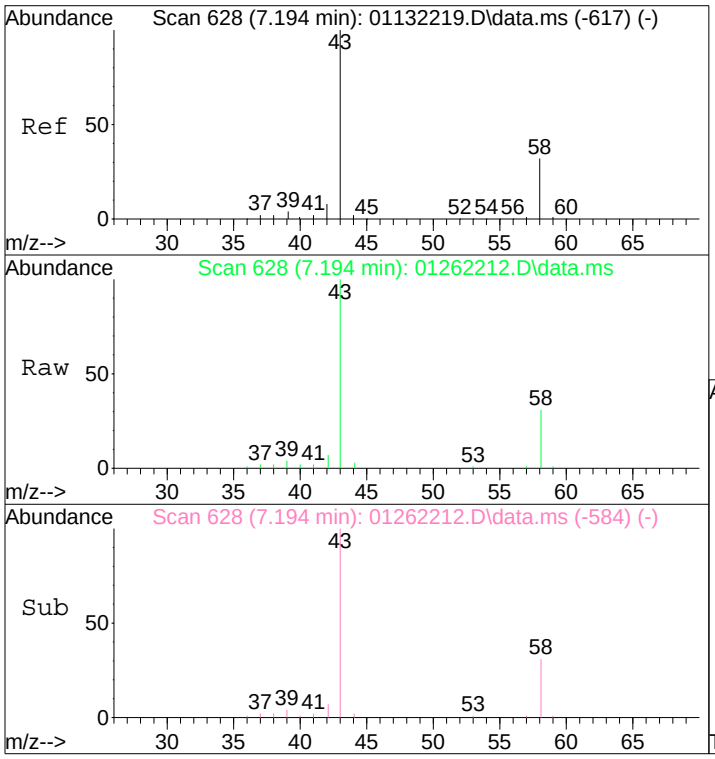


#10
Ethanol
Concen: 1.47 ng
RT: 6.50 min Scan# 506
Delta R.T. -0.040 min
Lab File: 01262212.D
Acq: 26 Jan 2022 11:23

Tgt Ion: 45 Resp: 10593

Ion	Ratio	Lower	Upper
45	100		
46	32.6	17.1	57.1

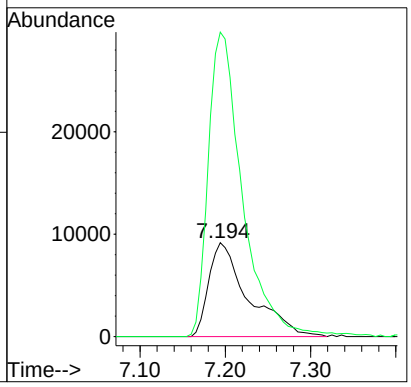


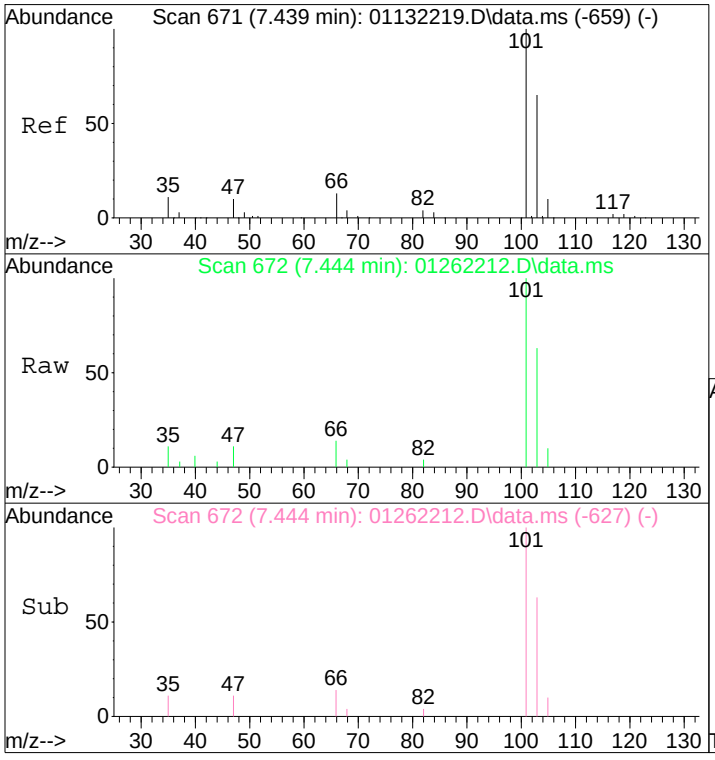


#13
Acetone
Concen: 3.70 ng
RT: 7.19 min Scan# 628
Delta R.T. -0.000 min
Lab File: 01262212.D
Acq: 26 Jan 2022 11:23

Tgt Ion: 58 Resp: 29551

Ion	Ratio	Lower	Upper
58	100		
43	281.3	282.8	342.8#

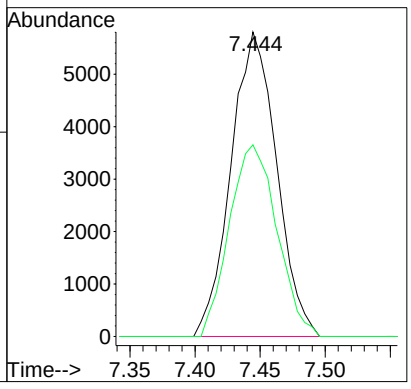




#14
Trichlorofluoromethane
Concen: 0.85 ng
RT: 7.44 min Scan# 672
Delta R.T. 0.006 min
Lab File: 01262212.D
Acq: 26 Jan 2022 11:23

Tgt Ion:101 Resp: 14165

Ion	Ratio	Lower	Upper
101	100		
103	65.6	44.6	84.6



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262206.D Vial: 4
Acq On : 26 Jan 2022 3:31 Operator: JMM
Sample : P2200279-003 (1000mL) Inst : GCMS13 JMM 1/27/22
Misc : S35-01102002

Quant Time: Jan 26 09:12:51 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	111366	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	518657	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	123317	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	220137	12.015	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%			
57) Toluene-d8 (SS2)	15.90	98	631675	11.816	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%			
73) Bromofluorobenzene (SS3)	19.12	174	174687	10.883	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.04%			
Target Compounds						Qvalue
2) Propene	4.29	42	1116	N.D.		
3) Dichlorodifluoromethan...	4.41	85	29054	1.683	ng	99
4) Chloromethane	4.70	50	4268	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.97	135	504	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.51	45	5334	0.783	ng	93
11) Acetonitrile	6.78	41	1880	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	7.19	58	18746	2.490	ng	93
14) Trichlorofluoromethane	7.44	101	13751	0.874	ng	99
15) 2-Propanol (Isopropanol)	7.70	45	3365	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	8.61	84	2356	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.04	151	2439	N.D.		
22) Carbon Disulfide	8.90	76	2192	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.67	72	1249	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.44	57	384	N.D.		
32) Chloroform	11.49	83	665	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.29	62	405	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.06	78	4598	N.D.		
42) Carbon Tetrachloride	13.22	117	3824	N.D.		
43) Cyclohexane	13.44	84	390	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.22	57	1236	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262206.D Vial: 4
Acq On : 26 Jan 2022 3:31 Operator: JMM
Sample : P2200279-003 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:51 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

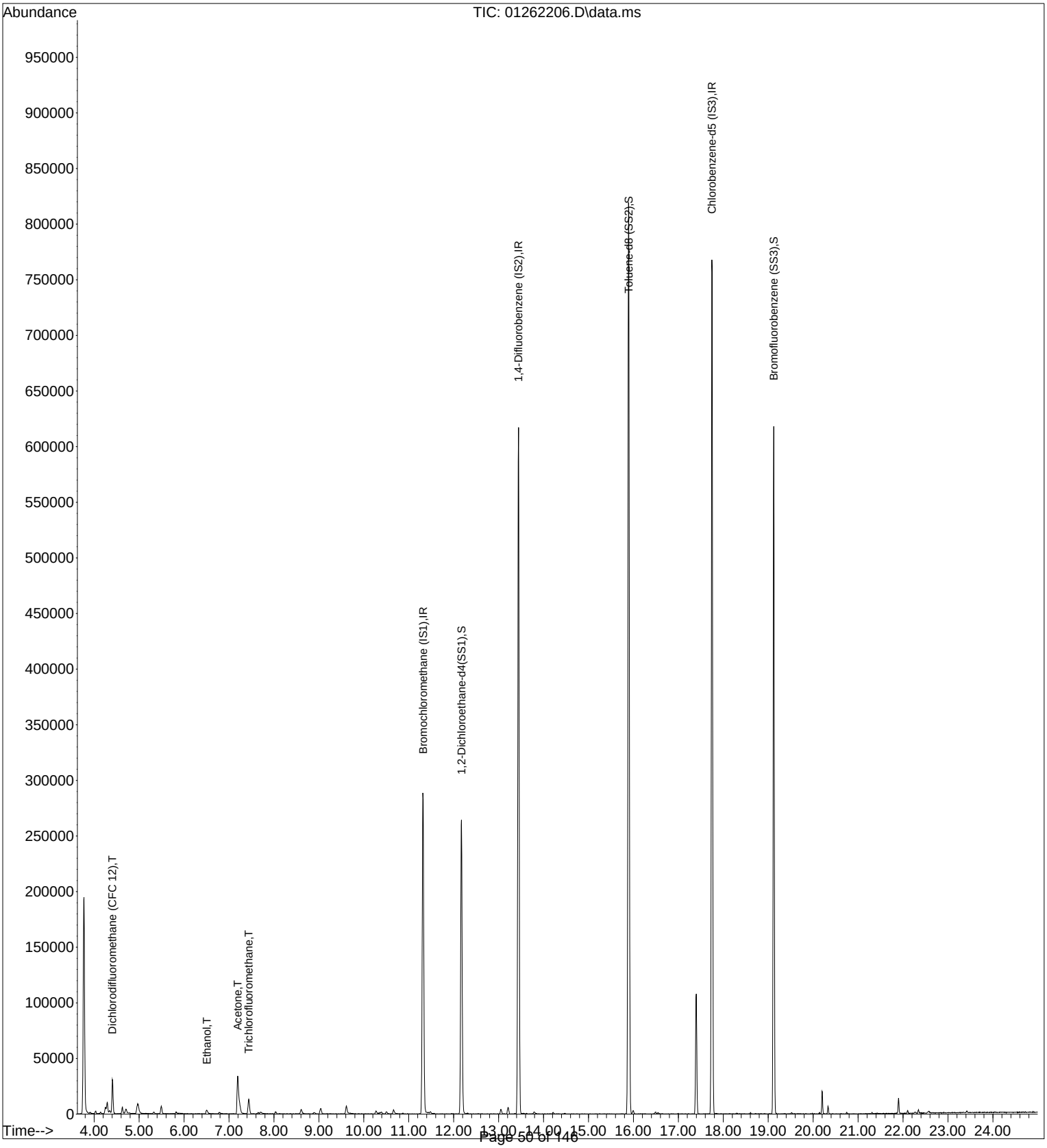
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.99	91	2932	N.D.		
59) 2-Hexanone	16.00	43	173	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.99	43	407	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.14	91	388	N.D.		
67) m- & p-Xylenes	18.30	91	978	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.73	91	246	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.12	105	130	N.D.		
75) alpha-Pinene	19.59	93	164	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	19.78	105	183	No Calib	#	
78) 4-Ethyltoluene	19.78	105	183	N.D.		
79) 1,3,5-Trimethylbenzene	19.78	105	183	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.78	105	183	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.24	105	178	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.24	105	178	N.D.		
88) 4-Isopropyltoluene (p-...	20.62	119	386	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.74	68	466	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.42	57	298	No Calib	#	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.36	128	241	N.D.		
96) n-Dodecane	22.34	57	1135	No Calib	#	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.20	119	397	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262206.D Vial: 4
Acq On : 26 Jan 2022 3:31 Operator: JMM
Sample : P2200279-003 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:51 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262206.D Vial: 4
Acq On : 26 Jan 2022 3:31 Operator: JMM
Sample : P2200279-003 (1000mL) Inst : GCMS13
Misc : S35-01102002

JMM 1/27/22

Quant Time: Jan 26 09:12:51 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

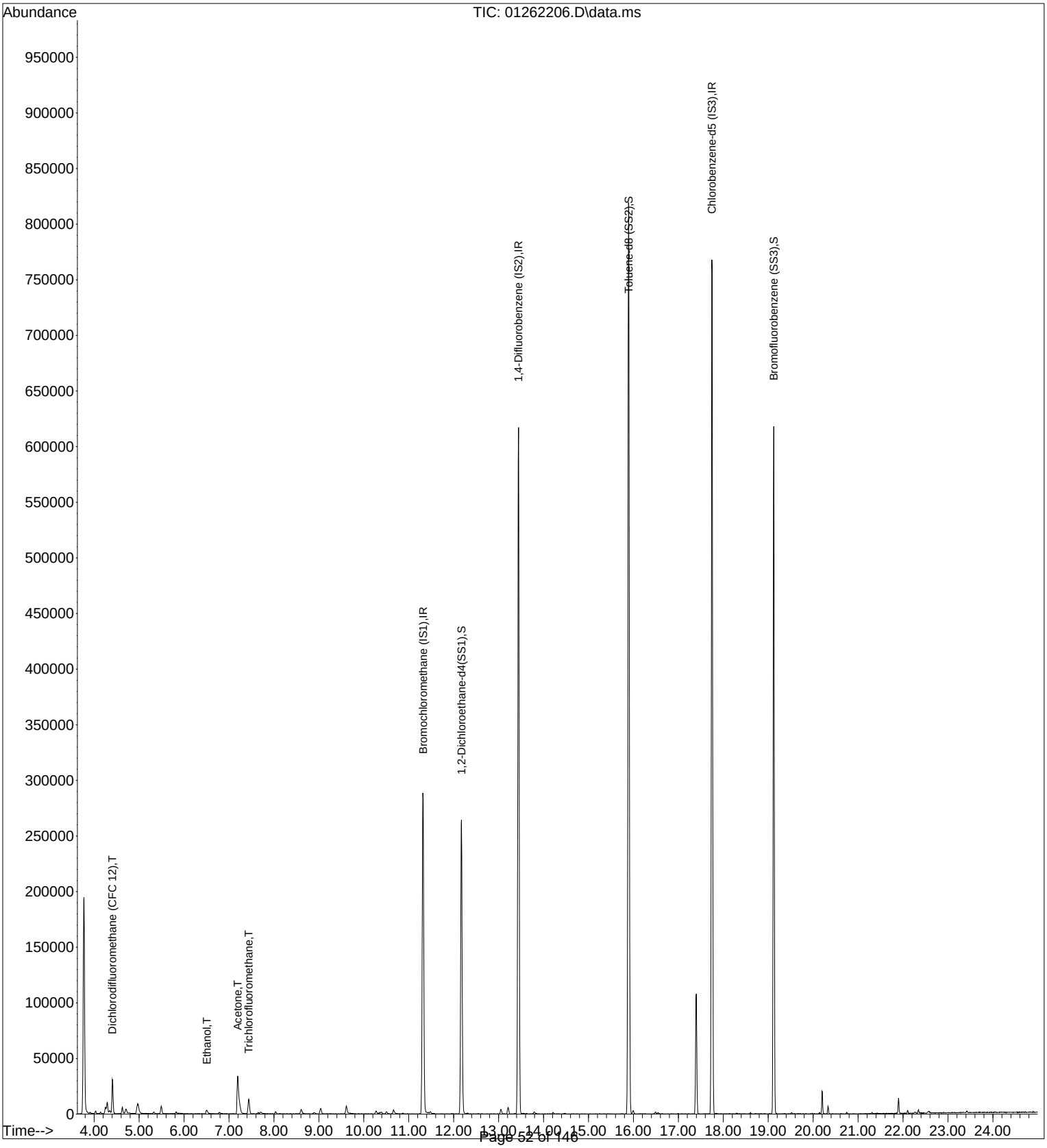
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	111366	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	518657	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	123317	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	220137	12.015	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%			
57) Toluene-d8 (SS2)	15.90	98	631675	11.816	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%			
73) Bromofluorobenzene (SS3)	19.12	174	174687	10.883	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.04%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.41	85	29054	1.683	ng	99
10) Ethanol	6.51	45	5334	0.783	ng	93
13) Acetone	7.19	58	18746	2.490	ng	93
14) Trichlorofluoromethane	7.44	101	13751	0.874	ng	99

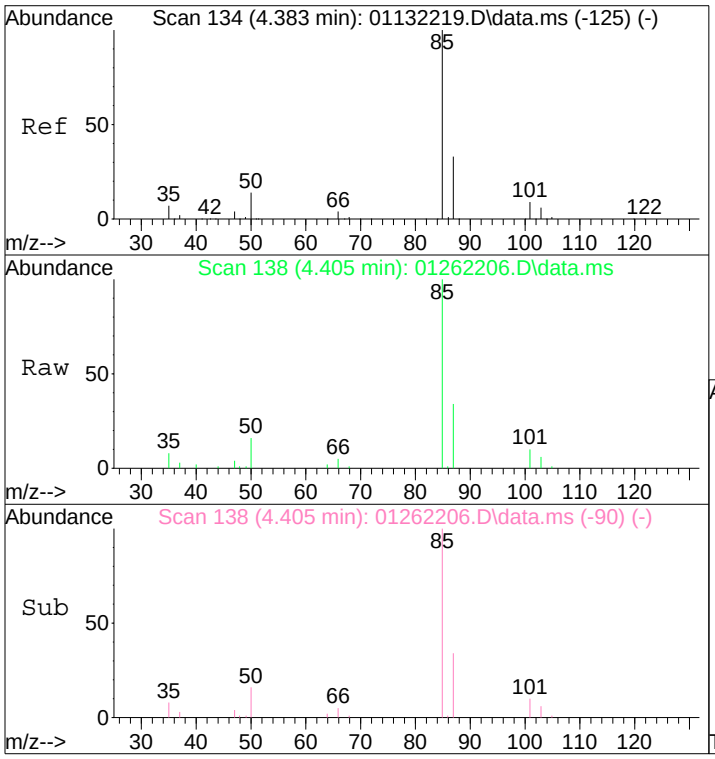
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262206.D Vial: 4
Acq On : 26 Jan 2022 3:31 Operator: JMM
Sample : P2200279-003 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:51 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

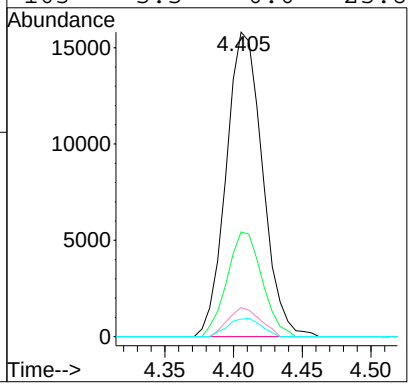


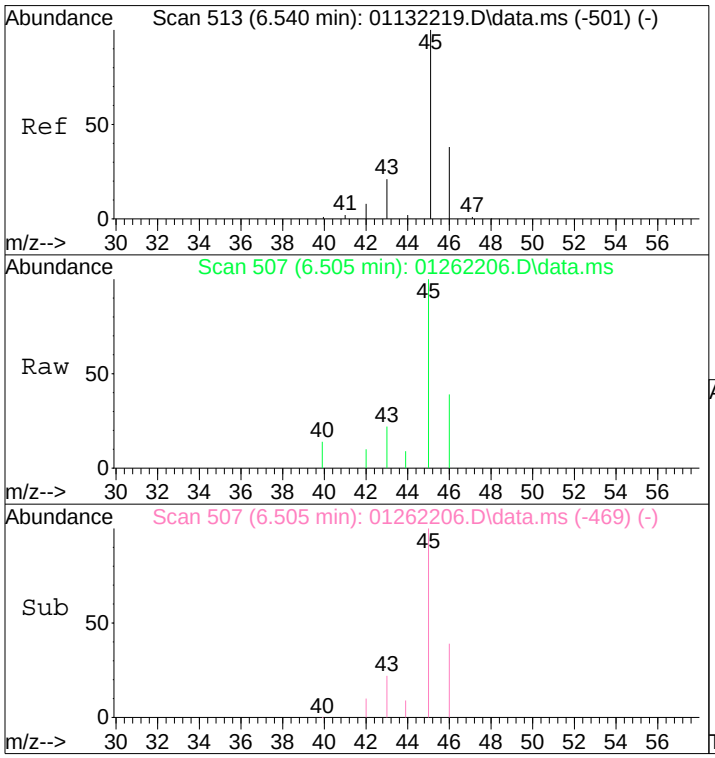


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.68 ng
RT: 4.41 min Scan# 138
Delta R.T. 0.023 min
Lab File: 01262206.D
Acq: 26 Jan 2022 3:31

Tgt Ion: 85 Resp: 29054

Ion	Ratio	Lower	Upper
85	100		
87	33.2	12.5	52.5
101	8.5	0.0	29.1
103	5.5	0.0	25.8

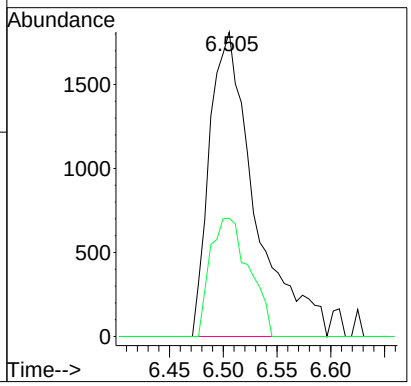


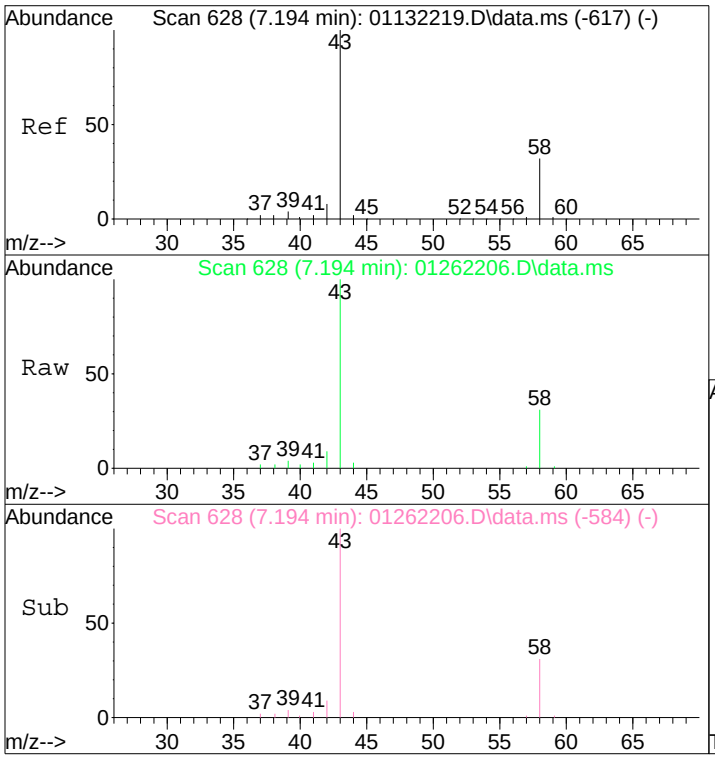


#10
Ethanol
Concen: 0.78 ng
RT: 6.51 min Scan# 507
Delta R.T. -0.034 min
Lab File: 01262206.D
Acq: 26 Jan 2022 3:31

Tgt Ion: 45 Resp: 5334

Ion	Ratio	Lower	Upper
45	100		
46	33.2	17.1	57.1

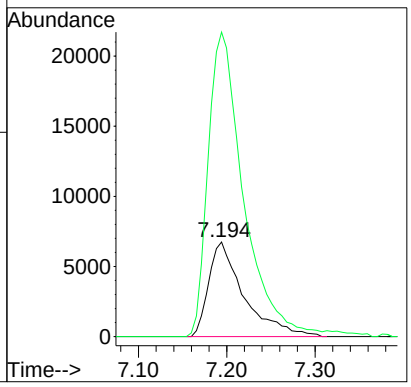


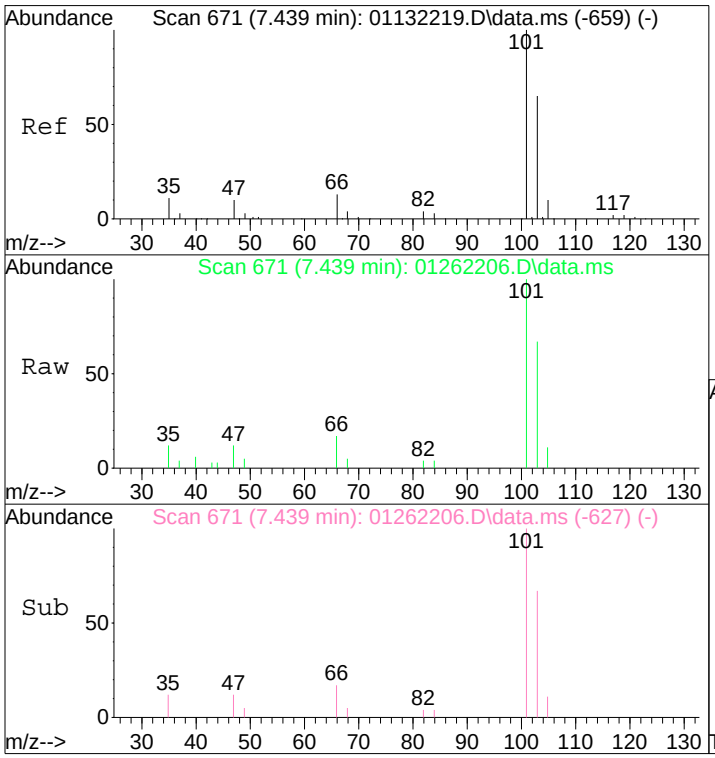


#13
Acetone
Concen: 2.49 ng
RT: 7.19 min Scan# 628
Delta R.T. -0.000 min
Lab File: 01262206.D
Acq: 26 Jan 2022 3:31

Tgt Ion: 58 Resp: 18746

Ion	Ratio	Lower	Upper
58	100		
43	326.4	282.8	342.8

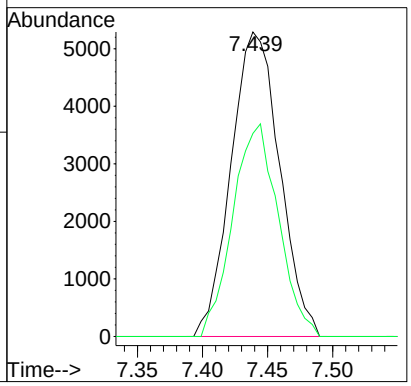




#14
Trichlorofluoromethane
Concen: 0.87 ng
RT: 7.44 min Scan# 671
Delta R.T. -0.000 min
Lab File: 01262206.D
Acq: 26 Jan 2022 3:31

Tgt Ion:101 Resp: 13751

Ion	Ratio	Lower	Upper
101	100		
103	65.3	44.6	84.6



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262207.D Vial: 5
Acq On : 26 Jan 2022 4:04 Operator: JMM
Sample : P2200279-004 (1000mL) Inst : GCMS13
Misc : S35-01102002

JMM 1/27/22

Quant Time: Jan 26 09:12:52 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	109077	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	504673	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	121138	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	219813	12.249	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%			
57) Toluene-d8 (SS2)	15.90	98	617366	11.756	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%			
73) Bromofluorobenzene (SS3)	19.12	174	169836	10.771	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.16%			
Target Compounds						Qvalue
2) Propene	4.29	42	1248	N.D.		
3) Dichlorodifluoromethan...	4.41	85	29421	1.740	ng	99
4) Chloromethane	4.70	50	4039	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.97	135	405	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.51	45	5298	0.794	ng	92
11) Acetonitrile	6.78	41	1812	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	7.19	58	17986	2.439	ng	92
14) Trichlorofluoromethane	7.44	101	13792	0.895	ng	100
15) 2-Propanol (Isopropanol)	7.71	45	2966	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	8.61	84	2298	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.05	151	2388	N.D.		
22) Carbon Disulfide	8.90	76	1437	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.66	72	1322	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.47	61	709	N.D.		
31) n-Hexane	11.44	57	387	N.D.		
32) Chloroform	11.49	83	644	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.29	62	407	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.05	78	4809	N.D.		
42) Carbon Tetrachloride	13.20	117	3910	N.D.		
43) Cyclohexane	13.44	84	501	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.21	57	1187	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262207.D Vial: 5
Acq On : 26 Jan 2022 4:04 Operator: JMM
Sample : P2200279-004 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:52 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

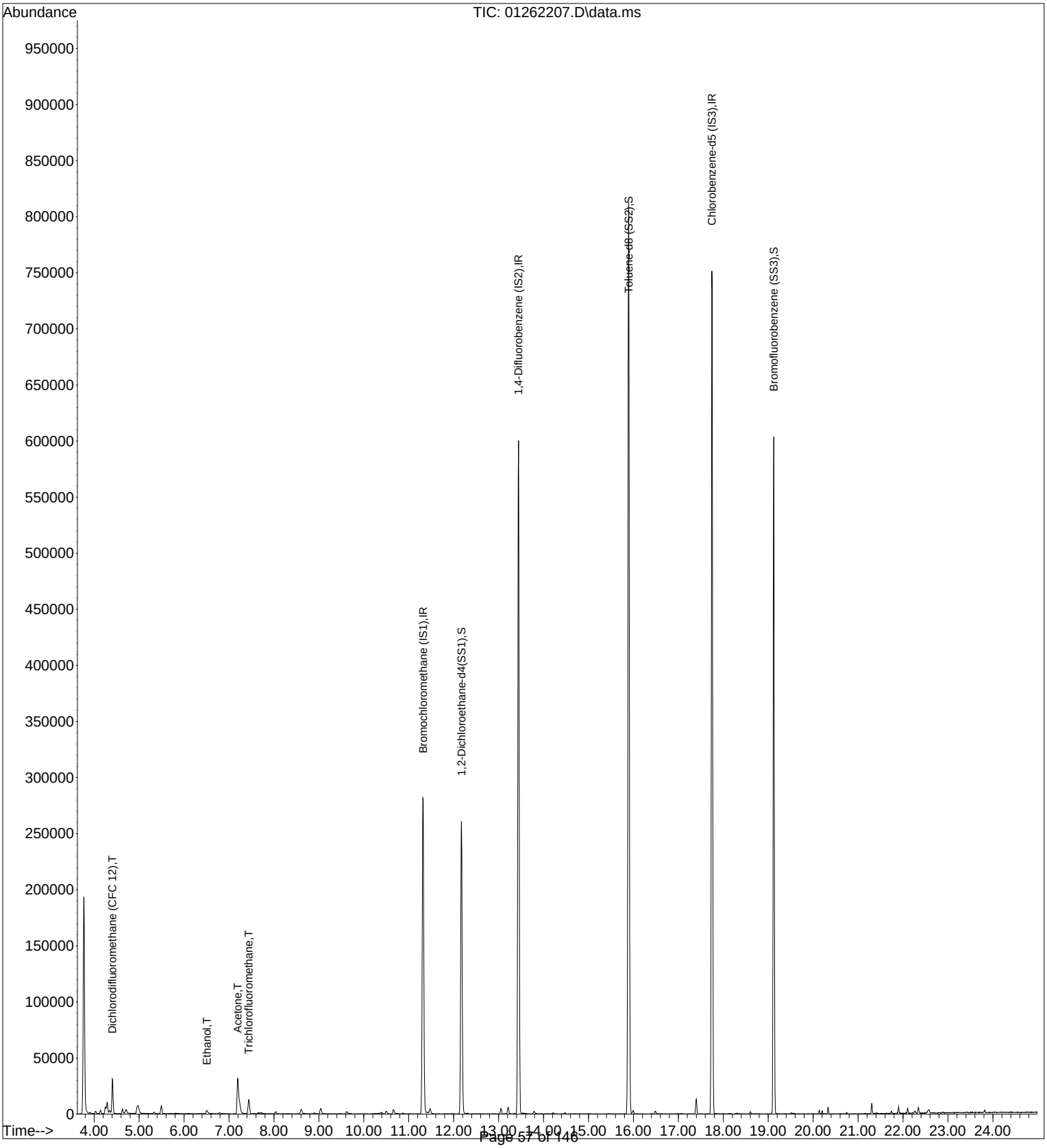
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.49	71	106	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.99	91	3066	N.D.		
59) 2-Hexanone	16.49	43	663	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	17.00	43	316	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.14	91	476	N.D.		
67) m- & p-Xylenes	18.30	91	1039	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.72	91	308	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	19.78	105	191	No Calib		#
78) 4-Ethyltoluene	19.78	105	191	N.D.		
79) 1,3,5-Trimethylbenzene	19.78	105	191	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.78	105	191	No Calib		#
82) 1,2,4-Trimethylbenzene	20.25	105	309	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.25	105	164	N.D.		
88) 4-Isopropyltoluene (p-...	20.62	119	289	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.74	68	470	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.42	57	293	No Calib		#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.36	128	199	N.D.		
96) n-Dodecane	22.34	57	1982	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262207.D Vial: 5
Acq On : 26 Jan 2022 4:04 Operator: JMM
Sample : P2200279-004 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:52 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262207.D Vial: 5
Acq On : 26 Jan 2022 4:04 Operator: JMM
Sample : P2200279-004 (1000mL) Inst : GCMS13
Misc : S35-01102002

JMM 1/27/22

Quant Time: Jan 26 09:12:52 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

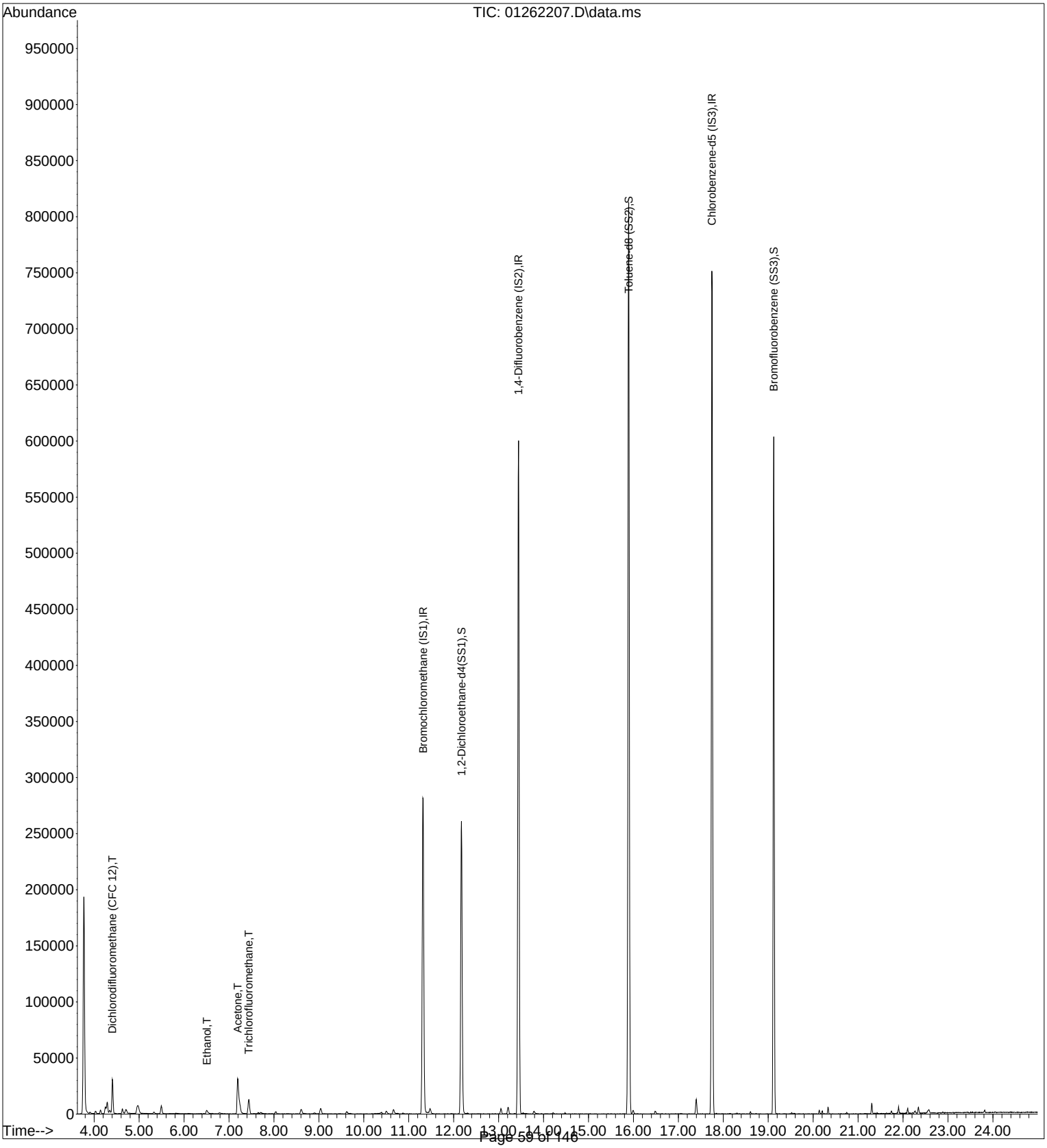
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	109077	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	504673	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	121138	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	219813	12.249	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%			
57) Toluene-d8 (SS2)	15.90	98	617366	11.756	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%			
73) Bromofluorobenzene (SS3)	19.12	174	169836	10.771	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.16%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.41	85	29421	1.740	ng	99
10) Ethanol	6.51	45	5298	0.794	ng	92
13) Acetone	7.19	58	17986	2.439	ng	92
14) Trichlorofluoromethane	7.44	101	13792	0.895	ng	100

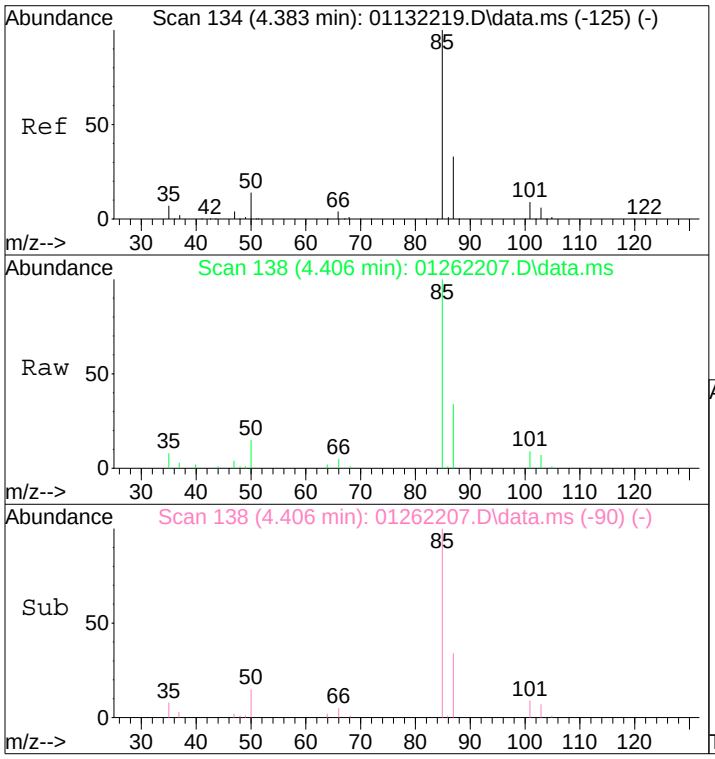
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262207.D Vial: 5
Acq On : 26 Jan 2022 4:04 Operator: JMM
Sample : P2200279-004 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:52 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

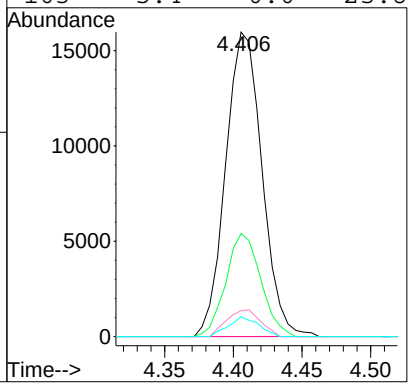


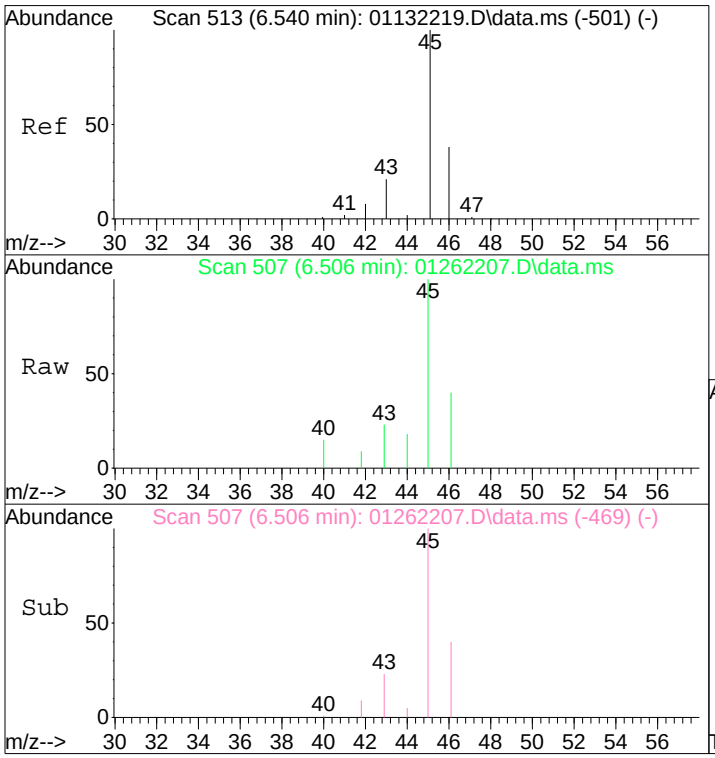


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.74 ng
RT: 4.41 min Scan# 138
Delta R.T. 0.023 min
Lab File: 01262207.D
Acq: 26 Jan 2022 4:04

Tgt Ion: 85 Resp: 29421

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.5	52.5
101	8.2	0.0	29.1
103	5.4	0.0	25.8

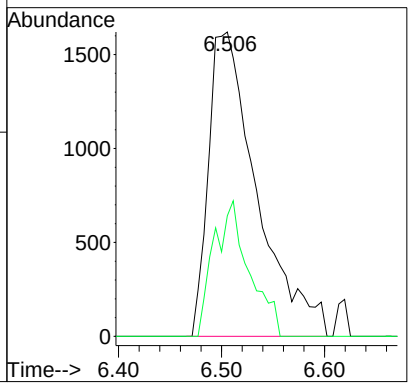


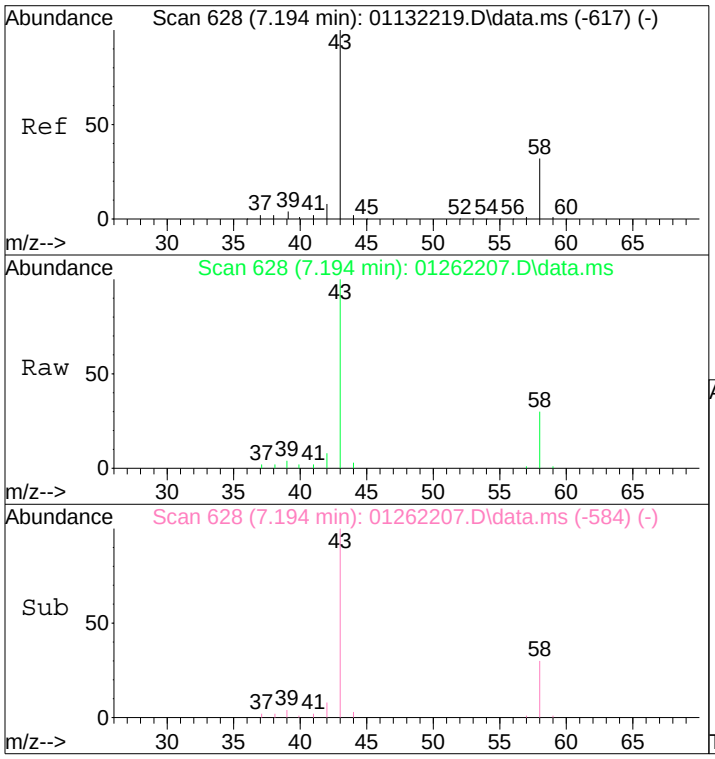


#10
Ethanol
Concen: 0.79 ng
RT: 6.51 min Scan# 507
Delta R.T. -0.034 min
Lab File: 01262207.D
Acq: 26 Jan 2022 4:04

Tgt Ion: 45 Resp: 5298

Ion	Ratio	Lower	Upper
45	100		
46	32.6	17.1	57.1

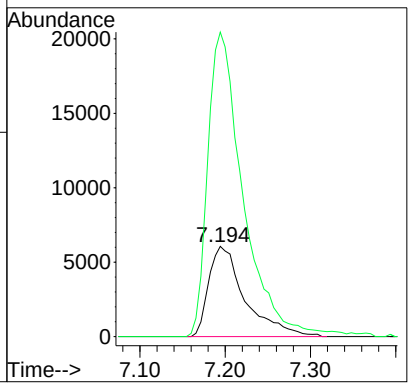


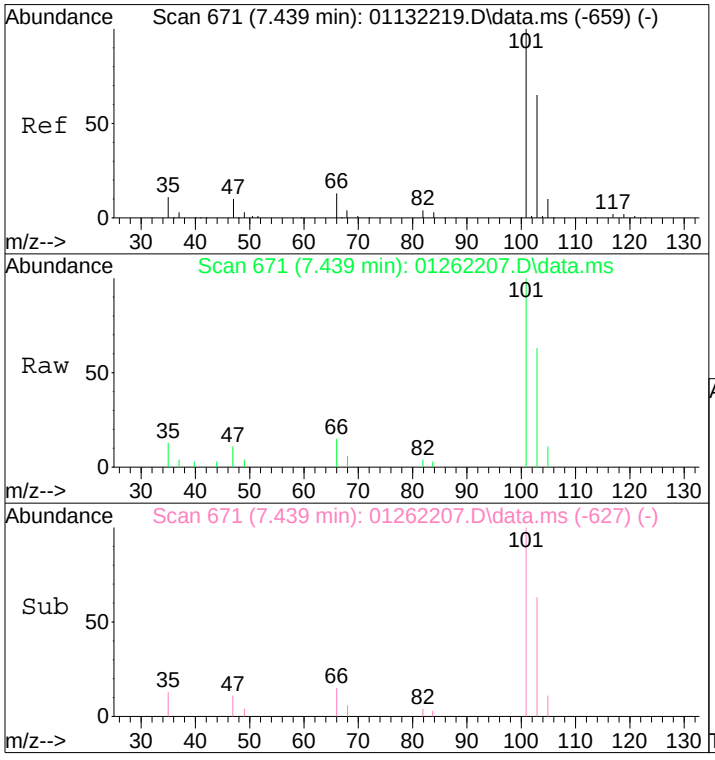


#13
Acetone
Concen: 2.44 ng
RT: 7.19 min Scan# 628
Delta R.T. 0.000 min
Lab File: 01262207.D
Acq: 26 Jan 2022 4:04

Tgt Ion: 58 Resp: 17986

Ion	Ratio	Lower	Upper
58	100		
43	329.5	282.8	342.8

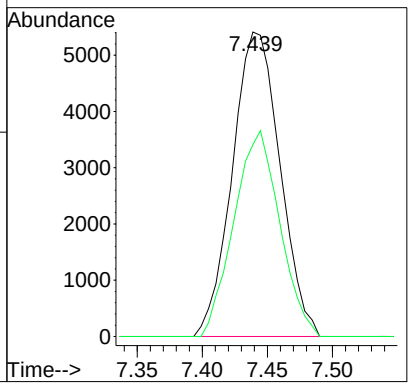




#14
Trichlorofluoromethane
Concen: 0.89 ng
RT: 7.44 min Scan# 671
Delta R.T. 0.000 min
Lab File: 01262207.D
Acq: 26 Jan 2022 4:04

Tgt Ion:101 Resp: 13792

Ion	Ratio	Lower	Upper
101	100		
103	64.9	44.6	84.6



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262208.D Vial: 6
Acq On : 26 Jan 2022 4:38 Operator: JMM
Sample : P2200279-005 (1000mL) Inst : GCMS13
Misc : S35-01102002

JMM 1/27/22

Quant Time: Jan 26 09:12:54 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	107958	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	503226	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	122790	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	215979	12.160	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%			
57) Toluene-d8 (SS2)	15.90	98	616721	11.586	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.72%			
73) Bromofluorobenzene (SS3)	19.12	174	170158	10.646	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.20%			
Target Compounds						Qvalue
2) Propene	4.26	42	395	N.D.		
3) Dichlorodifluoromethan...	4.41	85	28564	1.707	ng	99
4) Chloromethane	4.71	50	3945	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.97	135	445	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.51	45	5546	0.839	ng	94
11) Acetonitrile	6.79	41	1664	N.D.		
12) Acrolein	6.99	56	180	N.D.		
13) Acetone	7.19	58	18213	2.495	ng	95
14) Trichlorofluoromethane	7.45	101	13615	0.892	ng	100
15) 2-Propanol (Isopropanol)	7.71	45	2842	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	8.61	84	2255	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.04	151	2259	N.D.		
22) Carbon Disulfide	8.91	76	1444	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.66	72	1235	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.48	61	172	N.D.		
31) n-Hexane	11.44	57	541	N.D.		
32) Chloroform	11.49	83	636	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.29	62	354	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.07	56	121	No Calib		
41) Benzene	13.06	78	4954	N.D.		
42) Carbon Tetrachloride	13.22	117	3824	N.D.		
43) Cyclohexane	13.44	84	356	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.21	57	1271	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262208.D Vial: 6
Acq On : 26 Jan 2022 4:38 Operator: JMM
Sample : P2200279-005 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:54 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

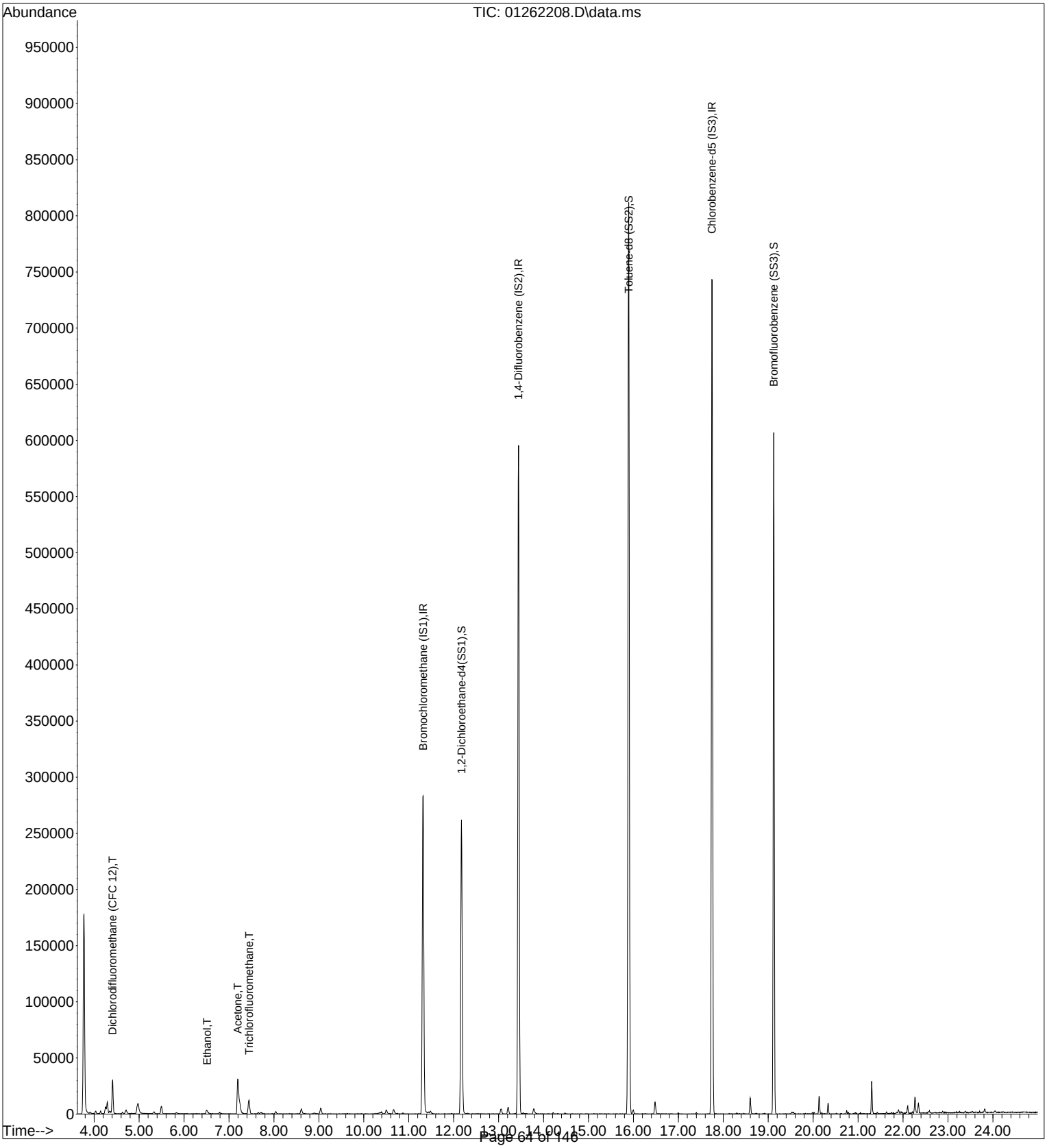
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	16.00	91	3307	N.D.	
59) 2-Hexanone	16.20	43	181	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	17.00	43	645	N.D.	
63) n-Octane	16.99	57	125	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.14	91	424	N.D.	
67) m- & p-Xylenes	18.30	91	1032	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.72	91	358	N.D.	
71) n-Nonane	18.92	43	356	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.12	105	181	N.D.	
75) alpha-Pinene	19.59	93	223	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	19.78	105	269	No Calib	#
78) 4-Ethyltoluene	19.78	105	269	N.D.	
79) 1,3,5-Trimethylbenzene	19.78	105	269	N.D.	
80) alpha-Methylstyrene	20.02	118	496	No Calib	#
81) 2-Ethyltoluene	19.78	105	269	No Calib	#
82) 1,2,4-Trimethylbenzene	20.24	105	358	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.24	105	284	N.D.	
88) 4-Isopropyltoluene (p-...	20.62	119	662	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.74	68	804	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.43	57	507	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.36	128	375	N.D.	
96) n-Dodecane	22.34	57	2950	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.47	55	183	No Calib	#
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262208.D Vial: 6
Acq On : 26 Jan 2022 4:38 Operator: JMM
Sample : P2200279-005 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:54 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262208.D Vial: 6
Acq On : 26 Jan 2022 4:38 Operator: JMM
Sample : P2200279-005 (1000mL) Inst : GCMS13
Misc : S35-01102002

JMM 1/27/22

Quant Time: Jan 26 09:12:54 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

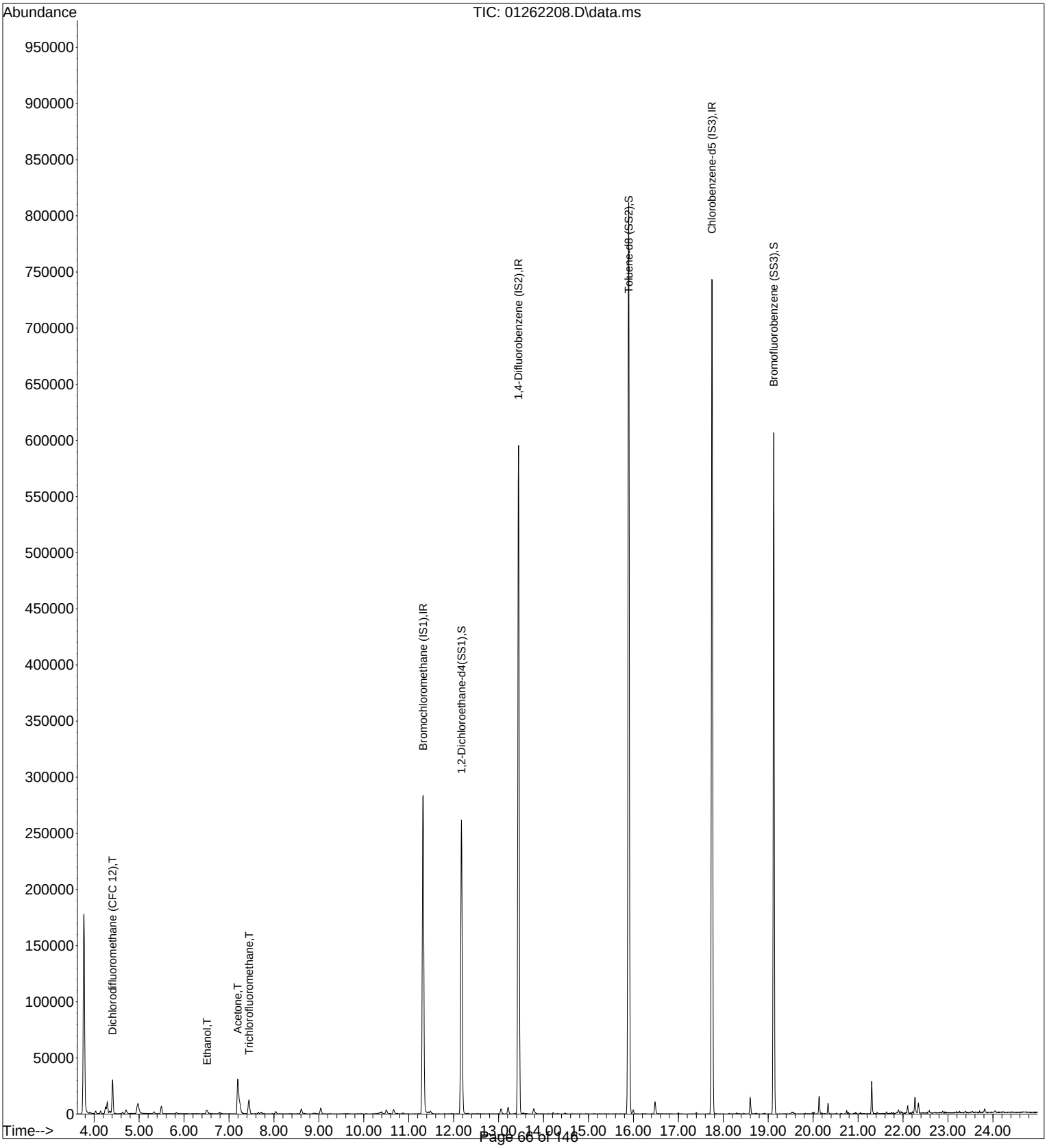
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	107958	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	503226	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	122790	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	215979	12.160	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%			
57) Toluene-d8 (SS2)	15.90	98	616721	11.586	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.72%			
73) Bromofluorobenzene (SS3)	19.12	174	170158	10.646	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.20%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.41	85	28564	1.707	ng	99
10) Ethanol	6.51	45	5546	0.839	ng	94
13) Acetone	7.19	58	18213	2.495	ng	95
14) Trichlorofluoromethane	7.45	101	13615	0.892	ng	100

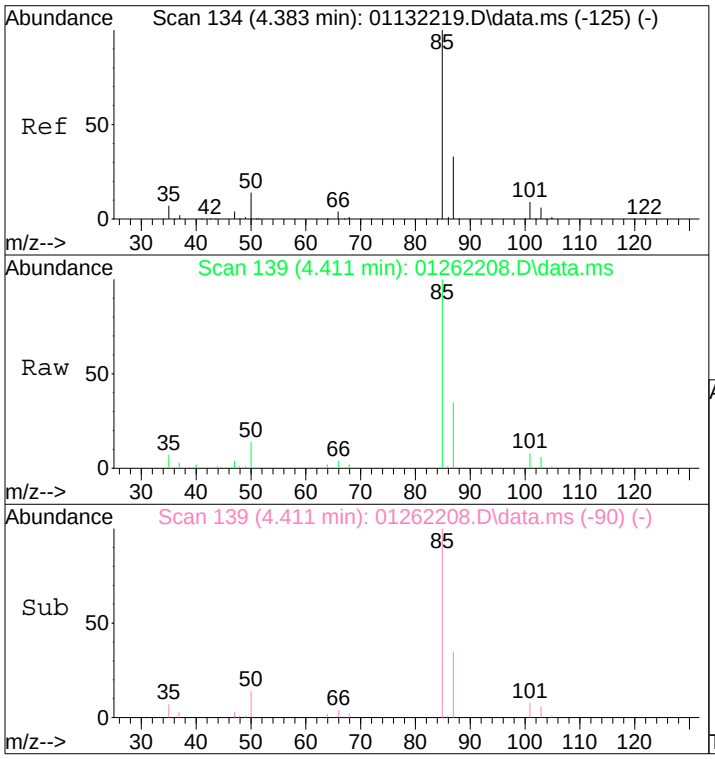
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262208.D Vial: 6
Acq On : 26 Jan 2022 4:38 Operator: JMM
Sample : P2200279-005 (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:54 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

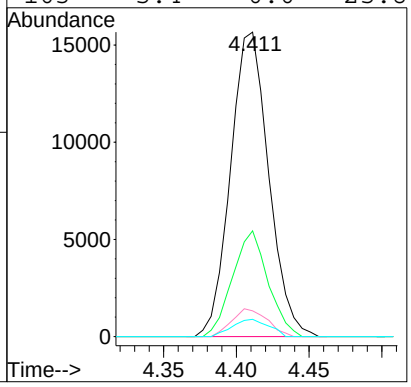


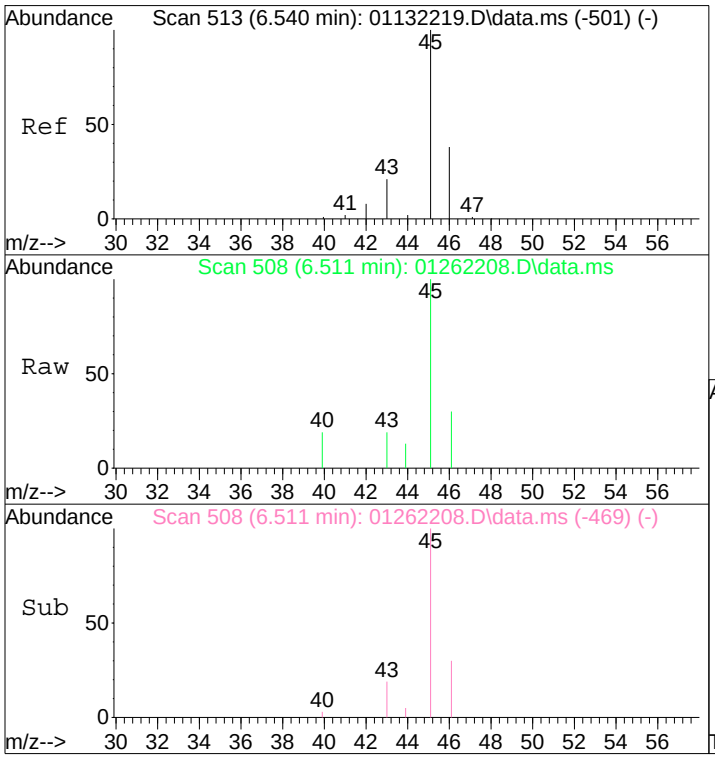


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.71 ng
RT: 4.41 min Scan# 139
Delta R.T. 0.028 min
Lab File: 01262208.D
Acq: 26 Jan 2022 4:38

Tgt Ion: 85 Resp: 28564

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.5	52.5
101	8.5	0.0	29.1
103	5.4	0.0	25.8

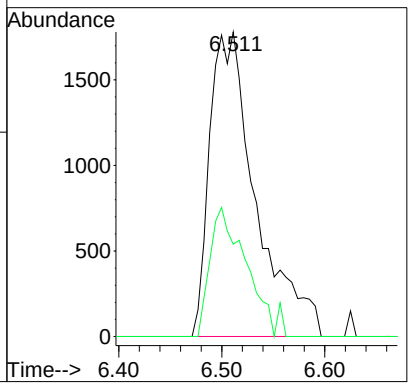


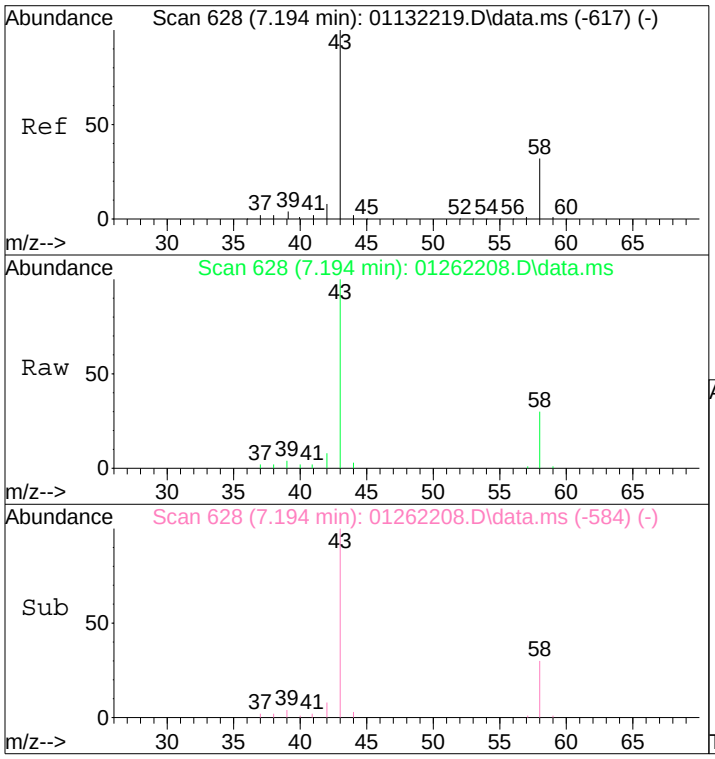


#10
Ethanol
Concen: 0.84 ng
RT: 6.51 min Scan# 508
Delta R.T. -0.029 min
Lab File: 01262208.D
Acq: 26 Jan 2022 4:38

Tgt Ion: 45 Resp: 5546

Ion	Ratio	Lower	Upper
45	100		
46	33.8	17.1	57.1

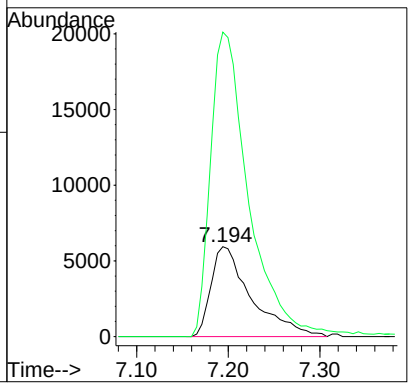


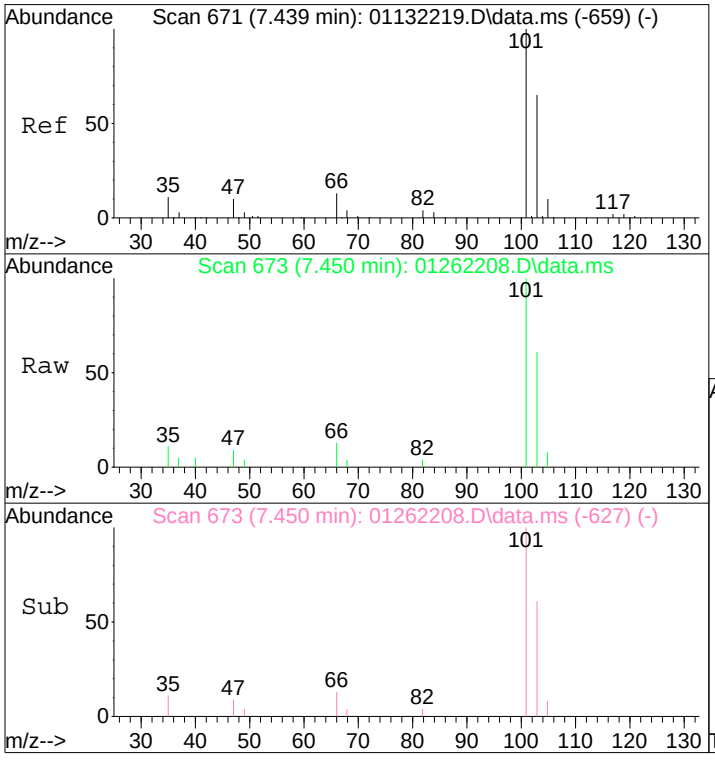


#13
Acetone
Concen: 2.50 ng
RT: 7.19 min Scan# 628
Delta R.T. -0.000 min
Lab File: 01262208.D
Acq: 26 Jan 2022 4:38

Tgt Ion: 58 Resp: 18213

Ion	Ratio	Lower	Upper
58	100		
43	323.0	282.8	342.8

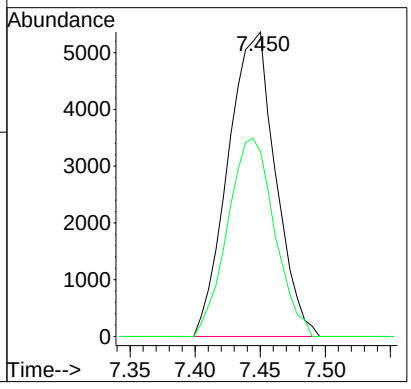




#14
Trichlorofluoromethane
Concen: 0.89 ng
RT: 7.45 min Scan# 673
Delta R.T. 0.011 min
Lab File: 01262208.D
Acq: 26 Jan 2022 4:38

Tgt Ion:101 Resp: 13615

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.6	84.6



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262204.D Vial: 1
Acq On : 26 Jan 2022 2:24 Operator: JMM
Sample : MB R13012622_1000mL Inst : GCMS13
Misc : S35-01102002

JMM 1/26/22

Quant Time: Jan 26 09:12:48 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	117263	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	548332	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	129452	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	235652	12.215	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%				
57) Toluene-d8 (SS2)	15.90	98	666636	11.879	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
73) Bromofluorobenzene (SS3)	19.12	174	184780	10.966	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.76%				
Target Compounds							Qvalue
2) Propene	4.28	42	462	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.52	45	1760	0.245	ng		82
11) Acetonitrile	6.80	41	398	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.23	58	2283	0.288	ng	#	83
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.71	45	5058	0.196	ng		97
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.61	84	128	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.90	76	1518	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	0.00	78	0	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.44	84	420	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262204.D Vial: 1
Acq On : 26 Jan 2022 2:24 Operator: JMM
Sample : MB R13012622_1000mL Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:48 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

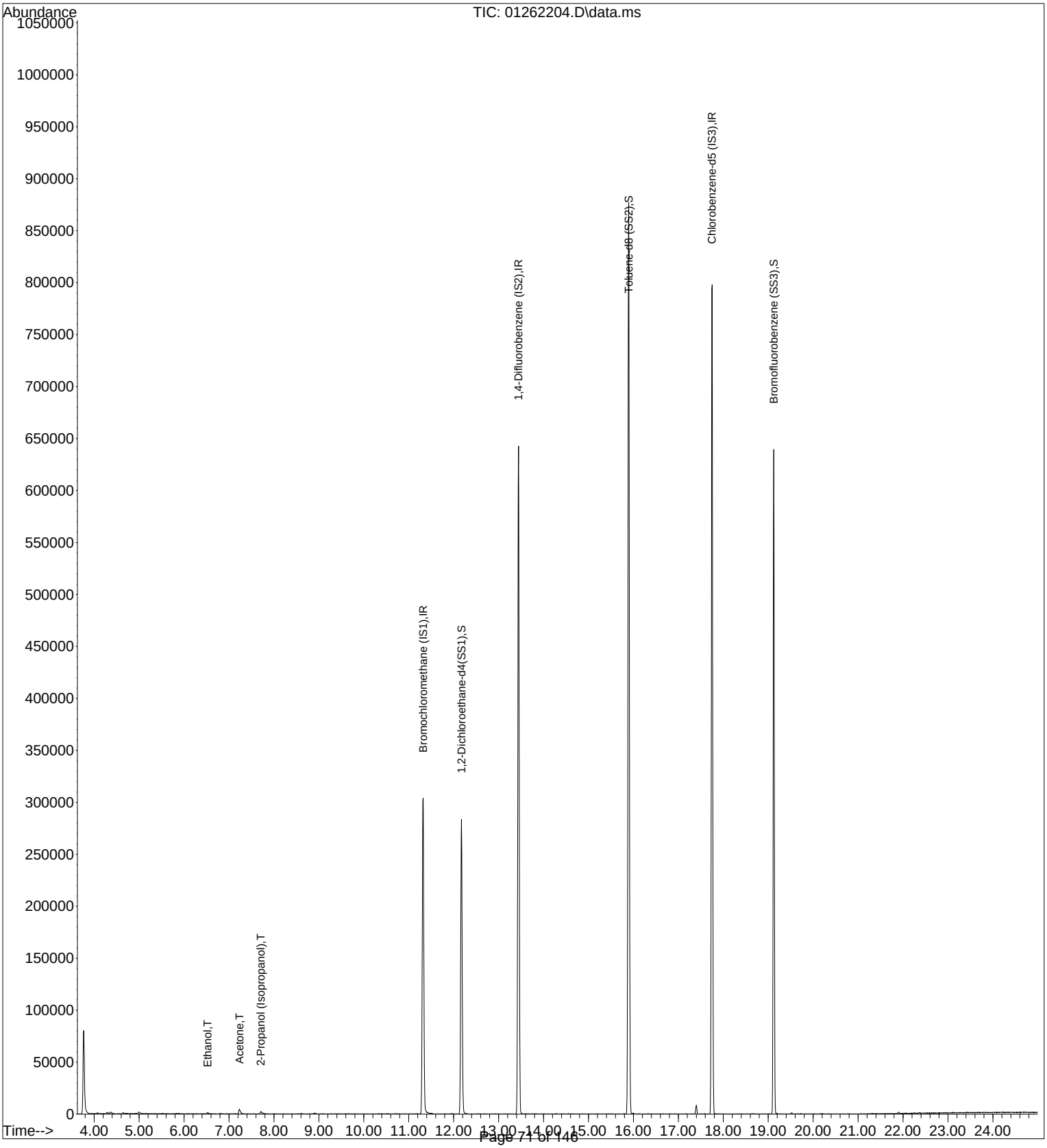
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	16.00	91	863	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	0.00	91	0	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.12	105	184	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.66	91	315	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	20.36	91	111	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.25	180	321	N.D.		
95) Naphthalene	22.35	128	720	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262204.D Vial: 1
Acq On : 26 Jan 2022 2:24 Operator: JMM
Sample : MB R13012622_1000mL Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 09:12:48 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262210.D Vial: 1
Acq On : 26 Jan 2022 5:45 Operator: JMM
Sample : LCS R13012622 25ng Inst : GCMS13 JMM 1/26/22
Misc : S35-01102002/S35-01132101 (2/12)

Quant Time: Jan 26 09:12:56 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	138024	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.45	114	626594	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	138088	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.19	65	280743	12.363	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
57) Toluene-d8 (SS2)	15.90	98	764047	12.764	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
73) Bromofluorobenzene (SS3)	19.12	174	223391	12.428	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
Target Compounds							Qvalue
2) Propene	4.23	42	349559	30.907	ng		97
3) Dichlorodifluoromethan...	4.39	85	577703	27.007	ng		100
4) Chloromethane	4.68	50	429942	30.235	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.95	135	258958	26.878	ng		100
6) Vinyl Chloride	5.11	62	465264	30.345	ng		99
7) 1,3-Butadiene	5.38	54	406781	32.844	ng		99
8) Bromomethane	5.83	94	239017	29.501	ng		99
9) Chloroethane	6.16	64	221498	31.590	ng		99
10) Ethanol	6.55	45	1092450	129.334	ng		99
11) Acetonitrile	6.80	41	569475	31.088	ng		98
12) Acrolein	6.99	56	459635	66.006	ng		100
13) Acetone	7.20	58	1298303	139.119	ng		94
14) Trichlorofluoromethane	7.44	101	515601	26.436	ng		100
15) 2-Propanol (Isopropanol)	7.70	45	1806262	59.573	ng		97
16) Acrylonitrile	7.97	53	916646	65.124	ng		99
17) 1,1-Dichloroethene	8.41	96	276114	29.579	ng		97
18) 2-Methyl-2-Propanol (t...	8.57	59	1557313	59.104	ng		98
19) Methylene Chloride	8.63	84	300619	28.039	ng		92
20) 3-Chloro-1-propene (Al...	8.79	41	458139	31.219	ng		96
21) Trichlorotrifluoroethane	9.04	151	229384	28.297	ng		98
22) Carbon Disulfide	8.90	76	2119791	55.273	ng		100
23) trans-1,2-Dichloroethene	9.90	61	485439	30.678	ng		96
24) 1,1-Dichloroethane	10.15	63	593352	30.429	ng		100
25) Methyl tert-Butyl Ether	10.24	73	834895	28.915	ng		97
26) Vinyl Acetate	10.40	86	342147	156.081	ng	#	87
27) 2-Butanone (MEK)	10.64	72	422187	52.653	ng	#	90
28) cis-1,2-Dichloroethene	11.17	61	471685	29.884	ng		96
29) Diisopropyl Ether	11.45	87	552634	56.905	ng	#	80
30) Ethyl Acetate	11.46	61	416179	90.980	ng		97
31) n-Hexane	11.45	57	621595	31.893	ng		99
32) Chloroform	11.51	83	547191	29.077	ng		100
34) Tetrahydrofuran (THF)	11.91	72	396182	57.028	ng		92
35) Ethyl tert-Butyl Ether	12.04	87	774809	59.234	ng		92
36) 1,2-Dichloroethane	12.30	62	464297	27.959	ng		99
38) 1,1,1-Trichloroethane	12.58	97	475366	27.921	ng		99
39) Isopropyl Acetate	13.06	61	8877	No Calib		#	
40) 1-Butanol	13.03	56	7057	No Calib		#	
41) Benzene	13.06	78	1223013	29.065	ng		99
42) Carbon Tetrachloride	13.22	117	392087	26.512	ng		100
43) Cyclohexane	13.35	84	942067	58.171	ng		93
44) tert-Amyl Methyl Ether	13.69	73	1846367	61.724	ng		99
45) 1,2-Dichloropropane	13.91	63	343848	30.914	ng		100
46) Bromodichloromethane	14.10	83	452562	29.507	ng		100
47) Trichloroethene	14.15	130	305936	28.162	ng		100
48) 1,4-Dioxane	14.12	88	255290	31.041	ng		94
49) 2,2,4-Trimethylpentane...	14.22	57	1465857	30.777	ng		97
50) Methyl Methacrylate	14.35	100	251297	63.230	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262210.D Vial: 1
Acq On : 26 Jan 2022 5:45 Operator: JMM
Sample : LCS R13012622 25ng Inst : GCMS13
Misc : S35-01102002/S35-01132101 (2/12)

Quant Time: Jan 26 09:12:56 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

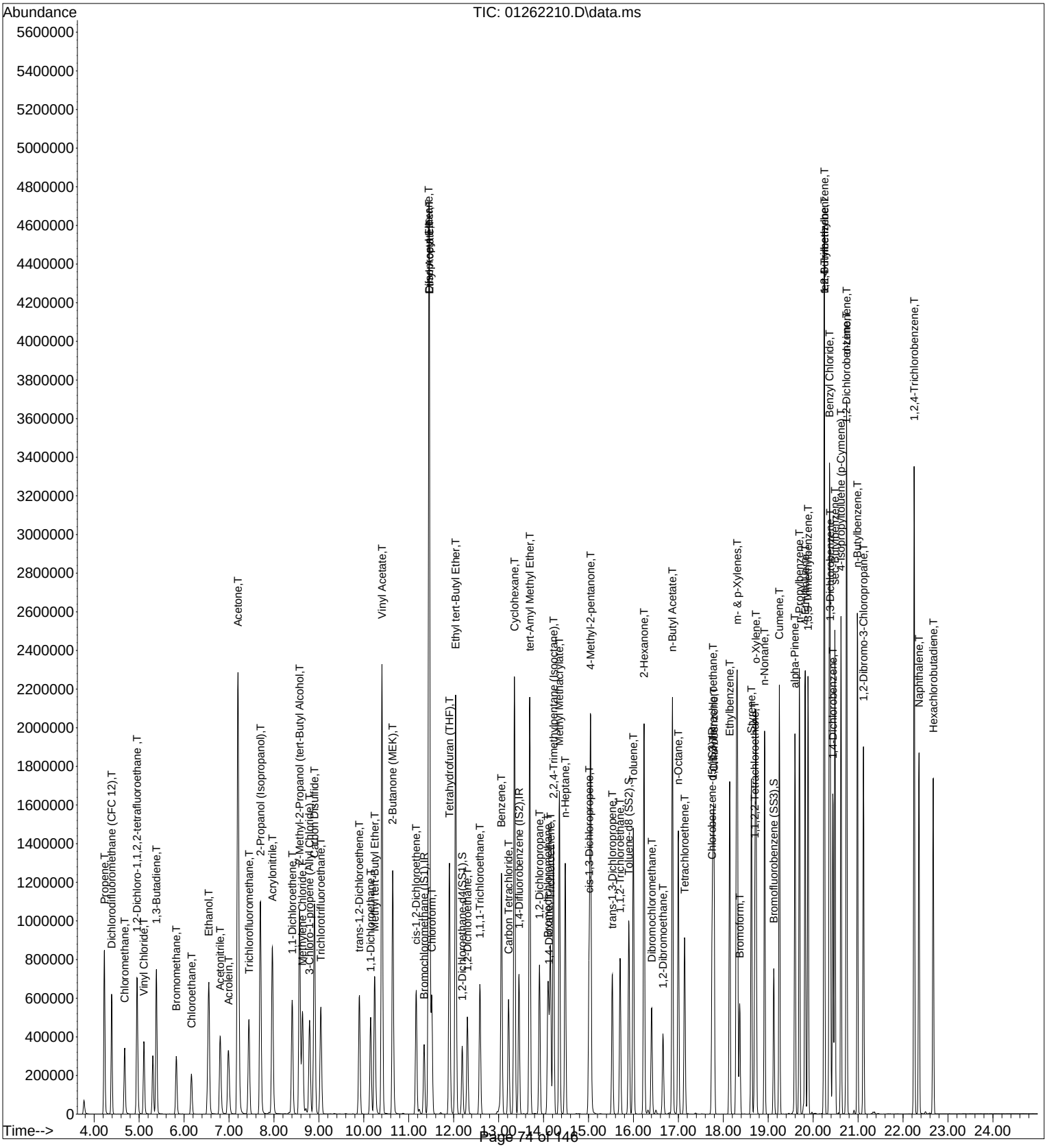
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.48	71	321610	29.964 ng		95
52) cis-1,3-Dichloropropene	15.01	75	511507	30.619 ng		100
53) 4-Methyl-2-pentanone	15.05	58	666918	66.051 ng		97
54) trans-1,3-Dichloropropene	15.53	75	474937	31.460 ng		100
55) 1,1,2-Trichloroethane	15.70	97	289623	28.923 ng		98
58) Toluene	16.00	91	1233589	27.962 ng		99
59) 2-Hexanone	16.24	43	1582735	67.514 ng		99
60) Dibromochloromethane	16.41	129	346176	28.777 ng		100
61) 1,2-Dibromoethane	16.66	107	338685	28.396 ng		100
62) n-Butyl Acetate	16.87	43	1788576	69.392 ng		99
63) n-Octane	17.00	57	305643	30.149 ng		94
64) Tetrachloroethene	17.14	166	296665	24.831 ng		100
65) Chlorobenzene	17.79	112	715833	25.187 ng		100
66) Ethylbenzene	18.14	91	1305252	25.508 ng		99
67) m- & p-Xylenes	18.31	91	2128255	52.483 ng		99
68) Bromoform	18.37	173	294835	27.220 ng		100
69) Styrene	18.63	104	873610	29.633 ng		100
70) o-Xylene	18.72	91	1163606	28.748 ng		100
71) n-Nonane	18.92	43	707830	31.935 ng		98
72) 1,1,2,2-Tetrachloroethane	18.70	83	571633	29.774 ng		100
74) Cumene	19.25	105	1458726	27.841 ng		99
75) alpha-Pinene	19.59	93	764534	31.322 ng		100
76) n-Propylbenzene	19.69	91	1796544	28.692 ng		99
77) 3-Ethyltoluene	19.89	105	1240928	No Calib		
78) 4-Ethyltoluene	19.82	105	1474253	29.215 ng		100
79) 1,3,5-Trimethylbenzene	19.89	105	1240928	29.128 ng		99
80) alpha-Methylstyrene	19.89	118	8232	No Calib	#	
81) 2-Ethyltoluene	19.89	105	1240928	No Calib		
82) 1,2,4-Trimethylbenzene	20.25	105	1319458	30.040 ng		99
83) n-Decane	20.24	58	71569	No Calib	#	
84) Benzyl Chloride	20.36	91	2131762	65.995 ng		99
85) 1,3-Dichlorobenzene	20.38	146	681252	28.972 ng		100
86) 1,4-Dichlorobenzene	20.44	146	664261	28.769 ng		99
87) sec-Butylbenzene	20.48	105	1662911	28.344 ng		99
88) 4-Isopropyltoluene (p-...	20.62	119	1375445	28.284 ng		99
89) 1,2,3-Trimethylbenzene	20.62	105	52667	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	663422	29.044 ng		100
91) d-Limonene	20.74	68	522300	33.943 ng		96
92) 1,2-Dibromo-3-Chloropr...	21.12	157	523295	57.728 ng		98
93) n-Undecane	21.42	57	538	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	1066657	60.219 ng		100
95) Naphthalene	22.36	128	1428446	27.658 ng		100
96) n-Dodecane	22.34	57	1552	No Calib	#	
97) Hexachlorobutadiene	22.67	225	366280	27.405 ng		100
98) Cyclohexanone	18.31	55	1709	No Calib		
99) tert-Butylbenzene	20.25	119	1210137	28.985 ng		100
100) n-Butylbenzene	20.98	91	1372222	29.458 ng		99
101) 1,1,1,2-Tetrachloroethane	17.77	131	268402	25.106 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262210.D Vial: 1
Acq On : 26 Jan 2022 5:45 Operator: JMM
Sample : LCS R13012622 25ng Inst : GCMS13
Misc : S35-01102002/S35-01132101 (2/12)

Quant Time: Jan 26 09:12:56 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262216.D Vial: 1
Acq On : 26 Jan 2022 13:47 Operator: JMM JMM 1/26/22
Sample : LCSD R13012622 25ng Inst : GCMS13
Misc : S35-01102002/S35-01132101 (2/12)

Quant Time: Jan 26 14:12:39 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	136004	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.45	114	611902	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	144931	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.19	65	280855	12.552	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
57) Toluene-d8 (SS2)	15.90	98	749414	11.928	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
73) Bromofluorobenzene (SS3)	19.12	174	203313	10.777	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.24%				
Target Compounds							Qvalue
2) Propene	4.22	42	325181	29.178	ng		98
3) Dichlorodifluoromethan...	4.38	85	551575	26.169	ng		100
4) Chloromethane	4.67	50	387567	27.660	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.95	135	247523	26.073	ng		100
6) Vinyl Chloride	5.10	62	432324	28.615	ng		99
7) 1,3-Butadiene	5.38	54	387497	31.752	ng		100
8) Bromomethane	5.82	94	224633	28.138	ng		99
9) Chloroethane	6.16	64	208053	30.113	ng		100
10) Ethanol	6.55	45	1033171	124.132	ng		99
11) Acetonitrile	6.80	41	541758	30.014	ng		98
12) Acrolein	6.98	56	440369	64.178	ng		99
13) Acetone	7.19	58	1253997	136.367	ng		97
14) Trichlorofluoromethane	7.44	101	500957	26.067	ng		100
15) 2-Propanol (Isopropanol)	7.70	45	1746611	58.461	ng		98
16) Acrylonitrile	7.96	53	892930	64.382	ng		99
17) 1,1-Dichloroethene	8.40	96	266242	28.945	ng		95
18) 2-Methyl-2-Propanol (t...	8.57	59	1435607	55.294	ng		98
19) Methylene Chloride	8.63	84	288192	27.279	ng		90
20) 3-Chloro-1-propene (Al...	8.79	41	449948	31.117	ng		95
21) Trichlorotrifluoroethane	9.04	151	223287	27.954	ng		96
22) Carbon Disulfide	8.90	76	2056784	54.427	ng		100
23) trans-1,2-Dichloroethene	9.90	61	472114	30.279	ng		95
24) 1,1-Dichloroethane	10.15	63	576963	30.028	ng		100
25) Methyl tert-Butyl Ether	10.24	73	781950	27.483	ng		97
26) Vinyl Acetate	10.40	86	335908	155.511	ng	#	85
27) 2-Butanone (MEK)	10.64	72	411194	52.044	ng	#	87
28) cis-1,2-Dichloroethene	11.16	61	462241	29.721	ng		95
29) Diisopropyl Ether	11.45	87	534158	55.819	ng	#	82
30) Ethyl Acetate	11.46	61	410368	91.042	ng		97
31) n-Hexane	11.44	57	608242	31.671	ng		99
32) Chloroform	11.51	83	533144	28.752	ng		100
34) Tetrahydrofuran (THF)	11.91	72	385498	56.314	ng	#	91
35) Ethyl tert-Butyl Ether	12.04	87	749587	58.157	ng		91
36) 1,2-Dichloroethane	12.30	62	456867	27.920	ng		99
38) 1,1,1-Trichloroethane	12.58	97	461741	27.771	ng		99
39) Isopropyl Acetate	13.06	61	8443	No Calib		#	
40) 1-Butanol	13.03	56	6986	No Calib		#	
41) Benzene	13.06	78	1188191	28.915	ng		100
42) Carbon Tetrachloride	13.22	117	379399	26.270	ng		100
43) Cyclohexane	13.35	84	913414	57.756	ng		92
44) tert-Amyl Methyl Ether	13.69	73	1799955	61.617	ng		98
45) 1,2-Dichloropropane	13.91	63	333762	30.727	ng		99
46) Bromodichloromethane	14.10	83	437820	29.232	ng		100
47) Trichloroethene	14.15	130	296529	27.951	ng		100
48) 1,4-Dioxane	14.12	88	248088	30.889	ng		93
49) 2,2,4-Trimethylpentane...	14.22	57	1433385	30.818	ng		98
50) Methyl Methacrylate	14.35	100	243790	62.814	ng		94

Data File : I:\MS13\DATA\2022 01\26\01262216.D Vial: 1
Acq On : 26 Jan 2022 13:47 Operator: JMM
Sample : LCSD R13012622 25ng Inst : GCMS13
Misc : S35-01102002/S35-01132101 (2/12)

Quant Time: Jan 26 14:12:39 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

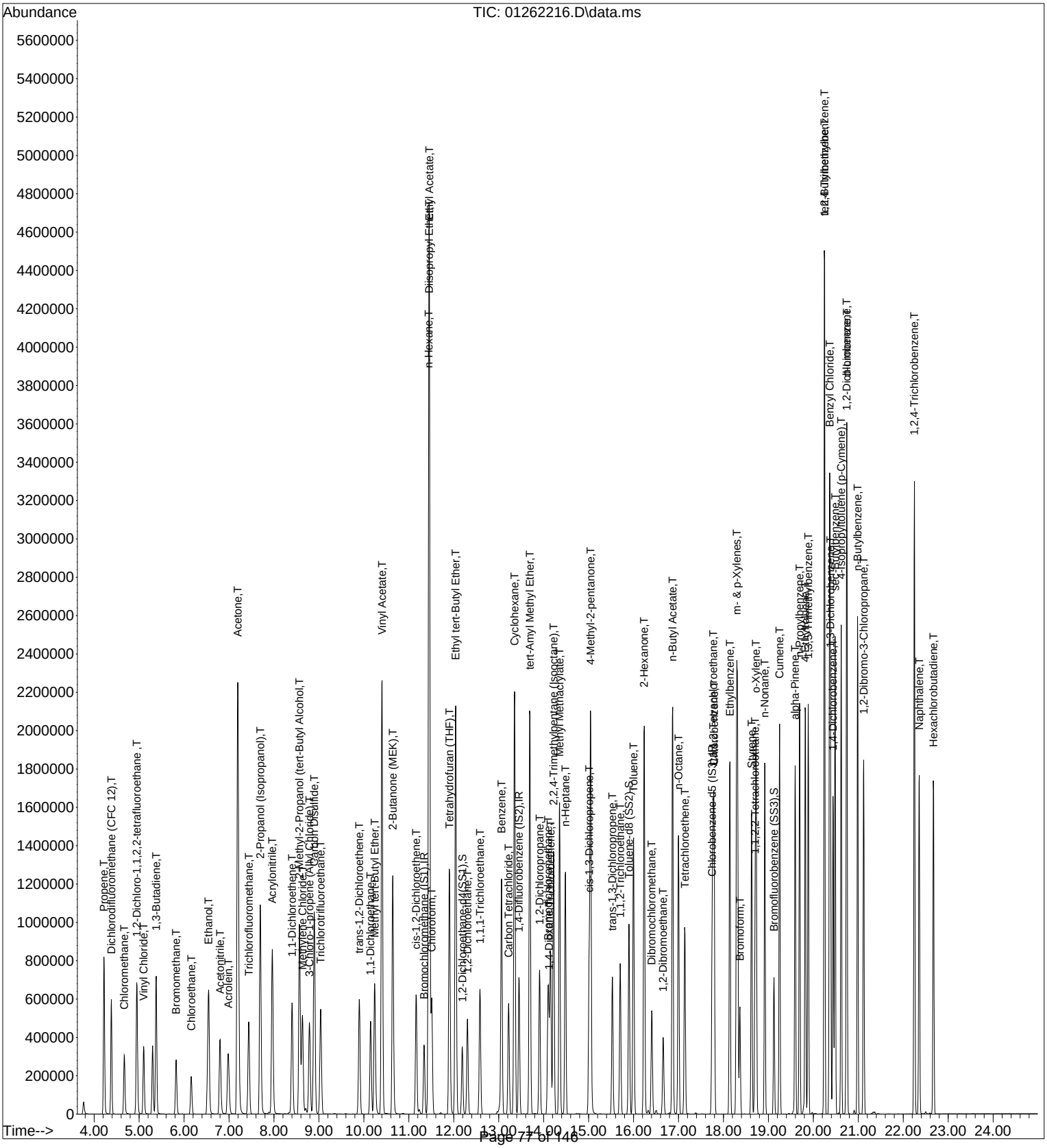
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.48	71	314803	30.034 ng		95
52) cis-1,3-Dichloropropene	15.01	75	504611	30.932 ng		100
53) 4-Methyl-2-pentanone	15.04	58	672654	68.218 ng		97
54) trans-1,3-Dichloropropene	15.53	75	460038	31.204 ng		100
55) 1,1,2-Trichloroethane	15.70	97	282532	28.893 ng		98
58) Toluene	16.00	91	1194665	25.802 ng		99
59) 2-Hexanone	16.23	43	1584570	64.401 ng		99
60) Dibromochloromethane	16.40	129	339300	26.874 ng		100
61) 1,2-Dibromoethane	16.66	107	330740	26.420 ng		100
62) n-Butyl Acetate	16.87	43	1774730	65.604 ng		99
63) n-Octane	17.00	57	312859	29.403 ng		94
64) Tetrachloroethene	17.14	166	322417	25.712 ng		100
65) Chlorobenzene	17.79	112	766239	25.688 ng		100
66) Ethylbenzene	18.14	91	1416396	26.373 ng		99
67) m- & p-Xylenes	18.30	91	2160314	50.758 ng		100
68) Bromoform	18.37	173	280141	24.642 ng		99
69) Styrene	18.63	104	771754	24.942 ng		99
70) o-Xylene	18.72	91	1047814	24.665 ng		99
71) n-Nonane	18.92	43	639589	27.494 ng		96
72) 1,1,2,2-Tetrachloroethane	18.70	83	512698	25.444 ng		99
74) Cumene	19.25	105	1308421	23.793 ng		99
75) alpha-Pinene	19.60	93	683465	26.679 ng		98
76) n-Propylbenzene	19.69	91	1643486	25.008 ng		98
77) 3-Ethyltoluene	19.89	105	1120763	No Calib		
78) 4-Ethyltoluene	19.82	105	1361636	25.709 ng		99
79) 1,3,5-Trimethylbenzene	19.89	105	1120763	25.066 ng		98
80) alpha-Methylstyrene	19.89	118	7612	No Calib		
81) 2-Ethyltoluene	19.89	105	1120763	No Calib		
82) 1,2,4-Trimethylbenzene	20.25	105	1271040	27.571 ng		99
83) n-Decane	20.24	58	70624	No Calib	#	
84) Benzyl Chloride	20.36	91	2071539	61.102 ng		99
85) 1,3-Dichlorobenzene	20.38	146	669608	27.133 ng		99
86) 1,4-Dichlorobenzene	20.44	146	649095	26.784 ng		100
87) sec-Butylbenzene	20.48	105	1639759	26.630 ng		99
88) 4-Isopropyltoluene (p-...	20.62	119	1350880	26.467 ng		100
89) 1,2,3-Trimethylbenzene	20.62	105	52271	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	649856	27.107 ng		100
91) d-Limonene	20.74	68	518317	32.093 ng		95
92) 1,2-Dibromo-3-Chloropr...	21.12	157	514097	54.035 ng		98
93) n-Undecane	21.43	57	569	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	1037443	55.804 ng		100
95) Naphthalene	22.36	128	1376858	25.400 ng		100
96) n-Dodecane	22.34	57	1633	No Calib	#	
97) Hexachlorobutadiene	22.67	225	358846	25.581 ng		100
98) Cyclohexanone	18.30	55	1829	No Calib		
99) tert-Butylbenzene	20.25	119	1170102	26.703 ng		100
100) n-Butylbenzene	20.98	91	1363426	27.887 ng		99
101) 1,1,1,2-Tetrachloroethane	17.77	131	287094	25.586 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262216.D Vial: 1
Acq On : 26 Jan 2022 13:47 Operator: JMM
Sample : LCSD R13012622 25ng Inst : GCMS13
Misc : S35-01102002/S35-01132101 (2/12)

Quant Time: Jan 26 14:12:39 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262213.D Vial: 10
Acq On : 26 Jan 2022 11:57 Operator: JMM
Sample : P2200279-002dup (1000mL) Inst : GCMS13
Misc : S35-01102002

JMM 1/27/22

Quant Time: Jan 26 12:48:59 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	116254	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	535211	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	129372	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	228794	11.962	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%			
57) Toluene-d8 (SS2)	15.90	98	651069	11.609	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%			
73) Bromofluorobenzene (SS3)	19.12	174	189656	11.262	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.08%			
Target Compounds						Qvalue
2) Propene	4.30	42	1607	N.D.		
3) Dichlorodifluoromethan...	4.42	85	28222	1.566	ng	98
4) Chloromethane	4.71	50	3249	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.98	135	432	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.50	45	9612	1.351	ng	93
11) Acetonitrile	6.80	41	2370	N.D.		
12) Acrolein	6.99	56	1185	N.D.		
13) Acetone	7.19	58	28126	3.578	ng	88
14) Trichlorofluoromethane	7.45	101	13565	0.826	ng	97
15) 2-Propanol (Isopropanol)	7.69	45	7631	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.65	59	109	N.D.		
19) Methylene Chloride	8.61	84	3167	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.05	151	2497	N.D.		
22) Carbon Disulfide	8.90	76	1963	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.36	86	625	N.D.		
27) 2-Butanone (MEK)	10.66	72	2444	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.47	61	963	N.D.		
31) n-Hexane	11.45	57	615	N.D.		
32) Chloroform	11.49	83	639	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.29	62	421	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.06	56	1297	No Calib	#	
41) Benzene	13.05	78	4977	N.D.		
42) Carbon Tetrachloride	13.21	117	3190	N.D.		
43) Cyclohexane	13.44	84	371	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.21	57	1400	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262213.D Vial: 10
Acq On : 26 Jan 2022 11:57 Operator: JMM
Sample : P2200279-002dup (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 12:48:59 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

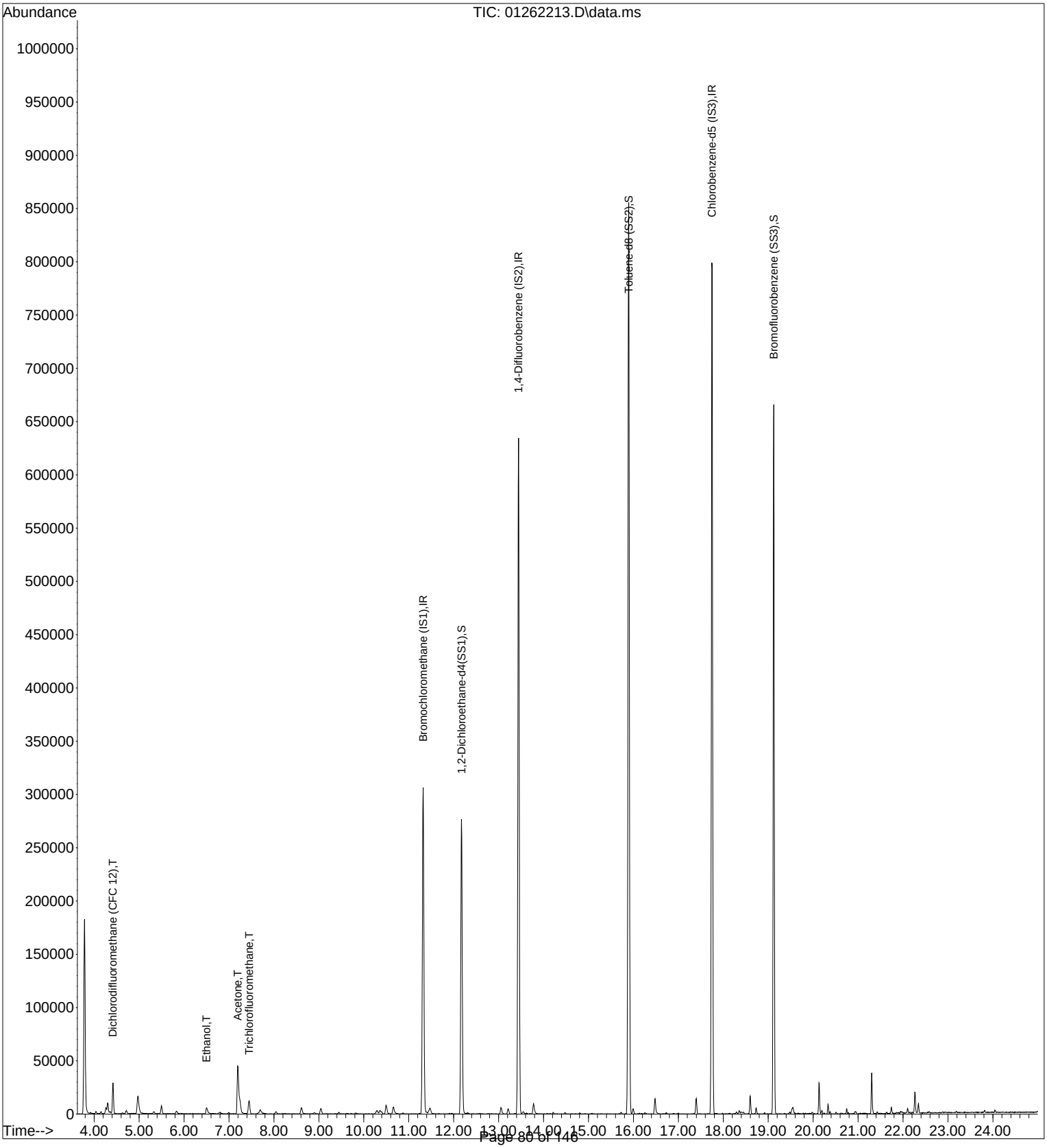
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.48	71	205	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.99	91	4683	N.D.		
59) 2-Hexanone	16.25	43	1544	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.90	43	348	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.14	91	679	N.D.		
67) m- & p-Xylenes	18.29	91	1964	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.72	91	653	N.D.		
71) n-Nonane	18.91	43	594	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.12	105	187	N.D.		
75) alpha-Pinene	19.59	93	433	N.D.		
76) n-Propylbenzene	19.70	91	186	N.D.		
77) 3-Ethyltoluene	19.82	105	197	No Calib		#
78) 4-Ethyltoluene	19.82	105	197	N.D.		
79) 1,3,5-Trimethylbenzene	19.82	105	197	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.82	105	197	No Calib		#
82) 1,2,4-Trimethylbenzene	20.24	105	670	N.D.		
83) n-Decane	20.13	58	211	No Calib		#
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.62	105	202	N.D.		
88) 4-Isopropyltoluene (p-...	20.62	119	598	N.D.		
89) 1,2,3-Trimethylbenzene	20.62	105	202	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.74	68	1280	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.42	57	670	No Calib		#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.35	128	794	N.D.		
96) n-Dodecane	22.34	57	3097	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.45	55	1118	No Calib		#
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	20.97	91	211	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262213.D Vial: 10
Acq On : 26 Jan 2022 11:57 Operator: JMM
Sample : P2200279-002dup (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 12:48:59 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262213.D Vial: 10
Acq On : 26 Jan 2022 11:57 Operator: JMM
Sample : P2200279-002dup (1000mL) Inst : GCMS13
Misc : S35-01102002

JMM 1/27/22

Quant Time: Jan 26 12:48:59 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

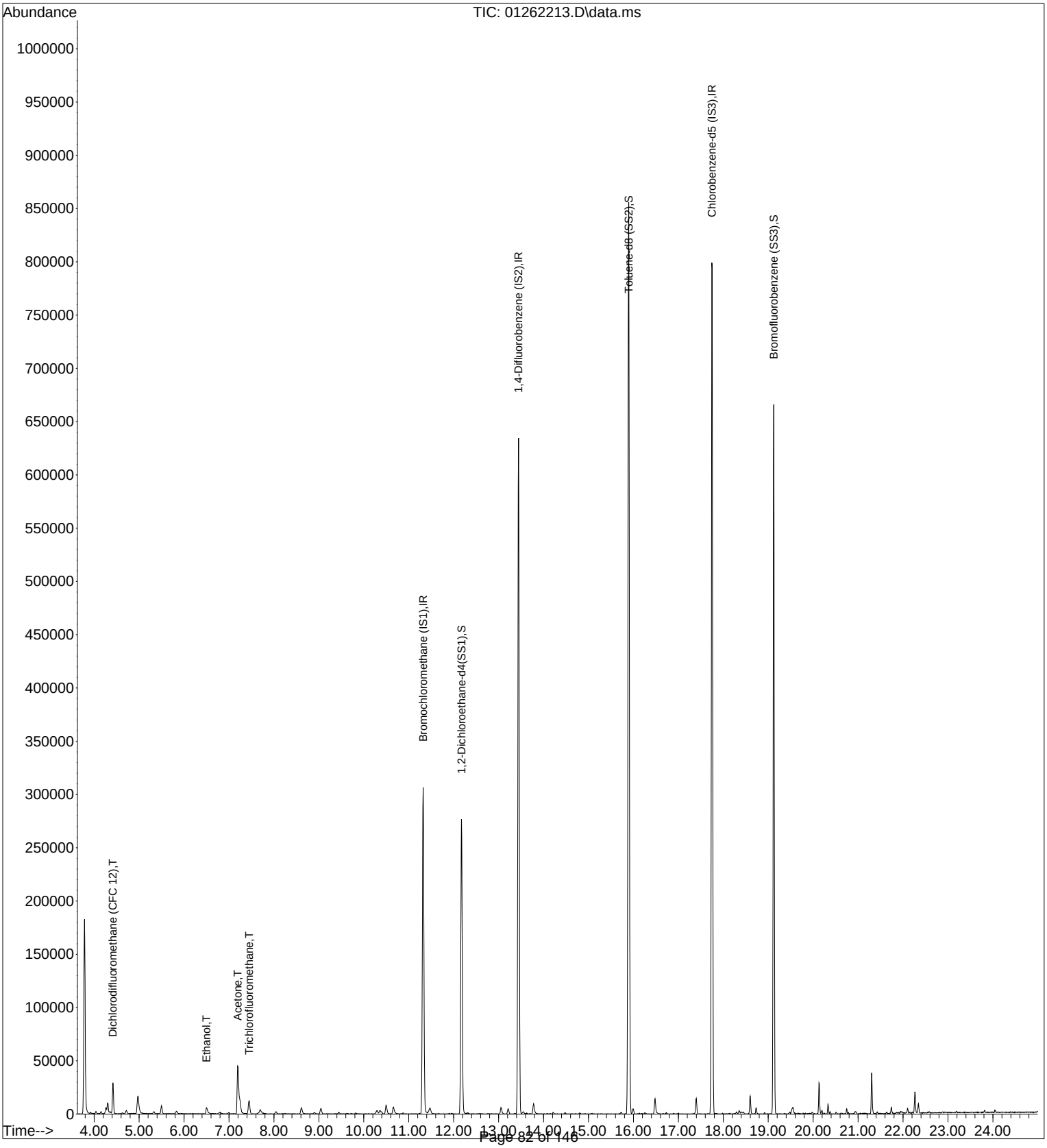
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	116254	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	535211	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	129372	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	228794	11.962	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%			
57) Toluene-d8 (SS2)	15.90	98	651069	11.609	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%			
73) Bromofluorobenzene (SS3)	19.12	174	189656	11.262	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.08%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.42	85	28222	1.566	ng	98
10) Ethanol	6.50	45	9612	1.351	ng	93
13) Acetone	7.19	58	28126	3.578	ng	88
14) Trichlorofluoromethane	7.45	101	13565	0.826	ng	97

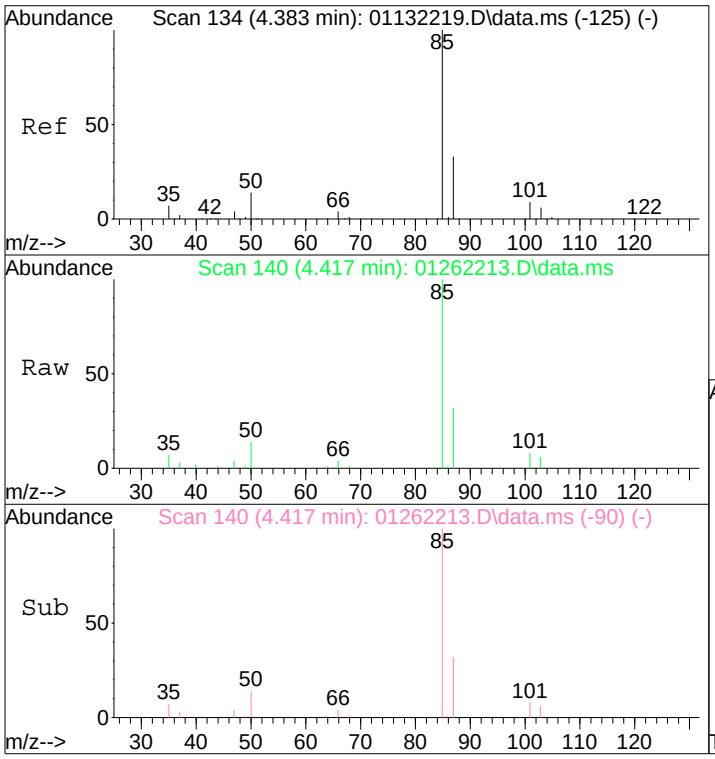
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262213.D Vial: 10
Acq On : 26 Jan 2022 11:57 Operator: JMM
Sample : P2200279-002dup (1000mL) Inst : GCMS13
Misc : S35-01102002

Quant Time: Jan 26 12:48:59 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

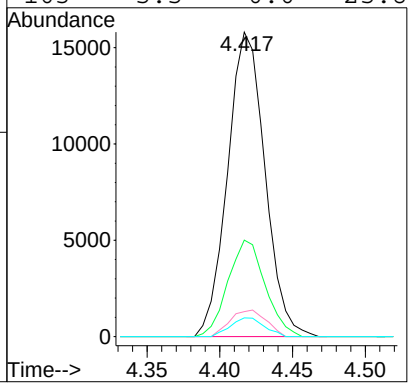


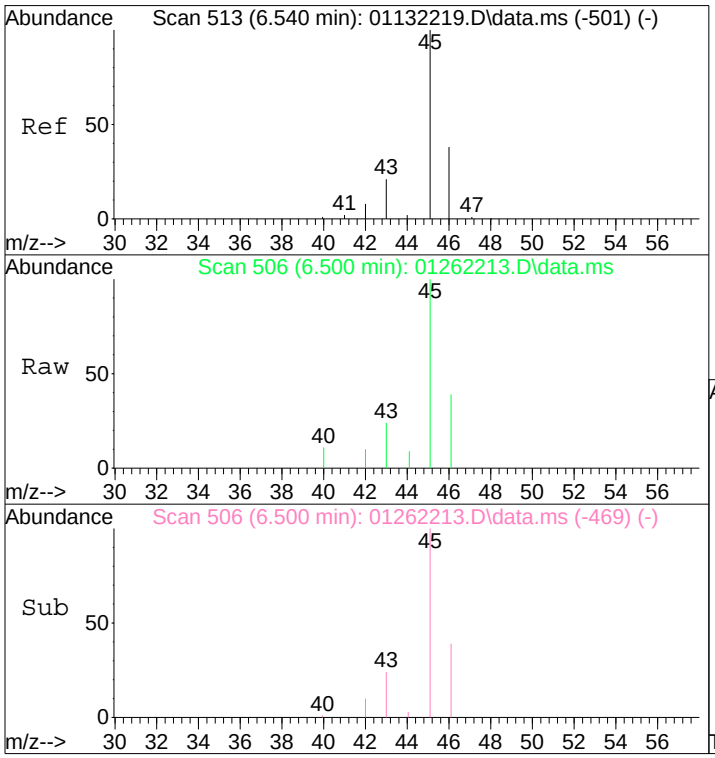


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.57 ng
RT: 4.42 min Scan# 140
Delta R.T. 0.034 min
Lab File: 01262213.D
Acq: 26 Jan 2022 11:57

Tgt Ion: 85 Resp: 28222

Ion	Ratio	Lower	Upper
85	100		
87	31.5	12.5	52.5
101	8.4	0.0	29.1
103	5.5	0.0	25.8

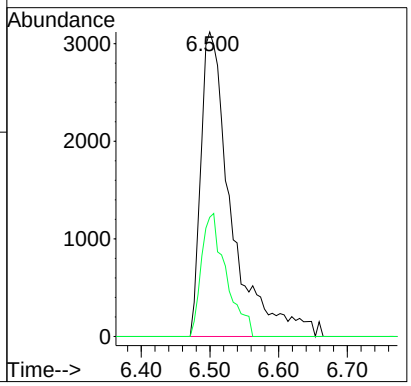


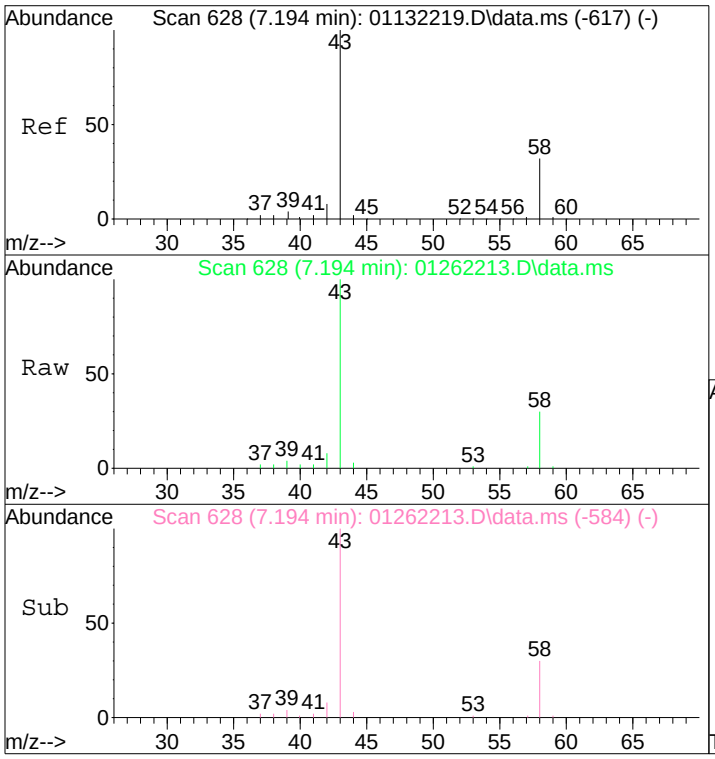


#10
Ethanol
Concen: 1.35 ng
RT: 6.50 min Scan# 506
Delta R.T. -0.040 min
Lab File: 01262213.D
Acq: 26 Jan 2022 11:57

Tgt Ion: 45 Resp: 9612

Ion	Ratio	Lower	Upper
45	100		
46	32.8	17.1	57.1

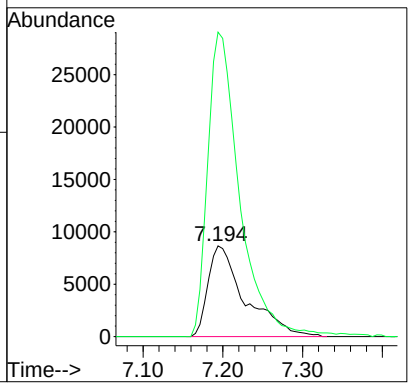


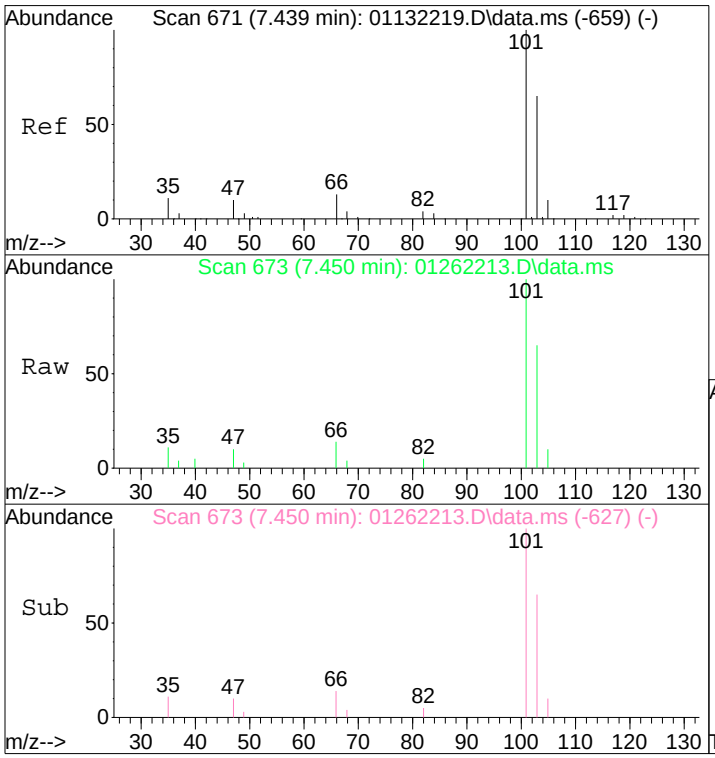


#13
Acetone
Concen: 3.58 ng
RT: 7.19 min Scan# 628
Delta R.T. -0.000 min
Lab File: 01262213.D
Acq: 26 Jan 2022 11:57

Tgt Ion: 58 Resp: 28126

Ion	Ratio	Lower	Upper
58	100		
43	289.1	282.8	342.8

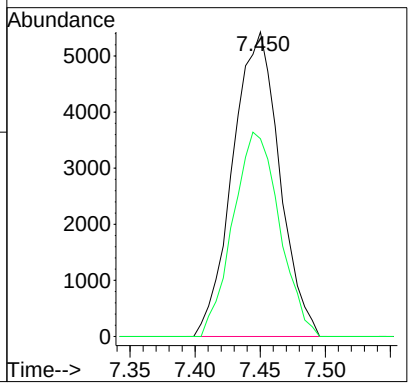




#14
Trichlorofluoromethane
Concen: 0.83 ng
RT: 7.45 min Scan# 673
Delta R.T. 0.011 min
Lab File: 01262213.D
Acq: 26 Jan 2022 11:57

Tgt Ion:101 Resp: 13565

Ion	Ratio	Lower	Upper
101	100		
103	66.7	44.6	84.6



Response Factor Report GCMS13

Method Path : I:\MS13\METHODS\
Method File : R13011322A.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Jan 18 10:37:36 2022
Response Via : Initial Calibration

JMM 1/24/22

Calibration Files
0.1 =01132214.D 0.2 =01132215.D 0.5 =01132223.D 1.0 =01132217.D 5.0 =01132218.D 25 =01132219.D 50 =01132220.D
100 =01132221.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	----------	----------	ISTD	----------	----------	----------	----------		
2)	T	Propene	0.993	1.044	1.343	0.921	1.007	0.922	0.969	0.994	1.024	13.23
3)	T	Dichlorodifluo...	1.943	1.960	2.353	1.870	2.021	1.827	1.789	1.735	1.937	9.95
4)	T	Chloromethane	1.422	1.306	1.682	1.311	1.387	1.259	1.127	0.807	1.288	19.51
5)	T	1,2-Dichloro-1...	0.824	0.891	1.080	0.825	0.899	0.817	0.816	0.828	0.873	10.32
6)	T	Vinyl Chloride	1.219	1.306	1.751	1.316	1.417	1.367	1.365	1.370	1.389	11.36
7)	T	1,3-Butadiene	0.944	0.980	1.330	1.054	1.193	1.138	1.166	1.168	1.122	11.13
8)	T	Bromomethane	0.576	0.693	0.887	0.707	0.791	0.726	0.740	0.749	0.734	12.02
9)	T	Chloroethane	0.520	0.561	0.778	0.629	0.684	0.631	0.637	0.640	0.635	12.16
10)	T	Ethanol	0.882	0.669	0.981	0.661	0.758	0.715	0.728	0.725	0.765	14.47
11)	T	Acetonitrile	1.476	1.339	1.934	1.545	1.796	1.703	1.740	1.738	1.659	11.58
12)	T	Acrolein	0.509	0.560	0.718	0.582	0.685	0.658	0.667	0.666	0.631	11.37
13)	T	Acetone	1.091	0.972	1.016	0.695	0.780	0.744	0.741	0.722	0.845	18.38
14)	T	Trichlorofluor...	1.693	1.722	2.161	1.666	1.857	1.697	1.677	1.659	1.766	9.71
15)	T	2-Propanol (Is...	3.251	2.612	3.449	2.417	2.813	2.602	2.499	2.323	2.746	14.70
16)	T	Acrylonitrile	1.074	1.123	1.466	1.183	1.385	1.319	1.328	1.318	1.275	10.58
17)	T	1,1-Dichloroet...	0.739	0.794	1.033	0.790	0.891	0.831	0.839	0.847	0.845	10.43
18)	T	2-Methyl-2-Pro...	2.365	2.428	2.902	2.427	2.898	2.625	2.096	1.349	2.386	20.95
19)	T	Methylene Chlo...	1.012	0.941	1.185	0.875	0.987	0.924	0.918	0.925	0.971	9.93
20)	T	3-Chloro-1-pro...	1.088	1.248	1.564	1.226	1.432	1.375	1.361	1.338	1.329	10.79
21)	T	Trichlorotrifl...	0.611	0.706	0.923	0.691	0.767	0.724	0.720	0.730	0.734	12.05
22)	T	Carbon Disulfide	3.779	3.605	4.118	3.147	3.461	3.269	3.234	3.172	3.473	9.87
23)	T	trans-1,2-Dich...	1.299	1.357	1.725	1.343	1.515	1.438	1.408	1.380	1.433	9.40
24)	T	1,1-Dichloroet...	1.696	1.751	2.107	1.689	1.867	1.718	1.671	1.628	1.766	8.77
25)	T	Methyl tert-Bu...	2.824	2.797	3.302	2.710	3.045	2.694	2.123	1.423	2.615	22.45
26)	T	Vinyl Acetate	0.148	0.154	0.212	0.175	0.222	0.221	0.226	0.231	0.199	17.20
27)	T	2-Butanone (MEK)	0.862	0.742	0.977	0.579	0.668	0.656	0.659	0.666	0.726	18.04
28)	T	cis-1,2-Dichlo...	1.331	1.412	1.665	1.356	1.520	1.419	1.389	1.344	1.429	7.85
29)	T	Diisopropyl Ether	0.905	0.797	1.032	0.808	0.942	0.882	0.876	0.794	0.880	9.33
30)	T	Ethyl Acetate	0.352	0.364	0.498	0.385	0.446	0.453	0.436	0.381	0.414	12.37
31)	T	n-Hexane	1.687	1.676	2.081	1.622	1.867	1.842	1.777	1.568	1.765	9.33
32)	T	Chloroform	1.607	1.687	2.014	1.628	1.799	1.677	1.634	1.588	1.704	8.30
33)	S	1,2-Dichloroet...	2.095	2.107	1.967	2.112	2.113	2.086	2.026	1.946	2.056	3.30
34)	T	Tetrahydrofura...	0.673	0.586	0.752	0.550	0.637	0.607	0.611	0.617	0.629	9.74
35)	T	Ethyl tert-But...	1.083	1.119	1.303	1.084	1.219	1.202	1.229	1.238	1.185	6.77
36)	T	1,2-Dichloroet...	1.488	1.502	1.739	1.441	1.590	1.470	1.425	1.376	1.504	7.56
37)	IR	1,4-Difluorobenzen...	----------	----------	----------	ISTD	----------	----------	----------	----------		
38)	T	1,1,1-Trichlor...	0.306	0.337	0.417	0.319	0.356	0.336	0.327	0.318	0.340	10.23
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	0.851	0.822	1.057	0.763	0.843	0.797	0.792	0.790	0.839	11.02
42)	T	Carbon Tetrach...	0.271	0.291	0.347	0.279	0.308	0.291	0.289	0.284	0.295	7.95

Method Path : I:\MS13\METHODS\
Method File : R13011322A.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

43)	T	Cyclohexane	0.305	0.308	0.389	0.299	0.332	0.321	0.319	0.312	0.323	8.86
44)	T	tert-Amyl Meth...	0.560	0.581	0.646	0.541	0.613	0.614	0.618	0.602	0.597	5.72
45)	T	1,2-Dichloropr...	0.204	0.220	0.260	0.209	0.233	0.219	0.216	0.214	0.222	7.97
46)	T	Bromodichlorom...	0.288	0.276	0.355	0.286	0.323	0.310	0.305	0.303	0.306	8.16
47)	T	Trichloroethene	0.198	0.215	0.257	0.195	0.222	0.212	0.214	0.222	0.217	8.83
48)	T	1,4-Dioxane	0.132	0.142	0.196	0.153	0.176	0.169	0.170	0.174	0.164	12.50
49)	T	2,2,4-Trimethy...	0.947	0.965	1.122	0.886	0.990	0.918	0.899	0.873	0.950	8.43
50)	T	Methyl Methacr...	0.051	0.064	0.092	0.070	0.088	0.087	0.089	0.093	0.079	19.58
51)	T	n-Heptane	0.195	0.214	0.251	0.193	0.221	0.212	0.212	0.216	0.214	8.36
52)	T	cis-1,3-Dichlo...	0.289	0.285	0.384	0.302	0.357	0.349	0.349	0.350	0.333	10.90
53)	T	4-Methyl-2-pen...	0.160	0.181	0.235	0.181	0.222	0.216	0.211	0.205	0.201	12.39
54)	T	trans-1,3-Dich...	0.213	0.234	0.330	0.269	0.341	0.340	0.339	0.342	0.301	17.92
55)	T	1,1,2-Trichlor...	0.182	0.190	0.234	0.184	0.210	0.200	0.197	0.201	0.200	8.43
56)	IR	Chlorobenzene-d5 (...	----------	----------	----------	ISTD	----------	----------	----------	----------	----------	
57)	S	Toluene-d8 (SS2)	5.442	5.323	5.663	5.317	5.338	5.372	5.477		5.419	2.29
58)	T	Toluene	4.111	3.782	4.979	3.487	3.926	3.760	3.846	4.055	3.993	11.08
59)	T	2-Hexanone	1.768	1.794	2.551	1.866	2.361	2.276	2.224	2.136	2.122	13.48
60)	T	Dibromochlorom...	0.905	0.933	1.271	0.968	1.132	1.122	1.155	1.226	1.089	12.62
61)	T	1,2-Dibromoethane	0.930	1.000	1.302	0.963	1.112	1.074	1.101	1.156	1.080	11.01
62)	T	n-Butyl Acetate	1.908	1.936	2.819	2.058	2.587	2.513	2.461	2.383	2.333	14.17
63)	T	n-Octane	0.905	0.823	1.108	0.819	0.931	0.905	0.912	0.939	0.918	9.74
64)	T	Tetrachloroethene	0.986	1.003	1.328	0.957	1.064	1.042	1.085	1.188	1.082	11.33
65)	T	Chlorobenzene	2.451	2.443	3.092	2.266	2.529	2.474	2.570	2.757	2.573	9.76
66)	T	Ethylbenzene	4.551	4.487	5.599	4.030	4.575	4.474	4.578	4.762	4.632	9.56
67)	T	m- & p-Xylenes	3.461	3.572	4.443	3.189	3.626	3.614	3.695	3.766	3.671	9.75
68)	T	Bromoform	0.757	0.827	1.097	0.834	1.018	1.052	1.089	1.170	0.981	15.58
69)	T	Styrene	2.184	2.188	3.034	2.194	2.790	2.846	2.952	3.161	2.669	15.47
70)	T	o-Xylene	3.493	3.668	4.307	3.134	3.652	3.596	3.661	3.802	3.664	8.91
71)	T	n-Nonane	2.069	2.018	2.285	1.761	2.061	1.980	1.954	1.924	2.006	7.43
72)	T	1,1,2,2-Tetrac...	1.658	1.661	1.983	1.502	1.766	1.741	1.766	1.827	1.738	8.08
73)	S	Bromofluoroben...	1.585	1.561	1.649	1.542	1.585	1.642	1.683	1.771	1.627	4.64
74)	T	Cumene	4.914	4.637	5.601	3.983	4.581	4.569	4.741	4.916	4.743	9.56
75)	T	alpha-Pinene	2.159	2.160	2.265	1.766	2.159	2.273	2.378	2.515	2.210	9.88
76)	T	n-Propylbenzene	5.709	5.483	6.606	4.841	5.643	5.599	5.704	5.762	5.668	8.47
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	4.347	4.272	5.240	3.783	4.564	4.615	4.785	4.936	4.568	9.75
79)	T	1,3,5-Trimethy...	3.823	3.692	4.310	3.194	3.824	3.831	4.002	4.175	3.856	8.75
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	3.989	3.834	4.262	3.250	3.980	4.178	4.309	4.007	3.976	8.40
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride			2.331	1.789	2.918	3.440	3.648	3.418	2.924	25.02
85)	T	1,3-Dichlorobe...	1.918	1.863	2.423	1.678	2.124	2.223	2.365	2.434	2.129	13.33
86)	T	1,4-Dichlorobe...	1.784	1.747	2.404	1.682	2.119	2.161	2.308	2.515	2.090	15.24
87)	T	sec-Butylbenzene	5.391	5.395	5.802	4.406	5.235	5.267	5.430	5.562	5.311	7.66
88)	T	4-Isopropyltol...	4.379	4.241	4.866	3.507	4.358	4.433	4.649	4.785	4.402	9.62
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	1.872	1.929	2.229	1.685	2.044	2.149	2.289	2.344	2.068	11.01
91)	T	d-Limonene			1.308	1.085	1.458	1.524	1.536	1.447	1.393	12.30
92)	T	1,2-Dibromo-3-...	0.647	0.692	0.824	0.655	0.861	0.907	0.956	1.021	0.821	17.33
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	1.340	1.142	1.449	1.156	1.742	1.908	2.041	2.050	1.603	23.68

Method Path : I:\MS13\METHODS\
Method File : R13011322A.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95)	T	Naphthalene			3.642	2.821	4.867	5.217	5.566	5.937	4.675	25.71
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.220	1.195	1.119	0.971	1.186	1.234	1.319	1.434	1.210	11.21
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	3.871	3.911	4.168	3.041	3.669	3.854	3.993	3.727	3.779	8.88
100)	T	n-Butylbenzene	4.167	4.094	4.465	3.440	4.318	4.336	4.428	4.487	4.217	8.14
101)	T	1,1,1,2-Tetrac...	0.858	0.929	1.153	0.846	0.977	0.954	0.986	1.040	0.968	10.22

(#) = Out of Range

Primary Source Standards Concentrations (Working & Initial Calibration)

JMM 1/24/22

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-01012201 | 200ng/L Std. ID: S35-12212107
20ng/L Std. ID: S35-12282105/12152102 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Do Not Use

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S35-01012201**	**200ng/L Std. ID:**	**S35-12212107**
20ng/L Std. ID:	**S35-12282105/12152102**	**1000ng/L Std. ID:**	

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**20**	**20**	**200**	**200**	**200**	**200**
	Source Std.		**Primary Working Standards**					**Injection (L):**	**0.025**	**0.050**	**0.0250**	**0.050**	**0.025**	**0.125**	**0.25**	**0.50**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Page 88 of 196

Calibration Status Report GCMS13

Method   : I:\MS13\METHODS\R13011322.M (RTE Integrator)
Title   : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jan 14 05:11:00 2022
Response via : Initial Calibration

1/17/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS13\DATA\2022_01\13\01132214.D
2	0.2	0	13	I:\MS13\DATA\2022_01\13\01132215.D
3	0.5	1	13	I:\MS13\DATA\2022_01\13\01132223.D
4	1.0	1	13	I:\MS13\DATA\2022_01\13\01132217.D
5	5.0	5	13	I:\MS13\DATA\2022_01\13\01132218.D
6	25	26	13	I:\MS13\DATA\2022_01\13\01132219.D
7	50	52	13	I:\MS13\DATA\2022_01\13\01132220.D
8	100	104	13	I:\MS13\DATA\2022_01\13\01132221.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Jan 13 17:26 2022	Jan 13 17:25 2022	13 Jan 2022 12:09
2	0.2	Jan 13 17:26 2022	Jan 13 17:25 2022	13 Jan 2022 12:43
3	0.5	Jan 14 05:10 2022	Jan 14 05:08 2022	13 Jan 2022 17:53
4	1.0	Jan 13 17:27 2022	Jan 13 17:26 2022	13 Jan 2022 13:51
5	5.0	Jan 13 17:27 2022	Jan 13 17:26 2022	13 Jan 2022 14:25
6	25	Jan 13 17:27 2022	Jan 13 17:26 2022	13 Jan 2022 14:59
7	50	Jan 13 17:27 2022	Jan 13 17:26 2022	13 Jan 2022 15:32
8	100	Jan 13 17:27 2022	Jan 13 17:26 2022	13 Jan 2022 16:06

R13011322.M Mon Jan 17 18:05:59 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132214.D Vial: 13
Acq On : 13 Jan 2022 12:09 Operator: WA
Sample : 0.1ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-01042201

Quant Time: Jan 14 13:46:25 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 1/14/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	145581	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	675195	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	147409	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	304933	11.390	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
57) Toluene-d8 (SS2)	15.90	98	802200	15.512	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 124.08%				
73) Bromofluorobenzene (SS3)	19.12	174	233574	14.243	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.92%				
Target Compounds							Qvalue
2) Propene	4.27	42	1203	0.070	ng		86
3) Dichlorodifluoromethan...	4.43	85	2376	0.083	ng	#	88
4) Chloromethane	4.72	50	1689	0.079	ng		82
5) 1,2-Dichloro-1,1,2,2-t...	4.97	135	1037	0.086	ng		73
6) Vinyl Chloride	5.15	62	1476	0.067	ng		67
7) 1,3-Butadiene	5.41	54	1144	0.066	ng		96
8) Bromomethane	5.85	94	684	0.063	ng		94
9) Chloroethane	6.18	64	618	0.062	ng	#	43
10) Ethanol	6.51	45	3718	0.297	ng		90
11) Acetonitrile	6.79	41	1599	0.051	ng	#	1
12) Acrolein	7.00	56	1186	0.113	ng		91
13) Acetone	7.21	58	6596	0.545	ng		92
14) Trichlorofluoromethane	7.46	101	2031	0.079	ng		100
15) 2-Propanol (Isopropanol)	7.70	45	7649	0.177	ng		96
16) Acrylonitrile	7.95	53	2540	0.123	ng		94
17) 1,1-Dichloroethene	8.41	96	921	0.075	ng	#	85
18) 2-Methyl-2-Propanol (t...	8.59	59	5784	0.161	ng	#	64
19) Methylene Chloride	8.61	84	1226	0.086	ng		97
20) 3-Chloro-1-propene (Al...	8.79	41	1331	0.057	ng		85
21) Trichlorotrifluoroethane	9.04	151	769	0.077	ng		84
22) Carbon Disulfide	8.90	76	9243	0.179	ng		95
23) trans-1,2-Dichloroethene	9.89	61	1604	0.073	ng		89
24) 1,1-Dichloroethane	10.14	63	2074	0.077	ng		88
25) Methyl tert-Butyl Ether	10.27	73	3454	0.088	ng		93
26) Vinyl Acetate	10.40	86	586	0.201	ng	#	38
27) 2-Butanone (MEK)	10.65	72	2069	0.222	ng	#	71
28) cis-1,2-Dichloroethene	11.15	61	1612	0.072	ng		95
29) Diisopropyl Ether	11.46	87	2234	0.174	ng	#	91
30) Ethyl Acetate	11.47	61	1672	0.261	ng		92
31) n-Hexane	11.44	57	2063	0.071	ng	#	89
32) Chloroform	11.49	83	2003	0.078	ng		95
34) Tetrahydrofuran (THF)	11.93	72	1545	0.167	ng		94
35) Ethyl tert-Butyl Ether	12.05	87	2649	0.153	ng		92
36) 1,2-Dichloroethane	12.30	62	1837	0.079	ng		89
38) 1,1,1-Trichloroethane	12.58	97	1719	0.074	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.05	78	4780	0.084	ng		99
42) Carbon Tetrachloride	13.22	117	1538	0.080	ng		97
43) Cyclohexane	13.35	84	3407	0.153	ng		94
44) tert-Amyl Methyl Ether	13.70	73	6318	0.150	ng		95
45) 1,2-Dichloropropane	13.90	63	1136	0.071	ng		99
46) Bromodichloromethane	14.09	83	1635	0.078	ng		94
47) Trichloroethene	14.15	130	1101	0.079	ng		92
48) 1,4-Dioxane	14.15	88	742	0.066	ng		97
49) 2,2,4-Trimethylpentane...	14.22	57	5424	0.077	ng		99
50) Methyl Methacrylate	14.37	100	577	0.106	ng	#	54

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132214.D Vial: 13
Acq On : 13 Jan 2022 12:09 Operator: WA
Sample : 0.1ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-01042201

Quant Time: Jan 14 13:46:25 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

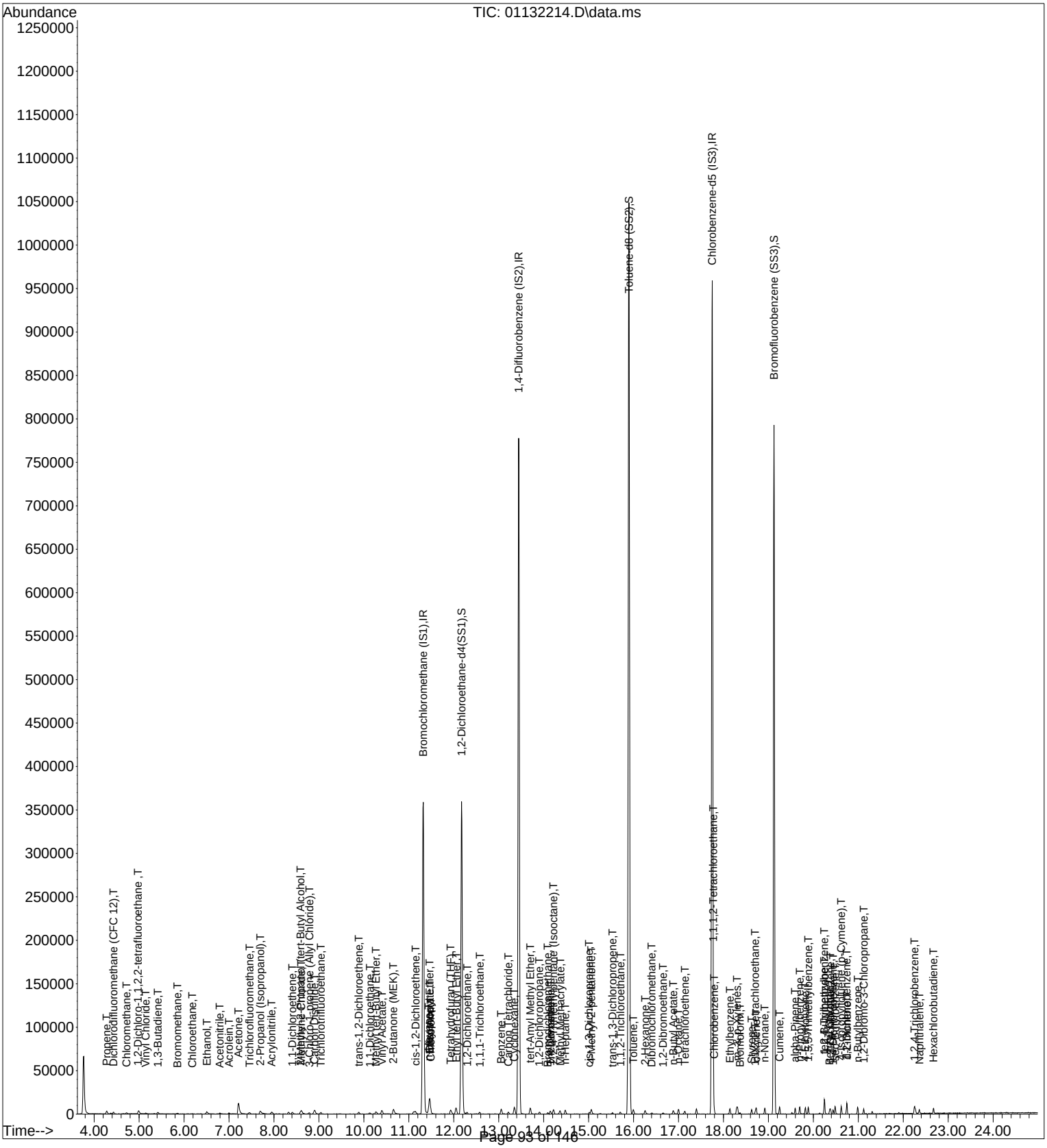
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.48	71	1105	0.075 ng	#	88
52) cis-1,3-Dichloropropene	15.01	75	1639	0.071 ng		85
53) 4-Methyl-2-pentanone	15.06	58	1803	0.119 ng	#	78
54) trans-1,3-Dichloropropene	15.53	75	1161	0.057 ng		79
55) 1,1,2-Trichloroethane	15.71	97	1021	0.075 ng		99
58) Toluene	15.99	91	4994	0.110 ng		97
59) 2-Hexanone	16.26	43	4275	0.141 ng		84
60) Dibromochloromethane	16.40	129	1120	0.094 ng		95
61) 1,2-Dibromoethane	16.66	107	1141	0.094 ng		92
62) n-Butyl Acetate	16.88	43	4590	0.142 ng		88
63) n-Octane	16.99	57	1121	0.096 ng		98
64) Tetrachloroethene	17.14	166	1209	0.107 ng		96
65) Chlorobenzene	17.79	112	3006	0.103 ng		90
66) Ethylbenzene	18.14	91	5528	0.104 ng		97
67) m- & p-Xylenes	18.30	91	8408	0.200 ng		99
68) Bromoform	18.37	173	928	0.090 ng		94
69) Styrene	18.63	104	2653	0.087 ng		97
70) o-Xylene	18.73	91	4284	0.101 ng		100
71) n-Nonane	18.92	43	2537	0.094 ng		93
72) 1,1,2,2-Tetrachloroethane	18.70	83	2033	0.100 ng		95
74) Cumene	19.25	105	6027	0.116 ng		99
75) alpha-Pinene	19.60	93	2750	0.114 ng		81
76) n-Propylbenzene	19.70	91	7069	0.110 ng		94
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.82	105	5434	0.106 ng		98
79) 1,3,5-Trimethylbenzene	19.89	105	4689	0.111 ng		94
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.24	105	4845	0.110 ng		96
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	20.36	91	3677	0.125 ng		90
85) 1,3-Dichlorobenzene	20.38	146	2352	0.102 ng		96
86) 1,4-Dichlorobenzene	20.44	146	2188	0.096 ng		97
87) sec-Butylbenzene	20.48	105	6612	0.113 ng		98
88) 4-Isopropyltoluene (p-...	20.62	119	5370	0.112 ng		94
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.74	146	2318	0.105 ng		98
91) d-Limonene	20.75	68	1749	0.097 ng		96
92) 1,2-Dibromo-3-Chloropr...	21.12	157	1527	0.177 ng	#	73
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.25	180	3223	0.194 ng		99
95) Naphthalene	22.36	128	4078	0.090 ng		96
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.67	225	1482	0.126 ng		89
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.24	119	4748	0.117 ng		94
100) n-Butylbenzene	20.99	91	5111	0.108 ng		94
101) 1,1,1,2-Tetrachloroethane	17.77	131	1052	0.100 ng	#	80

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132214.D Vial: 13
Acq On : 13 Jan 2022 12:09 Operator: WA
Sample : 0.1ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-01042201

Quant Time: Jan 14 13:46:25 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132215.D Vial: 13
Acq On : 13 Jan 2022 12:43 Operator: WA
Sample : 0.2ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-01042201

Quant Time: Jan 14 15:07:43 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022 1/14/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	140294	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	646259	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	145714	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	295584	11.456	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.68%				
57) Toluene-d8 (SS2)	15.90	98	775563	15.171	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 121.36%				
73) Bromofluorobenzene (SS3)	19.12	174	227429	14.030	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.24%				
Target Compounds							Qvalue
2) Propene	4.27	42	2438	0.146	ng		99
3) Dichlorodifluoromethan...	4.42	85	4620	0.167	ng	#	95
4) Chloromethane	4.71	50	2990	0.145	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	4.97	135	2160	0.186	ng		89
6) Vinyl Chloride	5.14	62	3049	0.143	ng		98
7) 1,3-Butadiene	5.40	54	2287	0.138	ng		96
8) Bromomethane	5.84	94	1587	0.152	ng		99
9) Chloroethane	6.18	64	1284	0.133	ng		71
10) Ethanol	6.49	45	5439	0.450	ng		95
11) Acetonitrile	6.78	41	2795	0.093	ng	#	1
12) Acrolein	6.99	56	2515	0.249	ng		99
13) Acetone	7.19	58	11323	0.970	ng		93
14) Trichlorofluoromethane	7.45	101	3982	0.161	ng		99
15) 2-Propanol (Isopropanol)	7.68	45	11843	0.284	ng		99
16) Acrylonitrile	7.94	53	5117	0.258	ng		97
17) 1,1-Dichloroethene	8.40	96	1907	0.160	ng		91
18) 2-Methyl-2-Propanol (t...	8.58	59	11446	0.331	ng		95
19) Methylene Chloride	8.61	84	2196	0.160	ng		96
20) 3-Chloro-1-propene (Al...	8.78	41	2941	0.130	ng		86
21) Trichlorotrifluoroethane	9.04	151	1712	0.177	ng		96
22) Carbon Disulfide	8.90	76	16995	0.341	ng		97
23) trans-1,2-Dichloroethene	9.89	61	3228	0.152	ng		100
24) 1,1-Dichloroethane	10.13	63	4128	0.158	ng		96
25) Methyl tert-Butyl Ether	10.26	73	6593	0.174	ng		93
26) Vinyl Acetate	10.39	86	1175	0.418	ng	#	44
27) 2-Butanone (MEK)	10.65	72	3433	0.382	ng	#	85
28) cis-1,2-Dichloroethene	11.14	61	3296	0.152	ng		96
29) Diisopropyl Ether	11.45	87	3795	0.306	ng	#	86
30) Ethyl Acetate	11.46	61	3336	0.541	ng		92
31) n-Hexane	11.44	57	3951	0.142	ng	#	97
32) Chloroform	11.49	83	4053	0.164	ng		99
34) Tetrahydrofuran (THF)	11.92	72	2592	0.292	ng		92
35) Ethyl tert-Butyl Ether	12.05	87	5276	0.317	ng		95
36) 1,2-Dichloroethane	12.29	62	3573	0.159	ng		95
38) 1,1,1-Trichloroethane	12.58	97	3625	0.164	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.06	78	8839	0.163	ng		99
42) Carbon Tetrachloride	13.21	117	3156	0.170	ng		95
43) Cyclohexane	13.35	84	6597	0.310	ng		95
44) tert-Amyl Methyl Ether	13.70	73	12547	0.312	ng		96
45) 1,2-Dichloropropane	13.91	63	2340	0.153	ng		92
46) Bromodichloromethane	14.10	83	3000	0.149	ng		95
47) Trichloroethene	14.14	130	2288	0.171	ng		95
48) 1,4-Dioxane	14.14	88	1530	0.143	ng		98
49) 2,2,4-Trimethylpentane...	14.22	57	10581	0.156	ng		96
50) Methyl Methacrylate	14.36	100	1372	0.263	ng	#	87

Data File : I:\MS13\DATA\2022 01\13\01132215.D Vial: 13
Acq On : 13 Jan 2022 12:43 Operator: WA
Sample : 0.2ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-01042201

Quant Time: Jan 14 15:07:43 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

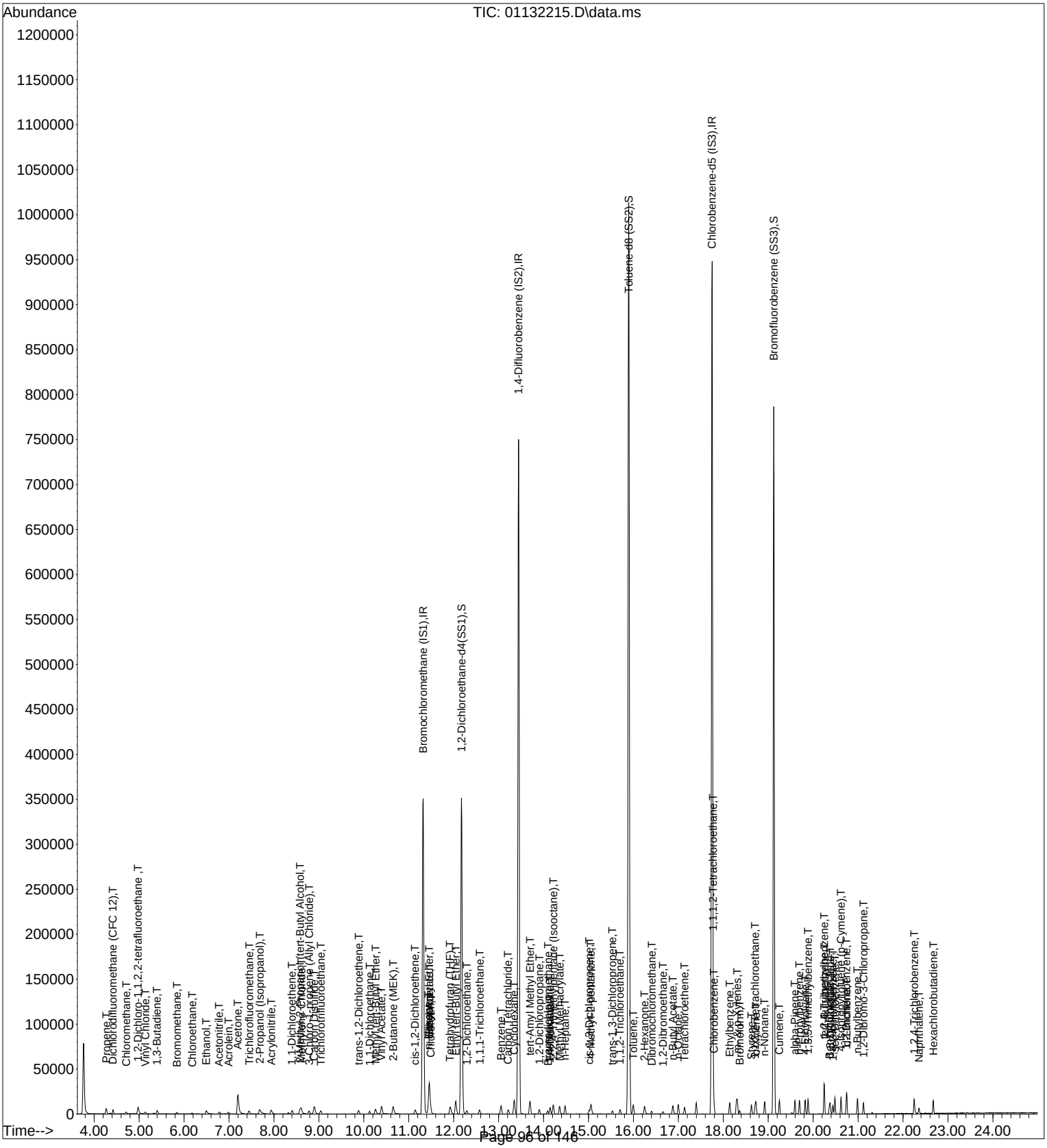
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.48	71	2319	0.164 ng		97
52) cis-1,3-Dichloropropene	15.01	75	3099	0.141 ng		93
53) 4-Methyl-2-pentanone	15.05	58	3892	0.269 ng		90
54) trans-1,3-Dichloropropene	15.53	75	2446	0.125 ng		96
55) 1,1,2-Trichloroethane	15.70	97	2045	0.157 ng		90
58) Toluene	16.00	91	9082	0.202 ng		99
59) 2-Hexanone	16.25	43	8576	0.287 ng		92
60) Dibromochloromethane	16.41	129	2284	0.194 ng		98
61) 1,2-Dibromoethane	16.66	107	2424	0.201 ng		92
62) n-Butyl Acetate	16.87	43	9209	0.287 ng		93
63) n-Octane	16.99	57	2014	0.175 ng		97
64) Tetrachloroethene	17.14	166	2431	0.217 ng		97
65) Chlorobenzene	17.79	112	5923	0.205 ng		98
66) Ethylbenzene	18.14	91	10775	0.206 ng		95
67) m- & p-Xylenes	18.31	91	17156	0.414 ng		95
68) Bromoform	18.37	173	2004	0.197 ng		99
69) Styrene	18.63	104	5255	0.174 ng		98
70) o-Xylene	18.72	91	8893	0.212 ng		94
71) n-Nonane	18.92	43	4892	0.184 ng		97
72) 1,1,2,2-Tetrachloroethane	18.71	83	4027	0.201 ng		97
74) Cumene	19.25	105	11244	0.219 ng		97
75) alpha-Pinene	19.59	93	5440	0.228 ng		87
76) n-Propylbenzene	19.69	91	13423	0.211 ng		99
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.82	105	10557	0.209 ng		98
79) 1,3,5-Trimethylbenzene	19.89	105	8953	0.214 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.24	105	9206	0.212 ng		96
83) n-Decane	0.00	58	0	N.D. d		
84) Benzyl Chloride	20.36	91	6548	0.224 ng		96
85) 1,3-Dichlorobenzene	20.38	146	4516	0.198 ng		96
86) 1,4-Dichlorobenzene	20.44	146	4236	0.188 ng		98
87) sec-Butylbenzene	20.48	105	13080	0.226 ng		98
88) 4-Isopropyltoluene (p-...	20.62	119	10282	0.218 ng		98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.74	146	4722	0.217 ng		96
91) d-Limonene	20.74	68	3444	0.193 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.12	157	3227	0.378 ng	#	80
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.25	180	5431	0.331 ng		98
95) Naphthalene	22.36	128	5434	0.121 ng		99
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.67	225	2870	0.246 ng		95
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.25	119	9482	0.237 ng		95
100) n-Butylbenzene	20.98	91	9927	0.212 ng		96
101) 1,1,1,2-Tetrachloroethane	17.77	131	2252	0.216 ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132215.D Vial: 13
Acq On : 13 Jan 2022 12:43 Operator: WA
Sample : 0.2ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-01042201

Quant Time: Jan 14 15:07:43 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132223.D Vial: 12
Acq On : 13 Jan 2022 17:53 Operator: WA
Sample : 0.5ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12282105

Quant Time: Jan 14 05:08:38 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:27:49 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 1/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	159689	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.44	114	724753	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.75	54	150975	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	314127	11.852	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.90	98	854976	13.087	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.72%				
73) Bromofluorobenzene (SS3)	19.12	174	248969	12.761	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
2) Propene	4.26	42	8924	0.723	ng		97
3) Dichlorodifluoromethan...	4.41	85	15781	0.659	ng		99
4) Chloromethane	4.69	50	10962	0.692	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.96	135	7448	0.694	ng		96
6) Vinyl Chloride	5.12	62	11629	0.685	ng		98
7) 1,3-Butadiene	5.38	54	8837	0.640	ng		99
8) Bromomethane	5.82	94	5781	0.638	ng		96
9) Chloroethane	6.15	64	5071	0.647	ng		100
10) Ethanol	6.49	45	22685	2.437	ng		98
11) Acetonitrile	6.78	41	11490m	0.565	ng		
12) Acrolein	6.97	56	9175	1.172	ng		99
13) Acetone	7.18	58	33688	3.276	ng		94
14) Trichlorofluoromethane	7.44	101	14216	0.650	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	44505	1.335	ng		97
16) Acrylonitrile	7.93	53	19015m	1.210	ng		
17) 1,1-Dichloroethene	8.40	96	7058	0.678	ng		98
18) 2-Methyl-2-Propanol (t...	8.55	59	38927	1.309	ng		96
19) Methylene Chloride	8.60	84	7874	0.661	ng		98
20) 3-Chloro-1-propene (Al...	8.78	41	10487	0.638	ng		98
21) Trichlorotrifluoroethane	9.04	151	6367	0.705	ng		99
22) Carbon Disulfide	8.88	76	55241	1.290	ng		99
23) trans-1,2-Dichloroethene	9.87	61	11678	0.663	ng		100
24) 1,1-Dichloroethane	10.12	63	14132	0.646	ng		100
25) Methyl tert-Butyl Ether	10.24	73	22148	0.681	ng		98
26) Vinyl Acetate	10.39	86	4597	1.873	ng	#	83
27) 2-Butanone (MEK)	10.64	72	12860	1.498	ng		95
28) cis-1,2-Dichloroethene	11.14	61	11061	0.623	ng		99
29) Diisopropyl Ether	11.45	87	13978	1.284	ng	#	94
30) Ethyl Acetate	11.45	61	12982	2.560	ng		98
31) n-Hexane	11.44	57	13959	0.642	ng		99
32) Chloroform	11.49	83	13766	0.649	ng		98
34) Tetrahydrofuran (THF)	11.91	72	9464	1.228	ng		99
35) Ethyl tert-Butyl Ether	12.04	87	17483	1.188	ng		99
36) 1,2-Dichloroethane	12.29	62	11775	0.631	ng		98
38) 1,1,1-Trichloroethane	12.58	97	12576	0.662	ng		99
39) Isopropyl Acetate	13.03	61	697	No Calib		#	
40) 1-Butanol	13.06	56	1600	No Calib		#	
41) Benzene	13.05	78	31859	0.685	ng		100
42) Carbon Tetrachloride	13.21	117	10549	0.637	ng		100
43) Cyclohexane	13.35	84	23344	1.293	ng		100
44) tert-Amyl Methyl Ether	13.69	73	39139	1.158	ng		98
45) 1,2-Dichloropropane	13.90	63	7765	0.622	ng		100
46) Bromodichloromethane	14.09	83	10817	0.628	ng		99
47) Trichloroethene	14.15	130	7683	0.636	ng		98
48) 1,4-Dioxane	14.13	88	5920	0.648	ng		97
49) 2,2,4-Trimethylpentane...	14.22	57	34474	0.646	ng		99
50) Methyl Methacrylate	14.35	100	5566	1.257	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132223.D Vial: 12
Acq On : 13 Jan 2022 17:53 Operator: WA
Sample : 0.5ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12282105

Quant Time: Jan 14 05:08:38 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:27:49 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

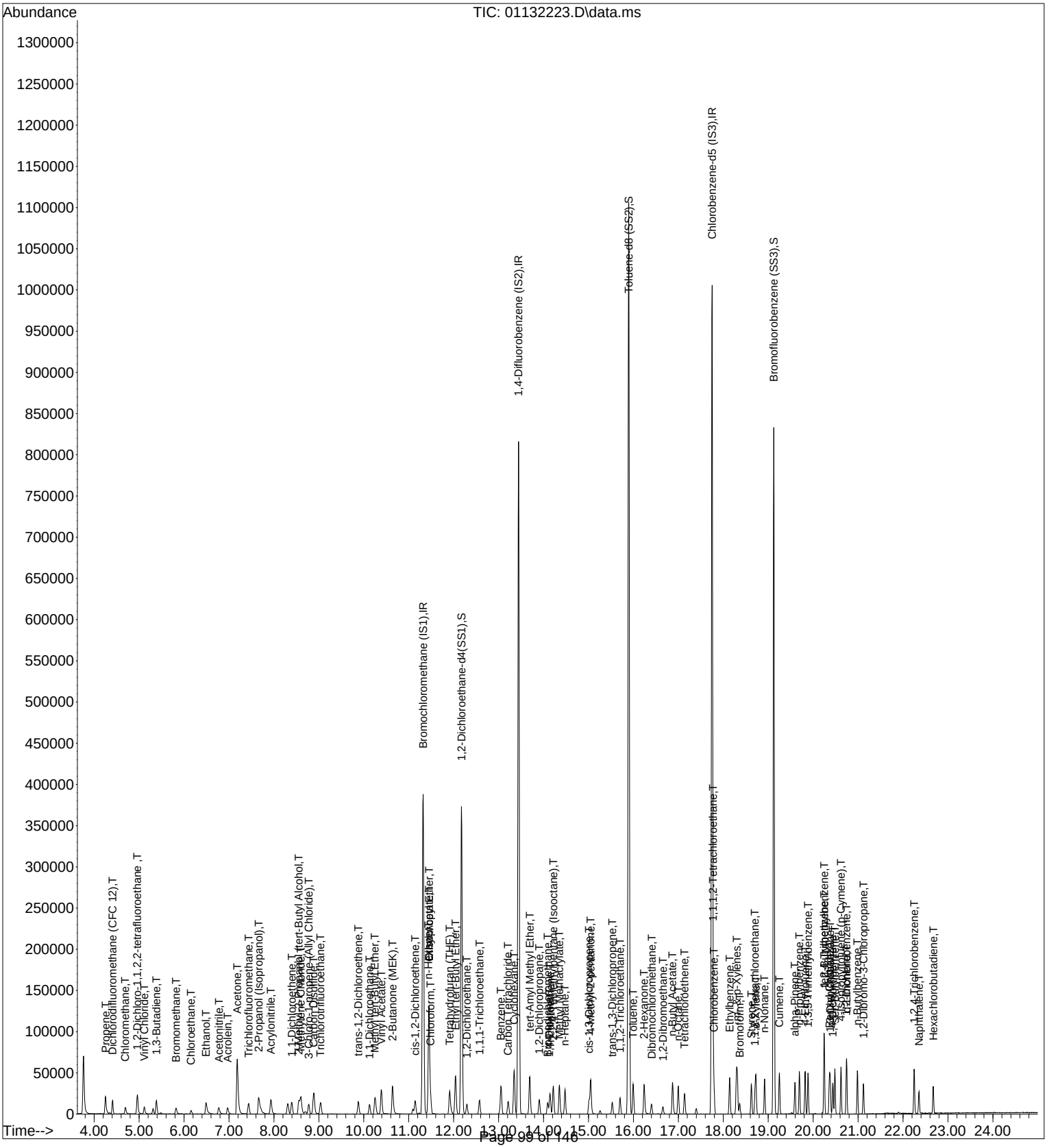
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.47	71	7637	0.637 ng		99
52) cis-1,3-Dichloropropene	15.01	75	11704	0.629 ng		97
53) 4-Methyl-2-pentanone	15.05	58	14146	1.264 ng		96
54) trans-1,3-Dichloropropene	15.53	75	9677	0.575 ng		98
55) 1,1,2-Trichloroethane	15.70	97	7067	0.627 ng		99
58) Toluene	15.99	91	30972	0.672 ng		99
59) 2-Hexanone	16.24	43	31577	1.292 ng		96
60) Dibromochloromethane	16.41	129	8059	0.637 ng		100
61) 1,2-Dibromoethane	16.66	107	8175	0.653 ng		99
62) n-Butyl Acetate	16.87	43	34725	1.290 ng		97
63) n-Octane	16.99	57	7025	0.660 ng		100
64) Tetrachloroethene	17.14	166	8341	0.667 ng		100
65) Chlorobenzene	17.79	112	19422	0.652 ng		97
66) Ethylbenzene	18.14	91	34828	0.652 ng		100
67) m- & p-Xylenes	18.30	91	55272	1.304 ng		97
68) Bromoform	18.37	173	6891	0.605 ng		96
69) Styrene	18.63	104	18872	0.612 ng		99
70) o-Xylene	18.72	91	27048	0.636 ng		98
71) n-Nonane	18.92	43	14353	0.613 ng		99
72) 1,1,2,2-Tetrachloroethane	18.70	83	12457	0.616 ng		100
74) Cumene	19.25	105	35175	0.641 ng		97
75) alpha-Pinene	19.59	93	14773	0.571 ng		91
76) n-Propylbenzene	19.69	91	41886	0.638 ng		99
77) 3-Ethyltoluene	19.89	105	27069	No Calib		
78) 4-Ethyltoluene	19.82	105	33546	0.634 ng		99
79) 1,3,5-Trimethylbenzene	19.89	105	27069	0.604 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.89	105	27069	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	26509	0.572 ng		98
83) n-Decane	20.24	58	1357	No Calib	#	
84) Benzyl Chloride	20.36	91	29003	0.857 ng		96
85) 1,3-Dichlorobenzene	20.38	146	15218	0.619 ng		99
86) 1,4-Dichlorobenzene	20.44	146	15100	0.625 ng		100
87) sec-Butylbenzene	20.48	105	36441	0.589 ng		98
88) 4-Isopropyltoluene (p-...	20.62	119	30564	0.599 ng		98
89) 1,2,3-Trimethylbenzene	20.62	105	1364	No Calib	#	
90) 1,2-Dichlorobenzene	20.74	146	14135	0.587 ng		100
91) d-Limonene	20.74	68	8291	0.508 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.12	157	9955	1.035 ng		87
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.25	180	17851	0.946 ng		99
95) Naphthalene	22.36	128	22874	0.464 ng		98
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	22.67	225	6963	0.483 ng		98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.24	119	26179	0.596 ng		98
100) n-Butylbenzene	20.98	91	28041	0.569 ng		99
101) 1,1,1,2-Tetrachloroethane	17.77	131	7243	0.646 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132223.D Vial: 12
Acq On : 13 Jan 2022 17:53 Operator: WA
Sample : 0.5ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12282105

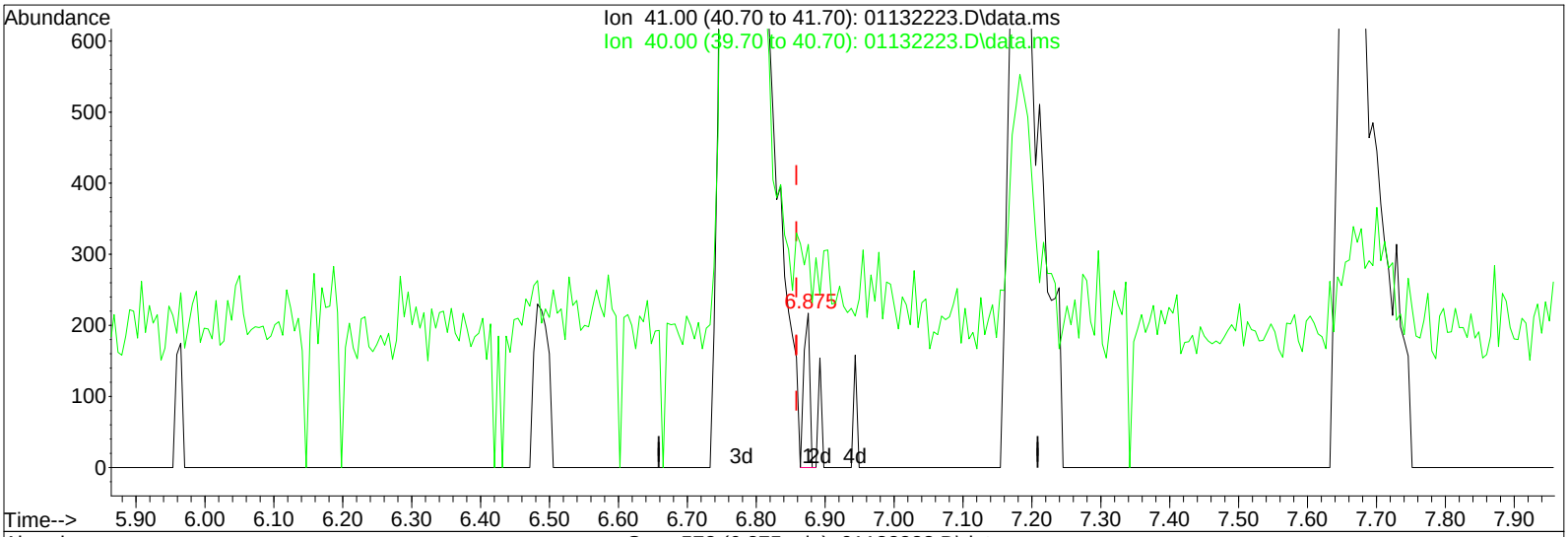
Quant Time: Jan 14 05:08:38 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:27:49 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

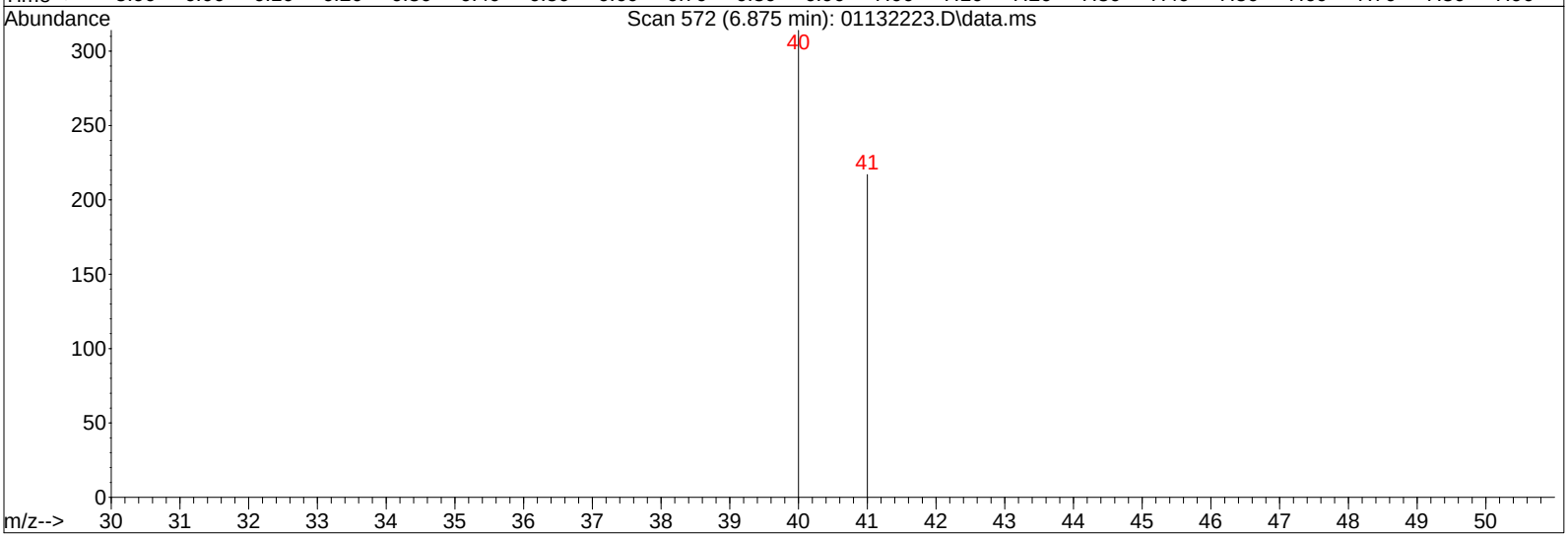


Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 01\13\01132223.D Vial: 12
Acq On : 13 Jan 2022 17:53 Operator: WA
Sample : 0.5ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12282105

Quant Time: Jan 14 05:04:22 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:27:49 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 01132223.D\data.ms

(11) Acetonitrile (T)

6.875min (+0.017) 0.01ng

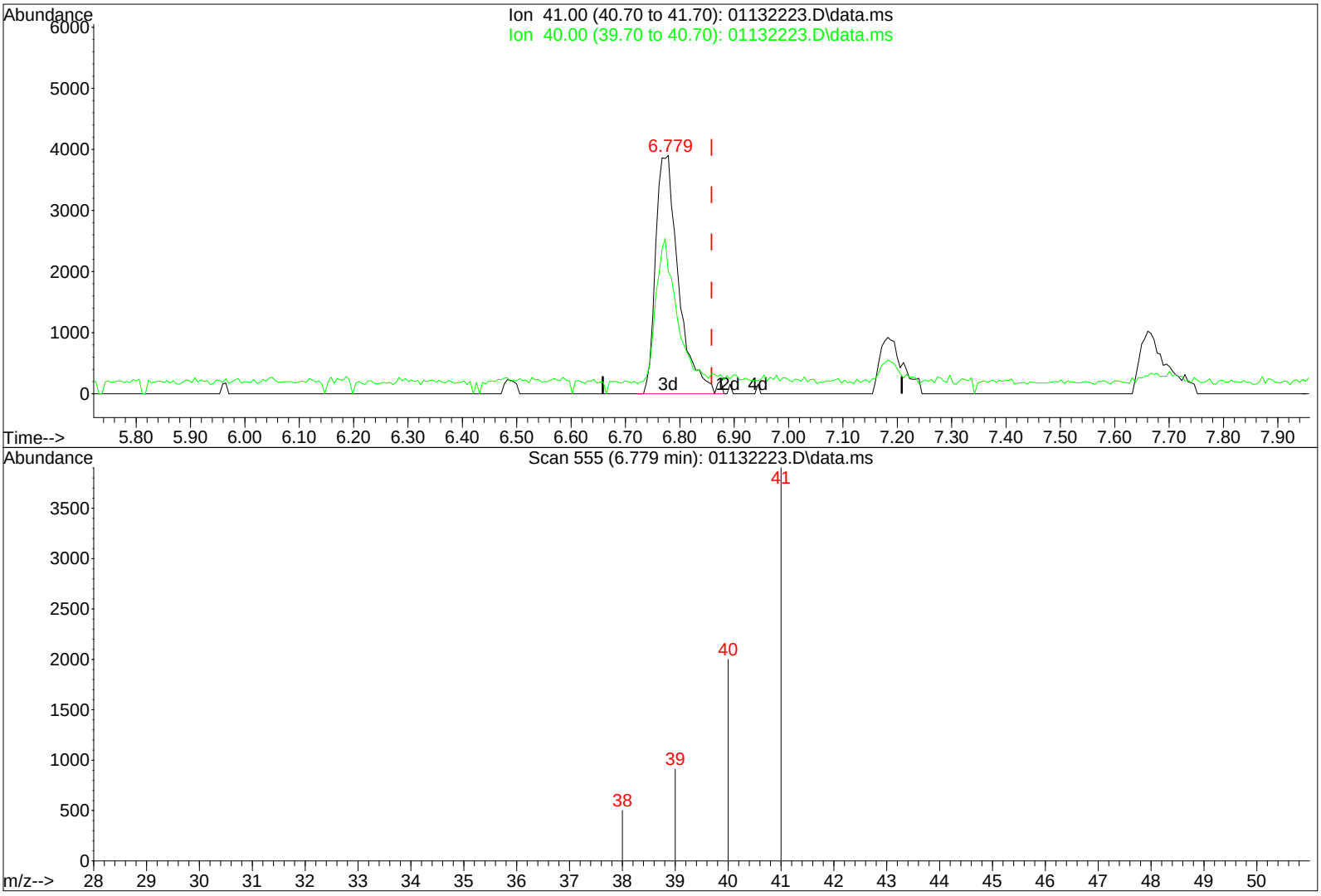
response 130

Ion	Exp%	Act%
41.00	100	100
40.00	54.40	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 01\13\01132223.D Vial: 12
Acq On : 13 Jan 2022 17:53 Operator: WA
Sample : 0.5ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12282105

Quant Time: Jan 14 05:04:22 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:27:49 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 01132223.D\data.ms

(11) Acetonitrile (T)

6.779min (-0.080) 0.57ng m

response 11490

Ion	Exp%	Act%
41.00	100	100
40.00	54.40	62.63
0.00	0.00	0.00
0.00	0.00	0.00

MP

1/25/22

1/24/22

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 01\13\01132223.D Vial: 12
Acq On : 13 Jan 2022 17:53 Operator: WA
Sample : 0.5ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12282105

Quant Time: Jan 14 05:04:22 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:27:49 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

TIC: 01132223.D\data.ms

(16) Acrylonitrile (T)

8.036min (+0.023) 0.01ng

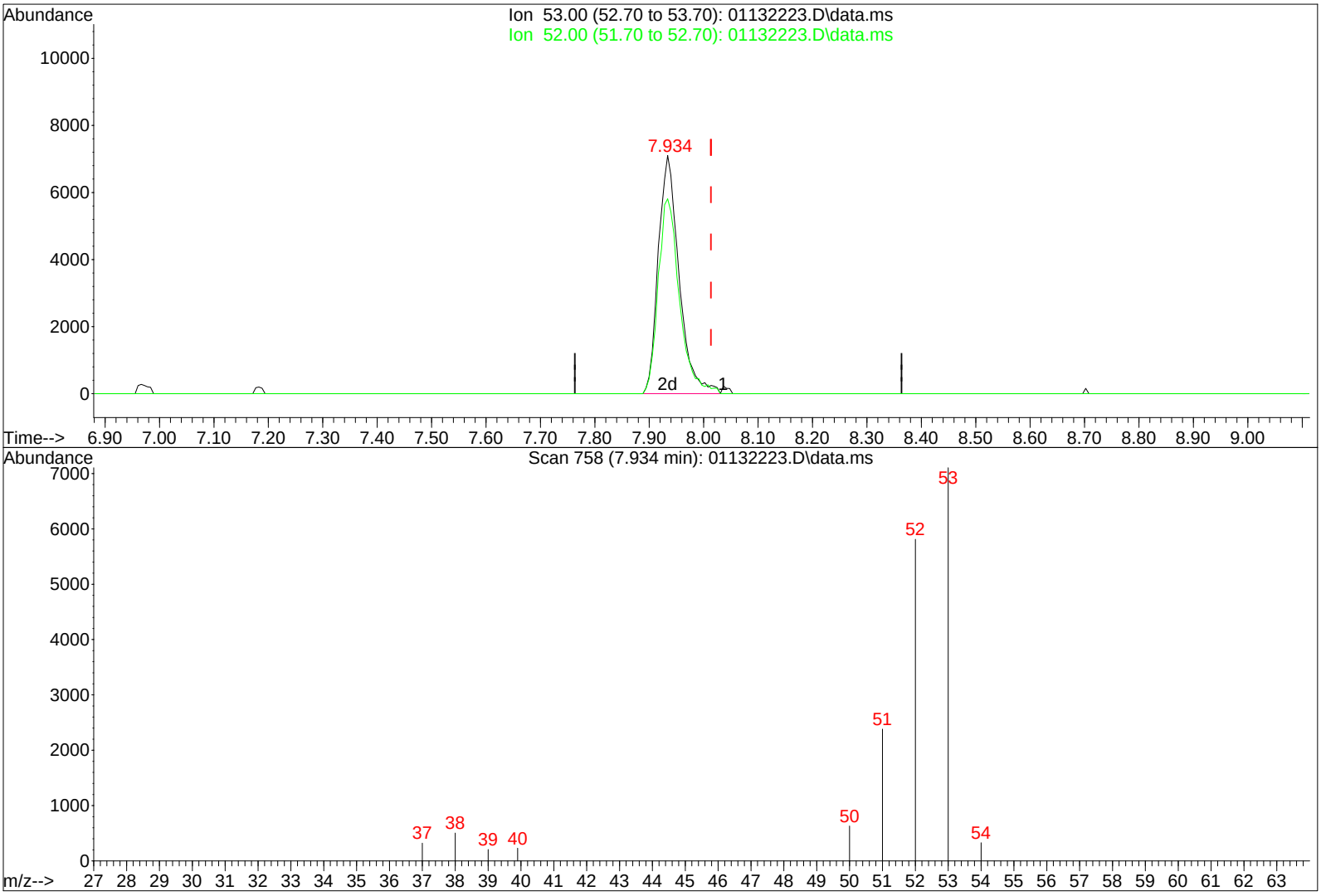
response 185

Ion	Exp%	Act%
53.00	100	100
52.00	83.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 01\13\01132223.D Vial: 12
Acq On : 13 Jan 2022 17:53 Operator: WA
Sample : 0.5ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12282105

Quant Time: Jan 14 05:04:22 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:27:49 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 01132223.D\data.ms

(16) Acrylonitrile (T)

7.934min (-0.080) 1.21ng m

response 19015

Ion	Exp%	Act%
53.00	100	100
52.00	83.60	83.07
0.00	0.00	0.00
0.00	0.00	0.00

MP

1/25/22

1/24/22

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132217.D Vial: 14
Acq On : 13 Jan 2022 13:51 Operator: WA
Sample : 1.0ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12152102

Quant Time: Jan 14 21:03:30 2022
Quant Method : I:\MS13\METHODS\R13011322.M WA 1/14/22
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.33	130	134937	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.45	114	624364	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	140938	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	284979	11.484	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%				
57) Toluene-d8 (SS2)	15.90	98	749305	15.154	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 121.20%				
73) Bromofluorobenzene (SS3)	19.12	174	217337	13.861	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.88%				
Target Compounds							Qvalue
2) Propene	4.26	42	10342	0.646	ng		99
3) Dichlorodifluoromethan...	4.41	85	21196	0.796	ng		99
4) Chloromethane	4.70	50	14436	0.729	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.96	135	9613	0.860	ng		98
6) Vinyl Chloride	5.12	62	14775	0.721	ng		95
7) 1,3-Butadiene	5.39	54	11836	0.740	ng		98
8) Bromomethane	5.82	94	7788	0.774	ng		95
9) Chloroethane	6.16	64	6921	0.746	ng		95
10) Ethanol	6.49	45	25824	2.223	ng		99
11) Acetonitrile	6.78	41	15507	0.534	ng		82
12) Acrolein	6.97	56	12568	1.295	ng		98
13) Acetone	7.18	58	38911	3.466	ng		87
14) Trichlorofluoromethane	7.44	101	18519	0.777	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	52698	1.313	ng		95
16) Acrylonitrile	7.94	53	25932	1.360	ng		98
17) 1,1-Dichloroethene	8.41	96	9124	0.798	ng		95
18) 2-Methyl-2-Propanol (t...	8.55	59	55014	1.656	ng		97
19) Methylene Chloride	8.61	84	9829	0.746	ng		97
20) 3-Chloro-1-propene (Al...	8.78	41	13897	0.639	ng		99
21) Trichlorotrifluoroethane	9.04	151	8061	0.866	ng		96
22) Carbon Disulfide	8.89	76	71343	1.487	ng		99
23) trans-1,2-Dichloroethene	9.88	61	15368	0.752	ng		97
24) 1,1-Dichloroethane	10.13	63	19147	0.762	ng		99
25) Methyl tert-Butyl Ether	10.25	73	30721	0.844	ng		100
26) Vinyl Acetate	10.39	86	6406	2.371	ng	#	77
27) 2-Butanone (MEK)	10.64	72	12868	1.488	ng	#	91
28) cis-1,2-Dichloroethene	11.14	61	15222	0.729	ng		98
29) Diisopropyl Ether	11.45	87	18493	1.552	ng	#	93
30) Ethyl Acetate	11.46	61	16943	2.856	ng		97
31) n-Hexane	11.44	57	18382	0.685	ng		98
32) Chloroform	11.49	83	18801	0.793	ng		98
34) Tetrahydrofuran (THF)	11.91	72	11686	1.367	ng		95
35) Ethyl tert-Butyl Ether	12.04	87	24573	1.536	ng		97
36) 1,2-Dichloroethane	12.29	62	16494	0.765	ng		99
38) 1,1,1-Trichloroethane	12.57	97	16581	0.774	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.06	78	39656	0.757	ng		99
42) Carbon Tetrachloride	13.22	117	14619	0.817	ng		99
43) Cyclohexane	13.35	84	30875	1.503	ng		99
44) tert-Amyl Methyl Ether	13.69	73	56510	1.453	ng		96
45) 1,2-Dichloropropane	13.90	63	10734	0.725	ng		98
46) Bromodichloromethane	14.09	83	15001	0.769	ng		98
47) Trichloroethene	14.15	130	10024	0.776	ng		97
48) 1,4-Dioxane	14.13	88	7969	0.771	ng		94
49) 2,2,4-Trimethylpentane...	14.22	57	46906	0.718	ng		98
50) Methyl Methacrylate	14.35	100	7273	1.445	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132217.D Vial: 14
Acq On : 13 Jan 2022 13:51 Operator: WA
Sample : 1.0ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12152102

Quant Time: Jan 14 21:03:30 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

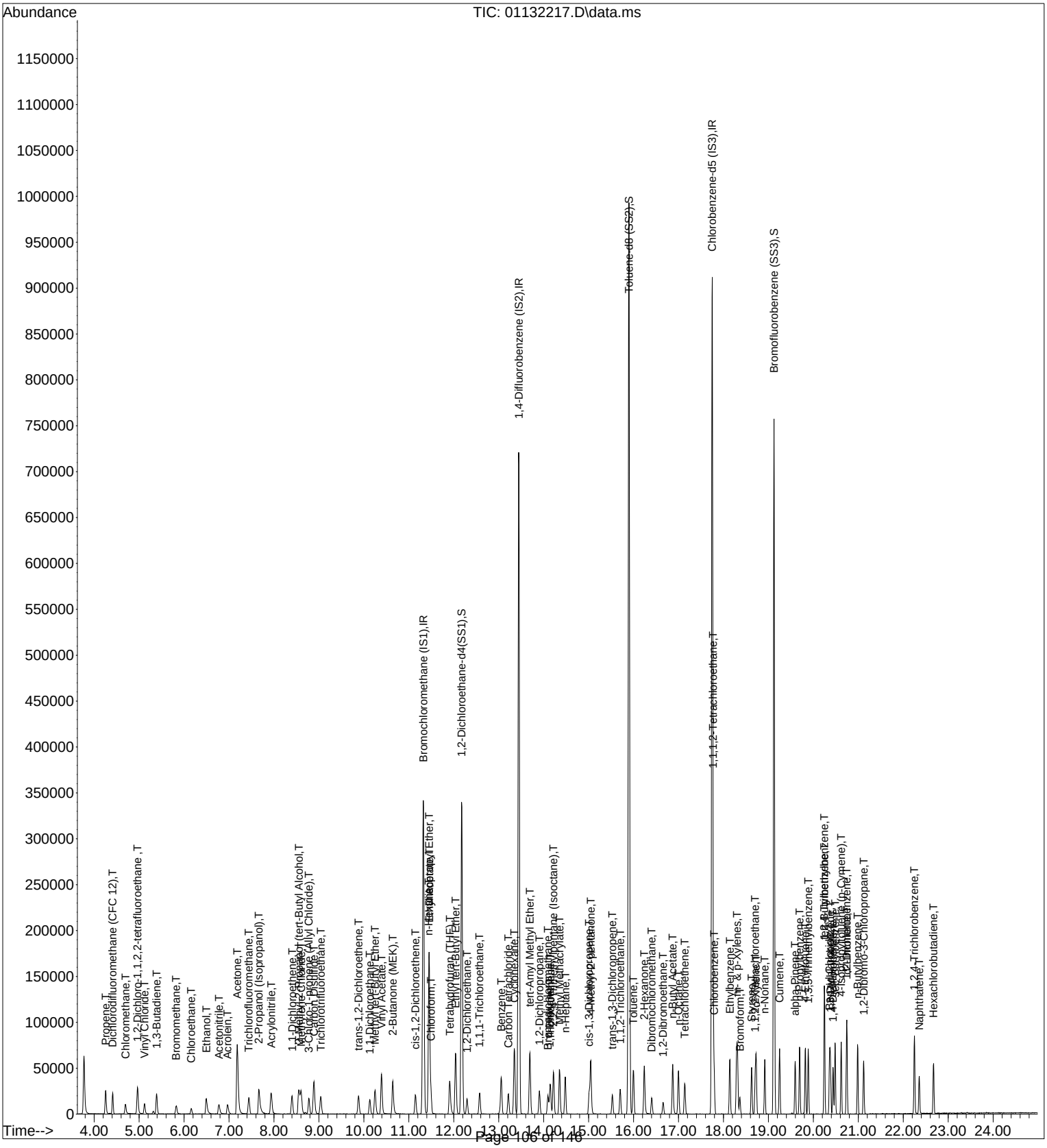
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.48	71	10101	0.739	ng		97
52) cis-1,3-Dichloropropene	15.01	75	15819	0.744	ng		99
53) 4-Methyl-2-pentanone	15.05	58	18809	1.344	ng		93
54) trans-1,3-Dichloropropene	15.53	75	13588	0.717	ng		98
55) 1,1,2-Trichloroethane	15.70	97	9550	0.757	ng		99
58) Toluene	15.99	91	40499	0.932	ng		99
59) 2-Hexanone	16.24	43	43140	1.493	ng		95
60) Dibromochloromethane	16.40	129	11460	1.007	ng		100
61) 1,2-Dibromoethane	16.66	107	11289	0.970	ng		97
62) n-Butyl Acetate	16.87	43	47343	1.527	ng		96
63) n-Octane	17.00	57	9692	0.869	ng		98
64) Tetrachloroethene	17.14	166	11218	1.035	ng		96
65) Chlorobenzene	17.79	112	26574	0.953	ng		100
66) Ethylbenzene	18.14	91	46805	0.925	ng		98
67) m- & p-Xylenes	18.30	91	74069	1.847	ng		97
68) Bromoform	18.37	173	9779	0.993	ng		99
69) Styrene	18.63	104	25475	0.872	ng		98
70) o-Xylene	18.72	91	36751	0.908	ng		99
71) n-Nonane	18.92	43	20646	0.803	ng		96
72) 1,1,2,2-Tetrachloroethane	18.70	83	17608	0.907	ng		100
74) Cumene	19.25	105	46704	0.940	ng		99
75) alpha-Pinene	19.59	93	21499	0.931	ng		95
76) n-Propylbenzene	19.69	91	57306	0.932	ng		99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.82	105	45218	0.927	ng		99
79) 1,3,5-Trimethylbenzene	19.89	105	37448	0.925	ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.24	105	37748	0.899	ng		98
83) n-Decane	0.00	58	0	N.D.	d		
84) Benzyl Chloride	20.36	91	41541	1.472	ng		97
85) 1,3-Dichlorobenzene	20.38	146	19678	0.893	ng		98
86) 1,4-Dichlorobenzene	20.44	146	19728	0.907	ng		100
87) sec-Butylbenzene	20.48	105	51664	0.921	ng		99
88) 4-Isopropyltoluene (p-...	20.62	119	41123	0.900	ng		98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.74	146	19943	0.947	ng		98
91) d-Limonene	20.74	68	12846	0.743	ng		99
92) 1,2-Dibromo-3-Chloropr...	21.12	157	14776	1.789	ng	#	82
93) n-Undecane	0.00	57	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.25	180	26583	1.677	ng		100
95) Naphthalene	22.36	128	33081	0.760	ng		99
96) n-Dodecane	0.00	57	0	N.D.			
97) Hexachlorobutadiene	22.67	225	11278	1.001	ng		98
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	20.24	119	35662	0.921	ng		99
100) n-Butylbenzene	20.98	91	40332	0.889	ng		98
101) 1,1,1,2-Tetrachloroethane	17.77	131	9925	0.986	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132217.D Vial: 14
Acq On : 13 Jan 2022 13:51 Operator: WA
Sample : 1.0ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12152102

Quant Time: Jan 14 21:03:30 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132218.D Vial: 15
Acq On : 13 Jan 2022 14:25 Operator: WA
Sample : 5.0ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12212107

Quant Time: Jan 14 21:04:50 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/14/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.33	130	137476	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.45	114	637823	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	145019	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.18	65	290555	11.492	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
57) Toluene-d8 (SS2)	15.90	98	774074	15.215	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 121.68%				
73) Bromofluorobenzene (SS3)	19.12	174	229792	14.243	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.92%				
Target Compounds							Qvalue
2) Propene	4.23	42	57611	3.530	ng		99
3) Dichlorodifluoromethan...	4.39	85	116693	4.303	ng		100
4) Chloromethane	4.67	50	77817	3.858	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.95	135	53405	4.689	ng		100
6) Vinyl Chloride	5.10	62	81021	3.879	ng		100
7) 1,3-Butadiene	5.37	54	68202	4.185	ng		98
8) Bromomethane	5.81	94	44345	4.328	ng		99
9) Chloroethane	6.15	64	38384	4.060	ng		99
10) Ethanol	6.51	45	150938	12.755	ng		100
11) Acetonitrile	6.78	41	91855	3.107	ng		100
12) Acrolein	6.97	56	75320	7.619	ng		99
13) Acetone	7.18	58	222687	19.472	ng		90
14) Trichlorofluoromethane	7.43	101	105183	4.331	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	312465	7.643	ng		98
16) Acrylonitrile	7.94	53	154662	7.960	ng		99
17) 1,1-Dichloroethene	8.39	96	52422	4.500	ng		99
18) 2-Methyl-2-Propanol (t...	8.54	59	334708	9.887	ng		98
19) Methylene Chloride	8.62	84	56471	4.205	ng		97
20) 3-Chloro-1-propene (Al...	8.78	41	82669	3.733	ng		99
21) Trichlorotrifluoroethane	9.04	151	45573	4.804	ng		98
22) Carbon Disulfide	8.88	76	399683	8.175	ng		100
23) trans-1,2-Dichloroethene	9.89	61	88313	4.243	ng		99
24) 1,1-Dichloroethane	10.14	63	107777	4.211	ng		100
25) Methyl tert-Butyl Ether	10.24	73	175815	4.741	ng		100
26) Vinyl Acetate	10.39	86	41432	15.053	ng	#	89
27) 2-Butanone (MEK)	10.64	72	75655	8.587	ng		96
28) cis-1,2-Dichloroethene	11.15	61	86921	4.086	ng		100
29) Diisopropyl Ether	11.45	87	109871	9.050	ng		96
30) Ethyl Acetate	11.45	61	100097	16.563	ng		98
31) n-Hexane	11.44	57	107814	3.942	ng		99
32) Chloroform	11.50	83	105882	4.385	ng		99
34) Tetrahydrofuran (THF)	11.90	72	68975	7.919	ng		99
35) Ethyl tert-Butyl Ether	12.04	87	140719	8.634	ng		96
36) 1,2-Dichloroethane	12.30	62	92670	4.219	ng		99
38) 1,1,1-Trichloroethane	12.58	97	94492	4.318	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.06	78	223744	4.179	ng		100
42) Carbon Tetrachloride	13.22	117	82629	4.523	ng		99
43) Cyclohexane	13.35	84	175383	8.359	ng		98
44) tert-Amyl Methyl Ether	13.69	73	326764	8.225	ng		97
45) 1,2-Dichloropropane	13.90	63	61343	4.059	ng		100
46) Bromodichloromethane	14.10	83	86648	4.350	ng		99
47) Trichloroethene	14.15	130	58239	4.414	ng		100
48) 1,4-Dioxane	14.12	88	46700	4.425	ng		98
49) 2,2,4-Trimethylpentane...	14.22	57	267688	4.009	ng		98
50) Methyl Methacrylate	14.35	100	46599	9.064	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132218.D Vial: 15
Acq On : 13 Jan 2022 14:25 Operator: WA
Sample : 5.0ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12212107

Quant Time: Jan 14 21:04:50 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

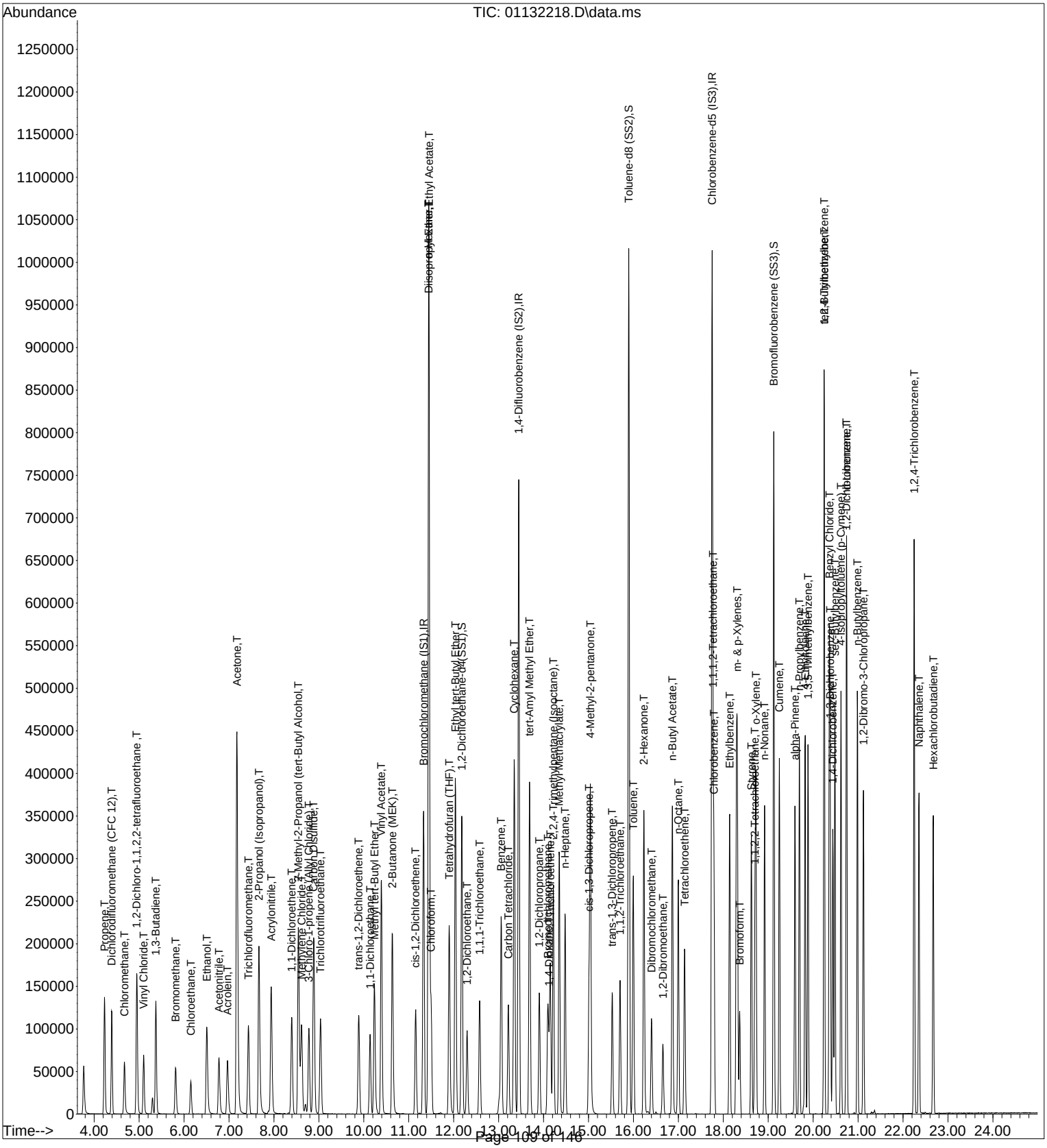
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.48	71	59188	4.238 ng	99
52) cis-1,3-Dichloropropene	15.01	75	95665	4.403 ng	100
53) 4-Methyl-2-pentanone	15.04	58	117941	8.248 ng	95
54) trans-1,3-Dichloropropene	15.53	75	87829	4.539 ng	99
55) 1,1,2-Trichloroethane	15.70	97	55792	4.328 ng	99
58) Toluene	16.00	91	234596	5.246 ng	99
59) 2-Hexanone	16.23	43	280807	9.443 ng	97
60) Dibromochloromethane	16.40	129	68934	5.885 ng	99
61) 1,2-Dibromoethane	16.66	107	67086	5.603 ng	99
62) n-Butyl Acetate	16.87	43	306153	9.599 ng	97
63) n-Octane	17.00	57	56713	4.943 ng	99
64) Tetrachloroethene	17.14	166	64180	5.755 ng	99
65) Chlorobenzene	17.79	112	152573	5.318 ng	100
66) Ethylbenzene	18.14	91	273340	5.249 ng	99
67) m- & p-Xylenes	18.31	91	433346	10.501 ng	99
68) Bromoform	18.37	173	61439	6.065 ng	99
69) Styrene	18.63	104	166726	5.546 ng	99
70) o-Xylene	18.72	91	220301	5.287 ng	98
71) n-Nonane	18.92	43	124340	4.701 ng	97
72) 1,1,2,2-Tetrachloroethane	18.70	83	106543	5.336 ng	99
74) Cumene	19.25	105	276390	5.403 ng	99
75) alpha-Pinene	19.59	93	135284	5.695 ng	97
76) n-Propylbenzene	19.69	91	343674	5.432 ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.82	105	280652	5.589 ng	100
79) 1,3,5-Trimethylbenzene	19.89	105	230678	5.539 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.24	105	237809	5.504 ng	99
83) n-Decane	0.00	58	0	N.D. d	
84) Benzyl Chloride	20.36	91	348688	12.009 ng	98
85) 1,3-Dichlorobenzene	20.38	146	128137	5.654 ng	99
86) 1,4-Dichlorobenzene	20.44	146	127816	5.708 ng	100
87) sec-Butylbenzene	20.48	105	315796	5.474 ng	99
88) 4-Isopropyltoluene (p-...	20.62	119	262897	5.594 ng	98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.74	146	124526	5.746 ng	100
91) d-Limonene	20.74	68	88816	4.993 ng	98
92) 1,2-Dibromo-3-Chloropr...	21.12	157	99881	11.754 ng	91
93) n-Undecane	0.00	57	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.25	180	206168	12.642 ng	99
95) Naphthalene	22.36	128	293619	6.558 ng	99
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	22.67	225	70871	6.113 ng	99
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	20.24	119	221330	5.556 ng	100
100) n-Butylbenzene	20.98	91	260468	5.578 ng	99
101) 1,1,1,2-Tetrachloroethane	17.77	131	58922	5.691 ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132218.D Vial: 15
Acq On : 13 Jan 2022 14:25 Operator: WA
Sample : 5.0ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12212107

Quant Time: Jan 14 21:04:50 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132219.D Vial: 15
Acq On : 13 Jan 2022 14:59 Operator: WA
Sample : 25ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12212107

Quant Time: Jan 14 21:08:11 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 14 05:11:00 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

JMM 1/24/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	147398	12.500	ng	0.02
37) 1,4-Difluorobenzene (IS2)	13.45	114	680208	12.500	ng	0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	152508	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.19	65	307441	12.678	ng	0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%			
57) Toluene-d8 (SS2)	15.90	98	819316	12.319	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%			
73) Bromofluorobenzene (SS3)	19.12	174	250376	12.612	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%			
Target Compounds						Qvalue
2) Propene	4.22	42	282710	23.406	ng	100
3) Dichlorodifluoromethan...	4.38	85	565414	24.752	ng	100
4) Chloromethane	4.67	50	378659	24.935	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.95	135	260050	25.275	ng	100
6) Vinyl Chloride	5.10	62	418955	25.587	ng	100
7) 1,3-Butadiene	5.38	54	348794	26.371	ng	100
8) Bromomethane	5.82	94	218347	25.236	ng	100
9) Chloroethane	6.16	64	189703	25.335	ng	100
10) Ethanol	6.54	45	763221	84.610	ng	100
11) Acetonitrile	6.80	41	466885	23.867	ng	100
12) Acrolein	6.98	56	387919	52.164	ng	100
13) Acetone	7.19	58	1138817	114.269	ng	100
14) Trichlorofluoromethane	7.44	101	515157	24.733	ng	100
15) 2-Propanol (Isopropanol)	7.69	45	1549692	47.861	ng	100
16) Acrylonitrile	7.96	53	789077	52.496	ng	100
17) 1,1-Dichloroethene	8.41	96	262100	26.292	ng	100
18) 2-Methyl-2-Propanol (t...	8.57	59	1624880	57.746	ng	100
19) Methylene Chloride	8.63	84	283226	24.736	ng	100
20) 3-Chloro-1-propene (Al...	8.79	41	425749	27.167	ng	100
21) Trichlorotrifluoroethane	9.04	151	230627	26.641	ng	100
22) Carbon Disulfide	8.90	76	2023886	49.416	ng	100
23) trans-1,2-Dichloroethene	9.90	61	449199	26.582	ng	100
24) 1,1-Dichloroethane	10.15	63	531774	25.537	ng	100
25) Methyl tert-Butyl Ether	10.24	73	833964	27.046	ng	100
26) Vinyl Acetate	10.40	86	221798	94.745	ng	100
27) 2-Butanone (MEK)	10.64	72	398357	46.522	ng	100
28) cis-1,2-Dichloroethene	11.17	61	434925	25.803	ng	100
29) Diisopropyl Ether	11.45	87	551055	53.134	ng	100
30) Ethyl Acetate	11.46	61	544583	111.479	ng	100
31) n-Hexane	11.45	57	570232	27.397	ng	100
32) Chloroform	11.51	83	528899	26.318	ng	100
34) Tetrahydrofuran (THF)	11.91	72	352626	47.530	ng	100
35) Ethyl tert-Butyl Ether	12.04	87	743983	53.260	ng	100
36) 1,2-Dichloroethane	12.30	62	459483	25.910	ng	100
38) 1,1,1-Trichloroethane	12.58	97	476029	25.756	ng	100
39) Isopropyl Acetate	13.06	61	7684	No Calib	#	
40) 1-Butanol	13.03	56	12575	No Calib		
41) Benzene	13.06	78	1127398	24.681	ng	100
42) Carbon Tetrachloride	13.22	117	415279	25.867	ng	100
43) Cyclohexane	13.35	84	904938	51.474	ng	100
44) tert-Amyl Methyl Ether	13.69	73	1745650	53.758	ng	100
45) 1,2-Dichloropropane	13.91	63	307356	25.455	ng	100
46) Bromodichloromethane	14.10	83	443194	26.619	ng	100
47) Trichloroethene	14.15	130	296800	25.167	ng	100
48) 1,4-Dioxane	14.12	88	238842	26.752	ng	100
49) 2,2,4-Trimethylpentane...	14.22	57	1324489	25.617	ng	100
50) Methyl Methacrylate	14.35	100	246797	57.203	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132219.D Vial: 15
Acq On : 13 Jan 2022 14:59 Operator: WA
Sample : 25ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12212107

Quant Time: Jan 14 21:08:11 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 14 05:11:00 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

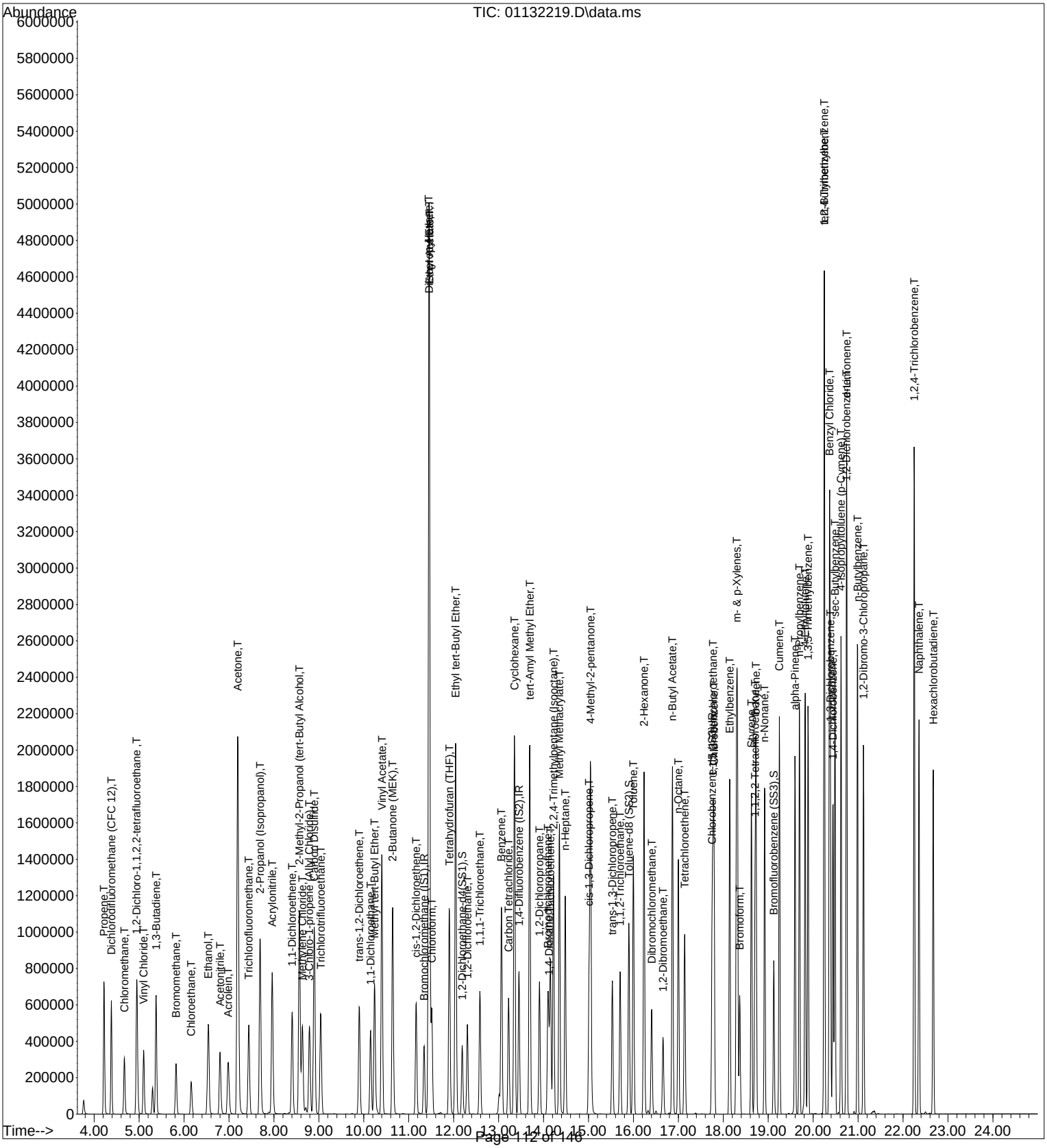
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.48	71	303357	26.035 ng		100
52) cis-1,3-Dichloropropene	15.01	75	498956	27.514 ng		100
53) 4-Methyl-2-pentanone	15.05	58	610953	55.739 ng		100
54) trans-1,3-Dichloropropene	15.53	75	467499	28.526 ng		100
55) 1,1,2-Trichloroethane	15.70	97	282470	25.986 ng		100
58) Toluene	16.00	91	1181259	24.245 ng		100
59) 2-Hexanone	16.24	43	1423029	54.962 ng		100
60) Dibromochloromethane	16.41	129	359398	27.051 ng		100
61) 1,2-Dibromoethane	16.66	107	340761	25.868 ng		100
62) n-Butyl Acetate	16.87	43	1563851	54.937 ng		100
63) n-Octane	17.00	57	289942	25.896 ng		100
64) Tetrachloroethene	17.14	166	330455	25.044 ng		100
65) Chlorobenzene	17.79	112	784724	25.000 ng		100
66) Ethylbenzene	18.14	91	1405540	24.871 ng		100
67) m- & p-Xylenes	18.30	91	2270906	50.705 ng		100
68) Bromoform	18.37	173	333669	27.892 ng		100
69) Styrene	18.63	104	894053	27.459 ng		100
70) o-Xylene	18.73	91	1140715	25.518 ng		100
71) n-Nonane	18.92	43	627963	25.653 ng		100
72) 1,1,2,2-Tetrachloroethane	18.71	83	552302	26.047 ng		100
74) Cumene	19.25	105	1449510	25.049 ng		100
75) alpha-Pinene	19.59	93	748631	27.771 ng		100
76) n-Propylbenzene	19.69	91	1793041	25.928 ng		100
77) 3-Ethyltoluene	19.89	105	1215251	No Calib		
78) 4-Ethyltoluene	19.82	105	1492092	26.773 ng		100
79) 1,3,5-Trimethylbenzene	19.89	105	1215251	25.828 ng		100
80) alpha-Methylstyrene	19.89	118	8348	No Calib		
81) 2-Ethyltoluene	19.89	105	1215251	No Calib		
82) 1,2,4-Trimethylbenzene	20.25	105	1312547	27.057 ng		100
83) n-Decane	20.25	58	60548	No Calib	#	
84) Benzyl Chloride	20.36	91	2161661	60.593 ng		100
85) 1,3-Dichlorobenzene	20.39	146	705297	27.159 ng		100
86) 1,4-Dichlorobenzene	20.44	146	685572	26.884 ng		100
87) sec-Butylbenzene	20.48	105	1670719	25.784 ng		100
88) 4-Isopropyltoluene (p-...	20.62	119	1406113	26.180 ng		100
89) 1,2,3-Trimethylbenzene	20.62	105	55063	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	688260	27.283 ng		100
91) d-Limonene	20.74	68	488099	28.721 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.12	157	553416	55.278 ng		100
93) n-Undecane	21.43	57	507	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	1187220	60.688 ng		100
95) Naphthalene	22.36	128	1655035	29.015 ng		100
96) n-Dodecane	22.34	57	1156	No Calib		
97) Hexachlorobutadiene	22.67	225	387822	26.273 ng		100
98) Cyclohexanone	18.30	55	1873	No Calib		
99) tert-Butylbenzene	20.25	119	1222659	26.516 ng		100
100) n-Butylbenzene	20.99	91	1375394	26.735 ng		100
101) 1,1,1,2-Tetrachloroethane	17.77	131	302516	25.621 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132219.D Vial: 15
Acq On : 13 Jan 2022 14:59 Operator: WA
Sample : 25ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12212107

Quant Time: Jan 14 21:08:11 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 14 05:11:00 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132220.D Vial: 15
Acq On : 13 Jan 2022 15:32 Operator: WA
Sample : 50ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12212107

Quant Time: Jan 14 21:09:59 2022
Quant Method : I:\MS13\METHODS\R13011322.M 1/14/22
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.35	130	157282	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.45	114	728289	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	158929	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.20	65	318687	11.018	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.16%				
57) Toluene-d8 (SS2)	15.90	98	870457	15.612	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 124.88%				
73) Bromofluorobenzene (SS3)	19.13	174	267468	15.128	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 121.04%				
Target Compounds							Qvalue
2) Propene	4.23	42	633927	33.948	ng		98
3) Dichlorodifluoromethan...	4.39	85	1182004	38.097	ng		100
4) Chloromethane	4.68	50	723496	31.351	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.96	135	554713	42.568	ng		100
6) Vinyl Chloride	5.11	62	892814	37.362	ng		100
7) 1,3-Butadiene	5.39	54	763178	40.935	ng		98
8) Bromomethane	5.84	94	475075	40.525	ng		100
9) Chloroethane	6.18	64	408618	37.777	ng		99
10) Ethanol	6.57	45	1657892	122.455	ng		100
11) Acetonitrile	6.82	41	1018157	30.105	ng		98
12) Acrolein	6.99	56	839318	74.205	ng		99
13) Acetone	7.22	58	2419898	184.954	ng		89
14) Trichlorofluoromethane	7.45	101	1086392	39.102	ng		100
15) 2-Propanol (Isopropanol)	7.72	45	3176333	67.912	ng		98
16) Acrylonitrile	7.99	53	1695400	76.272	ng		100
17) 1,1-Dichloroethene	8.42	96	564725	42.368	ng		97
18) 2-Methyl-2-Propanol (t...	8.58	59	2769792	71.516	ng		99
19) Methylene Chloride	8.65	84	600501	39.081	ng		96
20) 3-Chloro-1-propene (Al...	8.80	41	899309	35.495	ng		98
21) Trichlorotrifluoroethane	9.05	151	488937	45.051	ng		99
22) Carbon Disulfide	8.91	76	4272751	76.385	ng		100
23) trans-1,2-Dichloroethene	9.91	61	939216	39.440	ng		99
24) 1,1-Dichloroethane	10.16	63	1103730	37.690	ng		100
25) Methyl tert-Butyl Ether	10.24	73	1402665	33.062	ng		99
26) Vinyl Acetate	10.41	86	483747	153.622	ng	#	86
27) 2-Butanone (MEK)	10.65	72	853428	84.668	ng		92
28) cis-1,2-Dichloroethene	11.17	61	908877	37.347	ng		99
29) Diisopropyl Ether	11.46	87	1167805	84.080	ng	#	81
30) Ethyl Acetate	11.47	61	1118162	161.719	ng		96
31) n-Hexane	11.45	57	1173649	37.509	ng		100
32) Chloroform	11.53	83	1099636	39.804	ng		100
34) Tetrahydrofuran (THF)	11.91	72	757866	76.050	ng		97
35) Ethyl tert-Butyl Ether	12.05	87	1623482	87.072	ng		95
36) 1,2-Dichloroethane	12.31	62	950136	37.814	ng		100
38) 1,1,1-Trichloroethane	12.59	97	990385	39.639	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.07	78	2400680	39.265	ng		100
42) Carbon Tetrachloride	13.23	117	885451	42.443	ng		100
43) Cyclohexane	13.36	84	1922201	80.232	ng		98
44) tert-Amyl Methyl Ether	13.69	73	3762611	82.944	ng		98
45) 1,2-Dichloropropane	13.92	63	647460	37.516	ng		100
46) Bromodichloromethane	14.10	83	933247	41.032	ng		100
47) Trichloroethene	14.16	130	641290	42.568	ng		100
48) 1,4-Dioxane	14.13	88	514962	42.732	ng		98
49) 2,2,4-Trimethylpentane...	14.22	57	2775848	36.406	ng		97
50) Methyl Methacrylate	14.36	100	539869	91.966	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132220.D Vial: 15
Acq On : 13 Jan 2022 15:32 Operator: WA
Sample : 50ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12212107

Quant Time: Jan 14 21:09:59 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

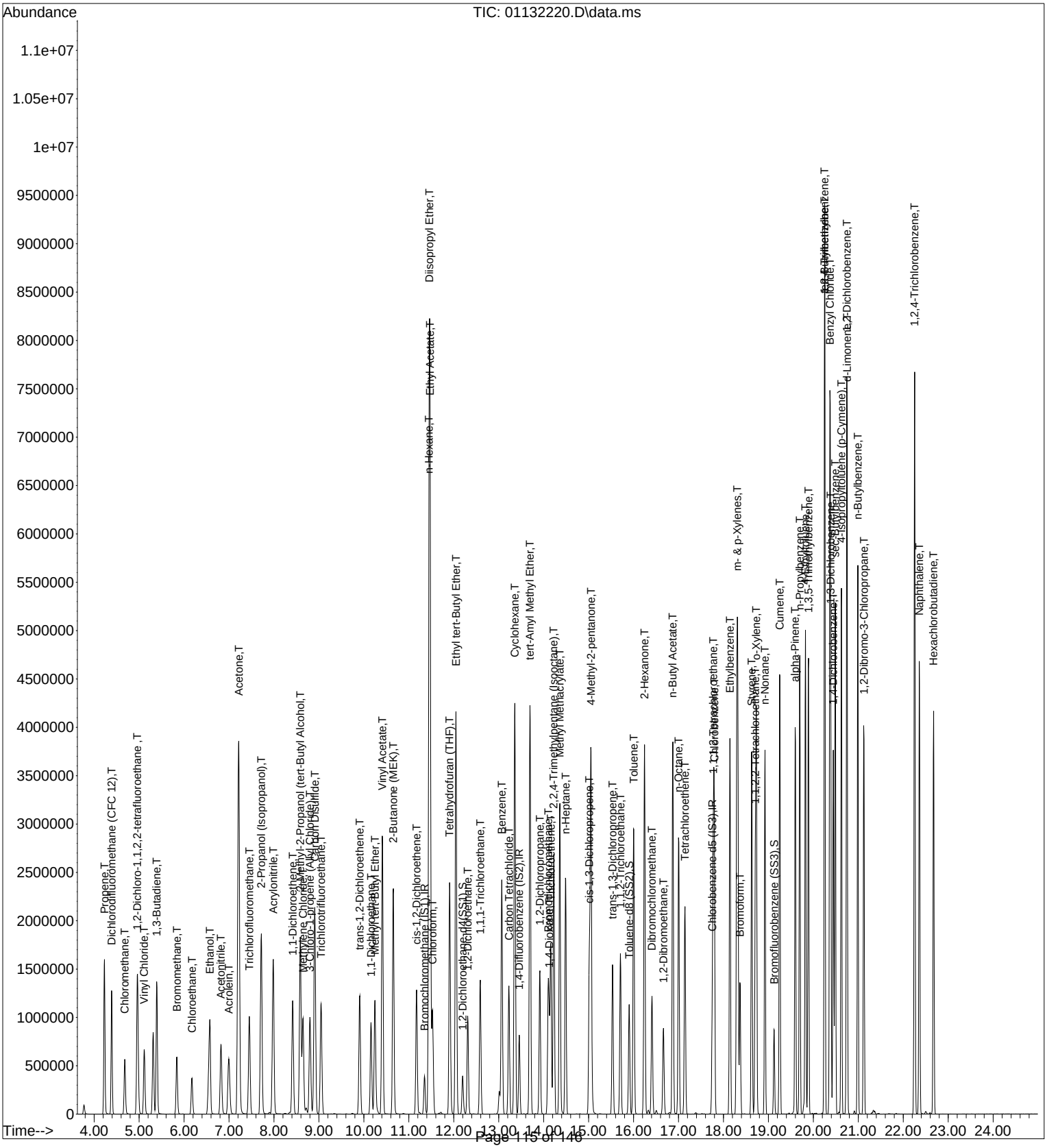
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.49	71	648437	40.658	ng		99
52) cis-1,3-Dichloropropene	15.01	75	1067261	43.018	ng		100
53) 4-Methyl-2-pentanone	15.05	58	1278258	78.286	ng		95
54) trans-1,3-Dichloropropene	15.53	75	998542	45.194	ng		100
55) 1,1,2-Trichloroethane	15.71	97	597845	40.618	ng		100
58) Toluene	16.00	91	2518367	51.385	ng		100
59) 2-Hexanone	16.24	43	2897732	88.914	ng		97
60) Dibromochloromethane	16.41	129	771070	60.064	ng		100
61) 1,2-Dibromoethane	16.66	107	727773	55.461	ng		100
62) n-Butyl Acetate	16.87	43	3191913	91.316	ng		98
63) n-Octane	17.00	57	608460	48.392	ng		98
64) Tetrachloroethene	17.14	166	717567	58.709	ng		100
65) Chlorobenzene	17.80	112	1698982	54.034	ng		100
66) Ethylbenzene	18.14	91	2997529	52.526	ng		99
67) m- & p-Xylenes	18.31	91	4838475	106.985	ng		98
68) Bromoform	18.37	173	720126	64.865	ng		100
69) Styrene	18.63	104	1932634	58.658	ng		99
70) o-Xylene	18.73	91	2420446	53.006	ng		99
71) n-Nonane	18.92	43	1291598	44.561	ng		97
72) 1,1,2,2-Tetrachloroethane	18.71	83	1167518	53.353	ng		100
74) Cumene	19.25	105	3134709	55.920	ng		100
75) alpha-Pinene	19.59	93	1632902	62.727	ng		98
76) n-Propylbenzene	19.70	91	3807348	54.913	ng		99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.82	105	3224699	58.600	ng		99
79) 1,3,5-Trimethylbenzene	19.89	105	2646147	57.975	ng		100
80) alpha-Methylstyrene	19.89	118	18191	No Calib		#	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.25	105	2821471	59.582	ng		99
83) n-Decane	0.00	58	0	N.D.	d		
84) Benzyl Chloride	20.37	91	4777437	150.133	ng		98
85) 1,3-Dichlorobenzene	20.39	146	1563720	62.957	ng		100
86) 1,4-Dichlorobenzene	20.44	146	1526246	62.196	ng		100
87) sec-Butylbenzene	20.49	105	3589685	56.777	ng		99
88) 4-Isopropyltoluene (p-...	20.63	119	3073571	59.674	ng		99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.74	146	1527786	64.330	ng		100
91) d-Limonene	20.75	68	1025211	52.590	ng		97
92) 1,2-Dibromo-3-Chloropr...	21.13	157	1215738	130.550	ng		92
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.25	180	2646580	148.082	ng		100
95) Naphthalene	22.36	128	3680256	75.002	ng		100
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	22.67	225	863354	67.955	ng		100
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.25	119	2639646	60.461	ng		100
100) n-Butylbenzene	20.99	91	2927480	57.201	ng		99
101) 1,1,1,2-Tetrachloroethane	17.77	131	651805	57.443	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132220.D Vial: 15
Acq On : 13 Jan 2022 15:32 Operator: WA
Sample : 50ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12212107

Quant Time: Jan 14 21:09:59 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132221.D Vial: 15
Acq On : 13 Jan 2022 16:06 Operator: WA
Sample : 100ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12212107

1/14/22

Quant Time: Jan 14 21:11:58 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.36	130	167087	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.46	114	774825	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	162166	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.21	65	325123	10.581	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.64%				
57) Toluene-d8 (SS2)	15.91	98	920653	16.183	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 129.44%				
73) Bromofluorobenzene (SS3)	19.13	174	287223	15.921	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 127.36%				
Target Compounds							Qvalue
2) Propene	4.24	42	1381683	69.650	ng		96
3) Dichlorodifluoromethan...	4.40	85	2434906	73.874	ng		100
4) Chloromethane	4.69	50	1100669	44.896	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.97	135	1195747	86.376	ng		100
6) Vinyl Chloride	5.13	62	1903952	75.001	ng		100
7) 1,3-Butadiene	5.41	54	1623492	81.970	ng		95
8) Bromomethane	5.86	94	1021686	82.038	ng		100
9) Chloroethane	6.19	64	872733	75.951	ng		99
10) Ethanol	6.62	45	3509463	244.005	ng		99
11) Acetonitrile	6.86	41	2161135	60.151	ng		98
12) Acrolein	7.02	56	1779564	148.101	ng		99
13) Acetone	7.25	58	5007469	360.264	ng	#	77
14) Trichlorofluoromethane	7.46	101	2283942	77.380	ng		100
15) 2-Propanol (Isopropanol)	7.76	45	6273512	126.260	ng		97
16) Acrylonitrile	8.01	53	3577042	151.479	ng		99
17) 1,1-Dichloroethene	8.43	96	1211067	85.528	ng		93
18) 2-Methyl-2-Propanol (t...	8.61	59	3785560	92.007	ng		99
19) Methylene Chloride	8.66	84	1286244	78.798	ng		92
20) 3-Chloro-1-propene (Al...	8.81	41	1877352	69.749	ng		97
21) Trichlorotrifluoroethane	9.06	151	1053678	91.390	ng		97
22) Carbon Disulfide	8.92	76	8903069	149.823	ng		99
23) trans-1,2-Dichloroethene	9.91	61	1955147	77.283	ng		96
24) 1,1-Dichloroethane	10.17	63	2285517	73.466	ng		100
25) Methyl tert-Butyl Ether	10.26	73	1997129	44.312	ng		99
26) Vinyl Acetate	10.43	86	1049935	313.858	ng	#	65
27) 2-Butanone (MEK)	10.67	72	1834427	171.313	ng	#	82
28) cis-1,2-Dichloroethene	11.18	61	1868829	72.286	ng		96
29) Diisopropyl Ether	11.46	87	2249364	152.447	ng	#	65
30) Ethyl Acetate	11.50	61	2076325	282.675	ng		92
31) n-Hexane	11.45	57	2201142	66.219	ng		99
32) Chloroform	11.54	83	2271027	77.382	ng		100
34) Tetrahydrofuran (THF)	11.92	72	1624050	153.406	ng		94
35) Ethyl tert-Butyl Ether	12.06	87	3475516	175.464	ng	#	86
36) 1,2-Dichloroethane	12.32	62	1949967	73.051	ng		99
38) 1,1,1-Trichloroethane	12.60	97	2051920	77.193	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.07	78	5093467	78.304	ng		99
42) Carbon Tetrachloride	13.23	117	1851138	83.403	ng		100
43) Cyclohexane	13.36	84	4001431	156.987	ng		95
44) tert-Amyl Methyl Ether	13.70	73	7794449	161.503	ng		95
45) 1,2-Dichloropropane	13.92	63	1366137	74.404	ng		100
46) Bromodichloromethane	14.10	83	1971570	81.477	ng		100
47) Trichloroethene	14.17	130	1415662	88.327	ng		100
48) 1,4-Dioxane	14.13	88	1119417	87.310	ng		95
49) 2,2,4-Trimethylpentane...	14.23	57	5738227	70.738	ng		94
50) Methyl Methacrylate	14.36	100	1195048	191.348	ng		90

Data File : I:\MS13\DATA\2022 01\13\01132221.D Vial: 15
Acq On : 13 Jan 2022 16:06 Operator: WA
Sample : 100ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12212107

Quant Time: Jan 14 21:11:58 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

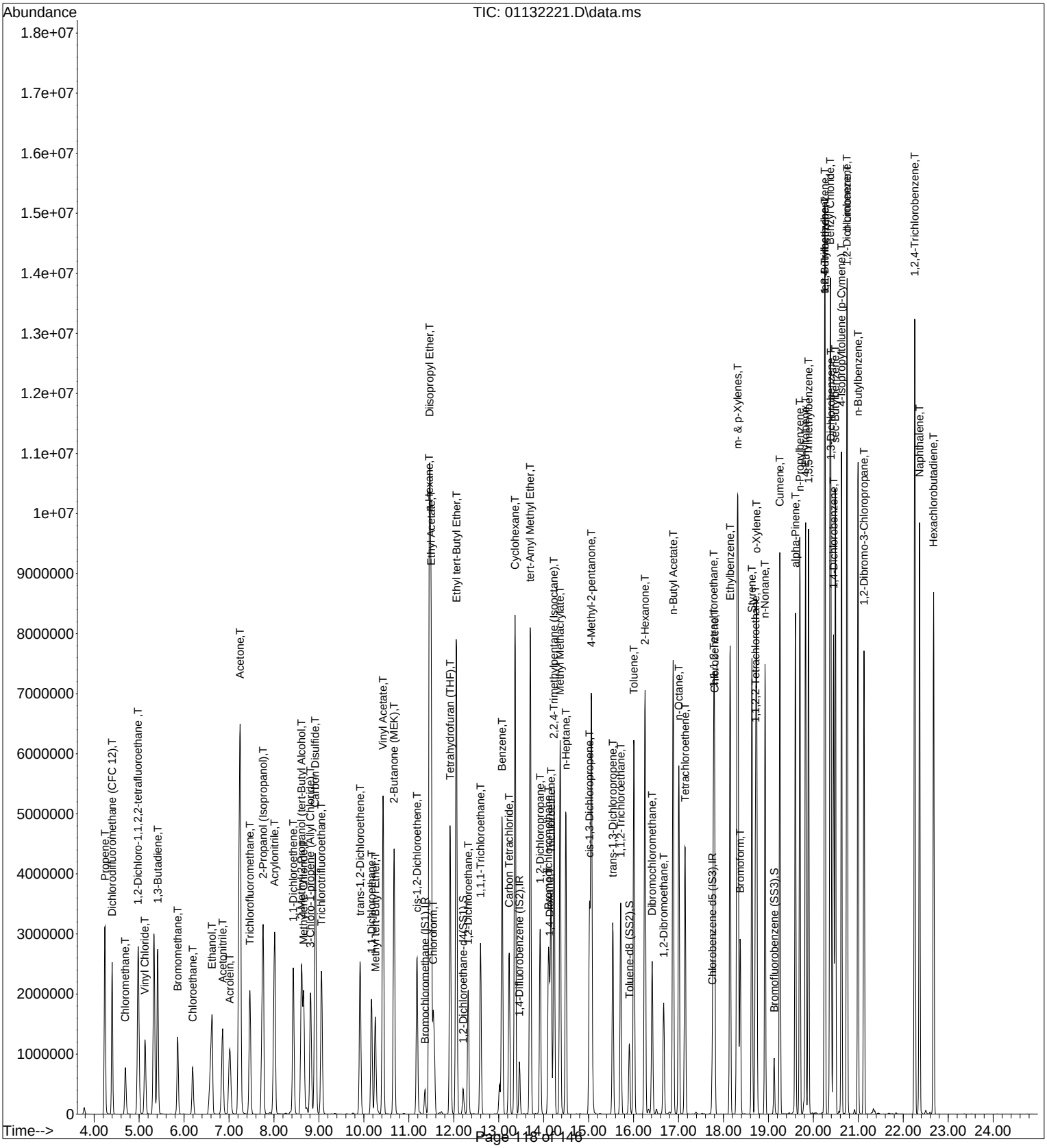
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.50	71	1404203	82.758	ng	97
52) cis-1,3-Dichloropropene	15.02	75	2279322	86.355	ng	99
53) 4-Methyl-2-pentanone	15.06	58	2646045	152.321	ng	89
54) trans-1,3-Dichloropropene	15.54	75	2141143	91.087	ng	100
55) 1,1,2-Trichloroethane	15.71	97	1293640	82.612	ng	99
58) Toluene	16.00	91	5418584	108.355	ng	99
59) 2-Hexanone	16.25	43	5681716	170.858	ng	93
60) Dibromochloromethane	16.41	129	1669904	127.483	ng	99
61) 1,2-Dibromoethane	16.67	107	1559770	116.492	ng	100
62) n-Butyl Acetate	16.88	43	6305702	176.795	ng	94
63) n-Octane	17.01	57	1279114	99.700	ng	94
64) Tetrachloroethene	17.15	166	1602926	128.528	ng	100
65) Chlorobenzene	17.80	112	3719342	115.927	ng	100
66) Ethylbenzene	18.15	91	6363204	109.278	ng	97
67) m- & p-Xylenes	18.31	91	10064801	218.105	ng	96
68) Bromoform	18.37	173	1578917	139.381	ng	99
69) Styrene	18.63	104	4224457	125.659	ng	98
70) o-Xylene	18.74	91	5129426	110.088	ng	96
71) n-Nonane	18.92	43	2596571	87.794	ng	93
72) 1,1,2,2-Tetrachloroethane	18.71	83	2464859	110.390	ng	100
74) Cumene	19.25	105	6632907	115.963	ng	98
75) alpha-Pinene	19.60	93	3524426	132.687	ng	95
76) n-Propylbenzene	19.70	91	7848314	110.935	ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.83	105	6788152	120.893	ng	97
79) 1,3,5-Trimethylbenzene	19.89	105	5633135	120.954	ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.26	105	5353899	110.803	ng	98
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.37	91	9134625	281.329	ng	94
85) 1,3-Dichlorobenzene	20.39	146	3284188	129.585	ng	100
86) 1,4-Dichlorobenzene	20.45	146	3393283	135.520	ng	100
87) sec-Butylbenzene	20.49	105	7504159	116.322	ng	98
88) 4-Isopropyltoluene (p-...	20.63	119	6456360	122.848	ng	97
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.74	146	3193581	131.787	ng	100
91) d-Limonene	20.75	68	1970882	99.081	ng	94
92) 1,2-Dibromo-3-Chloropr...	21.13	157	2649791	278.863	ng	82
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.26	180	5425428	297.505	ng	99
95) Naphthalene	22.36	128	8010408	159.991	ng	99
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.67	225	1916093	147.806	ng	99
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.26	119	5028622	112.882	ng	99
100) n-Butylbenzene	21.00	91	6053312	115.917	ng	97
101) 1,1,1,2-Tetrachloroethane	17.78	131	1402799	121.160	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132221.D Vial: 15
Acq On : 13 Jan 2022 16:06 Operator: WA
Sample : 100ng R13011322 ICAL Std Inst : GCMS13
Misc : S35-10202101/S35-12212107

Quant Time: Jan 14 21:11:58 2022
Quant Method : I:\MS13\METHODS\R13011322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 13 17:25:25 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



QC Check for relative retention times for TO15 Initial Calibration

(the relative retention time (RRT) for each target analye at each calibration level must be within 0.06RRT units of the mean RRT for the compound.)

VOA 1/17/22

Method Name: R13011322.M Method Date: 1/13/2022

Instrument Name: EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

	relative retention times for the calibration standards									RRT
	0.1ng	0.2ng	0.5ng	1.0ng	5.0ng	25ng	50ng	100ng	Average	Check
Propene	0.377	0.377	0.376	0.376	0.373	0.372	0.373	0.373	0.375	pass
Dichlorodifluoromethane	0.391	0.390	0.390	0.389	0.387	0.386	0.387	0.387	0.389	pass
Chloromethane	0.417	0.416	0.414	0.415	0.412	0.412	0.412	0.413	0.414	pass
Freon 114	0.439	0.439	0.438	0.438	0.437	0.437	0.437	0.438	0.438	pass
Vinyl Chloride	0.455	0.454	0.452	0.452	0.450	0.450	0.450	0.452	0.452	pass
1,3-Butadiene	0.478	0.477	0.475	0.476	0.474	0.474	0.475	0.476	0.476	pass
Bromomethane	0.517	0.516	0.514	0.514	0.513	0.513	0.515	0.516	0.515	pass
Chloroethane	0.546	0.546	0.543	0.544	0.543	0.543	0.544	0.545	0.544	pass
Ethanol	0.575	0.573	0.573	0.573	0.575	0.577	0.579	0.583	0.576	pass
Acetonitrile	0.600	0.599	0.599	0.598	0.598	0.600	0.601	0.604	0.600	pass
Acrolein	0.618	0.617	0.616	0.615	0.615	0.616	0.616	0.618	0.616	pass
Acetone	0.637	0.635	0.634	0.634	0.634	0.634	0.636	0.638	0.635	pass
Trichlorofluoromethane	0.659	0.658	0.657	0.657	0.656	0.656	0.656	0.657	0.657	pass
Isopropanol	0.680	0.678	0.677	0.676	0.677	0.678	0.680	0.683	0.679	pass
Acrylonitrile	0.702	0.701	0.701	0.701	0.701	0.702	0.704	0.705	0.702	pass
1,1-Dichloroethene	0.743	0.742	0.742	0.742	0.741	0.742	0.742	0.742	0.742	pass
tert-Butanol	0.759	0.758	0.755	0.755	0.754	0.756	0.756	0.758	0.756	pass
Methylene Chloride	0.761	0.761	0.760	0.760	0.761	0.761	0.762	0.762	0.761	pass
Allyl Chloride	0.777	0.776	0.776	0.775	0.775	0.775	0.775	0.776	0.775	pass
Trichlorotrifluoroethane	0.799	0.799	0.799	0.798	0.798	0.797	0.797	0.798	0.798	pass
Carbon Disulfide	0.786	0.786	0.784	0.785	0.784	0.785	0.785	0.785	0.785	pass
trans-1,2-Dichloroethene	0.874	0.874	0.872	0.872	0.873	0.873	0.873	0.872	0.873	pass
1,1-Dichloroethane	0.896	0.895	0.894	0.894	0.895	0.895	0.895	0.895	0.895	pass
Methyl tert-Butyl Ether	0.907	0.906	0.905	0.905	0.904	0.903	0.902	0.903	0.904	pass
Vinyl Acetate	0.919	0.918	0.918	0.917	0.917	0.917	0.917	0.918	0.918	pass
2-Butanone	0.941	0.941	0.940	0.939	0.939	0.938	0.938	0.939	0.939	pass
cis-1,2-Dichloroethene	0.985	0.984	0.984	0.983	0.984	0.985	0.984	0.984	0.984	pass
Diisopropyl Ether	1.012	1.011	1.011	1.011	1.011	1.010	1.010	1.009	1.011	pass
Ethyl Acetate	1.013	1.012	1.011	1.011	1.011	1.011	1.011	1.012	1.012	pass
n-Hexane	1.011	1.011	1.011	1.010	1.010	1.010	1.009	1.008	1.010	pass
Chloroform	1.015	1.015	1.015	1.014	1.015	1.015	1.016	1.016	1.015	pass
Tetrahydrofuran	1.054	1.053	1.052	1.051	1.050	1.050	1.049	1.049	1.051	pass
Ethyl tert-Butyl Ether	1.064	1.064	1.064	1.063	1.063	1.062	1.062	1.062	1.063	pass
1,2-Dichloroethane	1.087	1.086	1.086	1.085	1.086	1.085	1.085	1.085	1.085	pass
1,1,1-Trichloroethane	0.936	0.936	0.936	0.935	0.935	0.935	0.936	0.936	0.936	pass
Benzene	0.971	0.972	0.971	0.971	0.971	0.971	0.972	0.971	0.971	pass
Carbon Tetrachloride	0.984	0.983	0.983	0.983	0.983	0.983	0.984	0.983	0.983	pass
Cyclohexane	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	pass
tert-Amyl Methyl Ether	1.019	1.019	1.019	1.018	1.018	1.018	1.018	1.018	1.018	pass
1,2-Dichloropropane	1.034	1.035	1.034	1.033	1.033	1.034	1.035	1.034	1.034	pass
Bromodichloromethane	1.048	1.049	1.048	1.048	1.048	1.048	1.048	1.048	1.048	pass
Trichloroethene	1.053	1.052	1.053	1.052	1.052	1.052	1.053	1.053	1.052	pass
1,4-Dioxane	1.053	1.052	1.051	1.051	1.050	1.050	1.051	1.050	1.051	pass
Isooctane	1.058	1.058	1.058	1.057	1.057	1.057	1.057	1.057	1.058	pass
Methyl Methacrylate	1.069	1.068	1.068	1.067	1.067	1.067	1.068	1.067	1.068	pass
n-Heptane	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	pass
cis-1,3-Dichloropropene	1.117	1.117	1.117	1.116	1.116	1.116	1.116	1.116	1.116	pass

QC Check for relative retention times for TO15 Initial Calibration

(the relative retention time (RRT) for each target analye at each calibration level must be within 0.06RRT units of the mean RRT for the compound.)

Method Name: R13011322.M Method Date: 1/13/2022

Instrument Name: EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

	relative retention times for the calibration standards									RRT
	0.1ng	0.2ng	0.5ng	1.0ng	5.0ng	25ng	50ng	100ng	Average	Check
4-Methyl-2-Pentanone	1.121	1.120	1.120	1.119	1.118	1.119	1.119	1.119	1.119	pass
trans-1,3-Dichloropropene	1.156	1.156	1.156	1.155	1.155	1.155	1.155	1.155	1.155	pass
1,1,2-Trichloroethane	1.169	1.168	1.168	1.167	1.167	1.167	1.168	1.167	1.168	pass
Toluene	0.901	0.901	0.901	0.901	0.901	0.901	0.901	0.901	0.901	pass
2-Hexanone	0.916	0.915	0.915	0.915	0.914	0.915	0.915	0.915	0.915	pass
Dibromochloromethane	0.924	0.925	0.925	0.924	0.924	0.925	0.925	0.925	0.924	pass
1,2-Dibromoethane	0.939	0.939	0.939	0.939	0.939	0.939	0.939	0.939	0.939	pass
Butyl Acetate	0.951	0.950	0.950	0.950	0.950	0.950	0.950	0.951	0.951	pass
n-Octane	0.957	0.957	0.957	0.958	0.958	0.958	0.958	0.958	0.958	pass
Tetrachloroethene	0.966	0.966	0.966	0.966	0.966	0.966	0.966	0.966	0.966	pass
Chlorobenzene	1.002	1.002	1.002	1.002	1.002	1.002	1.003	1.003	1.002	pass
Ethylbenzene	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.023	1.022	pass
m- & p-Xylene	1.031	1.032	1.031	1.031	1.032	1.031	1.032	1.032	1.031	pass
Bromoform	1.035	1.035	1.035	1.035	1.035	1.035	1.035	1.035	1.035	pass
Styrene	1.050	1.050	1.050	1.050	1.050	1.050	1.050	1.050	1.050	pass
o-Xylene	1.055	1.055	1.055	1.055	1.055	1.055	1.055	1.056	1.055	pass
n-Nonane	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	pass
1,1,2,2-Tetrachloroethane	1.054	1.054	1.054	1.054	1.054	1.054	1.054	1.054	1.054	pass
Cumene	1.085	1.085	1.085	1.085	1.085	1.085	1.085	1.085	1.085	pass
alpha-Pinene	1.104	1.104	1.104	1.104	1.104	1.104	1.104	1.104	1.104	pass
n-Propylbenzene	1.110	1.109	1.109	1.109	1.109	1.109	1.110	1.110	1.110	pass
4-Ethyltoluene	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	pass
1,3,5-Trimethylbenzene	1.121	1.121	1.121	1.121	1.121	1.121	1.121	1.121	1.121	pass
1,2,4-Trimethylbenzene	1.140	1.140	1.140	1.140	1.140	1.141	1.141	1.141	1.140	pass
Benzyl Chloride			1.147	1.147	1.147	1.147	1.148	1.148	1.147	pass
1,3-Dichlorobenzene	1.148	1.148	1.148	1.148	1.148	1.149	1.149	1.149	1.148	pass
1,4-Dichlorobenzene	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	1.152	pass
sec-Butylbenzene	1.154	1.154	1.154	1.154	1.154	1.154	1.154	1.154	1.154	pass
p-Isopropyltoluene	1.162	1.162	1.162	1.162	1.162	1.162	1.162	1.162	1.162	pass
1,2-Dichlorobenzene	1.168	1.168	1.168	1.168	1.168	1.168	1.168	1.168	1.168	pass
d-Limonene			1.168	1.168	1.168	1.168	1.169	1.169	1.169	pass
1,2-Dibromo-3-Chloropropan	1.190	1.190	1.190	1.190	1.190	1.190	1.190	1.190	1.190	pass
1,2,4-Trichlorobenzene	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	pass
Naphthalene			1.260	1.260	1.260	1.260	1.260	1.260	1.260	pass
Hexachloro-1,3-butadiene	1.277	1.277	1.277	1.277	1.277	1.277	1.277	1.277	1.277	pass
1,2-Dichloroethane-d4 (SS1)	1.075	1.075	1.075	1.074	1.075	1.075	1.075	1.075	1.075	pass
Toluene-d8 (SS2)	1.183	1.183	1.183	1.182	1.182	1.182	1.182	1.182	1.183	pass
Bromofluorobenzene (SS3)	1.077	1.077	1.077	1.077	1.077	1.077	1.078	1.078	1.077	pass

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132224.D Vial: 1
Acq On : 13 Jan 2022 18:27 Operator: WA
Sample : 25ng R13011322 ICV Std Inst : GCMS13
Misc : S35-10202101/S35-01132201 (2/12)

Quant Time: Jan 24 10:41:37 2022 JMM 1/24/22
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	165237	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.45	114	752991	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	160093	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.19	65	328253	12.075	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
57) Toluene-d8 (SS2)	15.90	98	899200	12.957	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
73) Bromofluorobenzene (SS3)	19.13	174	272242	13.064	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%				
Target Compounds							Qvalue
2) Propene	4.22	42	312462	23.077	ng		99
3) Dichlorodifluoromethan...	4.38	85	621962	24.288	ng		100
4) Chloromethane	4.67	50	419967	24.669	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.95	135	289143	25.069	ng		100
6) Vinyl Chloride	5.10	62	474100	25.829	ng		100
7) 1,3-Butadiene	5.38	54	378566	25.532	ng		99
8) Bromomethane	5.82	94	249946	25.769	ng		100
9) Chloroethane	6.16	64	214551	25.560	ng		100
10) Ethanol	6.55	45	993030	98.202	ng		100
11) Acetonitrile	6.80	41	511827	23.339	ng		97
12) Acrolein	6.98	56	437858	52.523	ng		99
13) Acetone	7.19	58	1218337	109.050	ng		96
14) Trichlorofluoromethane	7.44	101	566896	24.279	ng		100
15) 2-Propanol (Isopropanol)	7.70	45	1708260	47.062	ng		99
16) Acrylonitrile	7.96	53	851043	50.506	ng		99
17) 1,1-Dichloroethene	8.41	96	292982	26.217	ng		96
18) 2-Methyl-2-Propanol (t...	8.57	59	1693705	53.694	ng		100
19) Methylene Chloride	8.63	84	310786	24.213	ng		96
20) 3-Chloro-1-propene (Al...	8.79	41	424359	24.155	ng		98
21) Trichlorotrifluoroethane	9.04	151	255981	26.377	ng		99
22) Carbon Disulfide	8.90	76	2153436	46.903	ng		100
23) trans-1,2-Dichloroethene	9.90	61	481539	25.419	ng		99
24) 1,1-Dichloroethane	10.15	63	589312	25.245	ng		100
25) Methyl tert-Butyl Ether	10.24	73	876811	25.365	ng		99
26) Vinyl Acetate	10.40	86	354311	135.011	ng	#	88
27) 2-Butanone (MEK)	10.64	72	428541	44.644	ng		95
28) cis-1,2-Dichloroethene	11.16	61	470351	24.892	ng		99
29) Diisopropyl Ether	11.45	87	578540	49.762	ng	#	65
30) Ethyl Acetate	11.46	61	394070	71.959	ng		97
31) n-Hexane	11.45	57	585984	25.114	ng		100
32) Chloroform	11.51	83	574958	25.521	ng		100
34) Tetrahydrofuran (THF)	11.91	72	400411	48.145	ng		98
35) Ethyl tert-Butyl Ether	12.04	87	812682	51.897	ng		97
36) 1,2-Dichloroethane	12.30	62	485572	24.425	ng		99
38) 1,1,1-Trichloroethane	12.58	97	520354	25.433	ng		99
39) Isopropyl Acetate	13.06	61	8938	No Calib		#	
40) 1-Butanol	13.03	56	7218	No Calib		#	
41) Benzene	13.06	78	1254325	24.805	ng		100
42) Carbon Tetrachloride	13.22	117	437587	24.622	ng		100
43) Cyclohexane	13.35	84	977985	50.252	ng		98
44) tert-Amyl Methyl Ether	13.69	73	1889898	52.574	ng		99
45) 1,2-Dichloropropane	13.91	63	333241	24.931	ng		99
46) Bromodichloromethane	14.10	83	477883	25.928	ng		100
47) Trichloroethene	14.15	130	332325	25.456	ng		100
48) 1,4-Dioxane	14.12	88	266558	26.970	ng		99
49) 2,2,4-Trimethylpentane...	14.22	57	1388034	24.251	ng		99
50) Methyl Methacrylate	14.35	100	268858	56.293	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132224.D Vial: 1
Acq On : 13 Jan 2022 18:27 Operator: WA
Sample : 25ng R13011322 ICV Std Inst : GCMS13
Misc : S35-10202101/S35-01132201 (2/12)

Quant Time: Jan 24 10:41:37 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

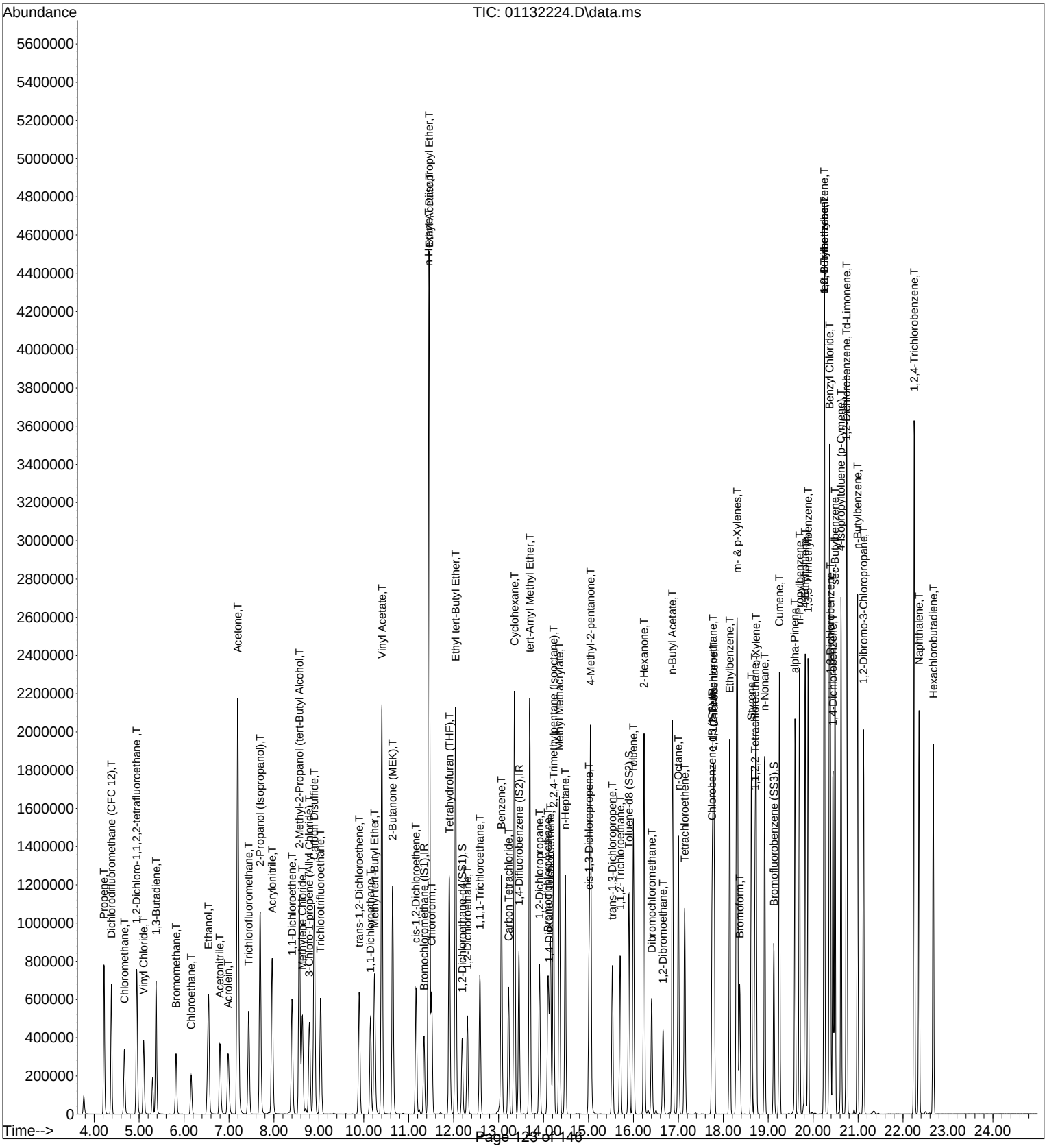
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.48	71	323037	25.045 ng		99
52) cis-1,3-Dichloropropene	15.01	75	538874	26.843 ng		100
53) 4-Methyl-2-pentanone	15.05	58	648727	53.464 ng		98
54) trans-1,3-Dichloropropene	15.53	75	497684	27.433 ng		100
55) 1,1,2-Trichloroethane	15.71	97	306531	25.473 ng		99
58) Toluene	16.00	91	1288970	25.202 ng		100
59) 2-Hexanone	16.24	43	1502640	55.287 ng		100
60) Dibromochloromethane	16.41	129	377661	27.079 ng		100
61) 1,2-Dibromoethane	16.66	107	366491	26.504 ng		100
62) n-Butyl Acetate	16.87	43	1670767	55.912 ng		99
63) n-Octane	17.00	57	301906	25.687 ng		98
64) Tetrachloroethene	17.14	166	364895	26.344 ng		100
65) Chlorobenzene	17.79	112	841587	25.541 ng		100
66) Ethylbenzene	18.14	91	1519402	25.612 ng		100
67) m- & p-Xylenes	18.31	91	2436220	51.819 ng		99
68) Bromoform	18.37	173	352268	28.052 ng		100
69) Styrene	18.63	104	943649	27.609 ng		100
70) o-Xylene	18.73	91	1224669	26.098 ng		100
71) n-Nonane	18.92	43	655057	25.492 ng		99
72) 1,1,2,2-Tetrachloroethane	18.71	83	585619	26.310 ng		100
74) Cumene	19.25	105	1539714	25.347 ng		100
75) alpha-Pinene	19.59	93	802902	28.373 ng		100
76) n-Propylbenzene	19.70	91	1882426	25.931 ng		100
77) 3-Ethyltoluene	19.89	105	1313345	No Calib		
78) 4-Ethyltoluene	19.82	105	1559622	26.658 ng		100
79) 1,3,5-Trimethylbenzene	19.89	105	1313345	26.591 ng		99
80) alpha-Methylstyrene	19.89	118	8963	No Calib		
81) 2-Ethyltoluene	19.89	105	1313345	No Calib		
82) 1,2,4-Trimethylbenzene	20.25	105	1390399	27.304 ng		100
83) n-Decane	20.25	58	63205	No Calib	#	
84) Benzyl Chloride	20.36	91	2240143	59.818 ng		100
85) 1,3-Dichlorobenzene	20.39	146	751375	27.562 ng		99
86) 1,4-Dichlorobenzene	20.44	146	729323	27.245 ng		100
87) sec-Butylbenzene	20.48	105	1742516	25.618 ng		100
88) 4-Isopropyltoluene (p-...	20.62	119	1468383	26.044 ng		100
89) 1,2,3-Trimethylbenzene	20.62	105	57284	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	719920	27.186 ng		99
91) d-Limonene	20.74	68	517333	28.999 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.12	157	567564	54.005 ng		98
93) n-Undecane	21.43	57	579	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	1209698	58.907 ng		100
95) Naphthalene	22.36	128	1632168	27.259 ng		100
96) n-Dodecane	22.34	57	1571	No Calib	#	
97) Hexachlorobutadiene	22.67	225	405981	26.200 ng		100
98) Cyclohexanone	18.30	55	1806	No Calib		
99) tert-Butylbenzene	20.25	119	1290070	26.653 ng		100
100) n-Butylbenzene	20.99	91	1441404	26.690 ng		100
101) 1,1,1,2-Tetrachloroethane	17.77	131	321876	25.969 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\13\01132224.D Vial: 1
Acq On : 13 Jan 2022 18:27 Operator: WA
Sample : 25ng R13011322 ICV Std Inst : GCMS13
Misc : S35-10202101/S35-01132201 (2/12)

Quant Time: Jan 24 10:41:37 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

JMM 1/24/22

Data File Name: **01132224.D** Acq. Method File: **TO15.M**

Data File Path: **I:\MS13\DATA\2022_01\13** Sample Name: **25ng R13011322 ICV Std**

Operator: **WA** Misc Info: **S35-10202101/S35-01132201 (**

Date Acquired: **1/13/2022 18:27** Instrument Name: **GCMS13**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	Propene	4.22	23.1	25.75	90	56	128	*	*
3)	Dichlorodifluoromethane (CFC 1	4.38	24.3	26.00	93	71	112	*	*
4)	Chloromethane	4.67	24.7	25.75	96	53	126	*	*
5)	1,2-Dichloro-1,1,2,2-tetrafluoroet	4.95	25.1	26.00	97	62	121	*	*
6)	Vinyl Chloride	5.10	25.8	26.00	99	63	123	*	*
7)	1,3-Butadiene	5.38	25.5	25.75	99	63	135	*	*
8)	Bromomethane	5.82	25.8	25.75	100	71	112	*	*
9)	Chloroethane	6.16	25.6	25.75	99	66	117	*	*
10)	Ethanol	6.55	98	104.00	94	57	117	*	*
11)	Acetonitrile	6.80	23.3	25.25	92	59	131	*	*
12)	Acrolein	6.98	52.5	52.00	101	71	123	*	*
13)	Acetone	7.19	109	128.00	85	60	117	*	*
14)	Trichlorofluoromethane	7.44	24.3	25.25	96	71	114	*	*
15)	2-Propanol (Isopropanol)	7.70	47.1	50.00	94	61	124	*	*
16)	Acrylonitrile	7.96	50.5	50.25	100	65	130	*	*
17)	1,1-Dichloroethene	8.41	26.2	26.25	100	74	114	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.57	53.7	51.00	105	56	135	*	*
19)	Methylene Chloride	8.63	24.2	26.00	93	75	112	*	*
20)	3-Chloro-1-propene (Allyl Chloric	8.79	24.2	25.50	95	57	127	*	*
21)	Trichlorotrifluoroethane	9.04	26.4	27.00	98	73	114	*	*
22)	Carbon Disulfide	8.90	46.9	51.75	91	70	113	*	*
23)	trans-1,2-Dichloroethene	9.90	25.4	26.00	98	76	119	*	*
24)	1,1-Dichloroethane	10.15	25.2	26.75	94	70	114	*	*
25)	Methyl tert-Butyl Ether	10.24	25.4	25.75	99	72	118	*	*
26)	Vinyl Acetate	10.40	135	117.75	115	56	137	*	*
27)	2-Butanone (MEK)	10.64	44.6	51.00	87	74	121	*	*
28)	cis-1,2-Dichloroethene	11.16	24.9	25.75	97	73	117	*	*
29)	Diisopropyl Ether	11.45	49.8	52.25	95	58	124	*	*
30)	Ethyl Acetate	11.46	72.0	72.50	99	59	161	*	*
31)	n-Hexane	11.45	25.1	26.00	97	55	130	*	*
32)	Chloroform	11.51	25.5	26.25	97	71	114	*	*
34)	Tetrahydrofuran (THF)	11.91	48.1	50.50	95	73	114	*	*
35)	Ethyl tert-Butyl Ether	12.04	51.9	51.75	100	76	119	*	*
36)	1,2-Dichloroethane	12.30	24.4	26.25	93	71	119	*	*
38)	1,1,1-Trichloroethane	12.58	25.4	26.00	98	73	119	*	*
41)	Benzene	13.06	24.8	26.00	95	72	113	*	*
42)	Carbon Tetrachloride	13.22	24.6	25.25	97	67	123	*	*
43)	Cyclohexane	13.35	50.3	51.50	98	70	119	*	*
44)	tert-Amyl Methyl Ether	13.69	52.6	51.50	102	74	120	*	*
45)	1,2-Dichloropropane	13.91	24.9	25.75	97	70	118	*	*
46)	Bromodichloromethane	14.10	25.9	26.00	100	74	119	*	*
47)	Trichloroethene	14.15	25.5	25.50	100	74	115	*	*
48)	1,4-Dioxane	14.12	27.0	25.75	105	77	124	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.22	24.3	26.25	93	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **01132224.D** **TO15.M**
Data File Path: **I:\MS13\DATA\2022_01\13** Sample Name: **25ng R13011322 ICV Std**
Operator: **WA** Misc Info: **S35-10202101/S35-01132201 (**
Date Acquired: **1/13/2022 18:27** Instrument Name: **GCMS13**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.35**	**56.3**	**51.25**	110	**78**	**126**	*	*
51)	**n-Heptane**	**14.48**	**25.0**	**25.75**	97	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**15.01**	**26.8**	**26.00**	103	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**15.05**	**53.5**	**51.50**	104	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**15.53**	**27.4**	**25.00**	110	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**15.71**	**25.5**	**26.00**	98	**78**	**117**	*	*
58)	**Toluene**	**16.00**	**25.2**	**25.75**	98	**70**	**118**	*	*
59)	**2-Hexanone**	**16.24**	**55.3**	**50.75**	109	**74**	**132**	*	*
60)	**Dibromochloromethane**	**16.41**	**27.1**	**26.25**	103	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**16.66**	**26.5**	**26.00**	102	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**16.87**	**55.9**	**50.75**	110	**75**	**134**	*	*
63)	**n-Octane**	**17.00**	**25.7**	**26.00**	99	**68**	**120**	*	*
64)	**Tetrachloroethene**	**17.14**	**26.3**	**26.50**	99	**63**	**130**	*	*
65)	**Chlorobenzene**	**17.79**	**25.5**	**25.75**	99	**70**	**118**	*	*
66)	**Ethylbenzene**	**18.14**	**25.6**	**25.75**	99	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**18.31**	**51.8**	**52.00**	100	**67**	**127**	*	*
68)	**Bromoform**	**18.37**	**28.1**	**26.25**	107	**65**	**149**	*	*
69)	**Styrene**	**18.63**	**27.6**	**25.25**	109	**76**	**132**	*	*
70)	**o-Xylene**	**18.73**	**26.1**	**26.00**	100	**69**	**124**	*	*
71)	**n-Nonane**	**18.92**	**25.5**	**26.00**	98	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.71**	**26.3**	**26.00**	101	**69**	**128**	*	*
74)	**Cumene**	**19.25**	**25.3**	**25.75**	98	**69**	**125**	*	*
75)	**alpha-Pinene**	**19.59**	**28.4**	**26.25**	108	**68**	**129**	*	*
76)	**n-Propylbenzene**	**19.70**	**25.9**	**26.00**	100	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**19.82**	**26.7**	**26.00**	**103**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.89**	**26.6**	**26.00**	**102**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**20.25**	**27.3**	**25.75**	**106**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**20.36**	**59.8**	**52.00**	**115**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**20.39**	**27.6**	**26.00**	**106**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**20.44**	**27.2**	**26.25**	**104**	**63**	**134**	*	*
87)	sec-Butylbenzene	20.48	25.6	25.50	**100**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.62	26.0	25.75	**101**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**20.74**	**27.2**	**26.25**	**104**	**64**	**139**	*	*
91)	**d-Limonene**	**20.74**	**29.0**	**25.75**	**113**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.12**	**54.0**	**50.50**	**107**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**22.25**	**58.9**	**52.50**	**112**	**62**	**154**	*	*
95)	**Naphthalene**	**22.36**	**27.3**	**26.25**	**104**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**22.67**	**26.2**	**26.50**	**99**	55	142	*	*
99)	tert-Butylbenzene	20.25	26.7	25.75	104	61	140	*	*
100)	n-Butylbenzene	20.99	26.7	26.00	103	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	17.77	26.0	25.75	101	70	130	*	*

Bold = 75 Compound List
*** = Pass**

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2022 01\26\01262202.D Vial: 1
Acq On : 26 Jan 2022 1:17 Operator: JMM
Sample : CCV R13012622 25ng Inst : GCMS13 JMM 1/26/22
Misc : S35-01102002/S35-12282101 (1/26)

Quant Time: Jan 26 09:12:45 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	89	0.00
2	T	Propene	1.024	1.195	-16.7	116	0.00
3	T	Dichlorodifluoromethane (CF	1.937	1.939	-0.1	95	0.00
4	T	Chloromethane	1.288	1.152	10.6	82	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	0.873	0.827	5.3	91	0.00
6	T	Vinyl Chloride	1.389	1.461	-5.2	96	0.00
7	T	1,3-Butadiene	1.122	1.387	-23.6	109	0.00
8	T	Bromomethane	0.734	0.806	-9.8	99	0.00
9	T	Chloroethane	0.635	0.746	-17.5	106	0.00
10	T	Ethanol	0.765	0.865	-13.1	108	0.00
11	T	Acetonitrile	1.659	2.143	-29.2	113	0.00
12	T	Acrolein	0.631	0.762	-20.8	104	0.00
13	T	Acetone	0.845	0.902	-6.7	108	0.00
14	T	Trichlorofluoromethane	1.766	1.815	-2.8	96	0.00
15	T	2-Propanol (Isopropanol)	2.746	2.975	-8.3	102	0.00
16	T	Acrylonitrile	1.275	1.628	-27.7	110	0.00
17	T	1,1-Dichloroethene	0.845	0.929	-9.9	100	0.00
18	T	2-Methyl-2-Propanol (tert-B	2.386	2.135	10.5	73	0.00
19	T	Methylene Chloride	0.971	1.047	-7.8	101	0.00
20	T	3-Chloro-1-propene (Allyl C	1.329	1.696	-27.6	110	0.00
21	T	Trichlorotrifluoroethane	0.734	0.773	-5.3	95	0.00
22	T	Carbon Disulfide	3.473	3.753	-8.1	103	0.00
23	T	trans-1,2-Dichloroethene	1.433	1.676	-17.0	104	0.00
24	T	1,1-Dichloroethane	1.766	1.991	-12.7	104	0.00
25	T	Methyl tert-Butyl Ether	2.615	2.391	8.6	79	0.00
26	T	Vinyl Acetate	0.199	0.236	-18.6	95	0.00
27	T	2-Butanone (MEK)	0.726	0.751	-3.4	102	0.00
28	T	cis-1,2-Dichloroethene	1.429	1.640	-14.8	103	0.00
29	T	Diisopropyl Ether	0.880	0.978	-11.1	99	0.00
30	T	Ethyl Acetate	0.414	0.533	-28.7	105	0.00
31	T	n-Hexane	1.765	2.200	-24.6	107	0.00
32	T	Chloroform	1.704	1.847	-8.4	98	0.00
33	S	1,2-Dichloroethane-d4(SS1)	2.056	2.037	0.9	87	0.00
34	T	Tetrahydrofuran (THF)	0.629	0.698	-11.0	103	0.00
35	T	Ethyl tert-Butyl Ether	1.185	1.349	-13.8	100	0.00
36	T	1,2-Dichloroethane	1.504	1.629	-8.3	99	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	90	0.00
38	T	1,1,1-Trichloroethane	0.340	0.355	-4.4	95	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	96	0.00
40	T	1-Butanol	0.000	0.000	0.0	131	0.00
41	T	Benzene	0.839	0.912	-8.7	103	0.00
42	T	Carbon Tetrachloride	0.295	0.306	-3.7	94	0.00
43	T	Cyclohexane	0.323	0.353	-9.3	98	0.00
44	T	tert-Amyl Methyl Ether	0.597	0.707	-18.4	103	0.00
45	T	1,2-Dichloropropane	0.222	0.261	-17.6	107	0.00
46	T	Bromodichloromethane	0.306	0.342	-11.8	99	0.00
47	T	Trichloroethene	0.217	0.232	-6.9	98	0.00
48	T	1,4-Dioxane	0.164	0.192	-17.1	102	0.00
49	T	2,2,4-Trimethylpentane (Iso	0.950	1.120	-17.9	109	0.00
50	T	Methyl Methacrylate	0.079	0.095	-20.3	98	0.00
51	T	n-Heptane	0.214	0.247	-15.4	104	0.00
52	T	cis-1,3-Dichloropropene	0.333	0.393	-18.0	101	0.00
53	T	4-Methyl-2-pentanone	0.201	0.259	-28.9	108	0.00
54	T	trans-1,3-Dichloropropene	0.301	0.373	-23.9	98	0.00
55	T	1,1,2-Trichloroethane	0.200	0.221	-10.5	99	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2022 01\26\01262202.D Vial: 1
Acq On : 26 Jan 2022 1:17 Operator: JMM
Sample : CCV R13012622 25ng Inst : GCMS13
Misc : S35-01102002/S35-12282101 (1/26)

Quant Time: Jan 26 09:12:45 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	93	0.00
57	S	Toluene-d8 (SS2)	5.419	5.236	3.4	91	0.00
58	T	Toluene	3.993	4.030	-0.9	100	0.00
59	T	2-Hexanone	2.122	2.604	-22.7	107	0.00
60	T	Dibromochloromethane	1.089	1.159	-6.4	96	0.00
61	T	1,2-Dibromoethane	1.080	1.126	-4.3	98	0.00
62	T	n-Butyl Acetate	2.333	2.873	-23.1	107	0.00
63	T	n-Octane	0.918	1.044	-13.7	108	0.00
64	T	Tetrachloroethene	1.082	1.077	0.5	96	0.00
65	T	Chlorobenzene	2.573	2.588	-0.6	98	0.00
66	T	Ethylbenzene	4.632	4.756	-2.7	99	0.00
67	T	m- & p-Xylenes	3.671	3.789	-3.2	98	0.00
68	T	Bromoform	0.981	1.067	-8.8	95	0.00
69	T	Styrene	2.669	2.916	-9.3	96	0.00
70	T	o-Xylene	3.664	3.817	-4.2	99	0.00
71	T	n-Nonane	2.006	2.304	-14.9	109	0.00
72	T	1,1,2,2-Tetrachloroethane	1.738	1.878	-8.1	101	0.00
73	S	Bromofluorobenzene (SS3)	1.627	1.554	4.5	88	0.00
74	T	Cumene	4.743	4.779	-0.8	98	0.00
75	T	alpha-Pinene	2.210	2.456	-11.1	101	0.00
76	T	n-Propylbenzene	5.668	5.865	-3.5	98	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	0#	0.00
78	T	4-Ethyltoluene	4.568	4.430	3.0	90	0.00
79	T	1,3,5-Trimethylbenzene	3.856	3.645	5.5	89	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	0#	0.00
82	T	1,2,4-Trimethylbenzene	3.976	4.100	-3.1	92	0.00
83	T	n-Decane	0.000	0.000	0.0	0#	0.00
84	T	Benzyl Chloride	2.924	3.193	-9.2	87	0.00
85	T	1,3-Dichlorobenzene	2.129	2.012	5.5	84	0.00
86	T	1,4-Dichlorobenzene	2.090	1.992	4.7	86	0.00
87	T	sec-Butylbenzene	5.311	5.202	2.1	92	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.402	4.314	2.0	91	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	0#	0.00
90	T	1,2-Dichlorobenzene	2.068	2.181	-5.5	95	0.00
91	T	d-Limonene	1.393	1.672	-20.0	102	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.821	0.914	-11.3	94	0.00
93	T	n-Undecane	0.000	0.000	0.0	311#	0.00
94	T	1,2,4-Trichlorobenzene	1.603	1.612	-0.6	79	0.00
95	T	Naphthalene	4.675	4.103	12.2	73	0.00
96	T	n-Dodecane	0.000	0.000	0.0	106	0.00
97	T	Hexachlorobutadiene	1.210	1.242	-2.6	94	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	98	0.00
99	T	tert-Butylbenzene	3.779	3.804	-0.7	92	0.00
100	T	n-Butylbenzene	4.217	4.506	-6.9	97	0.00
101	T	1,1,1,2-Tetrachloroethane	0.968	0.987	-2.0	97	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262202.D Vial: 1
Acq On : 26 Jan 2022 1:17 Operator: JMM
Sample : CCV R13012622 25ng Inst : GCMS13
Misc : S35-01102002/S35-12282101 (1/26)

JMM 1/26/22

Quant Time: Jan 26 09:12:45 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	131800	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.45	114	609061	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	142260	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.19	65	268537	12.384	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
57) Toluene-d8 (SS2)	15.90	98	744882	12.079	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	19.12	174	221120	11.941	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
Target Compounds							Qvalue
2) Propene	4.22	42	327594	30.332	ng		98
3) Dichlorodifluoromethan...	4.38	85	536635	26.272	ng		100
4) Chloromethane	4.67	50	309649	22.804	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.95	135	235505	25.598	ng		100
6) Vinyl Chloride	5.11	62	400529	27.356	ng		100
7) 1,3-Butadiene	5.38	54	380245	32.152	ng		100
8) Bromomethane	5.82	94	216631	28.001	ng		100
9) Chloroethane	6.16	64	200546	29.953	ng		100
10) Ethanol	6.54	45	825803	102.383	ng		99
11) Acetonitrile	6.80	41	525328	30.032	ng		98
12) Acrolein	6.98	56	401913	60.442	ng		99
13) Acetone	7.20	58	1233413	138.407	ng		98
14) Trichlorofluoromethane	7.44	101	492869	26.464	ng		100
15) 2-Propanol (Isopropanol)	7.69	45	1583997	54.710	ng		98
16) Acrylonitrile	7.96	53	871005	64.804	ng		100
17) 1,1-Dichloroethene	8.41	96	262073	29.401	ng		95
18) 2-Methyl-2-Propanol (t...	8.57	59	1181763	46.969	ng		99
19) Methylene Chloride	8.63	84	287134	28.046	ng		92
20) 3-Chloro-1-propene (Al...	8.79	41	469350	33.494	ng		96
21) Trichlorotrifluoroethane	9.04	151	220071	28.430	ng		97
22) Carbon Disulfide	8.90	76	2077554	56.730	ng		100
23) trans-1,2-Dichloroethene	9.90	61	468166	30.983	ng		96
24) 1,1-Dichloroethane	10.15	63	551197	29.602	ng		100
25) Methyl tert-Butyl Ether	10.24	73	661777	24.001	ng		97
26) Vinyl Acetate	10.40	86	211484	101.031	ng	#	82
27) 2-Butanone (MEK)	10.64	72	408007	53.288	ng	#	89
28) cis-1,2-Dichloroethene	11.16	61	449490	29.823	ng		96
29) Diisopropyl Ether	11.45	87	546422	58.922	ng	#	82
30) Ethyl Acetate	11.46	61	572973	131.172	ng		96
31) n-Hexane	11.45	57	608899	32.717	ng		99
32) Chloroform	11.51	83	520894	28.987	ng		99
34) Tetrahydrofuran (THF)	11.91	72	362404	54.629	ng		92
35) Ethyl tert-Butyl Ether	12.04	87	746864	59.794	ng		92
36) 1,2-Dichloroethane	12.30	62	455157	28.703	ng		100
38) 1,1,1-Trichloroethane	12.58	97	450317	27.211	ng		99
39) Isopropyl Acetate	13.06	61	7344	No Calib		#	
40) 1-Butanol	13.03	56	16452	No Calib		#	
41) Benzene	13.06	78	1155963	28.262	ng		100
42) Carbon Tetrachloride	13.22	117	391524	27.236	ng		100
43) Cyclohexane	13.35	84	889739	56.521	ng		93
44) tert-Amyl Methyl Ether	13.69	73	1800854	61.936	ng		98
45) 1,2-Dichloropropane	13.91	63	327798	30.319	ng		100
46) Bromodichloromethane	14.10	83	437106	29.320	ng		100
47) Trichloroethene	14.15	130	290561	27.516	ng		100
48) 1,4-Dioxane	14.12	88	242688	30.358	ng		94
49) 2,2,4-Trimethylpentane...	14.22	57	1445945	31.233	ng		98
50) Methyl Methacrylate	14.35	100	240677	62.301	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262202.D Vial: 1
Acq On : 26 Jan 2022 1:17 Operator: JMM
Sample : CCV R13012622 25ng Inst : GCMS13
Misc : S35-01102002/S35-12282101 (1/26)

Quant Time: Jan 26 09:12:45 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

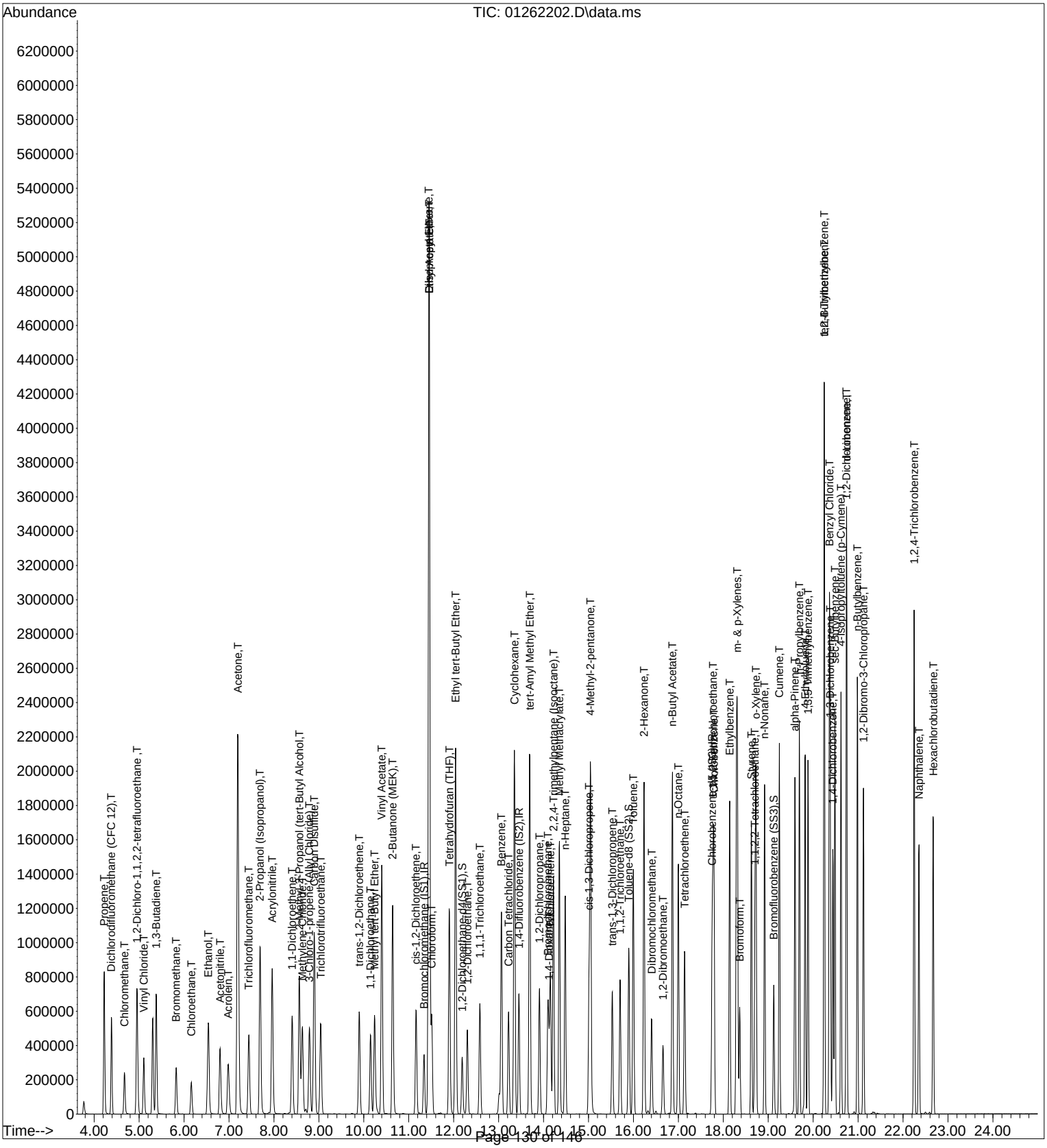
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.48	71	315621	30.252	ng		96
52) cis-1,3-Dichloropropene	15.01	75	503023	30.978	ng		100
53) 4-Methyl-2-pentanone	15.04	58	656882	66.930	ng		98
54) trans-1,3-Dichloropropene	15.53	75	459073	31.284	ng		100
55) 1,1,2-Trichloroethane	15.70	97	279607	28.727	ng		98
58) Toluene	16.00	91	1180945	25.984	ng		100
59) 2-Hexanone	16.24	43	1518955	62.893	ng		99
60) Dibromochloromethane	16.41	129	346355	27.948	ng		99
61) 1,2-Dibromoethane	16.66	107	333087	27.107	ng		100
62) n-Butyl Acetate	16.87	43	1667745	62.807	ng		99
63) n-Octane	17.00	57	312024	29.876	ng		95
64) Tetrachloroethene	17.14	166	318670	25.890	ng		100
65) Chlorobenzene	17.79	112	765730	26.152	ng		100
66) Ethylbenzene	18.14	91	1393730	26.438	ng		100
67) m- & p-Xylenes	18.31	91	2220941	53.162	ng		100
68) Bromoform	18.37	173	315718	28.293	ng		99
69) Styrene	18.63	104	854457	28.133	ng		100
70) o-Xylene	18.72	91	1129401	27.084	ng		100
71) n-Nonane	18.92	43	681772	29.858	ng		97
72) 1,1,2,2-Tetrachloroethane	18.70	83	555718	28.096	ng		100
74) Cumene	19.25	105	1413963	26.195	ng		99
75) alpha-Pinene	19.59	93	754581	30.008	ng		100
76) n-Propylbenzene	19.69	91	1752070	27.161	ng		99
77) 3-Ethyltoluene	19.89	105	1078602	No Calib			
78) 4-Ethyltoluene	19.82	105	1336008	25.699	ng		99
79) 1,3,5-Trimethylbenzene	19.89	105	1078602	24.576	ng		98
80) alpha-Methylstyrene	19.89	118	7513	No Calib			
81) 2-Ethyltoluene	19.89	105	1078602	No Calib			
82) 1,2,4-Trimethylbenzene	20.25	105	1201408	26.550	ng		99
83) n-Decane	20.24	58	62671	No Calib		#	
84) Benzyl Chloride	20.36	91	1871200	56.229	ng		98
85) 1,3-Dichlorobenzene	20.38	146	595339	24.576	ng		99
86) 1,4-Dichlorobenzene	20.44	146	589370	24.777	ng		100
87) sec-Butylbenzene	20.48	105	1539247	25.467	ng		99
88) 4-Isopropyltoluene (p-...	20.62	119	1276550	25.480	ng		100
89) 1,2,3-Trimethylbenzene	20.62	105	51865	No Calib			
90) 1,2-Dichlorobenzene	20.74	146	651659	27.693	ng		99
91) d-Limonene	20.74	68	499629	31.517	ng		97
92) 1,2-Dibromo-3-Chloropr...	21.12	157	520334	55.718	ng		99
93) n-Undecane	21.43	57	1575	No Calib		#	
94) 1,2,4-Trichlorobenzene	22.25	180	935570	51.269	ng		100
95) Naphthalene	22.36	128	1214014	22.817	ng		100
96) n-Dodecane	22.34	57	1222	No Calib		#	
97) Hexachlorobutadiene	22.67	225	363900	26.429	ng		100
98) Cyclohexanone	18.30	55	1829	No Calib		#	
99) tert-Butylbenzene	20.25	119	1125718	26.173	ng		100
100) n-Butylbenzene	20.98	91	1333255	27.782	ng		99
101) 1,1,1,2-Tetrachloroethane	17.77	131	292012	26.513	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 01\26\01262202.D Vial: 1
Acq On : 26 Jan 2022 1:17 Operator: JMM
Sample : CCV R13012622 25ng Inst : GCMS13
Misc : S35-01102002/S35-12282101 (1/26)

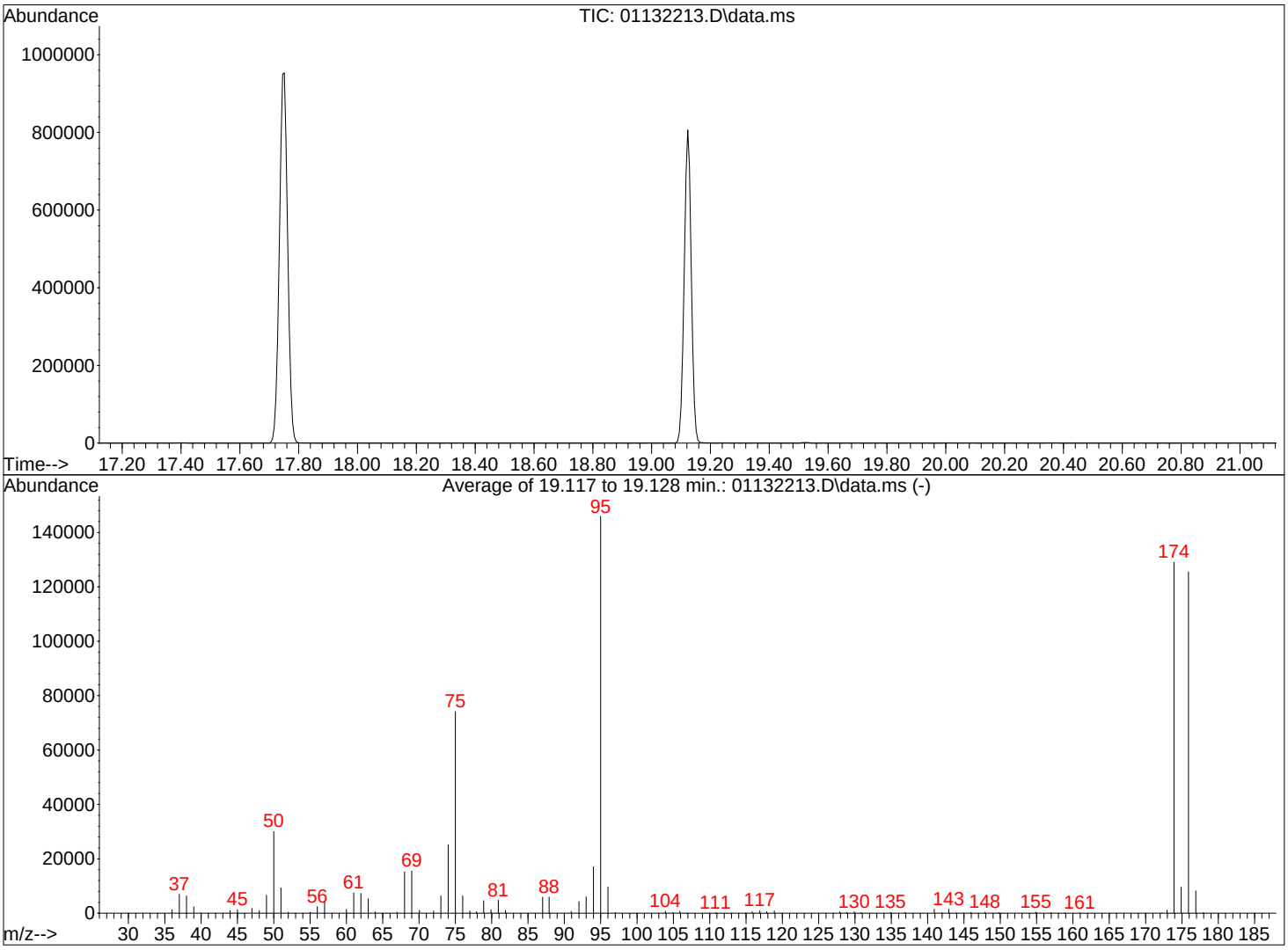
Quant Time: Jan 26 09:12:45 2022
Quant Method : I:\MS13\METHODS\R13011322A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jan 24 10:38:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS13\DATA\2022 01\13\
Data File : 01132213.D
Acq On : 13 Jan 2022 11:36
Operator : WA
Sample : BFB Std
Misc : S35-10202101
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13011322.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jan 14 05:11:00 2022



AutoFind: Scans 2723, 2724, 2725; Background Corrected with Scan 2716

1/14/22

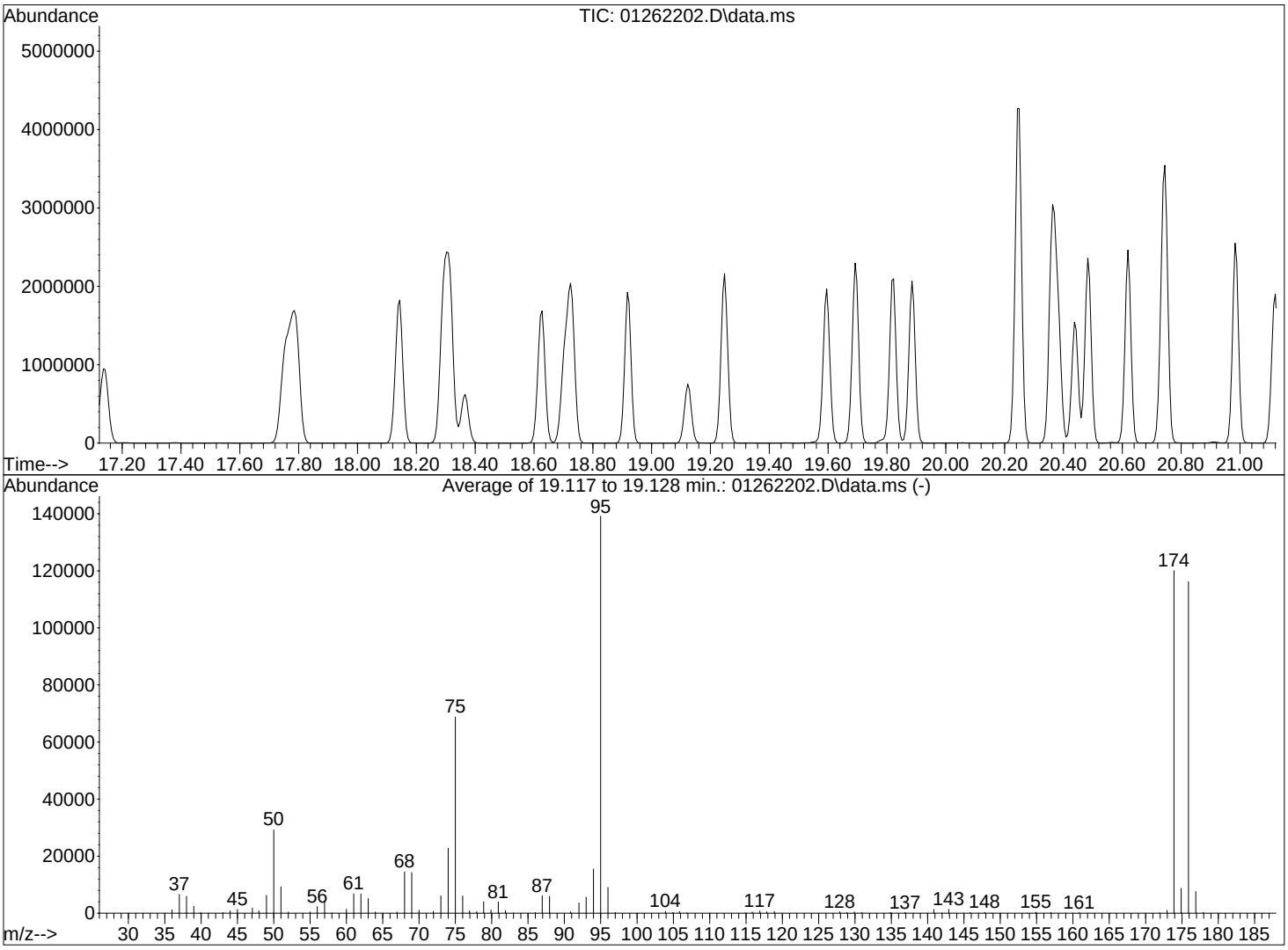
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.6	30048	PASS
75	95	30	66	50.8	74099	PASS
95	95	100	100	100.0	145984	PASS
96	95	5	9	6.6	9683	PASS
173	174	0.00	2	0.9	1122	PASS
174	95	50	120	88.4	129083	PASS
175	174	4	9	7.4	9554	PASS
176	174	93	101	97.2	125517	PASS
177	176	5	9	6.6	8242	PASS

BFB

Data Path : I:\MS13\DATA\2022 01\26\
Data File : 01262202.D
Acq On : 26 Jan 2022 1:17
Operator : JMM
Sample : CCV R13012622 25ng
Misc : S35-01102002/S35-12282101 (1/26)
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13011322A.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Mon Jan 24 10:38:56 2022



AutoFind: Scans 2723, 2724, 2725; Background Corrected with Scan 2716

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	21.0	29224	PASS
75	95	30	66	49.4	68755	PASS
95	95	100	100	100.0	139168	PASS
96	95	5	9	6.5	9102	PASS
173	174	0.00	2	0.8	982	PASS
174	95	50	120	86.3	120101	PASS
175	174	4	9	7.3	8740	PASS
176	174	93	101	96.7	116195	PASS
177	176	5	9	6.5	7610	PASS

JMM 1/26/22

Injection Log

Directory: J:\MS13\DATA\2022_01\13\

13	1/13/22 11:36	01132213.D	BFB Std	S35-10202101	WA	1	*Pass*
14	1/13/22 12:09	01132214.D	0.1ng R13011322 ICAL Std	S35-10202101/S35-01042201	WA	13	
15	1/13/22 12:43	01132215.D	0.2ng R13011322 ICAL Std	S35-10202101/S35-01042201	WA	13	
16	1/13/22 13:17	01132216.D	0.5ng R13011322 ICAL Std	S35-10202101/S35-12152102	WA	14	*rerun*
17	1/13/22 13:51	01132217.D	1.0ng R13011322 ICAL Std	S35-10202101/S35-12152102	WA	14	
18	1/13/22 14:25	01132218.D	5.0ng R13011322 ICAL Std	S35-10202101/S35-12212107	WA	15	
19	1/13/22 14:59	01132219.D	25ng R13011322 ICAL Std	S35-10202101/S35-12212107	WA	15	
20	1/13/22 15:32	01132220.D	50ng R13011322 ICAL Std	S35-10202101/S35-12212107	WA	15	*R13011322.M*
21	1/13/22 16:06	01132221.D	100ng R13011322 ICAL Std	S35-10202101/S35-12212107	WA	15	
22	1/13/22 16:41	01132222.D	Blank	S35-10202101	WA	1	
23	1/13/22 17:53	01132223.D	0.5ng R13011322 ICAL Std	S35-10202101/S35-12282105	WA	12	
24	1/13/22 18:27	01132224.D	25ng R13011322 ICV Std	S35-10202101/S35-01132201 (2/12)	WA	1	*Pass*
25	1/13/22 19:00	01132225.D	25ng R13011322 ICV Std	S35-10202101/S35-01132201 (2/12)	WA	1	*Pass*

R13011322A.M : ranges from 0.1ng --> 100ng for all compounds; except: Benzyl chloride from 1ng --> 200ng, d-Limonene and Naphthalene from 0.5ng --> 100ng (ICAL is good for low level compounds)

Injection Log

JMM 1/27/22

Directory: I:\MS13\DATA\2022_01\26\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	1/26/22 0:44	01262201.D	CCV C13012622_25ng	S35-01102002/S35-01032203 (2/2)	JMM	8	passed
2	1/26/22 1:17	01262202.D	CCV R13012622_25ng	S35-01102002/S35-12282101 (1/26)	JMM	1	passed
3	1/26/22 1:51	01262203.D	Blank	S35-01102002	JMM	1	
4	1/26/22 2:24	01262204.D	MB R13012622_1000mL	S35-01102002	JMM	1	passed
5	1/26/22 2:57	01262205.D	P2200279-001 (1000mL)	S35-01102002	JMM	2	
6	1/26/22 3:31	01262206.D	P2200279-003 (1000mL)	S35-01102002	JMM	4	
7	1/26/22 4:04	01262207.D	P2200279-004 (1000mL)	S35-01102002	JMM	5	
8	1/26/22 4:38	01262208.D	P2200279-005 (1000mL)	S35-01102002	JMM	6	
9	1/26/22 5:11	01262209.D	xLCS R13012622_25ng	S35-01102002/S35-01132101 (2/12)	JMM	1	not used
10	1/26/22 5:45	01262210.D	LCS R13012622_25ng	S35-01102002/S35-01132101 (2/12)	JMM	1	passed
11	1/26/22 10:50	01262211.D	Blank	S35-01102002	JMM	1	
12	1/26/22 11:23	01262212.D	P2200279-002 (1000mL)	S35-01102002	JMM	10	
13	1/26/22 11:57	01262213.D	P2200279-002dup (1000mL)	S35-01102002	JMM	10	passed
14	1/26/22 12:30	01262214.D	P2200209-005 (200mL)	S35-01102002	JMM	16	
15	1/26/22 13:04	01262215.D	RL Check R13012622_0.5ng	S35-01102002/S35-12282105 (1/27)	JMM	13	not used
16	1/26/22 13:47	01262216.D	LCSD R13012622_25ng	S35-01102002/S35-01132101 (2/12)	JMM	1	passed

LCS: bromomethane, chloroethane, ethanol, and 1,2-DCP out high, w/in 70-130%. 2-hexanone and n-butyl acetate out high.
LCSD: ethanol and 1,2-DCP out high, w/in 70-130%. 4-methyl-2-pentanone out high.

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-09
Cycles: 30
Batch: 28769

Batch Started By: ANAKLOWYCZ on 1/4/22 0824
Finished Cleaning By: on 1/7/22 0833

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS00640	1/4/22	1/4/22	Pass w/ Conditions	-14.3	1/7/22 0833					MS21_01/04/22
AS00924	1/4/22	1/4/22	Pass w/ Conditions	-14.3	1/7/22 0833		-14.0	1/18/22 1212		
AS01487	1/4/22	1/4/22	Pass w/ Conditions	-14.3	1/7/22 0833		-14.0	1/14/22 0940		
AS01101	1/4/22	1/4/22	Pass w/ Conditions	-14.3	1/7/22 0833		-14.0	1/14/22 0940		
AC02293	1/4/22	1/4/22	Pass w/ Conditions	-14.3	1/7/22 0833		-14.0	1/6/22 1100		
AS00156	1/4/22	1/4/22	Pass w/ Conditions	-14.3	1/7/22 0833		-14.0	1/14/22 0940		
AC01862	1/4/22	1/4/22	Pass w/ Conditions	-14.3	1/7/22 0833		-14.0	1/19/22 0825		
AS01538	1/4/22	1/4/22	Pass w/ Conditions	-14.3	1/7/22 0833		-14.0	1/18/22 1212		
AS01486	1/4/22	1/4/22	Pass w/ Conditions	-14.3	1/7/22 0833		-14.0	1/14/22 0940		
AC02236	1/4/22	1/4/22	Pass w/ Conditions	-14.3	1/7/22 0833		-14.0	1/18/22 0839		GC22_010622

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 01\04\
Data File : 01042211.D
Acq On : 4 Jan 2022 14:09
Operator : RVT
Sample : 010422 AS00640 28769
Misc : LL+TICS (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 205 Sample Multiplier: 1

Quant Time: Jan 05 07:36:35 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

RVT 1/5/22

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Bromochloromethane (IS1)	7.485	130	17316	1000.00 pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.649	114	46320	1000.00 pg		0.00
56) Chlorobenzene-d5 (IS3)	14.673	54	9248	1000.00 pg		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4 ...	8.288	65	26464	975.13 pg		0.00
Spiked Amount 1000.000			Recovery = 97.51%			
57) Toluene-d8 (SS2)	12.563	98	39614	844.29 pg		0.00
Spiked Amount 1000.000			Recovery = 84.43%			
74) Bromofluorobenzene (SS3)	16.106	174	14505	761.84 pg		0.00
Spiked Amount 1000.000			Recovery = 76.18%			
Target Compounds						Qvalue
2] * Propene	3.488	42	231	11.61 pg		83
3] * Dichlorodifluoromethane	3.544	85	69	1.23 pg	#	42
4] * Chloromethane	3.682	50	259	7.46 pg		90
5) * 1,2-Dichloro-1,1,2,2...	0.000		0	N.D.		
6) * Vinyl Chloride	0.000		0	N.D.		
7] * 1,3-Butadiene	3.961	54	24	0.98 pg		100
8) * Bromomethane	0.000		0	N.D.		
9) * Chloroethane	0.000		0	N.D.		
10] * Ethanol	4.401	45	528	46.16 pg		95
11] * Acetonitrile	4.573	41	82	3.89 pg	#	1
12] * Acrolein	4.677	56	114	9.13 pg	#	82
13] * Acetone	4.797	58	1342	69.33 pg		94
14) * Trichlorofluoromethane	0.000		0	N.D.		
15] * 2-Propanol (Isopropa...	4.997	45	336	6.63 pg	#	63
16) * Acrylonitrile	0.000		0	N.D.		
17] * 1,1-Dichloroethene	5.421	96	487	14.78 pg	#	73
18) tert-Butanol	0.000		0	N.D.		
19] * Methylene Chloride	5.523	84	138	5.08 pg	#	79
20) * 3-Chloro-1-propene (...	0.000		0	N.D.		
21) * Trichlorotrifluoroet...	0.000		0	N.D.		
22] * Carbon Disulfide	5.785	76	2694	28.34 pg		100
23) * trans-1,2-Dichloroet...	0.000		0	N.D.		
24) * 1,1-Dichloroethane	0.000		0	N.D.		
25) * Methyl tert-Butyl Ether	0.000		0	N.D.		
26) * Vinyl Acetate	0.000		0	N.D.		
27) * 2-Butanone (MEK)	0.000		0	N.D.		
28) * cis-1,2-Dichloroethene	0.000		0	N.D.		
29) DIPE	0.000		0	N.D.		
30) * Ethyl Acetate	0.000		0	N.D.		
31) * n-Hexane	0.000		0	N.D.		
32) * Chloroform	0.000		0	N.D.		
34) * Tetrahydrofuran	0.000		0	N.D.		
35) ETBE	0.000		0	N.D.		
36) * 1,2-Dichloroethane	0.000		0	N.D.		
38) * 1,1,1-Trichloroethane	0.000		0	N.D.		
39] * Benzene	9.226	78	291	5.01 pg	#	88
40) Isopropyl Acetate	9.211	61	1126	No Calib	#	
41) 1-Butanol	9.216	56	441	No Calib	#	
42) * Carbon Tetrachloride	0.000		0	N.D.		
43) * Cyclohexane	0.000		0	N.D.		
44) TAME	0.000		0	N.D.		
45) * 1,2-Dichloropropane	0.000		0	N.D.		
46) * Bromodichloromethane	0.000		0	N.D.		
47) * Trichloroethene	0.000		0	N.D.	d	

Data Path : I:\MS21\DATA\2022 01\04\
Data File : 01042211.D
Acq On : 4 Jan 2022 14:09
Operator : RVT
Sample : 010422 AS00640 28769
Misc : LL+TICS (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 205 Sample Multiplier: 1

Quant Time: Jan 05 07:36:35 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

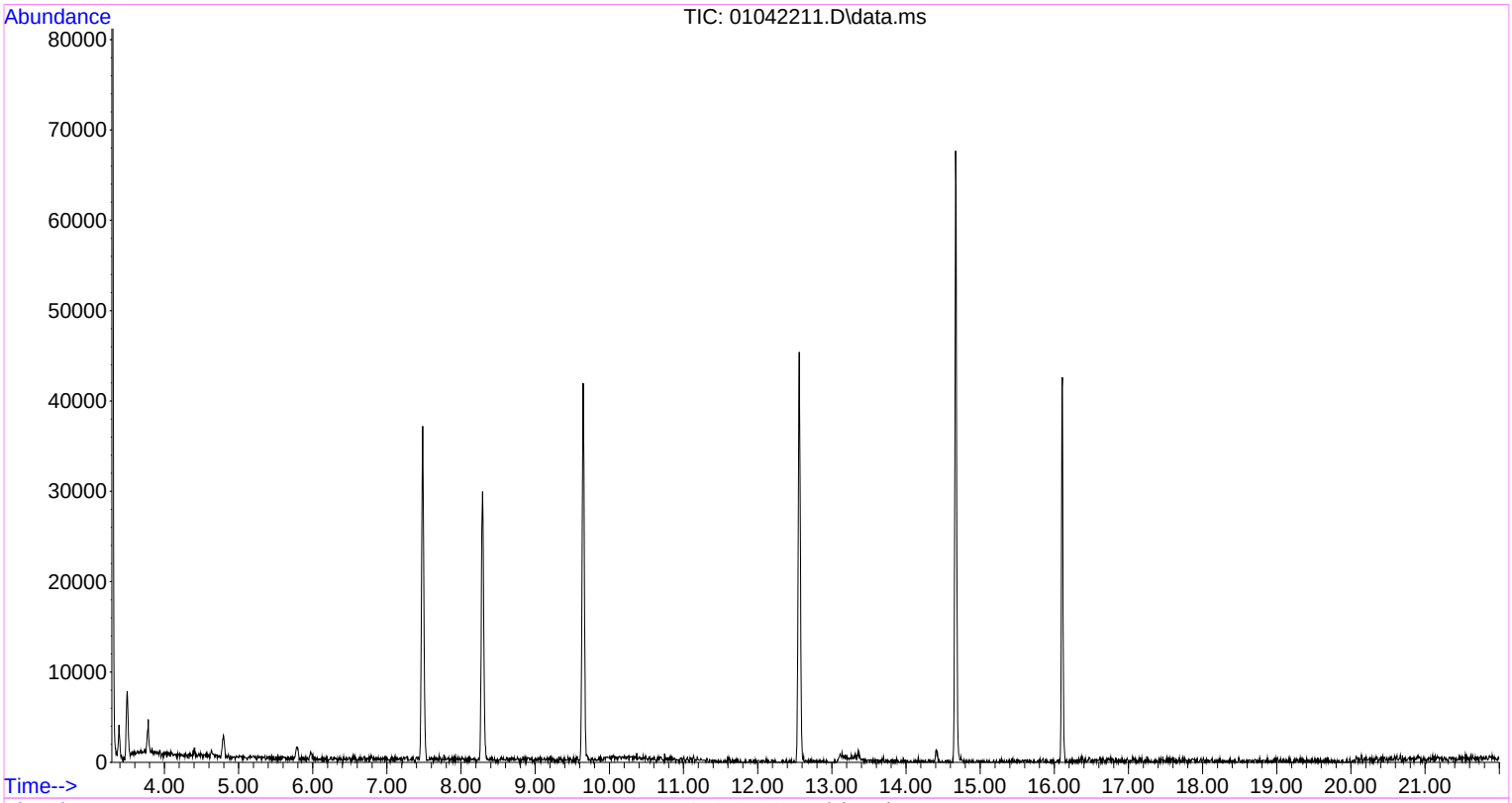
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
48) * 1,4-Dioxane	0.000		0	N.D.		
49] Isooctane	10.526	56	574	23.61 pg	#	1
50) * Methyl Methacrylate	0.000		0	N.D.		
51) * n-Heptane	0.000		0	N.D.		
52) * cis-1,3-Dichloropropene	0.000		0	N.D.		
53] * 4-Methyl-2-pentanone	11.602	58	229	21.04 pg		92
54) * trans-1,3-Dichloropr...	0.000		0	N.D.		
55) * 1,1,2-Trichloroethane	0.000		0	N.D.		
58] * Toluene	12.677	91	211	3.39 pg		98
59) * 2-Hexanone	0.000		0	N.D.		
60) * Dibromochloromethane	0.000		0	N.D.		
61) * 1,2-Dibromoethane	0.000		0	N.D.		
62) * n-Butyl Acetate	0.000		0	N.D.		
63) * n-Octane	0.000		0	N.D.		
64] * Tetrachloroethene	14.002	166	144	6.55 pg		96
65) * Chlorobenzene	0.000		0	N.D.		
66) * Ethylbenzene	0.000		0	N.D.		
67] * m- & p-Xylenes	15.266	91	86	1.37 pg	#	29
68) * Bromoform	0.000		0	N.D.		
69) Cyclohexanone	0.000		0	N.D.		
70) * Styrene	0.000		0	N.D.		
71) * o-Xylene	0.000		0	N.D.		
72) * n-Nonane	0.000		0	N.D.		
73) * 1,1,2,2-Tetrachloroe...	0.000		0	N.D.		
75) * Cumene	0.000		0	N.D.		
76) * alpha-Pinene	0.000		0	N.D.		
77) * n-Propylbenzene	0.000		0	N.D.		
78) 3-Ethyltoluene	0.000		0	N.D.		
79) * 4-Ethyltoluene	0.000		0	N.D.		
80) * 1,3,5-Trimethylbenzene	0.000		0	N.D.		
81) alpha-Methylstyrene	0.000		0	N.D.		
82) 2-Ethyltoluene	0.000		0	N.D.		
83) tert-Butylbenzene	0.000		0	N.D.		
84) * 1,2,4-Trimethylbenzene	0.000		0	N.D.		
85) * Benzyl Chloride	0.000		0	N.D.		
86) * 1,3-Dichlorobenzene	0.000		0	N.D.		
87) * 1,4-Dichlorobenzene	0.000		0	N.D.		
88) n-Decane	0.000		0	N.D.		
89) sec-Butylbenzene	0.000		0	N.D.		
90) 1,2,3-Trimethylbenzene	0.000		0	N.D.		
91) p-Isopropyltoluene	0.000		0	N.D.		
92) * 1,2-Dichlorobenzene	0.000		0	N.D.		
93) * D-Limonene	0.000		0	N.D.		
94) n-Butylbenzene	0.000		0	N.D.		
95) * 1,2-Dibromo-3-chloro...	0.000		0	N.D.		
96) n-Undecane	0.000		0	N.D.		
97) * 1,2,4-Trichlorobenzene	0.000		0	N.D.		
98) * Naphthalene	0.000		0	N.D.		
99) n-Dodecane	0.000		0	N.D.		
100) * Hexachlorobutadiene	0.000		0	N.D.		

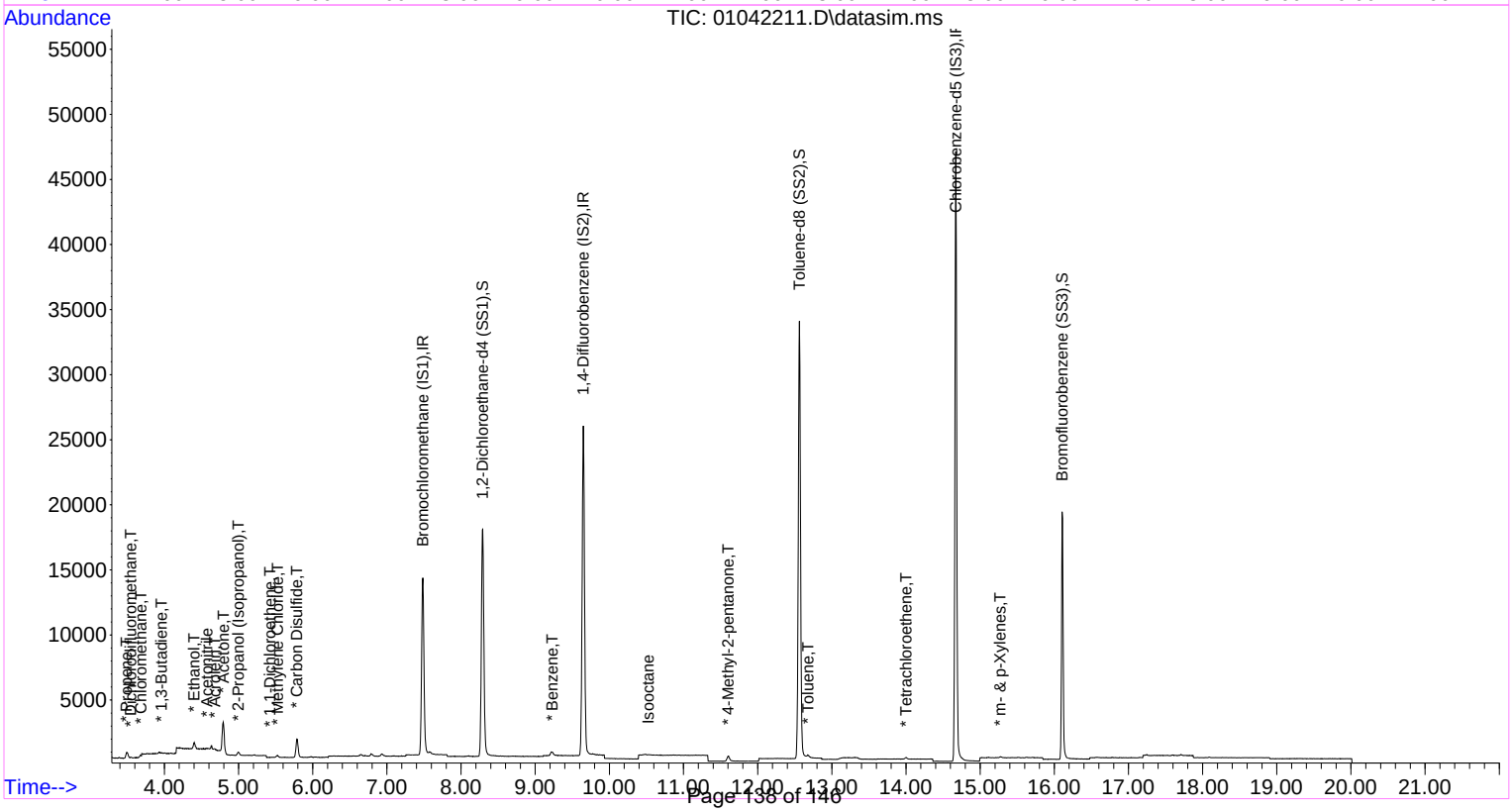
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 01\04\
Data File : 01042211.D
Acq On : 4 Jan 2022 14:09
Operator : RVT
Sample : 010422 AS00640 28769
Misc : LL+TICS (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 205 Sample Multiplier: 1

Quant Time: Jan 05 07:36:35 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-07
Cycles: 30
Batch: 28775

Batch Started By: ANAKLOWYCZ on 1/5/22 0824
Finished Cleaning By: on 1/17/22 0836

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS01409	1/5/22	1/5/22	Pass w/ Conditions	-14.3	1/17/22 0836					ms21_010522
AS01636	1/5/22	1/5/22	Pass w/ Conditions	-14.3	1/17/22 0836		-14.0	1/19/22 0825		
AS01555	1/5/22	1/5/22	Pass w/ Conditions	-14.3	1/17/22 0836		-14.0	1/17/22 0838		
AC02284	1/5/22	1/5/22	Pass w/ Conditions	-14.3	1/17/22 0836		-14.0	1/17/22 0838		
AC02079	1/5/22	1/5/22	Pass w/ Conditions	-14.3	1/17/22 0836		-14.0	1/17/22 0838		
AS01531	1/5/22	1/5/22	Pass w/ Conditions	-14.3	1/17/22 0836		-14.0	1/17/22 0838		
AC02146	1/5/22	1/5/22	Pass w/ Conditions	-14.3	1/17/22 0836		-14.0	1/17/22 0838		
AS00845	1/5/22	1/5/22	Pass w/ Conditions	-14.3	1/17/22 0836		-14.0	1/17/22 0838		
AS00623	1/5/22	1/5/22	Pass w/ Conditions	-14.3	1/17/22 0836		-14.0	1/17/22 0838		
AC02347	1/5/22	1/5/22	Pass w/ Conditions	-14.3	1/17/22 0836		-14.0	1/17/22 0838		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 01\05\
Data File : 01052211.D
Acq On : 5 Jan 2022 13:22
Operator : RVT
Sample : 010522 AS01409 28775
Misc : LL+TICS (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 206 Sample Multiplier: 1

RVT 1/18/22

Quant Time: Jan 18 15:23:26 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.485	130	17196	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.648	114	46014	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.672	54	9659	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.293	65	26479	982.50	pg		0.00
Spiked Amount 1000.000			Recovery = 98.25%				
57) Toluene-d8 (SS2)	12.563	98	39240	800.73	pg		0.00
Spiked Amount 1000.000			Recovery = 80.07%				
74) Bromofluorobenzene (SS3)	16.111	174	14006	704.33	pg		0.00
Spiked Amount 1000.000			Recovery = 70.43%				
Target Compounds							Qvalue
2] * Propene	3.488	42	133	6.73	pg	#	66
3) * Dichlorodifluoromethane	0.000		0	N.D.			
4] * Chloromethane	3.682	50	2742	79.51	pg		99
5) * 1,2-Dichloro-1,1,2,2...	0.000		0	N.D.			
6) * Vinyl Chloride	0.000		0	N.D.			
7] * 1,3-Butadiene	3.971	54	6	0.25	pg	#	12
8] * Bromomethane	4.183	94	73	3.07	pg		86
9] * Chloroethane	4.307	64	91	6.97	pg	#	40
10] * Ethanol	4.412	45	2280	200.72	pg		95
11] * Acetonitrile	4.578	41	504	24.05	pg	#	41
12] * Acrolein	4.682	56	328	26.45	pg		87
13] * Acetone	4.797	58	4540	236.17	pg		82
14) * Trichlorofluoromethane	0.000		0	N.D.			
15] * 2-Propanol (Isopropa...	5.008	45	920	18.27	pg	#	62
16) * Acrylonitrile	0.000		0	N.D.			
17) * 1,1-Dichloroethene	0.000		0	N.D.	d		
18) tert-Butanol	0.000		0	N.D.			
19] * Methylene Chloride	5.523	84	79	2.93	pg		95
20) * 3-Chloro-1-propene (...	0.000		0	N.D.			
21) * Trichlorotrifluoroet...	0.000		0	N.D.			
22] * Carbon Disulfide	5.790	76	2446	25.91	pg		99
23) * trans-1,2-Dichloroet...	0.000		0	N.D.			
24) * 1,1-Dichloroethane	0.000		0	N.D.			
25) * Methyl tert-Butyl Ether	0.000		0	N.D.			
26] * Vinyl Acetate	6.650	86	176	31.09	pg	#	19
27] * 2-Butanone (MEK)	6.937	72	274	18.26	pg		78
28) * cis-1,2-Dichloroethene	0.000		0	N.D.			
29) DIPE	0.000		0	N.D.			
30) * Ethyl Acetate	0.000		0	N.D.			
31) * n-Hexane	0.000		0	N.D.			
32) * Chloroform	0.000		0	N.D.			
34) * Tetrahydrofuran	0.000		0	N.D.			
35) ETBE	0.000		0	N.D.			
36) * 1,2-Dichloroethane	0.000		0	N.D.			
38) * 1,1,1-Trichloroethane	0.000		0	N.D.			
39] * Benzene	9.226	78	239	4.14	pg		97
40) Isopropyl Acetate	0.000		0	N.D.			
41) 1-Butanol	9.232	56	1083	No Calib		#	
42) * Carbon Tetrachloride	0.000		0	N.D.			
43) * Cyclohexane	0.000		0	N.D.			
44) TAME	0.000		0	N.D.			
45) * 1,2-Dichloropropane	0.000		0	N.D.			
46) * Bromodichloromethane	0.000		0	N.D.			
47) * Trichloroethene	0.000		0	N.D.	d		

Data Path : I:\MS21\DATA\2022 01\05\
Data File : 01052211.D
Acq On : 5 Jan 2022 13:22
Operator : RVT
Sample : 010522 AS01409 28775
Misc : LL+TICS (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 206 Sample Multiplier: 1

Quant Time: Jan 18 15:23:26 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

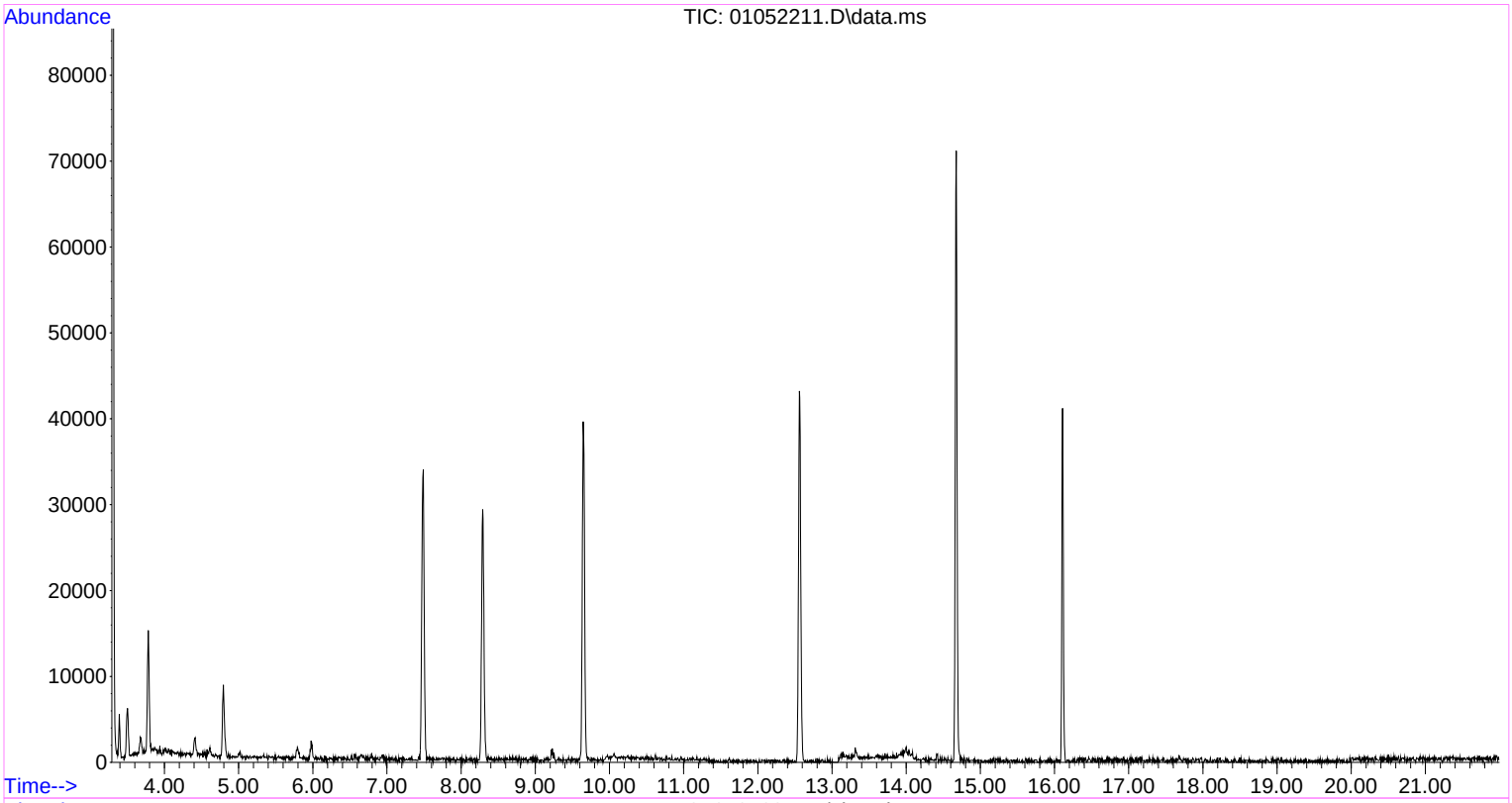
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
48] * 1,4-Dioxane	10.533	88	82	5.64 pg	#	71
49) Isooctane	0.000		0	N.D. d		
50) * Methyl Methacrylate	0.000		0	N.D.		
51) * n-Heptane	0.000		0	N.D.		
52) * cis-1,3-Dichloropropene	0.000		0	N.D.		
53] * 4-Methyl-2-pentanone	11.613	58	225	20.81 pg		89
54) * trans-1,3-Dichloropr...	0.000		0	N.D.		
55) * 1,1,2-Trichloroethane	0.000		0	N.D.		
58] * Toluene	12.682	91	135	2.08 pg		96
59) * 2-Hexanone	0.000		0	N.D.		
60) * Dibromochloromethane	0.000		0	N.D.		
61) * 1,2-Dibromoethane	0.000		0	N.D.		
62) * n-Butyl Acetate	0.000		0	N.D.		
63) * n-Octane	0.000		0	N.D.		
64] * Tetrachloroethene	14.001	166	498	21.69 pg		99
65) * Chlorobenzene	0.000		0	N.D.		
66] * Ethylbenzene	15.106	91	53	0.63 pg	#	43
67] * m- & p-Xylenes	15.271	91	266	4.07 pg	#	80
68) * Bromoform	0.000		0	N.D.		
69) Cyclohexanone	0.000		0	N.D.		
70] * Styrene	15.613	104	57	1.36 pg	#	30
71] * o-Xylene	15.710	91	184	2.81 pg		98
72) * n-Nonane	0.000		0	N.D.		
73) * 1,1,2,2-Tetrachloroe...	0.000		0	N.D.		
75) * Cumene	0.000		0	N.D.		
76) * alpha-Pinene	0.000		0	N.D.		
77) * n-Propylbenzene	0.000		0	N.D.		
78) 3-Ethyltoluene	16.818	105	65	No Calib	#	
79] * 4-Ethyltoluene	16.818	105	65	0.99 pg	#	45
80] * 1,3,5-Trimethylbenzene	16.885	105	51	0.83 pg	#	28
81) alpha-Methylstyrene	0.000		0	N.D.		
82) 2-Ethyltoluene	17.041	105	87	No Calib	#	
83) tert-Butylbenzene	0.000		0	N.D.		
84] * 1,2,4-Trimethylbenzene	17.228	105	168	2.83 pg		99
85) * Benzyl Chloride	0.000		0	N.D.		
86) * 1,3-Dichlorobenzene	0.000		0	N.D.		
87) * 1,4-Dichlorobenzene	0.000		0	N.D.		
88) n-Decane	0.000		0	N.D.		
89] sec-Butylbenzene	17.228	105	168	2.86 pg	#	51
90) 1,2,3-Trimethylbenzene	17.579	105	104	No Calib	#	
91) p-Isopropyltoluene	0.000		0	N.D.		
92] * 1,2-Dichlorobenzene	17.687	146	710	19.51 pg		97
93) * D-Limonene	0.000		0	N.D.		
94) n-Butylbenzene	0.000		0	N.D.		
95) * 1,2-Dibromo-3-chloro...	0.000		0	N.D.		
96) n-Undecane	0.000		0	N.D.		
97) * 1,2,4-Trichlorobenzene	0.000		0	N.D.		
98] * Naphthalene	19.258	128	194	4.88 pg	#	69
99) n-Dodecane	0.000		0	N.D.		
100) * Hexachlorobutadiene	0.000		0	N.D.		

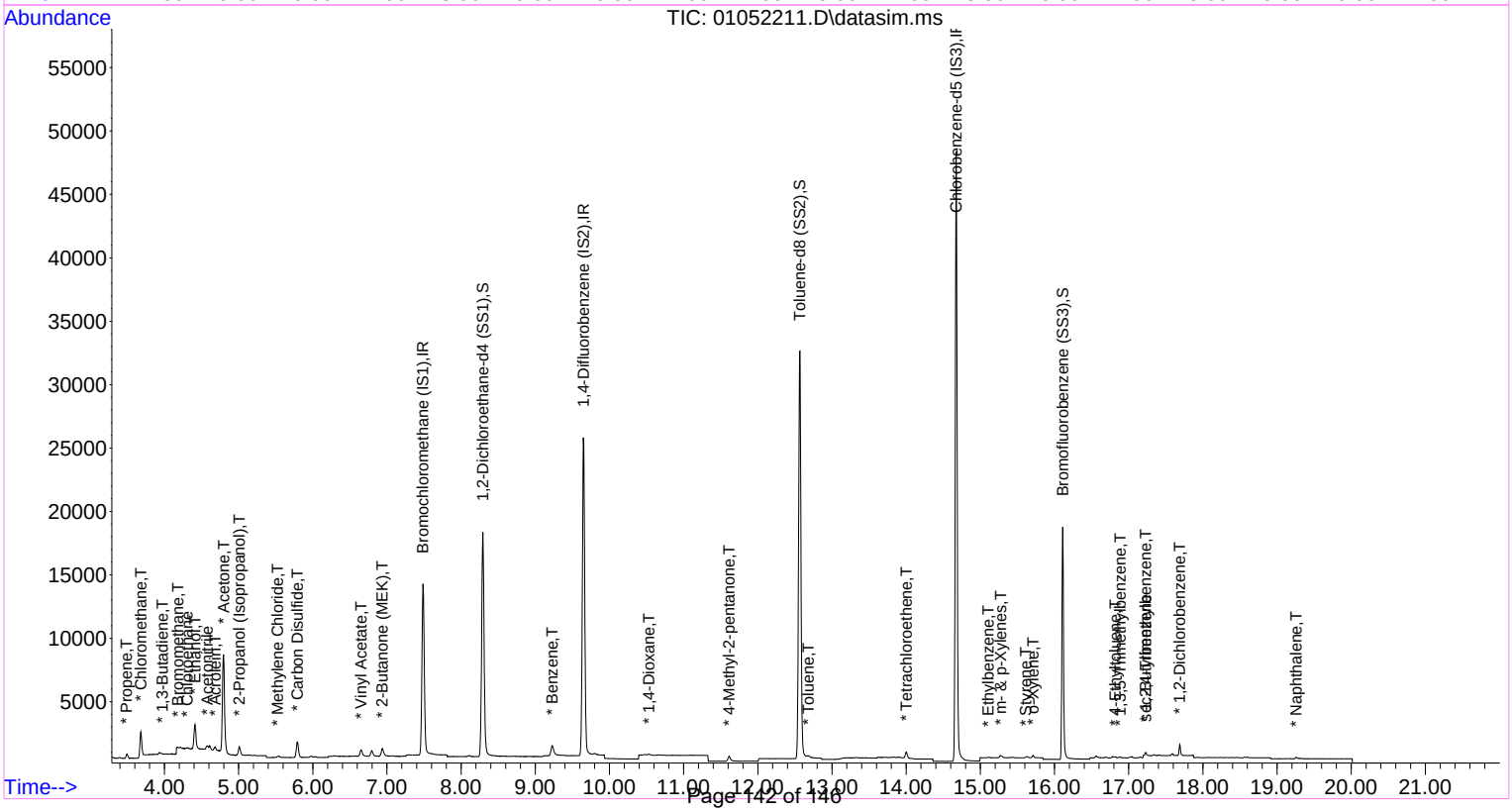
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 01\05\
Data File : 01052211.D
Acq On : 5 Jan 2022 13:22
Operator : RVT
Sample : 010522 AS01409 28775
Misc : LL+TICS (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 206 Sample Multiplier: 1

Quant Time: Jan 18 15:23:26 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 28786

Batch Started By: **on 1/6/22 0255**
Finished Cleaning By: **on 1/18/22 0304**

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS01631	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0304		-8.0	1/24/22 0915		ms21_011222
AS01350	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-8.0	1/24/22 0915		
AS00826	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-14.0	1/18/22 0327		
AC01902	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-14.0	1/19/22 0825		
AS00543	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-14.0	1/19/22 0353		
AC02403	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-14.0	1/19/22 0825		
AS00885	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-14.0	1/19/22 1036		
AC02348	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-14.0	1/19/22 0825		
AS01513	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-14.0	1/18/22 0327		
AS01276	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-14.0	1/19/22 0825		
AS01085	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-14.0	1/18/22 0327		
AS01365	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-8.0	1/24/22 0915		
AS00936	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-14.0	1/18/22 0328		
AC02159	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-14.0	1/19/22 0825		
AS01553	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-14.0	1/19/22 0353		gc22_011822
AS00853	1/6/22	1/12/22	Pass w/ Conditions	-14.3	1/18/22 0305		-14.0	1/19/22 1036		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 01\12\
Data File : 01122210.D
Acq On : 12 Jan 2022 21:45
Operator : TZ
Sample : AS01631 28786
Misc : LL+TICS (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

RVT 1/18/22

Quant Time: Jan 13 10:43:50 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.485	130	20082	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.649	114	60490	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.673	54	11687	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.293	65	30870	980.81	pg		0.00
Spiked Amount 1000.000			Recovery = 98.08%				
57) Toluene-d8 (SS2)	12.563	98	51518	868.85	pg		0.00
Spiked Amount 1000.000			Recovery = 86.89%				
74) Bromofluorobenzene (SS3)	16.111	174	18002	748.19	pg		0.00
Spiked Amount 1000.000			Recovery = 74.82%				
Target Compounds							Qvalue
2] * Propene	3.497	42	273	11.83	pg	#	36
3] * Dichlorodifluoromethane	3.553	85	97	1.49	pg	#	42
4] * Chloromethane	3.682	50	294	7.30	pg		99
5) * 1,2-Dichloro-1,1,2,2...	0.000		0	N.D.			
6) * Vinyl Chloride	0.000		0	N.D.			
7] * 1,3-Butadiene	3.971	54	16	0.56	pg	#	12
8] * Bromomethane	4.178	94	102	3.68	pg		86
9] * Chloroethane	4.318	64	53	3.48	pg	#	40
10] * Ethanol	4.417	45	1951	147.08	pg		96
11) * Acetonitrile	0.000		0	N.D.	d		
12] * Acrolein	4.677	56	369	25.48	pg	#	72
13] * Acetone	4.802	58	2245	100.00	pg		89
14) * Trichlorofluoromethane	0.000		0	N.D.			
15] * 2-Propanol (Isopropa...	5.021	45	429	7.30	pg	#	83
16] * Acrylonitrile	5.157	53	51	1.60	pg	#	9
17) * 1,1-Dichloroethene	0.000		0	N.D.	d		
18) tert-Butanol	0.000		0	N.D.			
19] * Methylene Chloride	5.523	84	674	21.39	pg		97
20) * 3-Chloro-1-propene (...	0.000		0	N.D.			
21) * Trichlorotrifluoroet...	0.000		0	N.D.			
22] * Carbon Disulfide	5.795	76	3147	28.54	pg		98
23) * trans-1,2-Dichloroet...	0.000		0	N.D.			
24) * 1,1-Dichloroethane	0.000		0	N.D.			
25) * Methyl tert-Butyl Ether	0.000		0	N.D.			
26) * Vinyl Acetate	0.000		0	N.D.			
27] * 2-Butanone (MEK)	6.947	72	129	7.36	pg		90
28) * cis-1,2-Dichloroethene	0.000		0	N.D.			
29) DIPE	0.000		0	N.D.			
30) * Ethyl Acetate	0.000		0	N.D.			
31] * n-Hexane	7.576	57	91	2.32	pg	#	55
32) * Chloroform	0.000		0	N.D.			
34) * Tetrahydrofuran	0.000		0	N.D.			
35) ETBE	0.000		0	N.D.			
36) * 1,2-Dichloroethane	0.000		0	N.D.			
38) * 1,1,1-Trichloroethane	0.000		0	N.D.			
39] * Benzene	9.232	78	389	5.13	pg		96
40) Isopropyl Acetate	9.216	61	326	No Calib		#	
41) 1-Butanol	9.117	56	97	No Calib		#	
42) * Carbon Tetrachloride	0.000		0	N.D.			
43) * Cyclohexane	0.000		0	N.D.			
44) TAME	0.000		0	N.D.			
45) * 1,2-Dichloropropane	0.000		0	N.D.			
46) * Bromodichloromethane	0.000		0	N.D.			
47) * Trichloroethene	0.000		0	N.D.	d		

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 01\12\
Data File : 01122210.D
Acq On : 12 Jan 2022 21:45
Operator : TZ
Sample : AS01631 28786
Misc : LL+TICS (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 13 10:43:50 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

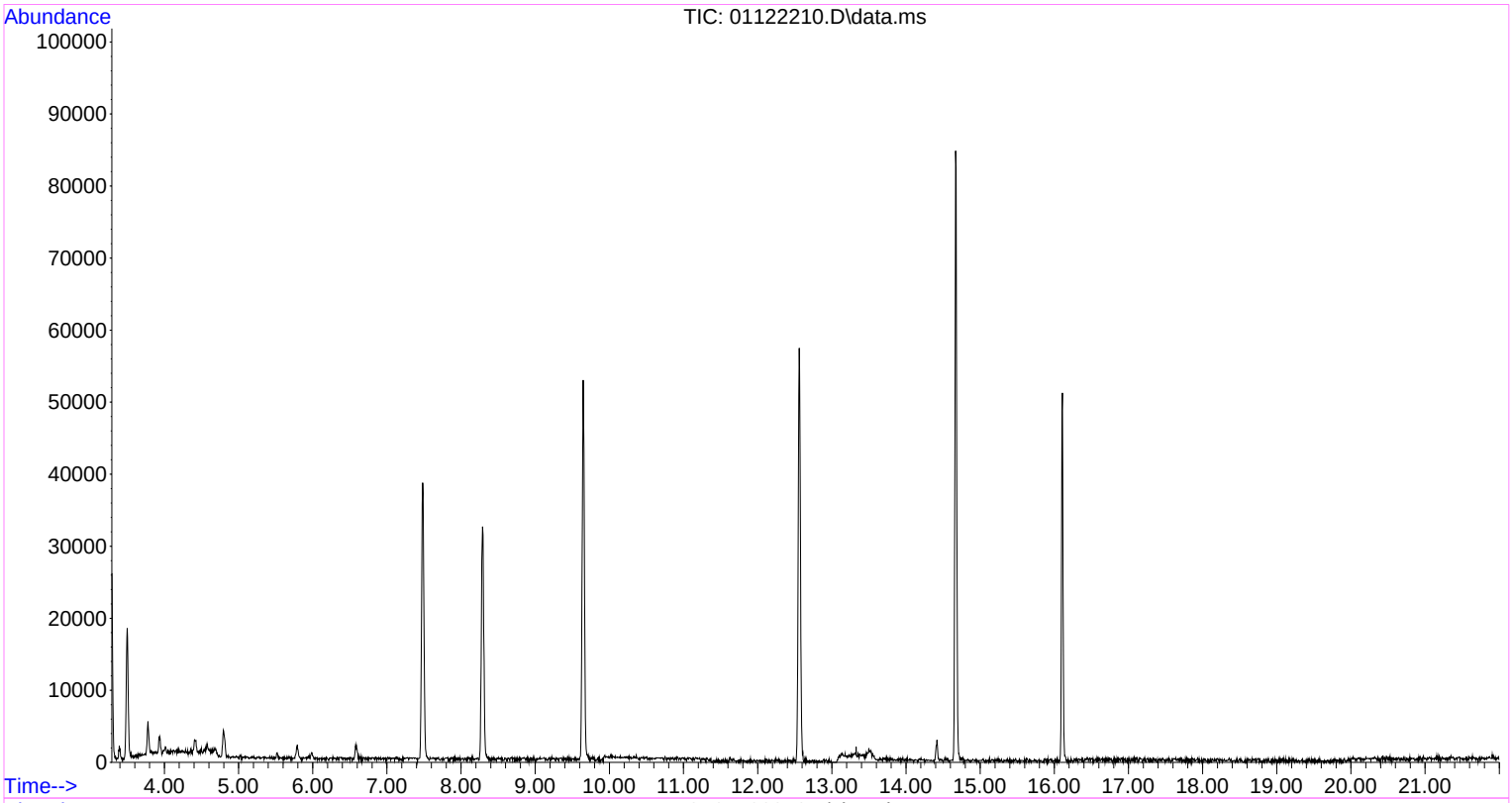
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
48] * 1,4-Dioxane	10.547	88	152	7.95	pg	#	1
49) Isooctane	0.000		0	N.D.	d		
50) * Methyl Methacrylate	0.000		0	N.D.			
51] * n-Heptane	10.864	71	71	3.42	pg	#	41
52) * cis-1,3-Dichloropropene	0.000		0	N.D.			
53] * 4-Methyl-2-pentanone	11.624	58	284	19.98	pg		97
54) * trans-1,3-Dichloropr...	0.000		0	N.D.			
55) * 1,1,2-Trichloroethane	0.000		0	N.D.			
58] * Toluene	12.682	91	539	6.85	pg		92
59) * 2-Hexanone	0.000		0	N.D.			
60) * Dibromochloromethane	0.000		0	N.D.			
61) * 1,2-Dibromoethane	0.000		0	N.D.			
62) * n-Butyl Acetate	0.000		0	N.D.			
63) * n-Octane	0.000		0	N.D.			
64) * Tetrachloroethene	0.000		0	N.D.			
65) * Chlorobenzene	0.000		0	N.D.			
66] * Ethylbenzene	15.101	91	125	1.23	pg	#	43
67] * m- & p-Xylenes	15.272	91	297	3.76	pg		91
68) * Bromoform	0.000		0	N.D.			
69) Cyclohexanone	0.000		0	N.D.			
70) * Styrene	0.000		0	N.D.			
71] * o-Xylene	15.711	91	146	1.84	pg		96
72) * n-Nonane	0.000		0	N.D.			
73) * 1,1,2,2-Tetrachloroe...	0.000		0	N.D.			
75) * Cumene	0.000		0	N.D.			
76) * alpha-Pinene	0.000		0	N.D.			
77] * n-Propylbenzene	16.692	91	76	0.70	pg	#	2
78) 3-Ethyltoluene	16.779	105	154	No Calib			
79] * 4-Ethyltoluene	16.779	105	155	1.94	pg		91
80] * 1,3,5-Trimethylbenzene	16.881	105	60	0.80	pg	#	28
81) alpha-Methylstyrene	0.000		0	N.D.			
82) 2-Ethyltoluene	17.041	105	72	No Calib	#		
83) tert-Butylbenzene	0.000		0	N.D.			
84] * 1,2,4-Trimethylbenzene	17.229	105	251	3.49	pg		91
85) * Benzyl Chloride	0.000		0	N.D.			
86) * 1,3-Dichlorobenzene	0.000		0	N.D.			
87) * 1,4-Dichlorobenzene	0.000		0	N.D.			
88) n-Decane	0.000		0	N.D.			
89] sec-Butylbenzene	17.229	105	251	3.53	pg	#	51
90) 1,2,3-Trimethylbenzene	17.585	105	55	No Calib	#		
91) p-Isopropyltoluene	0.000		0	N.D.			
92) * 1,2-Dichlorobenzene	0.000		0	N.D.			
93] * D-Limonene	17.715	68	51	2.90	pg	#	72
94) n-Butylbenzene	0.000		0	N.D.			
95) * 1,2-Dibromo-3-chloro...	0.000		0	N.D.			
96) n-Undecane	0.000		0	N.D.			
97) * 1,2,4-Trichlorobenzene	0.000		0	N.D.			
98) * Naphthalene	0.000		0	N.D.			
99) n-Dodecane	0.000		0	N.D.			
100) * Hexachlorobutadiene	0.000		0	N.D.			

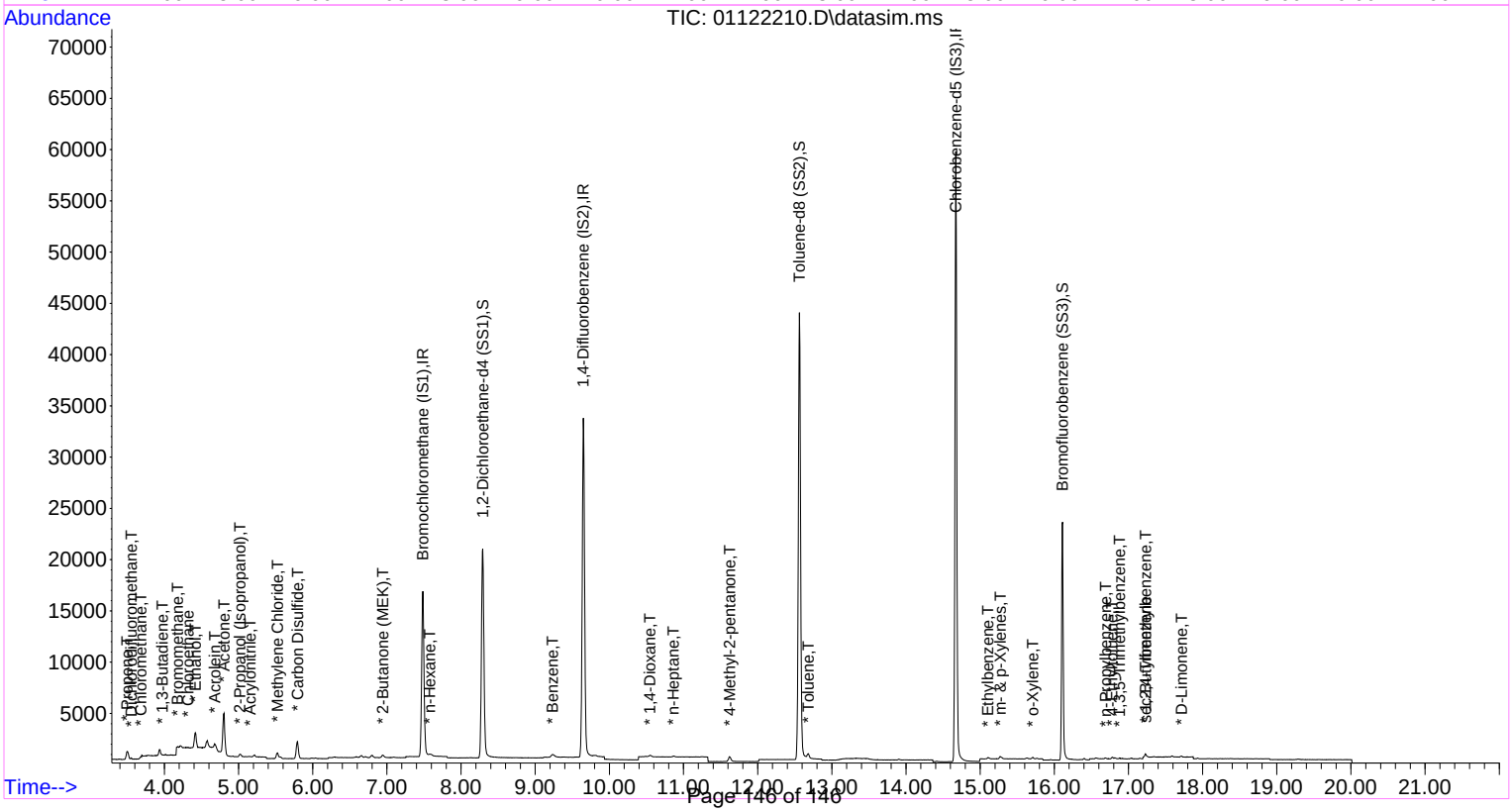
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 01\12\
Data File : 01122210.D
Acq On : 12 Jan 2022 21:45
Operator : TZ
Sample : AS01631 28786
Misc : LL+TICS (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 13 10:43:50 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration





2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

February 22, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on February 4, 2022. For your reference, these analyses have been assigned our service request number P2200505.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 4:41 pm, Feb 22, 2022

Nicole Bryson
Laboratory Director

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: North Wind, Inc. Service Request No: P2200505
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on February 4, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2200505

Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 2/4/2022

Time Received: 14:44

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_020422_S	P2200505-001	Air	2/4/2022	10:00	AS01190	-1.17	4.28	X
DOE-2_020422_S	P2200505-002	Air	2/4/2022	10:15	AS01345	-1.62	3.92	X
DOE-3_020422_S	P2200505-003	Air	2/4/2022	10:30	AS00943	-1.81	3.90	X
DOE-4_020422_S	P2200505-004	Air	2/4/2022	10:45	AC02408	-2.53	5.55	X
DOE-3_020422_D	P2200505-005	Air	2/4/2022	10:31	AS00312	-1.59	3.71	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. P220505

Company Name & Address (Reporting Information) North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304	Project Name: DOE Perimeter Air Project Number: 080153.015.15
Project Manager: Trina Cesnik	P.O. # / Billing Information: PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Phone: 805-587-0691 / Fax:	
Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg	Sampler (Print & Sign): T. Stewart Williford

ALS Contact: Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_020422_S	1	2/4/2022	1000	AS01190	FCR00261	-29.0	-3.0		X		
DOE-2_020422_S	2	2/4/2022	1015	AS01345	FCR00258	-28.0	-2.5		X		
DOE-3_020422_S	3	2/4/2022	1030	AS00943	FCR00379	-28.5	-3.0		X		
DOE-4_020422_S	4	2/4/2022	1045	AC02408	FCR00387	-28.5	-3.0		X		
DOE-3_020422_D	4	2/4/2022	1031	AS00312	FCR00357	-28.5	-3.0		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ✓ Tier IV (Data Validation Package) 10% Surcharge ✓

EDD required Yes / No
Type: EQuIS Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature) T. Stewart Williford	Date: 2/4/22	Time: 1444	Received by: (Signature)	Date: 2-4-22	Time: 1444
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2200505

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 2/4/22 Date opened: 2/4/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2200505-001.01	6.0 L Silonite Can					
P2200505-002.01	6.0 L Silonite Can					
P2200505-003.01	6.0 L Silonite Can					
P2200505-004.01	6.0 L Ambient Can					
P2200505-005.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_020422_S** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-001

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01190

Initial Pressure (psig): -1.17 Final Pressure (psig): 4.28

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.74	**0.45**	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.76	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.71	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.61	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.73	**0.19**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.0	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.47	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.18	
141-78-6	Ethyl Acetate	**8.8**	2.9	**2.5**	0.82	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_020422_S** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-001

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01190

Initial Pressure (psig): -1.17 Final Pressure (psig): 4.28

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.74	ND	0.21	
67-66-3	Chloroform	ND	0.76	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.47	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.70	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	ND	0.73	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	
142-82-5	n-Heptane	ND	0.74	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.71	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	ND	0.73	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.087	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.095	
111-65-9	n-Octane	ND	0.74	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_020422_S** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-001

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01190

Initial Pressure (psig): -1.17 Final Pressure (psig): 4.28

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.73	ND	0.11	
100-41-4	Ethylbenzene	ND	0.73	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.73	ND	0.070	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	o-Xylene	ND	0.73	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.74	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.74	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.73	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.73	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.21	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.068	
104-51-8	n-Butylbenzene	ND	0.73	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_020422_S** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-002

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01345

Initial Pressure (psig): -1.62 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.75	**0.45**	0.15	
74-87-3	Chloromethane	ND	0.72	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.33	
74-83-9	Bromomethane	ND	0.72	ND	0.19	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.74	**0.19**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.75	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.1	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**5.3**	3.0	**1.5**	0.83	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_020422_S** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-002

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01345

Initial Pressure (psig): -1.62 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.75	ND	0.21	
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.48	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.71	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.71	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.71	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.20	
142-82-5	n-Heptane	ND	0.75	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	ND	0.74	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.75	ND	0.088	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.096	
111-65-9	n-Octane	ND	0.75	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_020422_S** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-002

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01345

Initial Pressure (psig): -1.62 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.071	
100-42-5	Styrene	ND	0.71	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.75	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.069	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_020422_S** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-003

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00943

Initial Pressure (psig): -1.81 Final Pressure (psig): 3.90

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.76	**0.46**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.78	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.63	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.75	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.59	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.75	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.2	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	ND	3.0	ND	0.84	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_020422_S** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-003

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00943

Initial Pressure (psig): -1.81 Final Pressure (psig): 3.90

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.76	ND	0.22	
67-66-3	Chloroform	ND	0.78	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.75	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.75	ND	0.14	
108-88-3	Toluene	ND	0.75	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.75	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_020422_S** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-003

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00943

Initial Pressure (psig): -1.81 Final Pressure (psig): 3.90

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.75	ND	0.11	
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.75	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.75	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.75	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.75	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.75	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.75	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.75	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.75	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_020422_S** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-004

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/15/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02408

Initial Pressure (psig): -2.53 Final Pressure (psig): 5.55

Canister Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.88	**0.43**	0.18	
74-87-3	Chloromethane	ND	0.85	ND	0.41	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.90	ND	0.13	
75-01-4	Vinyl Chloride	ND	0.86	ND	0.34	
106-99-0	1,3-Butadiene	ND	0.86	ND	0.39	
74-83-9	Bromomethane	ND	0.85	ND	0.22	
75-00-3	Chloroethane	ND	0.85	ND	0.32	
107-02-8	Acrolein	ND	1.7	ND	0.72	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.86	**0.19**	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.7	ND	0.68	
107-13-1	Acrylonitrile	ND	1.7	ND	0.77	
75-35-4	1,1-Dichloroethene	ND	0.90	ND	0.23	
75-09-2	Methylene Chloride	ND	0.86	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.90	ND	0.12	
75-15-0	Carbon Disulfide	ND	1.8	ND	0.59	
156-60-5	trans-1,2-Dichloroethene	ND	0.88	ND	0.22	
75-34-3	1,1-Dichloroethane	ND	0.88	ND	0.22	
1634-04-4	Methyl tert-Butyl Ether	ND	0.88	ND	0.24	
108-05-4	Vinyl Acetate	ND	8.3	ND	2.4	
78-93-3	2-Butanone (MEK)	ND	1.7	ND	0.56	
156-59-2	cis-1,2-Dichloroethene	ND	0.86	ND	0.22	
141-78-6	Ethyl Acetate	**3.8**	3.5	**1.0**	0.97	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_020422_S** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-004

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/15/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02408

Initial Pressure (psig): -2.53 Final Pressure (psig): 5.55

Canister Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.88	ND	0.25	
67-66-3	Chloroform	ND	0.90	ND	0.18	
109-99-9	Tetrahydrofuran (THF)	ND	1.7	ND	0.56	
107-06-2	1,2-Dichloroethane	ND	0.88	ND	0.22	
71-55-6	1,1,1-Trichloroethane	ND	0.86	ND	0.16	
71-43-2	Benzene	ND	0.83	ND	0.26	
56-23-5	Carbon Tetrachloride	ND	0.83	ND	0.13	
110-82-7	Cyclohexane	ND	1.8	ND	0.53	
78-87-5	1,2-Dichloropropane	ND	0.83	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.88	ND	0.13	
79-01-6	Trichloroethene	ND	0.86	ND	0.16	
123-91-1	1,4-Dioxane	ND	0.86	ND	0.24	
142-82-5	n-Heptane	ND	0.88	ND	0.21	
10061-01-5	cis-1,3-Dichloropropene	ND	0.83	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	1.8	ND	0.45	
10061-02-6	trans-1,3-Dichloropropene	ND	0.85	ND	0.19	
79-00-5	1,1,2-Trichloroethane	ND	0.86	ND	0.16	
108-88-3	Toluene	ND	0.86	ND	0.23	
591-78-6	2-Hexanone	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	ND	0.88	ND	0.10	
106-93-4	1,2-Dibromoethane	ND	0.86	ND	0.11	
111-65-9	n-Octane	ND	0.88	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_020422_S** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-004

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/15/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02408

Initial Pressure (psig): -2.53 Final Pressure (psig): 5.55

Canister Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.86	ND	0.13	
100-41-4	Ethylbenzene	ND	0.86	ND	0.20	
179601-23-1	m,p-Xylenes	ND	1.8	ND	0.42	
75-25-2	Bromoform	ND	0.86	ND	0.084	
100-42-5	Styrene	ND	0.83	ND	0.20	
95-47-6	o-Xylene	ND	0.86	ND	0.20	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.86	ND	0.13	
98-82-8	Cumene	ND	0.86	ND	0.18	
103-65-1	n-Propylbenzene	ND	0.88	ND	0.18	
622-96-8	4-Ethyltoluene	ND	0.88	ND	0.18	
108-67-8	1,3,5-Trimethylbenzene	ND	0.86	ND	0.18	
95-63-6	1,2,4-Trimethylbenzene	ND	0.86	ND	0.18	
100-44-7	Benzyl Chloride	ND	1.8	ND	0.35	
541-73-1	1,3-Dichlorobenzene	ND	0.86	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.86	ND	0.14	
135-98-8	sec-Butylbenzene	ND	0.86	ND	0.16	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.86	ND	0.16	
95-50-1	1,2-Dichlorobenzene	ND	0.88	ND	0.15	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	ND	0.25	
91-20-3	Naphthalene	ND	0.86	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.86	ND	0.081	
104-51-8	n-Butylbenzene	ND	0.86	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_020422_D** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-005

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00312

Initial Pressure (psig): -1.59 Final Pressure (psig): 3.71

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.74	**0.46**	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.76	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.71	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.61	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.73	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.0	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.47	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.18	
141-78-6	Ethyl Acetate	ND	2.9	ND	0.82	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_020422_D** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-005

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00312

Initial Pressure (psig): -1.59 Final Pressure (psig): 3.71

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.74	ND	0.21	
67-66-3	Chloroform	ND	0.76	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.47	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.70	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	ND	0.73	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	
142-82-5	n-Heptane	ND	0.74	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.71	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	ND	0.73	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.087	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.095	
111-65-9	n-Octane	ND	0.74	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_020422_D** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200505-005

Test Code: EPA TO-15 Date Collected: 2/4/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 2/4/22
Analyst: Wida Ang Date Analyzed: 2/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00312

Initial Pressure (psig): -1.59 Final Pressure (psig): 3.71

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.73	ND	0.11	
100-41-4	Ethylbenzene	ND	0.73	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.73	ND	0.070	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	o-Xylene	ND	0.73	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.74	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.74	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.73	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.73	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.21	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.068	
104-51-8	n-Butylbenzene	ND	0.73	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220215-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220215-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.53	ND	0.15	
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220215-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2200505

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 2/4/22
Analyst: Wida Ang Date(s) Received: 2/4/22
Sample Type: 6.0 L Silonite Canister(s) / 6.0 L Summa Canister(s) Date(s) Analyzed: 2/15 - 2/16/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220215-MB	**94**	**103**	**95**	70-130	
Lab Control Sample	P220215-LCS	**94**	**100**	**97**	70-130	
Duplicate Lab Control Sample	P220215-DLCS	**92**	**102**	**99**	70-130	
DOE-1_020422_S	P2200505-001	**92**	**105**	**97**	70-130	
DOE-2_020422_S	P2200505-002	**92**	**104**	**94**	70-130	
DOE-3_020422_S	P2200505-003	**93**	**104**	**93**	70-130	
DOE-4_020422_S	P2200505-004	**93**	**102**	**96**	70-130	
DOE-3_020422_D	P2200505-005	**95**	**101**	**92**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220215-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	184	182	**88**	**88**	71-112	0	25	
74-87-3	Chloromethane	206	188	183	**91**	**89**	53-126	2	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	204	200	**98**	**96**	62-121	2	25	
75-01-4	Vinyl Chloride	208	195	191	**94**	**92**	63-123	2	25	
106-99-0	1,3-Butadiene	206	199	198	**97**	**96**	63-135	1	25	
74-83-9	Bromomethane	206	182	189	**88**	**92**	71-112	4	25	
75-00-3	Chloroethane	206	186	192	**90**	**93**	66-117	3	25	
107-02-8	Acrolein	416	426	424	**102**	**102**	71-123	0	25	
75-69-4	Trichlorofluoromethane (CFC 11)	202	181	182	**90**	**90**	71-114	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	321	312	**80**	**78**	61-124	3	25	
107-13-1	Acrylonitrile	402	369	366	**92**	**91**	65-130	1	25	
75-35-4	1,1-Dichloroethene	210	198	198	**94**	**94**	74-114	0	25	
75-09-2	Methylene Chloride	208	196	193	**94**	**93**	75-112	1	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	197	197	**91**	**91**	73-114	0	25	
75-15-0	Carbon Disulfide	414	417	407	**101**	**98**	70-113	3	25	
156-60-5	trans-1,2-Dichloroethene	208	192	191	**92**	**92**	76-119	0	25	
75-34-3	1,1-Dichloroethane	214	194	193	**91**	**90**	70-114	1	25	
1634-04-4	Methyl tert-Butyl Ether	206	205	203	**100**	**99**	72-118	1	25	
108-05-4	Vinyl Acetate	942	1150	1130	**122**	**120**	56-137	2	25	
78-93-3	2-Butanone (MEK)	408	404	394	**99**	**97**	74-121	2	25	
156-59-2	cis-1,2-Dichloroethene	206	191	190	**93**	**92**	73-117	1	25	
141-78-6	Ethyl Acetate	580	591	562	**102**	**97**	59-161	5	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220215-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-54-3	n-Hexane	208	222	212	**107**	**102**	55-130	5	25	
67-66-3	Chloroform	210	206	201	**98**	**96**	71-114	2	25	
109-99-9	Tetrahydrofuran (THF)	404	414	406	**102**	**100**	73-114	2	25	
107-06-2	1,2-Dichloroethane	210	186	181	**89**	**86**	71-119	3	25	
71-55-6	1,1,1-Trichloroethane	208	193	194	**93**	**93**	73-119	0	25	
71-43-2	Benzene	208	207	206	**100**	**99**	72-113	1	25	
56-23-5	Carbon Tetrachloride	202	189	191	**94**	**95**	67-123	1	25	
110-82-7	Cyclohexane	412	464	454	**113**	**110**	70-119	3	25	
78-87-5	1,2-Dichloropropane	206	206	204	**100**	**99**	70-118	1	25	
75-27-4	Bromodichloromethane	208	215	212	**103**	**102**	74-119	1	25	
79-01-6	Trichloroethene	204	215	213	**105**	**104**	74-115	1	25	
123-91-1	1,4-Dioxane	206	206	204	**100**	**99**	77-124	1	25	
142-82-5	n-Heptane	206	221	218	**107**	**106**	70-119	0.9	25	
10061-01-5	cis-1,3-Dichloropropene	208	220	217	**106**	**104**	81-126	2	25	
108-10-1	4-Methyl-2-pentanone	412	446	434	**108**	**105**	73-129	3	25	
10061-02-6	trans-1,3-Dichloropropene	200	205	203	**103**	**102**	80-127	1	25	
79-00-5	1,1,2-Trichloroethane	208	212	209	**102**	**100**	78-117	2	25	
108-88-3	Toluene	206	212	216	**103**	**105**	70-118	2	25	
591-78-6	2-Hexanone	406	383	384	**94**	**95**	74-132	1	25	
124-48-1	Dibromochloromethane	210	212	219	**101**	**104**	69-137	3	25	
106-93-4	1,2-Dibromoethane	208	201	208	**97**	**100**	76-128	3	25	
111-65-9	n-Octane	208	220	224	**106**	**108**	68-120	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2200505
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220215-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
127-18-4	Tetrachloroethene	212	214	220	**101**	**104**	63-130	3	25	
100-41-4	Ethylbenzene	206	224	227	**109**	**110**	71-123	0.9	25	
179601-23-1	m,p-Xylenes	416	469	473	**113**	**114**	67-127	0.9	25	
75-25-2	Bromoform	210	204	211	**97**	**100**	65-149	3	25	
100-42-5	Styrene	202	222	225	**110**	**111**	76-132	0.9	25	
95-47-6	o-Xylene	208	236	238	**113**	**114**	69-124	0.9	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	245	247	**118**	**119**	69-128	0.8	25	
98-82-8	Cumene	206	230	232	**112**	**113**	69-125	0.9	25	
103-65-1	n-Propylbenzene	208	234	235	**113**	**113**	70-127	0	25	
622-96-8	4-Ethyltoluene	208	236	238	**113**	**114**	69-127	0.9	25	
108-67-8	1,3,5-Trimethylbenzene	208	241	241	**116**	**116**	66-129	0	25	
95-63-6	1,2,4-Trimethylbenzene	206	264	261	**128**	**127**	63-142	0.8	25	
100-44-7	Benzyl Chloride	416	518	518	**125**	**125**	73-145	0	25	
541-73-1	1,3-Dichlorobenzene	208	252	252	**121**	**121**	67-136	0	25	
106-46-7	1,4-Dichlorobenzene	210	223	225	**106**	**107**	63-134	0.9	25	
135-98-8	sec-Butylbenzene	204	243	242	**119**	**119**	68-130	0	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	242	241	**117**	**117**	60-139	0	25	
95-50-1	1,2-Dichlorobenzene	210	260	258	**124**	**123**	64-139	0.8	25	
120-82-1	1,2,4-Trichlorobenzene	420	486	482	**116**	**115**	62-154	0.9	25	
91-20-3	Naphthalene	210	198	200	**94**	**95**	62-156	1	25	
87-68-3	Hexachlorobutadiene	212	222	223	**105**	**105**	55-142	0	25	
104-51-8	n-Butylbenzene	208	244	244	**117**	**117**	70-131	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2200505

Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 02152231.D

Analyst: Wida Ang Date Analyzed: 2/15/22

Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 20:56

Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	201991		11.31		909094		13.43		155881		17.73	
	Upper Limit	282787		11.64		1272732		13.76		218233		18.06	
	Lower Limit	121195		10.98		545456		13.10		93529		17.40	
	Client Sample ID												
01	Method Blank	171777		11.30		787141		13.42		137328		17.73	
02	Lab Control Sample	178903		11.32		821251		13.43		150285		17.73	
03	Duplicate Lab Control Sample	198841		11.32		896854		13.43		157174		17.73	
04	DOE-1_020422_S	187316		11.30		855449		13.42		143396		17.73	
05	DOE-2_020422_S	179864		11.30		816686		13.43		139639		17.73	
06	DOE-3_020422_S	166801		11.30		764363		13.43		130541		17.73	
07	DOE-4_020422_S	166704		11.30		759597		13.42		132587		17.73	
08	DOE-3_020422_D	156917		11.30		723555		13.42		128992		17.73	
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152239.D Vial: 10
Acq On : 16 Feb 2022 1:27 Operator: WA
Sample : P2200505-001 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 09:24:23 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022 WA 2/16/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	187316	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	855449	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	143396	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	295444	11.482	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%			
57) Toluene-d8 (SS2)	15.88	98	907663	13.098	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.80%			
73) Bromofluorobenzene (SS3)	19.11	174	267943	12.132	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%			
Target Compounds						Qvalue
2) Propene	4.20	42	6371	N.D.		
3) Dichlorodifluoromethan...	4.34	85	75723	1.606	ng	99
4) Chloromethane	4.63	50	9222	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	2019	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.77	94	416	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.44	45	28665	1.625	ng	91
11) Acetonitrile	6.73	41	11652	N.D.		
12) Acrolein	6.93	56	2121	N.D.		
13) Acetone	7.15	58	45479	2.577	ng	88
14) Trichlorofluoromethane	7.39	101	31151	0.777	ng	100
15) 2-Propanol (Isopropanol)	7.65	45	6892	N.D.		
16) Acrylonitrile	7.90	53	4092	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.57	59	1419	N.D.		
19) Methylene Chloride	8.57	84	7493	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.01	151	6544	N.D.		
22) Carbon Disulfide	8.84	76	4929	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.62	72	5576	N.D.		
28) cis-1,2-Dichloroethene	11.12	61	9025	N.D.		
29) Diisopropyl Ether	11.44	87	883	N.D.		
30) Ethyl Acetate	11.43	61	52541	6.305	ng	85
31) n-Hexane	11.42	57	1010	N.D.		
32) Chloroform	11.47	83	1868	N.D.		
34) Tetrahydrofuran (THF)	11.91	72	606	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.27	62	1193	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.01	56	2399	No Calib	#	
41) Benzene	13.03	78	14931	N.D.		
42) Carbon Tetrachloride	13.19	117	7681	N.D.		
43) Cyclohexane	13.33	84	115	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	13.89	63	175	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.13	130	4106	N.D.		
48) 1,4-Dioxane	14.13	88	242	N.D.		
49) 2,2,4-Trimethylpentane...	14.20	57	1819	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152239.D Vial: 10
Acq On : 16 Feb 2022 1:27 Operator: WA
Sample : P2200505-001 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 09:24:23 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

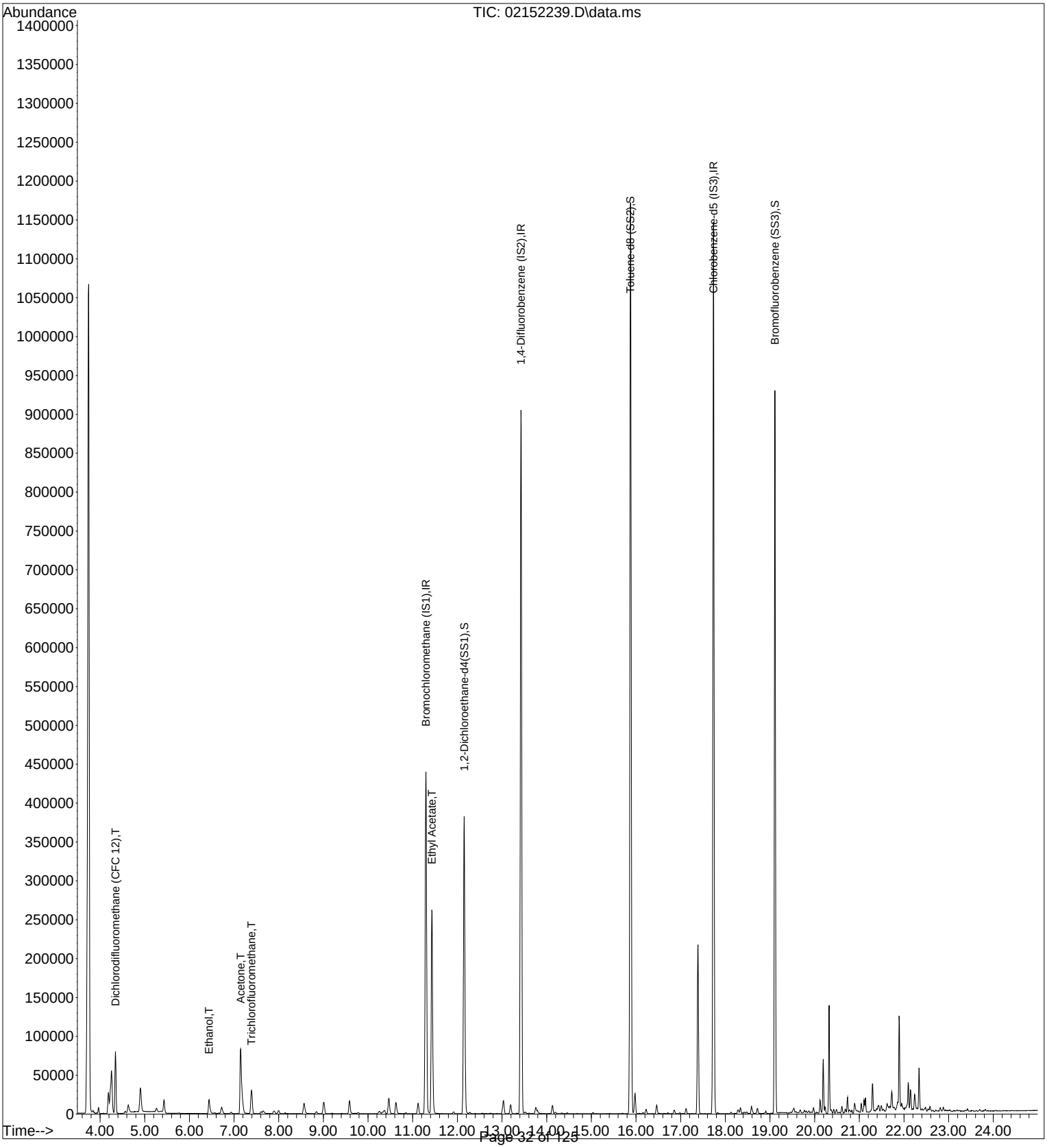
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	202	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	15.04	58	308	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.98	91	23798	N.D.		
59) 2-Hexanone	16.23	43	4961	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.86	43	4039	N.D.		
63) n-Octane	16.98	57	166	N.D.		
64) Tetrachloroethene	17.12	166	2238	N.D.		
65) Chlorobenzene	17.77	112	841	N.D.		
66) Ethylbenzene	18.13	91	2596	N.D.		
67) m- & p-Xylenes	18.28	91	6172	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.61	104	1269	N.D.		
70) o-Xylene	18.71	91	2557	N.D.		
71) n-Nonane	18.91	43	1786	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.72	83	174	N.D.		
74) Cumene	19.23	105	633	N.D.		
75) alpha-Pinene	19.59	93	768	N.D.		
76) n-Propylbenzene	19.68	91	3081	N.D.		
77) 3-Ethyltoluene	19.81	105	2074	No Calib		
78) 4-Ethyltoluene	19.81	105	2074	N.D.		
79) 1,3,5-Trimethylbenzene	19.87	105	1615	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.87	105	1615	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	4297	N.D.		
83) n-Decane	20.32	58	1818	No Calib		#
84) Benzyl Chloride	20.35	91	3082	N.D.		
85) 1,3-Dichlorobenzene	20.37	146	1620	N.D.		
86) 1,4-Dichlorobenzene	20.42	146	2207	N.D.		
87) sec-Butylbenzene	20.47	105	527	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	4032	N.D.		
89) 1,2,3-Trimethylbenzene	20.61	105	914	No Calib		#
90) 1,2-Dichlorobenzene	20.73	146	1152	N.D.		
91) d-Limonene	20.74	68	4049	N.D.		
92) 1,2-Dibromo-3-Chloropr...	21.11	157	262	N.D.		
93) n-Undecane	22.25	57	2163	No Calib		#
94) 1,2,4-Trichlorobenzene	22.24	180	4211	N.D.		
95) Naphthalene	22.35	128	11015	N.D.		
96) n-Dodecane	22.34	57	12027	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.33	55	274	No Calib		#
99) tert-Butylbenzene	20.24	119	858	N.D.		
100) n-Butylbenzene	20.97	91	2146	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152239.D Vial: 10
Acq On : 16 Feb 2022 1:27 Operator: WA
Sample : P2200505-001 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 09:24:23 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152239.D Vial: 10
Acq On : 16 Feb 2022 1:27 Operator: WA
Sample : P2200505-001 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 09:24:23 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022 2/16/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

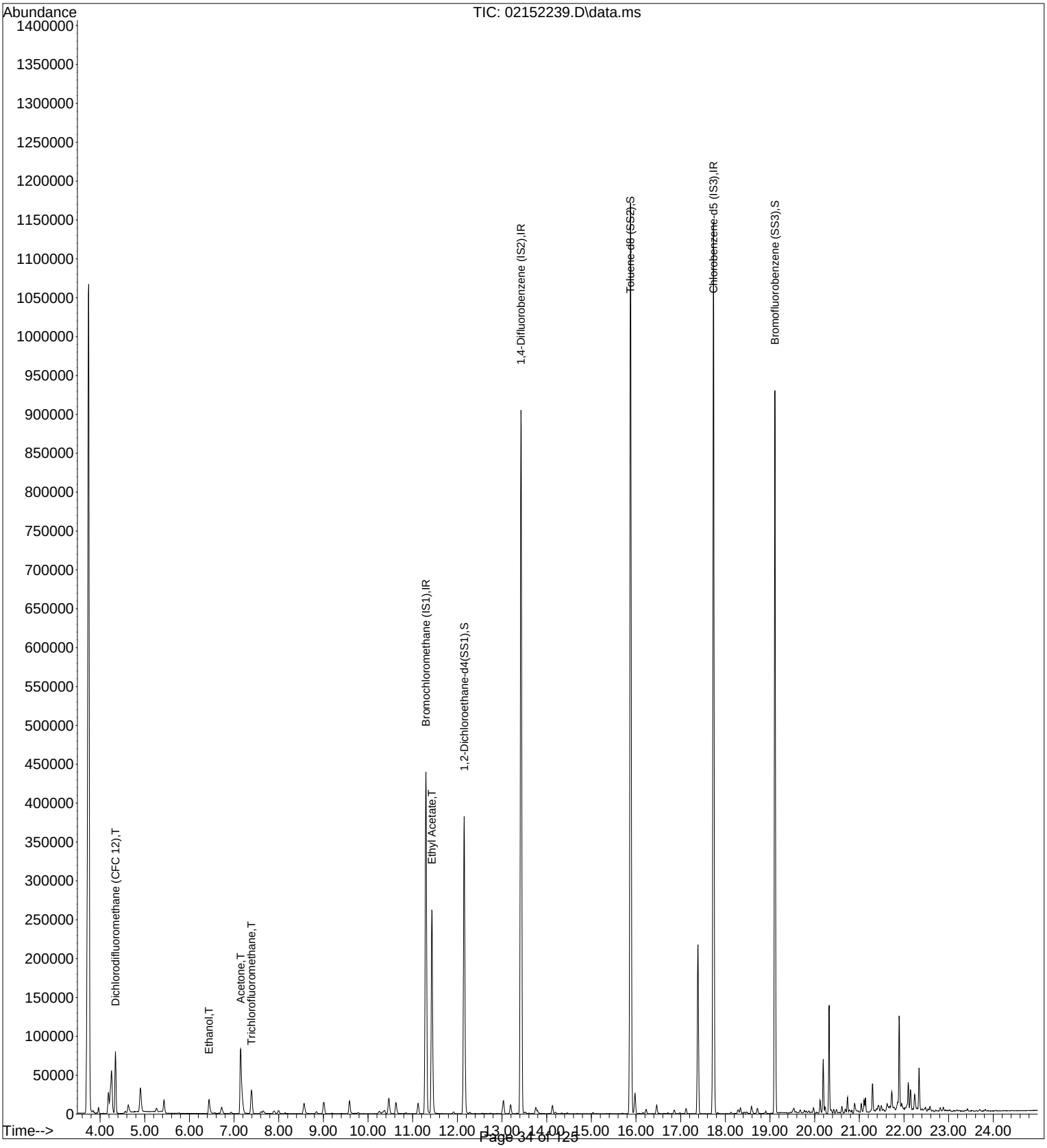
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	187316	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	855449	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	143396	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	295444	11.482	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%			
57) Toluene-d8 (SS2)	15.88	98	907663	13.098	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.80%			
73) Bromofluorobenzene (SS3)	19.11	174	267943	12.132	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.34	85	75723	1.606	ng	99
10) Ethanol	6.44	45	28665	1.625	ng	91
13) Acetone	7.15	58	45479	2.577	ng	88
14) Trichlorofluoromethane	7.39	101	31151	0.777	ng	100
30) Ethyl Acetate	11.43	61	52541	6.305	ng	85

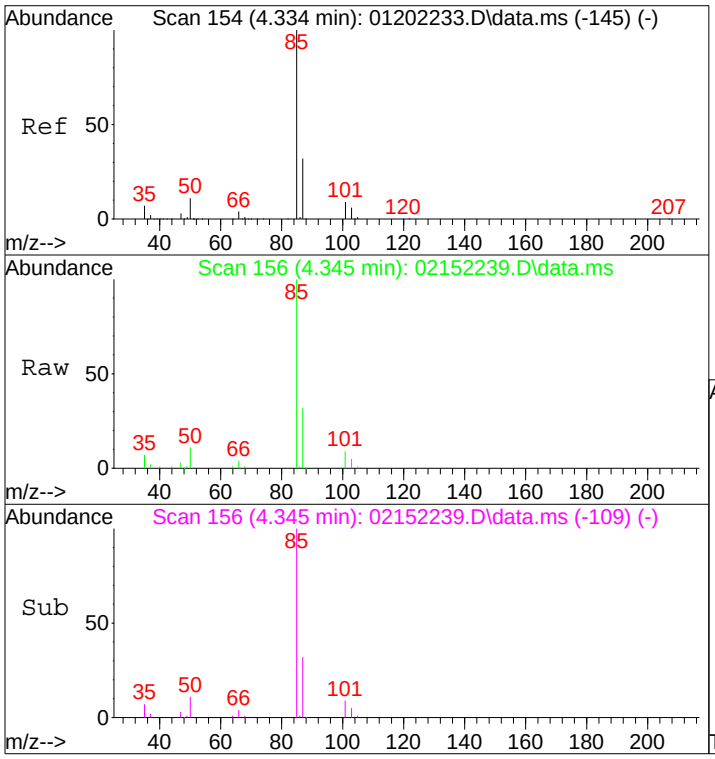
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152239.D Vial: 10
Acq On : 16 Feb 2022 1:27 Operator: WA
Sample : P2200505-001 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 09:24:23 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

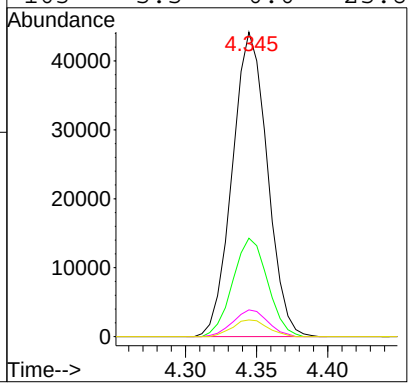


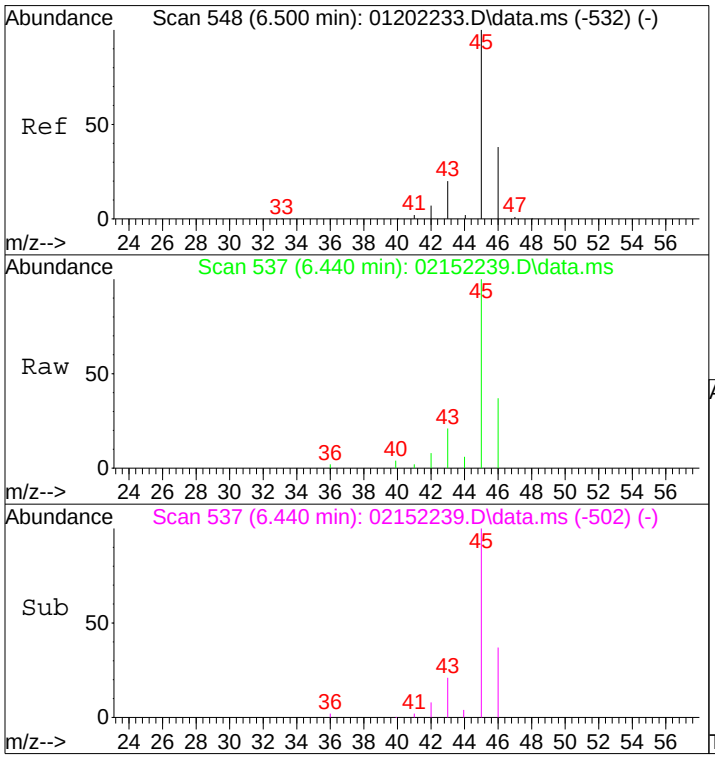


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.61 ng
RT: 4.34 min Scan# 156
Delta R.T. 0.011 min
Lab File: 02152239.D
Acq: 16 Feb 2022 1:27

Tgt Ion: 85 Resp: 75723

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.6	52.6
101	8.8	0.0	29.1
103	5.5	0.0	25.8

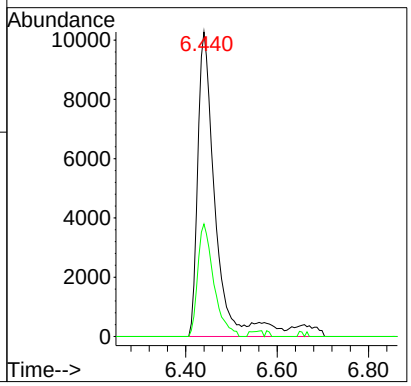


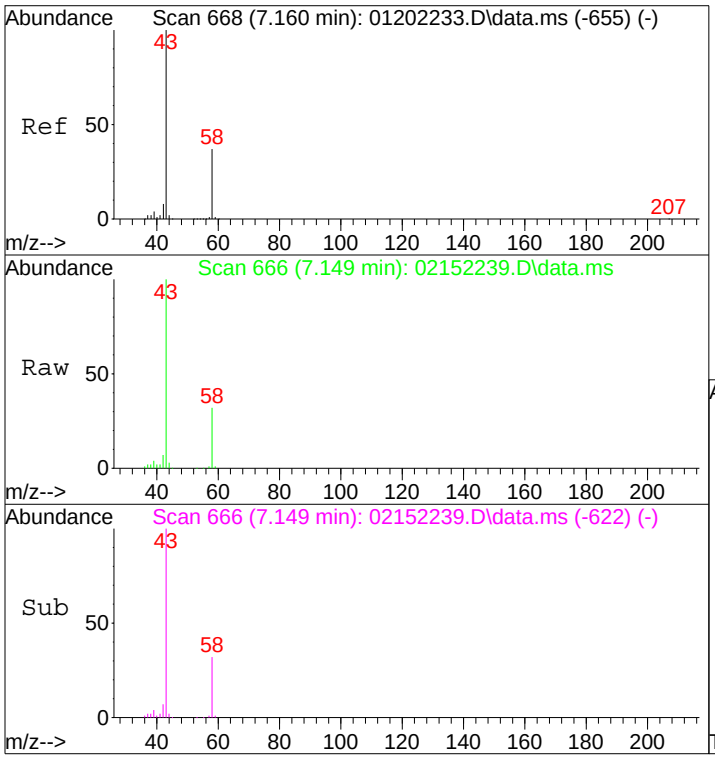


#10
Ethanol
Concen: 1.62 ng
RT: 6.44 min Scan# 537
Delta R.T. -0.055 min
Lab File: 02152239.D
Acq: 16 Feb 2022 1:27

Tgt Ion: 45 Resp: 28665

Ion	Ratio	Lower	Upper
45	100		
46	32.2	17.6	57.6

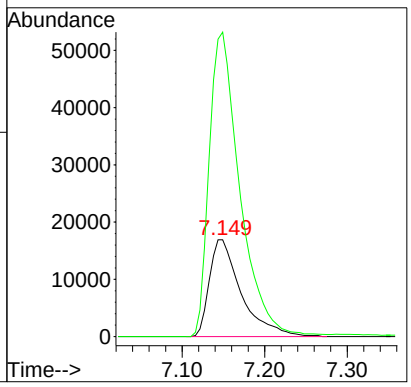


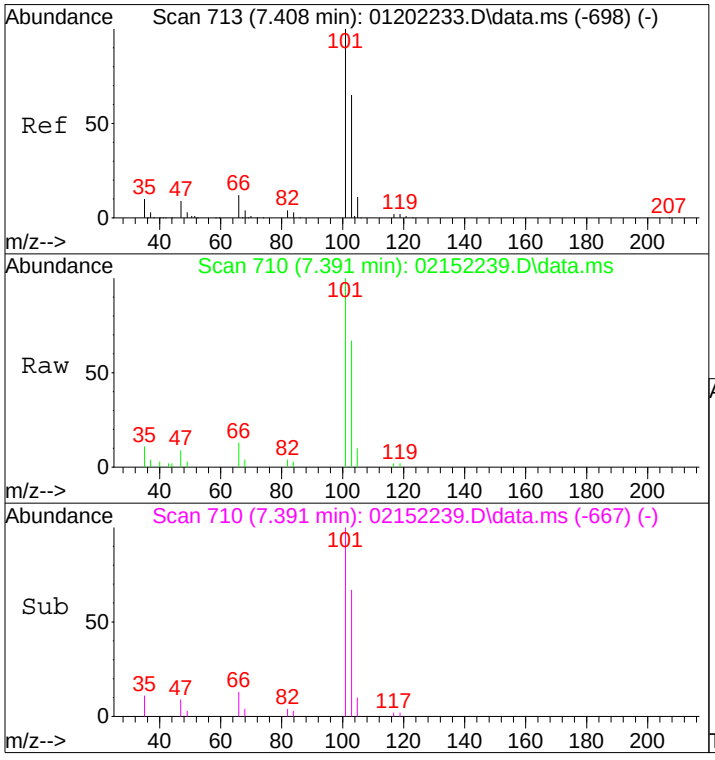


#13
Acetone
Concen: 2.58 ng
RT: 7.15 min Scan# 666
Delta R.T. -0.006 min
Lab File: 02152239.D
Acq: 16 Feb 2022 1:27

Tgt Ion: 58 Resp: 45479

Ion	Ratio	Lower	Upper
58	100		
43	306.0	253.5	313.5

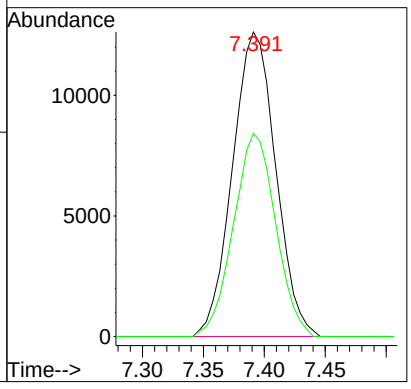


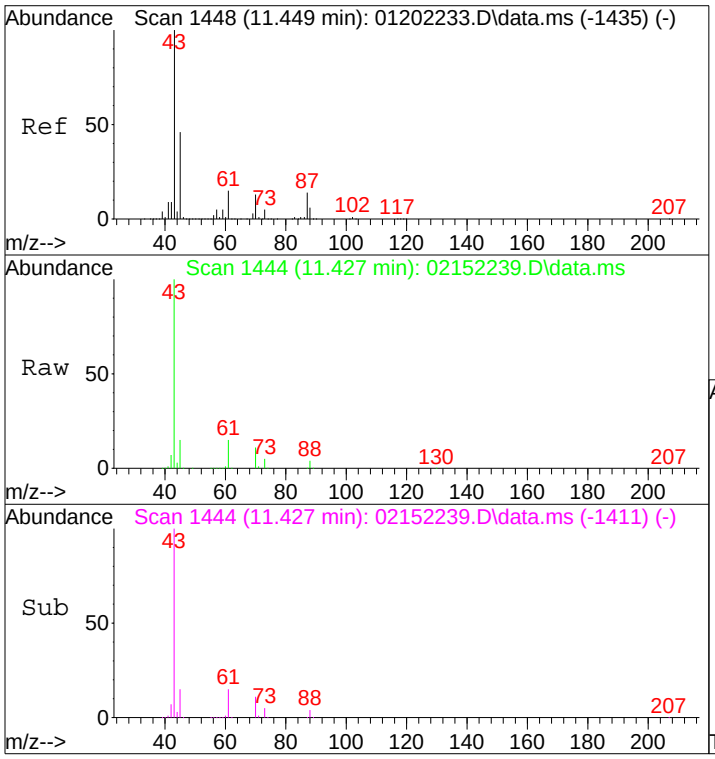


#14
Trichlorofluoromethane
Concen: 0.78 ng
RT: 7.39 min Scan# 710
Delta R.T. -0.011 min
Lab File: 02152239.D
Acq: 16 Feb 2022 1:27

Tgt Ion:101 Resp: 31151

Ion	Ratio	Lower	Upper
101	100		
103	65.1	45.0	85.0

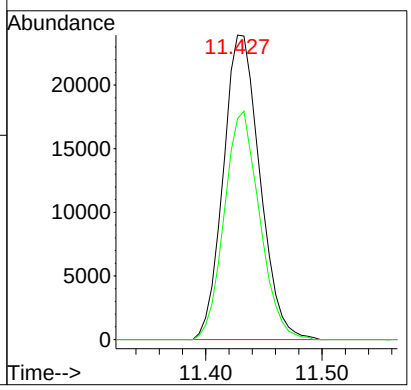




#30
Ethyl Acetate
Concen: 6.31 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.017 min
Lab File: 02152239.D
Acq: 16 Feb 2022 1:27

Tgt Ion: 61 Resp: 52541

Ion	Ratio	Lower	Upper
61	100		
70	72.2	66.4	106.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152240.D Vial: 11
Acq On : 16 Feb 2022 2:01 Operator: WA
Sample : P2200505-002 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:50 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 2/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	179864	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	816686	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	139639	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	284487	11.514	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%			
57) Toluene-d8 (SS2)	15.88	98	876861	12.994	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%			
73) Bromofluorobenzene (SS3)	19.11	174	251672	11.702	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%			
Target Compounds						Qvalue
2) Propene	4.20	42	2233	N.D.		
3) Dichlorodifluoromethan...	4.35	85	70152	1.550	ng	99
4) Chloromethane	4.64	50	7886	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	1984	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.77	94	318	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.45	45	12090	0.714	ng	93
11) Acetonitrile	6.73	41	5157	N.D.		
12) Acrolein	6.94	56	740	N.D.		
13) Acetone	7.15	58	28858	1.703	ng	87
14) Trichlorofluoromethane	7.40	101	29654	0.770	ng	99
15) 2-Propanol (Isopropanol)	7.61	45	565	N.D.		
16) Acrylonitrile	7.90	53	585	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.60	59	602	N.D.		
19) Methylene Chloride	8.57	84	7516	N.D.		
20) 3-Chloro-1-propene (Al...	8.57	41	172	N.D.		
21) Trichlorotrifluoroethane	9.01	151	5511	N.D.		
22) Carbon Disulfide	8.84	76	3335	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.33	86	240	N.D.		
27) 2-Butanone (MEK)	10.63	72	3036	N.D.		
28) cis-1,2-Dichloroethene	11.12	61	2279	N.D.		
29) Diisopropyl Ether	11.44	87	462	N.D.		
30) Ethyl Acetate	11.43	61	29994	3.749	ng	85
31) n-Hexane	11.42	57	906	N.D.		
32) Chloroform	11.46	83	1605	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.27	62	1006	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.03	56	816	No Calib	#	
41) Benzene	13.03	78	13550	N.D.		
42) Carbon Tetrachloride	13.19	117	7045	N.D.		
43) Cyclohexane	13.42	84	576	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.13	130	851	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.20	57	1271	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152240.D Vial: 11
Acq On : 16 Feb 2022 2:01 Operator: WA
Sample : P2200505-002 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:50 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

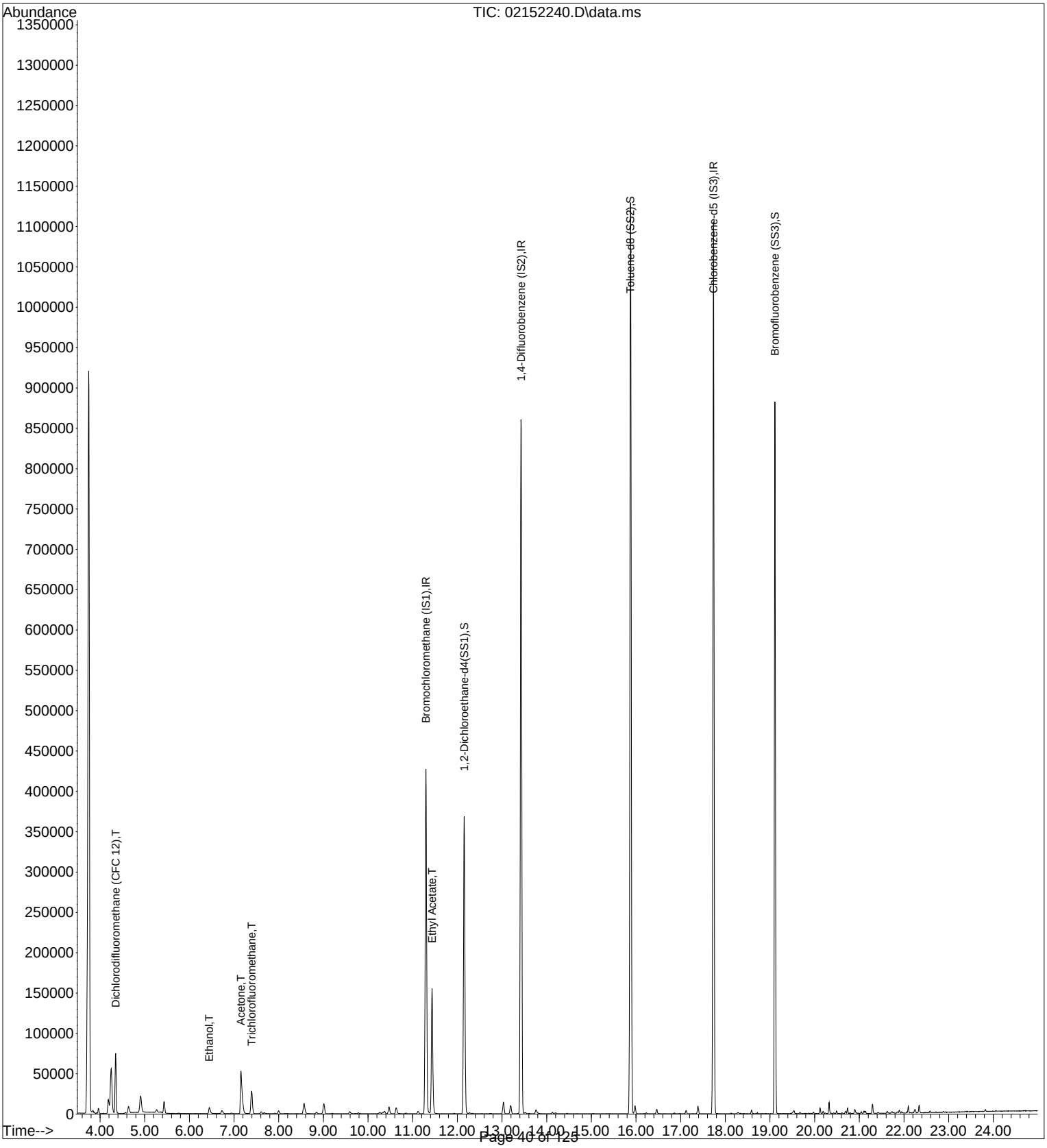
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.98	91	8851	N.D.		
59) 2-Hexanone	16.23	43	1397	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.86	43	1124	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	17.12	166	1452	N.D.		
65) Chlorobenzene	17.78	112	238	N.D.		
66) Ethylbenzene	18.13	91	1061	N.D.		
67) m- & p-Xylenes	18.28	91	2012	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.61	104	319	N.D.		
70) o-Xylene	18.71	91	812	N.D.		
71) n-Nonane	18.91	43	255	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.24	105	162	N.D.		
75) alpha-Pinene	19.58	93	182	N.D.		
76) n-Propylbenzene	19.69	91	544	N.D.		
77) 3-Ethyltoluene	19.81	105	511	No Calib		#
78) 4-Ethyltoluene	19.81	105	511	N.D.		
79) 1,3,5-Trimethylbenzene	19.88	105	244	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.88	105	244	No Calib		#
82) 1,2,4-Trimethylbenzene	20.23	105	777	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	20.35	91	514	N.D.		
85) 1,3-Dichlorobenzene	20.37	146	397	N.D.		
86) 1,4-Dichlorobenzene	20.43	146	594	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	645	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	20.73	146	282	N.D.		
91) d-Limonene	20.74	68	1510	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	22.25	57	530	No Calib		#
94) 1,2,4-Trichlorobenzene	22.24	180	1137	N.D.		
95) Naphthalene	22.34	128	3056	N.D.		
96) n-Dodecane	22.34	57	2382	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.43	55	219	No Calib		#
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	20.97	91	484	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152240.D Vial: 11
Acq On : 16 Feb 2022 2:01 Operator: WA
Sample : P2200505-002 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:50 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152240.D Vial: 11
Acq On : 16 Feb 2022 2:01 Operator: WA
Sample : P2200505-002 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:50 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 2/16/22

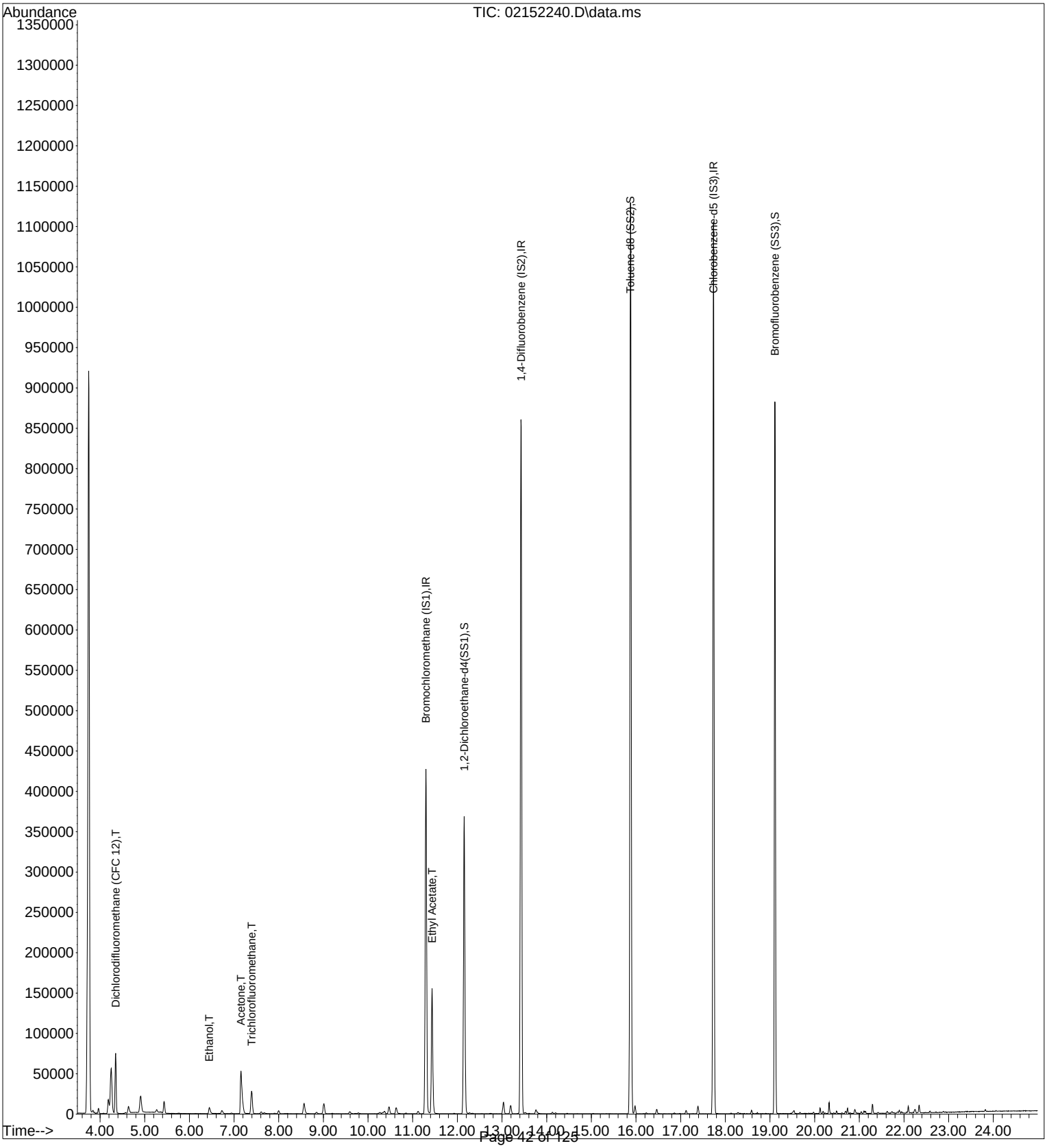
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	179864	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	816686	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	139639	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	284487	11.514	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%			
57) Toluene-d8 (SS2)	15.88	98	876861	12.994	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%			
73) Bromofluorobenzene (SS3)	19.11	174	251672	11.702	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.35	85	70152	1.550	ng	99
10) Ethanol	6.45	45	12090	0.714	ng	93
13) Acetone	7.15	58	28858	1.703	ng	87
14) Trichlorofluoromethane	7.40	101	29654	0.770	ng	99
30) Ethyl Acetate	11.43	61	29994	3.749	ng	85

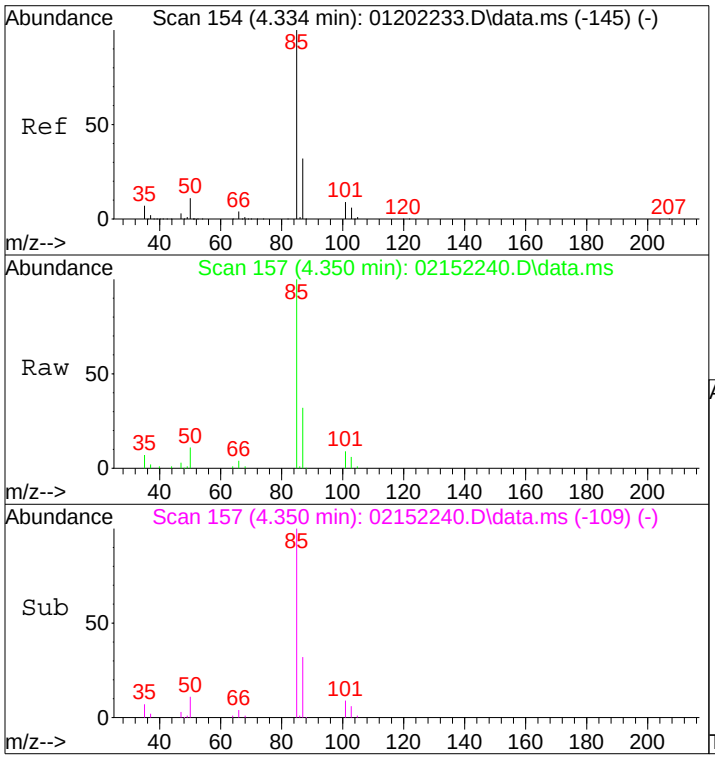
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152240.D Vial: 11
Acq On : 16 Feb 2022 2:01 Operator: WA
Sample : P2200505-002 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:50 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

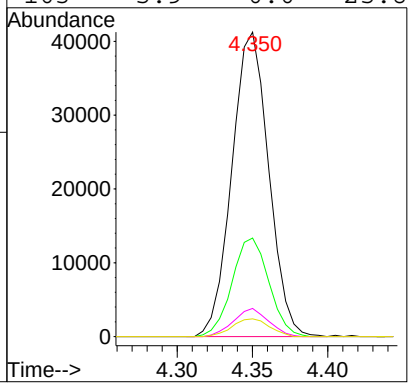


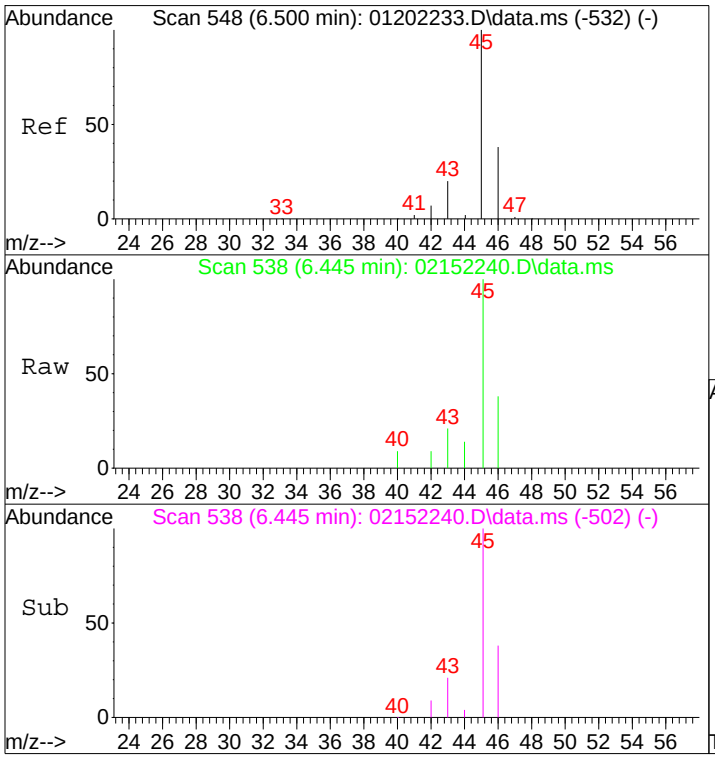


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.55 ng
RT: 4.35 min Scan# 157
Delta R.T. 0.016 min
Lab File: 02152240.D
Acq: 16 Feb 2022 2:01

Tgt Ion: 85 Resp: 70152

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.6	52.6
101	8.8	0.0	29.1
103	5.9	0.0	25.8

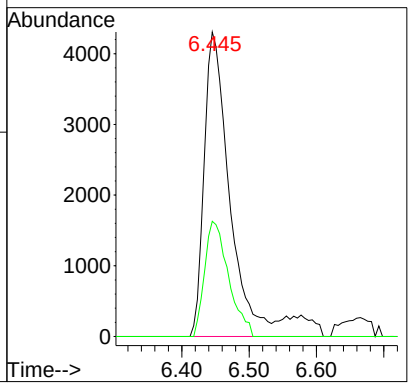


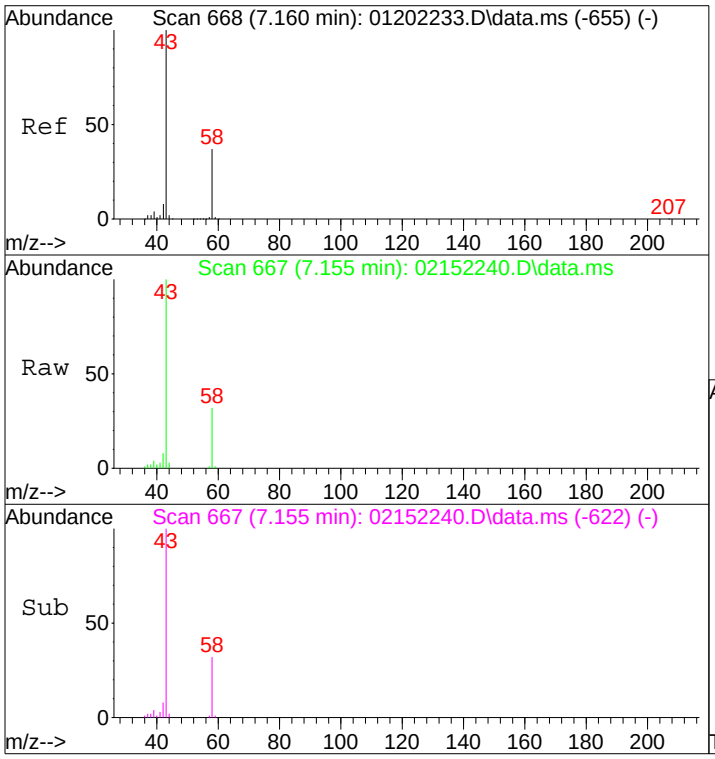


#10
Ethanol
Concen: 0.71 ng
RT: 6.45 min Scan# 538
Delta R.T. -0.050 min
Lab File: 02152240.D
Acq: 16 Feb 2022 2:01

Tgt Ion: 45 Resp: 12090

Ion	Ratio	Lower	Upper
45	100		
46	33.3	17.6	57.6

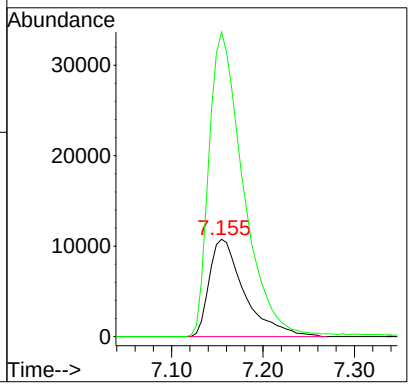


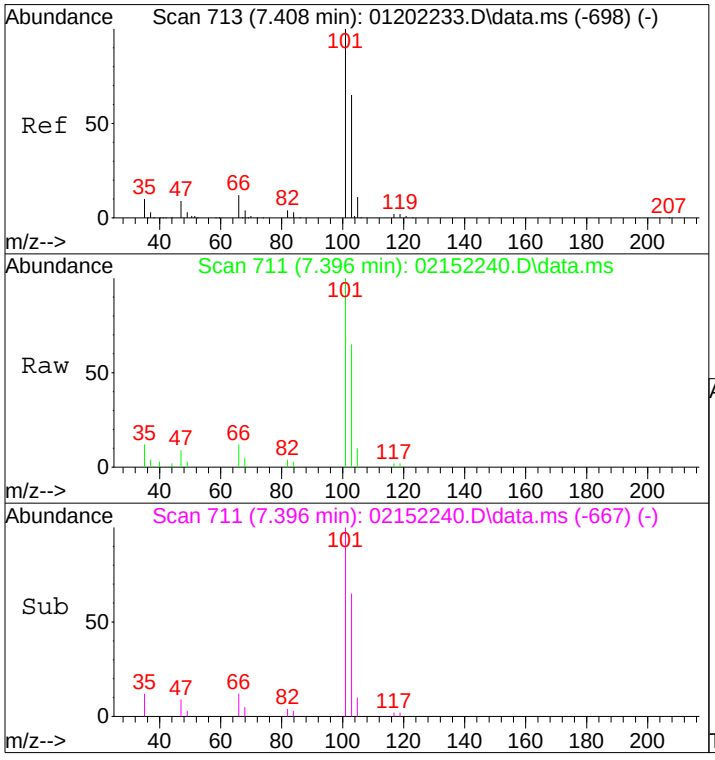


#13
Acetone
Concen: 1.70 ng
RT: 7.15 min Scan# 667
Delta R.T. -0.000 min
Lab File: 02152240.D
Acq: 16 Feb 2022 2:01

Tgt Ion: 58 Resp: 28858

Ion	Ratio	Lower	Upper
58	100		
43	308.8	253.5	313.5

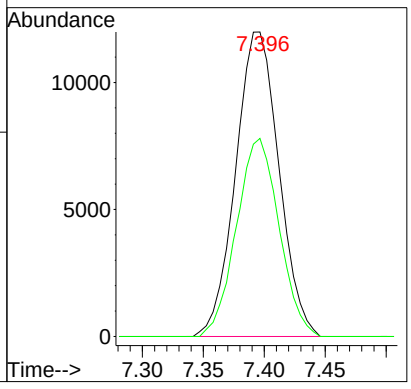


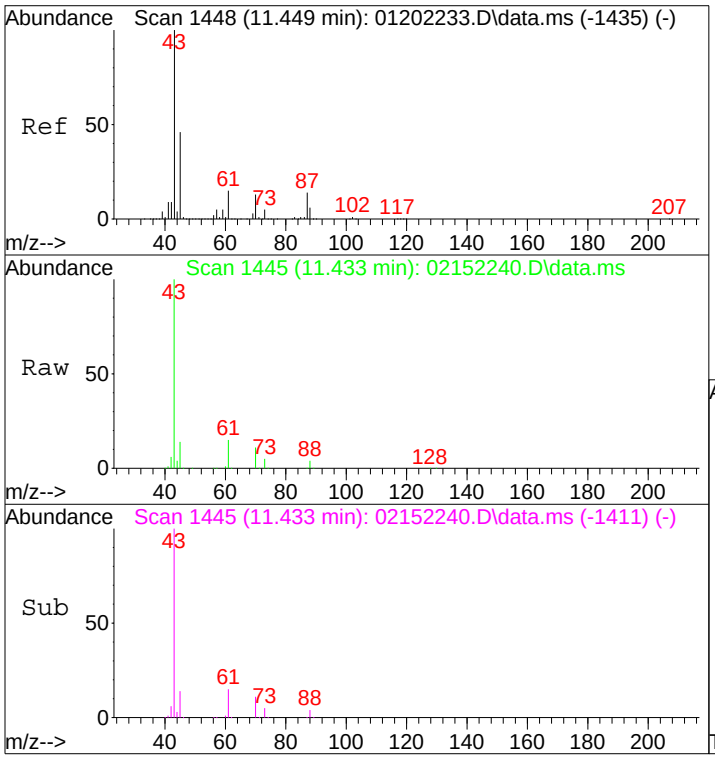


#14
Trichlorofluoromethane
Concen: 0.77 ng
RT: 7.40 min Scan# 711
Delta R.T. -0.006 min
Lab File: 02152240.D
Acq: 16 Feb 2022 2:01

Tgt Ion:101 Resp: 29654

Ion	Ratio	Lower	Upper
101	100		
103	63.9	45.0	85.0

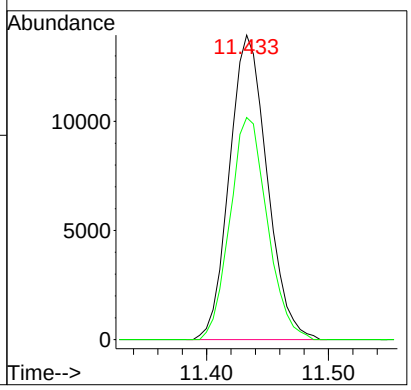




#30
Ethyl Acetate
Concen: 3.75 ng
RT: 11.43 min Scan# 1445
Delta R.T. -0.011 min
Lab File: 02152240.D
Acq: 16 Feb 2022 2:01

Tgt Ion: 61 Resp: 29994

Ion	Ratio	Lower	Upper
61	100		
70	72.2	66.4	106.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152241.D Vial: 12
Acq On : 16 Feb 2022 2:34 Operator: WA
Sample : P2200505-003 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:52 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022 2/16/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	166801	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	764363	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	130541	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	267747	11.686	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
57) Toluene-d8 (SS2)	15.88	98	820781	13.011	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
73) Bromofluorobenzene (SS3)	19.11	174	233149	11.596	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
Target Compounds							Qvalue
2) Propene	4.21	42	1518	N.D.			
3) Dichlorodifluoromethan...	4.36	85	66856	1.593	ng		99
4) Chloromethane	4.64	50	7166	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1914	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.77	94	178	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.45	45	10711	0.682	ng		93
11) Acetonitrile	6.74	41	3709	N.D.			
12) Acrolein	6.95	56	451	N.D.			
13) Acetone	7.15	58	29777	1.895	ng	#	83
14) Trichlorofluoromethane	7.40	101	27152	0.761	ng		100
15) 2-Propanol (Isopropanol)	7.61	45	588	N.D.			
16) Acrylonitrile	7.91	53	104	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.61	59	662	N.D.			
19) Methylene Chloride	8.57	84	4989	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.01	151	4929	N.D.			
22) Carbon Disulfide	8.85	76	2951	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.33	86	258	N.D.			
27) 2-Butanone (MEK)	10.64	72	2733	N.D.			
28) cis-1,2-Dichloroethene	11.13	61	852	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.44	61	9516	1.282	ng		82
31) n-Hexane	11.43	57	657	N.D.			
32) Chloroform	11.47	83	1416	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	900	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	13.02	56	1220	No Calib		#	
41) Benzene	13.03	78	11788	N.D.			
42) Carbon Tetrachloride	13.20	117	6559	N.D.			
43) Cyclohexane	13.42	84	551	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.13	130	305	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.20	57	1036	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152241.D Vial: 12
Acq On : 16 Feb 2022 2:34 Operator: WA
Sample : P2200505-003 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:52 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

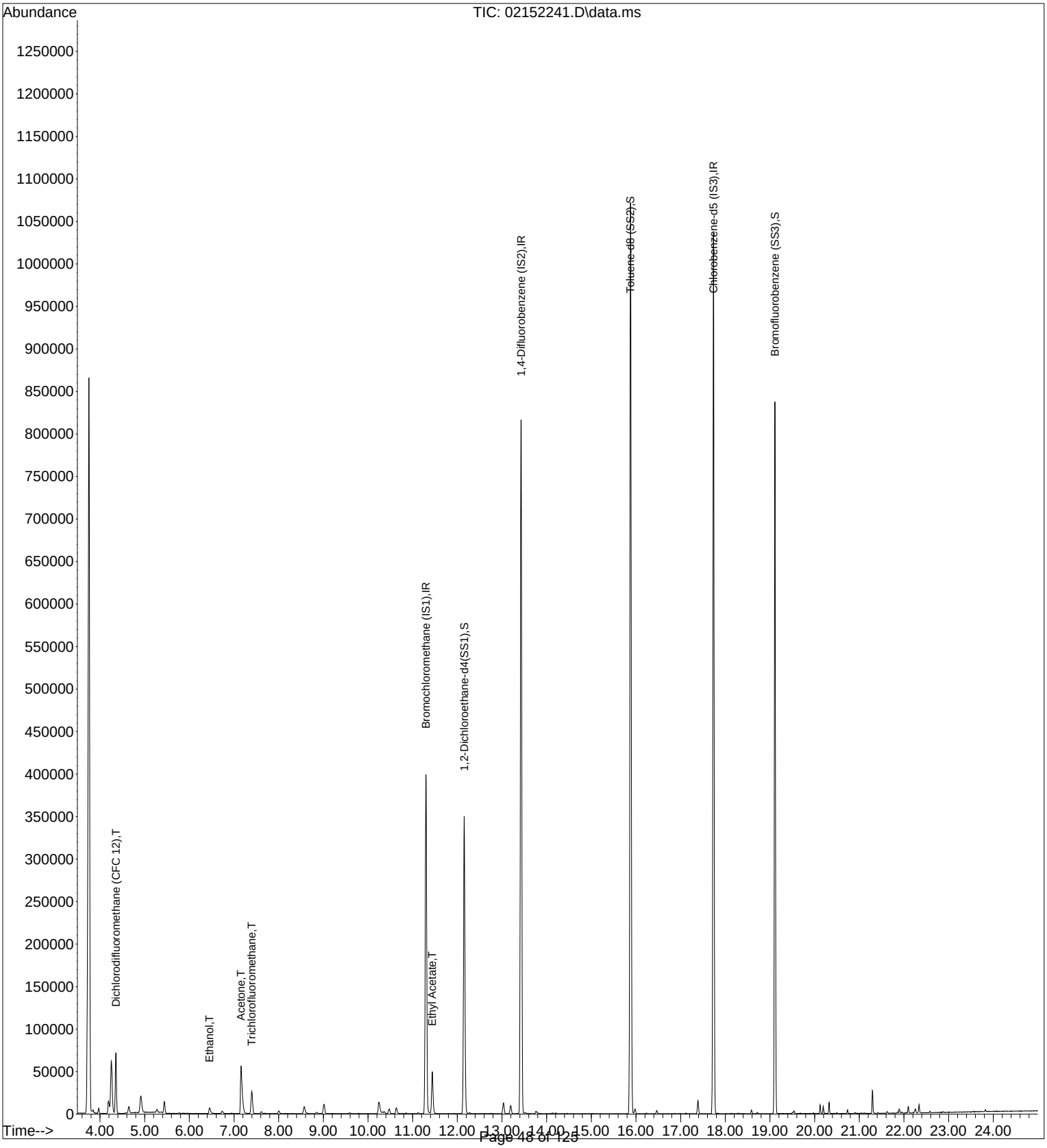
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.98	91	5606	N.D.		
59) 2-Hexanone	16.23	43	768	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.86	43	520	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	17.12	166	336	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.13	91	681	N.D.		
67) m- & p-Xylenes	18.28	91	1036	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.71	91	374	N.D.		
71) n-Nonane	18.91	43	112	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.11	105	374	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.68	91	255	N.D.		
77) 3-Ethyltoluene	19.81	105	114	No Calib		#
78) 4-Ethyltoluene	19.81	105	114	N.D.		
79) 1,3,5-Trimethylbenzene	19.81	105	114	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.81	105	114	No Calib		#
82) 1,2,4-Trimethylbenzene	20.24	105	309	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	20.34	91	121	N.D.		
85) 1,3-Dichlorobenzene	20.37	146	107	N.D.		
86) 1,4-Dichlorobenzene	20.43	146	338	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	275	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.74	68	1074	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	22.26	57	699	No Calib		#
94) 1,2,4-Trichlorobenzene	22.24	180	603	N.D.		
95) Naphthalene	22.34	128	1767	N.D.		
96) n-Dodecane	22.34	57	2527	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.43	55	107	No Calib		#
99) tert-Butylbenzene	20.19	119	106	N.D.		
100) n-Butylbenzene	20.97	91	176	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152241.D Vial: 12
Acq On : 16 Feb 2022 2:34 Operator: WA
Sample : P2200505-003 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:52 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152241.D Vial: 12
Acq On : 16 Feb 2022 2:34 Operator: WA
Sample : P2200505-003 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:52 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

2/16/22

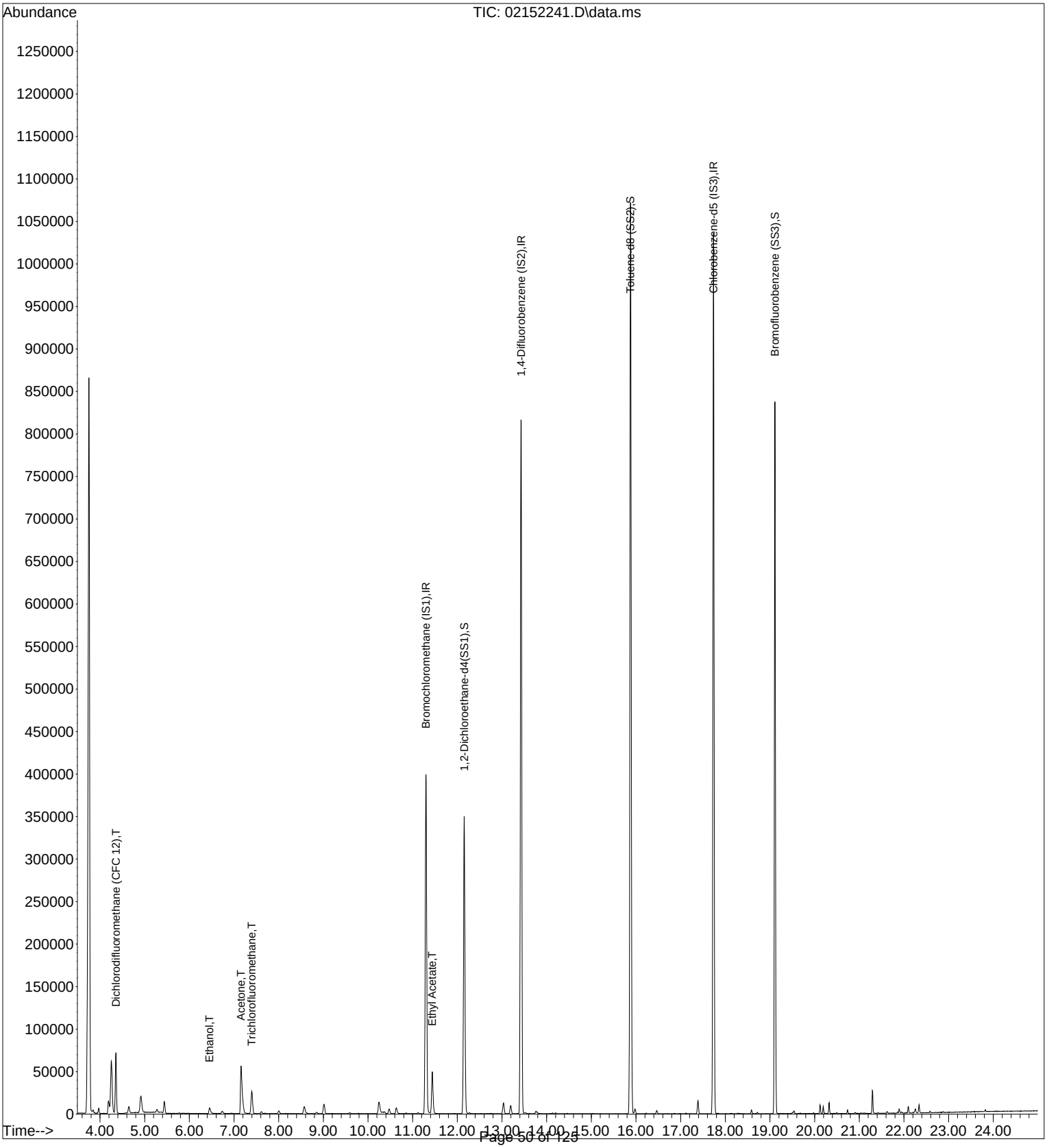
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	166801	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	764363	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	130541	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	267747	11.686	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
57) Toluene-d8 (SS2)	15.88	98	820781	13.011	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
73) Bromofluorobenzene (SS3)	19.11	174	233149	11.596	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.36	85	66856	1.593	ng		99
10) Ethanol	6.45	45	10711	0.682	ng		93
13) Acetone	7.15	58	29777	1.895	ng	#	83
14) Trichlorofluoromethane	7.40	101	27152	0.761	ng		100
30) Ethyl Acetate	11.44	61	9516	1.282	ng		82

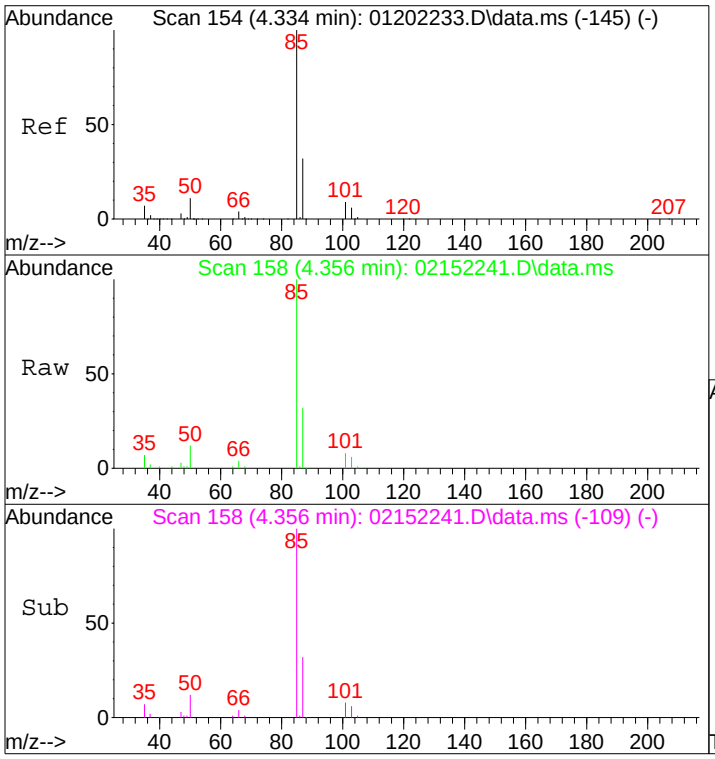
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152241.D Vial: 12
Acq On : 16 Feb 2022 2:34 Operator: WA
Sample : P2200505-003 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:52 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

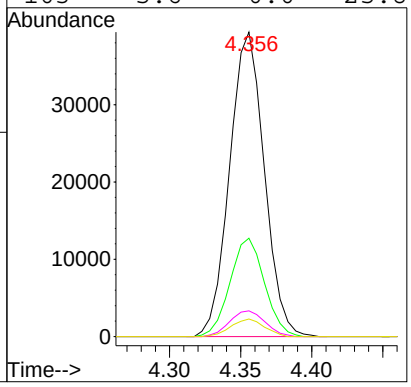


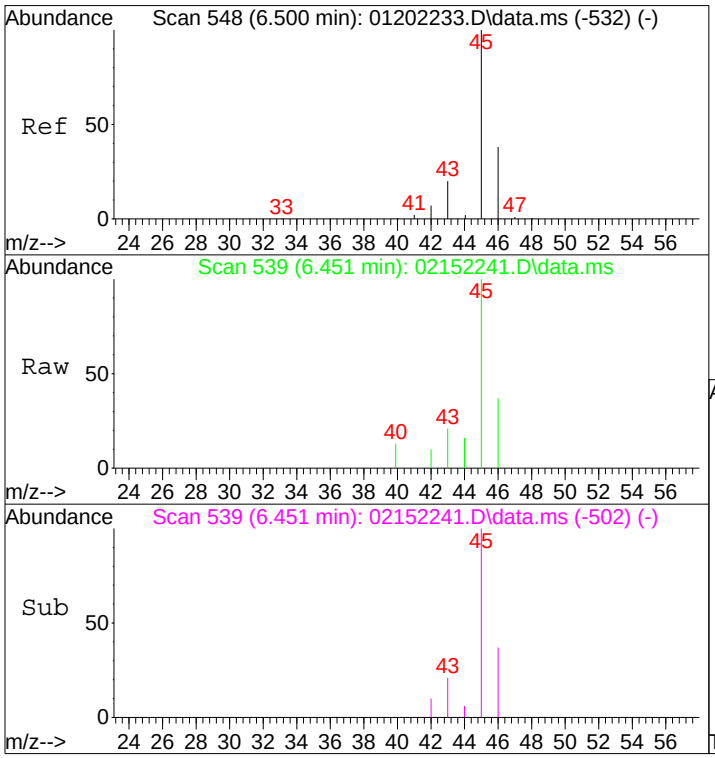


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.59 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.022 min
Lab File: 02152241.D
Acq: 16 Feb 2022 2:34

Tgt Ion: 85 Resp: 66856

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.6	52.6
101	8.7	0.0	29.1
103	5.6	0.0	25.8

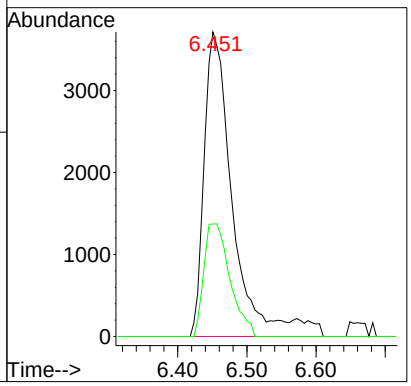


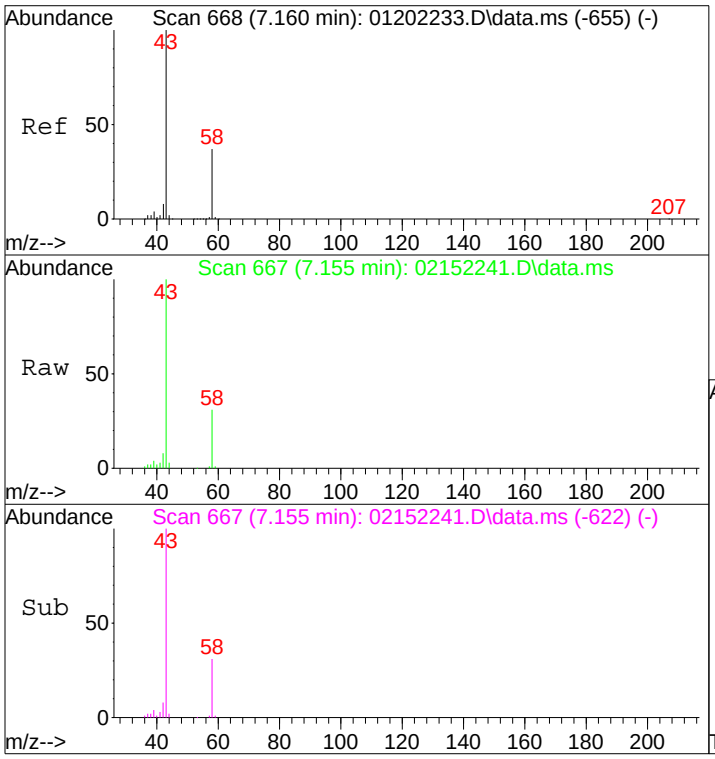


#10
Ethanol
Concen: 0.68 ng
RT: 6.45 min Scan# 539
Delta R.T. -0.044 min
Lab File: 02152241.D
Acq: 16 Feb 2022 2:34

Tgt Ion: 45 Resp: 10711

Ion	Ratio	Lower	Upper
45	100		
46	33.6	17.6	57.6

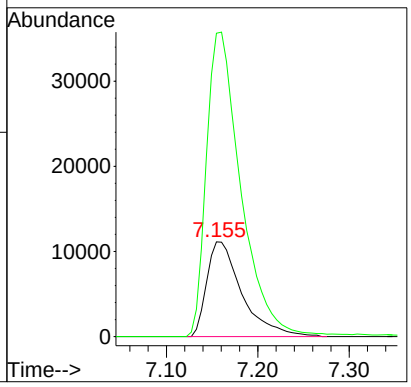


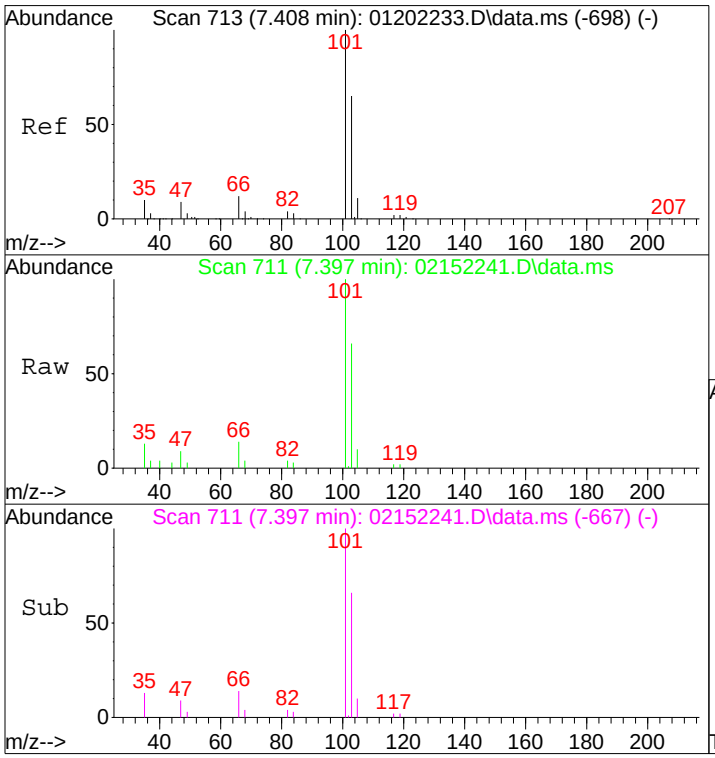


#13
Acetone
Concen: 1.89 ng
RT: 7.15 min Scan# 667
Delta R.T. 0.000 min
Lab File: 02152241.D
Acq: 16 Feb 2022 2:34

Tgt Ion: 58 Resp: 29777

Ion	Ratio	Lower	Upper
58	100		
43	315.8	253.5	313.5#

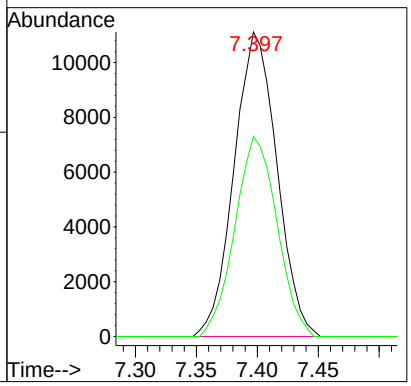


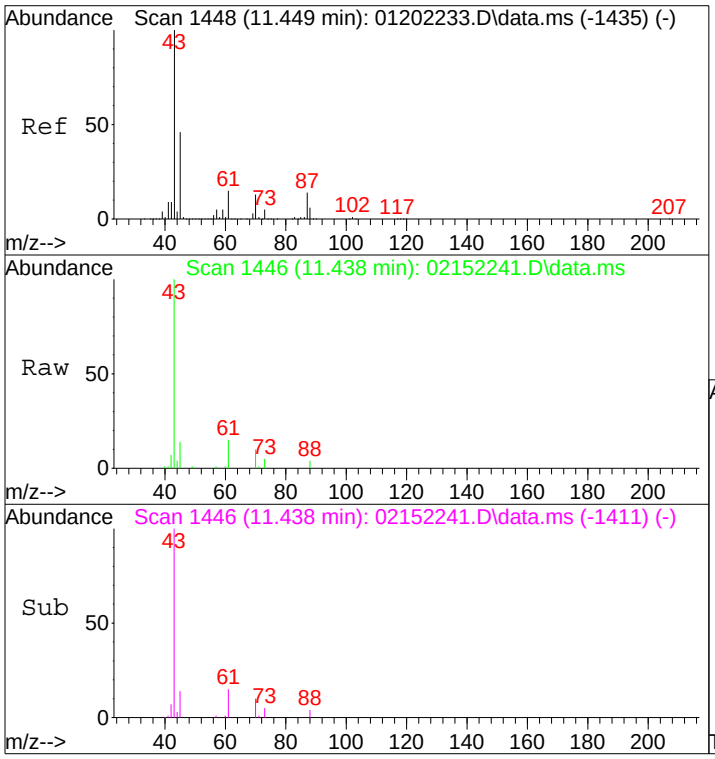


#14
Trichlorofluoromethane
Concen: 0.76 ng
RT: 7.40 min Scan# 711
Delta R.T. -0.005 min
Lab File: 02152241.D
Acq: 16 Feb 2022 2:34

Tgt Ion:101 Resp: 27152

Ion	Ratio	Lower	Upper
101	100		
103	64.6	45.0	85.0

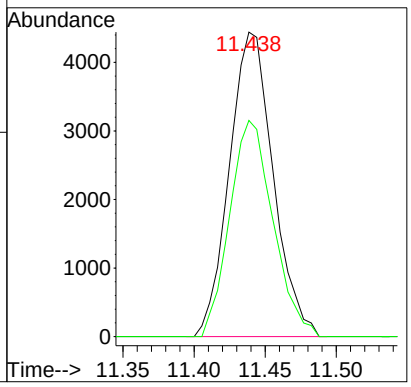




#30
Ethyl Acetate
Concen: 1.28 ng
RT: 11.44 min Scan# 1446
Delta R.T. -0.005 min
Lab File: 02152241.D
Acq: 16 Feb 2022 2:34

Tgt Ion: 61 Resp: 9516

Ion	Ratio	Lower	Upper
61	100		
70	70.2	66.4	106.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152235.D Vial: 1
Acq On : 15 Feb 2022 23:11 Operator: WA
Sample : P2200505-004 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:39 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

2/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	166704	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	759597	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	132587	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	266901	11.655	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%			
57) Toluene-d8 (SS2)	15.88	98	817650	12.761	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%			
73) Bromofluorobenzene (SS3)	19.11	174	243774	11.938	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%			
Target Compounds						Qvalue
2) Propene	4.20	42	2291	N.D.		
3) Dichlorodifluoromethan...	4.34	85	54343	1.295	ng	99
4) Chloromethane	4.63	50	7209	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	1531	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.45	45	8037	0.512	ng	95
11) Acetonitrile	6.73	41	4717	N.D.		
12) Acrolein	6.94	56	1454	N.D.		
13) Acetone	7.15	58	22191	1.413	ng	96
14) Trichlorofluoromethane	7.40	101	22959	0.644	ng	99
15) 2-Propanol (Isopropanol)	7.61	45	364	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.61	59	236	N.D.		
19) Methylene Chloride	8.56	84	4611	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.01	151	4067	N.D.		
22) Carbon Disulfide	8.84	76	1661	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.32	86	364	N.D.		
27) 2-Butanone (MEK)	10.63	72	3115	N.D.		
28) cis-1,2-Dichloroethene	11.12	61	570	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.43	61	16852	2.272	ng	84
31) n-Hexane	11.42	57	721	N.D.		
32) Chloroform	11.46	83	1203	N.D.		
34) Tetrahydrofuran (THF)	11.91	72	1184	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.27	62	727	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.03	56	1099	No Calib	#	
41) Benzene	13.03	78	10141	N.D.		
42) Carbon Tetrachloride	13.19	117	4963	N.D.		
43) Cyclohexane	13.43	84	581	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.13	130	112	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.20	57	860	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152235.D Vial: 1
Acq On : 15 Feb 2022 23:11 Operator: WA
Sample : P2200505-004 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:39 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

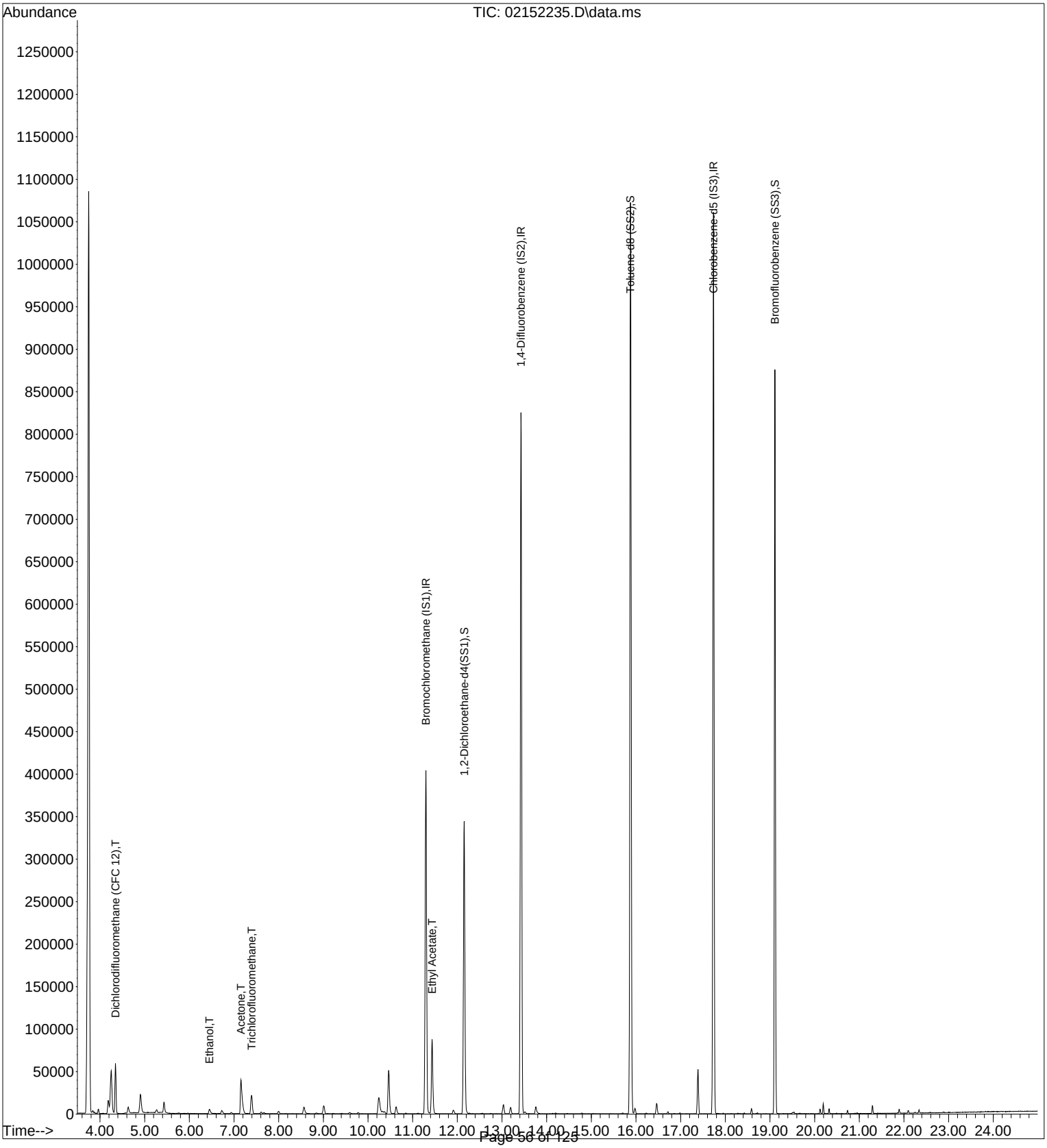
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.98	91	6127	N.D.		
59) 2-Hexanone	16.23	43	891	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.86	43	406	N.D.		
63) n-Octane	16.98	57	104	N.D.		
64) Tetrachloroethene	17.12	166	115	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.13	91	492	N.D.		
67) m- & p-Xylenes	18.28	91	814	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.71	91	253	N.D.		
71) n-Nonane	18.91	43	168	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.12	105	364	N.D.		
75) alpha-Pinene	19.58	93	185	N.D.		
76) n-Propylbenzene	19.66	91	283	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	20.23	105	221	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	392	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.73	68	929	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	22.26	57	157	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	115	N.D.		
95) Naphthalene	22.35	128	589	N.D.		
96) n-Dodecane	22.34	57	1101	No Calib	#	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.43	55	509	No Calib	#	
99) tert-Butylbenzene	20.19	119	205	N.D.		
100) n-Butylbenzene	20.95	91	305	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152235.D Vial: 1
Acq On : 15 Feb 2022 23:11 Operator: WA
Sample : P2200505-004 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:39 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152235.D Vial: 1
Acq On : 15 Feb 2022 23:11 Operator: WA
Sample : P2200505-004 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:39 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 2/16/22

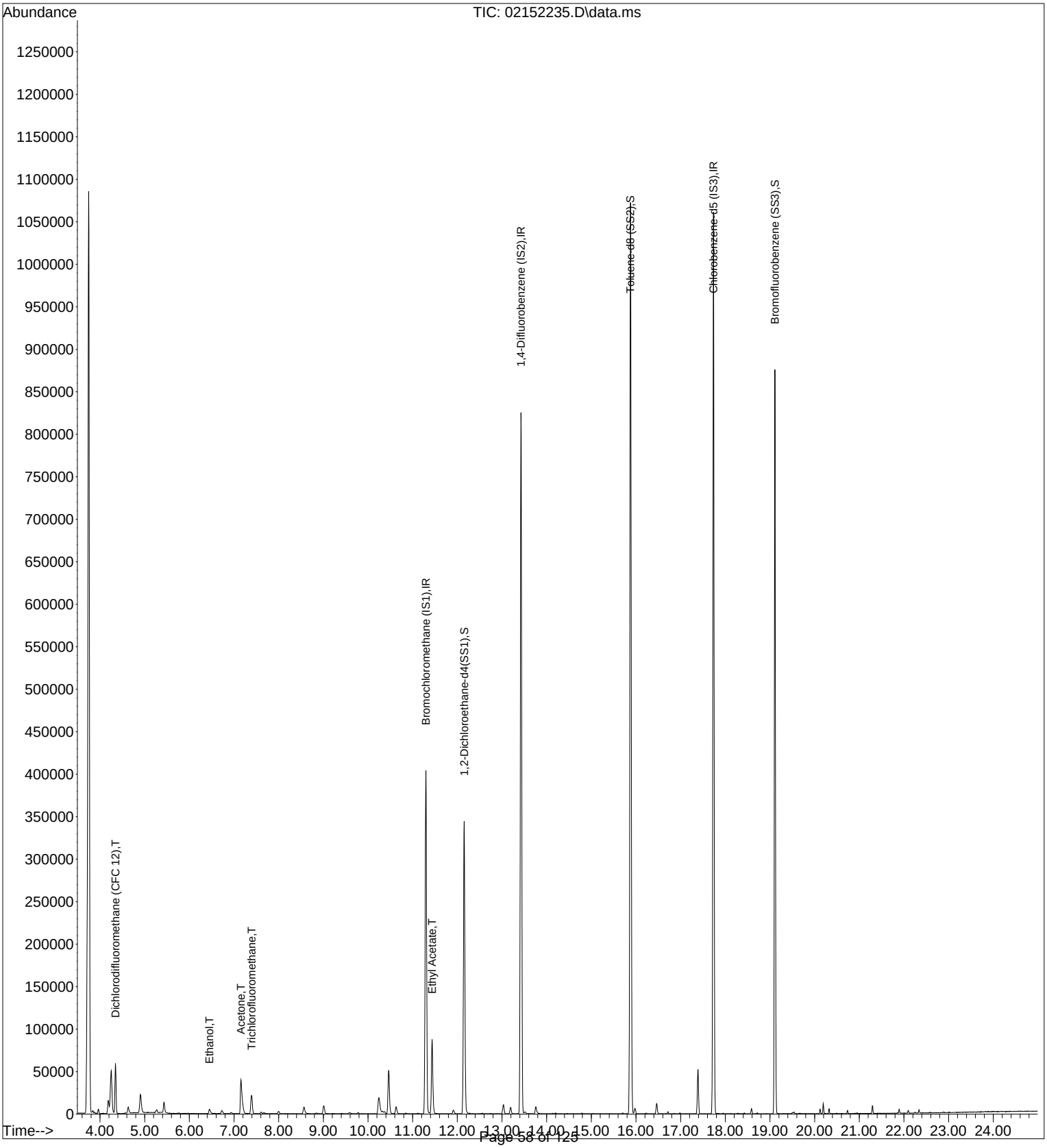
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	166704	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	759597	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	132587	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	266901	11.655	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%			
57) Toluene-d8 (SS2)	15.88	98	817650	12.761	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%			
73) Bromofluorobenzene (SS3)	19.11	174	243774	11.938	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.34	85	54343	1.295	ng	99
10) Ethanol	6.45	45	8037	0.512	ng	95
13) Acetone	7.15	58	22191	1.413	ng	96
14) Trichlorofluoromethane	7.40	101	22959	0.644	ng	99
30) Ethyl Acetate	11.43	61	16852	2.272	ng	84

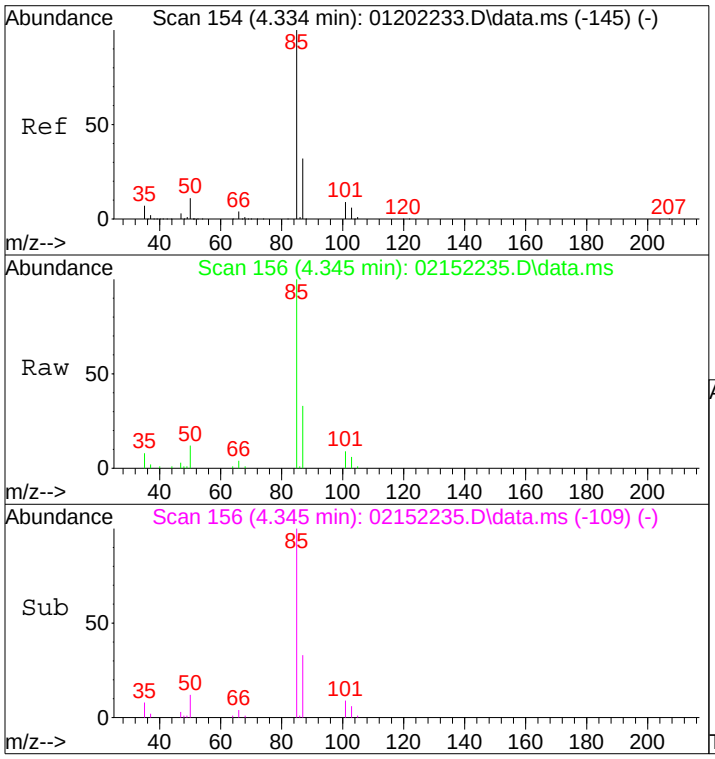
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152235.D Vial: 1
Acq On : 15 Feb 2022 23:11 Operator: WA
Sample : P2200505-004 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:39 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

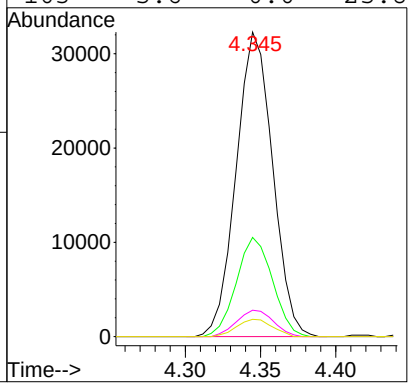


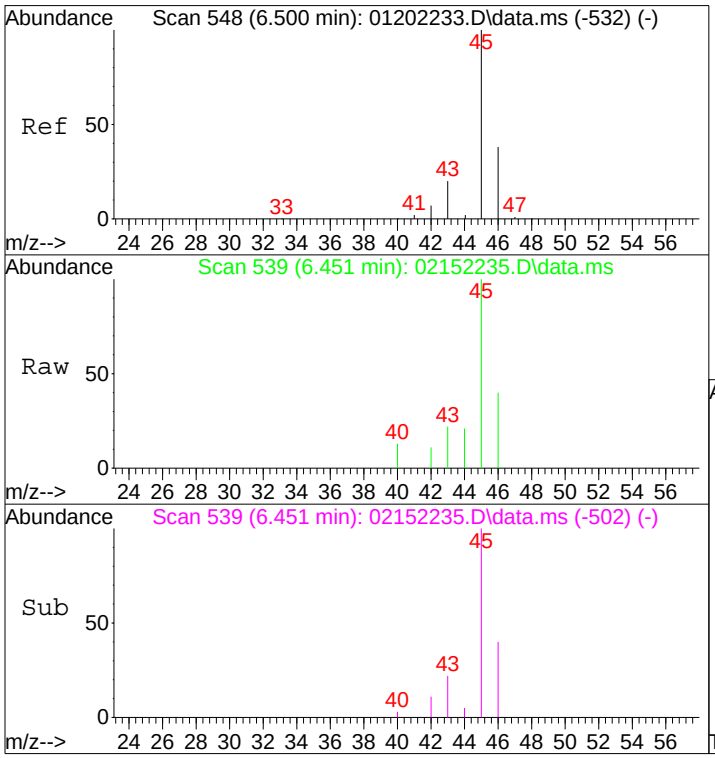


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.30 ng
RT: 4.34 min Scan# 156
Delta R.T. 0.011 min
Lab File: 02152235.D
Acq: 15 Feb 2022 23:11

Tgt Ion: 85 Resp: 54343

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.6	52.6
101	8.7	0.0	29.1
103	5.6	0.0	25.8

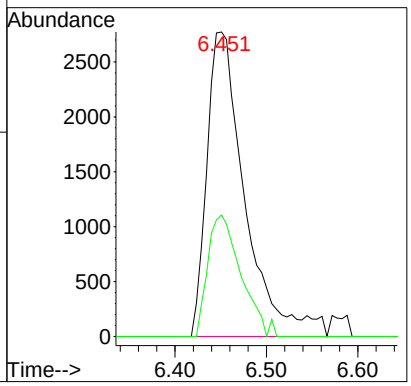


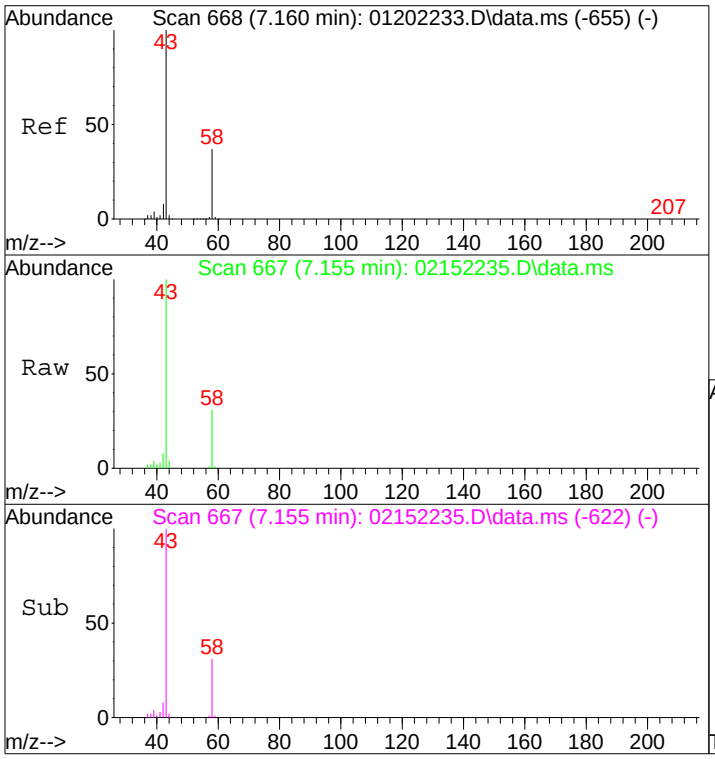


#10
Ethanol
Concen: 0.51 ng
RT: 6.45 min Scan# 539
Delta R.T. -0.044 min
Lab File: 02152235.D
Acq: 15 Feb 2022 23:11

Tgt Ion: 45 Resp: 8037

Ion	Ratio	Lower	Upper
45	100		
46	34.7	17.6	57.6

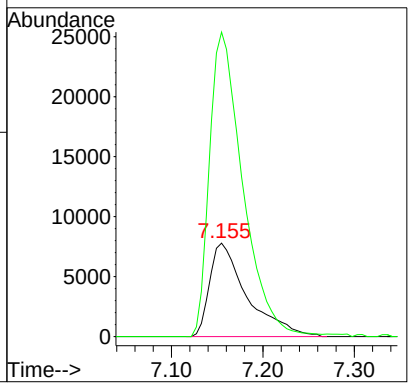


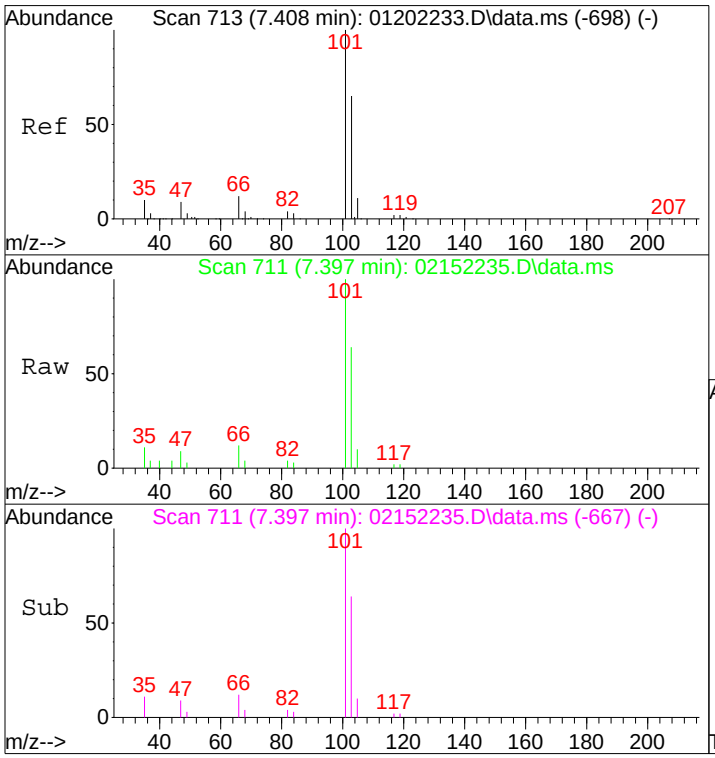


#13
Acetone
Concen: 1.41 ng
RT: 7.15 min Scan# 667
Delta R.T. 0.000 min
Lab File: 02152235.D
Acq: 15 Feb 2022 23:11

Tgt Ion: 58 Resp: 22191

Ion	Ratio	Lower	Upper
58	100		
43	291.0	253.5	313.5

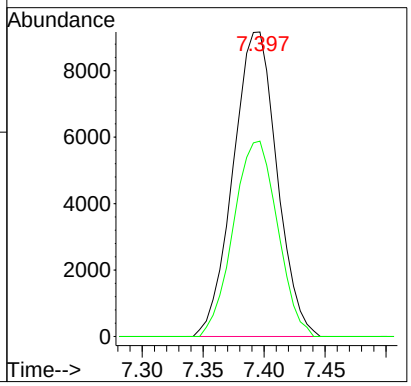


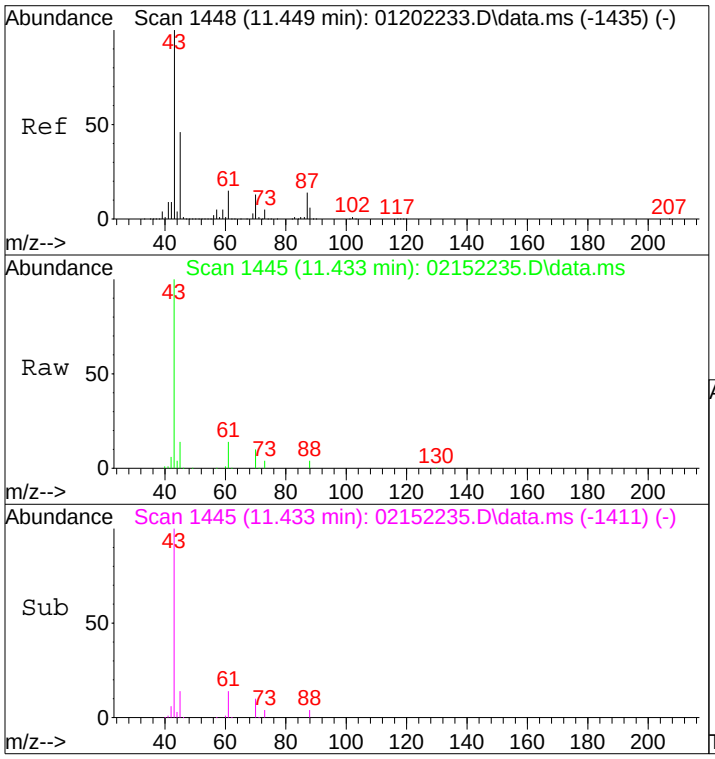


#14
Trichlorofluoromethane
Concen: 0.64 ng
RT: 7.40 min Scan# 711
Delta R.T. -0.005 min
Lab File: 02152235.D
Acq: 15 Feb 2022 23:11

Tgt Ion:101 Resp: 22959

Ion	Ratio	Lower	Upper
101	100		
103	64.4	45.0	85.0

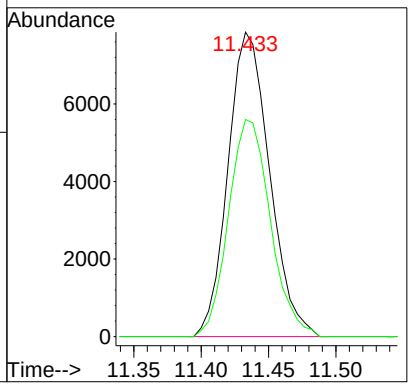




#30
Ethyl Acetate
Concen: 2.27 ng
RT: 11.43 min Scan# 1445
Delta R.T. -0.011 min
Lab File: 02152235.D
Acq: 15 Feb 2022 23:11

Tgt Ion: 61 Resp: 16852

Ion	Ratio	Lower	Upper
61	100		
70	71.7	66.4	106.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152236.D Vial: 3
Acq On : 15 Feb 2022 23:46 Operator: WA
Sample : P2200505-005 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:42 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 2/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	156917	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	723555	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	128992	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	256431	11.897	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%			
57) Toluene-d8 (SS2)	15.88	98	786675	12.620	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%			
73) Bromofluorobenzene (SS3)	19.11	174	227523	11.452	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%			
Target Compounds						Qvalue
2) Propene	4.20	42	2038	N.D.		
3) Dichlorodifluoromethan...	4.35	85	63868	1.617	ng	99
4) Chloromethane	4.64	50	6940	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1821	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.78	94	639	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.46	45	6164	N.D.		
11) Acetonitrile	6.73	41	3455	N.D.		
12) Acrolein	6.94	56	560	N.D.		
13) Acetone	7.15	58	23826	1.611	ng #	83
14) Trichlorofluoromethane	7.40	101	26560	0.791	ng	100
15) 2-Propanol (Isopropanol)	7.61	45	539	N.D.		
16) Acrylonitrile	8.14	53	103	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.60	59	435	N.D.		
19) Methylene Chloride	8.57	84	4776	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.01	151	4695	N.D.		
22) Carbon Disulfide	8.85	76	3504	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.33	86	242	N.D.		
27) 2-Butanone (MEK)	10.64	72	2489	N.D.		
28) cis-1,2-Dichloroethene	11.13	61	541	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.44	61	4947	0.709	ng	80
31) n-Hexane	11.42	57	625	N.D.		
32) Chloroform	11.47	83	1403	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.26	62	881	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.02	56	642	No Calib	#	
41) Benzene	13.03	78	11388	N.D.		
42) Carbon Tetrachloride	13.20	117	5766	N.D.		
43) Cyclohexane	13.43	84	574	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.13	130	109	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.20	57	1040	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152236.D Vial: 3
Acq On : 15 Feb 2022 23:46 Operator: WA
Sample : P2200505-005 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:42 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

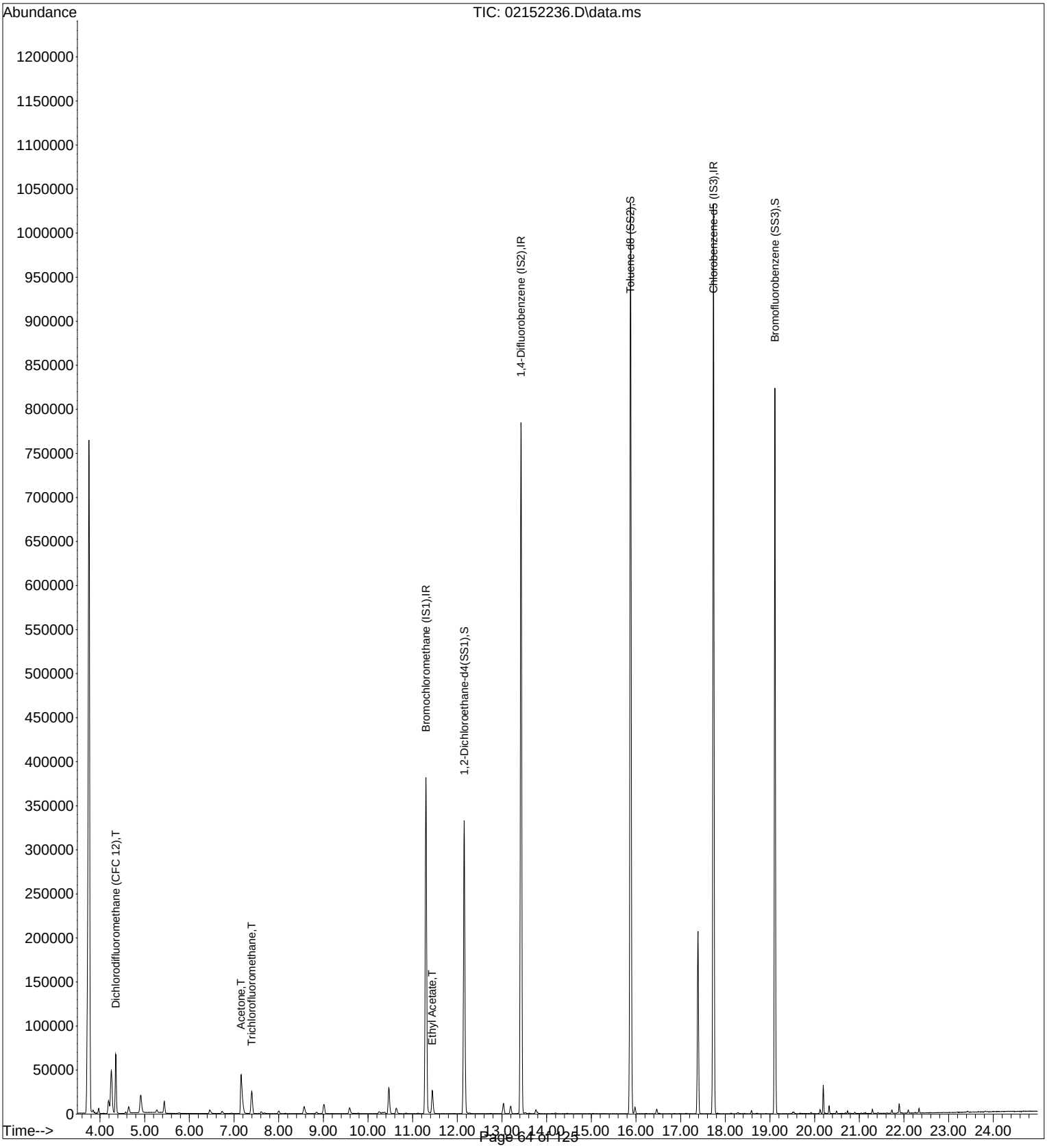
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.98	91	6821	N.D.		
59) 2-Hexanone	16.23	43	563	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.86	43	343	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	17.12	166	253	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.13	91	889	N.D.		
67) m- & p-Xylenes	18.28	91	1731	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.61	104	252	N.D.		
70) o-Xylene	18.71	91	575	N.D.		
71) n-Nonane	18.90	43	232	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.11	105	214	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.68	91	167	N.D.		
77) 3-Ethyltoluene	19.81	105	107	No Calib		#
78) 4-Ethyltoluene	19.81	105	107	N.D.		
79) 1,3,5-Trimethylbenzene	19.81	105	107	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.81	105	107	No Calib		#
82) 1,2,4-Trimethylbenzene	20.23	105	511	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	321	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.74	68	768	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	22.34	57	1455	No Calib		#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.34	128	493	N.D.		
96) n-Dodecane	22.34	57	1455	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.42	55	345	No Calib		#
99) tert-Butylbenzene	20.19	119	563	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152236.D Vial: 3
Acq On : 15 Feb 2022 23:46 Operator: WA
Sample : P2200505-005 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:42 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152236.D Vial: 3
Acq On : 15 Feb 2022 23:46 Operator: WA
Sample : P2200505-005 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:42 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 2/16/22

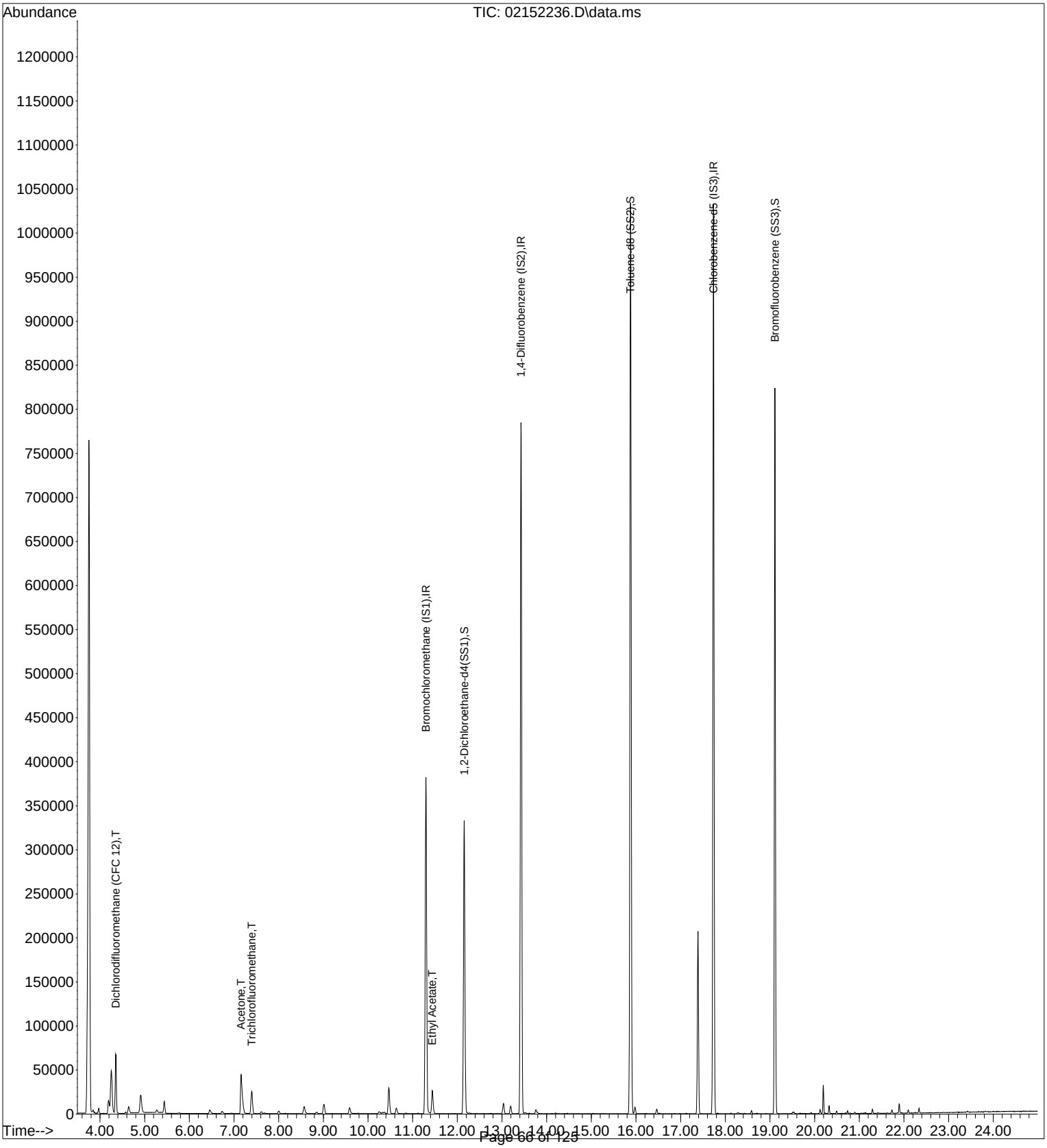
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	156917	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	723555	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	128992	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	256431	11.897	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.88	98	786675	12.620	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
73) Bromofluorobenzene (SS3)	19.11	174	227523	11.452	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.35	85	63868	1.617	ng		99
13) Acetone	7.15	58	23826	1.611	ng	#	83
14) Trichlorofluoromethane	7.40	101	26560	0.791	ng		100
30) Ethyl Acetate	11.44	61	4947	0.709	ng		80

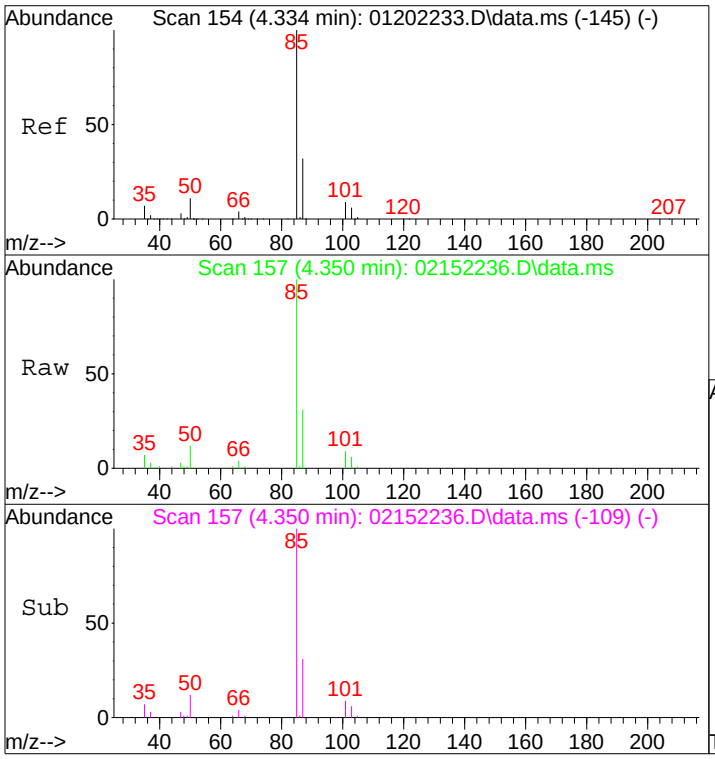
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152236.D Vial: 3
Acq On : 15 Feb 2022 23:46 Operator: WA
Sample : P2200505-005 (1000mL) Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:42 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

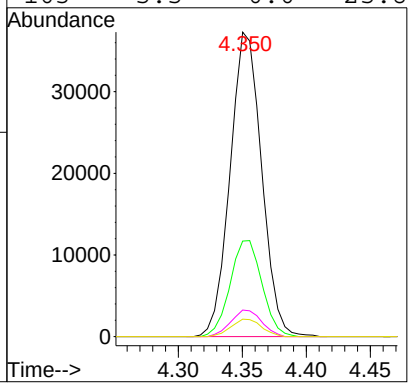


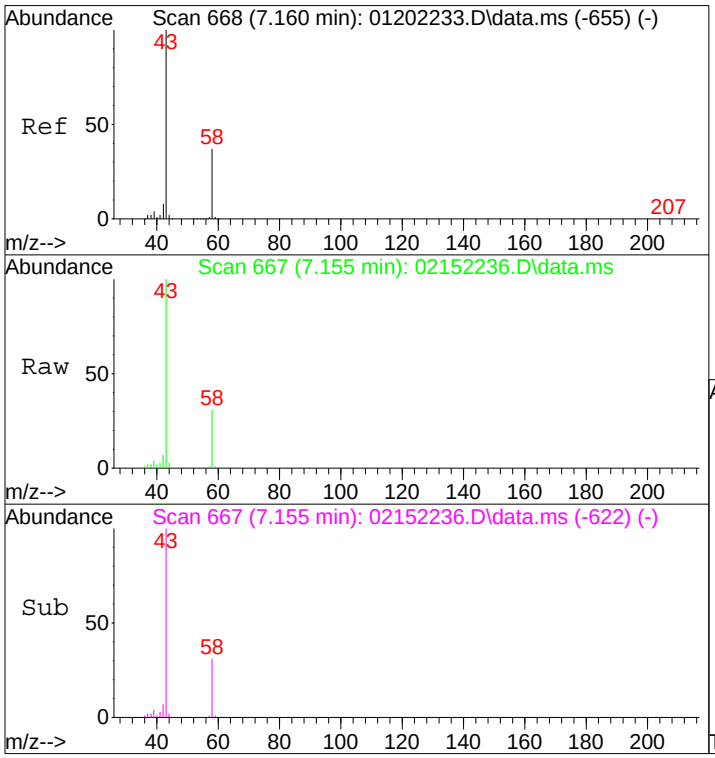


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.62 ng
RT: 4.35 min Scan# 157
Delta R.T. 0.017 min
Lab File: 02152236.D
Acq: 15 Feb 2022 23:46

Tgt Ion: 85 Resp: 63868

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.6	52.6
101	8.5	0.0	29.1
103	5.5	0.0	25.8

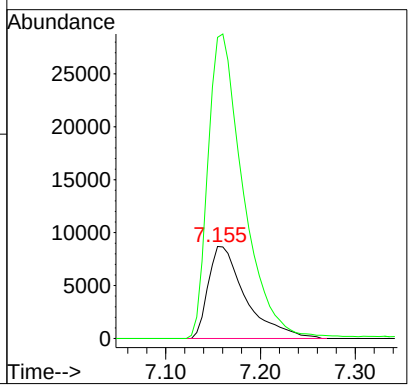


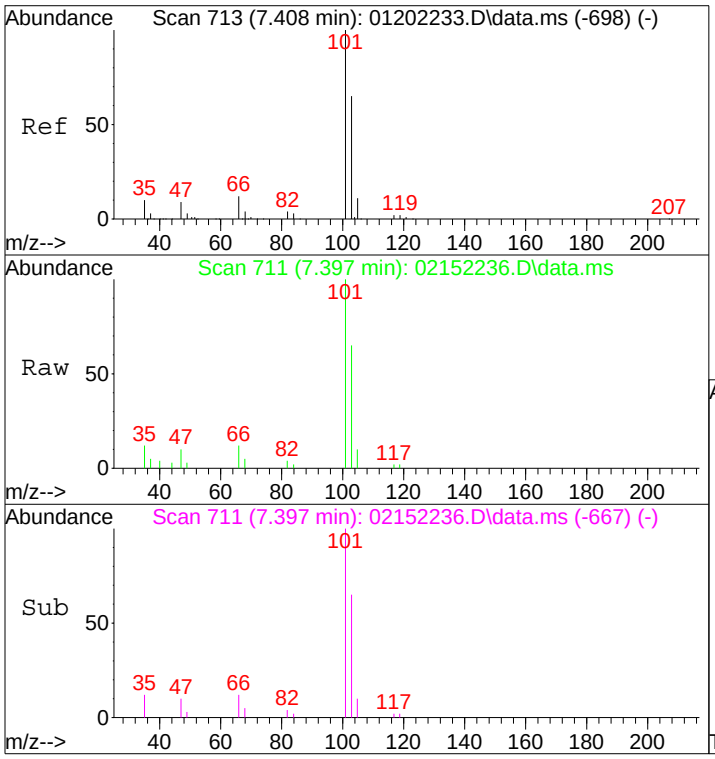


#13
Acetone
Concen: 1.61 ng
RT: 7.15 min Scan# 667
Delta R.T. 0.000 min
Lab File: 02152236.D
Acq: 15 Feb 2022 23:46

Tgt Ion: 58 Resp: 23826

Ion	Ratio	Lower	Upper
58	100		
43	316.0	253.5	313.5#

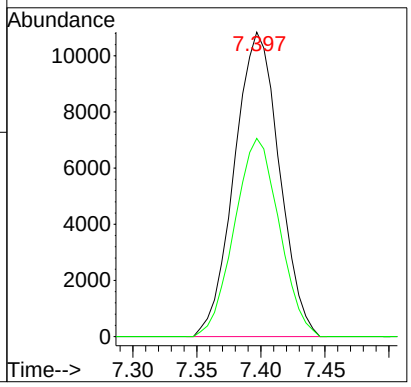


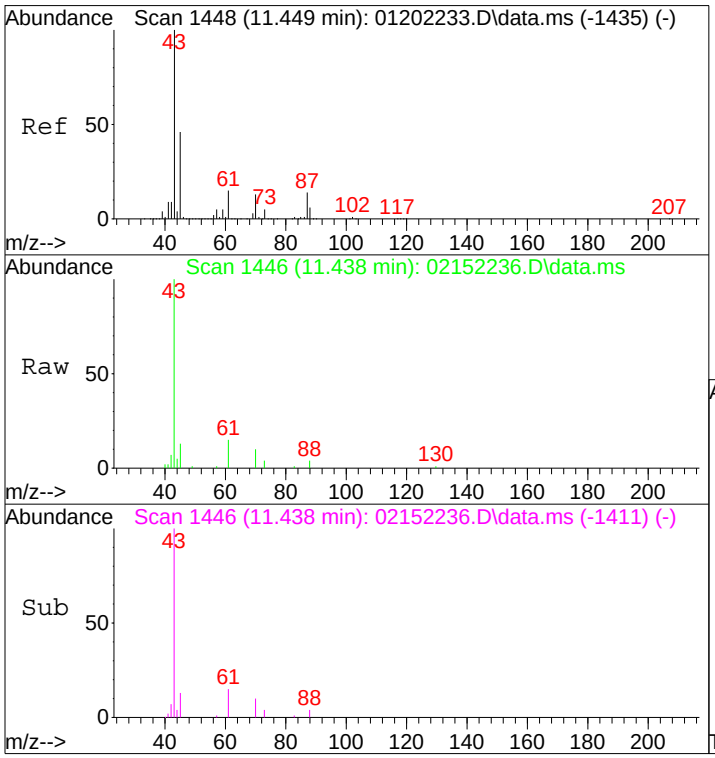


#14
Trichlorofluoromethane
Concen: 0.79 ng
RT: 7.40 min Scan# 711
Delta R.T. -0.005 min
Lab File: 02152236.D
Acq: 15 Feb 2022 23:46

Tgt Ion:101 Resp: 26560

Ion	Ratio	Lower	Upper
101	100		
103	64.9	45.0	85.0

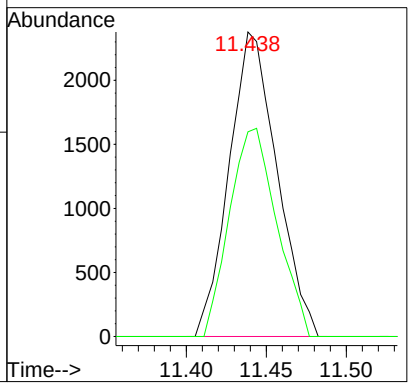




#30
Ethyl Acetate
Concen: 0.71 ng
RT: 11.44 min Scan# 1446
Delta R.T. -0.005 min
Lab File: 02152236.D
Acq: 15 Feb 2022 23:46

Tgt Ion: 61 Resp: 4947

Ion	Ratio	Lower	Upper
61	100		
70	67.6	66.4	106.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152234.D Vial: 2
Acq On : 15 Feb 2022 22:37 Operator: WA
Sample : MB2 R16021522_1000mL Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:37 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 2/16/22
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	171777	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	787141	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	137328	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	276937	11.736	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%			
57) Toluene-d8 (SS2)	15.88	98	851578	12.832	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%			
73) Bromofluorobenzene (SS3)	19.11	174	250806	11.858	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%			
Target Compounds						Qvalue
2) Propene	4.22	42	168	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.50	45	663	N.D.		
11) Acetonitrile	6.75	41	415	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	7.20	58	1105	0.068	ng	88
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.85	76	734	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.04	78	681	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.42	84	482	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.13	130	359	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152234.D Vial: 2
Acq On : 15 Feb 2022 22:37 Operator: WA
Sample : MB2 R16021522_1000mL Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:37 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

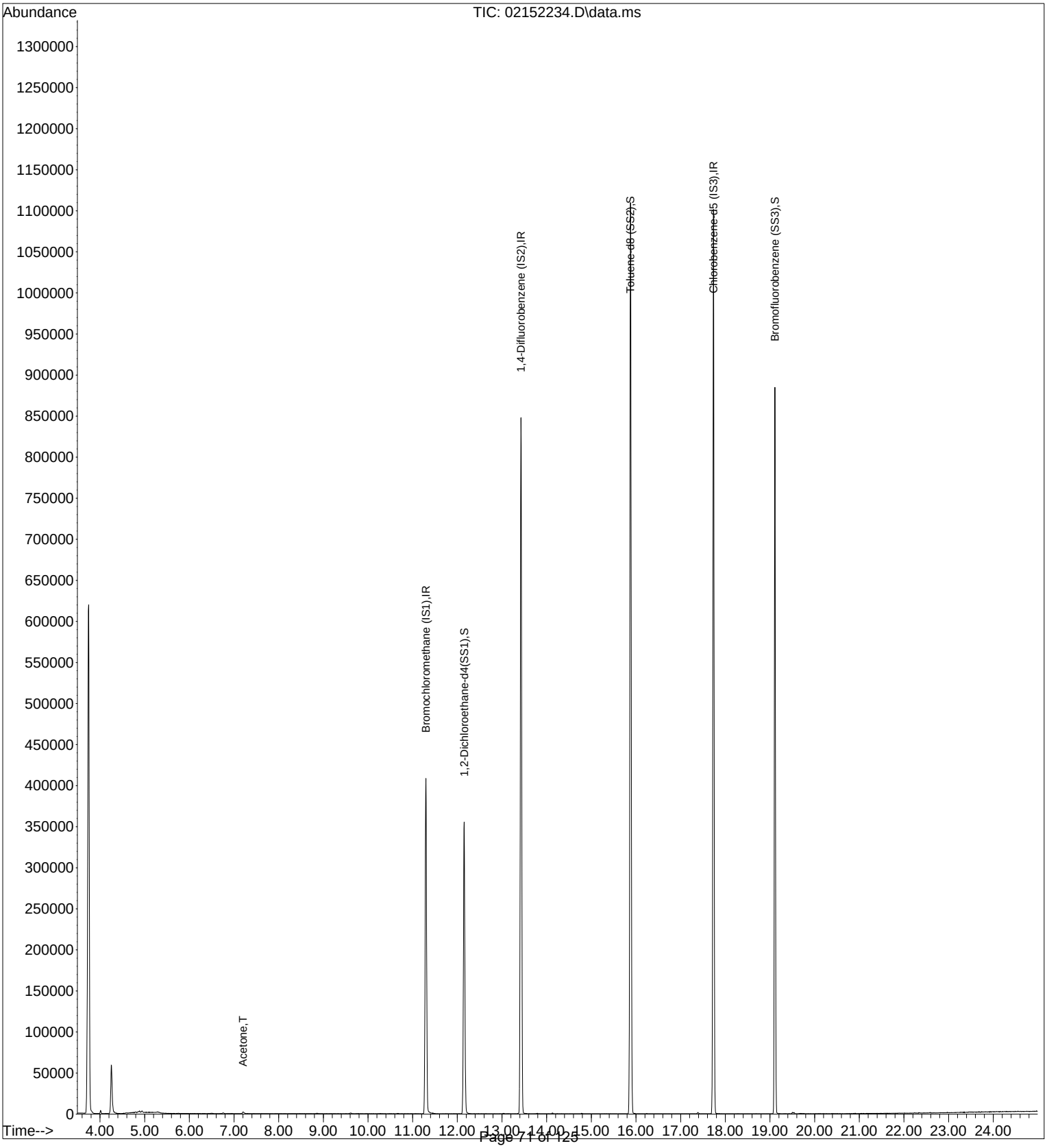
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.98	91	168	N.D.		
59) 2-Hexanone	16.24	43	163	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.28	91	106	N.D.		
67) m- & p-Xylenes	18.28	91	106	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.12	105	307	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.71	91	184	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	281	N.D.		
95) Naphthalene	22.34	128	686	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152234.D Vial: 2
Acq On : 15 Feb 2022 22:37 Operator: WA
Sample : MB2 R16021522_1000mL Inst : GCMS-16
Misc : S35-01102201

Quant Time: Feb 16 03:14:37 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152237.D Vial: 2
Acq On : 16 Feb 2022 00:19 Operator: WA
Sample : LCS2 R16021522 25ng Inst : GCMS-16
Misc : S35-01102201/S35-01282204 (2/27)

Quant Time: Feb 16 03:14:44 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022 2/16/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	178903	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	821251	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	150285	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	289646	11.786	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
57) Toluene-d8 (SS2)	15.88	98	909010	12.517	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	19.11	174	281780	12.174	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
Target Compounds							Qvalue
2) Propene	4.17	42	706752	25.933	ng		98
3) Dichlorodifluoromethan...	4.34	85	1037362	23.039	ng		100
4) Chloromethane	4.63	50	768811	23.483	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	613673	25.481	ng		100
6) Vinyl Chloride	5.06	62	816968	24.314	ng		100
7) 1,3-Butadiene	5.33	54	575023	24.813	ng		94
8) Bromomethane	5.78	94	417410	22.805	ng		100
9) Chloroethane	6.12	64	343639	23.268	ng		100
10) Ethanol	6.51	45	1674029	99.351	ng		99
11) Acetonitrile	6.76	41	889522	19.762	ng		99
12) Acrolein	6.95	56	661957	53.233	ng		99
13) Acetone	7.16	58	2011452	119.323	ng		97
14) Trichlorofluoromethane	7.41	101	866991	22.645	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	2303112	40.084	ng		100
16) Acrylonitrile	7.92	53	1364878	46.069	ng		100
17) 1,1-Dichloroethene	8.38	96	497728	24.737	ng		98
18) 2-Methyl-2-Propanol (t...	8.53	59	2639757	49.819	ng		99
19) Methylene Chloride	8.60	84	537249	24.447	ng		98
20) 3-Chloro-1-propene (Al...	8.77	41	658377	21.450	ng		99
21) Trichlorotrifluoroethane	9.02	151	427524	24.597	ng		97
22) Carbon Disulfide	8.86	76	3897630	52.131	ng		100
23) trans-1,2-Dichloroethene	9.87	61	714929	24.033	ng		99
24) 1,1-Dichloroethane	10.12	63	883503	24.204	ng		100
25) Methyl tert-Butyl Ether	10.22	73	1559687	25.668	ng		100
26) Vinyl Acetate	10.38	86	613034	143.885	ng	#	92
27) 2-Butanone (MEK)	10.62	72	783723	50.521	ng		99
28) cis-1,2-Dichloroethene	11.14	61	688470	23.876	ng		98
29) Diisopropyl Ether	11.43	87	1061897	58.750	ng	#	79
30) Ethyl Acetate	11.44	61	587537	73.823	ng		97
31) n-Hexane	11.42	57	839917	27.797	ng		99
32) Chloroform	11.49	83	931698	25.761	ng		100
34) Tetrahydrofuran (THF)	11.88	72	732298	51.731	ng		98
35) Ethyl tert-Butyl Ether	12.03	87	1403390	60.748	ng		99
36) 1,2-Dichloroethane	12.29	62	653866	23.251	ng		100
38) 1,1,1-Trichloroethane	12.57	97	803808	24.101	ng		100
39) Isopropyl Acetate	12.99	61	13451	No Calib		#	
40) 1-Butanol	13.01	56	11112	No Calib		#	
41) Benzene	13.04	78	2208577	25.880	ng		100
42) Carbon Tetrachloride	13.20	117	639962	23.586	ng		100
43) Cyclohexane	13.34	84	1819576	57.983	ng		99
44) tert-Amyl Methyl Ether	13.68	73	3254360	58.415	ng		99
45) 1,2-Dichloropropane	13.89	63	537069	25.782	ng		100
46) Bromodichloromethane	14.08	83	749716	26.817	ng		100
47) Trichloroethene	14.14	130	613958	26.911	ng		100
48) 1,4-Dioxane	14.11	88	487510	25.736	ng		100
49) 2,2,4-Trimethylpentane...	14.20	57	2213718	26.752	ng		98
50) Methyl Methacrylate	14.34	100	507730	57.236	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152237.D Vial: 2
Acq On : 16 Feb 2022 00:19 Operator: WA
Sample : LCS2 R16021522 25ng Inst : GCMS-16
Misc : S35-01102201/S35-01282204 (2/27)

Quant Time: Feb 16 03:14:44 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

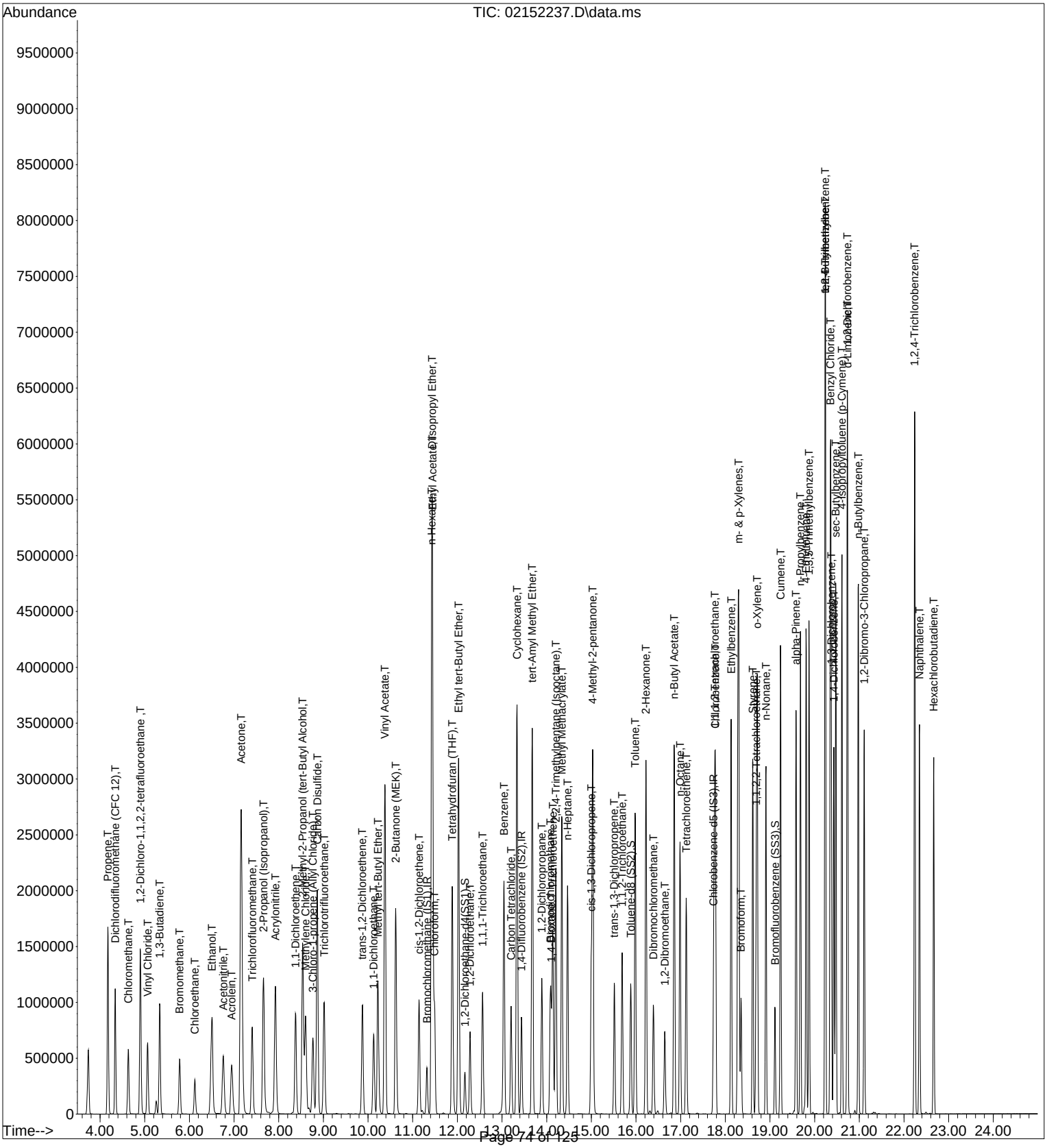
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.47	71	584456	27.581 ng		100
52) cis-1,3-Dichloropropene	15.00	75	901077	27.492 ng		100
53) 4-Methyl-2-pentanone	15.03	58	1061913	55.788 ng		99
54) trans-1,3-Dichloropropene	15.51	75	770489	25.588 ng		100
55) 1,1,2-Trichloroethane	15.69	97	539715	26.498 ng		99
58) Toluene	15.98	91	2327392	26.500 ng		99
59) 2-Hexanone	16.22	43	2373185	47.848 ng		100
60) Dibromochloromethane	16.39	129	618114	26.550 ng		100
61) 1,2-Dibromoethane	16.65	107	598953	25.096 ng		100
62) n-Butyl Acetate	16.85	43	2672565	49.215 ng		99
63) n-Octane	16.99	57	483327	27.551 ng		99
64) Tetrachloroethene	17.12	166	630439	26.734 ng		100
65) Chlorobenzene	17.78	112	1619626	27.873 ng		100
66) Ethylbenzene	18.13	91	2743394	28.057 ng		100
67) m- & p-Xylenes	18.30	91	4361955	58.652 ng		99
68) Bromoform	18.35	173	509054	25.539 ng		100
69) Styrene	18.61	104	1683854	27.711 ng		99
70) o-Xylene	18.71	91	2208527	29.519 ng		100
71) n-Nonane	18.91	43	1072248	27.371 ng		99
72) 1,1,2,2-Tetrachloroethane	18.69	83	1059849	30.581 ng		100
74) Cumene	19.24	105	2800831	28.781 ng		99
75) alpha-Pinene	19.58	93	1456856	31.751 ng		99
76) n-Propylbenzene	19.68	91	3384491	29.305 ng		99
77) 3-Ethyltoluene	19.81	105	2785179	No Calib		
78) 4-Ethyltoluene	19.81	105	2785179	29.537 ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	2337083	30.104 ng		99
80) alpha-Methylstyrene	19.87	118	17208	No Calib	#	
81) 2-Ethyltoluene	19.87	105	2337083	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	2448554	33.052 ng		99
83) n-Decane	20.24	58	95957	No Calib	#	
84) Benzyl Chloride	20.35	91	3843820	64.750 ng		98
85) 1,3-Dichlorobenzene	20.37	146	1409786	31.524 ng		99
86) 1,4-Dichlorobenzene	20.43	146	1296847	27.897 ng		100
87) sec-Butylbenzene	20.47	105	3145106	30.384 ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	2729220	30.215 ng		100
89) 1,2,3-Trimethylbenzene	20.61	105	99825	No Calib	#	
90) 1,2-Dichlorobenzene	20.73	146	1370629	32.506 ng		100
91) d-Limonene	20.74	68	877107	33.074 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	991090	62.071 ng		99
93) n-Undecane	22.34	57	1217	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	2028298	60.692 ng		100
95) Naphthalene	22.35	128	2719787	24.690 ng		100
96) n-Dodecane	22.34	57	1113	No Calib	#	
97) Hexachlorobutadiene	22.67	225	564707	27.691 ng		100
98) Cyclohexanone	18.29	55	3016	No Calib		
99) tert-Butylbenzene	20.24	119	2372954	32.525 ng		100
100) n-Butylbenzene	20.98	91	2541675	30.536 ng		99
101) 1,1,1,2-Tetrachloroethane	17.76	131	584554	28.698 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152237.D Vial: 2
Acq On : 16 Feb 2022 00:19 Operator: WA
Sample : LCS2 R16021522 25ng Inst : GCMS-16
Misc : S35-01102201/S35-01282204 (2/27)

Quant Time: Feb 16 03:14:44 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152238.D Vial: 2
Acq On : 16 Feb 2022 00:53 Operator: WA
Sample : LCSD2 R16021522 25ng Inst : GCMS-16
Misc : S35-01102201/S35-01282204 (2/27)

Quant Time: Feb 16 03:14:46 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 2/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	198841	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	896854	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	157174	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	314021	11.497	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
57) Toluene-d8 (SS2)	15.88	98	970219	12.774	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
73) Bromofluorobenzene (SS3)	19.12	174	298146	12.316	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
Target Compounds							Qvalue
2) Propene	4.18	42	780210	25.757	ng		98
3) Dichlorodifluoromethan...	4.34	85	1139412	22.768	ng		100
4) Chloromethane	4.64	50	830492	22.823	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	669453	25.010	ng		100
6) Vinyl Chloride	5.07	62	891958	23.884	ng		100
7) 1,3-Butadiene	5.34	54	636090	24.696	ng		94
8) Bromomethane	5.78	94	481696	23.678	ng		100
9) Chloroethane	6.12	64	394130	24.011	ng		100
10) Ethanol	6.51	45	1838386	98.165	ng		99
11) Acetonitrile	6.76	41	993950	19.868	ng		99
12) Acrolein	6.95	56	731672	52.940	ng		99
13) Acetone	7.16	58	2171516	115.901	ng		96
14) Trichlorofluoromethane	7.41	101	969394	22.781	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	2487243	38.948	ng		99
16) Acrylonitrile	7.92	53	1506582	45.753	ng		100
17) 1,1-Dichloroethene	8.38	96	554425	24.792	ng		97
18) 2-Methyl-2-Propanol (t...	8.53	59	2905596	49.337	ng		99
19) Methylene Chloride	8.60	84	590759	24.186	ng		97
20) 3-Chloro-1-propene (Al...	8.77	41	724845	21.248	ng		98
21) Trichlorotrifluoroethane	9.02	151	474571	24.566	ng		98
22) Carbon Disulfide	8.86	76	4226073	50.856	ng		100
23) trans-1,2-Dichloroethene	9.88	61	788292	23.842	ng		98
24) 1,1-Dichloroethane	10.12	63	980583	24.170	ng		100
25) Methyl tert-Butyl Ether	10.22	73	1717704	25.434	ng		100
26) Vinyl Acetate	10.38	86	667434	140.946	ng	#	88
27) 2-Butanone (MEK)	10.62	72	849876	49.292	ng		98
28) cis-1,2-Dichloroethene	11.14	61	759896	23.711	ng		98
29) Diisopropyl Ether	11.43	87	1122909	55.896	ng	#	80
30) Ethyl Acetate	11.44	61	621852	70.300	ng		97
31) n-Hexane	11.42	57	888855	26.467	ng		99
32) Chloroform	11.49	83	1010034	25.127	ng		100
34) Tetrahydrofuran (THF)	11.88	72	797581	50.694	ng		97
35) Ethyl tert-Butyl Ether	12.03	87	1516403	59.059	ng		99
36) 1,2-Dichloroethane	12.29	62	709005	22.683	ng		100
38) 1,1,1-Trichloroethane	12.57	97	882293	24.224	ng		100
39) Isopropyl Acetate	12.99	61	15484	No Calib		#	
40) 1-Butanol	13.01	56	13075	No Calib		#	
41) Benzene	13.04	78	2404404	25.800	ng		100
42) Carbon Tetrachloride	13.20	117	706679	23.849	ng		100
43) Cyclohexane	13.34	84	1945574	56.771	ng		99
44) tert-Amyl Methyl Ether	13.68	73	3494568	57.439	ng		99
45) 1,2-Dichloropropane	13.89	63	581288	25.552	ng		100
46) Bromodichloromethane	14.08	83	807930	26.463	ng		100
47) Trichloroethene	14.14	130	663384	26.626	ng		100
48) 1,4-Dioxane	14.11	88	526479	25.451	ng		100
49) 2,2,4-Trimethylpentane...	14.20	57	2385529	26.398	ng		98
50) Methyl Methacrylate	14.34	100	547800	56.548	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152238.D Vial: 2
Acq On : 16 Feb 2022 00:53 Operator: WA
Sample : LCSD2 R16021522 25ng Inst : GCMS-16
Misc : S35-01102201/S35-01282204 (2/27)

Quant Time: Feb 16 03:14:46 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

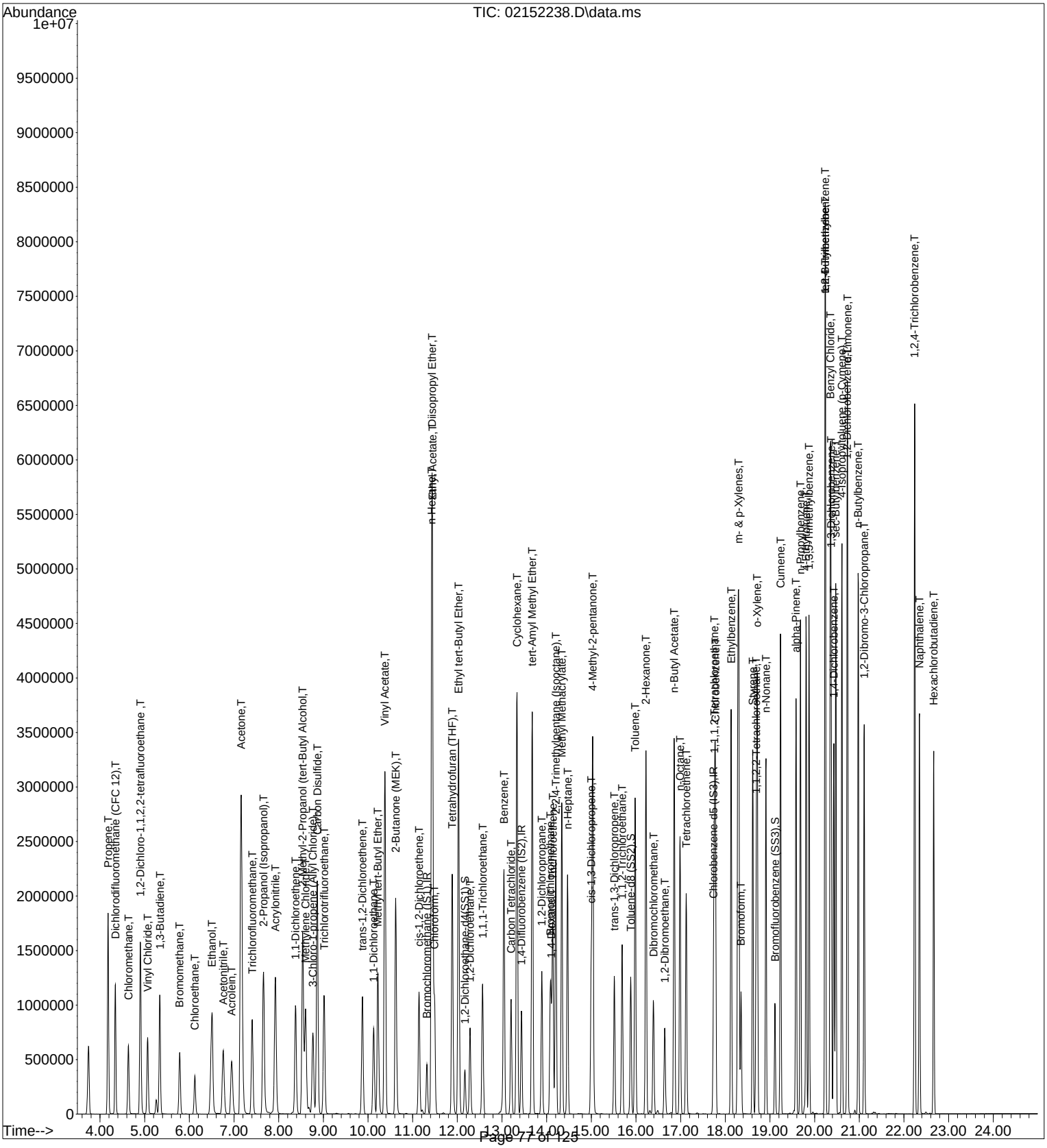
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.47	71	630511	27.246	ng		99
52) cis-1,3-Dichloropropene	15.00	75	969071	27.074	ng		100
53) 4-Methyl-2-pentanone	15.03	58	1128553	54.291	ng		98
54) trans-1,3-Dichloropropene	15.51	75	834982	25.392	ng		100
55) 1,1,2-Trichloroethane	15.69	97	582251	26.176	ng		99
58) Toluene	15.98	91	2480237	27.003	ng		100
59) 2-Hexanone	16.22	43	2491994	48.041	ng		99
60) Dibromochloromethane	16.39	129	667529	27.416	ng		100
61) 1,2-Dibromoethane	16.65	107	648224	25.970	ng		100
62) n-Butyl Acetate	16.85	43	2812125	49.515	ng		100
63) n-Octane	16.99	57	513873	28.009	ng		99
64) Tetrachloroethene	17.12	166	677509	27.470	ng		100
65) Chlorobenzene	17.78	112	1718035	28.270	ng		100
66) Ethylbenzene	18.13	91	2905169	28.410	ng		100
67) m- & p-Xylenes	18.30	91	4602568	59.174	ng		99
68) Bromoform	18.35	173	548863	26.330	ng		100
69) Styrene	18.61	104	1789594	28.160	ng		99
70) o-Xylene	18.71	91	2326298	29.731	ng		99
71) n-Nonane	18.91	43	1126074	27.486	ng		100
72) 1,1,2,2-Tetrachloroethane	18.69	83	1118438	30.857	ng		100
74) Cumene	19.24	105	2947752	28.963	ng		99
75) alpha-Pinene	19.58	93	1537563	32.042	ng		99
76) n-Propylbenzene	19.68	91	3555626	29.437	ng		99
77) 3-Ethyltoluene	19.81	105	2932906	No Calib			
78) 4-Ethyltoluene	19.81	105	2932906	29.740	ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	2446776	30.136	ng		99
80) alpha-Methylstyrene	19.87	118	18272	No Calib			
81) 2-Ethyltoluene	19.87	105	2446776	No Calib			
82) 1,2,4-Trimethylbenzene	20.24	105	2527921	32.627	ng		100
83) n-Decane	20.24	58	98596	No Calib		#	
84) Benzyl Chloride	20.35	91	4016383	64.691	ng		98
85) 1,3-Dichlorobenzene	20.37	146	1473646	31.508	ng		100
86) 1,4-Dichlorobenzene	20.43	146	1366434	28.106	ng		99
87) sec-Butylbenzene	20.47	105	3280691	30.305	ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	2848491	30.154	ng		100
89) 1,2,3-Trimethylbenzene	20.61	105	104276	No Calib		#	
90) 1,2-Dichlorobenzene	20.73	146	1423131	32.272	ng		100
91) d-Limonene	20.74	68	912383	32.896	ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1043830	62.508	ng		99
93) n-Undecane	22.34	57	1196	No Calib		#	
94) 1,2,4-Trichlorobenzene	22.24	180	2106667	60.274	ng		100
95) Naphthalene	22.35	128	2880835	25.006	ng		100
96) n-Dodecane	22.34	57	1196	No Calib		#	
97) Hexachlorobutadiene	22.67	225	593585	27.831	ng		100
98) Cyclohexanone	18.30	55	3230	No Calib			
99) tert-Butylbenzene	20.24	119	2463462	32.286	ng		100
100) n-Butylbenzene	20.97	91	2650893	30.453	ng		99
101) 1,1,1,2-Tetrachloroethane	17.76	131	617450	28.984	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152238.D Vial: 2
Acq On : 16 Feb 2022 00:53 Operator: WA
Sample : LCSD2 R16021522 25ng Inst : GCMS-16
Misc : S35-01102201/S35-01282204 (2/27)

Quant Time: Feb 16 03:14:46 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16012022B.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jan 21 09:34:58 2022
Response Via : Initial Calibration

Calibration Files
0.1 =01202228.D 0.2 =01202229.D 0.5 =01202230.D 1.0 =01202231.D 5.0 =01202232.D 25 =01202233.D 50 =01202234.D
100 =01202235.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	----------	----------	ISTD	----------	----------	----------	----------		
2)	T	Propene	1.942	1.872	2.173	1.657	2.346	1.885	1.726	1.632	1.904	13.13
3)	T	Dichlorodifluo...	3.254	3.121	3.220	3.015	3.012	3.462	3.191	2.892	3.146	5.62
4)	T	Chloromethane	2.609	2.434	2.341	2.416	1.795	2.555	2.243	1.907	2.288	12.85
5)	T	1,2-Dichloro-1...	1.717	1.751	1.809	1.738	1.687	1.834	1.594	1.332	1.683	9.50
6)	T	Vinyl Chloride	2.396	2.310	2.453	2.395	2.321	2.458	2.286	2.164	2.348	4.19
7)	T	1,3-Butadiene	1.527	1.439	1.560	1.537	1.566	1.894	1.788	1.643	1.619	9.28
8)	T	Bromomethane	1.292	1.209	1.276	1.161	1.140	1.410	1.375	1.369	1.279	7.98
9)	T	Chloroethane	0.989	1.010	1.031	0.975	0.963	1.127	1.096	1.065	1.032	5.75
10)	T	Ethanol		1.435	1.352	1.119	1.121	1.209	1.089	0.915	1.177	14.75
11)	T	Acetonitrile		3.725	3.412	2.940	2.939	3.126	2.967	2.906	3.145	9.89
12)	T	Acrolein	0.795	0.663	0.589	0.890	0.896	1.087	1.040	0.993	0.869	20.37
13)	T	Acetone	1.550	1.396	1.315	1.074	1.084	1.247	1.012	0.745	1.178	21.40
14)	T	Trichlorofluor...	2.666	2.647	2.677	2.473	2.478	2.949	2.834	2.676	2.675	6.00
15)	T	2-Propanol (Is...	4.791	4.271	4.843	3.886	2.863	4.457	3.977	3.029	4.015	18.51
16)	T	Acrylonitrile	2.483	2.085	1.962	1.881	1.917	2.258	2.099	1.876	2.070	10.26
17)	T	1,1-Dichloroet...	1.450	1.333	1.321	1.234	1.254	1.583	1.551	1.522	1.406	9.80
18)	T	2-Methyl-2-Pro...	3.692	3.693	3.769	3.294	3.468	4.195	3.805		3.702	7.64
19)	T	Methylene Chlo...	1.643	1.526	1.474	1.376	1.406	1.683	1.633	1.542	1.535	7.34
20)	T	3-Chloro-1-pro...	2.173	2.162	2.047	1.964	2.000	2.478	2.260	2.073	2.145	7.77
21)	T	Trichlorotrifl...	1.138	1.127	1.146	1.061	1.093	1.380	1.384	1.385	1.214	11.72
22)	T	Carbon Disulfide	5.554	5.319	5.322	4.816	4.939	6.115	5.473	4.253	5.224	10.67
23)	T	trans-1,2-Dich...	2.099	2.039	2.017	1.929	1.971	2.343	2.203	2.027	2.078	6.50
24)	T	1,1-Dichloroet...	2.529	2.523	2.491	2.399	2.409	2.850	2.679	2.523	2.550	5.83
25)	T	Methyl tert-Bu...	4.062	3.999	4.022	3.815	3.954	5.002	4.756	4.355	4.246	10.00
26)	T	Vinyl Acetate			0.231	0.218	0.255	0.407	0.375	0.299	0.298	26.21
27)	T	2-Butanone (MEK)	1.176	1.067	1.092	0.967	1.011	1.257	1.156	0.945	1.084	10.01
28)	T	cis-1,2-Dichlo...	2.042	1.965	1.951	1.900	1.907	2.275	2.127	1.950	2.015	6.41
29)	T	Diisopropyl Ether	1.280	1.279	1.288	1.256	1.412	1.374	0.951		1.263	11.80
30)	T	Ethyl Acetate	0.618	0.599	0.611	0.583	0.649	0.510	0.323		0.556	20.05
31)	T	n-Hexane	2.479	2.388	2.405	2.353	2.542	2.175	1.498	1.050	2.111	25.62
32)	T	Chloroform	2.514	2.481	2.491	2.385	2.436	2.873	2.639	2.396	2.527	6.37
33)	S	1,2-Dichloroet...	1.700	1.734	1.768	1.748	1.759	1.710	1.686	1.631	1.717	2.63
34)	T	Tetrahydrofura...	1.078	0.971	0.970	0.905	0.933	1.148	1.059	0.849	0.989	10.00
35)	T	Ethyl tert-But...	1.458	1.540	1.564	1.490	1.594	2.105	1.830	1.332	1.614	15.10
36)	T	1,2-Dichloroet...	1.995	1.980	1.986	1.895	1.894	2.185	2.000	1.784	1.965	5.90
37)	IR	1,4-Difluorobenzen...	----------	----------	----------	ISTD	----------	----------	----------	----------		
38)	T	1,1,1-Trichlor...	0.507	0.487	0.482	0.471	0.472	0.581	0.547	0.514	0.508	7.71
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.433	1.315	1.237	1.172	1.175	1.485	1.376	1.198	1.299	9.42
42)	T	Carbon Tetrach...	0.374	0.379	0.378	0.368	0.384	0.489	0.475	0.456	0.413	12.40

WDH 1/21/22

Method Path : I:\MS16\METHODS\
Method File : R16012022B.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

43)	T	Cyclohexane	0.481	0.467	0.461	0.450	0.479	0.620	0.511	0.353	0.478		15.44
44)	T	tert-Amyl Meth...	0.874	0.852	0.840	0.817	0.849	1.068	0.872	0.613	0.848		14.54
45)	T	1,2-Dichloropr...	0.313	0.306	0.309	0.291	0.297	0.365	0.345	0.310	0.317		7.92
46)	T	Bromodichlorom...	0.406	0.385	0.394	0.384	0.407	0.517	0.486	0.424	0.426		11.61
47)	T	Trichloroethene	0.328	0.317	0.313	0.303	0.314	0.426	0.417	0.361	0.347		14.08
48)	T	1,4-Dioxane	0.310	0.285	0.281	0.260	0.273	0.333	0.316	0.248	0.288		10.19
49)	T	2,2,4-Trimethy...	1.270	1.256	1.247	1.214	1.245	1.519	1.323	1.002	1.260		11.24
50)	T	Methyl Methacr...	0.125	0.120	0.123	0.118	0.131	0.178	0.162	0.123	0.135		16.64
51)	T	n-Heptane	0.320	0.298	0.305	0.298	0.311	0.401	0.363	0.285	0.323		12.20
52)	T	cis-1,3-Dichlo...	0.446	0.450	0.453	0.446	0.477	0.624	0.587	0.507	0.499		13.97
53)	T	4-Methyl-2-pen...	0.322	0.306	0.310	0.275	0.295	0.348	0.276	0.187	0.290		16.56
54)	T	trans-1,3-Dich...	0.380	0.380	0.400	0.404	0.448	0.579	0.560	0.516	0.458		17.86
55)	T	1,1,2-Trichlor...	0.294	0.292	0.287	0.276	0.284	0.368	0.356	0.324	0.310		11.37
56)	IR	Chlorobenzene-d5 (...	----------	ISTD	----------								
57)	S	Toluene-d8 (SS2)	5.988	5.886	5.873	5.849	5.922	5.958	6.243	6.605	6.041		4.30
58)	T	Toluene	7.854	6.961	6.629	6.404	6.629	8.576	8.318	7.069	7.305		11.39
59)	T	2-Hexanone	5.267	4.660	4.551	4.002	4.241	4.346	3.447	2.489	4.125		20.45
60)	T	Dibromochlorom...	1.619	1.548	1.582	1.544	1.746	2.406	2.508	2.538	1.936		23.71
61)	T	1,2-Dibromoethane	1.848	1.693	1.690	1.703	1.785	2.326	2.408	2.429	1.985		17.06
62)	T	n-Butyl Acetate	5.745	5.051	5.000	4.358	4.612	4.831	3.835	2.702	4.517		20.36
63)	T	n-Octane	1.486	1.361	1.388	1.337	1.423	1.789	1.619	1.270	1.459		11.64
64)	T	Tetrachloroethene	1.759	1.727	1.713	1.656	1.708	2.392	2.464	2.273	1.961		17.75
65)	T	Chlorobenzene	5.084	4.480	4.247	4.253	4.490	6.154	5.681	4.276	4.833		15.16
66)	T	Ethylbenzene	0.844	0.760	0.728	0.726	0.768	1.010	0.929	0.741	0.813	E1	12.97
67)	T	m- & p-Xylenes	6.785	5.958	5.623	5.651	6.083	7.895	6.642	4.850	6.186		14.89
68)	T	Bromoform			1.123	1.114	1.348	2.043	2.188	2.131	1.658		31.13
69)	T	Styrene	5.046	4.342	4.269	4.210	4.772	6.575	6.211	5.008	5.054		17.65
70)	T	o-Xylene	6.496	5.855	5.662	5.703	6.088	7.976	6.967	5.036	6.223		14.69
71)	T	n-Nonane	3.582	3.352	3.307	3.262	3.450	3.927	3.083	2.103	3.258		16.26
72)	T	1,1,2,2-Tetrac...	2.668	2.659	2.627	2.636	2.857	3.754	3.382	2.478	2.883		15.49
73)	S	Bromofluoroben...	1.933	1.877	1.840	1.844	1.868	1.908	1.996	2.135	1.925		5.15
74)	T	Cumene	0.865	0.757	0.729	0.717	0.766	1.031	0.919	0.691	0.809	E1	14.59
75)	T	alpha-Pinene	3.547	3.504	3.575	3.516	3.867	4.689	4.399	3.432	3.816		12.41
76)	T	n-Propylbenzene	1.025	0.904	0.869	0.870	0.939	1.227	1.068	0.783	0.961	E1	14.63
77)	T	3-Ethyltoluene									0.000		-1.00
78)	T	4-Ethyltoluene	0.849	0.717	0.686	0.691	0.750	1.029	0.894	0.658	0.784	E1	16.44
79)	T	1,3,5-Trimethy...	6.520	5.849	5.690	5.699	6.248	8.450	7.527	5.673	6.457		15.83
80)	T	alpha-Methylst...									0.000		-1.00
81)	T	2-Ethyltoluene									0.000		-1.00
82)	T	1,2,4-Trimethy...	6.617	5.912	5.711	5.883	6.840	8.254	5.940	4.137	6.162		18.94
83)	T	n-Decane									0.000		-1.00
84)	T	Benzyl Chloride			3.148	3.984	5.405	6.979	5.173		4.938		29.61
85)	T	1,3-Dichlorobe...	4.195	3.221	2.965	3.301	3.663	5.161	4.233	3.019	3.720		20.45
86)	T	1,4-Dichlorobe...	4.258	3.267	2.900	3.220	3.483	5.067	4.850	3.886	3.867		20.55
87)	T	sec-Butylbenzene	0.854	0.790	0.777	0.776	0.852	1.154	0.984	0.702	0.861	E1	16.74
88)	T	4-Isopropyltol...	0.764	0.688	0.658	0.658	0.729	1.024	0.865	0.623	0.751	E1	17.87
89)	T	1,2,3-Trimethy...									0.000		-1.00
90)	T	1,2-Dichlorobe...	3.842	3.085	2.894	3.128	3.507	4.914	3.897	2.791	3.507		20.03
91)	T	d-Limonene	2.162	2.132	2.286	2.081	2.534	3.000	2.099	1.353	2.206		21.03
92)	T	1,2-Dibromo-3-...	1.106	1.016	1.030	1.071	1.321	1.962	1.771	1.348	1.328		27.00
93)	T	n-Undecane									0.000		-1.00
94)	T	1,2,4-Trichlor...	3.191	2.067	1.760	2.355	2.756	4.085	3.244		2.780		28.69

Method Path : I:\MS16\METHODS\
Method File : R16012022B.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95)	T	Naphthalene	1.166	0.660	0.511	0.778	0.878	1.257	1.179	0.901	0.916	E1 29.11
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.510	1.425	1.357	1.329	1.475	2.279	2.249	1.945	1.696	23.50
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	6.548	5.897	5.758	5.724	6.607	8.037	5.823	4.152	6.068	18.02
100)	T	n-Butylbenzene	6.972	6.257	6.114	6.393	6.987	9.248	7.847	5.567	6.923	16.81
101)	T	1,1,1,2-Tetrac...	1.554	1.487	1.490	1.475	1.622	2.225	2.065	1.638	1.694	16.99

(#) = Out of Range

Primary Source Standards Concentrations (Working & Initial Calibration)

1/27/22

1ng/L Std. ID:		40ng/L Std. ID:	
4ng/L Std. ID:	S35-01172211	200ng/L Std. ID:	
20ng/L Std. ID:	S35-01172210	1000ng/L Std. ID:	S35-12292101

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	20	1000	1000	1000
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.1250	0.050	0.25	0.025	0.05	0.10
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S35-01172211**	**200ng/L Std. ID:**	
20ng/L Std. ID:	**S35-01172210**	**1000ng/L Std. ID:**	**S35-12292101**

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**4**	**20**	**20**	**1000**	**1000**	**1000**
	Source Std.			**Primary Working Standards**				**Injection (L):**	**0.025**	**0.050**	**0.1250**	**0.050**	**0.25**	**0.025**	**0.05**	**0.10**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Page 88 of 99

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16012022B.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jan 21 09:34:58 2022
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2022_01\20\01202228.D
2	0.2	0	13	I:\MS16\DATA\2022_01\20\01202229.D
3	0.5	1	13	I:\MS16\DATA\2022_01\20\01202230.D
4	1.0	1	13	I:\MS16\DATA\2022_01\20\01202231.D
5	5.0	5	13	I:\MS16\DATA\2022_01\20\01202232.D
6	25	26	13	I:\MS16\DATA\2022_01\20\01202233.D
7	50	52	13	I:\MS16\DATA\2022_01\20\01202234.D
8	100	104	13	I:\MS16\DATA\2022_01\20\01202235.D

VOA 1/21/22

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Jan 21 06:15 2022	Jan 21 06:07 2022	20 Jan 2022 22:56
2	0.2	Jan 21 06:21 2022	Jan 21 06:09 2022	20 Jan 2022 23:30
3	0.5	Jan 21 06:22 2022	Jan 21 06:10 2022	21 Jan 2022 00:04
4	1.0	Jan 21 06:22 2022	Jan 21 06:10 2022	21 Jan 2022 00:38
5	5.0	Jan 21 06:22 2022	Jan 21 06:11 2022	21 Jan 2022 1:11
6	25	Jan 21 06:22 2022	Jan 21 06:12 2022	21 Jan 2022 1:45
7	50	Jan 21 06:22 2022	Jan 21 06:13 2022	21 Jan 2022 2:19
8	100	Jan 21 06:22 2022	Jan 21 06:14 2022	21 Jan 2022 2:53

R16012022B.M Fri Jan 21 14:14:23 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202228.D Vial: 12
Acq On : 20 Jan 2022 22:56 Operator: WA
Sample : 0.1ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:07:08 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 1/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	177131	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.43	114	807052	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	145679	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	301095	12.766	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
57) Toluene-d8 (SS2)	15.88	98	872384	12.505	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	19.12	174	281525	11.869	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
Target Compounds							Qvalue
2) Propene	4.21	42	2862	0.087	ng		97
3) Dichlorodifluoromethan...	4.36	85	4841	0.112	ng		96
4) Chloromethane	4.64	50	3771	0.136	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	2627	0.111	ng		92
6) Vinyl Chloride	5.07	62	3531	0.100	ng		94
7) 1,3-Butadiene	5.35	54	2251	0.104	ng		89
8) Bromomethane	5.77	94	1868	0.094	ng		95
9) Chloroethane	6.12	64	1429	0.092	ng		87
10) Ethanol	6.45	45	11165	0.651	ng		93
11) Acetonitrile	6.73	41	6845	0.140	ng		92
12) Acrolein	6.94	56	2253	0.161	ng		99
13) Acetone	7.17	58	11402	0.692	ng	#	77
14) Trichlorofluoromethane	7.41	101	3891	0.098	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	13713	0.283	ng		95
16) Acrylonitrile	7.89	53	7143	0.236	ng		100
17) 1,1-Dichloroethene	8.36	96	2198	0.092	ng		98
18) 2-Methyl-2-Propanol (t...	8.59	59	10987	0.216	ng		84
19) Methylene Chloride	8.57	84	2422	0.105	ng		93
20) 3-Chloro-1-propene (Al...	8.74	41	3233	0.104	ng		85
21) Trichlorotrifluoroethane	9.01	151	1741	0.097	ng		96
22) Carbon Disulfide	8.85	76	16528	0.212	ng		99
23) trans-1,2-Dichloroethene	9.85	61	3153	0.095	ng		99
24) 1,1-Dichloroethane	10.11	63	3763	0.092	ng		100
25) Methyl tert-Butyl Ether	10.25	73	6044	0.104	ng		98
26) Vinyl Acetate	10.37	86	984	0.255	ng	#	8
27) 2-Butanone (MEK)	10.64	72	3434	0.232	ng	#	69
28) cis-1,2-Dichloroethene	11.12	61	3010	0.093	ng		96
29) Diisopropyl Ether	11.44	87	3846	0.200	ng	#	1
30) Ethyl Acetate	11.44	61	3574	0.423	ng		89
31) n-Hexane	11.42	57	3689	0.113	ng	#	95
32) Chloroform	11.46	83	3812	0.095	ng		98
34) Tetrahydrofuran (THF)	11.91	72	3008	0.209	ng	#	87
35) Ethyl tert-Butyl Ether	12.04	87	4339	0.195	ng	#	83
36) 1,2-Dichloroethane	12.27	62	2997	0.098	ng		96
38) 1,1,1-Trichloroethane	12.55	97	3405	0.098	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	9625	0.103	ng		99
42) Carbon Tetrachloride	13.20	117	2538	0.090	ng		97
43) Cyclohexane	13.33	84	6434	0.199	ng		90
44) tert-Amyl Methyl Ether	13.69	73	11795	0.208	ng		89
45) 1,2-Dichloropropane	13.89	63	2081	0.097	ng		91
46) Bromodichloromethane	14.07	83	2752	0.095	ng		97
47) Trichloroethene	14.13	130	2179	0.087	ng		99
48) 1,4-Dioxane	14.12	88	2084	0.100	ng		92
49) 2,2,4-Trimethylpentane...	14.20	57	8691	0.098	ng		87
50) Methyl Methacrylate	14.34	100	1680	0.176	ng	#	75

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202228.D Vial: 12
Acq On : 20 Jan 2022 22:56 Operator: WA
Sample : 0.1ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:07:08 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

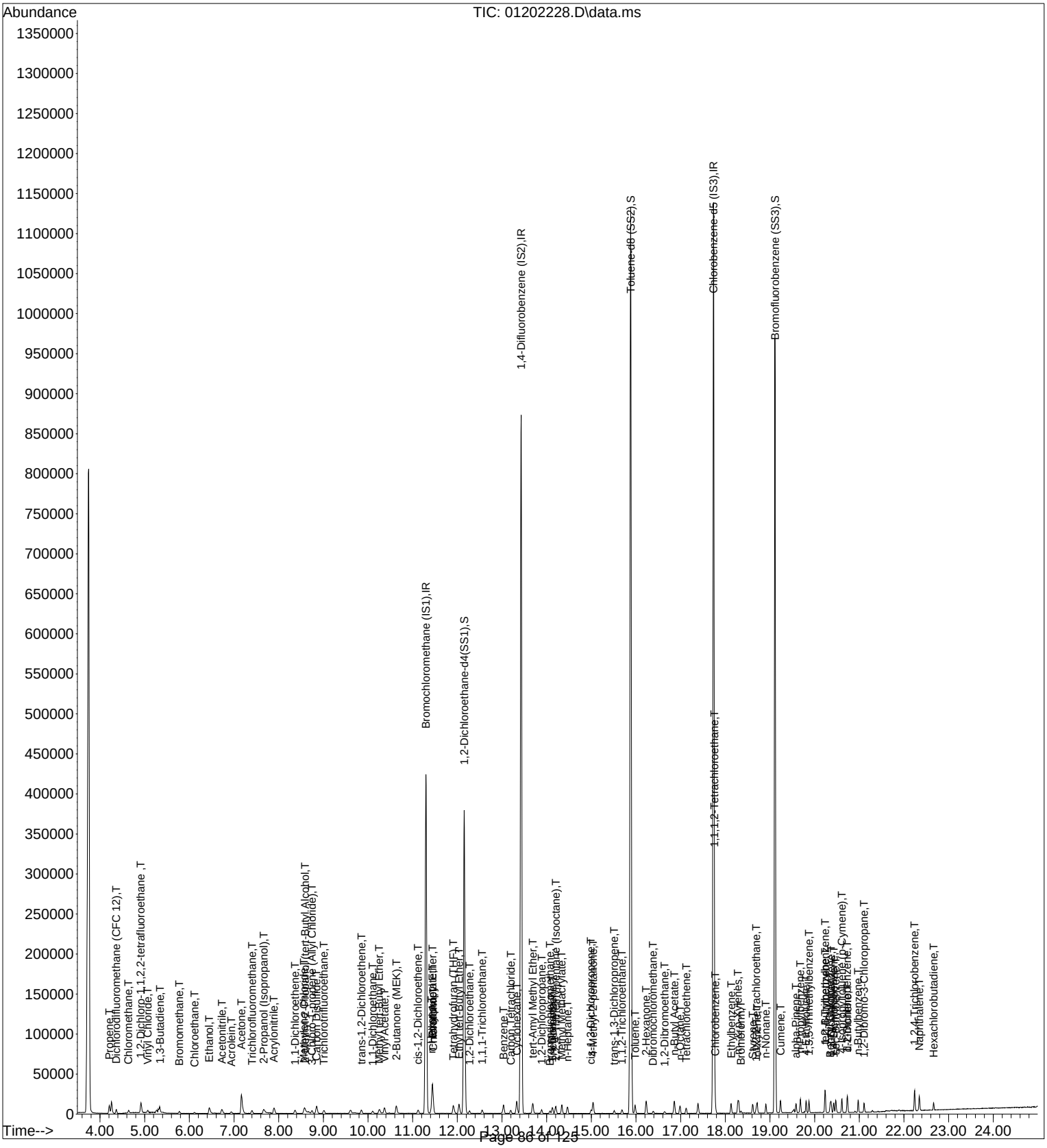
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.47	71	2171	0.095	ng		94
52) cis-1,3-Dichloropropene	14.99	75	3024	0.092	ng		99
53) 4-Methyl-2-pentanone	15.04	58	4319	0.216	ng		76
54) trans-1,3-Dichloropropene	15.51	75	2480	0.083	ng		97
55) 1,1,2-Trichloroethane	15.68	97	1974	0.094	ng		98
58) Toluene	15.98	91	9428	0.105	ng		97
59) 2-Hexanone	16.23	43	12583	0.257	ng		88
60) Dibromochloromethane	16.38	129	1981	0.086	ng		99
61) 1,2-Dibromoethane	16.64	107	2240	0.090	ng		98
62) n-Butyl Acetate	16.86	43	13658	0.253	ng		91
63) n-Octane	16.99	57	1818	0.099	ng		89
64) Tetrachloroethene	17.12	166	2132	0.083	ng		98
65) Chlorobenzene	17.78	112	6162	0.104	ng		99
66) Ethylbenzene	18.13	91	10136	0.095	ng		96
67) m- & p-Xylenes	18.28	91	16290	0.199	ng		91
68) Bromoform	18.35	173	1418	0.078	ng		92
69) Styrene	18.61	104	6057	0.097	ng		97
70) o-Xylene	18.71	91	7873	0.102	ng		92
71) n-Nonane	18.91	43	4341	0.105	ng		85
72) 1,1,2,2-Tetrachloroethane	18.69	83	3234	0.089	ng		97
74) Cumene	19.24	105	10490	0.106	ng		96
75) alpha-Pinene	19.58	93	4465	0.095	ng		91
76) n-Propylbenzene	19.68	91	12545	0.105	ng		93
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.81	105	10489	0.103	ng		94
79) 1,3,5-Trimethylbenzene	19.87	105	7903	0.094	ng		93
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.24	105	7943	0.104	ng		93
83) n-Decane	0.00	58	0	N.D.	d		
84) Benzyl Chloride	20.35	91	8312	0.151	ng		88
85) 1,3-Dichlorobenzene	20.37	146	5084	0.113	ng		100
86) 1,4-Dichlorobenzene	20.43	146	5161	0.110	ng		97
87) sec-Butylbenzene	20.47	105	10346	0.096	ng		94
88) 4-Isopropyltoluene (p-...	20.61	119	9264	0.096	ng		92
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.73	146	4702	0.110	ng		100
91) d-Limonene	20.74	68	2646	0.089	ng		90
92) 1,2-Dibromo-3-Chloropr...	21.11	157	2578	0.152	ng	#	40
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.24	180	7586	0.211	ng		100
95) Naphthalene	22.34	128	14134	0.125	ng		99
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	22.67	225	1813	0.082	ng		98
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.24	119	7936	0.105	ng		97
100) n-Butylbenzene	20.97	91	8451	0.098	ng		94
101) 1,1,1,2-Tetrachloroethane	17.76	131	1883	0.090	ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202228.D Vial: 12
Acq On : 20 Jan 2022 22:56 Operator: WA
Sample : 0.1ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:07:08 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202229.D Vial: 12
Acq On : 20 Jan 2022 23:30 Operator: WA
Sample : 0.2ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:09:10 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022 1/21/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	164864	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.43	114	756154	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	139104	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	285834	13.021	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
57) Toluene-d8 (SS2)	15.88	98	818757	12.292	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	19.11	174	261159	11.531	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
Target Compounds							Qvalue
2) Propene	4.20	42	5136	0.167	ng		99
3) Dichlorodifluoromethan...	4.36	85	8644	0.215	ng		98
4) Chloromethane	4.64	50	6550	0.254	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	4988	0.226	ng		98
6) Vinyl Chloride	5.07	62	6336	0.192	ng		98
7) 1,3-Butadiene	5.34	54	3949	0.196	ng		92
8) Bromomethane	5.77	94	3252	0.176	ng		97
9) Chloroethane	6.11	64	2718	0.187	ng		97
10) Ethanol	6.45	45	13702	0.859	ng		92
11) Acetonitrile	6.73	41	9137	0.201	ng		96
12) Acrolein	6.93	56	3497	0.268	ng		98
13) Acetone	7.16	58	19111	1.247	ng	#	77
14) Trichlorofluoromethane	7.40	101	7193	0.194	ng		100
15) 2-Propanol (Isopropanol)	7.65	45	22759	0.504	ng		89
16) Acrylonitrile	7.89	53	11165	0.396	ng		99
17) 1,1-Dichloroethene	8.36	96	3761	0.168	ng		94
18) 2-Methyl-2-Propanol (t...	8.58	59	20458	0.432	ng		89
19) Methylene Chloride	8.57	84	4186	0.196	ng		95
20) 3-Chloro-1-propene (Al...	8.74	41	5987	0.208	ng		91
21) Trichlorotrifluoroethane	9.01	151	3212	0.192	ng		97
22) Carbon Disulfide	8.85	76	29467	0.405	ng		100
23) trans-1,2-Dichloroethene	9.85	61	5700	0.184	ng		100
24) 1,1-Dichloroethane	10.10	63	6988	0.184	ng		99
25) Methyl tert-Butyl Ether	10.25	73	11075	0.204	ng		98
26) Vinyl Acetate	10.37	86	1819	0.507	ng	#	29
27) 2-Butanone (MEK)	10.63	72	5798	0.420	ng	#	68
28) cis-1,2-Dichloroethene	11.13	61	5391	0.179	ng		98
29) Diisopropyl Ether	11.44	87	7154	0.400	ng	#	7
30) Ethyl Acetate	11.44	61	6451	0.820	ng		89
31) n-Hexane	11.42	57	6613	0.219	ng	#	97
32) Chloroform	11.47	83	7002	0.187	ng		98
34) Tetrahydrofuran (THF)	11.91	72	5047	0.377	ng	#	87
35) Ethyl tert-Butyl Ether	12.03	87	8530	0.412	ng	#	87
36) 1,2-Dichloroethane	12.27	62	5535	0.194	ng		99
38) 1,1,1-Trichloroethane	12.55	97	6127	0.188	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	16544	0.189	ng		100
42) Carbon Tetrachloride	13.19	117	4812	0.183	ng		98
43) Cyclohexane	13.33	84	11692	0.386	ng		91
44) tert-Amyl Methyl Ether	13.69	73	21535	0.405	ng		93
45) 1,2-Dichloropropane	13.89	63	3817	0.190	ng		99
46) Bromodichloromethane	14.07	83	4892	0.180	ng		99
47) Trichloroethene	14.13	130	3948	0.168	ng		98
48) 1,4-Dioxane	14.12	88	3591	0.183	ng		90
49) 2,2,4-Trimethylpentane...	14.20	57	16112	0.193	ng		90
50) Methyl Methacrylate	14.34	100	3013	0.337	ng	#	81

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202229.D Vial: 12
Acq On : 20 Jan 2022 23:30 Operator: WA
Sample : 0.2ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:09:10 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

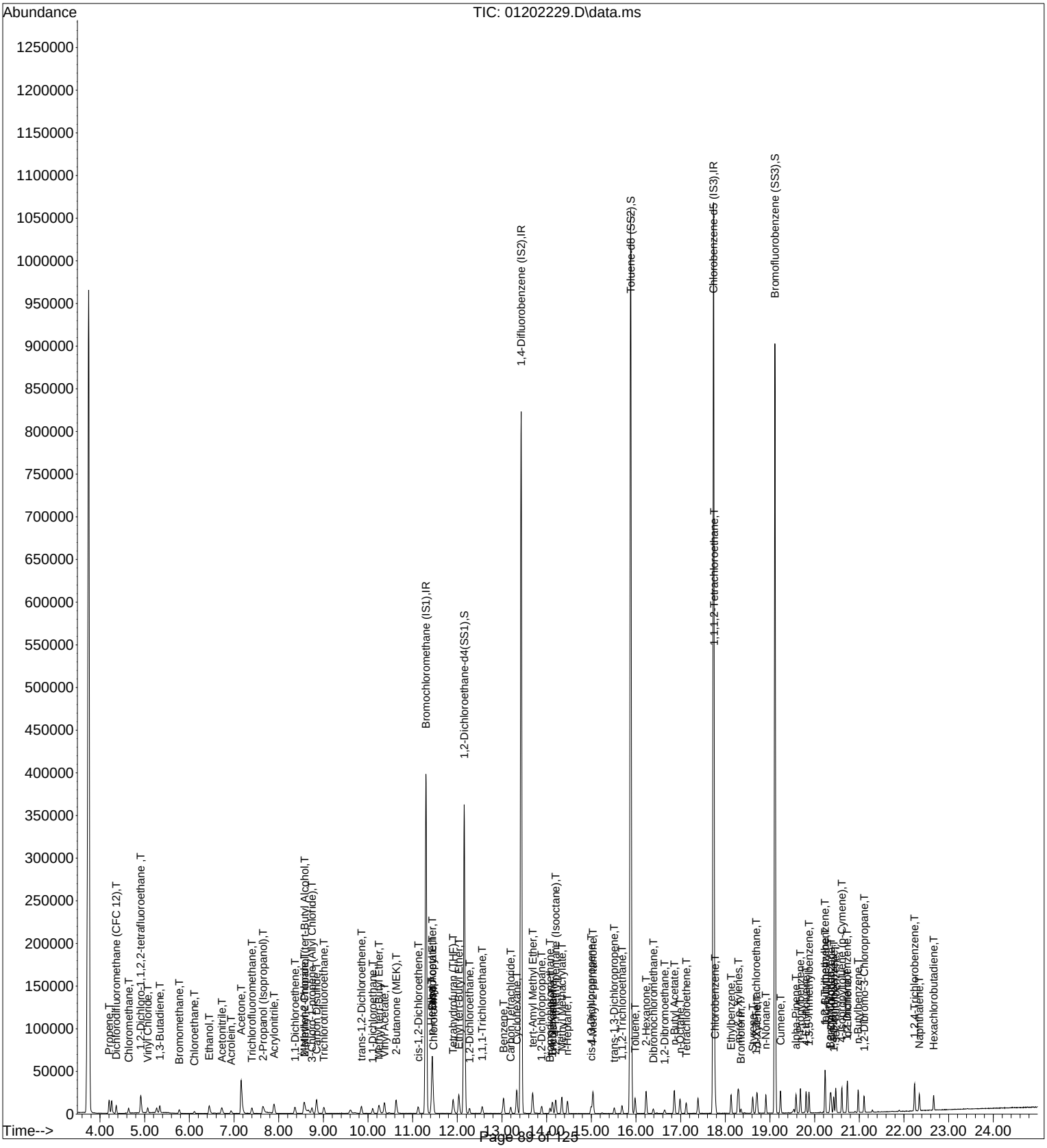
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	3782	0.177 ng		92
52) cis-1,3-Dichloropropene	15.00	75	5717	0.187 ng		99
53) 4-Methyl-2-pentanone	15.03	58	7700	0.410 ng		79
54) trans-1,3-Dichloropropene	15.51	75	4647	0.165 ng		99
55) 1,1,2-Trichloroethane	15.69	97	3673	0.187 ng		99
58) Toluene	15.98	91	15958	0.187 ng		98
59) 2-Hexanone	16.23	43	21262	0.454 ng		88
60) Dibromochloromethane	16.39	129	3618	0.165 ng		98
61) 1,2-Dibromoethane	16.64	107	3918	0.165 ng		100
62) n-Butyl Acetate	16.86	43	22935	0.445 ng		92
63) n-Octane	16.99	57	3181	0.182 ng		95
64) Tetrachloroethene	17.12	166	3998	0.162 ng		100
65) Chlorobenzene	17.77	112	10369	0.183 ng		99
66) Ethylbenzene	18.13	91	17430	0.170 ng		96
67) m- & p-Xylenes	18.29	91	27317	0.349 ng		93
68) Bromoform	18.35	173	2477	0.143 ng		94
69) Styrene	18.61	104	9953	0.168 ng		97
70) o-Xylene	18.71	91	13553	0.183 ng		96
71) n-Nonane	18.91	43	7759	0.196 ng		87
72) 1,1,2,2-Tetrachloroethane	18.69	83	6154	0.178 ng		98
74) Cumene	19.24	105	17520	0.185 ng		96
75) alpha-Pinene	19.58	93	8423	0.187 ng		95
76) n-Propylbenzene	19.68	91	21125	0.185 ng		94
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.81	105	16927	0.174 ng		97
79) 1,3,5-Trimethylbenzene	19.87	105	13538	0.168 ng		94
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.23	105	13554	0.185 ng		96
83) n-Decane	0.00	58	0	N.D. d		
84) Benzyl Chloride	20.35	91	13684	0.261 ng		90
85) 1,3-Dichlorobenzene	20.37	146	7456	0.174 ng		98
86) 1,4-Dichlorobenzene	20.43	146	7563	0.170 ng		99
87) sec-Butylbenzene	20.47	105	18295	0.178 ng		96
88) 4-Isopropyltoluene (p-...	20.61	119	15935	0.172 ng		94
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.73	146	7209	0.176 ng		97
91) d-Limonene	20.74	68	4982	0.175 ng		95
92) 1,2-Dibromo-3-Chloropr...	21.11	157	4522	0.279 ng	#	48
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	9384	0.274 ng		98
95) Naphthalene	22.34	128	15288	0.141 ng		98
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.67	225	3267	0.155 ng		95
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.24	119	13650	0.189 ng		99
100) n-Butylbenzene	20.97	91	14483	0.176 ng		95
101) 1,1,1,2-Tetrachloroethane	17.75	131	3441	0.172 ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202229.D Vial: 12
Acq On : 20 Jan 2022 23:30 Operator: WA
Sample : 0.2ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:09:10 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202230.D Vial: 12
Acq On : 21 Jan 2022 00:04 Operator: WA
Sample : 0.5ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:10:10 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 1/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	157739	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	736604	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	136638	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	278939	13.281	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%				
57) Toluene-d8 (SS2)	15.88	98	802410	12.264	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
73) Bromofluorobenzene (SS3)	19.11	174	251400	11.301	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.40%				
Target Compounds							Qvalue
2) Propene	4.19	42	14258	0.486	ng		98
3) Dichlorodifluoromethan...	4.35	85	21331	0.555	ng		99
4) Chloromethane	4.63	50	15065	0.611	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	12329	0.583	ng		98
6) Vinyl Chloride	5.06	62	16095	0.511	ng		100
7) 1,3-Butadiene	5.33	54	10234	0.530	ng		99
8) Bromomethane	5.76	94	8210	0.464	ng		99
9) Chloroethane	6.10	64	6637	0.478	ng		100
10) Ethanol	6.44	45	30890	2.023	ng		88
11) Acetonitrile	6.72	41	20024	0.461	ng		99
12) Acrolein	6.93	56	7432	0.596	ng		98
13) Acetone	7.15	58	43049	2.935	ng	#	75
14) Trichlorofluoromethane	7.39	101	17399	0.490	ng		99
15) 2-Propanol (Isopropanol)	7.62	45	61720	1.429	ng		92
16) Acrylonitrile	7.89	53	25136	0.932	ng		98
17) 1,1-Dichloroethene	8.36	96	8915	0.417	ng		95
18) 2-Methyl-2-Propanol (t...	8.58	59	49938	1.103	ng		92
19) Methylene Chloride	8.57	84	9674	0.473	ng		94
20) 3-Chloro-1-propene (Al...	8.74	41	13559	0.491	ng		93
21) Trichlorotrifluoroethane	9.01	151	7812	0.487	ng		98
22) Carbon Disulfide	8.84	76	70521	1.014	ng		99
23) trans-1,2-Dichloroethene	9.85	61	13489	0.456	ng		97
24) 1,1-Dichloroethane	10.11	63	16506	0.455	ng		100
25) Methyl tert-Butyl Ether	10.23	73	26648	0.514	ng		98
26) Vinyl Acetate	10.37	86	4964	1.445	ng	#	55
27) 2-Butanone (MEK)	10.62	72	14198	1.075	ng	#	75
28) cis-1,2-Dichloroethene	11.12	61	12805	0.445	ng		96
29) Diisopropyl Ether	11.43	87	17233	1.007	ng	#	6
30) Ethyl Acetate	11.44	61	15720	2.090	ng		91
31) n-Hexane	11.42	57	15935	0.550	ng	#	97
32) Chloroform	11.47	83	16820	0.469	ng		99
34) Tetrahydrofuran (THF)	11.89	72	12063	0.943	ng	#	89
35) Ethyl tert-Butyl Ether	12.03	87	20721	1.045	ng	#	85
36) 1,2-Dichloroethane	12.27	62	13282	0.486	ng		99
38) 1,1,1-Trichloroethane	12.56	97	14757	0.466	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	37898	0.444	ng		100
42) Carbon Tetrachloride	13.20	117	11680	0.456	ng		100
43) Cyclohexane	13.33	84	28102	0.952	ng		90
44) tert-Amyl Methyl Ether	13.68	73	51705	0.998	ng		93
45) 1,2-Dichloropropane	13.89	63	9374	0.478	ng		99
46) Bromodichloromethane	14.07	83	12200	0.462	ng		100
47) Trichloroethene	14.13	130	9499	0.416	ng		99
48) 1,4-Dioxane	14.12	88	8605	0.450	ng		93
49) 2,2,4-Trimethylpentane...	14.20	57	38951	0.479	ng		91
50) Methyl Methacrylate	14.34	100	7556	0.868	ng	#	85

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202230.D Vial: 12
Acq On : 21 Jan 2022 00:04 Operator: WA
Sample : 0.5ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:10:10 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

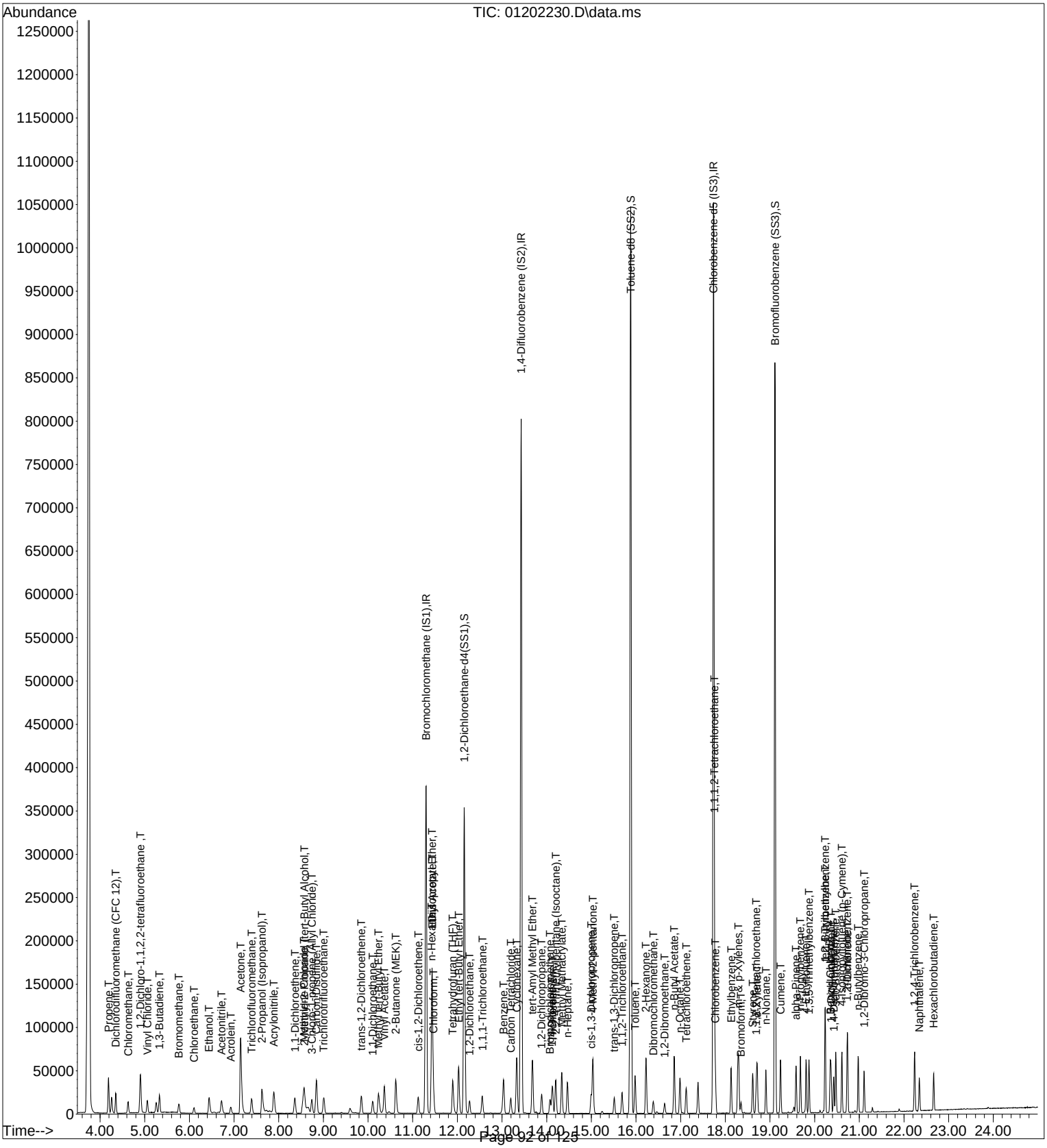
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.47	71	9422	0.452 ng		96
52) cis-1,3-Dichloropropene	15.00	75	14024	0.470 ng		99
53) 4-Methyl-2-pentanone	15.03	58	19003	1.040 ng		81
54) trans-1,3-Dichloropropene	15.51	75	11893	0.434 ng		99
55) 1,1,2-Trichloroethane	15.69	97	8784	0.460 ng		99
58) Toluene	15.98	91	37317	0.445 ng		99
59) 2-Hexanone	16.22	43	50995	1.109 ng		89
60) Dibromochloromethane	16.39	129	9081	0.421 ng		99
61) 1,2-Dibromoethane	16.64	107	9609	0.411 ng		99
62) n-Butyl Acetate	16.85	43	55752	1.102 ng		92
63) n-Octane	16.98	57	7967	0.463 ng		91
64) Tetrachloroethene	17.12	166	9736	0.402 ng		100
65) Chlorobenzene	17.78	112	24140	0.434 ng		99
66) Ethylbenzene	18.13	91	40965	0.407 ng		98
67) m- & p-Xylenes	18.29	91	63306	0.823 ng		95
68) Bromoform	18.35	173	6382	0.374 ng		100
69) Styrene	18.61	104	24030	0.412 ng		97
70) o-Xylene	18.71	91	32185	0.443 ng		95
71) n-Nonane	18.91	43	18800	0.484 ng		88
72) 1,1,2,2-Tetrachloroethane	18.69	83	14931	0.440 ng		98
74) Cumene	19.24	105	41455	0.445 ng		96
75) alpha-Pinene	19.58	93	21105	0.477 ng		95
76) n-Propylbenzene	19.68	91	49856	0.444 ng		94
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.81	105	39763	0.417 ng		96
79) 1,3,5-Trimethylbenzene	19.87	105	32341	0.410 ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.24	105	32152	0.447 ng		98
83) n-Decane	0.00	58	0	N.D. d		
84) Benzyl Chloride	20.35	91	35448	0.688 ng		91
85) 1,3-Dichlorobenzene	20.37	146	16856	0.401 ng		99
86) 1,4-Dichlorobenzene	20.43	146	16483	0.376 ng		99
87) sec-Butylbenzene	20.47	105	44143	0.438 ng		96
88) 4-Isopropyltoluene (p-...	20.61	119	37403	0.411 ng		95
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.73	146	16608	0.414 ng		99
91) d-Limonene	20.74	68	13117	0.469 ng		92
92) 1,2-Dibromo-3-Chloropr...	21.11	157	11261	0.707 ng	#	55
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.24	180	19624	0.582 ng		100
95) Naphthalene	22.34	128	29060	0.273 ng		98
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.67	225	7641	0.370 ng		99
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.24	119	32728	0.462 ng		99
100) n-Butylbenzene	20.97	91	34750	0.429 ng		96
101) 1,1,1,2-Tetrachloroethane	17.76	131	8470	0.430 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202230.D Vial: 12
Acq On : 21 Jan 2022 00:04 Operator: WA
Sample : 0.5ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:10:10 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202231.D Vial: 15
Acq On : 21 Jan 2022 00:38 Operator: WA
Sample : 1.0ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172210 (2/16)

Quant Time: Jan 21 06:10:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	157109	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	722531	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	133393	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	274625	13.128	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%				
57) Toluene-d8 (SS2)	15.88	98	780241	12.215	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
73) Bromofluorobenzene (SS3)	19.12	174	246012	11.328	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%				
Target Compounds							Qvalue
2) Propene	4.19	42	21664	0.741	ng		97
3) Dichlorodifluoromethan...	4.35	85	39792	1.039	ng		100
4) Chloromethane	4.63	50	30975	1.262	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	23591	1.121	ng		100
6) Vinyl Chloride	5.05	62	31308	0.998	ng		100
7) 1,3-Butadiene	5.33	54	20092	1.044	ng		98
8) Bromomethane	5.76	94	14878	0.844	ng		99
9) Chloroethane	6.10	64	12498	0.903	ng		100
10) Ethanol	6.44	45	50925	3.349	ng		97
11) Acetonitrile	6.72	41	34364	0.794	ng		99
12) Acrolein	6.92	56	22362	1.800	ng		99
13) Acetone	7.14	58	70055	4.795	ng	#	71
14) Trichlorofluoromethane	7.40	101	32021	0.905	ng		99
15) 2-Propanol (Isopropanol)	7.62	45	98666	2.293	ng		93
16) Acrylonitrile	7.89	53	47985	1.787	ng		100
17) 1,1-Dichloroethene	8.36	96	16602	0.780	ng		92
18) 2-Methyl-2-Propanol (t...	8.52	59	86936	1.928	ng		93
19) Methylene Chloride	8.57	84	17985	0.882	ng		93
20) 3-Chloro-1-propene (Al...	8.74	41	25915	0.943	ng		96
21) Trichlorotrifluoroethane	9.01	151	14402	0.902	ng		96
22) Carbon Disulfide	8.85	76	127108	1.835	ng		99
23) trans-1,2-Dichloroethene	9.85	61	25699	0.873	ng		98
24) 1,1-Dichloroethane	10.11	63	31658	0.877	ng		100
25) Methyl tert-Butyl Ether	10.23	73	50341	0.975	ng		99
26) Vinyl Acetate	10.37	86	9335	2.729	ng	#	42
27) 2-Butanone (MEK)	10.62	72	25037	1.903	ng	#	74
28) cis-1,2-Dichloroethene	11.12	61	24830	0.866	ng		96
29) Diisopropyl Ether	11.43	87	33467	1.964	ng	#	12
30) Ethyl Acetate	11.43	61	29874	3.987	ng		89
31) n-Hexane	11.42	57	31051	1.077	ng		98
32) Chloroform	11.47	83	32072	0.898	ng		100
34) Tetrahydrofuran (THF)	11.89	72	22399	1.757	ng	#	90
35) Ethyl tert-Butyl Ether	12.03	87	39335	1.992	ng	#	84
36) 1,2-Dichloroethane	12.27	62	25248	0.928	ng		100
38) 1,1,1-Trichloroethane	12.55	97	28293	0.910	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	70442	0.842	ng		99
42) Carbon Tetrachloride	13.20	117	22363	0.890	ng		99
43) Cyclohexane	13.33	84	53834	1.860	ng		90
44) tert-Amyl Methyl Ether	13.68	73	98652	1.941	ng		94
45) 1,2-Dichloropropane	13.89	63	17354	0.902	ng		100
46) Bromodichloromethane	14.08	83	23336	0.900	ng		99
47) Trichloroethene	14.13	130	18059	0.806	ng		99
48) 1,4-Dioxane	14.12	88	15654	0.835	ng		90
49) 2,2,4-Trimethylpentane...	14.20	57	74397	0.932	ng		93
50) Methyl Methacrylate	14.34	100	14170	1.660	ng	#	86

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202231.D Vial: 15
Acq On : 21 Jan 2022 00:38 Operator: WA
Sample : 1.0ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172210 (2/16)

Quant Time: Jan 21 06:10:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

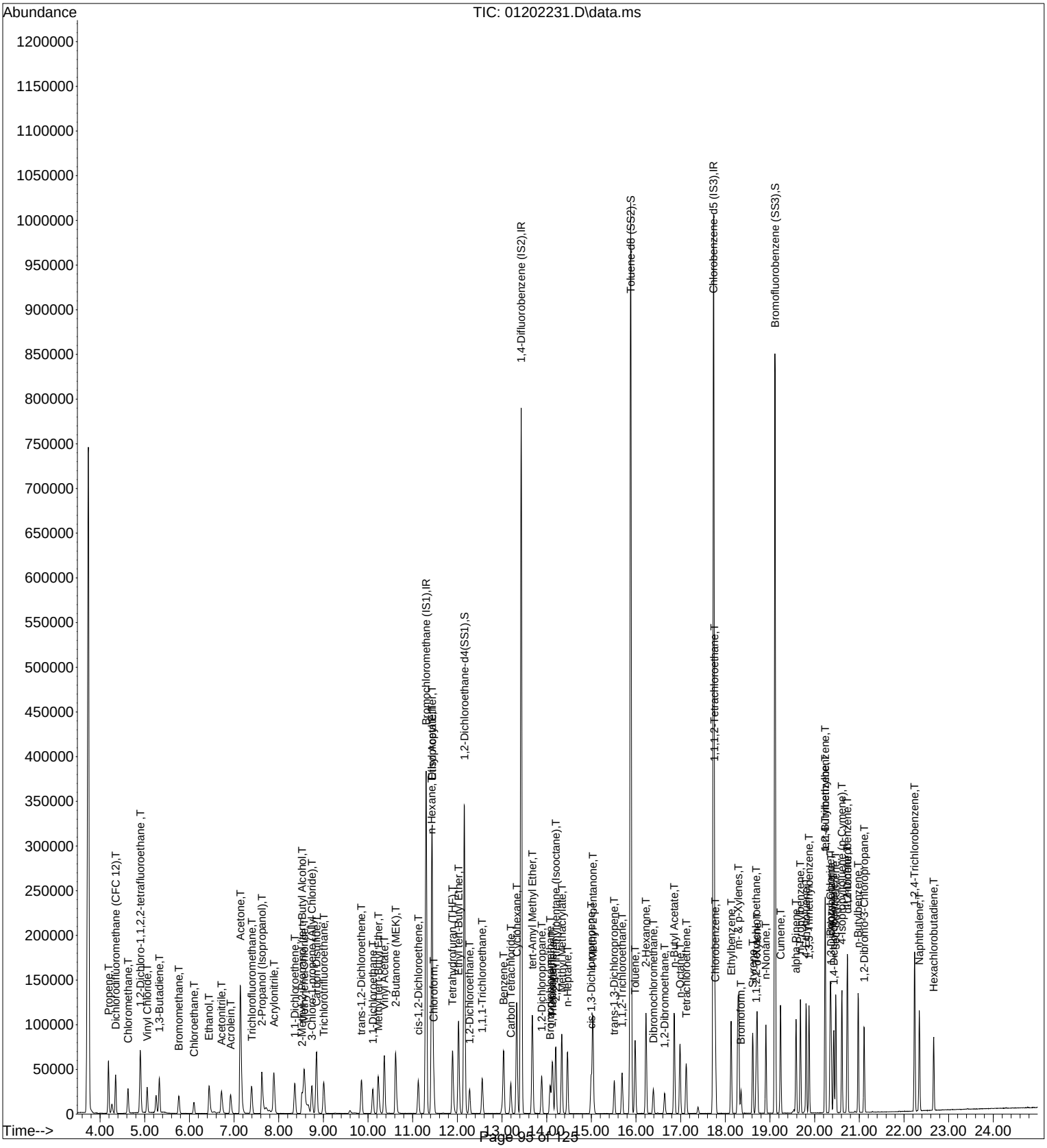
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.47	71	18101	0.885	ng		95
52) cis-1,3-Dichloropropene	15.00	75	27078	0.925	ng		99
53) 4-Methyl-2-pentanone	15.03	58	33107	1.847	ng		81
54) trans-1,3-Dichloropropene	15.51	75	23576	0.877	ng		100
55) 1,1,2-Trichloroethane	15.69	97	16570	0.884	ng		99
58) Toluene	15.98	91	70385	0.860	ng		99
59) 2-Hexanone	16.22	43	87548	1.950	ng		90
60) Dibromochloromethane	16.39	129	17306	0.822	ng		100
61) 1,2-Dibromoethane	16.64	107	18896	0.828	ng		99
62) n-Butyl Acetate	16.85	43	94873	1.920	ng		92
63) n-Octane	16.99	57	14982	0.892	ng		92
64) Tetrachloroethene	17.12	166	18382	0.778	ng		99
65) Chlorobenzene	17.78	112	47203	0.870	ng		100
66) Ethylbenzene	18.13	91	79820	0.813	ng		97
67) m- & p-Xylenes	18.29	91	124228	1.654	ng		95
68) Bromoform	18.35	173	12362	0.743	ng		100
69) Styrene	18.61	104	46278	0.813	ng		98
70) o-Xylene	18.71	91	63295	0.892	ng		95
71) n-Nonane	18.91	43	36206	0.954	ng		88
72) 1,1,2,2-Tetrachloroethane	18.69	83	29258	0.883	ng		99
74) Cumene	19.24	105	79588	0.875	ng		96
75) alpha-Pinene	19.58	93	40519	0.938	ng		97
76) n-Propylbenzene	19.68	91	97467	0.889	ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.81	105	78126	0.838	ng		96
79) 1,3,5-Trimethylbenzene	19.87	105	63252	0.820	ng		95
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.24	105	64664	0.922	ng		97
83) n-Decane	0.00	58	0	N.D.	d		
84) Benzyl Chloride	20.35	91	87574	1.740	ng		92
85) 1,3-Dichlorobenzene	20.37	146	36632	0.892	ng		100
86) 1,4-Dichlorobenzene	20.43	146	35740	0.835	ng		99
87) sec-Butylbenzene	20.47	105	86133	0.876	ng		96
88) 4-Isopropyltoluene (p-...	20.61	119	73045	0.823	ng		96
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.73	146	35045	0.894	ng		100
91) d-Limonene	20.74	68	23320	0.855	ng		91
92) 1,2-Dibromo-3-Chloropr...	21.11	157	22852	1.470	ng	#	59
93) n-Undecane	0.00	57	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.24	180	51277	1.559	ng		99
95) Naphthalene	22.34	128	86305	0.831	ng		99
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	22.67	225	14613	0.725	ng		99
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.24	119	63527	0.918	ng		98
100) n-Butylbenzene	20.97	91	70950	0.898	ng		96
101) 1,1,1,2-Tetrachloroethane	17.76	131	16365	0.851	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202231.D Vial: 15
Acq On : 21 Jan 2022 00:38 Operator: WA
Sample : 1.0ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172210 (2/16)

Quant Time: Jan 21 06:10:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202232.D Vial: 15
Acq On : 21 Jan 2022 1:11 Operator: WA
Sample : 5.0ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172210 (2/16)

Quant Time: Jan 21 06:11:54 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022 1/21/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	158024	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	734829	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	135428	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	277963	13.210	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%				
57) Toluene-d8 (SS2)	15.88	98	802019	12.367	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
73) Bromofluorobenzene (SS3)	19.12	174	253002	11.474	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%				
Target Compounds							Qvalue
2) Propene	4.17	42	154241	5.248	ng		98
3) Dichlorodifluoromethan...	4.34	85	199937	5.188	ng		100
4) Chloromethane	4.62	50	115746	4.689	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	115157	5.439	ng		100
6) Vinyl Chloride	5.05	62	152545	4.835	ng		100
7) 1,3-Butadiene	5.32	54	102922	5.319	ng		95
8) Bromomethane	5.76	94	73503	4.144	ng		100
9) Chloroethane	6.11	64	62057	4.460	ng		100
10) Ethanol	6.46	45	256530	16.774	ng		100
11) Acetonitrile	6.73	41	172773	3.967	ng		100
12) Acrolein	6.93	56	113221	9.061	ng		99
13) Acetone	7.14	58	355665	24.203	ng	#	78
14) Trichlorofluoromethane	7.40	101	161351	4.534	ng		100
15) 2-Propanol (Isopropanol)	7.63	45	365581	8.448	ng		96
16) Acrylonitrile	7.90	53	245923	9.104	ng		99
17) 1,1-Dichloroethene	8.36	96	84798	3.960	ng		93
18) 2-Methyl-2-Propanol (t...	8.51	59	460293	10.150	ng		95
19) Methylene Chloride	8.58	84	92454	4.510	ng		94
20) 3-Chloro-1-propene (Al...	8.75	41	132718	4.801	ng		96
21) Trichlorotrifluoroethane	9.01	151	74642	4.647	ng		97
22) Carbon Disulfide	8.85	76	655570	9.411	ng		99
23) trans-1,2-Dichloroethene	9.86	61	132076	4.460	ng		96
24) 1,1-Dichloroethane	10.11	63	159895	4.401	ng		100
25) Methyl tert-Butyl Ether	10.22	73	262425	5.051	ng		100
26) Vinyl Acetate	10.37	86	54828	15.937	ng	#	55
27) 2-Butanone (MEK)	10.61	72	131640	9.948	ng	#	79
28) cis-1,2-Dichloroethene	11.13	61	125351	4.344	ng		96
29) Diisopropyl Ether	11.43	87	189214	11.038	ng	#	35
30) Ethyl Acetate	11.43	61	167290	22.198	ng		91
31) n-Hexane	11.42	57	168689	5.815	ng		98
32) Chloroform	11.48	83	164741	4.588	ng		99
34) Tetrahydrofuran (THF)	11.88	72	116168	9.060	ng	#	91
35) Ethyl tert-Butyl Ether	12.03	87	211623	10.657	ng	#	87
36) 1,2-Dichloroethane	12.28	62	126897	4.637	ng		99
38) 1,1,1-Trichloroethane	12.56	97	144388	4.568	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.04	78	359258	4.223	ng		100
42) Carbon Tetrachloride	13.20	117	118400	4.635	ng		100
43) Cyclohexane	13.33	84	291262	9.895	ng		93
44) tert-Amyl Methyl Ether	13.68	73	521463	10.086	ng		95
45) 1,2-Dichloropropane	13.89	63	89898	4.595	ng		100
46) Bromodichloromethane	14.08	83	125613	4.763	ng		99
47) Trichloroethene	14.13	130	95005	4.170	ng		100
48) 1,4-Dioxane	14.11	88	83301	4.368	ng		94
49) 2,2,4-Trimethylpentane...	14.20	57	387747	4.778	ng		94
50) Methyl Methacrylate	14.34	100	79956	9.207	ng		88

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202232.D Vial: 15
Acq On : 21 Jan 2022 1:11 Operator: WA
Sample : 5.0ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172210 (2/16)

Quant Time: Jan 21 06:11:54 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

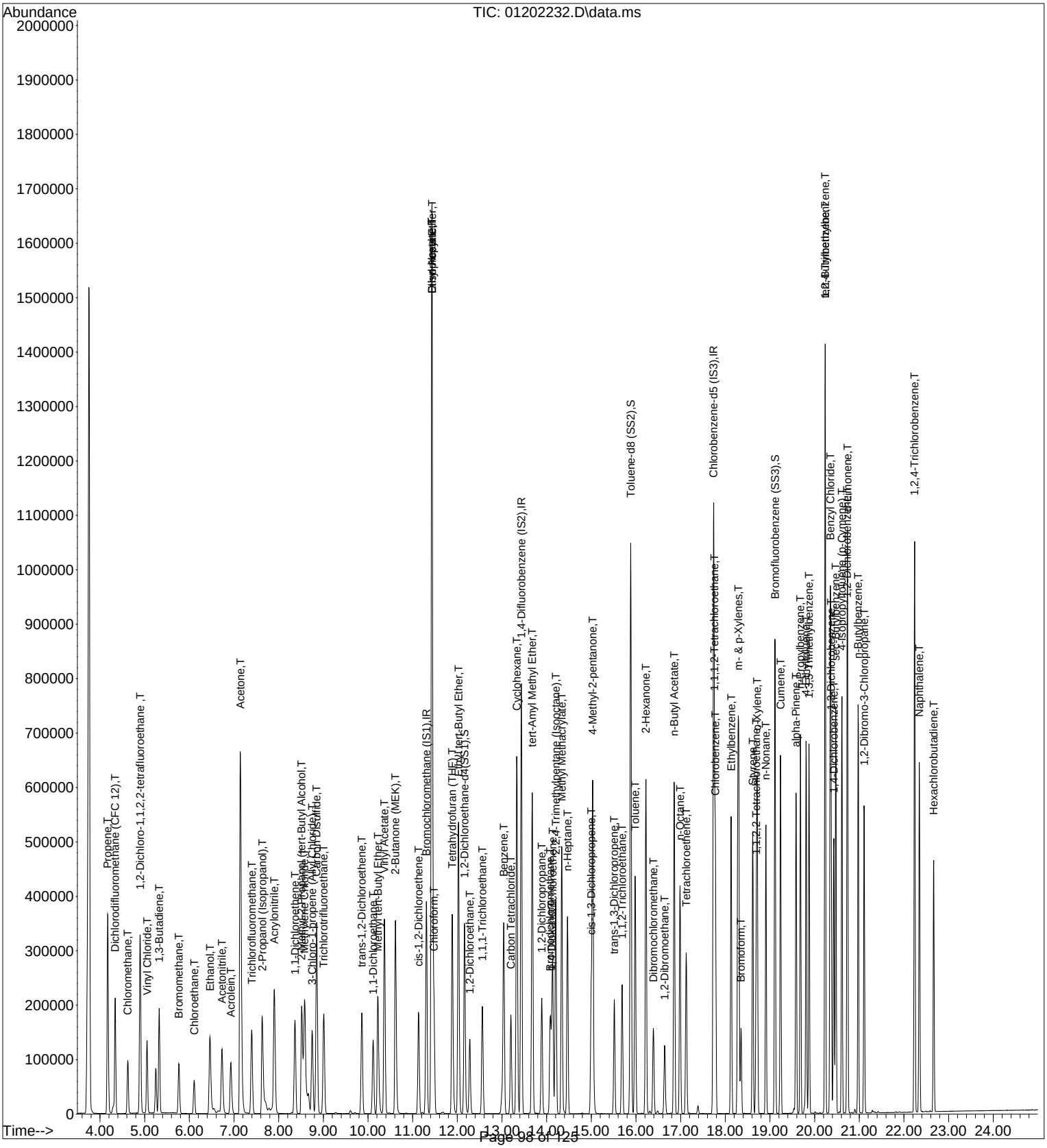
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.47	71	95911	4.611	ng		97
52) cis-1,3-Dichloropropene	15.00	75	147235	4.945	ng		100
53) 4-Methyl-2-pentanone	15.03	58	180136	9.880	ng		85
54) trans-1,3-Dichloropropene	15.51	75	132963	4.862	ng		100
55) 1,1,2-Trichloroethane	15.69	97	86716	4.550	ng		99
58) Toluene	15.98	91	369849	4.450	ng		99
59) 2-Hexanone	16.22	43	470967	10.333	ng		91
60) Dibromochloromethane	16.39	129	99299	4.648	ng		100
61) 1,2-Dibromoethane	16.64	107	100545	4.341	ng		100
62) n-Butyl Acetate	16.85	43	509669	10.162	ng		94
63) n-Octane	16.99	57	80952	4.745	ng		93
64) Tetrachloroethene	17.12	166	96247	4.013	ng		100
65) Chlorobenzene	17.78	112	252940	4.592	ng		100
66) Ethylbenzene	18.13	91	428719	4.303	ng		97
67) m- & p-Xylenes	18.29	91	678804	8.901	ng		96
68) Bromoform	18.35	173	75958	4.496	ng		100
69) Styrene	18.61	104	266261	4.607	ng		98
70) o-Xylene	18.71	91	342985	4.764	ng		96
71) n-Nonane	18.91	43	194356	5.044	ng		90
72) 1,1,2,2-Tetrachloroethane	18.69	83	160934	4.786	ng		100
74) Cumene	19.24	105	431414	4.670	ng		97
75) alpha-Pinene	19.58	93	226243	5.160	ng		97
76) n-Propylbenzene	19.68	91	534208	4.802	ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.81	105	430662	4.552	ng		97
79) 1,3,5-Trimethylbenzene	19.87	105	352003	4.497	ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.24	105	381665	5.359	ng		98
83) n-Decane	0.00	58	0	N.D.	d		
84) Benzyl Chloride	20.35	91	603125	11.803	ng		93
85) 1,3-Dichlorobenzene	20.37	146	206351	4.951	ng		100
86) 1,4-Dichlorobenzene	20.43	146	196239	4.518	ng		100
87) sec-Butylbenzene	20.47	105	479790	4.804	ng		97
88) 4-Isopropyltoluene (p-...	20.61	119	410764	4.559	ng		97
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.73	146	199464	5.014	ng		100
91) d-Limonene	20.74	68	144109	5.202	ng		93
92) 1,2-Dibromo-3-Chloropr...	21.11	157	143109	9.067	ng	#	73
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.24	180	304521	9.117	ng		99
95) Naphthalene	22.34	128	494408	4.688	ng		99
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	22.67	225	82315	4.024	ng		100
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.24	119	372202	5.297	ng		98
100) n-Butylbenzene	20.97	91	393619	4.908	ng		97
101) 1,1,1,2-Tetrachloroethane	17.76	131	91381	4.682	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202232.D Vial: 15
Acq On : 21 Jan 2022 1:11 Operator: WA
Sample : 5.0ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172210 (2/16)

Quant Time: Jan 21 06:11:54 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202233.D Vial: 13
Acq On : 21 Jan 2022 1:45 Operator: WA
Sample : 25ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:12:45 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	165518	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.44	114	761136	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.74	54	139337	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	283017	12.842	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%			
57) Toluene-d8 (SS2)	15.89	98	830173	12.442	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%			
73) Bromofluorobenzene (SS3)	19.12	174	265904	11.721	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%			
Target Compounds						Qvalue
2) Propene	4.17	42	649115	21.085	ng	100
3) Dichlorodifluoromethan...	4.33	85	1203479	29.817	ng	100
4) Chloromethane	4.63	50	862651	33.364	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	655836	29.576	ng	100
6) Vinyl Chloride	5.06	62	846290	25.607	ng	100
7) 1,3-Butadiene	5.33	54	651932	32.166	ng	100
8) Bromomethane	5.78	94	475939	25.617	ng	100
9) Chloroethane	6.12	64	380548	26.109	ng	100
10) Ethanol	6.50	45	1448544	90.429	ng	100
11) Acetonitrile	6.75	41	962388	21.097	ng	100
12) Acrolein	6.95	56	719392	54.966	ng	100
13) Acetone	7.16	58	2142116	139.172	ng	100
14) Trichlorofluoromethane	7.41	101	1005464	26.977	ng	100
15) 2-Propanol (Isopropanol)	7.66	45	2980166	65.748	ng	100
16) Acrylonitrile	7.92	53	1517266	53.625	ng	100
17) 1,1-Dichloroethene	8.38	96	560644	24.996	ng	100
18) 2-Methyl-2-Propanol (t...	8.53	59	2916330	61.396	ng	100
19) Methylene Chloride	8.60	84	579420	26.983	ng	100
20) 3-Chloro-1-propene (Al...	8.77	41	861494	29.755	ng	100
21) Trichlorotrifluoroethane	9.02	151	493462	29.329	ng	100
22) Carbon Disulfide	8.86	76	4251164	58.263	ng	100
23) trans-1,2-Dichloroethene	9.88	61	822110	26.504	ng	100
24) 1,1-Dichloroethane	10.12	63	990772	26.039	ng	100
25) Methyl tert-Butyl Ether	10.22	73	1738726	31.952	ng	100
26) Vinyl Acetate	10.38	86	458358	127.199	ng	100
27) 2-Butanone (MEK)	10.62	72	857361	61.858	ng	100
28) cis-1,2-Dichloroethene	11.14	61	783190	25.915	ng	100
29) Diisopropyl Ether	11.43	87	964044	53.693	ng	100
30) Ethyl Acetate	11.45	61	689355	87.331	ng	100
31) n-Hexane	11.42	57	755959	24.881	ng	100
32) Chloroform	11.49	83	1017687	27.060	ng	100
34) Tetrahydrofuran (THF)	11.89	72	748592	55.740	ng	100
35) Ethyl tert-Butyl Ether	12.03	87	1463573	70.363	ng	100
36) 1,2-Dichloroethane	12.29	62	766853	26.753	ng	100
38) 1,1,1-Trichloroethane	12.57	97	919870	28.094	ng	100
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	13.04	78	2351495	26.688	ng	100
42) Carbon Tetrachloride	13.20	117	782331	29.564	ng	100
43) Cyclohexane	13.34	84	1953371	64.067	ng	100
44) tert-Amyl Methyl Ether	13.68	73	3399477	63.480	ng	100
45) 1,2-Dichloropropane	13.90	63	572791	28.266	ng	100
46) Bromodichloromethane	14.08	83	826955	30.275	ng	100
47) Trichloroethene	14.14	130	668139	28.313	ng	100
48) 1,4-Dioxane	14.11	88	527500	26.706	ng	100
49) 2,2,4-Trimethylpentane...	14.21	57	2451310	29.165	ng	100
50) Methyl Methacrylate	14.34	100	564430	62.751	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202233.D Vial: 13
Acq On : 21 Jan 2022 1:45 Operator: WA
Sample : 25ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:12:45 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

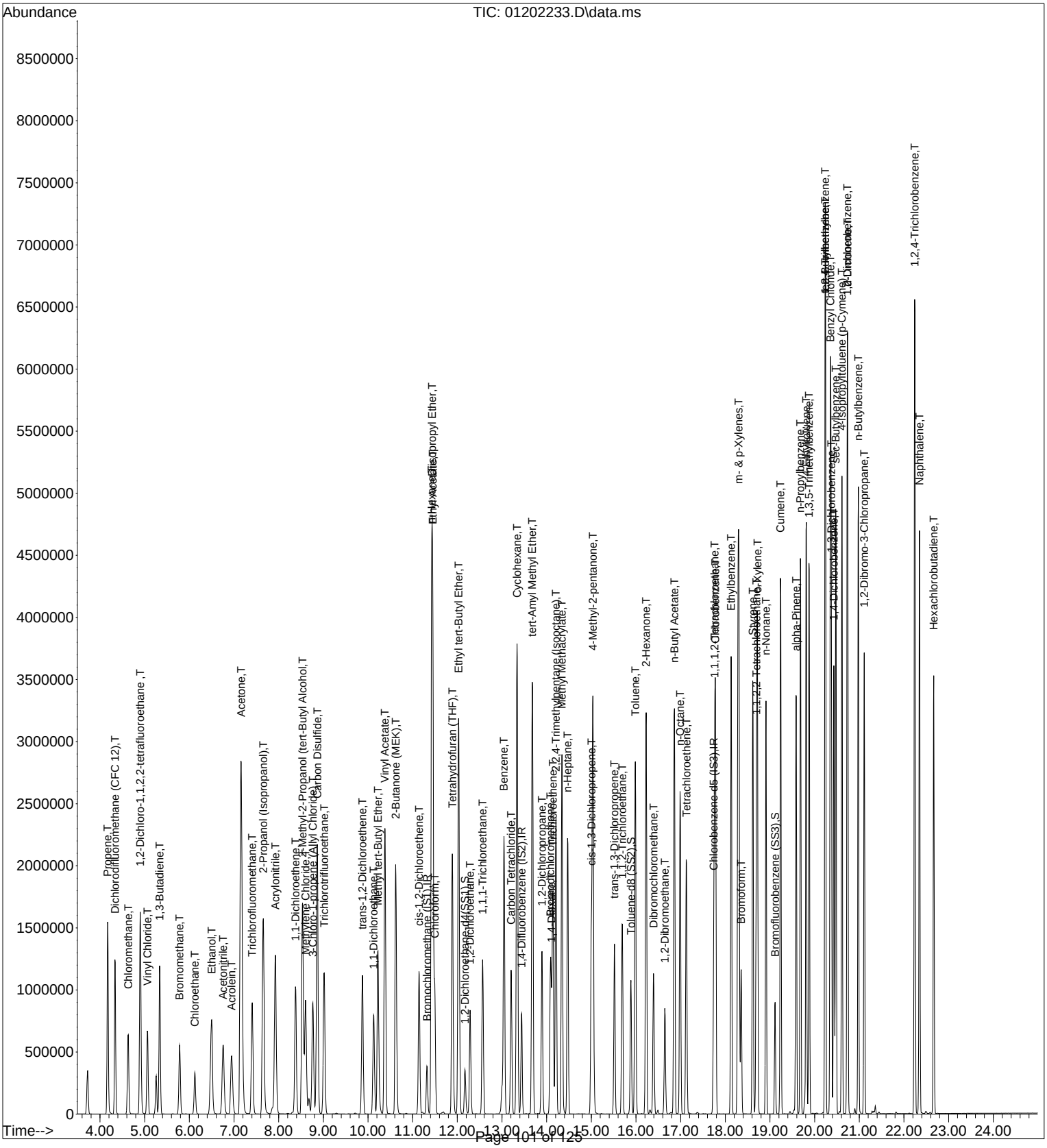
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	640531	29.732	ng	100
52) cis-1,3-Dichloropropene	15.00	75	997798	32.355	ng	100
53) 4-Methyl-2-pentanone	15.03	58	1101045	58.303	ng	100
54) trans-1,3-Dichloropropene	15.52	75	890810	31.448	ng	100
55) 1,1,2-Trichloroethane	15.69	97	583204	29.540	ng	100
58) Toluene	15.99	91	2461558	28.787	ng	100
59) 2-Hexanone	16.23	43	2482716	52.940	ng	100
60) Dibromochloromethane	16.39	129	703923	32.025	ng	100
61) 1,2-Dibromoethane	16.65	107	674053	28.286	ng	100
62) n-Butyl Acetate	16.86	43	2746265	53.221	ng	100
63) n-Octane	16.99	57	523543	29.826	ng	100
64) Tetrachloroethene	17.13	166	693134	28.087	ng	100
65) Chlorobenzene	17.78	112	1783614	31.474	ng	100
66) Ethylbenzene	18.13	91	2897820	28.267	ng	100
67) m- & p-Xylenes	18.30	91	4532083	57.762	ng	100
68) Bromoform	18.36	173	592179	34.067	ng	100
69) Styrene	18.61	104	1887298	31.739	ng	100
70) o-Xylene	18.72	91	2311656	31.205	ng	100
71) n-Nonane	18.91	43	1138241	28.711	ng	100
72) 1,1,2,2-Tetrachloroethane	18.70	83	1088113	31.454	ng	100
74) Cumene	19.24	105	2986862	31.422	ng	100
75) alpha-Pinene	19.59	93	1411258	31.286	ng	100
76) n-Propylbenzene	19.68	91	3589845	31.364	ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	3041047	31.240	ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	2449046	30.410	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	2369052	32.328	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	4006206	76.200	ng	100
85) 1,3-Dichlorobenzene	20.37	146	1495673	34.881	ng	100
86) 1,4-Dichlorobenzene	20.43	146	1468615	32.862	ng	100
87) sec-Butylbenzene	20.47	105	3343720	32.541	ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	2968848	32.029	ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	1437730	35.129	ng	100
91) d-Limonene	20.74	68	877784	30.796	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1093542	67.338	ng	100
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.24	180	2322353	67.577	ng	100
95) Naphthalene	22.35	128	3642811	33.574	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.67	225	654150	31.081	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	2329398	32.220	ng	100
100) n-Butylbenzene	20.98	91	2680155	32.484	ng	100
101) 1,1,1,2-Tetrachloroethane	17.76	131	644751	32.107	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202233.D Vial: 13
Acq On : 21 Jan 2022 1:45 Operator: WA
Sample : 25ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:12:45 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202234.D Vial: 13
Acq On : 21 Jan 2022 2:19 Operator: WA
Sample : 50ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:13:32 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 1/21/22
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.33	130	175140	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.44	114	808697	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.74	54	141175	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.18	65	295357	12.665	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	15.89	98	881347	13.037	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
73) Bromofluorobenzene (SS3)	19.12	174	281775	12.259	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
Target Compounds							Qvalue
2) Propene	4.17	42	1257485	38.603	ng		98
3) Dichlorodifluoromethan...	4.34	85	2347360	54.962	ng		99
4) Chloromethane	4.63	50	1602868	58.586	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	1206168	51.406	ng		100
6) Vinyl Chloride	5.07	62	1665326	47.621	ng		100
7) 1,3-Butadiene	5.34	54	1302567	60.738	ng		97
8) Bromomethane	5.79	94	982271	49.965	ng		100
9) Chloroethane	6.13	64	782846	50.759	ng		100
10) Ethanol	6.52	45	2762728	162.994	ng		100
11) Acetonitrile	6.77	41	1933119	40.048	ng		100
12) Acrolein	6.96	56	1456659	105.183	ng		100
13) Acetone	7.17	58	3680348	225.974	ng		96
14) Trichlorofluoromethane	7.41	101	2044843	51.850	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	5627765	117.337	ng		99
16) Acrylonitrile	7.94	53	2985134	99.708	ng		100
17) 1,1-Dichloroethene	8.38	96	1162743	48.992	ng		94
18) 2-Methyl-2-Propanol (t...	8.55	59	5597965	111.376	ng		98
19) Methylene Chloride	8.61	84	1189667	52.358	ng		94
20) 3-Chloro-1-propene (Al...	8.77	41	1662538	54.267	ng		96
21) Trichlorotrifluoroethane	9.02	151	1047029	58.811	ng		96
22) Carbon Disulfide	8.86	76	8051663	104.286	ng		100
23) trans-1,2-Dichloroethene	9.88	61	1636257	49.854	ng		96
24) 1,1-Dichloroethane	10.13	63	1970284	48.936	ng		99
25) Methyl tert-Butyl Ether	10.22	73	3498560	60.761	ng		99
26) Vinyl Acetate	10.39	86	892937	234.186	ng	#	76
27) 2-Butanone (MEK)	10.63	72	1667565	113.703	ng	#	86
28) cis-1,2-Dichloroethene	11.15	61	1549810	48.464	ng		96
29) Diisopropyl Ether	11.43	87	1412031	74.324	ng	#	84
30) Ethyl Acetate	11.46	61	922279	110.420	ng		96
31) n-Hexane	11.42	57	1101774	34.270	ng		98
32) Chloroform	11.50	83	1978444	49.716	ng		100
34) Tetrahydrofuran (THF)	11.89	72	1461524	102.846	ng		92
35) Ethyl tert-Butyl Ether	12.03	87	2691675	122.296	ng		93
36) 1,2-Dichloroethane	12.29	62	1485554	48.978	ng		99
38) 1,1,1-Trichloroethane	12.57	97	1841091	52.923	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.05	78	4630541	49.463	ng		100
42) Carbon Tetrachloride	13.21	117	1614161	57.412	ng		100
43) Cyclohexane	13.34	84	3420166	105.578	ng		95
44) tert-Amyl Methyl Ether	13.68	73	5894454	103.596	ng		98
45) 1,2-Dichloropropane	13.90	63	1149366	53.382	ng		100
46) Bromodichloromethane	14.09	83	1649731	56.844	ng		100
47) Trichloroethene	14.14	130	1387863	55.353	ng		100
48) 1,4-Dioxane	14.11	88	1064123	50.706	ng		96
49) 2,2,4-Trimethylpentane...	14.21	57	4535699	50.791	ng		98
50) Methyl Methacrylate	14.35	100	1090993	114.158	ng		91

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202234.D Vial: 13
Acq On : 21 Jan 2022 2:19 Operator: WA
Sample : 50ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:13:32 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

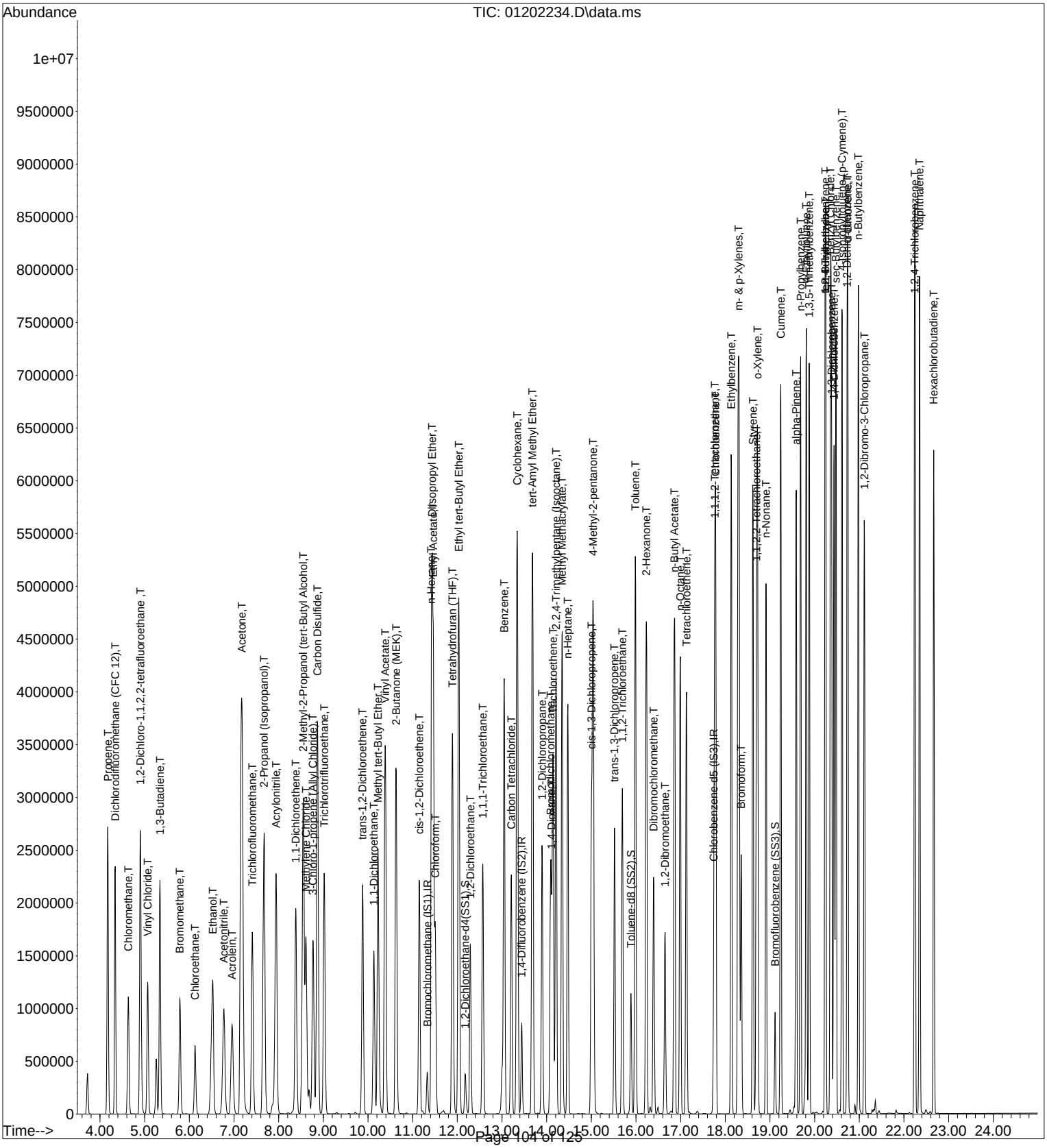
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	1233061	53.871	ng	97
52) cis-1,3-Dichloropropene	15.00	75	1992661	60.814	ng	100
53) 4-Methyl-2-pentanone	15.04	58	1855324	92.467	ng	92
54) trans-1,3-Dichloropropene	15.52	75	1828541	60.756	ng	99
55) 1,1,2-Trichloroethane	15.69	97	1196130	57.023	ng	99
58) Toluene	15.99	91	4838156	55.844	ng	99
59) 2-Hexanone	16.23	43	3990189	83.978	ng	96
60) Dibromochloromethane	16.39	129	1486946	66.769	ng	100
61) 1,2-Dibromoethane	16.65	107	1414055	58.567	ng	100
62) n-Butyl Acetate	16.86	43	4417948	84.502	ng	96
63) n-Octane	16.99	57	959768	53.966	ng	95
64) Tetrachloroethene	17.13	166	1446931	57.870	ng	99
65) Chlorobenzene	17.78	112	3336582	58.112	ng	100
66) Ethylbenzene	18.13	91	5403991	52.027	ng	98
67) m- & p-Xylenes	18.30	91	7726456	97.193	ng	99
68) Bromoform	18.36	173	1285102	72.968	ng	100
69) Styrene	18.62	104	3612663	59.964	ng	100
70) o-Xylene	18.72	91	4091411	54.510	ng	99
71) n-Nonane	18.91	43	1810689	45.078	ng	93
72) 1,1,2,2-Tetrachloroethane	18.70	83	1985985	56.661	ng	99
74) Cumene	19.24	105	5396815	56.037	ng	99
75) alpha-Pinene	19.59	93	2683134	58.707	ng	99
76) n-Propylbenzene	19.69	91	6331589	54.597	ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	5349686	54.240	ng	99
79) 1,3,5-Trimethylbenzene	19.88	105	4420694	54.177	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	3455162	46.536	ng	99
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	6017284	112.962	ng	99
85) 1,3-Dichlorobenzene	20.38	146	2485772	57.216	ng	100
86) 1,4-Dichlorobenzene	20.43	146	2848592	62.910	ng	100
87) sec-Butylbenzene	20.48	105	5776648	55.487	ng	98
88) 4-Isopropyltoluene (p-...	20.62	119	5081474	54.107	ng	99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	2310504	55.718	ng	100
91) d-Limonene	20.74	68	1244333	43.087	ng	93
92) 1,2-Dibromo-3-Chloropr...	21.12	157	1999934	121.549	ng	94
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.24	180	3737105	107.329	ng	100
95) Naphthalene	22.35	128	6926045	63.003	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.67	225	1307897	61.334	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	3419985	46.689	ng	100
100) n-Butylbenzene	20.98	91	4608267	55.126	ng	99
101) 1,1,1,2-Tetrachloroethane	17.76	131	1212569	59.597	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202234.D Vial: 13
Acq On : 21 Jan 2022 2:19 Operator: WA
Sample : 50ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:13:32 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202235.D Vial: 13
Acq On : 21 Jan 2022 2:53 Operator: WA
Sample : 100ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:14:40 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022 WA 1/21/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	186684	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.45	114	842354	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.74	54	138632	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.19	65	304540	12.252	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
57) Toluene-d8 (SS2)	15.89	98	915732	13.794	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.32%				
73) Bromofluorobenzene (SS3)	19.12	174	296005	13.114	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.88%				
Target Compounds							Qvalue
2) Propene	4.19	42	2534146	72.984	ng		98
3) Dichlorodifluoromethan...	4.36	85	4535582	99.630	ng		99
4) Chloromethane	4.65	50	2904328	99.591	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	2148073	85.887	ng		100
6) Vinyl Chloride	5.08	62	3360562	90.155	ng		99
7) 1,3-Butadiene	5.36	54	2551934	111.637	ng		94
8) Bromomethane	5.80	94	2086188	99.555	ng		100
9) Chloroethane	6.14	64	1622388	98.689	ng		99
10) Ethanol	6.57	45	4947730	273.853	ng		100
11) Acetonitrile	6.81	41	4036375	78.451	ng		99
12) Acrolein	6.98	56	2964718	200.839	ng		100
13) Acetone	7.20	58	5770942	332.425	ng		97
14) Trichlorofluoromethane	7.42	101	4115907	97.912	ng		99
15) 2-Propanol (Isopropanol)	7.70	45	9138869	178.760	ng		99
16) Acrylonitrile	7.97	53	5686207	178.183	ng		99
17) 1,1-Dichloroethene	8.40	96	2432093	96.140	ng		89
18) 2-Methyl-2-Propanol (t...	8.58	59	9875238	184.327	ng		98
19) Methylene Chloride	8.63	84	2395364	98.903	ng		85
20) 3-Chloro-1-propene (Al...	8.78	41	3250880	99.551	ng		92
21) Trichlorotrifluoroethane	9.03	151	2234620	117.756	ng		91
22) Carbon Disulfide	8.88	76	13338007	162.073	ng		99
23) trans-1,2-Dichloroethene	9.89	61	3208850	91.722	ng		92
24) 1,1-Dichloroethane	10.14	63	3956927	92.202	ng		99
25) Methyl tert-Butyl Ether	10.23	73	6829453	111.275	ng		99
26) Vinyl Acetate	10.40	86	1518491	373.620	ng	#	57
27) 2-Butanone (MEK)	10.65	72	2906130	185.902	ng	#	74
28) cis-1,2-Dichloroethene	11.16	61	3028897	88.860	ng		91
29) Diisopropyl Ether	11.45	87	1784244	88.108	ng		98
30) Ethyl Acetate	11.47	61	1294848	145.439	ng		92
31) n-Hexane	11.42	57	1646783	48.055	ng	#	96
32) Chloroform	11.53	83	3829507	90.280	ng		100
34) Tetrahydrofuran (THF)	11.90	72	2497502	164.879	ng	#	82
35) Ethyl tert-Butyl Ether	12.04	87	4176505	178.025	ng	#	87
36) 1,2-Dichloroethane	12.30	62	2823816	87.343	ng		99
38) 1,1,1-Trichloroethane	12.58	97	3603985	99.459	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.06	78	8392897	86.070	ng		99
42) Carbon Tetrachloride	13.21	117	3229142	110.264	ng		100
43) Cyclohexane	13.35	84	4921858	145.863	ng		93
44) tert-Amyl Methyl Ether	13.69	73	8626558	145.556	ng		97
45) 1,2-Dichloropropane	13.90	63	2149891	95.862	ng		100
46) Bromodichloromethane	14.09	83	3001677	99.295	ng		100
47) Trichloroethene	14.15	130	2503683	95.866	ng		100
48) 1,4-Dioxane	14.12	88	1734975	79.369	ng		92
49) 2,2,4-Trimethylpentane...	14.22	57	7157041	76.943	ng		98
50) Methyl Methacrylate	14.35	100	1723847	173.171	ng	#	84

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202235.D Vial: 13
Acq On : 21 Jan 2022 2:53 Operator: WA
Sample : 100ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:14:40 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

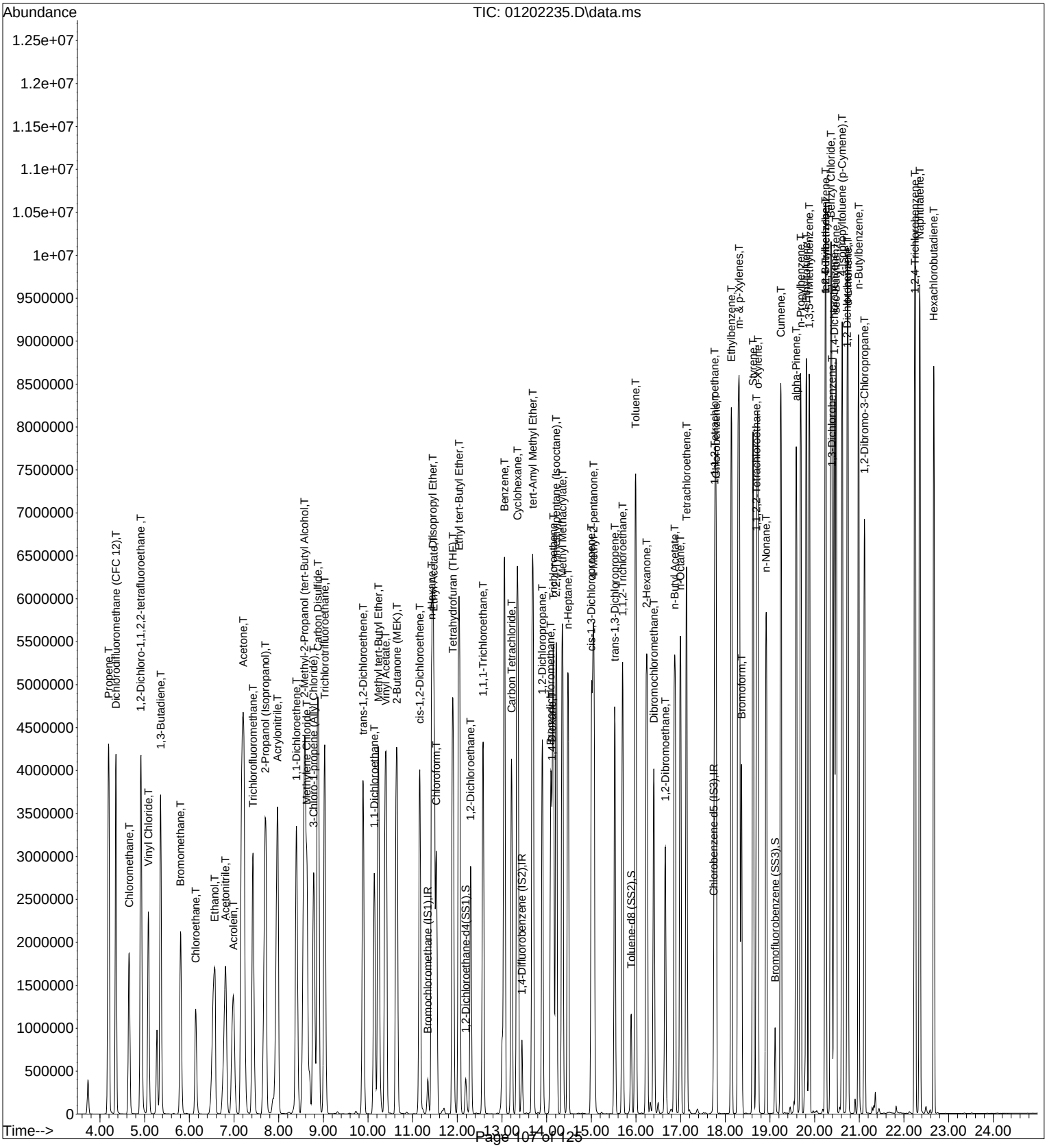
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.48	71	2016385	84.573	ng	95
52) cis-1,3-Dichloropropene	15.00	75	3590171	105.190	ng	99
53) 4-Methyl-2-pentanone	15.05	58	2616128	125.174	ng	86
54) trans-1,3-Dichloropropene	15.52	75	3508799	111.927	ng	99
55) 1,1,2-Trichloroethane	15.70	97	2273231	104.042	ng	98
58) Toluene	15.99	91	8075180	94.918	ng	99
59) 2-Hexanone	16.24	43	5659812	121.301	ng	94
60) Dibromochloromethane	16.40	129	2955664	135.153	ng	99
61) 1,2-Dibromoethane	16.66	107	2801588	118.163	ng	100
62) n-Butyl Acetate	16.87	43	6112236	119.053	ng	95
63) n-Octane	16.99	57	1478657	84.667	ng	90
64) Tetrachloroethene	17.13	166	2621263	106.760	ng	99
65) Chlorobenzene	17.80	112	4932500	87.483	ng	99
66) Ethylbenzene	18.14	91	8459655	82.939	ng	97
67) m- & p-Xylenes	18.31	91	11080149	141.937	ng	96
68) Bromoform	18.36	173	2457776	142.111	ng	100
69) Styrene	18.62	104	5721077	96.702	ng	99
70) o-Xylene	18.73	91	5808539	78.807	ng	100
71) n-Nonane	18.91	43	2425384	61.489	ng	86
72) 1,1,2,2-Tetrachloroethane	18.70	83	2858578	83.053	ng	100
74) Cumene	19.24	105	7972363	84.298	ng	99
75) alpha-Pinene	19.59	93	4111244	91.604	ng	99
76) n-Propylbenzene	19.69	91	9122524	80.107	ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	7730850	79.820	ng	98
79) 1,3,5-Trimethylbenzene	19.88	105	6543877	81.668	ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.25	105	4725331	64.810	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.36	91	7811181	149.328	ng	98
85) 1,3-Dichlorobenzene	20.39	146	3482737	81.634	ng	100
86) 1,4-Dichlorobenzene	20.44	146	4482046	100.800	ng	99
87) sec-Butylbenzene	20.48	105	8096661	79.198	ng	96
88) 4-Isopropyltoluene (p-...	20.62	119	7181399	77.870	ng	98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	3250514	79.825	ng	100
91) d-Limonene	20.75	68	1575854	55.568	ng	88
92) 1,2-Dibromo-3-Chloropr...	21.12	157	2990027	185.057	ng	93
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.25	180	5475964	160.153	ng	99
95) Naphthalene	22.35	128	10388287	96.230	ng	99
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.67	225	2221301	106.079	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	4789225	66.580	ng	100
100) n-Butylbenzene	20.98	91	6421503	78.226	ng	97
101) 1,1,1,2-Tetrachloroethane	17.76	131	1888810	94.536	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202235.D Vial: 13
Acq On : 21 Jan 2022 2:53 Operator: WA
Sample : 100ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:14:40 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202237.D Vial: 16
Acq On : 21 Jan 2022 4:01 Operator: WA
Sample : 25ng R16012022 ICV Std Inst : GCMS-16
Misc : S35-01102201/S35-12272103 (1/26)

Quant Time: Jan 21 14:55:05 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 1/21/22
QLast Update : Fri Jan 21 09:34:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	180934	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	831947	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.74	54	145900	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.18	65	304651	12.258	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
57) Toluene-d8 (SS2)	15.89	98	895914	12.707	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
73) Bromofluorobenzene (SS3)	19.11	174	281957	12.548	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	4.18	42	729437	26.465	ng		99
3) Dichlorodifluoromethan...	4.34	85	1116474	24.518	ng		100
4) Chloromethane	4.64	50	717879	21.681	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	612874	25.162	ng		100
6) Vinyl Chloride	5.07	62	806286	23.727	ng		100
7) 1,3-Butadiene	5.34	54	588004	25.088	ng		94
8) Bromomethane	5.79	94	466470	25.199	ng		100
9) Chloroethane	6.13	64	371665	24.883	ng		100
10) Ethanol	6.51	45	1714794	100.628	ng		100
11) Acetonitrile	6.76	41	918303	20.172	ng		100
12) Acrolein	6.95	56	641980	51.047	ng		100
13) Acetone	7.17	58	1994191	116.971	ng		100
14) Trichlorofluoromethane	7.41	101	967652	24.990	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	2473531	42.566	ng		100
16) Acrylonitrile	7.93	53	1382859	46.152	ng		100
17) 1,1-Dichloroethene	8.38	96	526204	25.859	ng		99
18) 2-Methyl-2-Propanol (t...	8.54	59	2678526	49.983	ng		99
19) Methylene Chloride	8.61	84	544026	24.477	ng		98
20) 3-Chloro-1-propene (Al...	8.77	41	723188	23.298	ng		99
21) Trichlorotrifluoroethane	9.02	151	467601	26.601	ng		98
22) Carbon Disulfide	8.86	76	3837533	50.751	ng		100
23) trans-1,2-Dichloroethene	9.88	61	755822	25.122	ng		99
24) 1,1-Dichloroethane	10.13	63	942481	25.529	ng		100
25) Methyl tert-Butyl Ether	10.22	73	1522507	24.775	ng		100
26) Vinyl Acetate	10.38	86	598756	138.956	ng	#	88
27) 2-Butanone (MEK)	10.62	72	782345	49.866	ng		99
28) cis-1,2-Dichloroethene	11.15	61	719976	24.689	ng		99
29) Diisopropyl Ether	11.44	87	967845	52.945	ng	#	79
30) Ethyl Acetate	11.45	61	520299	64.641	ng		100
31) n-Hexane	11.42	57	769934	25.195	ng		100
32) Chloroform	11.49	83	954116	26.085	ng		100
34) Tetrahydrofuran (THF)	11.89	72	723732	50.552	ng		98
35) Ethyl tert-Butyl Ether	12.03	87	1295624	55.454	ng		99
36) 1,2-Dichloroethane	12.29	62	709526	24.947	ng		100
38) 1,1,1-Trichloroethane	12.57	97	872266	25.817	ng		99
39) Isopropyl Acetate	13.00	61	14057	No Calib		#	
40) 1-Butanol	13.01	56	13816	No Calib		#	
41) Benzene	13.04	78	2202273	25.474	ng		100
42) Carbon Tetrachloride	13.20	117	720305	26.206	ng		100
43) Cyclohexane	13.34	84	1788209	56.250	ng		100
44) tert-Amyl Methyl Ether	13.68	73	3060636	54.231	ng		100
45) 1,2-Dichloropropane	13.90	63	535825	25.391	ng		100
46) Bromodichloromethane	14.08	83	776164	27.406	ng		100
47) Trichloroethene	14.14	130	628393	27.190	ng		100
48) 1,4-Dioxane	14.11	88	492932	25.688	ng		100
49) 2,2,4-Trimethylpentane...	14.21	57	2191668	26.145	ng		100
50) Methyl Methacrylate	14.34	100	519686	57.831	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202237.D Vial: 16
Acq On : 21 Jan 2022 4:01 Operator: WA
Sample : 25ng R16012022 ICV Std Inst : GCMS-16
Misc : S35-01102201/S35-12272103 (1/26)

Quant Time: Jan 21 14:55:05 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 09:34:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

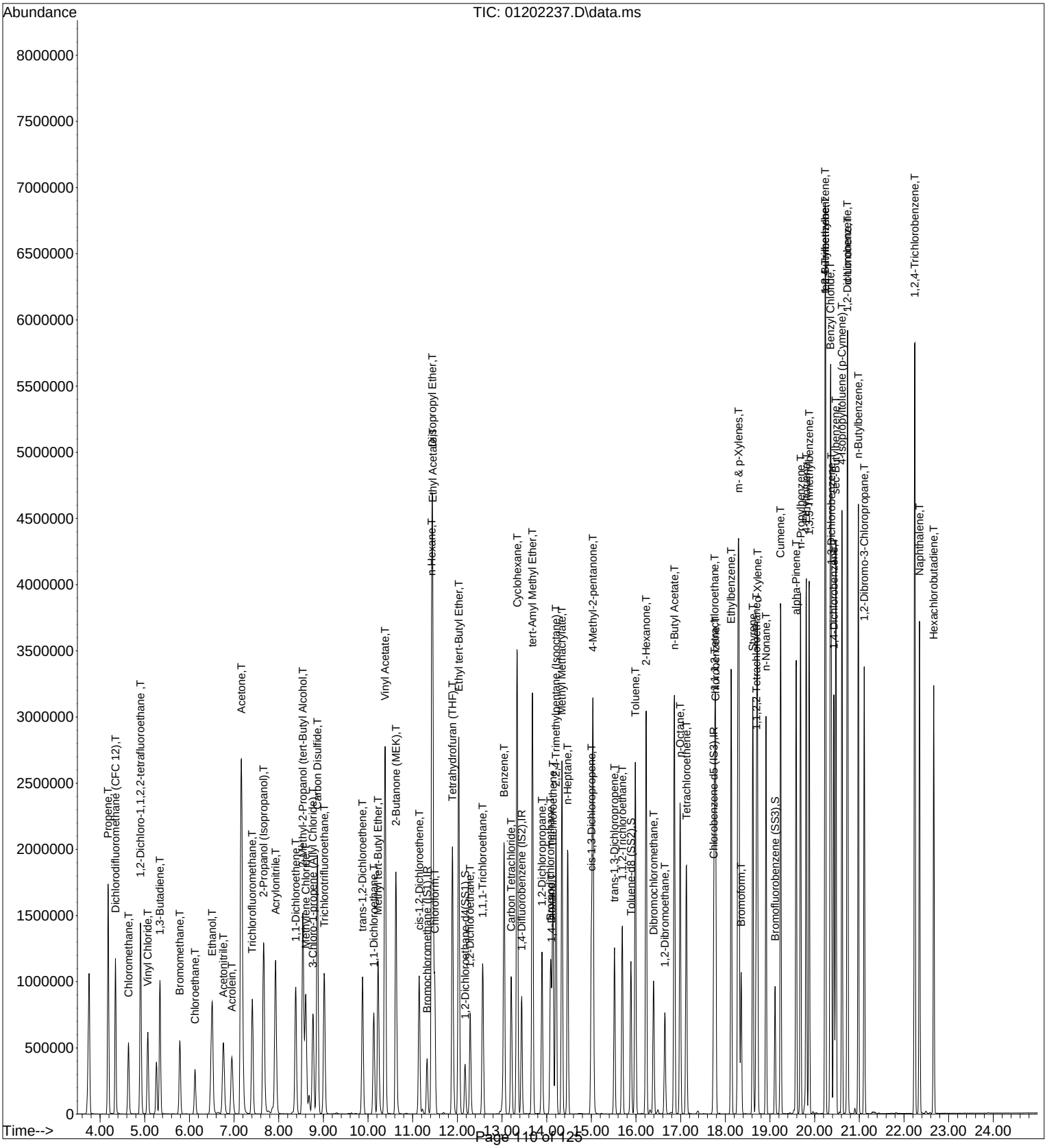
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.47	71	579447	26.993 ng		100
52) cis-1,3-Dichloropropene	15.00	75	919759	27.701 ng		100
53) 4-Methyl-2-pentanone	15.03	58	1025350	53.174 ng		100
54) trans-1,3-Dichloropropene	15.52	75	823152	26.985 ng		100
55) 1,1,2-Trichloroethane	15.69	97	542159	26.276 ng		100
58) Toluene	15.99	91	2290888	26.869 ng		100
59) 2-Hexanone	16.23	43	2311412	48.003 ng		100
60) Dibromochloromethane	16.39	129	644762	28.527 ng		100
61) 1,2-Dibromoethane	16.65	107	618717	26.703 ng		100
62) n-Butyl Acetate	16.86	43	2608705	49.483 ng		100
63) n-Octane	16.99	57	471385	27.678 ng		100
64) Tetrachloroethene	17.13	166	648168	28.311 ng		100
65) Chlorobenzene	17.78	112	1613933	28.609 ng		100
66) Ethylbenzene	18.13	91	2675449	28.185 ng		100
67) m- & p-Xylenes	18.30	91	4182772	57.933 ng		100
68) Bromoform	18.36	173	543798	28.102 ng		100
69) Styrene	18.61	104	1694543	28.725 ng		100
70) o-Xylene	18.72	91	2125399	29.262 ng		99
71) n-Nonane	18.91	43	1034743	27.208 ng		100
72) 1,1,2,2-Tetrachloroethane	18.70	83	996064	29.604 ng		100
74) Cumene	19.24	105	2701172	28.592 ng		99
75) alpha-Pinene	19.59	93	1435746	32.232 ng		100
76) n-Propylbenzene	19.69	91	3214002	28.665 ng		100
77) 3-Ethyltoluene	19.81	105	2692792	No Calib		
78) 4-Ethyltoluene	19.81	105	2692792	29.416 ng		100
79) 1,3,5-Trimethylbenzene	19.88	105	2255544	29.927 ng		99
80) alpha-Methylstyrene	19.88	118	17239	No Calib		
81) 2-Ethyltoluene	19.88	105	2255553	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	2225697	30.946 ng		100
83) n-Decane	20.24	58	79159	No Calib	#	
84) Benzyl Chloride	20.35	91	3737955	64.859 ng		100
85) 1,3-Dichlorobenzene	20.37	146	1351385	31.126 ng		100
86) 1,4-Dichlorobenzene	20.43	146	1296181	28.721 ng		100
87) sec-Butylbenzene	20.47	105	3008151	29.935 ng		100
88) 4-Isopropyltoluene (p-...	20.61	119	2640655	30.114 ng		100
89) 1,2,3-Trimethylbenzene	20.61	105	98545	No Calib	#	
90) 1,2-Dichlorobenzene	20.73	146	1292812	31.582 ng		100
91) d-Limonene	20.74	68	836357	32.485 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	992596	64.033 ng		99
93) n-Undecane	22.25	57	454	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	2032336	62.640 ng		100
95) Naphthalene	22.35	128	2879308	26.923 ng		100
96) n-Dodecane	22.34	57	1496	No Calib	#	
97) Hexachlorobutadiene	22.67	225	593693	29.987 ng		100
98) Cyclohexanone	18.30	55	3109	No Calib		
99) tert-Butylbenzene	20.24	119	2183765	30.832 ng		100
100) n-Butylbenzene	20.98	91	2409625	29.820 ng		100
101) 1,1,1,2-Tetrachloroethane	17.76	131	584411	29.553 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202237.D Vial: 16
Acq On : 21 Jan 2022 4:01 Operator: WA
Sample : 25ng R16012022 ICV Std Inst : GCMS-16
Misc : S35-01102201/S35-12272103 (1/26)

Quant Time: Jan 21 14:55:05 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 09:34:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

WA 1/21/22

Data File Name: **01202237.D** Acq. Method File: **TO15.M**

Data File Path: **I:\MS16\DATA\2022_01\20** Sample Name: **25ng R16012022 ICV Std**

Operator: **WA** Misc Info: **S35-01102201/S35-12272103 (**

Date Acquired: **1/21/2022 4:01** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.18**	**26.5**	**25.75**	103	**56**	**128**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.34**	**24.5**	**26.00**	94	**71**	**112**	*	*
4)	**Chloromethane**	**4.64**	**21.7**	**25.75**	84	**53**	**126**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.91**	**25.2**	**26.00**	97	**62**	**121**	*	*
6)	**Vinyl Chloride**	**5.07**	**23.7**	**26.00**	91	**63**	**123**	*	*
7)	**1,3-Butadiene**	**5.34**	**25.1**	**25.75**	97	**63**	**135**	*	*
8)	**Bromomethane**	**5.79**	**25.2**	**25.75**	98	**71**	**112**	*	*
9)	**Chloroethane**	**6.13**	**24.9**	**25.75**	97	**66**	**117**	*	*
10)	**Ethanol**	**6.51**	**101**	**104.00**	97	**57**	**117**	*	*
11)	**Acetonitrile**	**6.76**	**20.2**	**25.25**	80	**59**	**131**	*	*
12)	**Acrolein**	**6.95**	**51.0**	**52.00**	98	**71**	**123**	*	*
13)	**Acetone**	**7.17**	**117**	**128.00**	91	**60**	**117**	*	*
14)	**Trichlorofluoromethane**	**7.41**	**25.0**	**25.25**	99	**71**	**114**	*	*
15)	**2-Propanol (Isopropanol)**	**7.66**	**42.6**	**50.00**	85	**61**	**124**	*	*
16)	**Acrylonitrile**	**7.93**	**46.2**	**50.25**	92	**65**	**130**	*	*
17)	**1,1-Dichloroethene**	**8.38**	**25.9**	**26.25**	99	**74**	**114**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.54	50.0	51.00	98	56	135	*	*
19)	**Methylene Chloride**	**8.61**	**24.5**	**26.00**	94	**75**	**112**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.77**	**23.3**	**25.50**	91	**57**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**9.02**	**26.6**	**27.00**	99	**73**	**114**	*	*
22)	**Carbon Disulfide**	**8.86**	**50.8**	**51.75**	98	**70**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.88**	**25.1**	**26.00**	97	**76**	**119**	*	*
24)	**1,1-Dichloroethane**	**10.13**	**25.5**	**26.75**	95	**70**	**114**	*	*
25)	**Methyl tert-Butyl Ether**	**10.22**	**24.8**	**25.75**	96	**72**	**118**	*	*
26)	**Vinyl Acetate**	**10.38**	**139**	**117.75**	118	**56**	**137**	*	*
27)	**2-Butanone (MEK)**	**10.62**	**49.9**	**51.00**	98	**74**	**121**	*	*
28)	**cis-1,2-Dichloroethene**	**11.15**	**24.7**	**25.75**	96	**73**	**117**	*	*
29)	Diisopropyl Ether	11.44	52.9	52.25	101	58	124	*	*
30)	**Ethyl Acetate**	**11.45**	**64.6**	**72.50**	89	**59**	**161**	*	*
31)	**n-Hexane**	**11.42**	**25.2**	**26.00**	97	**55**	**130**	*	*
32)	**Chloroform**	**11.49**	**26.1**	**26.25**	99	**71**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.89**	**50.6**	**50.50**	100	**73**	**114**	*	*
35)	Ethyl tert-Butyl Ether	12.03	55.5	51.75	107	76	119	*	*
36)	**1,2-Dichloroethane**	**12.29**	**24.9**	**26.25**	95	**71**	**119**	*	*
38)	**1,1,1-Trichloroethane**	**12.57**	**25.8**	**26.00**	99	**73**	**119**	*	*
41)	**Benzene**	**13.04**	**25.5**	**26.00**	98	**72**	**113**	*	*
42)	**Carbon Tetrachloride**	**13.20**	**26.2**	**25.25**	104	**67**	**123**	*	*
43)	**Cyclohexane**	**13.34**	**56.3**	**51.50**	109	**70**	**119**	*	*
44)	tert-Amyl Methyl Ether	13.68	54.2	**51.50**	105	74	120	*	*
45)	**1,2-Dichloropropane**	**13.90**	**25.4**	**25.75**	99	**70**	**118**	*	*
46)	**Bromodichloromethane**	**14.08**	**27.4**	**26.00**	105	**74**	**119**	*	*
47)	**Trichloroethene**	**14.14**	**27.2**	**25.50**	107	**74**	**115**	*	*
48)	**1,4-Dioxane**	**14.11**	**25.7**	**25.75**	100	**77**	**124**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.21	26.1	26.25	99	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **01202237.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2022_01\20** Sample Name: **25ng R16012022 ICV Std**
Operator: **WA** Misc Info: **S35-01102201/S35-12272103 (**
Date Acquired: **1/21/2022 4:01** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.34**	**57.8**	**51.25**	113	**78**	**126**	*	*
51)	**n-Heptane**	**14.47**	**27.0**	**25.75**	105	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**15.00**	**27.7**	**26.00**	107	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**15.03**	**53.2**	**51.50**	103	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**15.52**	**27.0**	**25.00**	108	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**15.69**	**26.3**	**26.00**	101	**78**	**117**	*	*
58)	**Toluene**	**15.99**	**26.9**	**25.75**	104	**70**	**118**	*	*
59)	**2-Hexanone**	**16.23**	**48.0**	**50.75**	95	**74**	**132**	*	*
60)	**Dibromochloromethane**	**16.39**	**28.5**	**26.25**	109	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**16.65**	**26.7**	**26.00**	103	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**16.86**	**49.5**	**50.75**	98	**75**	**134**	*	*
63)	**n-Octane**	**16.99**	**27.7**	**26.00**	107	**68**	**120**	*	*
64)	**Tetrachloroethene**	**17.13**	**28.3**	**26.50**	107	**63**	**130**	*	*
65)	**Chlorobenzene**	**17.78**	**28.6**	**25.75**	111	**70**	**118**	*	*
66)	**Ethylbenzene**	**18.13**	**28.2**	**25.75**	110	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**18.30**	**57.9**	**52.00**	111	**67**	**127**	*	*
68)	**Bromoform**	**18.36**	**28.1**	**26.25**	107	**65**	**149**	*	*
69)	**Styrene**	**18.61**	**28.7**	**25.25**	114	**76**	**132**	*	*
70)	**o-Xylene**	**18.72**	**29.3**	**26.00**	113	**69**	**124**	*	*
71)	**n-Nonane**	**18.91**	**27.2**	**26.00**	105	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.70**	**29.6**	**26.00**	114	**69**	**128**	*	*
74)	**Cumene**	**19.24**	**28.6**	**25.75**	111	**69**	**125**	*	*
75)	**alpha-Pinene**	**19.59**	**32.2**	**26.25**	123	**68**	**129**	*	*
76)	**n-Propylbenzene**	**19.69**	**28.7**	**26.00**	110	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**19.81**	**29.4**	**26.00**	**113**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.88**	**29.9**	**26.00**	**115**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**20.24**	**30.9**	**25.75**	**120**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**20.35**	**64.9**	**52.00**	**125**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**20.37**	**31.1**	**26.00**	**120**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**20.43**	**28.7**	**26.25**	**109**	**63**	**134**	*	*
87)	sec-Butylbenzene	20.47	29.9	25.50	**117**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.61	30.1	25.75	**117**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**20.73**	**31.6**	**26.25**	**120**	**64**	**139**	*	*
91)	**d-Limonene**	**20.74**	**32.5**	**25.75**	**126**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.11**	**64.0**	**50.50**	**127**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**22.24**	**62.6**	**52.50**	**119**	**62**	**154**	*	*
95)	**Naphthalene**	**22.35**	**26.9**	**26.25**	**102**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**22.67**	**30.0**	**26.50**	**113**	55	142	*	*
99)	tert-Butylbenzene	20.24	30.8	25.75	120	61	140	*	*
100)	n-Butylbenzene	20.98	29.8	26.00	115	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	17.76	29.6	25.75	115	70	130	*	*

Bold = 75 Compound List
*** = Pass**

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 02\15\02152231.D Vial: 2
Acq On : 15 Feb 2022 20:56 Operator: WA
Sample : CCV2 R16021522 5ng Inst : GCMS-16
Misc : S35-01102201/S35-02092209 (3/11)

Quant Time: Feb 16 03:14:30 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022 2/16/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	128	-0.01
2	T	Propene	1.904	1.418	25.5	77	0.00
3	T	Dichlorodifluoromethane (CF	3.146	2.589	17.7	110	0.00
4	T	Chloromethane	2.288	2.052	10.3	146	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.683	1.488	11.6	113	0.00
6	T	Vinyl Chloride	2.348	2.059	12.3	113	0.00
7	T	1,3-Butadiene	1.619	1.349	16.7	110	0.00
8	T	Bromomethane	1.279	1.085	15.2	122	0.00
9	T	Chloroethane	1.032	0.890	13.8	118	0.00
10	T	Ethanol	1.177	0.998	15.2	114	-0.04
11	T	Acetonitrile	3.145	2.527	19.7	110	-0.03
12	T	Acrolein	0.869	0.826	4.9	118	-0.02
13	T	Acetone	1.178	0.986	16.3	116	-0.02
14	T	Trichlorofluoromethane	2.675	2.199	17.8	113	0.00
15	T	2-Propanol (Isopropanol)	4.015	3.350	16.6	150	-0.03
16	T	Acrylonitrile	2.070	1.703	17.7	114	-0.02
17	T	1,1-Dichloroethene	1.406	1.161	17.4	118	-0.01
18	T	2-Methyl-2-Propanol (tert-B	3.702	3.168	14.4	117	-0.02
19	T	Methylene Chloride	1.535	1.291	15.9	117	-0.02
20	T	3-Chloro-1-propene (Allyl C	2.145	1.625	24.2	104	-0.01
21	T	Trichlorotrifluoroethane	1.214	1.009	16.9	118	0.00
22	T	Carbon Disulfide	5.224	4.596	12.0	119	-0.01
23	T	trans-1,2-Dichloroethene	2.078	1.719	17.3	111	-0.01
24	T	1,1-Dichloroethane	2.550	2.103	17.5	112	-0.01
25	T	Methyl tert-Butyl Ether	4.246	3.802	10.5	123	0.00
26	T	Vinyl Acetate	0.298	0.255	14.4	128	-0.01
27	T	2-Butanone (MEK)	1.084	0.903	16.7	114	-0.01
28	T	cis-1,2-Dichloroethene	2.015	1.669	17.2	112	-0.01
29	T	Diisopropyl Ether	1.263	1.263	0.0	114	0.00
30	T	Ethyl Acetate	0.556	0.570	-2.5	112	-0.02
31	T	n-Hexane	2.111	2.217	-5.0	111	0.00
32	T	Chloroform	2.527	2.147	15.0	113	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.717	1.569	8.6	114	-0.01
34	T	Tetrahydrofuran (THF)	0.989	0.849	14.2	116	0.00
35	T	Ethyl tert-Butyl Ether	1.614	1.543	4.4	124	0.00
36	T	1,2-Dichloroethane	1.965	1.572	20.0	106	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	124	0.00
38	T	1,1,1-Trichloroethane	0.508	0.422	16.9	110	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	0#	0.00
40	T	1-Butanol	0.000	0.000	0.0	0#	0.00
41	T	Benzene	1.299	1.115	14.2	117	0.00
42	T	Carbon Tetrachloride	0.413	0.340	17.7	110	0.00
43	T	Cyclohexane	0.478	0.448	6.3	116	0.00
44	T	tert-Amyl Methyl Ether	0.848	0.821	3.2	120	0.00
45	T	1,2-Dichloropropane	0.317	0.276	12.9	115	0.00
46	T	Bromodichloromethane	0.426	0.366	14.1	111	0.00
47	T	Trichloroethene	0.347	0.298	14.1	117	0.00
48	T	1,4-Dioxane	0.288	0.240	16.7	109	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.260	1.145	9.1	114	0.00
50	T	Methyl Methacrylate	0.135	0.119	11.9	112	0.00
51	T	n-Heptane	0.323	0.291	9.9	116	0.00
52	T	cis-1,3-Dichloropropene	0.499	0.434	13.0	112	0.00
53	T	4-Methyl-2-pentanone	0.290	0.268	7.6	113	0.00
54	T	trans-1,3-Dichloropropene	0.458	0.396	13.5	109	0.00
55	T	1,1,2-Trichloroethane	0.310	0.268	13.5	117	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 02\15\02152231.D Vial: 2
Acq On : 15 Feb 2022 20:56 Operator: WA
Sample : CCV2 R16021522 5ng Inst : GCMS-16
Misc : S35-01102201/S35-02092209 (3/11)

Quant Time: Feb 16 03:14:30 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	115	0.00
57	S	Toluene-d8 (SS2)	6.041	6.288	-4.1	122	0.00
58	T	Toluene	7.305	6.752	7.6	117	0.00
59	T	2-Hexanone	4.125	3.745	9.2	102	0.00
60	T	Dibromochloromethane	1.936	1.739	10.2	115	0.00
61	T	1,2-Dibromoethane	1.985	1.770	10.8	114	0.00
62	T	n-Butyl Acetate	4.517	4.139	8.4	103	0.00
63	T	n-Octane	1.459	1.385	5.1	112	0.00
64	T	Tetrachloroethene	1.961	1.717	12.4	116	0.00
65	T	Chlorobenzene	4.833	4.493	7.0	115	0.00
66	T	Ethylbenzene	8.133	7.658	5.8	115	0.00
67	T	m- & p-Xylenes	6.186	6.001	3.0	114	-0.01
68	T	Bromoform	1.658	1.283	22.6	110	0.00
69	T	Styrene	5.054	4.599	9.0	111	0.00
70	T	o-Xylene	6.223	5.999	3.6	113	0.00
71	T	n-Nonane	3.258	3.195	1.9	107	0.00
72	T	1,1,2,2-Tetrachloroethane	2.883	2.833	1.7	114	0.00
73	S	Bromofluorobenzene (SS3)	1.925	1.972	-2.4	121	0.00
74	T	Cumene	8.094	7.592	6.2	114	0.00
75	T	alpha-Pinene	3.816	3.739	2.0	111	0.00
76	T	n-Propylbenzene	9.606	9.232	3.9	113	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	0#	0.00
78	T	4-Ethyltoluene	7.843	7.388	5.8	113	0.00
79	T	1,3,5-Trimethylbenzene	6.457	6.090	5.7	112	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	0#	0.00
82	T	1,2,4-Trimethylbenzene	6.162	6.604	-7.2	111	0.00
83	T	n-Decane	0.000	0.000	0.0	0#	0.00
84	T	Benzyl Chloride	4.938	4.693	5.0	100	0.00
85	T	1,3-Dichlorobenzene	3.720	3.515	5.5	110	0.00
86	T	1,4-Dichlorobenzene	3.867	3.416	11.7	113	0.00
87	T	sec-Butylbenzene	8.610	8.421	2.2	114	0.00
88	T	4-Isopropyltoluene (p-Cymen	7.513	7.110	5.4	112	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	0#	0.06
90	T	1,2-Dichlorobenzene	3.507	3.375	3.8	111	0.00
91	T	d-Limonene	2.206	2.371	-7.5	108	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.328	1.207	9.1	105	0.00
93	T	n-Undecane	0.000	0.000	0.0	0#	-22.26#
94	T	1,2,4-Trichlorobenzene	2.780	2.511	9.7	105	0.00
95	T	Naphthalene	9.162	7.761	15.3	102	0.00
96	T	n-Dodecane	0.000	0.000	0.0	0#	-22.34#
97	T	Hexachlorobutadiene	1.696	1.337	21.2	104	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	0.00
99	T	tert-Butylbenzene	6.068	6.455	-6.4	112	0.00
100	T	n-Butylbenzene	6.923	6.791	1.9	112	0.00
101	T	1,1,1,2-Tetrachloroethane	1.694	1.582	6.6	112	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152231.D Vial: 2
Acq On : 15 Feb 2022 20:56 Operator: WA
Sample : CCV2 R16021522 5ng Inst : GCMS-16
Misc : S35-01102201/S35-02092209 (3/11)

Quant Time: Feb 16 03:14:30 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022 2/16/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	201991	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.43	114	909094	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	155881	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	316874	11.420	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.36%				
57) Toluene-d8 (SS2)	15.88	98	980155	13.012	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
73) Bromofluorobenzene (SS3)	19.11	174	307363	12.802	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
Target Compounds							Qvalue
2) Propene	4.17	42	119129	3.872	ng		99
3) Dichlorodifluoromethan...	4.34	85	219616	4.320	ng		100
4) Chloromethane	4.63	50	169107	4.575	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	129825	4.774	ng		100
6) Vinyl Chloride	5.05	62	172975	4.560	ng		100
7) 1,3-Butadiene	5.32	54	113388	4.334	ng		98
8) Bromomethane	5.77	94	89411	4.327	ng		100
9) Chloroethane	6.11	64	73373	4.400	ng		99
10) Ethanol	6.46	45	291883	15.343	ng		100
11) Acetonitrile	6.73	41	189873	3.736	ng		99
12) Acrolein	6.92	56	133544	9.512	ng		99
13) Acetone	7.14	58	413435	21.722	ng		92
14) Trichlorofluoromethane	7.40	101	183042	4.234	ng		99
15) 2-Propanol (Isopropanol)	7.62	45	546739	8.428	ng		98
16) Acrylonitrile	7.90	53	279263	8.349	ng		99
17) 1,1-Dichloroethene	8.36	96	100358	4.418	ng		100
18) 2-Methyl-2-Propanol (t...	8.51	59	537502	8.984	ng		98
19) Methylene Chloride	8.58	84	108505	4.373	ng		99
20) 3-Chloro-1-propene (Al...	8.75	41	137874	3.979	ng		99
21) Trichlorotrifluoroethane	9.01	151	88003	4.484	ng		99
22) Carbon Disulfide	8.85	76	779760	9.237	ng		99
23) trans-1,2-Dichloroethene	9.86	61	147205	4.383	ng		100
24) 1,1-Dichloroethane	10.11	63	178374	4.328	ng		100
25) Methyl tert-Butyl Ether	10.22	73	322518	4.701	ng		100
26) Vinyl Acetate	10.37	86	70120	14.577	ng	#	71
27) 2-Butanone (MEK)	10.61	72	150354	8.584	ng	#	90
28) cis-1,2-Dichloroethene	11.13	61	140259	4.308	ng		99
29) Diisopropyl Ether	11.43	87	216408	10.604	ng	#	47
30) Ethyl Acetate	11.43	61	188027	20.925	ng		90
31) n-Hexane	11.42	57	188049	5.512	ng		98
32) Chloroform	11.47	83	185576	4.545	ng		100
34) Tetrahydrofuran (THF)	11.88	72	135063	8.451	ng		98
35) Ethyl tert-Butyl Ether	12.02	87	261806	10.037	ng		91
36) 1,2-Dichloroethane	12.27	62	134598	4.239	ng		99
38) 1,1,1-Trichloroethane	12.56	97	159535	4.321	ng		99
39) Isopropyl Acetate	12.99	61	10443	No Calib		#	
40) 1-Butanol	13.01	56	3936	No Calib			
41) Benzene	13.04	78	421504	4.462	ng		100
42) Carbon Tetrachloride	13.20	117	129683	4.318	ng		100
43) Cyclohexane	13.33	84	337497	9.715	ng		95
44) tert-Amyl Methyl Ether	13.67	73	624135	10.120	ng		97
45) 1,2-Dichloropropane	13.89	63	103466	4.487	ng		100
46) Bromodichloromethane	14.08	83	139927	4.521	ng		100
47) Trichloroethene	14.13	130	111580	4.418	ng		100
48) 1,4-Dioxane	14.11	88	90638	4.323	ng		97
49) 2,2,4-Trimethylpentane...	14.20	57	441471	4.820	ng		99
50) Methyl Methacrylate	14.34	100	89882	9.153	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152231.D Vial: 2
Acq On : 15 Feb 2022 20:56 Operator: WA
Sample : CCV2 R16021522 5ng Inst : GCMS-16
Misc : S35-01102201/S35-02092209 (3/11)

Quant Time: Feb 16 03:14:30 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

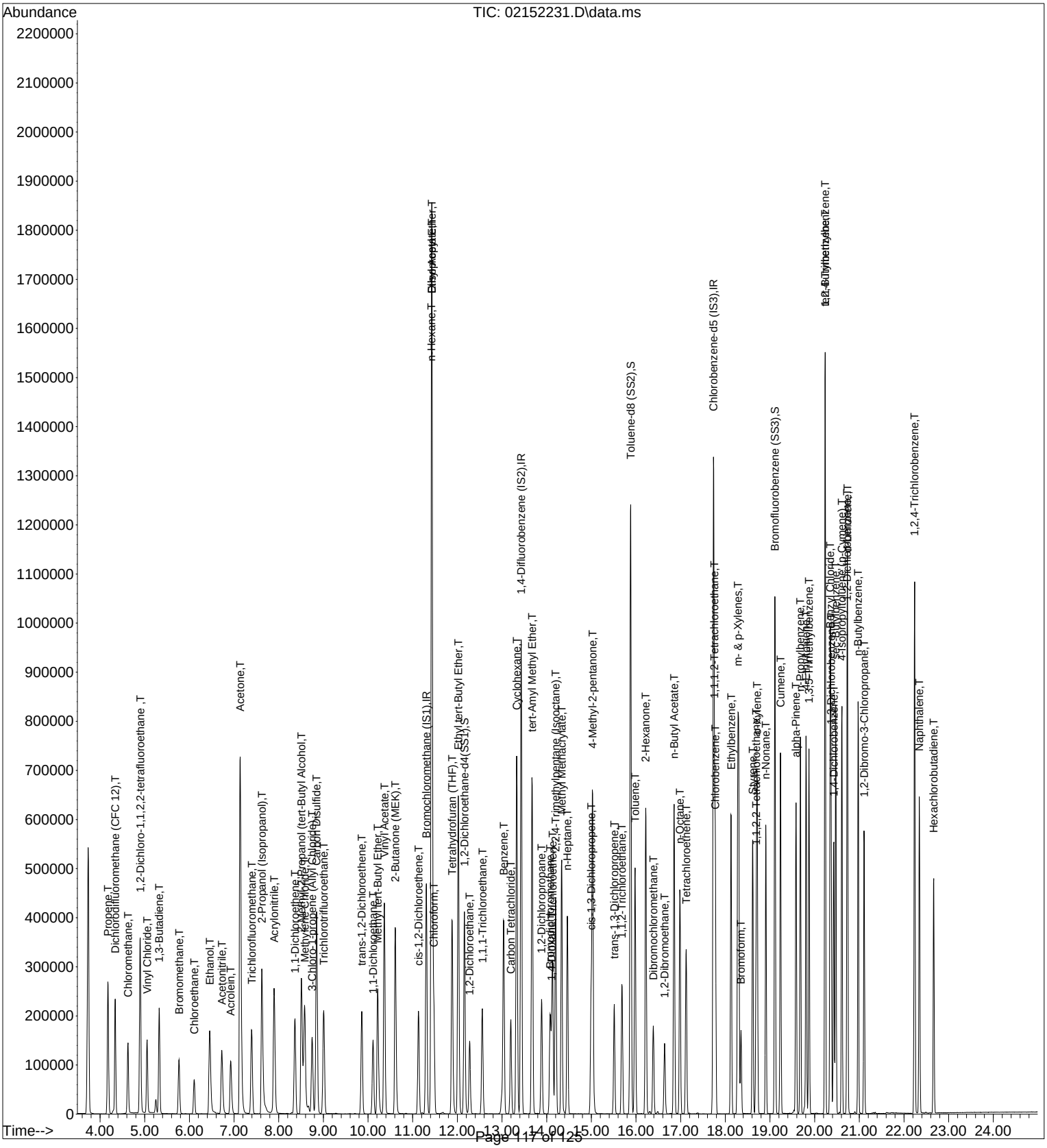
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	111048	4.734	ng		98
52) cis-1,3-Dichloropropene	15.00	75	165611	4.565	ng		100
53) 4-Methyl-2-pentanone	15.03	58	202863	9.628	ng		90
54) trans-1,3-Dichloropropene	15.51	75	145259	4.358	ng		100
55) 1,1,2-Trichloroethane	15.68	97	101356	4.495	ng		99
58) Toluene	15.98	91	433663	4.761	ng		99
59) 2-Hexanone	16.22	43	478755	9.306	ng		95
60) Dibromochloromethane	16.39	129	113854	4.715	ng		99
61) 1,2-Dibromoethane	16.64	107	114799	4.637	ng		100
62) n-Butyl Acetate	16.85	43	526471	9.347	ng		95
63) n-Octane	16.98	57	90655	4.982	ng		96
64) Tetrachloroethene	17.12	166	111320	4.551	ng		99
65) Chlorobenzene	17.78	112	291324	4.833	ng		100
66) Ethylbenzene	18.13	91	491802	4.849	ng		98
67) m- & p-Xylenes	18.28	91	770853	9.993	ng		97
68) Bromoform	18.35	173	83206	4.025	ng		100
69) Styrene	18.61	104	295389	4.687	ng		99
70) o-Xylene	18.71	91	388991	5.013	ng		97
71) n-Nonane	18.91	43	207161	5.098	ng		93
72) 1,1,2,2-Tetrachloroethane	18.69	83	183704	5.110	ng		100
74) Cumene	19.24	105	492315	4.877	ng		98
75) alpha-Pinene	19.58	93	251819	5.291	ng		99
76) n-Propylbenzene	19.68	91	604421	5.045	ng		97
77) 3-Ethyltoluene	19.81	105	488755	No Calib			
78) 4-Ethyltoluene	19.81	105	488298	4.993	ng		98
79) 1,3,5-Trimethylbenzene	19.87	105	394913	4.904	ng		97
80) alpha-Methylstyrene	19.87	118	2963	No Calib		#	
81) 2-Ethyltoluene	19.87	105	394913	No Calib			
82) 1,2,4-Trimethylbenzene	20.24	105	424105	5.519	ng		99
83) n-Decane	20.23	58	20189	No Calib		#	
84) Benzyl Chloride	20.35	91	602807	9.790	ng		94
85) 1,3-Dichlorobenzene	20.37	146	227928	4.914	ng		100
86) 1,4-Dichlorobenzene	20.43	146	221499	4.594	ng		100
87) sec-Butylbenzene	20.47	105	546046	5.086	ng		98
88) 4-Isopropyltoluene (p-...	20.61	119	461089	4.921	ng		98
89) 1,2,3-Trimethylbenzene	20.61	105	17628	No Calib		#	
90) 1,2-Dichlorobenzene	20.73	146	220932	5.052	ng		100
91) d-Limonene	20.74	68	155224	5.643	ng		93
92) 1,2-Dibromo-3-Chloropr...	21.11	157	150557	9.091	ng		81
93) n-Undecane	0.00	57	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.24	180	319451	9.216	ng		99
95) Naphthalene	22.34	128	503252	4.404	ng		99
96) n-Dodecane	0.00	57	0	N.D.			
97) Hexachlorobutadiene	22.67	225	85871	4.060	ng		100
98) Cyclohexanone	18.28	55	541	No Calib		#	
99) tert-Butylbenzene	20.24	119	418597	5.532	ng		99
100) n-Butylbenzene	20.97	91	440346	5.101	ng		97
101) 1,1,1,2-Tetrachloroethane	17.76	131	102597	4.856	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 02\15\02152231.D Vial: 2
Acq On : 15 Feb 2022 20:56 Operator: WA
Sample : CCV2 R16021522 5ng Inst : GCMS-16
Misc : S35-01102201/S35-02092209 (3/11)

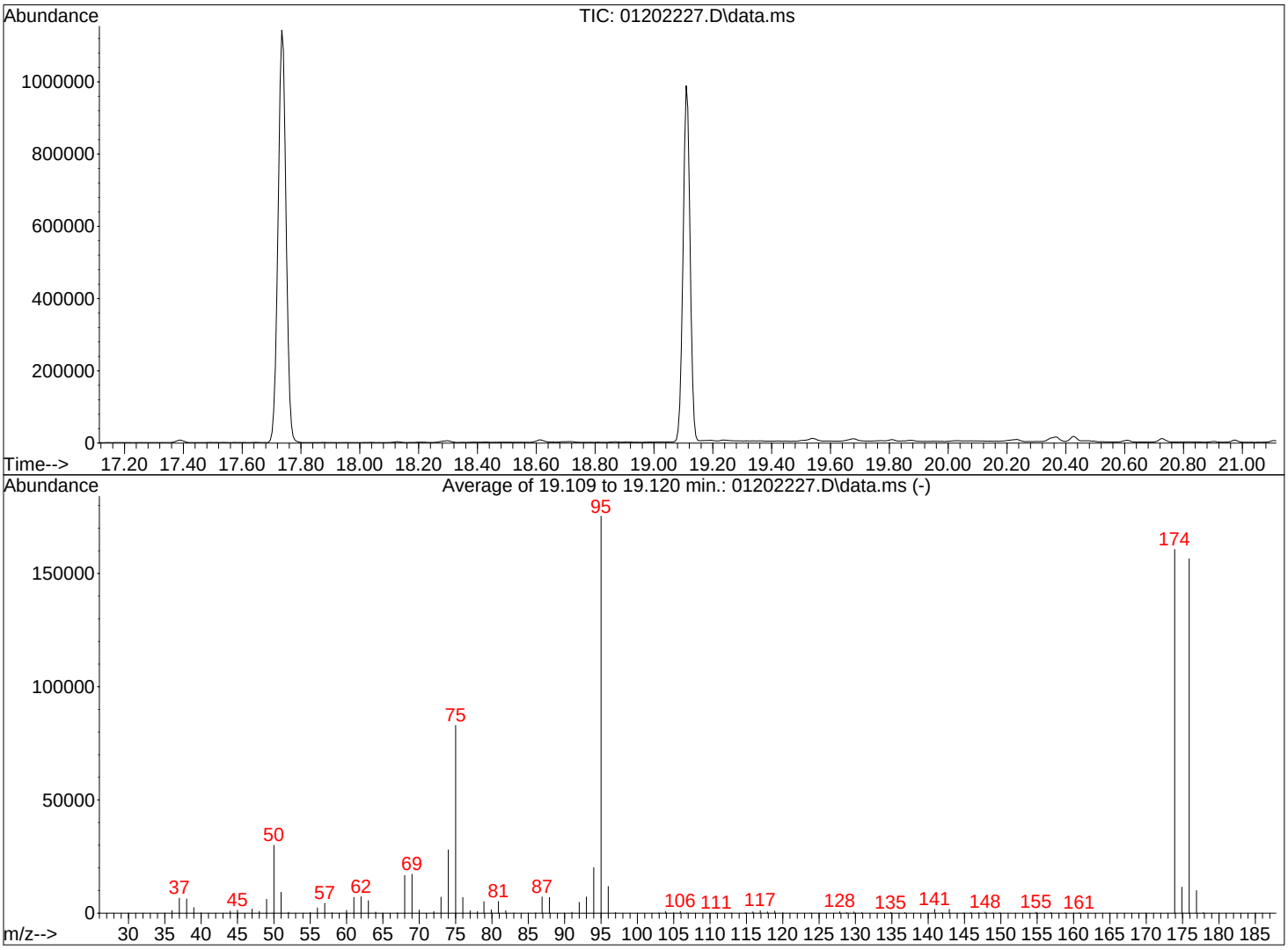
Quant Time: Feb 16 03:14:30 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS16\DATA\2022 01\20\
Data File : 01202227.D
Acq On : 20 Jan 2022 22:22
Operator : WA
Sample : R16012022 BFB Std
Misc : S35-01102201
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16012022B.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jan 21 09:34:58 2022



AutoFind: Scans 2841, 2842, 2843; Background Corrected with Scan 2832

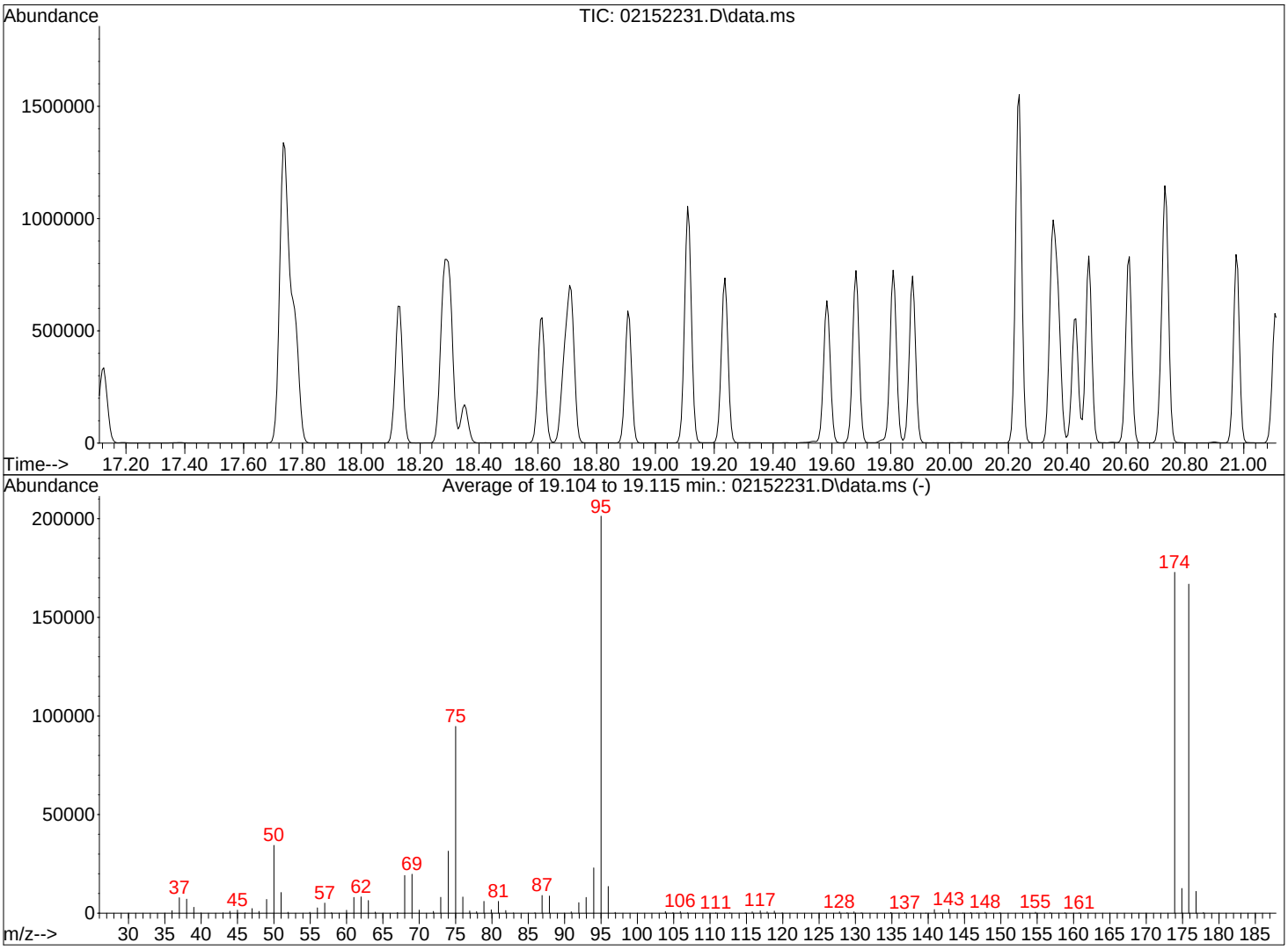
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.1	29944	PASS
75	95	30	66	47.3	82880	PASS
95	95	100	100	100.0	175296	PASS
96	95	5	9	6.7	11808	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	91.6	160619	PASS
175	174	4	9	7.2	11495	PASS
176	174	93	101	97.4	156456	PASS
177	176	5	9	6.4	10001	PASS

WA 1/21/22

Data Path : I:\MS16\DATA\2022 02\15\
Data File : 02152231.D
Acq On : 15 Feb 2022 20:56
Operator : WA
Sample : CCV2 R16021522 5ng
Misc : S35-01102201/S35-02092209 (3/11)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16012022B.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Jan 27 06:34:43 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2832

WA 2/16/22

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.1	34381	PASS
75	95	30	66	47.1	94709	PASS
95	95	100	100	100.0	201280	PASS
96	95	5	9	6.7	13582	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	85.9	172821	PASS
175	174	4	9	7.3	12570	PASS
176	174	93	101	96.5	166827	PASS
177	176	5	9	6.6	11053	PASS

Injection Log

Directory: J:\MS16\DATA\2022_01\20\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
27	1/20/22 22:22	01202227.D	R16012022_BFB Std	S35-01102201	WA	2	*Pass*
28	1/20/22 22:56	01202228.D	0.1ng R16012022 ICAL Std	S35-01102201/S35-01172211 (2/16)	WA	12	*R16012022B.M*
30	1/20/22 23:30	01202229.D	0.2ng R16012022 ICAL Std	S35-01102201/S35-01172211 (2/16)	WA	12	
32	1/21/22 0:04	01202230.D	0.5ng R16012022 ICAL Std	S35-01102201/S35-01172211 (2/16)	WA	12	
34	1/21/22 0:38	01202231.D	1.0ng R16012022 ICAL Std	S35-01102201/S35-01172210 (2/16)	WA	15	
35	1/21/22 1:11	01202232.D	5.0ng R16012022 ICAL Std	S35-01102201/S35-01172210 (2/16)	WA	15	
36	1/21/22 1:45	01202233.D	25ng R16012022 ICAL Std	S35-01102201/S35-12292101 (1/28)	WA	13	
38	1/21/22 2:19	01202234.D	50ng R16012022 ICAL Std	S35-01102201/S35-12292101 (1/28)	WA	13	
39	1/21/22 2:53	01202235.D	100ng R16012022 ICAL Std	S35-01102201/S35-12292101 (1/28)	WA	13	
40	1/21/22 3:27	01202236.D	Blank	S35-01102201	WA	2	
41	1/21/22 4:01	01202237.D	25ng R16012022 ICV Std	S35-01102201/S35-12272103 (1/26)	WA	16	*Pass*
42	1/21/22 4:34	01202238.D	25ng R16012022_ICV Std	S35-01102201/S35-12292101 (1/28)	WA	2	*Pass*
	R16012022B.M : good for low level compounds, ranges from 0.1ng --> 100ng; except: EtOH from 1ng -->362ng, Acetonitrile, tBA, DIPE, 1,2,4-TCB						
	from 0.2ng --> 100ng; Vinyl Ac from 2.5ng --> 340ng; Ethyl Ac from 0.4ng --> 200ng; Bromoform from 1.0ng --> 200ng and Benzyl-Cl: 1ng --> 100ng						

1/21/22

Injection Log

Directory: I:\MS16\DATA\2022_02\15\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	2/15/22 20:56	02152231.D	CCV2 R16021522_5ng	S35-01102201/S35-02092209 (3/11)	WA	2	*Passed*
2	2/15/22 21:30	02152232.D	CCV2 C16021522_25ng	S35-01102201/S35-01312203 (3/1)	WA	16	*Passed*
3	2/15/22 22:04	02152233.D	Blank	S35-01102201	WA	3	
4	2/15/22 22:37	02152234.D	MB2 R16021522_1000mL	S35-01102201	WA	2	*Passed*
5	2/15/22 23:11	02152235.D	P2200505-004 (1000mL)	S35-01102201	WA	1	
6	2/15/22 23:46	02152236.D	P2200505-005 (1000mL)	S35-01102201	WA	3	
7	2/16/22 0:19	02152237.D	LCS2 R16021522_25ng	S35-01102201/S35-01282204 (2/27)	WA	2	*Passed*
8	2/16/22 0:53	02152238.D	LCSD2 R16021522_25ng	S35-01102201/S35-01282204 (2/27)	WA	2	*Passed*
9	2/16/22 1:27	02152239.D	P2200505-001 (1000mL)	S35-01102201	WA	10	
10	2/16/22 2:01	02152240.D	P2200505-002 (1000mL)	S35-01102201	WA	11	
11	2/16/22 2:34	02152241.D	P2200505-003 (1000mL)	S35-01102201	WA	12	
12	2/16/22 3:08	02152242.D	P2200454-001 (1000mL)	S35-01102201	WA	5	
13	2/16/22 3:42	02152243.D	P2200454-002 (1000mL)	S35-01102201	WA	6	
14	2/16/22 4:15	02152244.D	P2200454-003 (1000mL)	S35-01102201	WA	7	
15	2/16/22 4:49	02152245.D	P2200454-004 (1000mL)	S35-01102201	WA	8	
16	2/16/22 5:23	02152246.D	P2200454-005 (1000mL)	S35-01102201	WA	9	
17	2/16/22 6:55	02152247.D	P2200449-008dil (15mL)	S35-01102201	WA	13	
18	2/16/22 7:32	02152248.D	P2200551-001 (50mL)	S35-01102201	WA	9	
19	2/16/22 8:07	02152249.D	P2200551-001dil (15mL)	S35-01102201	WA	9	
20	2/16/22 8:41	02152250.D	P2200437-001 (0.6mL)	S35-01102201	WA	5	
21	2/16/22 9:32	02152251.D	P2200555-001dil (25mL)	S35-01102201	WA	7	
22	2/16/22 11:01	02152252.D	P2200437-001 (0.20mL)	S35-01102201	WA	5	
23	2/16/22 11:40	02152253.D	xP2200561-001 (1.25mL)x	S35-01102201	WA	5	*not used*
24	2/16/22 12:14	02152254.D	P2200555-001 (170mL)	S35-01102201	WA	7	
25	2/16/22 12:48	02152255.D	xP2200561-001dil (0.5mL)x	S35-01102201	WA	5	*not used*
26	2/16/22 14:03	02152256.D	xP2200561-002 (0.45mL)x	S35-01102201	WA	5	*not used*
27	2/16/22 14:38	02152257.D	P2200555-003 (400mL)	S35-01102201	WA	3	
28	2/16/22 15:12	02152258.D	P2200555-004 (400mL)	S35-01102201	WA	4	
29	2/16/22 15:46	02152259.D	P2200555-002 (110mL)	S35-01102201	WA	8	
30	2/16/22 16:20	02152260.D	P2200555-002dup (110mL)	S35-01102201	WA	8	*Passed*
31	2/16/22 16:53	02152261.D	CCV2end R16021522_5ng	S35-01102201/S35-02092209 (3/11)	WA	2	*Passed*
	CCV2end : Bromoform out low (LOQ check passed <50% limit) --> samples ND						
						WA 2/16/22	

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-07
Cycles: 30
Batch: 28873

Batch Started By: ANAKLOWYCZ on 1/31/22 0909
Finished Cleaning By: ANAKLOWYCZ on 2/1/22 0902

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02097	1/31/22	1/28/22	Fail	-14.3	2/1/22 0902	ANAKLOWYCZ				MS21_01/31/22
Passed For: Fail										
AC01932	1/31/22	1/28/22	Pass w/ Conditions	-14.3	2/1/22 0902	ANAKLOWYCZ				MS21_01/31/22
AC02238	1/31/22	1/28/22	Pass w/ Conditions	-14.3	2/1/22 0902	ANAKLOWYCZ	-14.0	2/2/22 0750		
AC02408	1/31/22	1/28/22	Pass w/ Conditions	-14.3	2/1/22 0902	ANAKLOWYCZ	-14.0	2/2/22 0751		
AS00312	1/31/22	1/28/22	Pass w/ Conditions	-14.3	2/1/22 0902	ANAKLOWYCZ	-14.0	2/2/22 0751		
AS00943	1/31/22	1/28/22	Pass w/ Conditions	-14.3	2/1/22 0902	ANAKLOWYCZ	-14.0	2/2/22 0751		
AS01001	1/31/22	1/28/22	Pass w/ Conditions	-14.3	2/1/22 0902	ANAKLOWYCZ	-14.0	2/3/22 0959		
AS01568	1/31/22	1/28/22	Pass w/ Conditions	-14.3	2/1/22 0902	ANAKLOWYCZ	-14.0	2/2/22 0750		
AS01190	1/31/22	1/28/22	Pass w/ Conditions	-14.3	2/1/22 0902	ANAKLOWYCZ	-14.0	2/2/22 0751		
AS01345	1/31/22	1/28/22	Pass w/ Conditions	-14.3	2/1/22 0902	ANAKLOWYCZ	-14.0	2/2/22 0751		
Passed For: TO-15 (75 Comp 0.1 ug/m3)										

Page 1 of 2 - 1/31/22

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 01\31\
Data File : 01312220.D
Acq On : 31 Jan 2022 19:41
Operator : RVT
Sample : 013122 AC01932 28873
Misc : LL ONLY (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

RVT 2/1/22

Quant Time: Feb 01 07:03:22 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.485	130	16006	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.654	114	38341	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.673	54	8327	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.293	65	26069	1039.20	pg		0.00
Spiked Amount 1000.000			Recovery = 103.92%				
57) Toluene-d8 (SS2)	12.563	98	37027	876.43	pg		0.00
Spiked Amount 1000.000			Recovery = 87.64%				
74) Bromofluorobenzene (SS3)	16.111	174	9988	582.62	pg		0.00
Spiked Amount 1000.000			Recovery = 58.26%				
Target Compounds							Qvalue
2] * Propene	3.497	42	1618	87.99	pg		97
3] * Dichlorodifluoromethane	3.553	85	53	1.02	pg	#	42
4] * Chloromethane	3.686	50	344	10.72	pg		90
5) * 1,2-Dichloro-1,1,2,2...	0.000		0	N.D.			
6) * Vinyl Chloride	0.000		0	N.D.			
7] * 1,3-Butadiene	3.966	54	30	1.32	pg	#	12
8] * Bromomethane	4.183	94	152	6.87	pg		92
9] * Chloroethane	4.323	64	82	6.75	pg	#	40
10] * Ethanol	4.412	45	1623	153.51	pg		96
11] * Acetonitrile	4.573	41	1910	97.92	pg		84
12] * Acrolein	4.677	56	506	43.84	pg		86
13] * Acetone	4.792	58	20815	1163.29	pg		88
14) * Trichlorofluoromethane	0.000		0	N.D.			
15] * 2-Propanol (Isopropa...	5.015	45	749	15.98	pg	#	11
16] * Acrylonitrile	5.145	53	87	3.43	pg		88
17) * 1,1-Dichloroethene	0.000		0	N.D. d			
18) tert-Butanol	0.000		0	N.D.			
19] * Methylene Chloride	5.523	84	1135	45.19	pg		95
20) * 3-Chloro-1-propene (...	0.000		0	N.D.			
21) * Trichlorotrifluoroet...	0.000		0	N.D.			
22] * Carbon Disulfide	5.790	76	3584	40.78	pg		99
23) * trans-1,2-Dichloroet...	0.000		0	N.D.			
24) * 1,1-Dichloroethane	0.000		0	N.D.			
25) * Methyl tert-Butyl Ether	0.000		0	N.D.			
26] * Vinyl Acetate	6.655	86	257	48.77	pg		99
27] * 2-Butanone (MEK)	6.942	72	582	41.66	pg		71
28) * cis-1,2-Dichloroethene	0.000		0	N.D.			
29] DIPE	7.595	45	99	1.55	pg	#	45
30] * Ethyl Acetate	7.595	61	89	12.68	pg	#	6
31) * n-Hexane	0.000		0	N.D.			
32) * Chloroform	0.000		0	N.D.			
34] * Tetrahydrofuran	8.112	71	86	7.23	pg	#	60
35) ETBE	0.000		0	N.D.			
36) * 1,2-Dichloroethane	0.000		0	N.D.			
38) * 1,1,1-Trichloroethane	0.000		0	N.D.			
39] * Benzene	9.232	78	494	10.28	pg	#	86
40) Isopropyl Acetate	9.216	61	732	No Calib		#	
41) 1-Butanol	9.232	56	415	No Calib			
42) * Carbon Tetrachloride	0.000		0	N.D.			
43) * Cyclohexane	0.000		0	N.D.			
44) TAME	0.000		0	N.D.			
45) * 1,2-Dichloropropane	0.000		0	N.D.			
46) * Bromodichloromethane	0.000		0	N.D.			
47) * Trichloroethene	0.000		0	N.D. d			

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 01\31\
Data File : 01312220.D
Acq On : 31 Jan 2022 19:41
Operator : RVT
Sample : 013122 AC01932 28873
Misc : LL ONLY (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 01 07:03:22 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

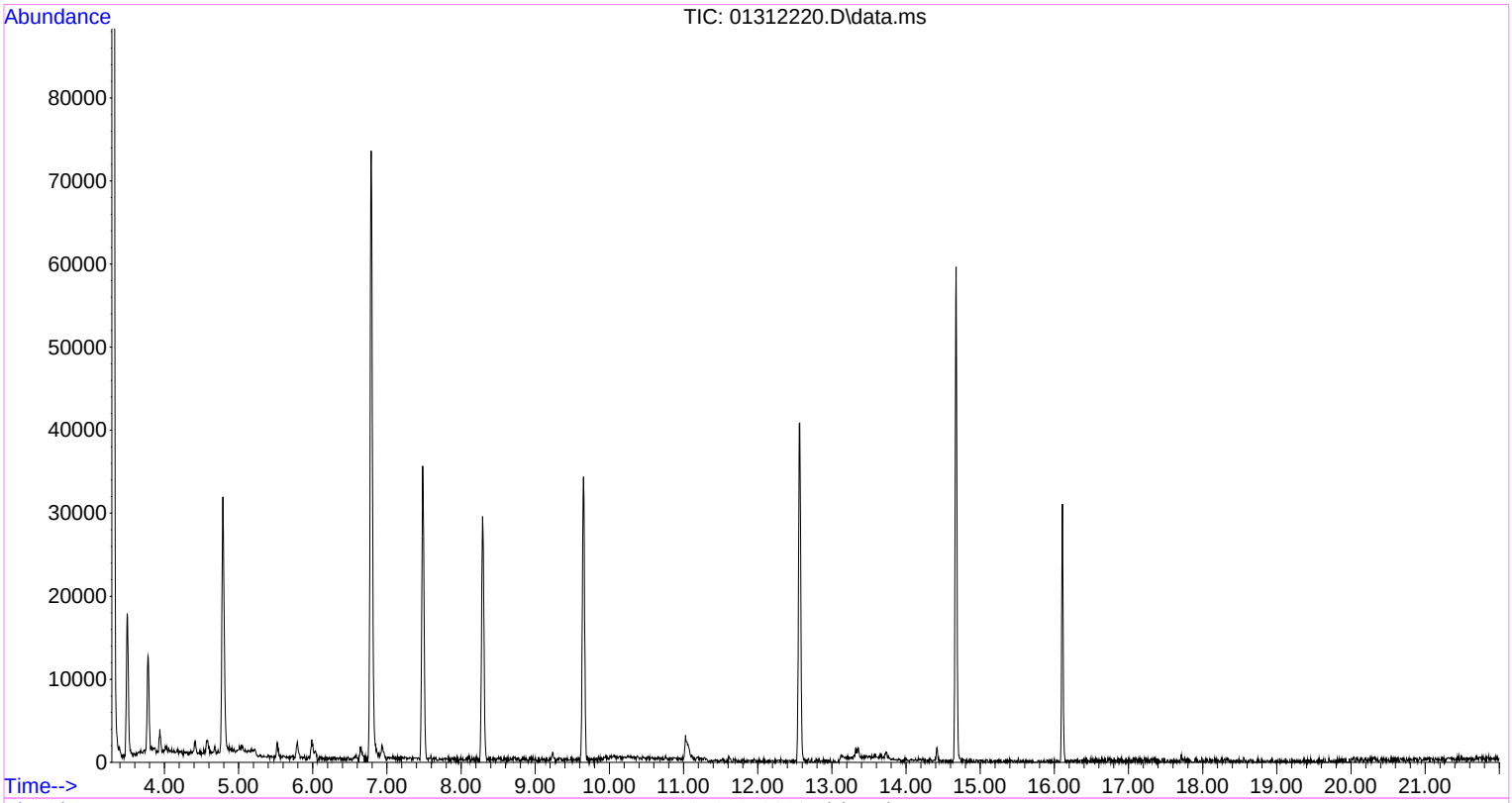
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
48] * 1,4-Dioxane	10.540	88	136	11.22	pg	#	72
49] Isooctane	10.547	56	1438	71.47	pg	#	1
50) * Methyl Methacrylate	0.000		0	N.D.			
51) * n-Heptane	0.000		0	N.D.			
52) * cis-1,3-Dichloropropene	0.000		0	N.D.			
53] * 4-Methyl-2-pentanone	11.619	58	183	20.31	pg	#	81
54) * trans-1,3-Dichloropr...	0.000		0	N.D.			
55) * 1,1,2-Trichloroethane	0.000		0	N.D.			
58] * Toluene	12.688	91	231	4.12	pg		98
59) * 2-Hexanone	0.000		0	N.D.			
60) * Dibromochloromethane	0.000		0	N.D.			
61) * 1,2-Dibromoethane	0.000		0	N.D.			
62) * n-Butyl Acetate	0.000		0	N.D.			
63) * n-Octane	0.000		0	N.D.			
64) * Tetrachloroethene	0.000		0	N.D.			
65) * Chlorobenzene	0.000		0	N.D.			
66) * Ethylbenzene	0.000		0	N.D.			
67] * m- & p-Xylenes	15.278	91	50	0.89	pg	#	29
68) * Bromoform	0.000		0	N.D.			
69) Cyclohexanone	0.000		0	N.D.			
70) * Styrene	0.000		0	N.D.			
71) * o-Xylene	0.000		0	N.D.			
72) * n-Nonane	0.000		0	N.D.			
73) * 1,1,2,2-Tetrachloroe...	0.000		0	N.D.			
75) * Cumene	0.000		0	N.D.			
76) * alpha-Pinene	0.000		0	N.D.			
77) * n-Propylbenzene	0.000		0	N.D.			
78) 3-Ethyltoluene	0.000		0	N.D.			
79) * 4-Ethyltoluene	0.000		0	N.D.			
80) * 1,3,5-Trimethylbenzene	0.000		0	N.D.			
81) alpha-Methylstyrene	0.000		0	N.D.			
82) 2-Ethyltoluene	0.000		0	N.D.			
83) tert-Butylbenzene	0.000		0	N.D.			
84) * 1,2,4-Trimethylbenzene	0.000		0	N.D.			
85) * Benzyl Chloride	0.000		0	N.D.			
86) * 1,3-Dichlorobenzene	0.000		0	N.D.			
87) * 1,4-Dichlorobenzene	0.000		0	N.D.			
88) n-Decane	0.000		0	N.D.			
89) sec-Butylbenzene	0.000		0	N.D.			
90) 1,2,3-Trimethylbenzene	0.000		0	N.D.			
91) p-Isopropyltoluene	0.000		0	N.D.			
92) * 1,2-Dichlorobenzene	0.000		0	N.D.			
93] * D-Limonene	17.709	68	293	23.37	pg		98
94) n-Butylbenzene	0.000		0	N.D.			
95) * 1,2-Dibromo-3-chloro...	0.000		0	N.D.			
96) n-Undecane	0.000		0	N.D.			
97) * 1,2,4-Trichlorobenzene	0.000		0	N.D.			
98) * Naphthalene	0.000		0	N.D.			
99) n-Dodecane	0.000		0	N.D.			
100) * Hexachlorobutadiene	0.000		0	N.D.			

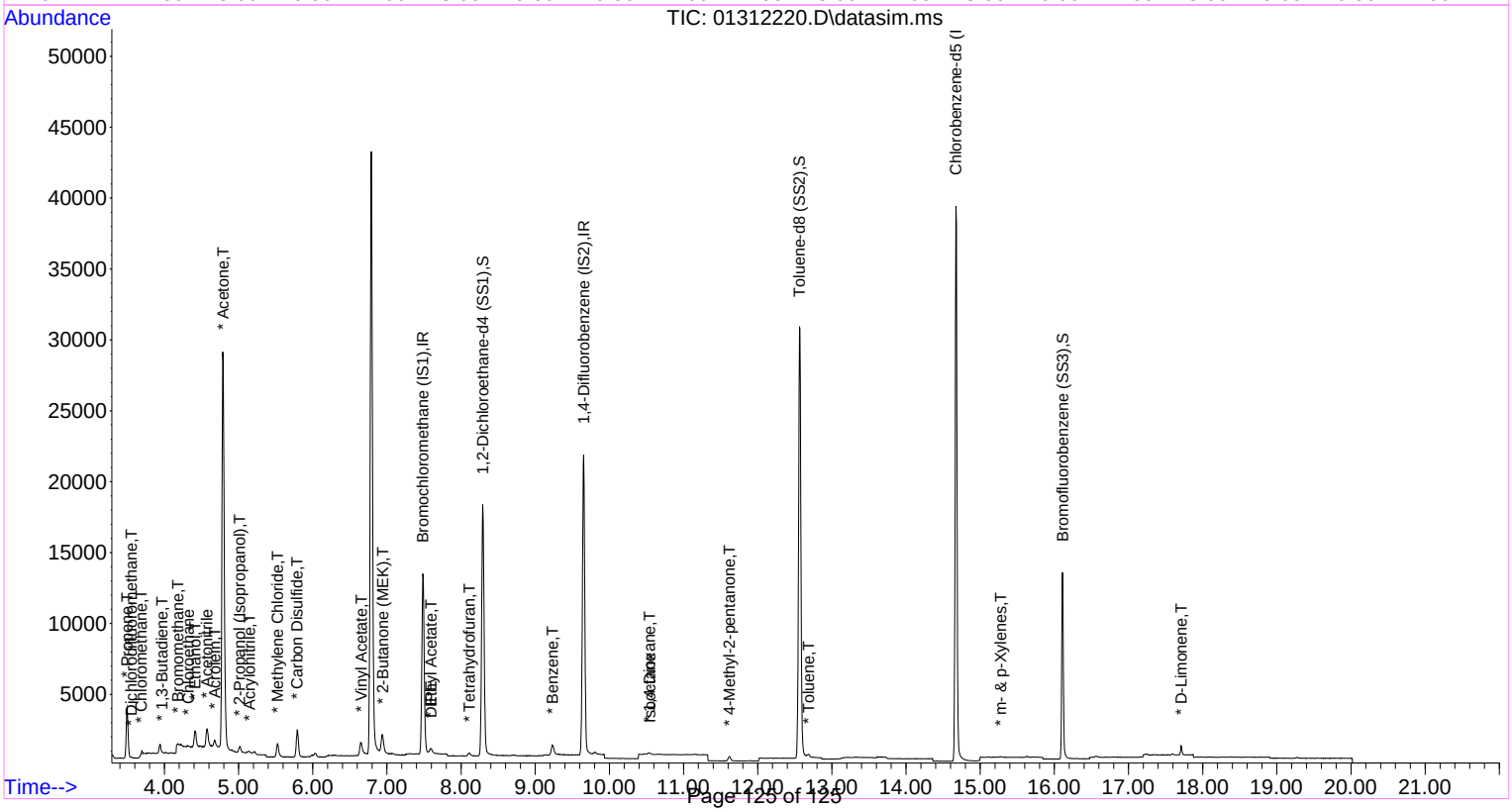
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 01\31\
Data File : 01312220.D
Acq On : 31 Jan 2022 19:41
Operator : RVT
Sample : 013122 AC01932 28873
Misc : LL ONLY (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 01 07:03:22 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration





2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

March 8, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on February 17, 2022. For your reference, these analyses have been assigned our service request number P2200741.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 4:49 pm, Mar 09, 2022

Nicole Bryson
Laboratory Director

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: North Wind, Inc. Service Request No: P2200741
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on February 17, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2200741
Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 2/17/2022
Time Received: 16:00

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_021722_S	P2200741-001	Air	2/17/2022	10:00	AS01089	-1.31	4.12	X
DOE-2_021722_S	P2200741-002	Air	2/17/2022	10:15	AC01909	-1.89	4.25	X
DOE-3_021722_S	P2200741-003	Air	2/17/2022	10:30	AC02062	-1.46	4.41	X
DOE-4_021722_S	P2200741-004	Air	2/17/2022	10:45	AS00411	-1.55	4.00	X
DOE-4_021722_D	P2200741-005	Air	2/17/2022	10:46	AC02409	-1.57	4.32	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No: 210741

Company Name & Address (Reporting Information)	Project Name	ALS Contact:
North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304	DOE Perimeter Air	Hayden Akers
Project Manager: Trina Cesnik	Project Number: 080153.015.15	**Analysis Method**
Phone: 805-587-0691 / Fax:	P.O. # / Billing Information: PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com	
Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg	Sampler (Print & Sign): T. Stewart Williford	

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_021722_S	1	2/17/2022	1000	AS01089	FCR00289	-28.0	-1.5		X		
DOE-2_021722_S	2	2/17/2022	1015	AC01909	FCR00564	-28.0	-3.0		X		
DOE-3_021722_S	3	2/17/2022	1030	AC02062	FCR00422	-28.5	-3.0		X		
DOE-4_021722_S	4	2/17/2022	1045	AS00411	FCR00187	-29.0	-3.0		X		
DOE-4_021722_D	5	2/17/2022	1046	AC02409	FCR00237	-28.0	-2.5		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) NR Tier IV (Data Validation Package) 10% Surcharge NR

EDD required Yes / No
Type: EQuIS Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
T. Stewart Williford	2/17/22	1600		2-17-2	1600
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2200741

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 2/17/22 Date opened: 2/17/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2200741-001.01	6.0 L Silonite Can					
P2200741-002.01	6.0 L Ambient Can					
P2200741-003.01	6.0 L Ambient Can					
P2200741-004.01	6.0 L Silonite Can					
P2200741-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-001

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01089

Initial Pressure (psig): -1.31 Final Pressure (psig): 4.12

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.75	**0.38**	0.15	
74-87-3	Chloromethane	ND	0.72	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.76	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.72	ND	0.19	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.73	**0.18**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.75	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.1	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.19	
141-78-6	Ethyl Acetate	ND	3.0	ND	0.82	
110-54-3	n-Hexane	ND	0.75	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-001

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01089

Initial Pressure (psig): -1.31 Final Pressure (psig): 4.12

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.76	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.48	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	ND	0.71	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.71	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.71	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.73	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	
142-82-5	n-Heptane	ND	0.75	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	ND	0.73	ND	0.19	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.75	ND	0.088	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.095	
111-65-9	n-Octane	ND	0.75	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.73	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-001

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01089

Initial Pressure (psig): -1.31 Final Pressure (psig): 4.12

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.73	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.73	ND	0.071	
100-42-5	Styrene	ND	0.71	ND	0.17	
95-47-6	o-Xylene	ND	0.73	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.73	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.73	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.75	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.069	
104-51-8	n-Butylbenzene	ND	0.73	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.75	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-002

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01909

Initial Pressure (psig): -1.89 Final Pressure (psig): 4.25

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.78	**0.38**	0.16	
74-87-3	Chloromethane	ND	0.75	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.75	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.65	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.77	**0.18**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.60	
107-13-1	Acrylonitrile	ND	1.5	ND	0.68	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.80	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.78	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.4	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.19	
141-78-6	Ethyl Acetate	ND	3.1	ND	0.86	
110-54-3	n-Hexane	ND	0.78	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-002

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01909

Initial Pressure (psig): -1.89 Final Pressure (psig): 4.25

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.50	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.74	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.21	
142-82-5	n-Heptane	ND	0.78	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.74	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.40	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	ND	0.77	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.40	
124-48-1	Dibromochloromethane	ND	0.78	ND	0.092	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
111-65-9	n-Octane	ND	0.78	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.77	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-002

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01909

Initial Pressure (psig): -1.89 Final Pressure (psig): 4.25

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.77	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.77	ND	0.074	
100-42-5	Styrene	ND	0.74	ND	0.17	
95-47-6	o-Xylene	ND	0.77	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.78	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.78	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.77	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.77	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.78	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.77	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.072	
104-51-8	n-Butylbenzene	ND	0.77	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.78	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-003

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02062

Initial Pressure (psig): -1.46 Final Pressure (psig): 4.41

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.76	**0.39**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.78	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.63	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.75	**0.18**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.59	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.75	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.2	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	ND	3.0	ND	0.84	
110-54-3	n-Hexane	ND	0.76	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-003

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02062

Initial Pressure (psig): -1.46 Final Pressure (psig): 4.41

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.78	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.75	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.75	ND	0.14	
108-88-3	Toluene	ND	0.75	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.75	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.75	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-003

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02062

Initial Pressure (psig): -1.46 Final Pressure (psig): 4.41

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.75	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.75	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.75	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.75	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.75	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.75	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.75	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.75	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.76	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-004

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00411

Initial Pressure (psig): -1.55 Final Pressure (psig): 4.00

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.75	**0.38**	0.15	
74-87-3	Chloromethane	ND	0.72	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.33	
74-83-9	Bromomethane	ND	0.72	ND	0.19	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.74	**0.18**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.75	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.1	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	ND	3.0	ND	0.83	
110-54-3	n-Hexane	ND	0.75	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-004

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00411

Initial Pressure (psig): -1.55 Final Pressure (psig): 4.00

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.48	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.71	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.71	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.71	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.20	
142-82-5	n-Heptane	ND	0.75	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	ND	0.74	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.75	ND	0.088	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.096	
111-65-9	n-Octane	ND	0.75	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-004

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00411

Initial Pressure (psig): -1.55 Final Pressure (psig): 4.00

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.071	
100-42-5	Styrene	ND	0.71	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.75	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.069	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.75	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_021722_D** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-005

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02409

Initial Pressure (psig): -1.57 Final Pressure (psig): 4.32

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.8**	0.77	**0.36**	0.16	
74-87-3	Chloromethane	ND	0.74	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.78	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
107-02-8	Acrolein	ND	1.5	ND	0.63	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.75	**0.18**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.59	
107-13-1	Acrylonitrile	ND	1.5	ND	0.67	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.75	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.77	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.3	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	ND	3.0	ND	0.85	
110-54-3	n-Hexane	ND	0.77	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_021722_D** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-005

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02409

Initial Pressure (psig): -1.57 Final Pressure (psig): 4.32

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.78	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.77	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.75	ND	0.14	
71-43-2	Benzene	ND	0.73	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.73	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.73	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.77	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
142-82-5	n-Heptane	ND	0.77	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.73	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.74	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.75	ND	0.14	
108-88-3	Toluene	ND	0.75	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.77	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.75	ND	0.098	
111-65-9	n-Octane	ND	0.77	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.75	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_021722_D** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-005

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02409

Initial Pressure (psig): -1.57 Final Pressure (psig): 4.32

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.75	ND	0.073	
100-42-5	Styrene	ND	0.73	ND	0.17	
95-47-6	o-Xylene	ND	0.75	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.77	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.77	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.75	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.75	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.75	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.75	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.75	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.77	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.071	
104-51-8	n-Butylbenzene	ND	0.75	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.77	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220301-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 3/1/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220301-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 3/1/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220301-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 3/1/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2200741

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date(s) Collected: 2/17/22
Analyst: Topacio Zavala Date(s) Received: 2/17/22
Sample Type: 6.0 L Silonite Canister(s) / 6.0 L Summa Canister(s) Date(s) Analyzed: 3/1 - 3/2/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220301-MB	**93**	**99**	**113**	70-130	
Lab Control Sample	P220301-LCS	**97**	**99**	**115**	70-130	
DOE-1_021722_S	P2200741-001	**89**	**99**	**113**	70-130	
DOE-2_021722_S	P2200741-002	**90**	**100**	**112**	70-130	
DOE-3_021722_S	P2200741-003	**90**	**100**	**112**	70-130	
DOE-4_021722_S	P2200741-004	**90**	**99**	**110**	70-130	
DOE-4_021722_S	P2200741-004DUP	**90**	**99**	**109**	70-130	
DOE-4_021722_D	P2200741-005	**88**	**101**	**115**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220301-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 3/1/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	**159**	**76**	71-112	
74-87-3	Chloromethane	206	**141**	**68**	53-126	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	**172**	**83**	62-121	
75-01-4	Vinyl Chloride	208	**165**	**79**	63-123	
106-99-0	1,3-Butadiene	206	**167**	**81**	63-135	
74-83-9	Bromomethane	206	**163**	**79**	71-112	
75-00-3	Chloroethane	206	**162**	**79**	66-117	
107-02-8	Acrolein	416	**324**	**78**	71-123	
75-69-4	Trichlorofluoromethane (CFC 11)	202	**157**	**78**	71-114	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	**329**	**82**	61-124	
107-13-1	Acrylonitrile	402	**320**	**80**	65-130	
75-35-4	1,1-Dichloroethene	210	**169**	**80**	74-114	
75-09-2	Methylene Chloride	208	**159**	**76**	75-112	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**169**	**78**	73-114	
75-15-0	Carbon Disulfide	414	**310**	**75**	70-113	
156-60-5	trans-1,2-Dichloroethene	208	**166**	**80**	76-119	
75-34-3	1,1-Dichloroethane	214	**164**	**77**	70-114	
1634-04-4	Methyl tert-Butyl Ether	206	**160**	**78**	72-118	
108-05-4	Vinyl Acetate	942	**919**	**98**	56-137	
78-93-3	2-Butanone (MEK)	408	**339**	**83**	74-121	
156-59-2	cis-1,2-Dichloroethene	206	**160**	**78**	73-117	
141-78-6	Ethyl Acetate	580	**468**	**81**	59-161	
110-54-3	n-Hexane	208	**162**	**78**	55-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220301-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 3/1/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
67-66-3	Chloroform	210	**166**	**79**	71-114	
109-99-9	Tetrahydrofuran (THF)	404	**321**	**79**	73-114	
107-06-2	1,2-Dichloroethane	210	**161**	**77**	71-119	
71-55-6	1,1,1-Trichloroethane	208	**164**	**79**	73-119	
71-43-2	Benzene	208	**166**	**80**	72-113	
56-23-5	Carbon Tetrachloride	202	**161**	**80**	67-123	
110-82-7	Cyclohexane	412	**329**	**80**	70-119	
78-87-5	1,2-Dichloropropane	206	**162**	**79**	70-118	
75-27-4	Bromodichloromethane	208	**169**	**81**	74-119	
79-01-6	Trichloroethene	204	**172**	**84**	74-115	
123-91-1	1,4-Dioxane	206	**186**	**90**	77-124	
142-82-5	n-Heptane	206	**167**	**81**	70-119	
10061-01-5	cis-1,3-Dichloropropene	208	**174**	**84**	81-126	
108-10-1	4-Methyl-2-pentanone	412	**360**	**87**	73-129	
10061-02-6	trans-1,3-Dichloropropene	200	**174**	**87**	80-127	
79-00-5	1,1,2-Trichloroethane	208	**168**	**81**	78-117	
108-88-3	Toluene	206	**160**	**78**	70-118	
591-78-6	2-Hexanone	406	**348**	**86**	74-132	
124-48-1	Dibromochloromethane	210	**166**	**79**	69-137	
106-93-4	1,2-Dibromoethane	208	**165**	**79**	76-128	
111-65-9	n-Octane	208	**162**	**78**	68-120	
127-18-4	Tetrachloroethene	212	**172**	**81**	63-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220301-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 3/1/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
100-41-4	Ethylbenzene	206	**165**	**80**	71-123	
179601-23-1	m,p-Xylenes	416	**327**	**79**	67-127	
75-25-2	Bromoform	210	**176**	**84**	65-149	
100-42-5	Styrene	202	**173**	**86**	76-132	
95-47-6	o-Xylene	208	**167**	**80**	69-124	
79-34-5	1,1,2,2-Tetrachloroethane	208	**167**	**80**	69-128	
98-82-8	Cumene	206	**165**	**80**	69-125	
103-65-1	n-Propylbenzene	208	**167**	**80**	70-127	
622-96-8	4-Ethyltoluene	208	**172**	**83**	69-127	
108-67-8	1,3,5-Trimethylbenzene	208	**172**	**83**	66-129	
95-63-6	1,2,4-Trimethylbenzene	206	**178**	**86**	63-142	
100-44-7	Benzyl Chloride	416	**402**	**97**	73-145	
541-73-1	1,3-Dichlorobenzene	208	**170**	**82**	67-136	
106-46-7	1,4-Dichlorobenzene	210	**168**	**80**	63-134	
135-98-8	sec-Butylbenzene	204	**168**	**82**	68-130	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	**171**	**83**	60-139	
95-50-1	1,2-Dichlorobenzene	210	**171**	**81**	64-139	
120-82-1	1,2,4-Trichlorobenzene	420	**381**	**91**	62-154	
91-20-3	Naphthalene	210	**197**	**94**	62-156	
87-68-3	Hexachlorobutadiene	212	**170**	**80**	55-142	
104-51-8	n-Butylbenzene	208	**171**	**82**	70-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-004DUP

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00411

Initial Pressure (psig): -1.55 Final Pressure (psig): 4.00

Canister Dilution Factor: 1.42

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Dichlorodifluoromethane (CFC 12)	1.88	0.380	1.88	0.381	1.88	**0**	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Trichlorofluoromethane	1.03	0.183	1.04	0.185	1.035	**1**	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	ND	ND	-	-	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Vinyl Acetate	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	ND	ND	-	-	25	
n-Hexane	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-004DUP

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00411

Initial Pressure (psig): -1.55 Final Pressure (psig): 4.00

Canister Dilution Factor: 1.42

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Chloroform	ND	ND	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Trichloroethene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	ND	ND	ND	ND	-	-	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Octane	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_021722_S** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2200741-004DUP

Test Code: EPA TO-15 Date Collected: 2/17/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 2/17/22
Analyst: Topacio Zavala Date Analyzed: 3/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00411

Initial Pressure (psig): -1.55 Final Pressure (psig): 4.00

Canister Dilution Factor: 1.42

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
sec-Butylbenzene	ND	ND	ND	ND	-	-	25	
4-Isopropyltoluene (p-Cymene)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	
n-Butylbenzene	ND	ND	ND	ND	-	-	25	
Xylenes, Total	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **North Wind, Inc.** ALS Project ID: P2200741
Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Lab File ID: 03012230.D
Analyst: Topacio Zavala Date Analyzed: 3/1/22
Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 19:31
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	193533		11.34		864325		13.45		161535		17.75	
	Upper Limit	270946		11.67		1210055		13.78		226149		18.08	
	Lower Limit	116120		11.01		518595		13.12		96921		17.42	
	Client Sample ID												
01	Method Blank	183070		11.31		815320		13.44		153641		17.75	
02	Lab Control Sample	191995		11.34		855891		13.45		162319		17.75	
03	DOE-1_021722_S	182340		11.32		810817		13.44		152476		17.75	
04	DOE-2_021722_S	181926		11.31		813639		13.44		152132		17.75	
05	DOE-3_021722_S	178216		11.32		798517		13.44		148961		17.75	
06	DOE-4_021722_S	178634		11.31		793143		13.44		149455		17.75	
07	DOE-4_021722_S (Lab Duplicate)	173810		11.31		778161		13.44		146964		17.75	
08	DOE-4_021722_D	186709		11.32		833253		13.44		152684		17.75	
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012239.D Vial: 8
Acq On : 2 Mar 2022 00:36 Operator: TZ
Sample : P2200741-001 (1000mL) Inst : GCMS13
Misc : S35-02242201

TZ 3/2/22

Quant Time: Mar 02 07:57:54 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	182340	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.44	114	810817	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	152476	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	270195	11.131	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.04%			
57) Toluene-d8 (SS2)	15.89	98	942275	12.338	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%			
73) Bromofluorobenzene (SS3)	19.12	174	310972	14.065	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.56%			
Target Compounds						Qvalue
2) Propene	4.26	42	7959	N.D.		
3) Dichlorodifluoromethan...	4.41	85	50611	1.342	ng	99
4) Chloromethane	4.70	50	5905	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.96	135	1060	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.49	45	26427	1.563	ng	100
11) Acetonitrile	6.80	41	2770	N.D.		
12) Acrolein	6.98	56	1192	N.D.		
13) Acetone	7.19	58	43963	2.833	ng	94
14) Trichlorofluoromethane	7.43	101	24440	0.734	ng	99
15) 2-Propanol (Isopropanol)	7.68	45	26610	0.500	ng	93
16) Acrylonitrile	8.18	53	826	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.66	59	947	N.D.		
19) Methylene Chloride	8.61	84	4648	N.D.		
20) 3-Chloro-1-propene (Al...	8.70	41	106	N.D.		
21) Trichlorotrifluoroethane	9.03	151	5246	N.D.		
22) Carbon Disulfide	8.90	76	3996	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.36	86	522	N.D.		
27) 2-Butanone (MEK)	10.66	72	4464	N.D.		
28) cis-1,2-Dichloroethene	11.15	61	184	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.46	61	2946	N.D.		
31) n-Hexane	11.43	57	3109	N.D.		
32) Chloroform	11.49	83	1543	N.D.		
34) Tetrahydrofuran (THF)	11.96	72	656	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.29	62	872	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.06	56	2140	No Calib	#	
41) Benzene	13.05	78	14959	N.D.		
42) Carbon Tetrachloride	13.20	117	7417	N.D.		
43) Cyclohexane	13.34	84	1115	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.21	57	6895	N.D.		
50) Methyl Methacrylate	14.47	100	215	N.D.		

Data File : I:\MS13\DATA\2022 03\01\03012239.D Vial: 8
Acq On : 2 Mar 2022 00:36 Operator: TZ
Sample : P2200741-001 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:57:54 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

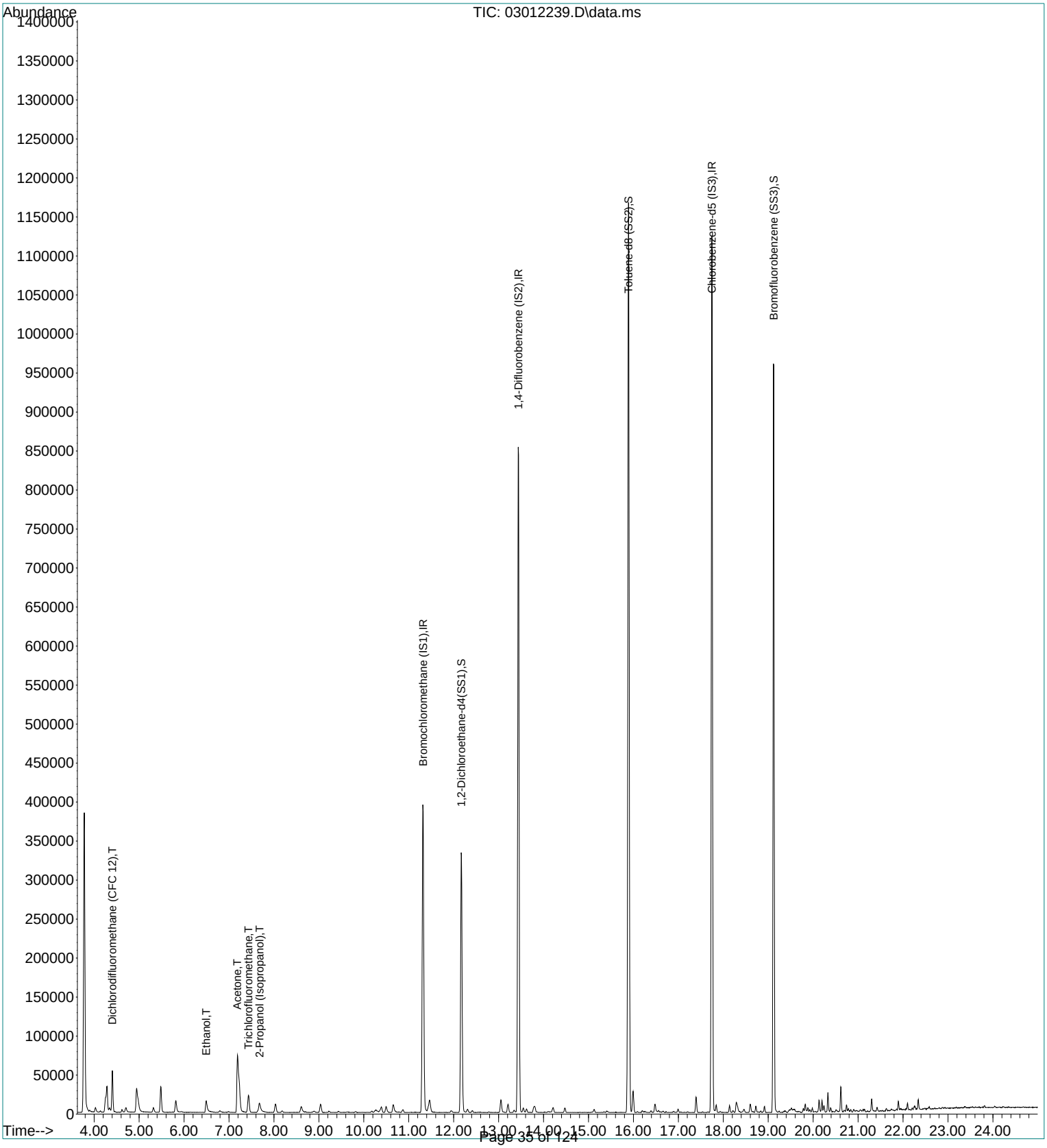
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	1533	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.99	91	22260	N.D.		
59) 2-Hexanone	16.25	43	1558	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.90	43	1711	N.D.		
63) n-Octane	16.99	57	900	N.D.		
64) Tetrachloroethene	17.13	166	264	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.14	91	7596	N.D.		
67) m- & p-Xylenes	18.29	91	11668	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.62	104	821	N.D.		
70) o-Xylene	18.72	91	4871	N.D.		
71) n-Nonane	18.91	43	2997	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.24	105	965	N.D.		
75) alpha-Pinene	19.59	93	1348	N.D.		
76) n-Propylbenzene	19.69	91	1553	N.D.		
77) 3-Ethyltoluene	19.88	105	1414	No Calib		
78) 4-Ethyltoluene	19.82	105	1431	N.D.		
79) 1,3,5-Trimethylbenzene	19.88	105	1414	N.D.		
80) alpha-Methylstyrene	20.02	118	119	No Calib		#
81) 2-Ethyltoluene	19.88	105	1414	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	3689	N.D.		
83) n-Decane	20.33	58	239	No Calib		#
84) Benzyl Chloride	20.36	91	423	N.D.		
85) 1,3-Dichlorobenzene	20.44	146	370	N.D.		
86) 1,4-Dichlorobenzene	20.44	146	370	N.D.		
87) sec-Butylbenzene	20.47	105	168	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	17813	N.D.		
89) 1,2,3-Trimethylbenzene	20.61	105	1563	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.74	68	2444	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.42	57	2044	No Calib		
94) 1,2,4-Trichlorobenzene	22.25	180	515	N.D.		
95) Naphthalene	22.35	128	1697	N.D.		
96) n-Dodecane	22.34	57	4125	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.33	55	182	No Calib		#
99) tert-Butylbenzene	20.24	119	430	N.D.		
100) n-Butylbenzene	20.97	91	652	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012239.D Vial: 8
Acq On : 2 Mar 2022 00:36 Operator: TZ
Sample : P2200741-001 (1000mL) Inst : GCMS13
Misc : S35-02242201

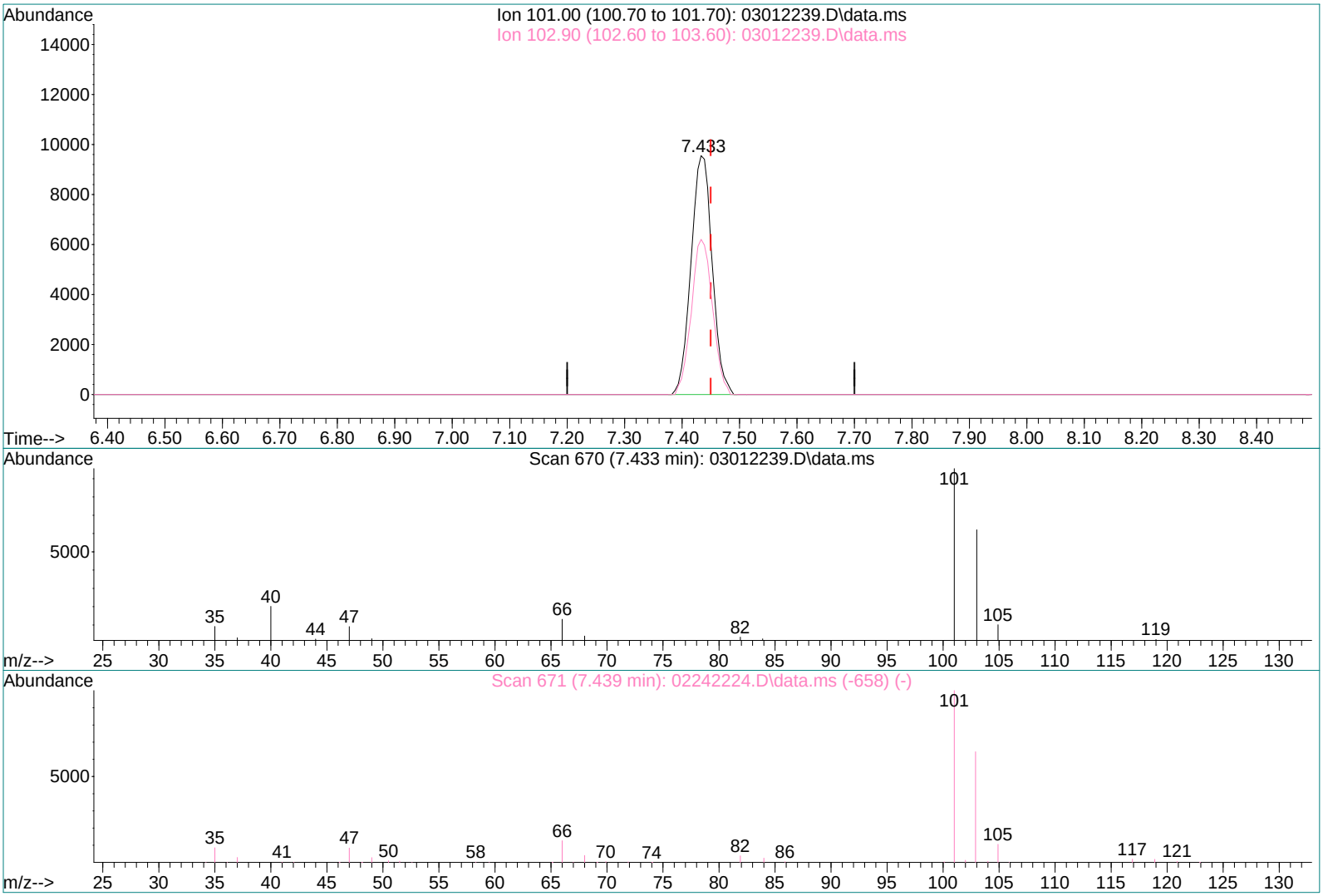
Quant Time: Mar 02 07:57:54 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 03\01\03012239.D Vial: 8
Acq On : 2 Mar 2022 00:36 Operator: TZ
Sample : P2200741-001 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:57:54 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03012239.D\data.ms

(14) Trichlorofluoromethane (T)

7.433min (-0.017) 0.73ng

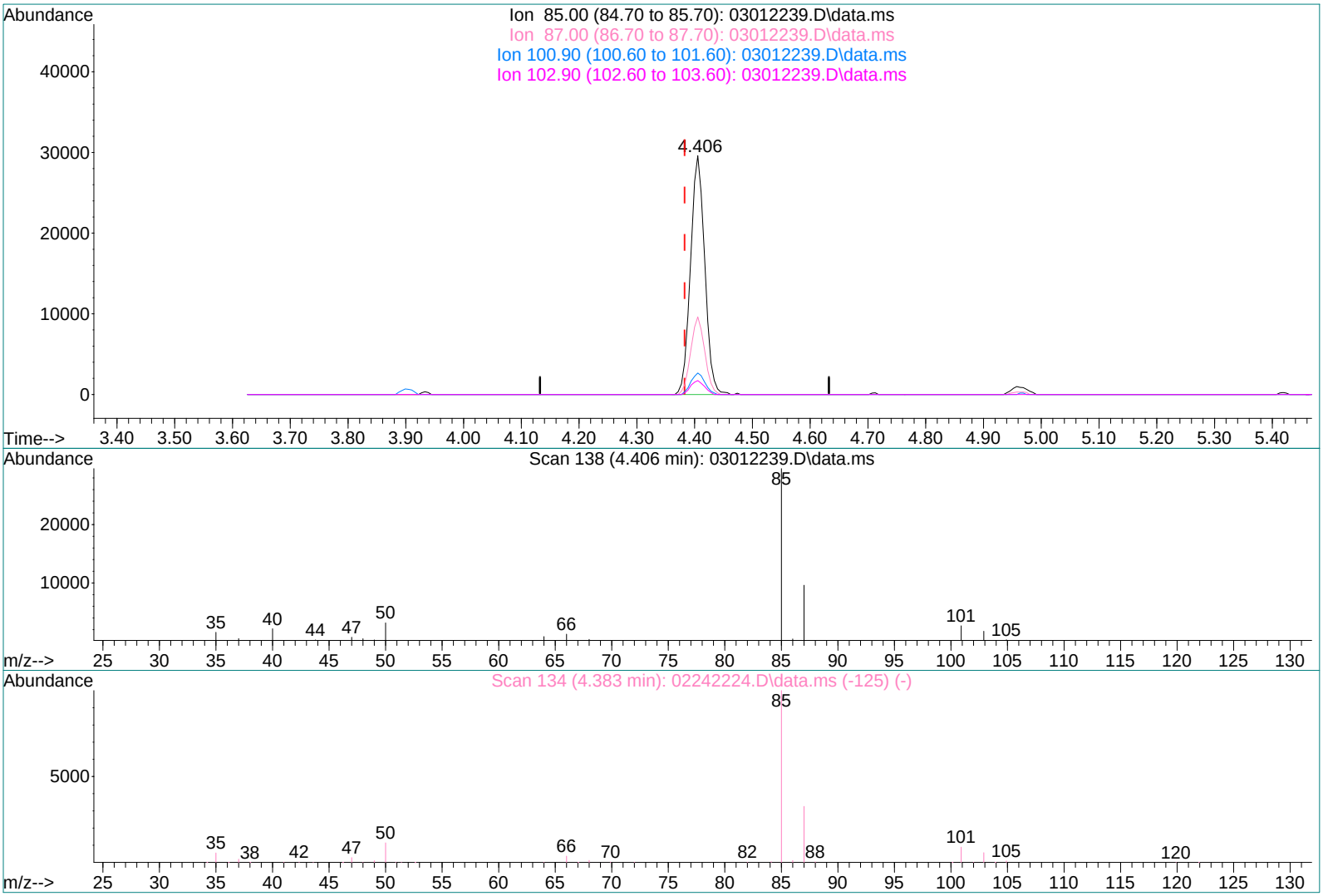
response 24440

Ion	Exp%	Act%
101.00	100	100
102.90	64.50	65.05
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 03\01\03012239.D Vial: 8
Acq On : 2 Mar 2022 00:36 Operator: TZ
Sample : P2200741-001 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:57:54 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03012239.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

4.406min (+0.023) 1.34ng

response 50611

Ion	Exp%	Act%
85.00	100	100
87.00	32.40	32.01
100.90	8.90	8.87
102.90	5.70	5.65

Quantitation Report (QT Reviewed)

TZ 3/2/22

Data File : I:\MS13\DATA\2022 03\01\03012240.D Vial: 9
Acq On : 2 Mar 2022 1:10 Operator: TZ
Sample : P2200741-002 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:57:57 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	181926	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.44	114	813639	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.75	54	152132	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	273171	11.279	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%			
57) Toluene-d8 (SS2)	15.89	98	948982	12.454	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%			
73) Bromofluorobenzene (SS3)	19.12	174	308319	13.977	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.84%			
Target Compounds						Qvalue
2) Propene	4.27	42	4619	N.D.		
3) Dichlorodifluoromethan...	4.41	85	48225	1.282	ng	100
4) Chloromethane	4.70	50	6603	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.95	135	1044	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.82	94	236	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.49	45	25325	1.502	ng	99
11) Acetonitrile	6.78	41	2788	N.D.		
12) Acrolein	6.99	56	1528	N.D.		
13) Acetone	7.19	58	46112	2.978	ng	92
14) Trichlorofluoromethane	7.43	101	23345	0.702	ng	99
15) 2-Propanol (Isopropanol)	7.68	45	17775	N.D.		
16) Acrylonitrile	8.19	53	541	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.63	59	706	N.D.		
19) Methylene Chloride	8.61	84	4403	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.04	151	4785	N.D.		
22) Carbon Disulfide	8.88	76	7741	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.35	86	659	N.D.		
27) 2-Butanone (MEK)	10.66	72	4271	N.D.		
28) cis-1,2-Dichloroethene	11.15	61	477	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.46	61	11651	1.414	ng	94
31) n-Hexane	11.43	57	2484	N.D.		
32) Chloroform	11.49	83	1463	N.D.		
34) Tetrahydrofuran (THF)	11.95	72	437	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.29	62	891	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.06	56	1962	No Calib	#	
41) Benzene	13.05	78	13902	N.D.		
42) Carbon Tetrachloride	13.20	117	6941	N.D.		
43) Cyclohexane	13.35	84	554	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.22	57	5887	N.D.		
50) Methyl Methacrylate	14.47	100	108	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012240.D Vial: 9
Acq On : 2 Mar 2022 1:10 Operator: TZ
Sample : P2200741-002 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:57:57 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

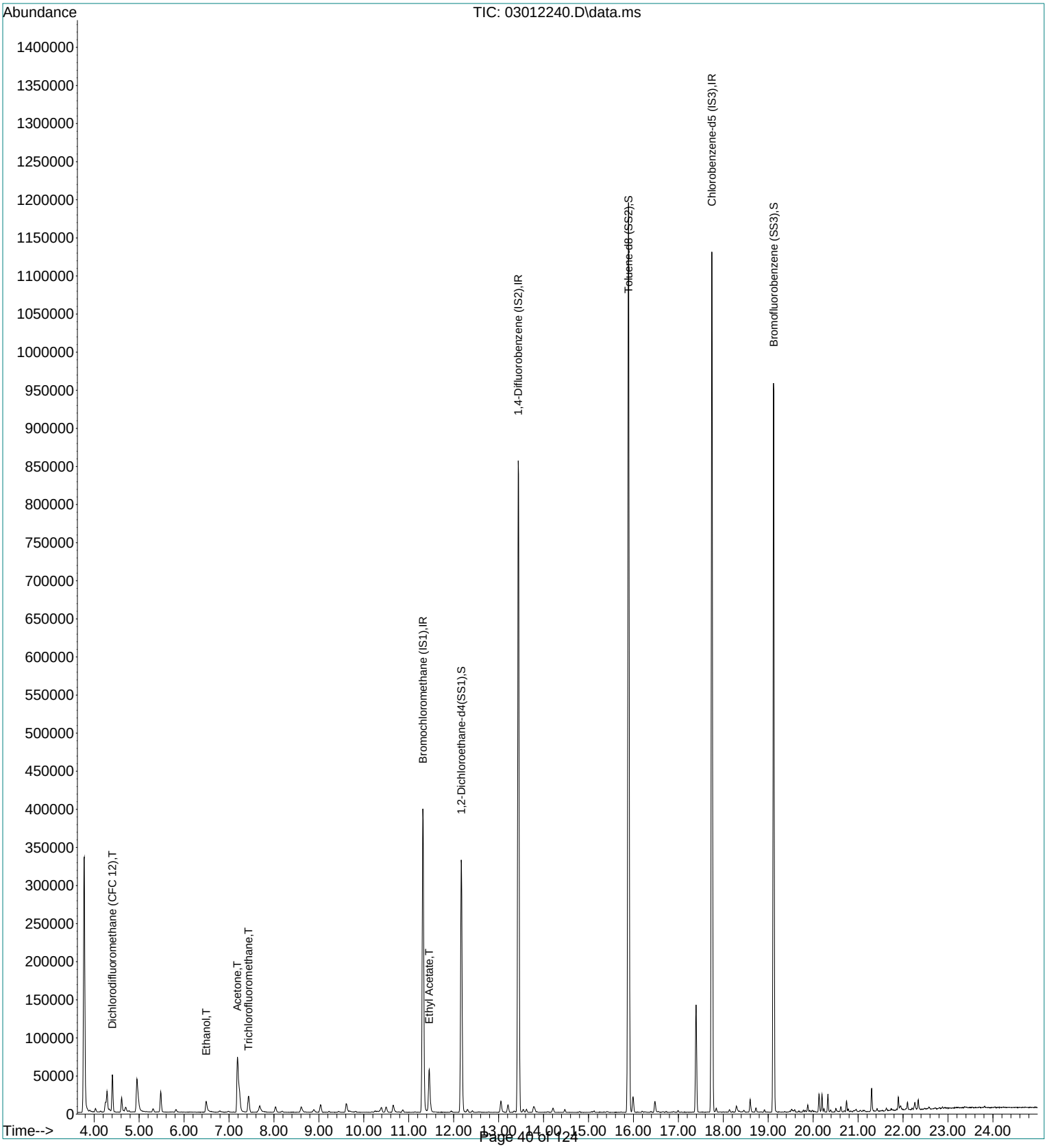
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	938	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	15.07	58	129	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.99	91	16841	N.D.		
59) 2-Hexanone	16.27	43	1333	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.89	43	1546	N.D.		
63) n-Octane	16.99	57	434	N.D.		
64) Tetrachloroethene	17.13	166	244	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.14	91	3551	N.D.		
67) m- & p-Xylenes	18.29	91	7265	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.63	104	483	N.D.		
70) o-Xylene	18.72	91	2959	N.D.		
71) n-Nonane	18.91	43	1363	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.25	105	181	N.D.		
75) alpha-Pinene	19.59	93	1274	N.D.		
76) n-Propylbenzene	19.69	91	1195	N.D.		
77) 3-Ethyltoluene	19.89	105	817	No Calib		
78) 4-Ethyltoluene	19.82	105	1020	N.D.		
79) 1,3,5-Trimethylbenzene	19.89	105	817	N.D.		
80) alpha-Methylstyrene	20.02	118	372	No Calib		#
81) 2-Ethyltoluene	19.89	105	817	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	2668	N.D.		
83) n-Decane	20.13	58	175	No Calib		#
84) Benzyl Chloride	20.36	91	247	N.D.		
85) 1,3-Dichlorobenzene	20.44	146	129	N.D.		
86) 1,4-Dichlorobenzene	20.44	146	129	N.D.		
87) sec-Butylbenzene	20.62	105	754	N.D.		
88) 4-Isopropyltoluene (p-...	20.62	119	3945	N.D.		
89) 1,2,3-Trimethylbenzene	20.62	105	754	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.74	68	3631	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.42	57	1472	No Calib		
94) 1,2,4-Trichlorobenzene	22.25	180	322	N.D.		
95) Naphthalene	22.36	128	1239	N.D.		
96) n-Dodecane	22.34	57	4079	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.21	55	135	No Calib		#
99) tert-Butylbenzene	20.24	119	311	N.D.		
100) n-Butylbenzene	20.96	91	799	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012240.D Vial: 9
Acq On : 2 Mar 2022 1:10 Operator: TZ
Sample : P2200741-002 (1000mL) Inst : GCMS13
Misc : S35-02242201

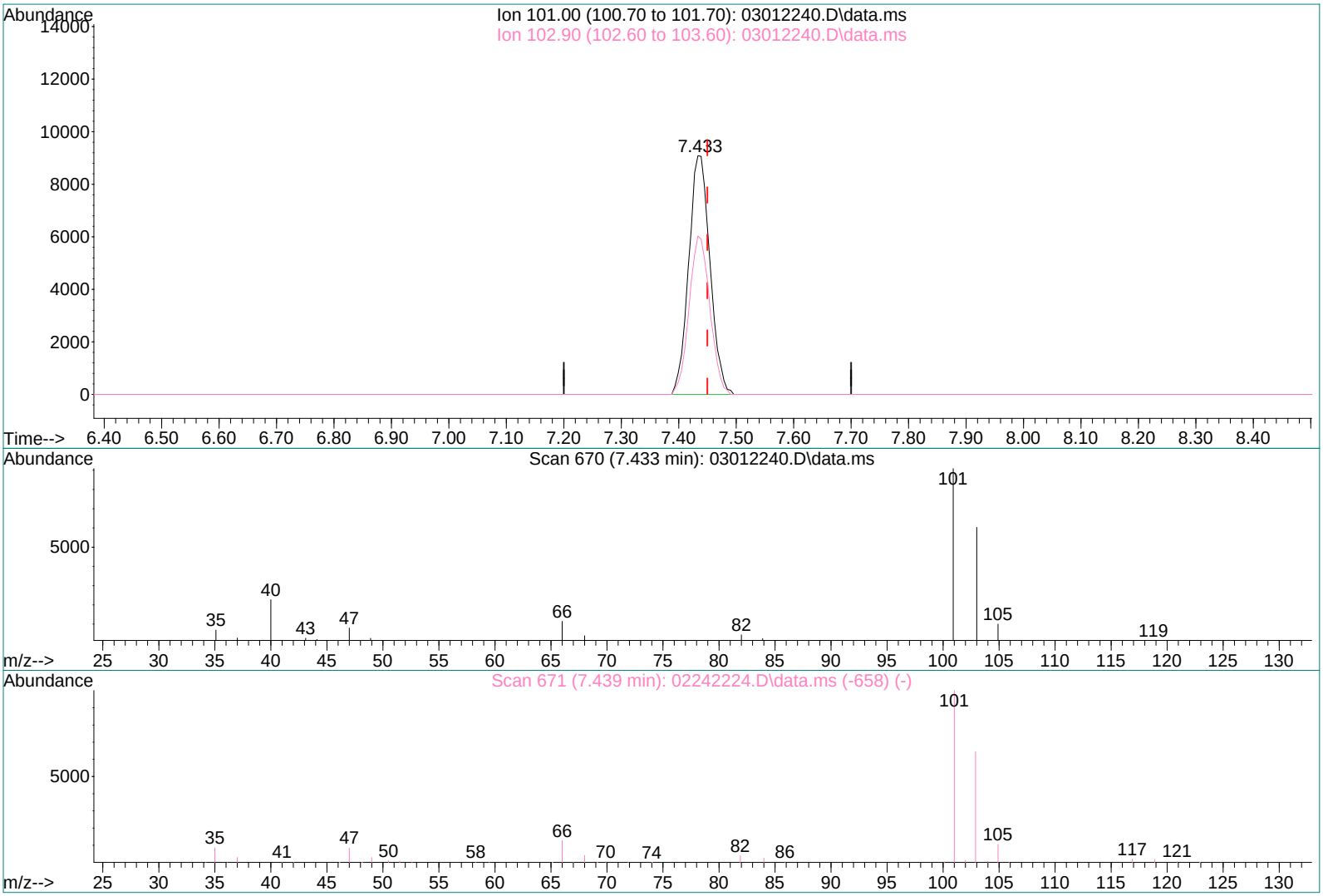
Quant Time: Mar 02 07:57:57 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 03\01\03012240.D Vial: 9
Acq On : 2 Mar 2022 1:10 Operator: TZ
Sample : P2200741-002 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:57:57 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03012240.D\data.ms

(14) Trichlorofluoromethane (T)

7.433min (-0.017) 0.70ng

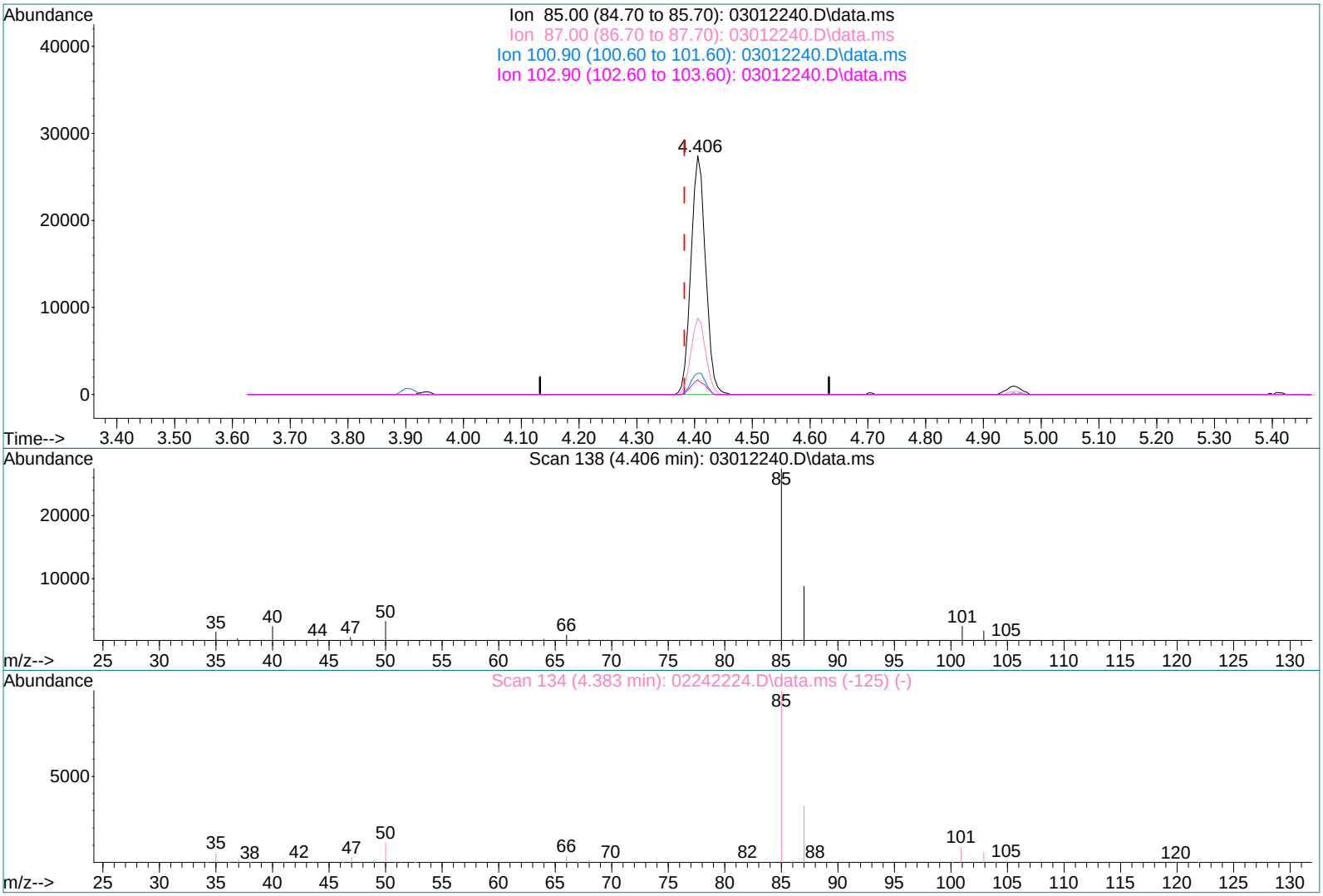
response 23345

Ion	Exp%	Act%
101.00	100	100
102.90	64.50	64.90
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 03\01\03012240.D Vial: 9
Acq On : 2 Mar 2022 1:10 Operator: TZ
Sample : P2200741-002 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:57:57 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03012240.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

4.406min (+0.023) 1.28ng

response 48225

Ion	Exp%	Act%
85.00	100	100
87.00	32.40	32.36
100.90	8.90	8.89
102.90	5.70	5.85

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012241.D Vial: 10
Acq On : 2 Mar 2022 1:44 Operator: TZ
Sample : P2200741-003 (1000mL) Inst : GCMS13
Misc : S35-02242201

TZ 3/2/22

Quant Time: Mar 02 10:43:12 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	178216	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.44	114	798517	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	148961	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	266582	11.236	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.92%				
57) Toluene-d8 (SS2)	15.89	98	931230	12.481	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	19.12	174	301700	13.968	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.76%				
Target Compounds							Qvalue
2) Propene	4.26	42	5099	N.D.			
3) Dichlorodifluoromethan...	4.41	85	48772	1.323	ng		100
4) Chloromethane	4.70	50	5913	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.96	135	1140	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.49	45	25973	1.572	ng		99
11) Acetonitrile	6.80	41	2921	N.D.			
12) Acrolein	6.97	56	6239	0.475	ng		97
13) Acetone	7.18	58	67404m	4.444	ng		
14) Trichlorofluoromethane	7.43	101	23466	0.721	ng		99
15) 2-Propanol (Isopropanol)	7.68	45	19797	N.D.			
16) Acrylonitrile	8.18	53	973	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.61	59	1799	N.D.			
19) Methylene Chloride	8.61	84	4199	N.D.			
20) 3-Chloro-1-propene (Al...	8.60	41	241	N.D.			
21) Trichlorotrifluoroethane	9.04	151	4868	N.D.			
22) Carbon Disulfide	8.88	76	4060	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.35	86	4789	1.312	ng	#	11
27) 2-Butanone (MEK)	10.65	72	12584	0.942	ng		94
28) cis-1,2-Dichloroethene	11.14	61	896	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.46	61	6847	0.848	ng		94
31) n-Hexane	11.43	57	2512	N.D.			
32) Chloroform	11.49	83	1418	N.D.			
34) Tetrahydrofuran (THF)	11.94	72	415	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.29	62	858	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	13.04	56	5371	No Calib		#	
41) Benzene	13.05	78	13616	N.D.			
42) Carbon Tetrachloride	13.21	117	4207	N.D.			
43) Cyclohexane	13.34	84	757	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.14	130	923	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.21	57	5762	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012241.D Vial: 10
Acq On : 2 Mar 2022 1:44 Operator: TZ
Sample : P2200741-003 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 10:43:12 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

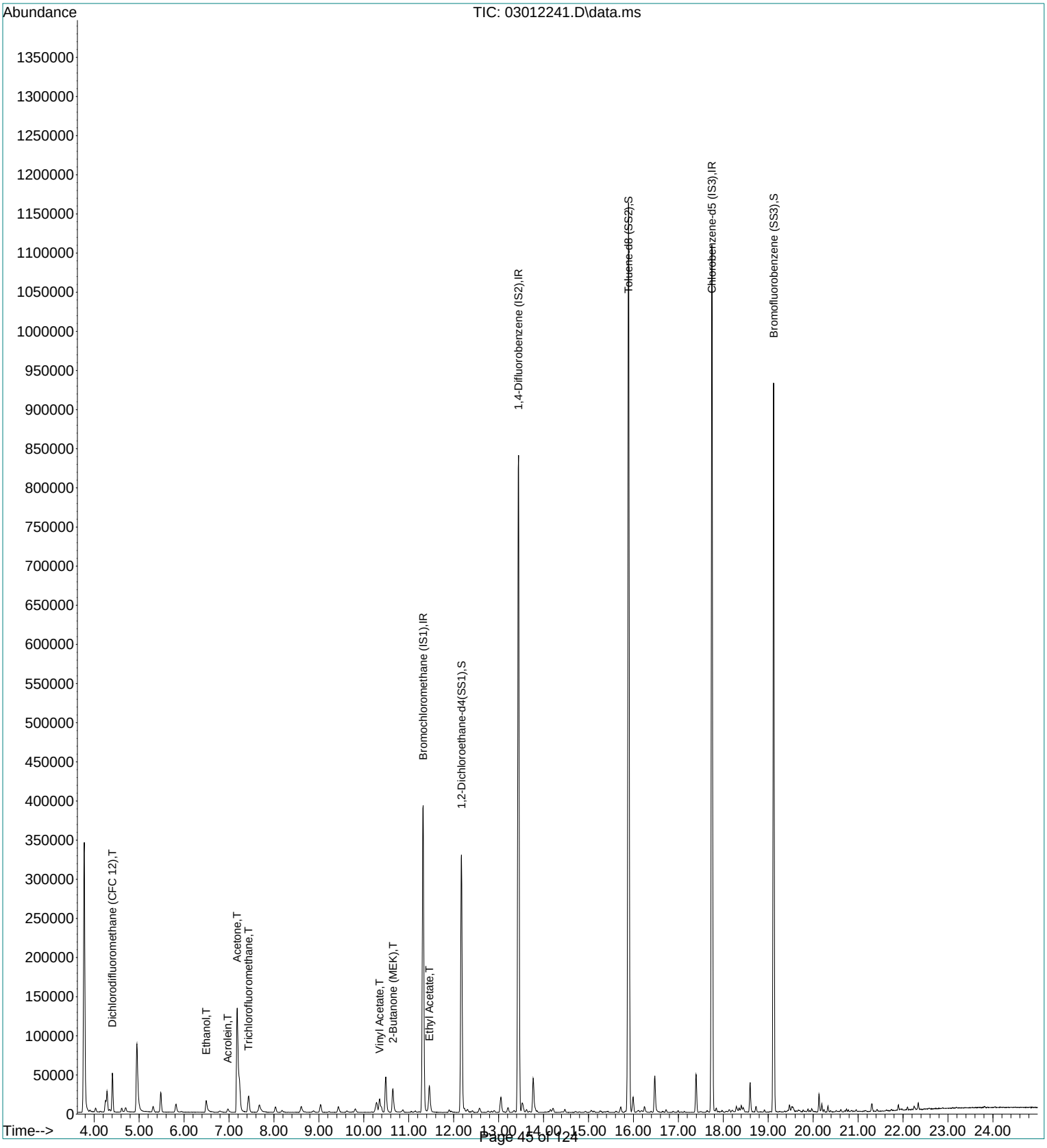
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	937	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	15.06	58	659	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.99	91	15663	N.D.		
59) 2-Hexanone	16.24	43	7354	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.89	43	1684	N.D.		
63) n-Octane	17.00	57	468	N.D.		
64) Tetrachloroethene	17.14	166	535	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.14	91	2909	N.D.		
67) m- & p-Xylenes	18.29	91	6332	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.62	104	502	N.D.		
70) o-Xylene	18.72	91	2322	N.D.		
71) n-Nonane	18.92	43	1409	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.73	83	152	N.D.		
74) Cumene	19.12	105	335	N.D.		
75) alpha-Pinene	19.59	93	645	N.D.		
76) n-Propylbenzene	19.69	91	1264	N.D.		
77) 3-Ethyltoluene	19.89	105	644	No Calib		
78) 4-Ethyltoluene	19.81	105	738	N.D.		
79) 1,3,5-Trimethylbenzene	19.89	105	644	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.89	105	644	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	1940	N.D.		
83) n-Decane	20.13	58	198	No Calib		#
84) Benzyl Chloride	20.36	91	130	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.62	105	424	N.D.		
88) 4-Isopropyltoluene (p-...	20.62	119	1485	N.D.		
89) 1,2,3-Trimethylbenzene	20.62	105	424	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.74	68	1187	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.43	57	895	No Calib		
94) 1,2,4-Trichlorobenzene	22.24	180	183	N.D.		
95) Naphthalene	22.35	128	824	N.D.		
96) n-Dodecane	22.34	57	2740	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.35	55	185	No Calib		#
99) tert-Butylbenzene	20.24	119	189	N.D.		
100) n-Butylbenzene	20.96	91	769	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012241.D Vial: 10
Acq On : 2 Mar 2022 1:44 Operator: TZ
Sample : P2200741-003 (1000mL) Inst : GCMS13
Misc : S35-02242201

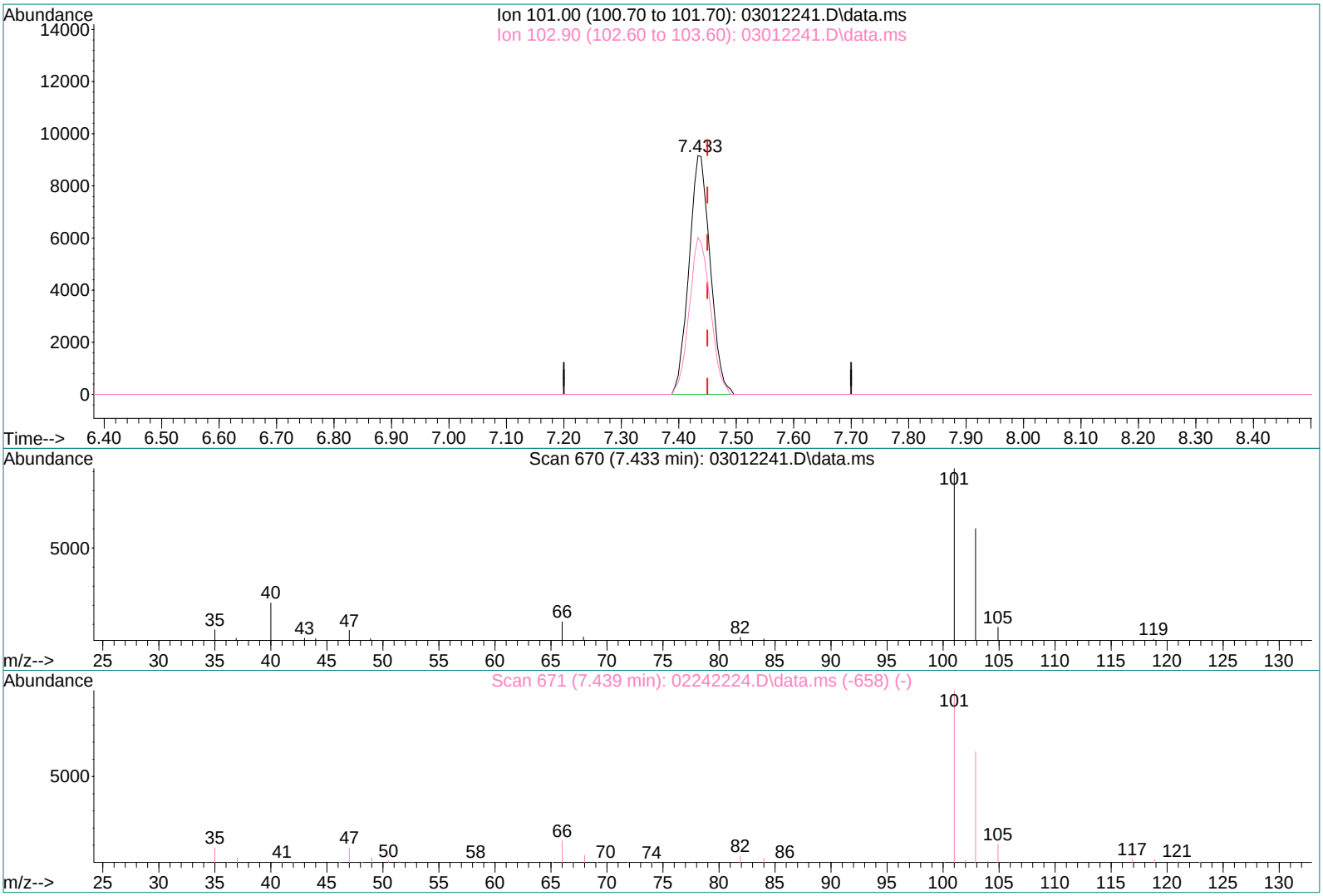
Quant Time: Mar 02 10:43:12 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 03\01\03012241.D Vial: 10
Acq On : 2 Mar 2022 1:44 Operator: TZ
Sample : P2200741-003 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:57:59 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03012241.D\data.ms

(14) Trichlorofluoromethane (T)

7.433min (-0.017) 0.72ng

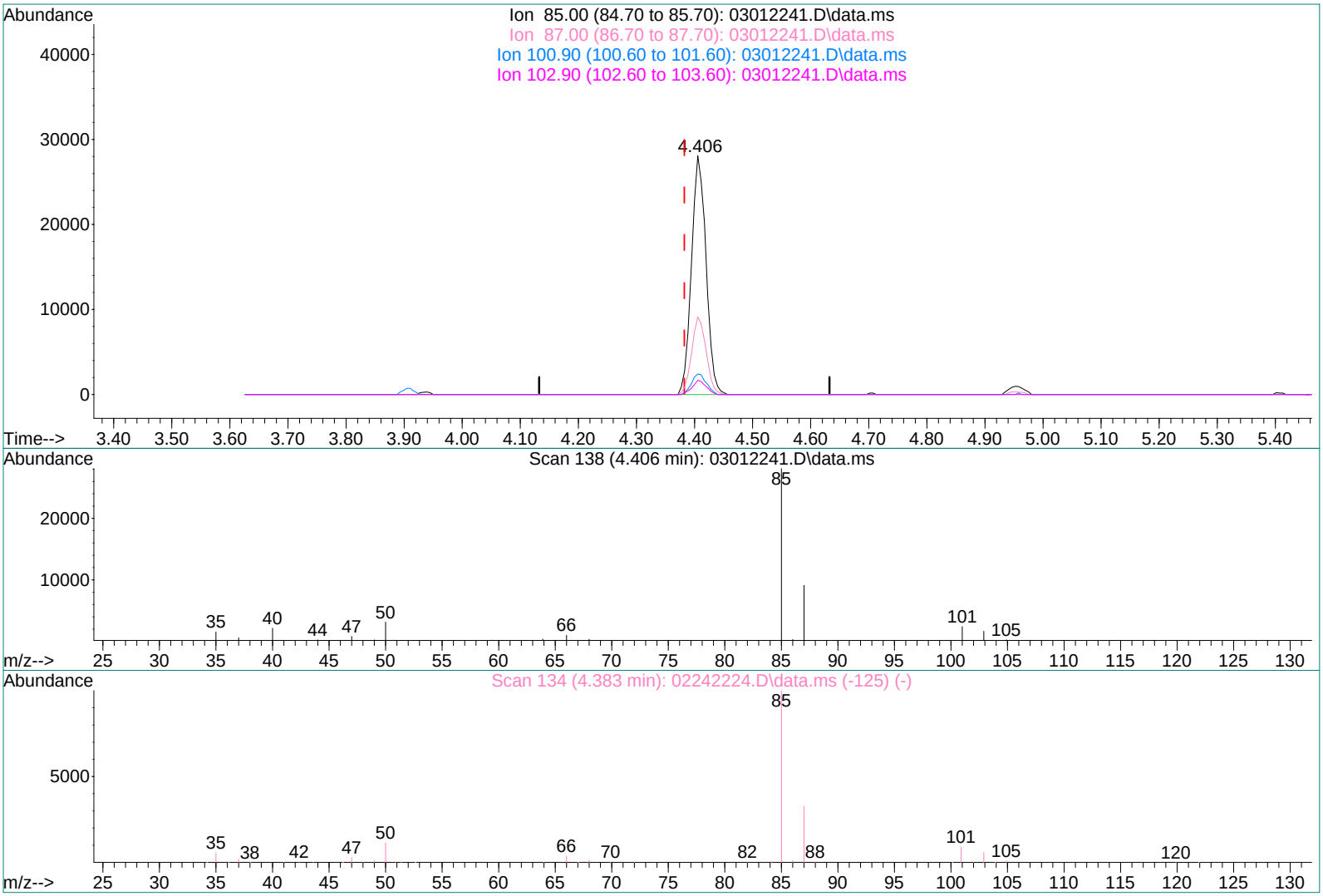
response 23466

Ion	Exp%	Act%
101.00	100	100
102.90	64.50	65.34
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 03\01\03012241.D Vial: 10
Acq On : 2 Mar 2022 1:44 Operator: TZ
Sample : P2200741-003 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:57:59 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03012241.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

4.406min (+0.023) 1.32ng

response 48772

Ion	Exp%	Act%
85.00	100	100
87.00	32.40	32.36
100.90	8.90	8.74
102.90	5.70	5.65

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012242.D Vial: 11
Acq On : 2 Mar 2022 2:17 Operator: TZ
Sample : P2200741-004 (1000mL) Inst : GCMS13
Misc : S35-02242201

TZ 3/2/22

Quant Time: Mar 02 07:58:01 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	178634	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.44	114	793143	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.75	54	149455	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	266921	11.224	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.76%			
57) Toluene-d8 (SS2)	15.89	98	925076	12.358	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%			
73) Bromofluorobenzene (SS3)	19.12	174	296792	13.695	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.60%			
Target Compounds						Qvalue
2) Propene	4.25	42	5354	N.D.		
3) Dichlorodifluoromethan...	4.40	85	48880	1.323	ng	99
4) Chloromethane	4.70	50	5832	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.96	135	1118	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.83	94	461	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.49	45	25720	1.553	ng	100
11) Acetonitrile	6.79	41	2456	N.D.		
12) Acrolein	6.98	56	1093	N.D.		
13) Acetone	7.18	58	55924	3.679	ng	95
14) Trichlorofluoromethane	7.43	101	23671	0.725	ng	98
15) 2-Propanol (Isopropanol)	7.67	45	33512	0.643	ng	94
16) Acrylonitrile	8.17	53	57	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.62	59	738	N.D.		
19) Methylene Chloride	8.61	84	4371	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.03	151	4684	N.D.		
22) Carbon Disulfide	8.89	76	5586	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	10.24	73	118	N.D.		
26) Vinyl Acetate	10.36	86	647	N.D.		
27) 2-Butanone (MEK)	10.65	72	3656	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.46	61	4557	0.563	ng	95
31) n-Hexane	11.43	57	2796	N.D.		
32) Chloroform	11.48	83	1570	N.D.		
34) Tetrahydrofuran (THF)	11.96	72	182	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.29	62	756	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.07	56	1386	No Calib	#	
41) Benzene	13.05	78	14564	N.D.		
42) Carbon Tetrachloride	13.21	117	7073	N.D.		
43) Cyclohexane	13.35	84	797	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.21	57	6382	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Data File : I:\MS13\DATA\2022 03\01\03012242.D Vial: 11
Acq On : 2 Mar 2022 2:17 Operator: TZ
Sample : P2200741-004 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:58:01 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

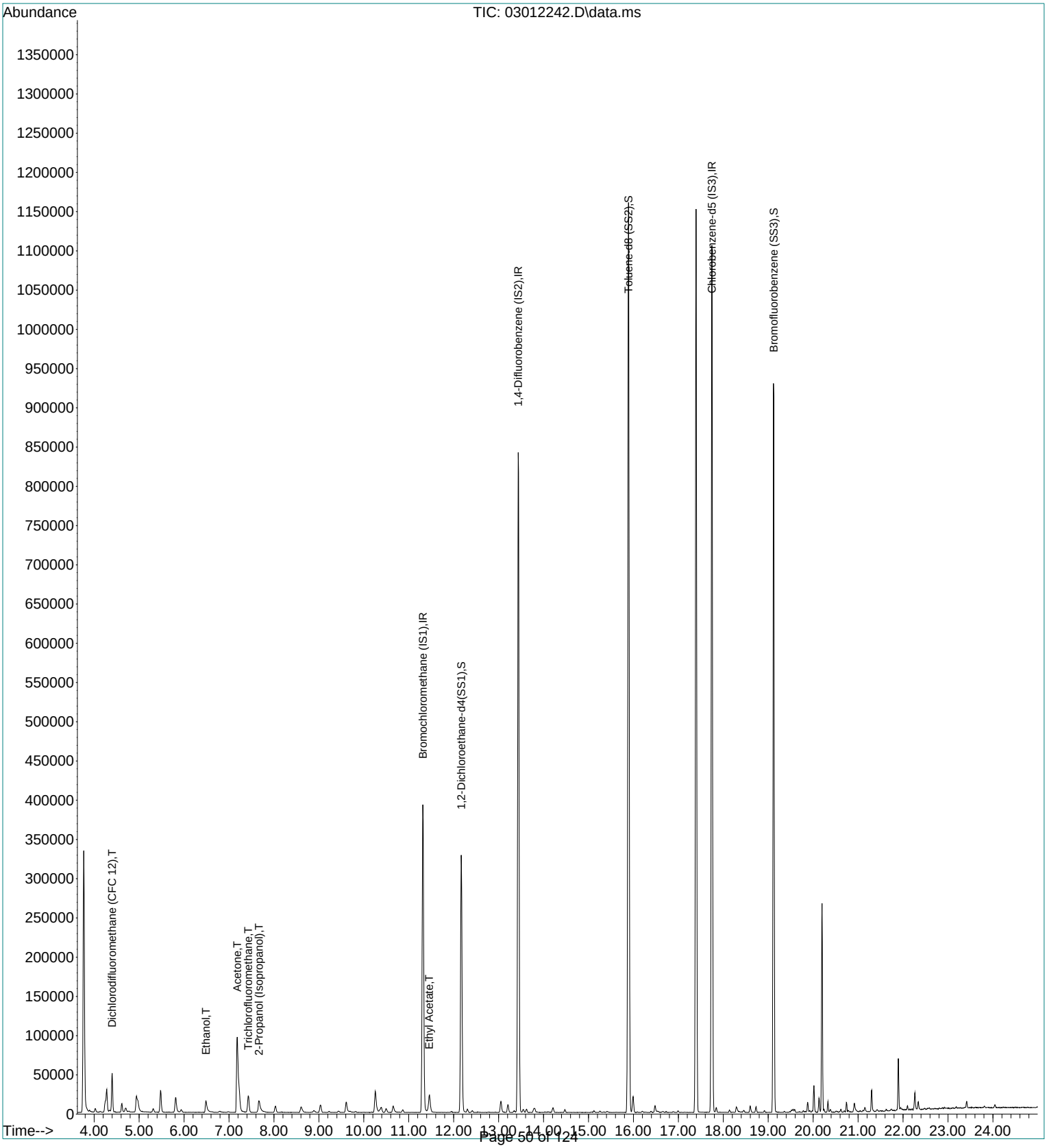
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	953	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.99	91	16361	N.D.		
59) 2-Hexanone	16.26	43	961	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.89	43	1234	N.D.		
63) n-Octane	16.99	57	420	N.D.		
64) Tetrachloroethene	17.14	166	117	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.14	91	3171	N.D.		
67) m- & p-Xylenes	18.29	91	6834	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.62	104	450	N.D.		
70) o-Xylene	18.72	91	2529	N.D.		
71) n-Nonane	18.92	43	1097	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.74	83	165	N.D.		
74) Cumene	19.25	105	163	N.D.		
75) alpha-Pinene	19.59	93	1752	N.D.		
76) n-Propylbenzene	19.69	91	847	N.D.		
77) 3-Ethyltoluene	19.88	105	643	No Calib		
78) 4-Ethyltoluene	19.81	105	961	N.D.		
79) 1,3,5-Trimethylbenzene	19.88	105	643	N.D.		
80) alpha-Methylstyrene	20.02	118	10391	No Calib		#
81) 2-Ethyltoluene	19.88	105	643	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	2394	N.D.		
83) n-Decane	20.02	58	723	No Calib		#
84) Benzyl Chloride	20.24	91	194	N.D.		
85) 1,3-Dichlorobenzene	20.44	146	199	N.D.		
86) 1,4-Dichlorobenzene	20.44	146	199	N.D.		
87) sec-Butylbenzene	20.61	105	625	N.D.		
88) 4-Isopropyltoluene (p-...	20.62	119	1912	N.D.		
89) 1,2,3-Trimethylbenzene	20.61	105	625	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.74	68	3047	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.42	57	1372	No Calib		
94) 1,2,4-Trichlorobenzene	22.25	180	173	N.D.		
95) Naphthalene	22.35	128	1093	N.D.		
96) n-Dodecane	22.34	57	3452	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.46	55	1026	No Calib		#
99) tert-Butylbenzene	20.20	119	4779	N.D.		
100) n-Butylbenzene	20.97	91	539	N.D.		
101) 1,1,1,2-Tetrachloroethane	17.71	131	112	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012242.D Vial: 11
Acq On : 2 Mar 2022 2:17 Operator: TZ
Sample : P2200741-004 (1000mL) Inst : GCMS13
Misc : S35-02242201

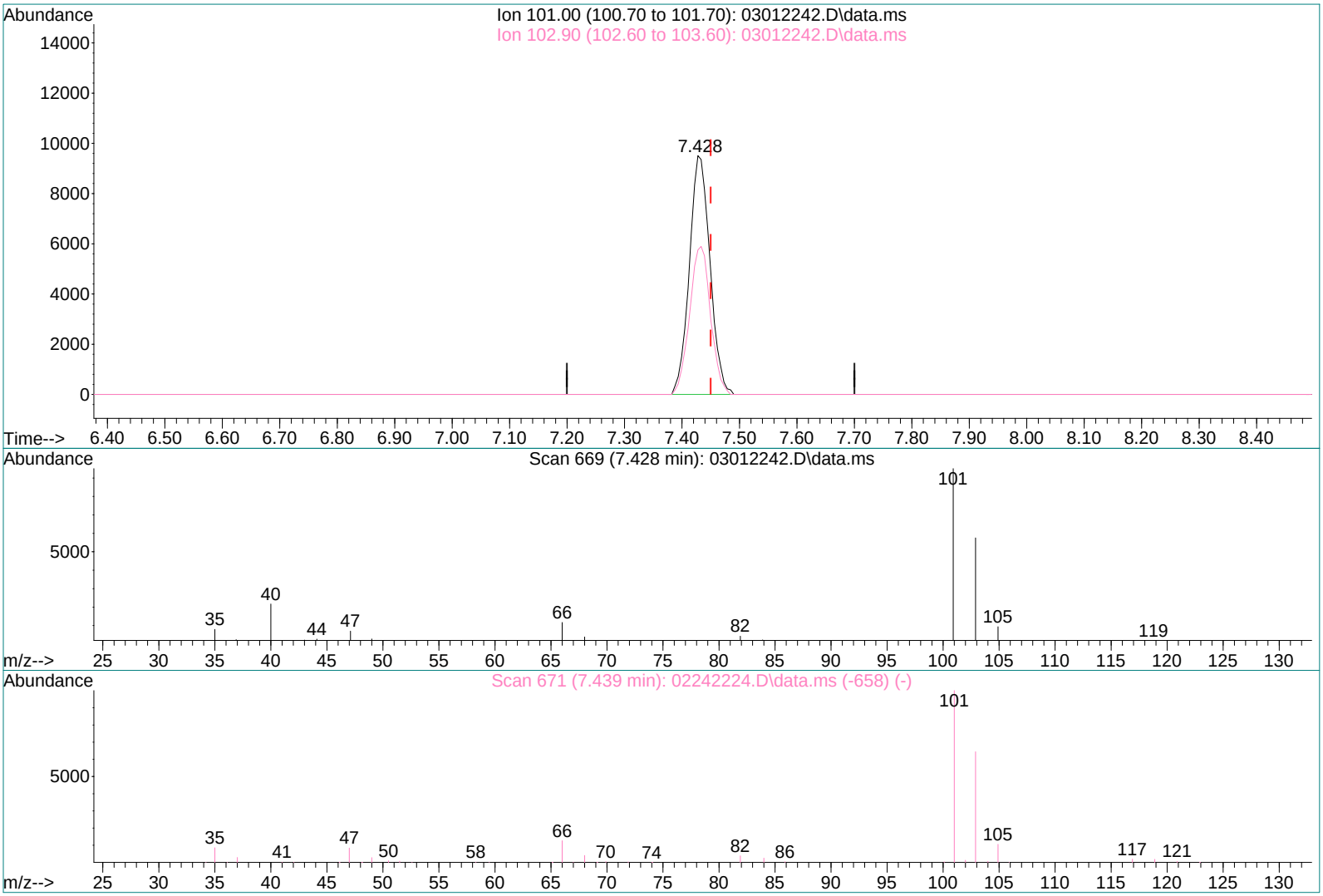
Quant Time: Mar 02 07:58:01 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 03\01\03012242.D Vial: 11
Acq On : 2 Mar 2022 2:17 Operator: TZ
Sample : P2200741-004 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:58:01 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03012242.D\data.ms

(14) Trichlorofluoromethane (T)

7.428min (-0.023) 0.73ng

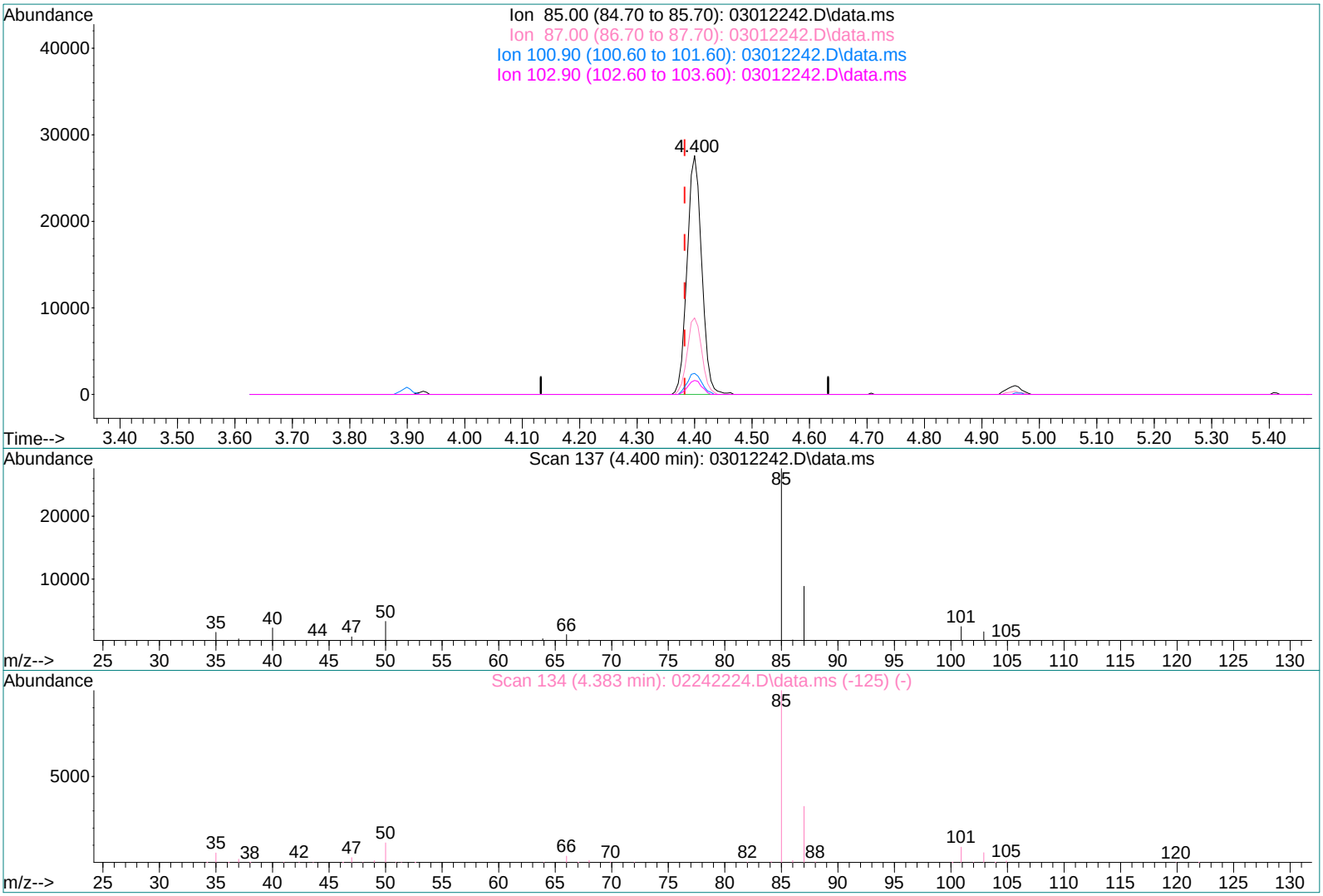
response 23671

Ion	Exp%	Act%
101.00	100	100
102.90	64.50	63.11
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 03\01\03012242.D Vial: 11
Acq On : 2 Mar 2022 2:17 Operator: TZ
Sample : P2200741-004 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:58:01 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03012242.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

4.400min (+0.017) 1.32ng

response 48880

Ion	Exp%	Act%
85.00	100	100
87.00	32.40	31.99
100.90	8.90	8.85
102.90	5.70	5.57

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012248.D Vial: 2
Acq On : 2 Mar 2022 9:25 Operator: TZ
Sample : P2200741-005 (1000mL) Inst : GCMS13
Misc : S35-02242201

TZ 3/2/22

Quant Time: Mar 02 10:39:56 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	186709	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.44	114	833253	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	152684	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	274453	11.042	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%			
57) Toluene-d8 (SS2)	15.89	98	966953	12.644	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%			
73) Bromofluorobenzene (SS3)	19.12	174	318612	14.391	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.12%			
Target Compounds						Qvalue
2) Propene	4.26	42	5966	N.D.		
3) Dichlorodifluoromethan...	4.40	85	48023	1.244	ng	100
4) Chloromethane	4.68	50	6147	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.96	135	1187	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.81	94	199	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.69	45	52	N.D.		
11) Acetonitrile	6.78	41	2886	N.D.		
12) Acrolein	6.98	56	1331	N.D.		
13) Acetone	7.19	58	53026	3.337	ng	94
14) Trichlorofluoromethane	7.44	101	23567	0.691	ng	98
15) 2-Propanol (Isopropanol)	7.68	45	16596	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.63	59	374	N.D.		
19) Methylene Chloride	8.61	84	4403	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.03	151	4894	N.D.		
22) Carbon Disulfide	8.89	76	18677	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.36	86	782	N.D.		
27) 2-Butanone (MEK)	10.65	72	5302	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.46	61	3571	N.D.		
31) n-Hexane	11.43	57	3127	N.D.		
32) Chloroform	11.49	83	1698	N.D.		
34) Tetrahydrofuran (THF)	11.94	72	639	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.29	62	842	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.04	56	2936	No Calib	#	
41) Benzene	13.05	78	14978	N.D.		
42) Carbon Tetrachloride	13.21	117	7066	N.D.		
43) Cyclohexane	13.34	84	709	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.21	57	6669	N.D.		
50) Methyl Methacrylate	14.48	100	106	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012248.D Vial: 2
Acq On : 2 Mar 2022 9:25 Operator: TZ
Sample : P2200741-005 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 10:39:56 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

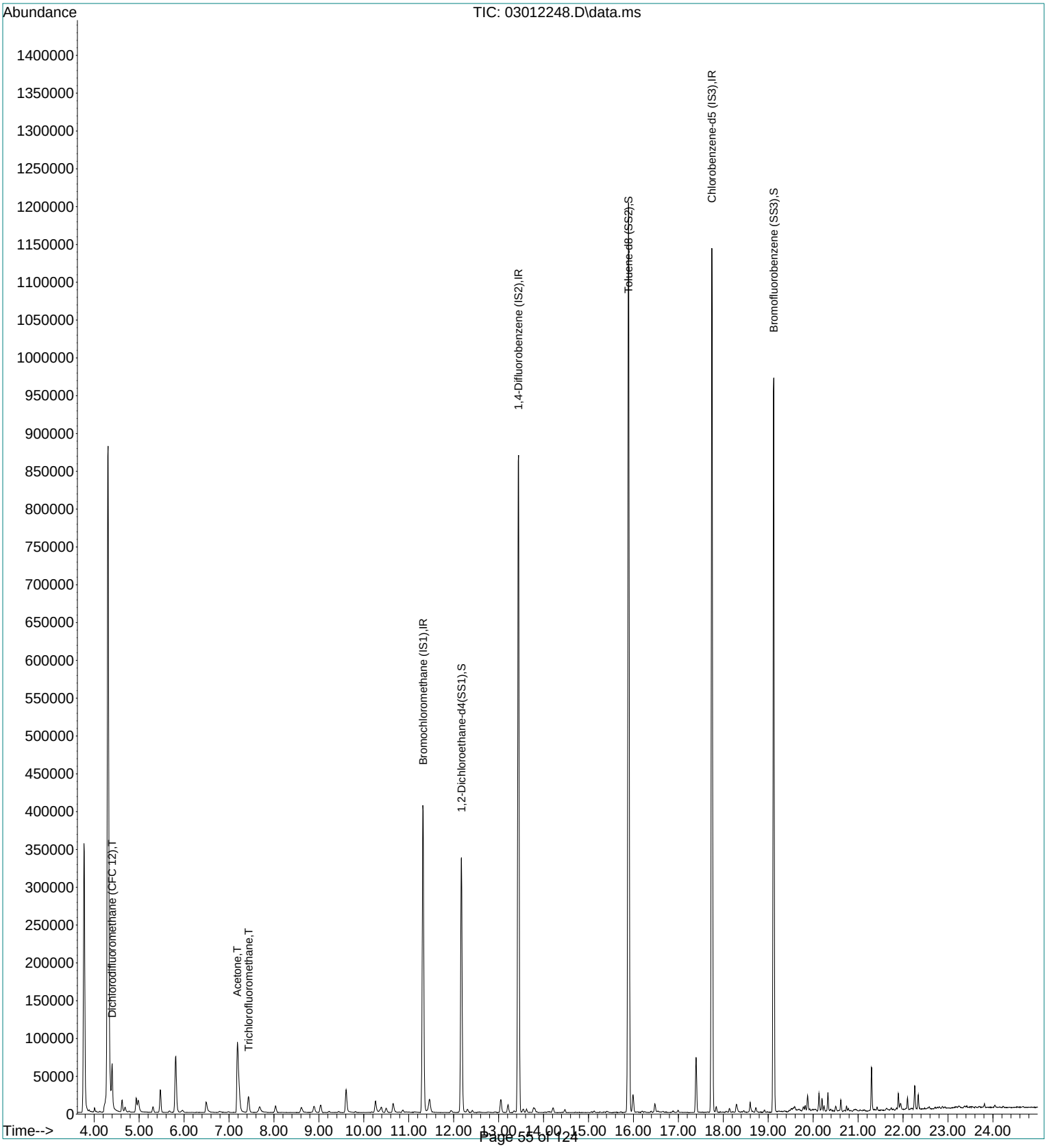
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.48	71	1094	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.99	91	21784	N.D.	
59) 2-Hexanone	16.25	43	1484	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.88	43	2232	N.D.	
63) n-Octane	16.99	57	709	N.D.	
64) Tetrachloroethene	17.14	166	214	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.13	91	5129	N.D.	
67) m- & p-Xylenes	18.30	91	9742	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.62	104	804	N.D.	
70) o-Xylene	18.72	91	3718	N.D.	
71) n-Nonane	18.91	43	1941	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.25	105	619	N.D.	
75) alpha-Pinene	19.59	93	1800	N.D.	
76) n-Propylbenzene	19.69	91	1914	N.D.	
77) 3-Ethyltoluene	19.89	105	1059	No Calib	
78) 4-Ethyltoluene	19.82	105	1650	N.D.	
79) 1,3,5-Trimethylbenzene	19.89	105	1059	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.89	105	1059	No Calib	
82) 1,2,4-Trimethylbenzene	20.24	105	3283	N.D.	
83) n-Decane	20.33	58	331	No Calib	#
84) Benzyl Chloride	20.36	91	782	N.D.	
85) 1,3-Dichlorobenzene	20.44	146	498	N.D.	
86) 1,4-Dichlorobenzene	20.44	146	498	N.D.	
87) sec-Butylbenzene	20.61	105	1094	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	8081	N.D.	
89) 1,2,3-Trimethylbenzene	20.61	105	1094	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.74	68	1670	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.42	57	1410	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.36	128	1213	N.D.	
96) n-Dodecane	22.34	57	6474	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.20	55	449	No Calib	#
99) tert-Butylbenzene	20.24	119	964	N.D.	
100) n-Butylbenzene	20.96	91	818	N.D.	
101) 1,1,1,2-Tetrachloroethane	17.71	131	114	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012248.D Vial: 2
Acq On : 2 Mar 2022 9:25 Operator: TZ
Sample : P2200741-005 (1000mL) Inst : GCMS13
Misc : S35-02242201

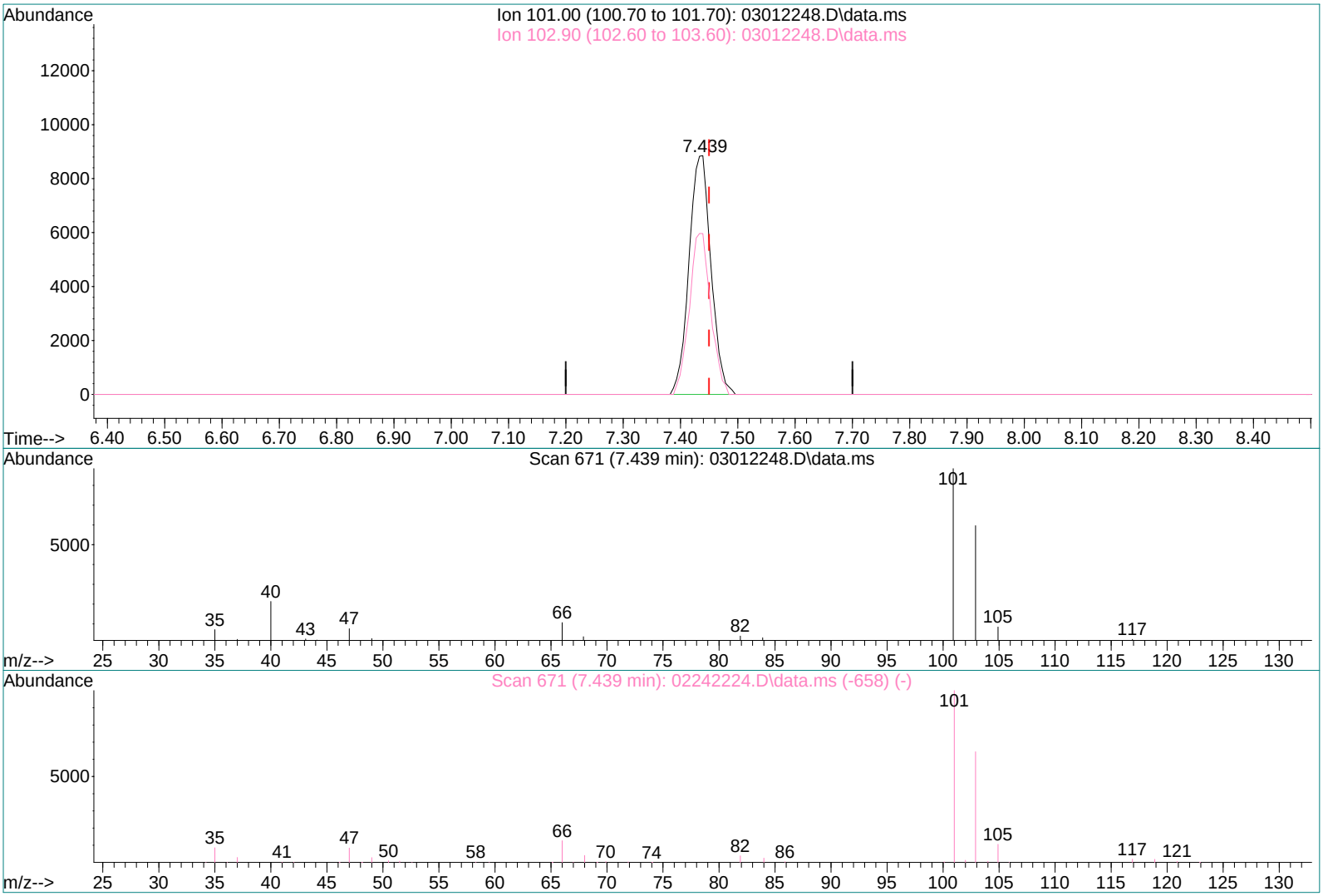
Quant Time: Mar 02 10:39:56 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 03\01\03012248.D Vial: 2
Acq On : 2 Mar 2022 9:25 Operator: TZ
Sample : P2200741-005 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 10:39:56 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03012248.D\data.ms

(14) Trichlorofluoromethane (T)

7.439min (-0.011) 0.69ng

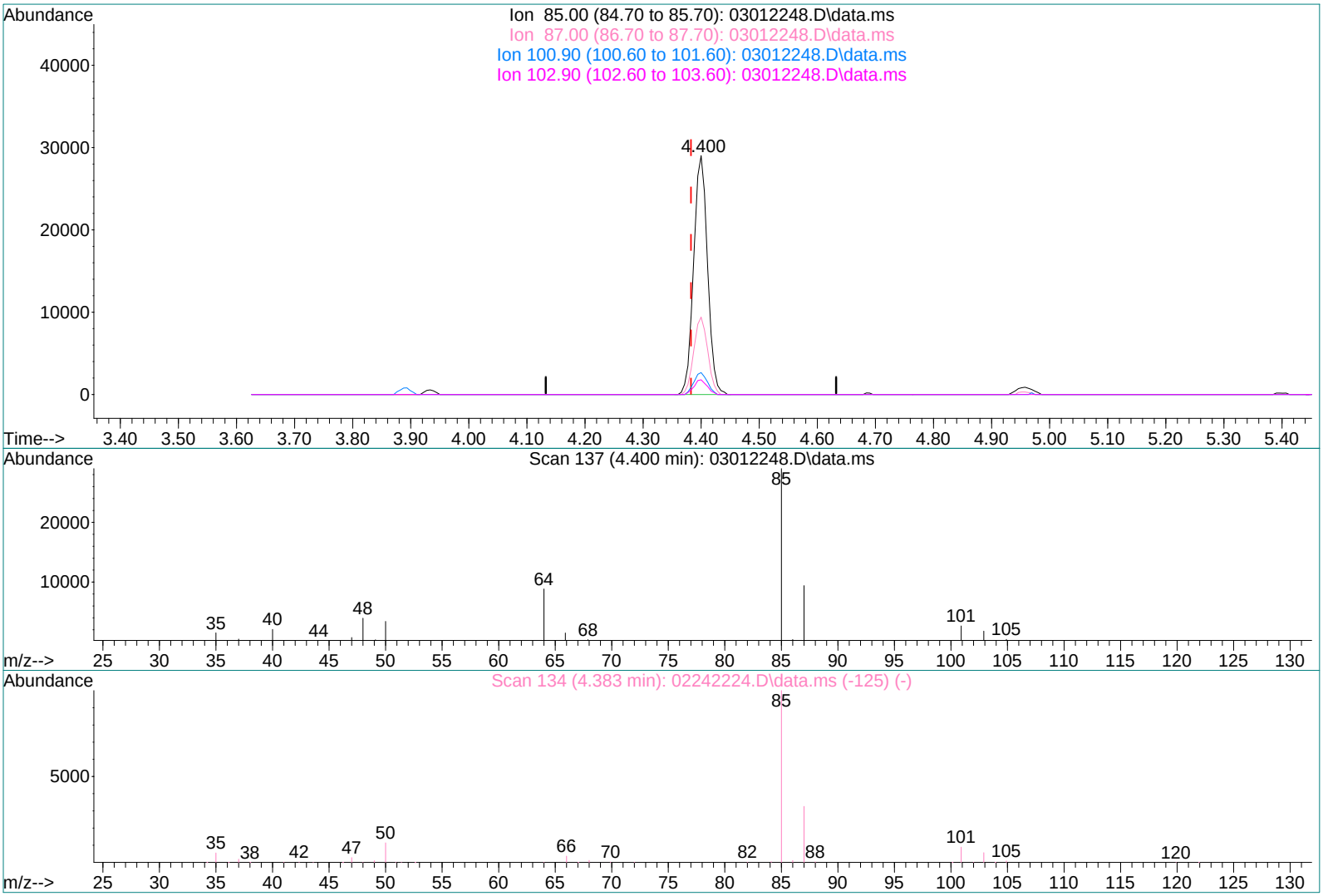
response 23567

Ion	Exp%	Act%
101.00	100	100
102.90	64.50	65.73
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 03\01\03012248.D Vial: 2
Acq On : 2 Mar 2022 9:25 Operator: TZ
Sample : P2200741-005 (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 10:39:56 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03012248.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

4.400min (+0.017) 1.24ng

response 48023

Ion	Exp%	Act%
85.00	100	100
87.00	32.40	32.59
100.90	8.90	8.92
102.90	5.70	5.86

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012233.D Vial: 1
Acq On : 1 Mar 2022 21:13 Operator: TZ
Sample : MB2 R13030122 1000mL Inst : GCMS13
Misc : S35-02242201_AC01837

TZ 3/2/22

Quant Time: Mar 02 07:57:39 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	183070	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.44	114	815320	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.75	54	153641	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	284619	11.678	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
57) Toluene-d8 (SS2)	15.89	98	951305	12.362	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
73) Bromofluorobenzene (SS3)	19.12	174	314094	14.099	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.80%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	4.32	85	193	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.53	45	1005	0.059	ng	#	66
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.23	58	3032	0.195	ng	#	82
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.73	45	497	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.91	76	3171	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.06	78	354	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.43	84	514	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012233.D Vial: 1
Acq On : 1 Mar 2022 21:13 Operator: TZ
Sample : MB2 R13030122 1000mL Inst : GCMS13
Misc : S35-02242201_AC01837

Quant Time: Mar 02 07:57:39 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

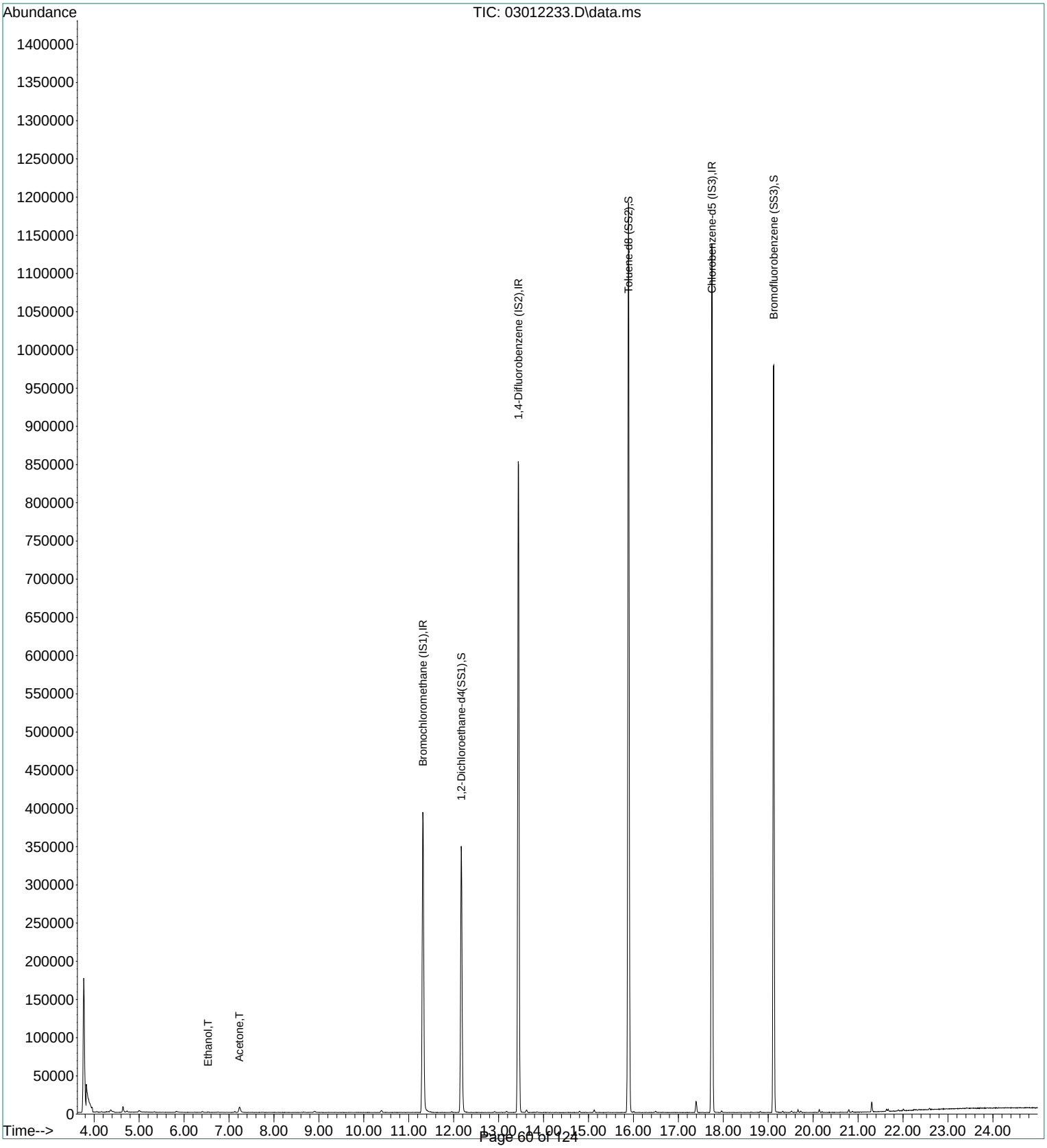
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.99	91	127	N.D.	
59) 2-Hexanone	16.49	43	476	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.96	91	846	N.D.	
67) m- & p-Xylenes	0.00	91	0	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	0.00	91	0	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.12	105	310	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.66	91	2713	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.36	91	296	N.D.	
85) 1,3-Dichlorobenzene	20.44	146	119	N.D.	
86) 1,4-Dichlorobenzene	20.44	146	119	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	2773	No Calib	#
94) 1,2,4-Trichlorobenzene	22.25	180	457	N.D.	
95) Naphthalene	22.35	128	1020	N.D.	
96) n-Dodecane	0.00	57	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	20.79	91	200	N.D.	
101) 1,1,1,2-Tetrachloroethane	17.77	131	569	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012233.D Vial: 1
Acq On : 1 Mar 2022 21:13 Operator: TZ
Sample : MB2 R13030122 1000mL Inst : GCMS13
Misc : S35-02242201_AC01837

Quant Time: Mar 02 07:57:39 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012234.D Vial: 1
Acq On : 1 Mar 2022 21:47 Operator: TZ
Sample : LCS2 R13030122 25ng Inst : GCMS13
Misc : S35-02242201/S35-02092204 (3/11)

TZ 3/2/22

Quant Time: Mar 02 07:57:42 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	191995	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.45	114	855891	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	162319	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.19	65	309738	12.118	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
57) Toluene-d8 (SS2)	15.90	98	1002540	12.331	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
73) Bromofluorobenzene (SS3)	19.12	174	338138	14.366	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%				
Target Compounds							Qvalue
2) Propene	4.22	42	492616	20.088	ng		100
3) Dichlorodifluoromethan...	4.38	85	787311	19.830	ng		100
4) Chloromethane	4.67	50	508485	17.665	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.94	135	396848	21.460	ng		100
6) Vinyl Chloride	5.09	62	646810	20.681	ng		100
7) 1,3-Butadiene	5.37	54	534480	20.835	ng		99
8) Bromomethane	5.82	94	358707	20.411	ng		100
9) Chloroethane	6.15	64	305300	20.242	ng		99
10) Ethanol	6.54	45	1465771	82.358	ng		100
11) Acetonitrile	6.80	41	802356	18.094	ng		100
12) Acrolein	6.98	56	572710	40.454	ng		100
13) Acetone	7.19	58	1599424	97.890	ng		98
14) Trichlorofluoromethane	7.43	101	688096	19.613	ng		100
15) 2-Propanol (Isopropanol)	7.69	45	2303477	41.139	ng		100
16) Acrylonitrile	7.96	53	1144235	40.005	ng		100
17) 1,1-Dichloroethene	8.40	96	410816	21.152	ng		97
18) 2-Methyl-2-Propanol (t...	8.57	59	1839614	38.543	ng		99
19) Methylene Chloride	8.63	84	436857	19.848	ng		96
20) 3-Chloro-1-propene (Al...	8.78	41	634955	19.812	ng		98
21) Trichlorotrifluoroethane	9.04	151	351910	21.159	ng		97
22) Carbon Disulfide	8.89	76	3076274	38.737	ng		100
23) trans-1,2-Dichloroethene	9.89	61	635160	20.762	ng		98
24) 1,1-Dichloroethane	10.15	63	782023	20.513	ng		100
25) Methyl tert-Butyl Ether	10.24	73	1235129	19.959	ng		99
26) Vinyl Acetate	10.40	86	451759	114.887	ng	#	88
27) 2-Butanone (MEK)	10.64	72	609252	42.319	ng		95
28) cis-1,2-Dichloroethene	11.16	61	612763	19.992	ng		98
29) Diisopropyl Ether	11.45	87	737189	40.586	ng	#	62
30) Ethyl Acetate	11.46	61	508209	58.450	ng		98
31) n-Hexane	11.44	57	751573	20.278	ng		100
32) Chloroform	11.50	83	756439	20.779	ng		99
34) Tetrahydrofuran (THF)	11.90	72	579744	40.118	ng		97
35) Ethyl tert-Butyl Ether	12.04	87	1073247	42.962	ng		97
36) 1,2-Dichloroethane	12.30	62	576949	20.082	ng		100
38) 1,1,1-Trichloroethane	12.58	97	670429	20.529	ng		99
39) Isopropyl Acetate	13.06	61	10111	No Calib		#	
40) 1-Butanol	13.03	56	10753	No Calib		#	
41) Benzene	13.06	78	1786248	20.692	ng		100
42) Carbon Tetrachloride	13.22	117	563287	20.164	ng		100
43) Cyclohexane	13.35	84	1346910	41.145	ng		98
44) tert-Amyl Methyl Ether	13.69	73	2627471	43.208	ng		99
45) 1,2-Dichloropropane	13.90	63	462085	20.297	ng		100
46) Bromodichloromethane	14.09	83	623348	21.097	ng		100
47) Trichloroethene	14.15	130	488164	21.465	ng		100
48) 1,4-Dioxane	14.12	88	376781	23.268	ng		98
49) 2,2,4-Trimethylpentane...	14.22	57	1942401	20.270	ng		99
50) Methyl Methacrylate	14.35	100	379317	45.732	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012234.D Vial: 1
Acq On : 1 Mar 2022 21:47 Operator: TZ
Sample : LCS2 R13030122 25ng Inst : GCMS13
Misc : S35-02242201/S35-02092204 (3/11)

Quant Time: Mar 02 07:57:42 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

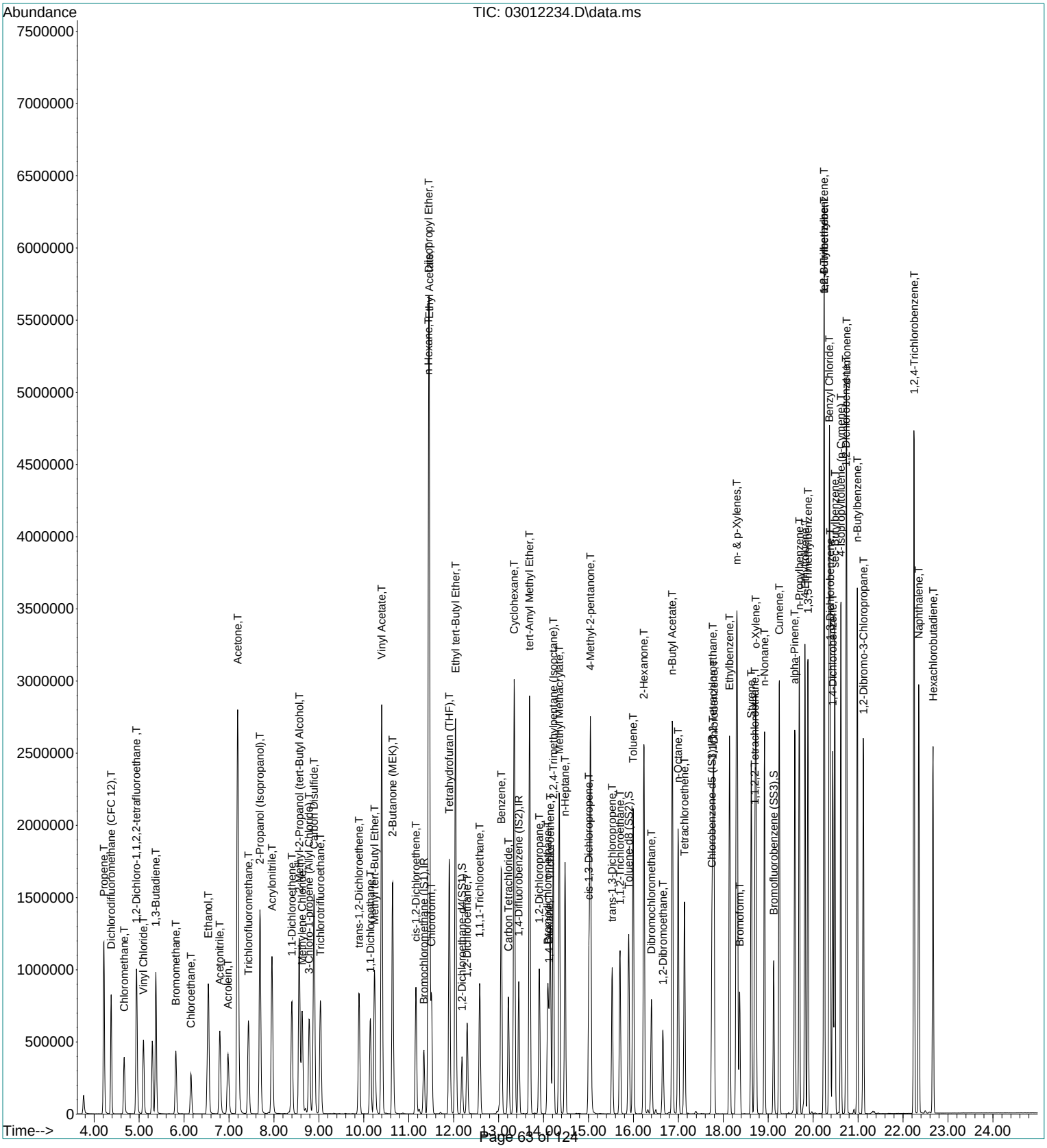
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.48	71	471188	20.907 ng		99
52) cis-1,3-Dichloropropene	15.01	75	748236	21.736 ng		100
53) 4-Methyl-2-pentanone	15.04	58	876610	45.048 ng		98
54) trans-1,3-Dichloropropene	15.53	75	679361	21.730 ng		100
55) 1,1,2-Trichloroethane	15.70	97	439246	20.974 ng		99
58) Toluene	15.99	91	1850637	19.986 ng		100
59) 2-Hexanone	16.23	43	2051508	43.454 ng		99
60) Dibromochloromethane	16.40	129	524762	20.786 ng		100
61) 1,2-Dibromoethane	16.66	107	498034	20.668 ng		100
62) n-Butyl Acetate	16.86	43	2335741	44.561 ng		99
63) n-Octane	16.99	57	411907	20.282 ng		98
64) Tetrachloroethene	17.14	166	529516	21.474 ng		100
65) Chlorobenzene	17.79	112	1216949	20.299 ng		100
66) Ethylbenzene	18.14	91	2123751	20.616 ng		99
67) m- & p-Xylenes	18.30	91	3313075	40.822 ng		99
68) Bromoform	18.37	173	465668	21.974 ng		100
69) Styrene	18.62	104	1300351	21.651 ng		99
70) o-Xylene	18.72	91	1697306	20.908 ng		99
71) n-Nonane	18.92	43	958202	20.873 ng		99
72) 1,1,2,2-Tetrachloroethane	18.70	83	810685	20.830 ng		100
74) Cumene	19.25	105	2115551	20.655 ng		99
75) alpha-Pinene	19.59	93	1117430	22.481 ng		100
76) n-Propylbenzene	19.69	91	2586889	20.826 ng		99
77) 3-Ethyltoluene	19.89	105	1779848	No Calib		
78) 4-Ethyltoluene	19.82	105	2122402	21.551 ng		100
79) 1,3,5-Trimethylbenzene	19.89	105	1779848	21.524 ng		99
80) alpha-Methylstyrene	19.88	118	12775	No Calib	#	
81) 2-Ethyltoluene	19.89	105	1779848	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	1821022	22.216 ng		100
83) n-Decane	20.24	58	92981	No Calib		
84) Benzyl Chloride	20.36	91	3081976	50.197 ng		99
85) 1,3-Dichlorobenzene	20.38	146	1056852	21.260 ng		100
86) 1,4-Dichlorobenzene	20.44	146	1052729	20.950 ng		100
87) sec-Butylbenzene	20.48	105	2400334	20.970 ng		99
88) 4-Isopropyltoluene (p-...	20.62	119	2052037	21.429 ng		99
89) 1,2,3-Trimethylbenzene	20.61	105	73960	No Calib		
90) 1,2-Dichlorobenzene	20.73	146	1013145	21.317 ng		100
91) d-Limonene	20.74	68	734353	22.060 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.12	157	785725	43.175 ng		95
93) n-Undecane	21.43	57	424	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	1638008	47.573 ng		100
95) Naphthalene	22.35	128	2401719	24.667 ng		100
96) n-Dodecane	22.34	57	1245	No Calib	#	
97) Hexachlorobutadiene	22.67	225	533752	21.312 ng		100
98) Cyclohexanone	18.29	55	2407	No Calib		
99) tert-Butylbenzene	20.24	119	1721576	21.368 ng		100
100) n-Butylbenzene	20.98	91	1961749	21.394 ng		100
101) 1,1,1,2-Tetrachloroethane	17.77	131	441670	20.289 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012234.D Vial: 1
Acq On : 1 Mar 2022 21:47 Operator: TZ
Sample : LCS2 R13030122 25ng Inst : GCMS13
Misc : S35-02242201/S35-02092204 (3/11)

Quant Time: Mar 02 07:57:42 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012235.D Vial: 1
Acq On : 1 Mar 2022 22:21 Operator: TZ
Sample : LCSD2 R13030122 25ng Inst : GCMS13
Misc : S35-02242201/S35-02092204 (3/11)

TZ 3/2/22

Quant Time: Mar 02 07:57:44 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	193964	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.45	114	863916	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	162479	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.19	65	309401	11.982	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	15.90	98	1006998	12.374	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
73) Bromofluorobenzene (SS3)	19.12	174	338460	14.366	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%				
Target Compounds							Qvalue
2) Propene	4.21	42	497550	20.083	ng		100
3) Dichlorodifluoromethan...	4.38	85	797326	19.878	ng		100
4) Chloromethane	4.67	50	516984	17.778	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.94	135	408002	21.839	ng		100
6) Vinyl Chloride	5.09	62	663793	21.009	ng		100
7) 1,3-Butadiene	5.37	54	543090	20.956	ng		99
8) Bromomethane	5.82	94	365188	20.569	ng		100
9) Chloroethane	6.15	64	310129	20.354	ng		99
10) Ethanol	6.54	45	1492206	82.992	ng		100
11) Acetonitrile	6.80	41	813442	18.158	ng		100
12) Acrolein	6.98	56	580388	40.580	ng		100
13) Acetone	7.19	58	1617290	97.978	ng		97
14) Trichlorofluoromethane	7.43	101	698548	19.709	ng		99
15) 2-Propanol (Isopropanol)	7.69	45	2337949	41.330	ng		99
16) Acrylonitrile	7.96	53	1163890	40.279	ng		100
17) 1,1-Dichloroethene	8.40	96	420746	21.444	ng		96
18) 2-Methyl-2-Propanol (t...	8.57	59	1878179	38.952	ng		99
19) Methylene Chloride	8.63	84	443314	19.937	ng		96
20) 3-Chloro-1-propene (Al...	8.78	41	644786	19.915	ng		98
21) Trichlorotrifluoroethane	9.04	151	364619	21.701	ng		96
22) Carbon Disulfide	8.89	76	3126955	38.975	ng		100
23) trans-1,2-Dichloroethene	9.90	61	646410	20.915	ng		98
24) 1,1-Dichloroethane	10.15	63	793848	20.612	ng		100
25) Methyl tert-Butyl Ether	10.24	73	1260626	20.164	ng		99
26) Vinyl Acetate	10.40	86	457305	115.117	ng	#	88
27) 2-Butanone (MEK)	10.64	72	617865	42.481	ng		95
28) cis-1,2-Dichloroethene	11.16	61	620956	20.054	ng		98
29) Diisopropyl Ether	11.45	87	733063	39.949	ng	#	64
30) Ethyl Acetate	11.46	61	511486	58.230	ng		97
31) n-Hexane	11.44	57	758015	20.244	ng		100
32) Chloroform	11.51	83	766036	20.829	ng		99
34) Tetrahydrofuran (THF)	11.91	72	585332	40.093	ng		97
35) Ethyl tert-Butyl Ether	12.04	87	1083381	42.927	ng		97
36) 1,2-Dichloroethane	12.30	62	583044	20.088	ng		100
38) 1,1,1-Trichloroethane	12.58	97	676750	20.530	ng		99
39) Isopropyl Acetate	13.06	61	10257	No Calib		#	
40) 1-Butanol	13.03	56	11475	No Calib		#	
41) Benzene	13.06	78	1807032	20.739	ng		100
42) Carbon Tetrachloride	13.22	117	570657	20.238	ng		100
43) Cyclohexane	13.35	84	1364743	41.303	ng		98
44) tert-Amyl Methyl Ether	13.69	73	2658393	43.311	ng		99
45) 1,2-Dichloropropane	13.90	63	467938	20.363	ng		100
46) Bromodichloromethane	14.09	83	630252	21.132	ng		100
47) Trichloroethene	14.15	130	494876	21.558	ng		100
48) 1,4-Dioxane	14.12	88	383419	23.458	ng		98
49) 2,2,4-Trimethylpentane...	14.22	57	1972462	20.392	ng		99
50) Methyl Methacrylate	14.35	100	385883	46.092	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012235.D Vial: 1
Acq On : 1 Mar 2022 22:21 Operator: TZ
Sample : LCSD2 R13030122 25ng Inst : GCMS13
Misc : S35-02242201/S35-02092204 (3/11)

Quant Time: Mar 02 07:57:44 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

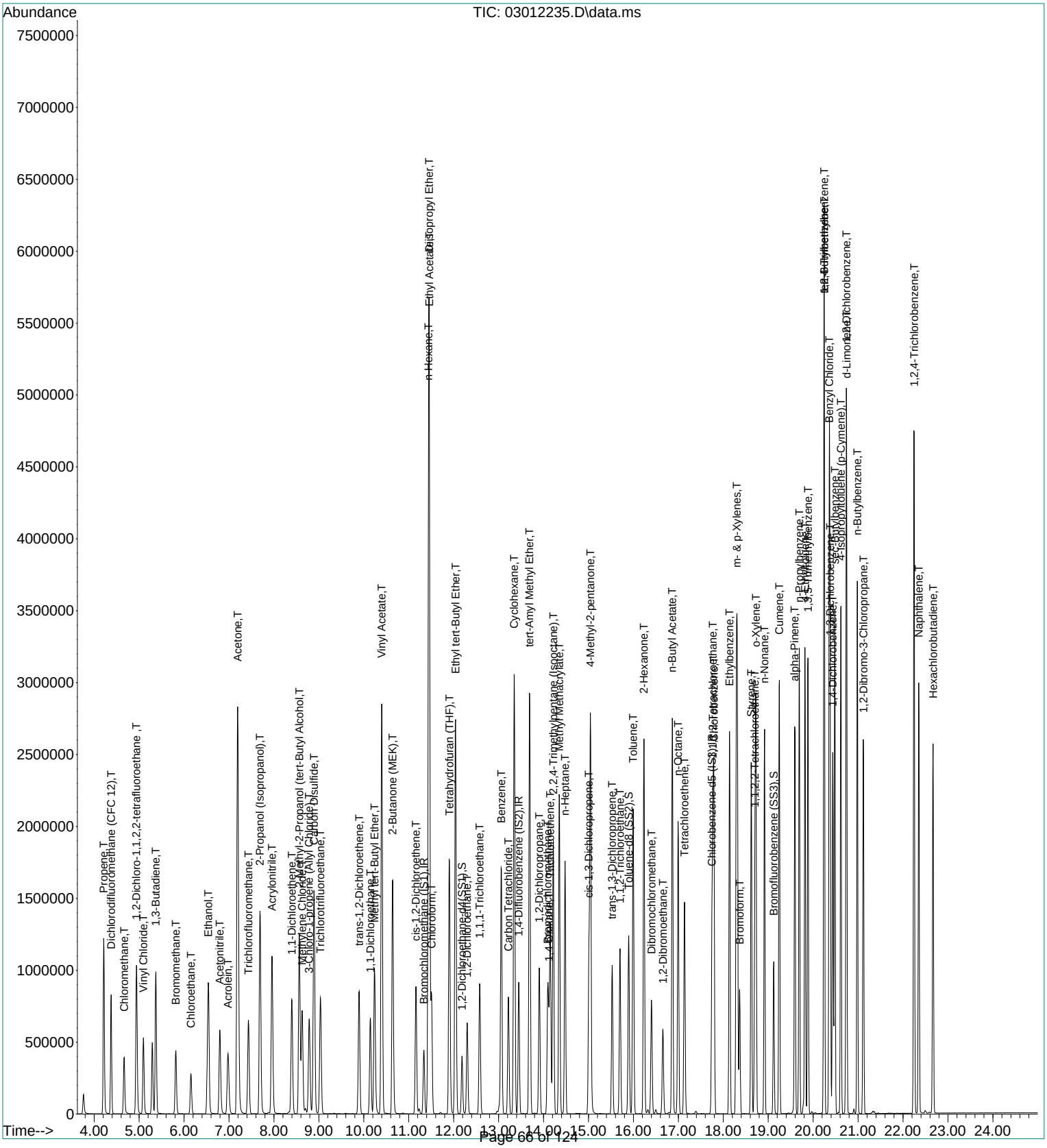
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.48	71	475409	20.898 ng		99
52) cis-1,3-Dichloropropene	15.01	75	758495	21.829 ng		100
53) 4-Methyl-2-pentanone	15.04	58	885815	45.098 ng		98
54) trans-1,3-Dichloropropene	15.53	75	690514	21.881 ng		100
55) 1,1,2-Trichloroethane	15.70	97	446801	21.136 ng		98
58) Toluene	15.99	91	1870764	20.183 ng		100
59) 2-Hexanone	16.23	43	2080309	44.020 ng		99
60) Dibromochloromethane	16.40	129	531152	21.019 ng		100
61) 1,2-Dibromoethane	16.66	107	504318	20.908 ng		100
62) n-Butyl Acetate	16.86	43	2362595	45.029 ng		99
63) n-Octane	16.99	57	416126	20.469 ng		98
64) Tetrachloroethene	17.14	166	536644	21.742 ng		100
65) Chlorobenzene	17.79	112	1232537	20.539 ng		100
66) Ethylbenzene	18.14	91	2147872	20.829 ng		99
67) m- & p-Xylenes	18.30	91	3344657	41.171 ng		99
68) Bromoform	18.37	173	472681	22.283 ng		100
69) Styrene	18.62	104	1312429	21.831 ng		99
70) o-Xylene	18.72	91	1712746	21.077 ng		99
71) n-Nonane	18.92	43	966744	21.039 ng		99
72) 1,1,2,2-Tetrachloroethane	18.70	83	816099	20.949 ng		100
74) Cumene	19.25	105	2135182	20.826 ng		99
75) alpha-Pinene	19.59	93	1128524	22.682 ng		100
76) n-Propylbenzene	19.69	91	2600334	20.913 ng		99
77) 3-Ethyltoluene	19.89	105	1793082	No Calib		
78) 4-Ethyltoluene	19.82	105	2135709	21.665 ng		99
79) 1,3,5-Trimethylbenzene	19.89	105	1794958	21.686 ng		99
80) alpha-Methylstyrene	19.89	118	12933	No Calib	#	
81) 2-Ethyltoluene	19.89	105	1794958	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	1833545	22.347 ng		100
83) n-Decane	20.24	58	93280	No Calib		
84) Benzyl Chloride	20.36	91	3111289	50.624 ng		99
85) 1,3-Dichlorobenzene	20.38	146	1069291	21.489 ng		100
86) 1,4-Dichlorobenzene	20.44	146	1062923	21.132 ng		100
87) sec-Butylbenzene	20.48	105	2413505	21.064 ng		99
88) 4-Isopropyltoluene (p-...	20.62	119	2070568	21.602 ng		99
89) 1,2,3-Trimethylbenzene	20.62	105	74410	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	1020364	21.448 ng		100
91) d-Limonene	20.74	68	739236	22.185 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.12	157	792172	43.486 ng		95
93) n-Undecane	21.43	57	495	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	1644646	47.719 ng		100
95) Naphthalene	22.35	128	2412063	24.749 ng		100
96) n-Dodecane	22.34	57	1323	No Calib	#	
97) Hexachlorobutadiene	22.67	225	540017	21.541 ng		100
98) Cyclohexanone	18.30	55	2482	No Calib		
99) tert-Butylbenzene	20.24	119	1735051	21.514 ng		100
100) n-Butylbenzene	20.98	91	1973035	21.496 ng		99
101) 1,1,1,2-Tetrachloroethane	17.77	131	445974	20.467 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012235.D Vial: 1
Acq On : 1 Mar 2022 22:21 Operator: TZ
Sample : LCSD2 R13030122 25ng Inst : GCMS13
Misc : S35-02242201/S35-02092204 (3/11)

Quant Time: Mar 02 07:57:44 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

TZ 3/2/22

Data File : I:\MS13\DATA\2022 03\01\03012243.D Vial: 11
Acq On : 2 Mar 2022 2:51 Operator: TZ
Sample : P2200741-004dup (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:58:03 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	173810	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.44	114	778161	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.75	54	146964	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	259415	11.211	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.68%			
57) Toluene-d8 (SS2)	15.89	98	909047	12.350	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%			
73) Bromofluorobenzene (SS3)	19.12	174	290213	13.619	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.96%			
Target Compounds						Qvalue
2) Propene	4.25	42	5139	N.D.		
3) Dichlorodifluoromethan...	4.40	85	47614	1.325	ng	99
4) Chloromethane	4.70	50	4824	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.96	135	1137	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.83	94	437	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.49	45	25087	1.557	ng	97
11) Acetonitrile	6.79	41	2498	N.D.		
12) Acrolein	6.98	56	1049	N.D.		
13) Acetone	7.18	58	55641	3.762	ng	95
14) Trichlorofluoromethane	7.43	101	23248	0.732	ng	100
15) 2-Propanol (Isopropanol)	7.67	45	33268	0.656	ng	91
16) Acrylonitrile	8.17	53	117	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.62	59	644	N.D.		
19) Methylene Chloride	8.61	84	4370	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.04	151	4803	N.D.		
22) Carbon Disulfide	8.90	76	5473	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	10.27	73	170	N.D.		
26) Vinyl Acetate	10.36	86	701	N.D.		
27) 2-Butanone (MEK)	10.65	72	3622	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.46	61	4591	0.583	ng	91
31) n-Hexane	11.43	57	2820	N.D.		
32) Chloroform	11.49	83	1451	N.D.		
34) Tetrahydrofuran (THF)	11.95	72	123	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.29	62	815	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.06	56	1085	No Calib	#	
41) Benzene	13.05	78	14487	N.D.		
42) Carbon Tetrachloride	13.21	117	6977	N.D.		
43) Cyclohexane	13.35	84	760	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.21	57	6425	N.D.		
50) Methyl Methacrylate	14.47	100	119	N.D.		

Data File : I:\MS13\DATA\2022 03\01\03012243.D Vial: 11
Acq On : 2 Mar 2022 2:51 Operator: TZ
Sample : P2200741-004dup (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:58:03 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

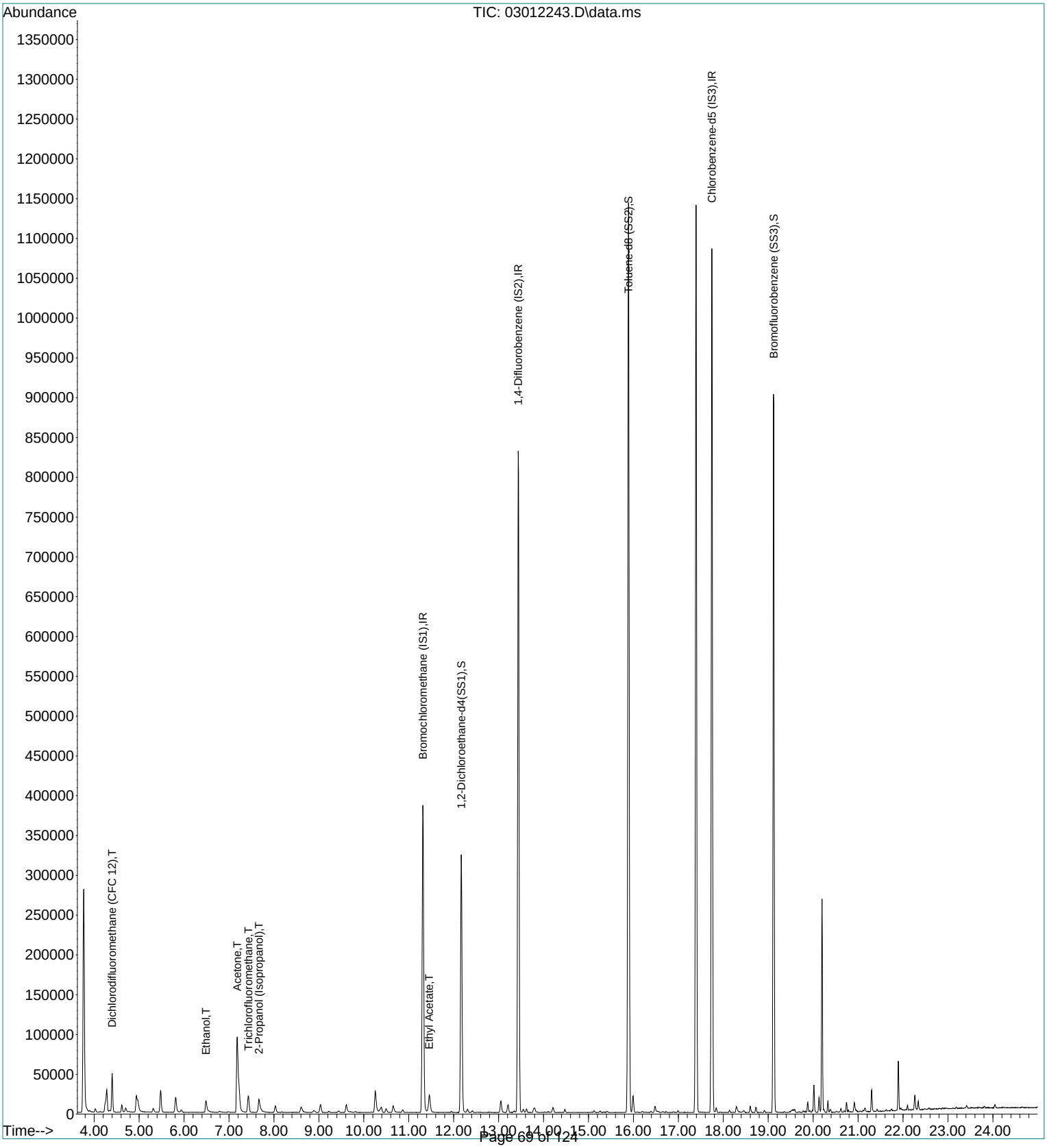
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.48	71	962	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.99	91	16721	N.D.		
59) 2-Hexanone	16.25	43	943	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.89	43	1344	N.D.		
63) n-Octane	16.99	57	431	N.D.		
64) Tetrachloroethene	17.14	166	107	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.14	91	3271	N.D.		
67) m- & p-Xylenes	18.29	91	6858	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.63	104	458	N.D.		
70) o-Xylene	18.72	91	2573	N.D.		
71) n-Nonane	18.91	43	1221	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.25	105	126	N.D.		
75) alpha-Pinene	19.59	93	1667	N.D.		
76) n-Propylbenzene	19.70	91	915	N.D.		
77) 3-Ethyltoluene	19.89	105	698	No Calib		
78) 4-Ethyltoluene	19.82	105	921	N.D.		
79) 1,3,5-Trimethylbenzene	19.89	105	698	N.D.		
80) alpha-Methylstyrene	20.02	118	10728	No Calib		#
81) 2-Ethyltoluene	19.89	105	698	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	2337	N.D.		
83) n-Decane	20.32	58	114	No Calib		#
84) Benzyl Chloride	20.24	91	125	N.D.		
85) 1,3-Dichlorobenzene	20.44	146	185	N.D.		
86) 1,4-Dichlorobenzene	20.44	146	185	N.D.		
87) sec-Butylbenzene	20.62	105	664	N.D.		
88) 4-Isopropyltoluene (p-...	20.62	119	2476	N.D.		
89) 1,2,3-Trimethylbenzene	20.62	105	664	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.74	68	3131	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.42	57	1417	No Calib		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.36	128	891	N.D.		
96) n-Dodecane	22.34	57	3307	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.46	55	1038	No Calib		#
99) tert-Butylbenzene	20.20	119	4663	N.D.		
100) n-Butylbenzene	20.96	91	441	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012243.D Vial: 11
Acq On : 2 Mar 2022 2:51 Operator: TZ
Sample : P2200741-004dup (1000mL) Inst : GCMS13
Misc : S35-02242201

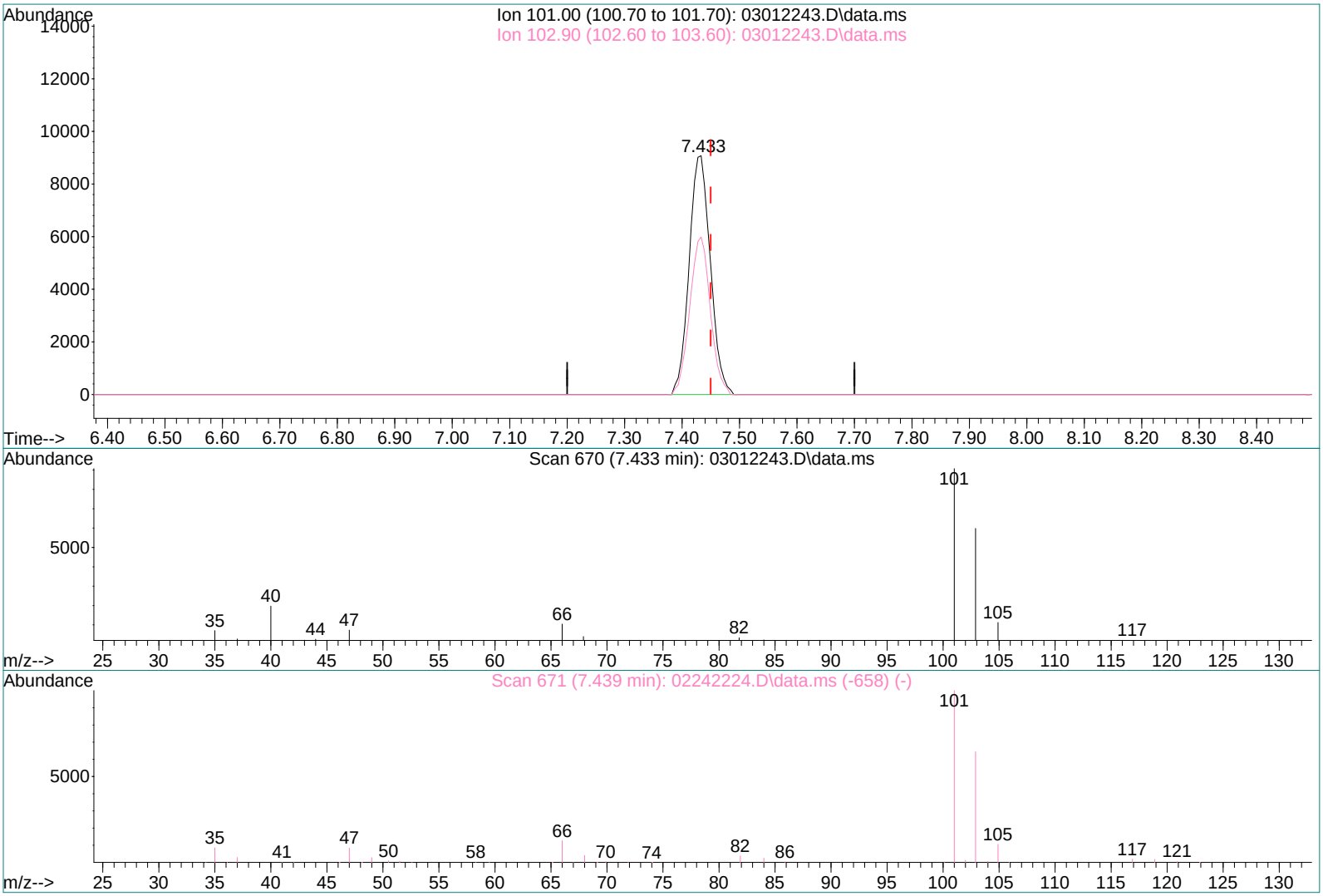
Quant Time: Mar 02 07:58:03 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 03\01\03012243.D Vial: 11
Acq On : 2 Mar 2022 2:51 Operator: TZ
Sample : P2200741-004dup (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:58:03 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03012243.D\data.ms

(14) Trichlorofluoromethane (T)

7.433min (-0.017) 0.73ng

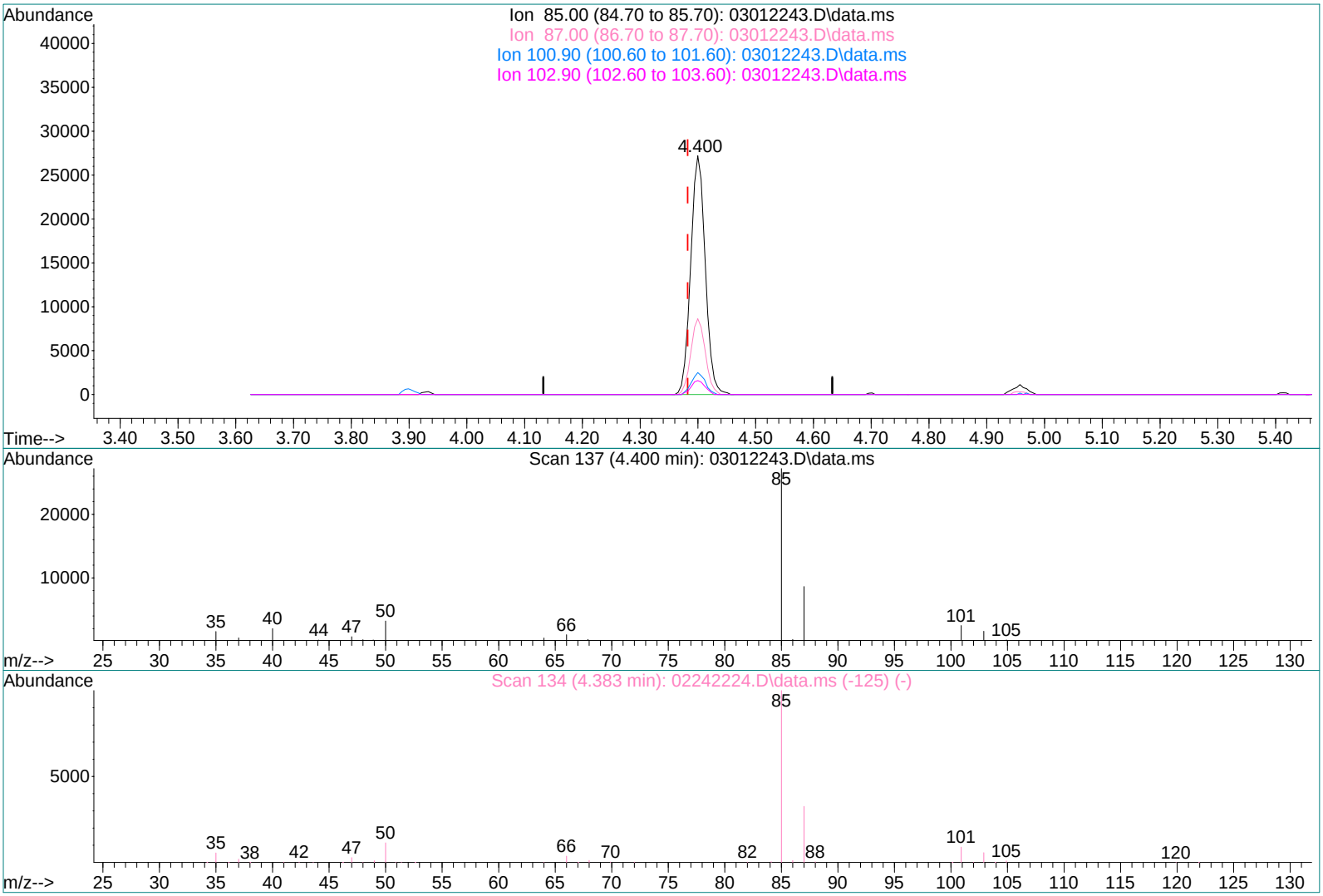
response 23248

Ion	Exp%	Act%
101.00	100	100
102.90	64.50	64.25
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 03\01\03012243.D Vial: 11
Acq On : 2 Mar 2022 2:51 Operator: TZ
Sample : P2200741-004dup (1000mL) Inst : GCMS13
Misc : S35-02242201

Quant Time: Mar 02 07:58:03 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03012243.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

4.400min (+0.017) 1.32ng

response 47614

Ion	Exp%	Act%
85.00	100	100
87.00	32.40	31.52
100.90	8.90	8.67
102.90	5.70	5.59

Response Factor Report GCMS13

Method Path : I:\MS13\METHODS\
Method File : R13022422.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Feb 25 07:59:38 2022
Response Via : Initial Calibration

TR 2/25/22

Calibration Files
0.1 =02242219.D 0.2 =02242220.D 0.5 =02242221.D 1.0 =02242222.D 5.0 =02242223.D 25 =02242224.D 50 =02242225.D
100 =02242226.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene	1.717	1.556	1.641	1.613	1.566	1.546	1.562	1.571	1.597	3.65
3)	T	Dichlorodifluo...	3.041	2.698	2.784	2.700	2.439	2.447	2.359	2.209	2.585	10.40
4)	T	Chloromethane	2.345	2.082	2.142	2.129	1.708	1.859	1.640	1.087	1.874	21.19
5)	T	1,2-Dichloro-1...	1.357	1.288	1.262	1.235	1.123	1.127	1.129	1.109	1.204	7.82
6)	T	Vinyl Chloride	2.225	2.069	2.172	2.118	1.932	1.957	1.940	1.876	2.036	6.27
7)	T	1,3-Butadiene	1.795	1.593	1.707	1.690	1.620	1.679	1.661	1.617	1.670	3.84
8)	T	Bromomethane	1.324	1.174	1.207	1.187	1.066	1.085	1.062	1.049	1.144	8.39
9)	T	Chloroethane	1.034	1.037	1.042	1.002	0.933	0.949	0.937	0.921	0.982	5.31
10)	T	Ethanol	1.458	1.172	1.167	1.131	1.081	1.110	1.097	1.054	1.159	11.00
11)	T	Acetonitrile	3.336	2.874	2.754	2.843	2.792	2.852	2.840	2.804	2.887	6.42
12)	T	Acrolein	0.966	0.916	0.928	0.936	0.908	0.917	0.911	0.892	0.922	2.42
13)	T	Acetone	1.307	1.144	1.100	1.088	1.010	1.014	0.967	0.881	1.064	12.07
14)	T	Trichlorofluor...	2.632	2.390	2.423	2.337	2.149	2.143	2.115	2.083	2.284	8.47
15)	T	2-Propanol (Is...	4.043	3.643	3.747	3.767	3.465	3.768	3.546	3.185	3.645	6.98
16)	T	Acrylonitrile	1.977	1.755	1.861	1.909	1.842	1.888	1.853	1.814	1.862	3.53
17)	T	1,1-Dichloroet...	1.371	1.282	1.334	1.293	1.199	1.220	1.213	1.203	1.264	5.18
18)	T	2-Methyl-2-Pro...	3.575	3.234	3.480	3.465	2.920	3.444	2.886	1.856	3.107	18.31
19)	T	Methylene Chlo...	1.722	1.511	1.482	1.443	1.320	1.340	1.334	1.312	1.433	9.80
20)	T	3-Chloro-1-pro...	2.142	1.908	2.096	2.153	2.046	2.136	2.122	2.090	2.087	3.84
21)	T	Trichlorotrifl...	1.299	1.068	1.133	1.098	1.007	1.020	1.020	1.017	1.083	9.07
22)	T	Carbon Disulfide	6.446	5.499	5.473	5.186	4.797	4.857	4.728	4.377	5.170	12.42
23)	T	trans-1,2-Dich...	2.125	1.959	2.060	2.032	1.911	1.978	1.962	1.908	1.992	3.78
24)	T	1,1-Dichloroet...	2.772	2.590	2.600	2.580	2.349	2.389	2.335	2.242	2.482	7.22
25)	T	Methyl tert-Bu...	4.713	4.232	4.373	4.271	4.014	4.165	3.827	2.638	4.029	15.36
26)	T	Vinyl Acetate	0.207	0.219	0.251	0.263	0.266	0.286	0.284	0.273	0.256	11.33
27)	T	2-Butanone (MEK)	0.907	0.901	0.947	0.963	0.931	0.970	0.958	0.920	0.937	2.80
28)	T	cis-1,2-Dichlo...	2.280	2.057	2.078	1.993	1.880	1.937	1.902	1.836	1.995	7.14
29)	T	Diisopropyl Ether	1.397	1.267	1.329	1.299	1.197	1.116	1.013	0.843	1.183	15.56
30)	T	Ethyl Acetate	0.610	0.578	0.609	0.605	0.581	0.584	0.528	0.434	0.566	10.52
31)	T	n-Hexane	2.881	2.547	2.594	2.546	2.386	2.348	2.166	1.836	2.413	12.98
32)	T	Chloroform	2.644	2.444	2.509	2.434	2.221	2.270	2.251	2.187	2.370	6.84
33)	S	1,2-Dichloroet...	1.690	1.671	1.679	1.686	1.685	1.671	1.682	1.548	1.664	2.84
34)	T	Tetrahydrofura...	1.118	0.929	0.947	0.959	0.882	0.917	0.906	0.869	0.941	8.28
35)	T	Ethyl tert-But...	1.720	1.610	1.693	1.653	1.563	1.641	1.619	1.512	1.626	4.12
36)	T	1,2-Dichloroet...	2.200	1.915	1.951	1.919	1.750	1.773	1.756	1.700	1.871	8.71

37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.554	0.478	0.509	0.494	0.449	0.459	0.446	0.426	0.477	8.67

39)	T	Isopropyl Acetate								0.000		-1.00
40)	T	1-Butanol								0.000		-1.00
41)	T	Benzene	1.486	1.301	1.340	1.279	1.185	1.211	1.172	1.112	1.261	9.34
42)	T	Carbon Tetrach...	0.452	0.423	0.434	0.413	0.383	0.395	0.388	0.375	0.408	6.64
43)	T	Cyclohexane	0.547	0.500	0.506	0.492	0.456	0.468	0.450	0.404	0.478	9.02
44)	T	tert-Amyl Meth...	0.973	0.887	0.931	0.905	0.860	0.908	0.870	0.771	0.888	6.68
45)	T	1,2-Dichloropr...	0.390	0.336	0.347	0.337	0.312	0.321	0.313	0.302	0.332	8.40
46)	T	Bromodichlorom...	0.482	0.431	0.449	0.439	0.409	0.424	0.415	0.403	0.432	5.96
47)	T	Trichloroethene	0.371	0.338	0.350	0.336	0.311	0.322	0.318	0.312	0.332	6.30
48)	T	1,4-Dioxane	0.219	0.213	0.236	0.235	0.228	0.258	0.255	0.248	0.236	6.90
49)	T	2,2,4-Trimethy...	1.596	1.450	1.481	1.435	1.328	1.365	1.317	1.225	1.400	8.21
50)	T	Methyl Methacr...	0.117	0.110	0.119	0.124	0.121	0.129	0.128	0.122	0.121	5.01
51)	T	n-Heptane	0.354	0.325	0.346	0.342	0.319	0.326	0.317	0.304	0.329	5.12
52)	T	cis-1,3-Dichlo...	0.543	0.486	0.506	0.503	0.484	0.514	0.503	0.483	0.503	3.97
53)	T	4-Methyl-2-pen...	0.265	0.253	0.291	0.292	0.286	0.312	0.300	0.275	0.284	6.81
54)	T	trans-1,3-Dich...	0.459	0.405	0.444	0.457	0.449	0.488	0.482	0.469	0.457	5.64
55)	T	1,1,2-Trichlor...	0.339	0.307	0.325	0.309	0.290	0.299	0.293	0.284	0.306	6.06
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	6.322	6.287	6.291	6.286	6.216	6.162	6.212	6.311	6.261	0.91
58)	T	Toluene	8.502	7.641	7.509	7.275	6.616	6.680	6.561	6.262	7.131	10.40
59)	T	2-Hexanone	3.556	3.288	3.608	3.698	3.616	3.982	3.834	3.504	3.636	5.77
60)	T	Dibromochlorom...	2.119	1.975	1.973	1.956	1.815	1.897	1.902	1.917	1.944	4.51
61)	T	1,2-Dibromoethane	2.067	1.813	1.914	1.873	1.738	1.809	1.812	1.818	1.856	5.38
62)	T	n-Butyl Acetate	3.940	3.622	3.968	4.051	4.070	4.463	4.300	3.878	4.037	6.37
63)	T	n-Octane	1.737	1.571	1.649	1.603	1.491	1.522	1.498	1.441	1.564	6.18
64)	T	Tetrachloroethene	2.151	1.940	1.967	1.895	1.744	1.812	1.831	1.852	1.899	6.55
65)	T	Chlorobenzene	5.410	4.850	4.928	4.639	4.231	4.369	4.332	4.174	4.617	9.22
66)	T	Ethylbenzene	9.103	8.036	8.338	8.099	7.488	7.729	7.566	7.106	7.933	7.72
67)	T	m- & p-Xylenes	7.419	6.441	6.599	6.476	5.847	6.011	5.887	5.320	6.250	10.10
68)	T	Bromoform	1.706	1.543	1.583	1.605	1.536	1.653	1.692	1.738	1.632	4.68
69)	T	Styrene	4.773	4.211	4.601	4.619	4.533	4.808	4.808	4.648	4.625	4.24
70)	T	o-Xylene	7.071	6.332	6.582	6.384	5.891	6.103	6.012	5.639	6.252	7.12
71)	T	n-Nonane	3.764	3.439	3.803	3.761	3.514	3.483	3.379	3.137	3.535	6.50
72)	T	1,1,2,2-Tetrac...	3.373	2.975	3.121	3.043	2.839	2.943	2.906	2.777	2.997	6.23
73)	S	Bromofluoroben...	1.818	1.803	1.790	1.783	1.797	1.809	1.835	1.866	1.813	1.51
74)	T	Cumene	9.220	8.013	8.372	8.054	7.472	7.654	7.466	6.848	7.887	9.01
75)	T	alpha-Pinene	3.992	3.678	3.800	3.833	3.746	3.951	3.919	3.702	3.828	3.06
76)	T	n-Propylbenzene	1.098	0.977	1.016	0.987	0.921	0.939	0.904	0.811	0.957	E1 8.88
77)	T	3-Ethyltoluene								0.000		-1.00
78)	T	4-Ethyltoluene	8.190	7.531	7.969	7.811	7.402	7.567	7.409	6.794	7.584	5.59
79)	T	1,3,5-Trimethy...	7.147	6.234	6.708	6.563	6.117	6.239	6.176	5.759	6.368	6.68
80)	T	alpha-Methylst...								0.000		-1.00
81)	T	2-Ethyltoluene								0.000		-1.00
82)	T	1,2,4-Trimethy...	6.887	6.241	6.791	6.636	6.312	6.419	6.099	5.113	6.312	8.81
83)	T	n-Decane								0.000		-1.00
84)	T	Benzyl Chloride	4.480	3.863	4.331	4.539	4.978	5.682	5.476	4.477	4.728	12.89
85)	T	1,3-Dichlorobe...	4.309	4.015	3.987	3.859	3.580	3.755	3.741	3.380	3.828	7.43
86)	T	1,4-Dichlorobe...	4.617	3.902	3.908	3.779	3.540	3.765	3.765	3.682	3.870	8.37
87)	T	sec-Butylbenzene	9.984	8.850	9.306	9.104	8.466	8.722	8.491	7.599	8.815	7.91
88)	T	4-Isopropyltol...	8.045	7.383	7.745	7.606	7.155	7.372	7.206	6.482	7.374	6.31
89)	T	1,2,3-Trimethy...								0.000		-1.00
90)	T	1,2-Dichlorobe...	4.280	3.862	3.769	3.654	3.450	3.581	3.527	3.157	3.660	8.99
91)	T	d-Limonene	3.057	2.433	2.466	2.533	2.526	2.706	2.600	2.186	2.564	9.74

92)	T	1,2-Dibromo-3-...	1.487	1.347	1.369	1.380	1.363	1.443	1.442	1.380	1.401	3.53
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.977	2.357	2.810	2.772	2.690	2.589	2.606	2.410	2.652	7.78
95)	T	Naphthalene	7.788	6.002	7.553	7.964	7.904	7.699	7.744	7.330	7.498	8.49
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	2.244	1.960	1.908	1.870	1.771	1.842	1.899	1.935	1.929	7.26
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	7.188	6.366	6.649	6.518	6.073	6.174	5.793	4.877	6.205	10.96
100)	T	n-Butylbenzene	7.789	6.789	7.452	7.445	6.981	7.050	6.837	6.149	7.062	7.17
101)	T	1,1,1,2-Tetrac...	2.028	1.779	1.724	1.661	1.535	1.579	1.577	1.527	1.676	10.03

(#) = Out of Range

R13022422.M Fri Feb 25 09:39:44 2022

TZ 2/25/22

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-02222206 | 200ng/L Std. ID: S35-02222203
20ng/L Std. ID: S35-02222205 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | **40ng/L Std. ID:**
4ng/L Std. ID: S35-02222206 | **200ng/L Std. ID:** S35-02222203
20ng/L Std. ID: S35-02222205 | **1000ng/L Std. ID:**

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Calibration Status Report GCMS13

Method   : I:\MS13\METHODS\R13022422.M (RTE Integrator)
Title   : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration

TR 2/25/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS13\DATA\2022_02\24\02242219.D
2	0.2	0	13	I:\MS13\DATA\2022_02\24\02242220.D
3	0.5	1	13	I:\MS13\DATA\2022_02\24\02242221.D
4	1.0	1	13	I:\MS13\DATA\2022_02\24\02242222.D
5	5.0	5	13	I:\MS13\DATA\2022_02\24\02242223.D
6	25	26	13	I:\MS13\DATA\2022_02\24\02242224.D
7	50	52	13	I:\MS13\DATA\2022_02\24\02242225.D
8	100	104	13	I:\MS13\DATA\2022_02\24\02242226.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Feb 25 07:59 2022	Feb 25 07:58 2022	24 Feb 2022 13:50
2	0.2	Feb 25 07:59 2022	Feb 25 07:58 2022	24 Feb 2022 14:24
3	0.5	Feb 25 07:59 2022	Feb 25 07:58 2022	24 Feb 2022 14:57
4	1.0	Feb 25 07:59 2022	Feb 25 07:58 2022	24 Feb 2022 15:31
5	5.0	Feb 25 07:59 2022	Feb 25 07:58 2022	24 Feb 2022 16:05
6	25	Feb 25 07:59 2022	Feb 25 07:58 2022	24 Feb 2022 16:39
7	50	Feb 25 07:59 2022	Feb 25 07:58 2022	24 Feb 2022 17:13
8	100	Feb 25 07:59 2022	Feb 25 07:58 2022	24 Feb 2022 17:47

R13022422.M Fri Feb 25 09:38:58 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242219.D Vial: 13
Acq On : 24 Feb 2022 13:50 Operator: TZ
Sample : 0.1ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222206 (3/24)

TZ 2/25/22

Quant Time: Feb 25 07:58:24 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	160847	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	721966	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	132670	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	271785	11.573	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
57) Toluene-d8 (SS2)	15.89	98	838721	13.926	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.44%				
73) Bromofluorobenzene (SS3)	19.12	174	241128	14.367	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%				
Target Compounds							Qvalue
2) Propene	4.27	42	2298	0.119	ng		91
3) Dichlorodifluoromethan...	4.43	85	4109	0.152	ng	#	92
4) Chloromethane	4.72	50	3078	0.151	ng		92
5) 1,2-Dichloro-1,1,2,2-t...	4.97	135	1886	0.164	ng		91
6) Vinyl Chloride	5.15	62	2978	0.143	ng		94
7) 1,3-Butadiene	5.41	54	2402	0.135	ng		96
8) Bromomethane	5.85	94	1738	0.154	ng		98
9) Chloroethane	6.19	64	1357	0.131	ng		82
10) Ethanol	6.50	45	6790	0.546	ng		94
11) Acetonitrile	6.79	41	3992	0.118	ng	#	41
12) Acrolein	7.00	56	2487	0.255	ng		99
13) Acetone	7.21	58	8726	0.828	ng		94
14) Trichlorofluoromethane	7.45	101	3489	0.147	ng		98
15) 2-Propanol (Isopropanol)	7.70	45	10509	0.249	ng		96
16) Acrylonitrile	7.94	53	5163	0.259	ng		99
17) 1,1-Dichloroethene	8.40	96	1888	0.144	ng		98
18) 2-Methyl-2-Propanol (t...	8.61	59	9661	0.267	ng		96
19) Methylene Chloride	8.61	84	2305	0.156	ng		98
20) 3-Chloro-1-propene (Al...	8.78	41	2894	0.115	ng		96
21) Trichlorotrifluoroethane	9.04	151	1805	0.169	ng		88
22) Carbon Disulfide	8.90	76	17419	0.313	ng		98
23) trans-1,2-Dichloroethene	9.88	61	2898	0.136	ng		98
24) 1,1-Dichloroethane	10.13	63	3745	0.141	ng		99
25) Methyl tert-Butyl Ether	10.26	73	6368	0.152	ng		93
26) Vinyl Acetate	10.40	86	906	0.316	ng	#	30
27) 2-Butanone (MEK)	10.66	72	2405	0.231	ng	#	63
28) cis-1,2-Dichloroethene	11.14	61	3051	0.143	ng		96
29) Diisopropyl Ether	11.45	87	3811	0.305	ng	#	91
30) Ethyl Acetate	11.46	61	3202	0.576	ng		94
31) n-Hexane	11.44	57	3893	0.150	ng	#	94
32) Chloroform	11.49	83	3641	0.148	ng		99
34) Tetrahydrofuran (THF)	11.93	72	2835	0.287	ng		98
35) Ethyl tert-Butyl Ether	12.04	87	4647	0.274	ng		96
36) 1,2-Dichloroethane	12.29	62	3001	0.147	ng		98
38) 1,1,1-Trichloroethane	12.57	97	3329	0.152	ng		96
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.06	78	8925	0.153	ng		98
42) Carbon Tetrachloride	13.21	117	2743	0.149	ng		97
43) Cyclohexane	13.35	84	6540	0.300	ng		98
44) tert-Amyl Methyl Ether	13.70	73	11745	0.276	ng		98
45) 1,2-Dichloropropane	13.90	63	2323	0.149	ng		89
46) Bromodichloromethane	14.09	83	2925	0.144	ng		99
47) Trichloroethene	14.14	130	2207	0.150	ng		97
48) 1,4-Dioxane	14.15	88	1317	0.117	ng		87
49) 2,2,4-Trimethylpentane...	14.21	57	9769	0.144	ng		99
50) Methyl Methacrylate	14.36	100	1403	0.256	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242219.D Vial: 13
Acq On : 24 Feb 2022 13:50 Operator: TZ
Sample : 0.1ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222206 (3/24)

Quant Time: Feb 25 07:58:24 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

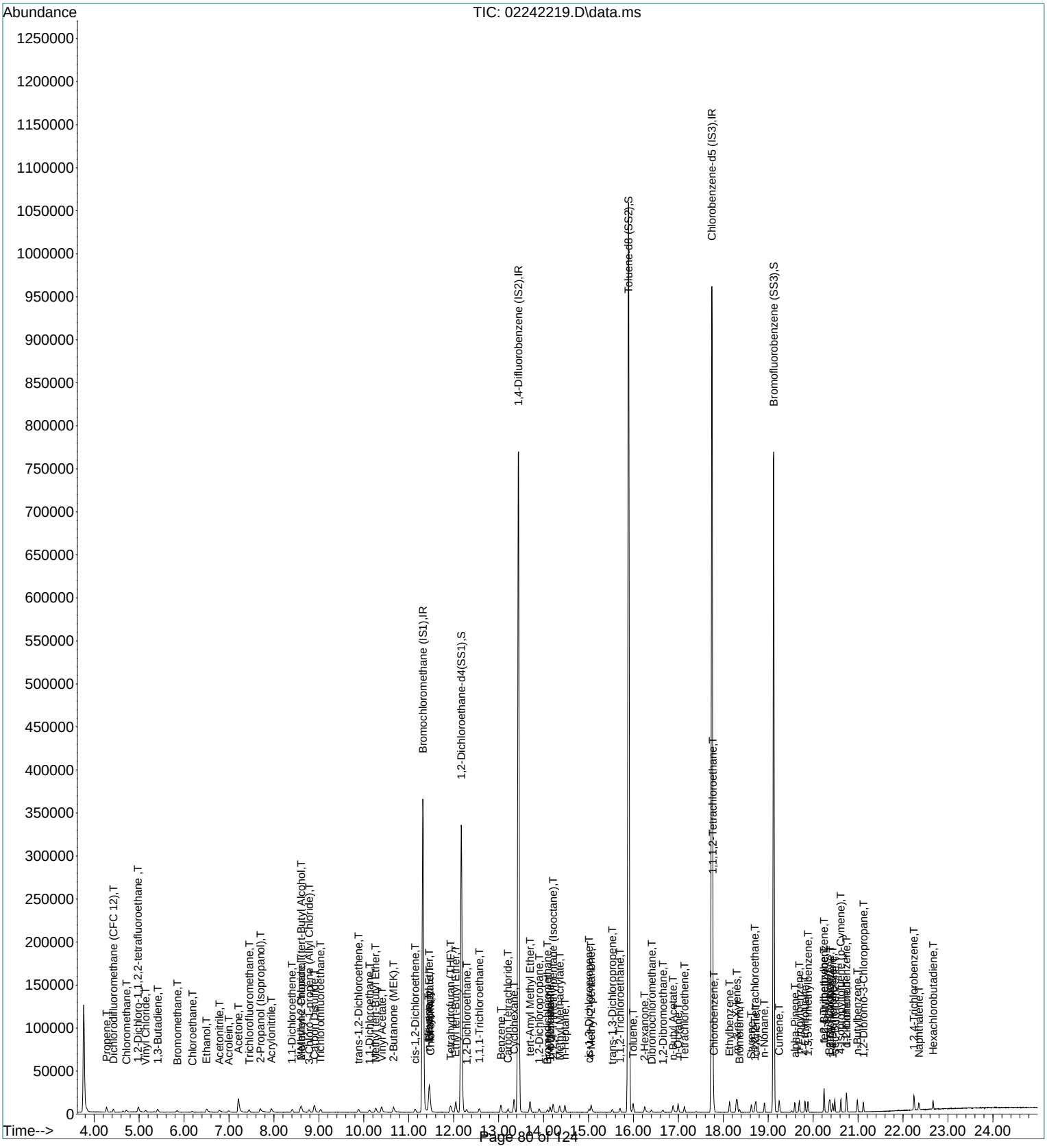
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.48	71	2148	0.137	ng		97
52) cis-1,3-Dichloropropene	15.01	75	3294	0.141	ng		93
53) 4-Methyl-2-pentanone	15.06	58	3180	0.223	ng		88
54) trans-1,3-Dichloropropene	15.53	75	2680	0.128	ng		95
55) 1,1,2-Trichloroethane	15.70	97	2034	0.145	ng		100
58) Toluene	15.99	91	9294	0.172	ng		99
59) 2-Hexanone	16.25	43	7738	0.243	ng		94
60) Dibromochloromethane	16.41	129	2361	0.165	ng		98
61) 1,2-Dibromoethane	16.66	107	2282	0.166	ng		97
62) n-Butyl Acetate	16.88	43	8531	0.249	ng		97
63) n-Octane	16.99	57	1936	0.150	ng		94
64) Tetrachloroethene	17.14	166	2374	0.171	ng		95
65) Chlorobenzene	17.79	112	5972	0.180	ng		95
66) Ethylbenzene	18.14	91	9951	0.159	ng		99
67) m- & p-Xylenes	18.30	91	16221	0.339	ng		96
68) Bromoform	18.36	173	1883	0.158	ng		90
69) Styrene	18.62	104	5218	0.149	ng		94
70) o-Xylene	18.72	91	7805	0.160	ng		95
71) n-Nonane	18.91	43	4155	0.128	ng		98
72) 1,1,2,2-Tetrachloroethane	18.70	83	3723	0.163	ng		98
74) Cumene	19.24	105	10177	0.164	ng		98
75) alpha-Pinene	19.59	93	4576	0.146	ng		91
76) n-Propylbenzene	19.69	91	12237	0.163	ng		99
77) 3-Ethyltoluene	19.89	105	7889	No Calib			
78) 4-Ethyltoluene	19.82	105	9214	0.155	ng		98
79) 1,3,5-Trimethylbenzene	19.89	105	7889	0.155	ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	19.89	105	7889	No Calib			
82) 1,2,4-Trimethylbenzene	20.24	105	7529	0.152	ng		99
83) n-Decane	20.25	58	346	No Calib		#	
84) Benzyl Chloride	20.36	91	9795	0.294	ng		96
85) 1,3-Dichlorobenzene	20.38	146	4756	0.183	ng		95
86) 1,4-Dichlorobenzene	20.44	146	5096	0.193	ng		98
87) sec-Butylbenzene	20.48	105	11020	0.156	ng		97
88) 4-Isopropyltoluene (p-...	20.61	119	8880	0.150	ng		99
89) 1,2,3-Trimethylbenzene	20.61	105	345	No Calib		#	
90) 1,2-Dichlorobenzene	20.74	146	4770	0.190	ng		96
91) d-Limonene	20.74	68	3407	0.157	ng		98
92) 1,2-Dibromo-3-Chloropr...	21.12	157	3157	0.318	ng		89
93) n-Undecane	0.00	57	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.24	180	6446	0.374	ng		98
95) Naphthalene	22.36	128	8597	0.151	ng		93
96) n-Dodecane	0.00	57	0	N.D.			
97) Hexachlorobutadiene	22.67	225	2453	0.172	ng		93
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	20.24	119	7934	0.163	ng		97
100) n-Butylbenzene	20.98	91	8598	0.155	ng		95
101) 1,1,1,2-Tetrachloroethane	17.77	131	2238	0.183	ng		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242219.D Vial: 13
Acq On : 24 Feb 2022 13:50 Operator: TZ
Sample : 0.1ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222206 (3/24)

Quant Time: Feb 25 07:58:24 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242220.D Vial: 13
Acq On : 24 Feb 2022 14:24 Operator: TZ
Sample : 0.2ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222206 (3/24)

TZ 2/25/22

Quant Time: Feb 25 07:58:27 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	163576	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	727195	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	134487	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	273287	11.443	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.52%				
57) Toluene-d8 (SS2)	15.89	98	845560	13.849	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.80%				
73) Bromofluorobenzene (SS3)	19.12	174	242467	14.251	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.00%				
Target Compounds							Qvalue
2) Propene	4.27	42	4234	0.216	ng		92
3) Dichlorodifluoromethan...	4.42	85	7415	0.269	ng		99
4) Chloromethane	4.71	50	5558	0.269	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.97	135	3642	0.312	ng		92
6) Vinyl Chloride	5.13	62	5632	0.265	ng		95
7) 1,3-Butadiene	5.41	54	4336	0.239	ng		98
8) Bromomethane	5.83	94	3134	0.273	ng		98
9) Chloroethane	6.18	64	2769	0.263	ng		91
10) Ethanol	6.49	45	11108	0.878	ng		94
11) Acetonitrile	6.79	41	6996	0.203	ng		75
12) Acrolein	6.98	56	4795	0.483	ng		99
13) Acetone	7.20	58	15536	1.450	ng		94
14) Trichlorofluoromethane	7.44	101	6444	0.266	ng		100
15) 2-Propanol (Isopropanol)	7.69	45	19261	0.449	ng		94
16) Acrylonitrile	7.94	53	9323	0.460	ng		97
17) 1,1-Dichloroethene	8.40	96	3591	0.269	ng		97
18) 2-Methyl-2-Propanol (t...	8.58	59	17774	0.483	ng		97
19) Methylene Chloride	8.60	84	4112	0.274	ng		98
20) 3-Chloro-1-propene (Al...	8.78	41	5243	0.205	ng		100
21) Trichlorotrifluoroethane	9.03	151	3018	0.278	ng		90
22) Carbon Disulfide	8.90	76	30221	0.534	ng		99
23) trans-1,2-Dichloroethene	9.88	61	5436	0.250	ng		99
24) 1,1-Dichloroethane	10.13	63	7118	0.264	ng		97
25) Methyl tert-Butyl Ether	10.26	73	11630	0.272	ng		97
26) Vinyl Acetate	10.40	86	1948	0.668	ng	#	69
27) 2-Butanone (MEK)	10.65	72	4860	0.458	ng	#	83
28) cis-1,2-Dichloroethene	11.14	61	5599	0.258	ng		98
29) Diisopropyl Ether	11.45	87	7031	0.554	ng	#	91
30) Ethyl Acetate	11.46	61	6168	1.091	ng		93
31) n-Hexane	11.43	57	6998	0.266	ng		99
32) Chloroform	11.49	83	6845	0.273	ng		98
34) Tetrahydrofuran (THF)	11.92	72	4788	0.476	ng		97
35) Ethyl tert-Butyl Ether	12.04	87	8847	0.513	ng		99
36) 1,2-Dichloroethane	12.29	62	5312	0.256	ng		95
38) 1,1,1-Trichloroethane	12.58	97	5784	0.262	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.05	78	15742	0.268	ng		99
42) Carbon Tetrachloride	13.21	117	5164	0.279	ng		98
43) Cyclohexane	13.34	84	12047	0.549	ng		95
44) tert-Amyl Methyl Ether	13.69	73	21579	0.503	ng		98
45) 1,2-Dichloropropane	13.90	63	4031	0.257	ng		98
46) Bromodichloromethane	14.09	83	5268	0.258	ng		99
47) Trichloroethene	14.14	130	4047	0.273	ng		99
48) 1,4-Dioxane	14.14	88	2581	0.228	ng		98
49) 2,2,4-Trimethylpentane...	14.21	57	17885	0.261	ng		100
50) Methyl Methacrylate	14.36	100	2671	0.483	ng		97

Data File : I:\MS13\DATA\2022 02\24\02242220.D Vial: 13
Acq On : 24 Feb 2022 14:24 Operator: TZ
Sample : 0.2ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222206 (3/24)

Quant Time: Feb 25 07:58:27 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

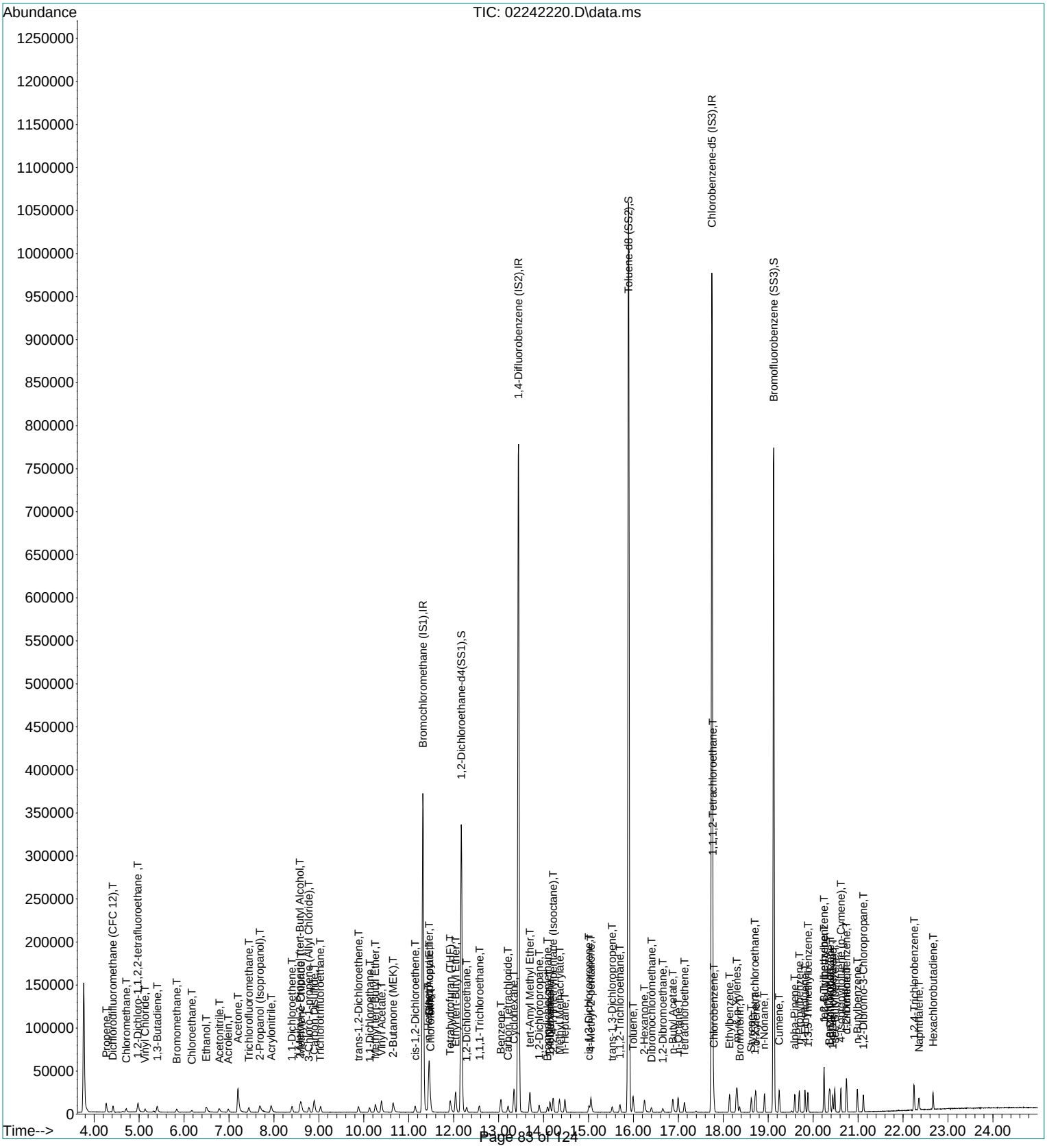
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.47	71	3974	0.252 ng		98
52) cis-1,3-Dichloropropene	15.01	75	5932	0.252 ng		99
53) 4-Methyl-2-pentanone	15.05	58	6114	0.425 ng		91
54) trans-1,3-Dichloropropene	15.53	75	4762	0.226 ng		98
55) 1,1,2-Trichloroethane	15.70	97	3719	0.264 ng		98
58) Toluene	15.99	91	16935	0.309 ng		98
59) 2-Hexanone	16.24	43	14504	0.450 ng		97
60) Dibromochloromethane	16.40	129	4462	0.307 ng		94
61) 1,2-Dibromoethane	16.65	107	4057	0.292 ng		92
62) n-Butyl Acetate	16.87	43	15901	0.457 ng		99
63) n-Octane	17.00	57	3549	0.271 ng		97
64) Tetrachloroethene	17.14	166	4342	0.309 ng		97
65) Chlorobenzene	17.79	112	10853	0.322 ng		99
66) Ethylbenzene	18.14	91	17811	0.280 ng		99
67) m- & p-Xylenes	18.30	91	28549	0.589 ng		98
68) Bromoform	18.37	173	3452	0.286 ng		95
69) Styrene	18.62	104	9334	0.263 ng		99
70) o-Xylene	18.72	91	14171	0.286 ng		98
71) n-Nonane	18.91	43	7697	0.233 ng		97
72) 1,1,2,2-Tetrachloroethane	18.70	83	6658	0.288 ng		99
74) Cumene	19.24	105	17931	0.285 ng		100
75) alpha-Pinene	19.59	93	8547	0.269 ng		96
76) n-Propylbenzene	19.69	91	22077	0.290 ng		98
77) 3-Ethyltoluene	19.89	105	13950	No Calib		
78) 4-Ethyltoluene	19.82	105	17177	0.284 ng		100
79) 1,3,5-Trimethylbenzene	19.89	105	13950	0.271 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.89	105	13950	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	13833	0.275 ng		100
83) n-Decane	20.24	58	982	No Calib	#	
84) Benzyl Chloride	20.36	91	17123	0.506 ng		98
85) 1,3-Dichlorobenzene	20.38	146	8984	0.341 ng		99
86) 1,4-Dichlorobenzene	20.44	146	8732	0.327 ng		99
87) sec-Butylbenzene	20.48	105	19804	0.277 ng		99
88) 4-Isopropyltoluene (p-...	20.62	119	16523	0.276 ng		98
89) 1,2,3-Trimethylbenzene	20.62	105	579	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	8726	0.343 ng		98
91) d-Limonene	20.74	68	5498	0.250 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	5798	0.576 ng		92
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.25	180	10347	0.593 ng		97
95) Naphthalene	22.36	128	13432	0.233 ng		95
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	22.67	225	4344	0.300 ng		98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.24	119	14247	0.290 ng		99
100) n-Butylbenzene	20.98	91	15193	0.270 ng		99
101) 1,1,1,2-Tetrachloroethane	17.77	131	3982	0.322 ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242220.D Vial: 13
Acq On : 24 Feb 2022 14:24 Operator: TZ
Sample : 0.2ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222206 (3/24)

Quant Time: Feb 25 07:58:27 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242221.D Vial: 14
Acq On : 24 Feb 2022 14:57 Operator: TZ
Sample : 0.5ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222205 (3/24)

TZ 2/25/22

Quant Time: Feb 25 07:58:29 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	161177	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	716513	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	132970	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	270667	11.502	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
57) Toluene-d8 (SS2)	15.89	98	836467	13.857	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.88%				
73) Bromofluorobenzene (SS3)	19.12	174	237961	14.146	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.20%				
Target Compounds							Qvalue
2) Propene	4.25	42	11003	0.571	ng		96
3) Dichlorodifluoromethan...	4.41	85	18847	0.694	ng		99
4) Chloromethane	4.70	50	14085	0.692	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.96	135	8789	0.765	ng		99
6) Vinyl Chloride	5.12	62	14564	0.697	ng		97
7) 1,3-Butadiene	5.38	54	11447	0.642	ng		98
8) Bromomethane	5.82	94	7937	0.701	ng		99
9) Chloroethane	6.16	64	6853	0.661	ng		99
10) Ethanol	6.49	45	27246	2.186	ng		99
11) Acetonitrile	6.77	41	16515	0.485	ng		90
12) Acrolein	6.97	56	11963	1.223	ng		98
13) Acetone	7.18	58	36809	3.486	ng		92
14) Trichlorofluoromethane	7.44	101	16093	0.675	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	48804	1.154	ng		95
16) Acrylonitrile	7.93	53	24351	1.220	ng		98
17) 1,1-Dichloroethene	8.40	96	9205	0.700	ng		99
18) 2-Methyl-2-Propanol (t...	8.57	59	47111	1.299	ng		97
19) Methylene Chloride	8.61	84	9938	0.672	ng		99
20) 3-Chloro-1-propene (Al...	8.77	41	14186	0.563	ng		100
21) Trichlorotrifluoroethane	9.03	151	7887	0.738	ng		96
22) Carbon Disulfide	8.88	76	74095	1.329	ng		98
23) trans-1,2-Dichloroethene	9.87	61	14079	0.658	ng		99
24) 1,1-Dichloroethane	10.13	63	17600	0.663	ng		99
25) Methyl tert-Butyl Ether	10.24	73	29600	0.704	ng		99
26) Vinyl Acetate	10.39	86	5506	1.915	ng	#	83
27) 2-Butanone (MEK)	10.64	72	12577	1.204	ng	#	89
28) cis-1,2-Dichloroethene	11.14	61	13933	0.653	ng		98
29) Diisopropyl Ether	11.45	87	18160	1.452	ng	#	92
30) Ethyl Acetate	11.45	61	16028	2.877	ng		97
31) n-Hexane	11.43	57	17563	0.677	ng		99
32) Chloroform	11.49	83	17308	0.700	ng		99
34) Tetrahydrofuran (THF)	11.91	72	12033	1.214	ng		98
35) Ethyl tert-Butyl Ether	12.04	87	22927	1.349	ng		99
36) 1,2-Dichloroethane	12.29	62	13336	0.653	ng		100
38) 1,1,1-Trichloroethane	12.57	97	15179	0.699	ng		100
39) Isopropyl Acetate	13.03	61	579	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.05	78	39944	0.690	ng		99
42) Carbon Tetrachloride	13.21	117	13060	0.716	ng		100
43) Cyclohexane	13.34	84	30039	1.389	ng		99
44) tert-Amyl Methyl Ether	13.69	73	55775	1.319	ng		99
45) 1,2-Dichloropropane	13.90	63	10257	0.664	ng		100
46) Bromodichloromethane	14.09	83	13522	0.672	ng		99
47) Trichloroethene	14.15	130	10343	0.709	ng		100
48) 1,4-Dioxane	14.14	88	7028	0.631	ng		96
49) 2,2,4-Trimethylpentane...	14.21	57	44982	0.666	ng		99
50) Methyl Methacrylate	14.35	100	7070	1.299	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242221.D Vial: 14
Acq On : 24 Feb 2022 14:57 Operator: TZ
Sample : 0.5ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222205 (3/24)

Quant Time: Feb 25 07:58:29 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

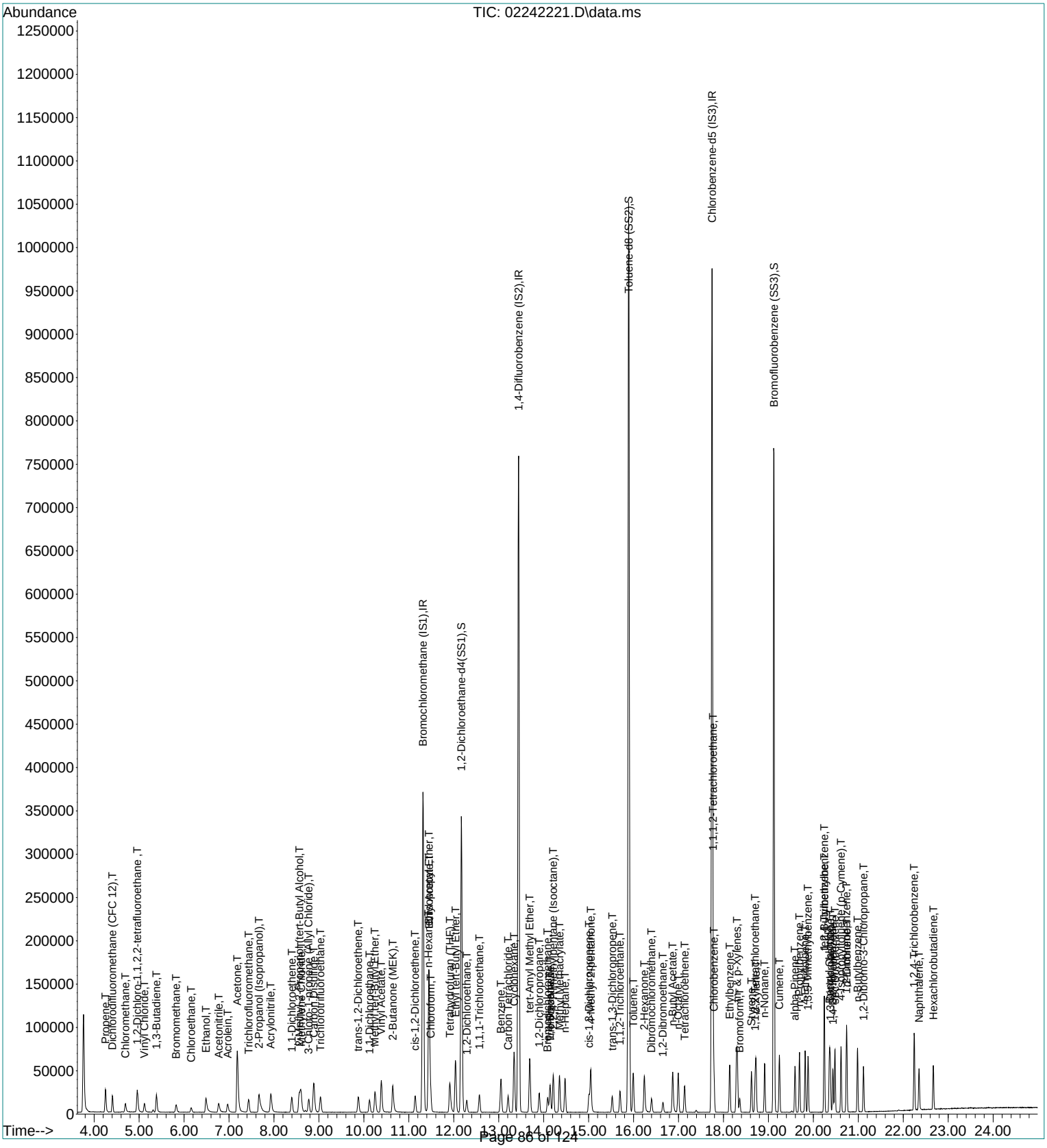
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.47	71	10410	0.669 ng		99
52) cis-1,3-Dichloropropene	15.01	75	15217	0.655 ng		99
53) 4-Methyl-2-pentanone	15.05	58	17345	1.225 ng		97
54) trans-1,3-Dichloropropene	15.53	75	12846	0.618 ng		99
55) 1,1,2-Trichloroethane	15.70	97	9694	0.699 ng		97
58) Toluene	15.99	91	41137	0.759 ng		99
59) 2-Hexanone	16.24	43	39335	1.234 ng		97
60) Dibromochloromethane	16.40	129	11017	0.767 ng		100
61) 1,2-Dibromoethane	16.65	107	10588	0.770 ng		99
62) n-Butyl Acetate	16.87	43	43049	1.253 ng		100
63) n-Octane	16.99	57	9209	0.711 ng		99
64) Tetrachloroethene	17.14	166	10880	0.783 ng		99
65) Chlorobenzene	17.79	112	27259	0.818 ng		100
66) Ethylbenzene	18.14	91	45676	0.726 ng		98
67) m- & p-Xylenes	18.30	91	72303	1.508 ng		99
68) Bromoform	18.36	173	8758	0.735 ng		99
69) Styrene	18.62	104	25204	0.719 ng		98
70) o-Xylene	18.72	91	36406	0.743 ng		100
71) n-Nonane	18.91	43	21036	0.644 ng		99
72) 1,1,2,2-Tetrachloroethane	18.70	83	17266	0.755 ng		99
74) Cumene	19.24	105	46311	0.745 ng		99
75) alpha-Pinene	19.59	93	21831	0.694 ng		99
76) n-Propylbenzene	19.69	91	56747	0.754 ng		99
77) 3-Ethyltoluene	19.88	105	37108	No Calib		
78) 4-Ethyltoluene	19.82	105	44926	0.752 ng		100
79) 1,3,5-Trimethylbenzene	19.88	105	37108	0.728 ng		99
80) alpha-Methylstyrene	19.89	118	191	No Calib	#	
81) 2-Ethyltoluene	19.88	105	37108	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	37204	0.749 ng		99
83) n-Decane	20.24	58	2070	No Calib	#	
84) Benzyl Chloride	20.36	91	47455	1.420 ng		98
85) 1,3-Dichlorobenzene	20.38	146	22054	0.848 ng		97
86) 1,4-Dichlorobenzene	20.44	146	21620	0.818 ng		100
87) sec-Butylbenzene	20.48	105	51474	0.728 ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	42842	0.723 ng		99
89) 1,2,3-Trimethylbenzene	20.61	105	1659	No Calib		
90) 1,2-Dichlorobenzene	20.73	146	21047	0.836 ng		99
91) d-Limonene	20.74	68	13773	0.634 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	14561	1.464 ng		92
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	30491	1.767 ng		99
95) Naphthalene	22.35	128	41780	0.733 ng		99
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	22.67	225	10454	0.731 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.24	119	36777	0.756 ng		100
100) n-Butylbenzene	20.98	91	41220	0.740 ng		98
101) 1,1,1,2-Tetrachloroethane	17.77	131	9538	0.780 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242221.D Vial: 14
Acq On : 24 Feb 2022 14:57 Operator: TZ
Sample : 0.5ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222205 (3/24)

Quant Time: Feb 25 07:58:29 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

TZ 2/25/22

Data File : I:\MS13\DATA\2022 02\24\02242222.D Vial: 14
Acq On : 24 Feb 2022 15:31 Operator: TZ
Sample : 1.0ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222205 (3/24)

Quant Time: Feb 25 07:58:31 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	157387	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	703417	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	130619	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	265297	11.545	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
57) Toluene-d8 (SS2)	15.89	98	821029	13.846	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.80%				
73) Bromofluorobenzene (SS3)	19.12	174	232880	14.093	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.72%				
Target Compounds							Qvalue
2) Propene	4.25	42	21127	1.123	ng		99
3) Dichlorodifluoromethan...	4.41	85	35698	1.345	ng		100
4) Chloromethane	4.69	50	27345	1.375	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.95	135	16800	1.497	ng		97
6) Vinyl Chloride	5.11	62	27736	1.358	ng		97
7) 1,3-Butadiene	5.38	54	22130	1.270	ng		99
8) Bromomethane	5.82	94	15238	1.378	ng		99
9) Chloroethane	6.15	64	12871	1.272	ng		100
10) Ethanol	6.49	45	51530	4.233	ng		99
11) Acetonitrile	6.77	41	33291	1.002	ng		86
12) Acrolein	6.96	56	23569	2.468	ng		99
13) Acetone	7.18	58	71079	6.893	ng		94
14) Trichlorofluoromethane	7.43	101	30302	1.302	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	95802	2.320	ng		96
16) Acrylonitrile	7.93	53	48782	2.502	ng		99
17) 1,1-Dichloroethene	8.39	96	17416	1.356	ng		100
18) 2-Methyl-2-Propanol (t...	8.55	59	91616	2.587	ng		97
19) Methylene Chloride	8.60	84	18890	1.308	ng		99
20) 3-Chloro-1-propene (Al...	8.77	41	28459	1.156	ng		99
21) Trichlorotrifluoroethane	9.04	151	14936	1.432	ng		99
22) Carbon Disulfide	8.88	76	137115	2.519	ng		100
23) trans-1,2-Dichloroethene	9.87	61	27114	1.297	ng		99
24) 1,1-Dichloroethane	10.13	63	34105	1.315	ng		100
25) Methyl tert-Butyl Ether	10.24	73	56459	1.374	ng		100
26) Vinyl Acetate	10.39	86	11242	4.005	ng	#	89
27) 2-Butanone (MEK)	10.64	72	24988	2.449	ng		94
28) cis-1,2-Dichloroethene	11.14	61	26101	1.252	ng		98
29) Diisopropyl Ether	11.45	87	34682	2.839	ng	#	91
30) Ethyl Acetate	11.45	61	31062	5.709	ng		98
31) n-Hexane	11.43	57	33658	1.329	ng		99
32) Chloroform	11.49	83	32796	1.358	ng		99
34) Tetrahydrofuran (THF)	11.91	72	23794	2.458	ng		98
35) Ethyl tert-Butyl Ether	12.04	87	43712	2.634	ng		99
36) 1,2-Dichloroethane	12.29	62	25612	1.284	ng		97
38) 1,1,1-Trichloroethane	12.57	97	28916	1.356	ng		98
39) Isopropyl Acetate	13.02	61	1777	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.05	78	74824	1.317	ng		100
42) Carbon Tetrachloride	13.21	117	24431	1.364	ng		100
43) Cyclohexane	13.35	84	57351	2.701	ng		100
44) tert-Amyl Methyl Ether	13.69	73	106439	2.563	ng		99
45) 1,2-Dichloropropane	13.90	63	19534	1.287	ng		99
46) Bromodichloromethane	14.09	83	25921	1.311	ng		99
47) Trichloroethene	14.14	130	19469	1.360	ng		100
48) 1,4-Dioxane	14.13	88	13732	1.255	ng		100
49) 2,2,4-Trimethylpentane...	14.22	57	85594	1.291	ng		99
50) Methyl Methacrylate	14.35	100	14464	2.706	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242222.D Vial: 14
Acq On : 24 Feb 2022 15:31 Operator: TZ
Sample : 1.0ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222205 (3/24)

Quant Time: Feb 25 07:58:31 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

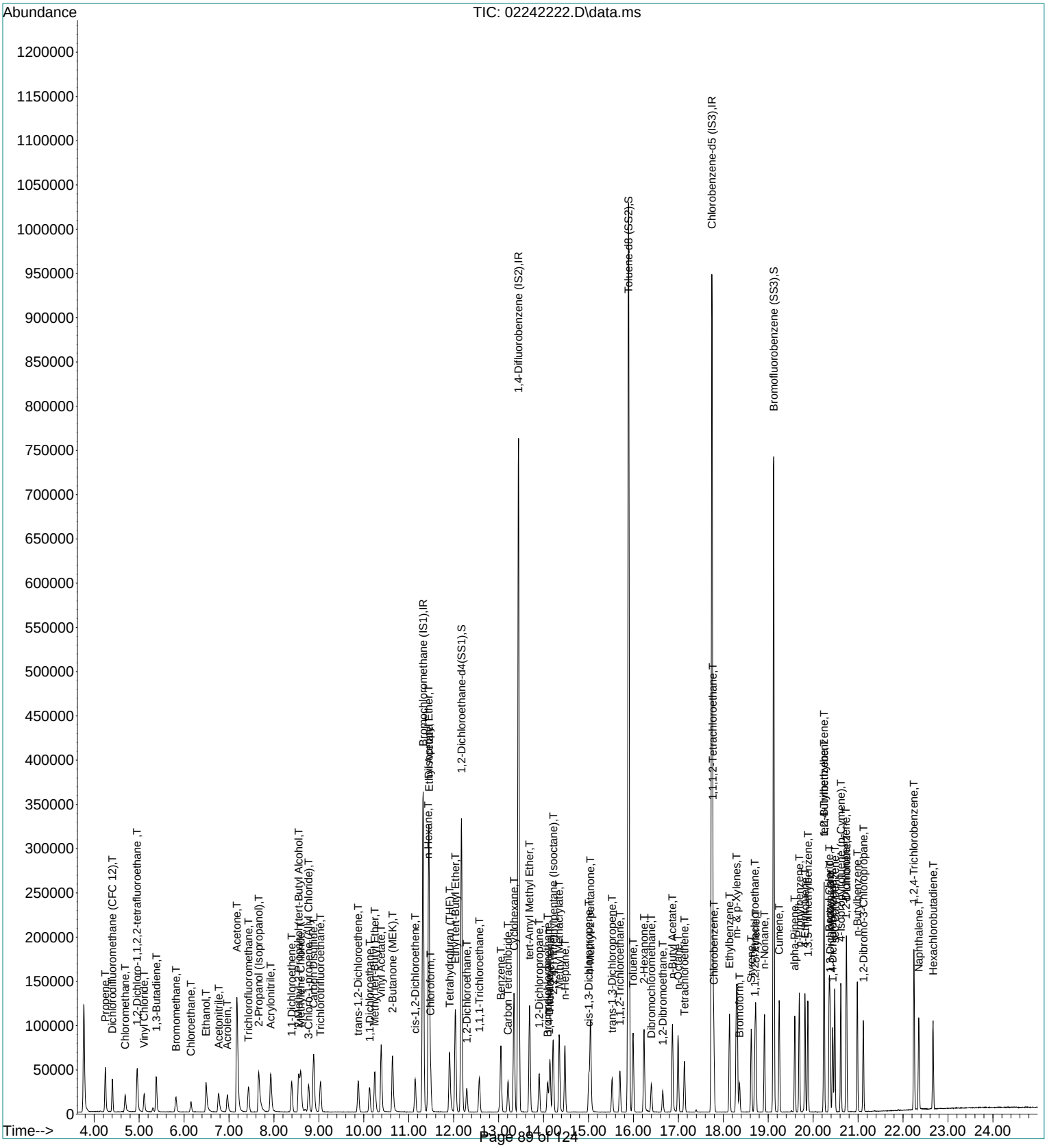
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.48	71	20208	1.323 ng		100
52) cis-1,3-Dichloropropene	15.01	75	29716	1.303 ng		99
53) 4-Methyl-2-pentanone	15.04	58	34199	2.460 ng		98
54) trans-1,3-Dichloropropene	15.53	75	25946	1.272 ng		98
55) 1,1,2-Trichloroethane	15.70	97	18113	1.330 ng		100
58) Toluene	15.99	91	78302	1.472 ng		100
59) 2-Hexanone	16.24	43	79214	2.530 ng		98
60) Dibromochloromethane	16.40	129	21456	1.521 ng		98
61) 1,2-Dibromoethane	16.65	107	20359	1.508 ng		100
62) n-Butyl Acetate	16.87	43	86360	2.558 ng		100
63) n-Octane	16.99	57	17592	1.383 ng		99
64) Tetrachloroethene	17.14	166	20589	1.509 ng		100
65) Chlorobenzene	17.79	112	50415	1.540 ng		100
66) Ethylbenzene	18.14	91	87169	1.411 ng		100
67) m- & p-Xylenes	18.30	91	139396	2.960 ng		98
68) Bromoform	18.36	173	17447	1.491 ng		99
69) Styrene	18.62	104	49712	1.443 ng		99
70) o-Xylene	18.72	91	69373	1.442 ng		100
71) n-Nonane	18.92	43	40869	1.274 ng		98
72) 1,1,2,2-Tetrachloroethane	18.70	83	33070	1.473 ng		99
74) Cumene	19.24	105	87527	1.433 ng		99
75) alpha-Pinene	19.59	93	43260	1.400 ng		98
76) n-Propylbenzene	19.69	91	108285	1.464 ng		99
77) 3-Ethyltoluene	19.89	105	71320	No Calib		
78) 4-Ethyltoluene	19.82	105	86524	1.474 ng		99
79) 1,3,5-Trimethylbenzene	19.89	105	71320	1.424 ng		99
80) alpha-Methylstyrene	19.88	118	373	No Calib	#	
81) 2-Ethyltoluene	19.89	105	71320	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	71424	1.464 ng		99
83) n-Decane	20.24	58	3953	No Calib	#	
84) Benzyl Chloride	20.36	91	97697	2.975 ng		98
85) 1,3-Dichlorobenzene	20.38	146	41933	1.641 ng		99
86) 1,4-Dichlorobenzene	20.44	146	41070	1.582 ng		99
87) sec-Butylbenzene	20.48	105	98936	1.425 ng		98
88) 4-Isopropyltoluene (p-...	20.62	119	82659	1.419 ng		99
89) 1,2,3-Trimethylbenzene	20.62	105	3050	No Calib		
90) 1,2-Dichlorobenzene	20.73	146	40087	1.622 ng		99
91) d-Limonene	20.74	68	27795	1.302 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.12	157	28843	2.952 ng		94
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	59095	3.487 ng		100
95) Naphthalene	22.35	128	86548	1.547 ng		99
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	22.67	225	20131	1.433 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.24	119	70831	1.483 ng		98
100) n-Butylbenzene	20.98	91	80910	1.478 ng		98
101) 1,1,1,2-Tetrachloroethane	17.77	131	18053	1.503 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242222.D Vial: 14
Acq On : 24 Feb 2022 15:31 Operator: TZ
Sample : 1.0ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222205 (3/24)

Quant Time: Feb 25 07:58:31 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242223.D Vial: 14
Acq On : 24 Feb 2022 16:05 Operator: TZ
Sample : 5.0ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222205 (3/24)

TZ 2/25/22

Quant Time: Feb 25 07:58:34 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.33	130	162033	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.44	114	728457	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	137438	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	273057	11.542	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
57) Toluene-d8 (SS2)	15.89	98	854265	13.692	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.52%				
73) Bromofluorobenzene (SS3)	19.12	174	246927	14.202	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.60%				
Target Compounds							Qvalue
2) Propene	4.22	42	105585	5.449	ng		99
3) Dichlorodifluoromethan...	4.38	85	166003	6.077	ng		100
4) Chloromethane	4.66	50	112891	5.514	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.94	135	78624	6.806	ng		99
6) Vinyl Chloride	5.09	62	130250	6.197	ng		100
7) 1,3-Butadiene	5.36	54	109184	6.087	ng		100
8) Bromomethane	5.80	94	70448	6.189	ng		99
9) Chloroethane	6.14	64	61650	5.918	ng		99
10) Ethanol	6.50	45	253553	20.233	ng		100
11) Acetonitrile	6.77	41	168308	4.921	ng		97
12) Acrolein	6.96	56	117673	11.967	ng		99
13) Acetone	7.17	58	339651	31.992	ng		96
14) Trichlorofluoromethane	7.42	101	143439	5.987	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	453600	10.671	ng		98
16) Acrylonitrile	7.93	53	242353	12.076	ng		100
17) 1,1-Dichloroethene	8.39	96	83139	6.288	ng		100
18) 2-Methyl-2-Propanol (t...	8.54	59	397388	10.901	ng		99
19) Methylene Chloride	8.61	84	88995	5.987	ng		100
20) 3-Chloro-1-propene (Al...	8.77	41	139226	5.493	ng		100
21) Trichlorotrifluoroethane	9.03	151	70480	6.562	ng		99
22) Carbon Disulfide	8.88	76	652943	11.652	ng		100
23) trans-1,2-Dichloroethene	9.88	61	131258	6.100	ng		100
24) 1,1-Dichloroethane	10.14	63	159829	5.987	ng		100
25) Methyl tert-Butyl Ether	10.23	73	273148	6.458	ng		100
26) Vinyl Acetate	10.39	86	58525	20.251	ng	#	94
27) 2-Butanone (MEK)	10.63	72	124296	11.833	ng		99
28) cis-1,2-Dichloroethene	11.15	61	126741	5.905	ng		99
29) Diisopropyl Ether	11.44	87	164456	13.077	ng		95
30) Ethyl Acetate	11.45	61	153606	27.424	ng		98
31) n-Hexane	11.43	57	162400	6.228	ng		99
32) Chloroform	11.49	83	154020	6.195	ng		99
34) Tetrahydrofuran (THF)	11.90	72	112621	11.302	ng		100
35) Ethyl tert-Butyl Ether	12.04	87	212760	12.454	ng		99
36) 1,2-Dichloroethane	12.29	62	120235	5.856	ng		100
38) 1,1,1-Trichloroethane	12.57	97	135936	6.156	ng		99
39) Isopropyl Acetate	13.01	61	9514	No Calib		#	
40) 1-Butanol	13.05	56	3534	No Calib		#	
41) Benzene	13.05	78	359215	6.105	ng		100
42) Carbon Tetrachloride	13.21	117	117247	6.320	ng		100
43) Cyclohexane	13.35	84	274945	12.506	ng		100
44) tert-Amyl Methyl Ether	13.69	73	523688	12.179	ng		99
45) 1,2-Dichloropropane	13.90	63	93752	5.967	ng		100
46) Bromodichloromethane	14.09	83	125169	6.115	ng		100
47) Trichloroethene	14.14	130	93388	6.300	ng		100
48) 1,4-Dioxane	14.12	88	69024	6.093	ng		99
49) 2,2,4-Trimethylpentane...	14.21	57	410185	5.974	ng		99
50) Methyl Methacrylate	14.35	100	73153	13.216	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242223.D Vial: 14
Acq On : 24 Feb 2022 16:05 Operator: TZ
Sample : 5.0ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222205 (3/24)

Quant Time: Feb 25 07:58:34 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

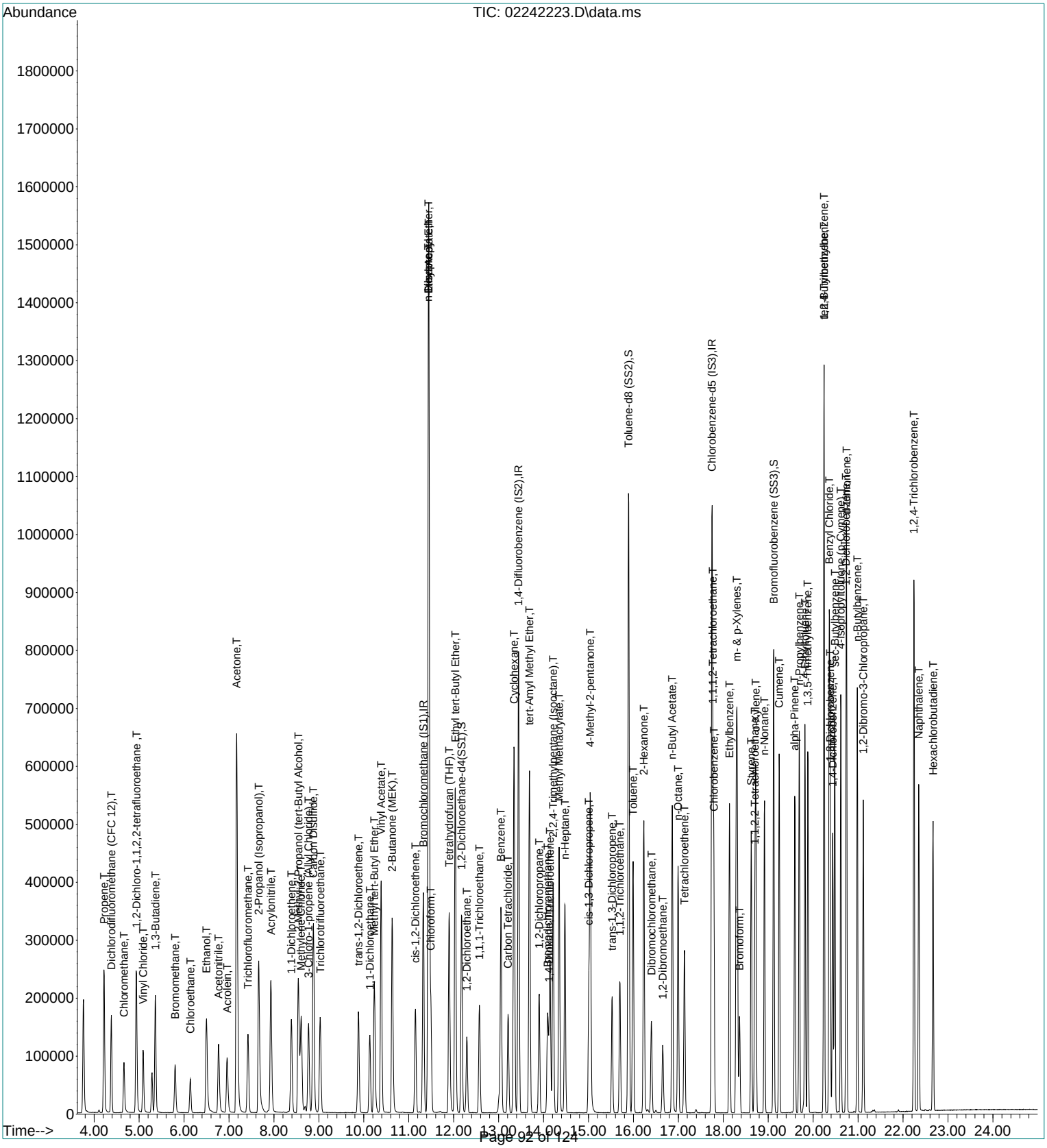
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.48	71	97472	6.162 ng		100
52) cis-1,3-Dichloropropene	15.01	75	148177	6.273 ng		100
53) 4-Methyl-2-pentanone	15.04	58	173232	12.033 ng		99
54) trans-1,3-Dichloropropene	15.53	75	132265	6.262 ng		100
55) 1,1,2-Trichloroethane	15.70	97	87806	6.225 ng		99
58) Toluene	15.99	91	374647	6.692 ng		100
59) 2-Hexanone	16.23	43	407576	12.372 ng		98
60) Dibromochloromethane	16.40	129	104755	7.060 ng		99
61) 1,2-Dibromoethane	16.65	107	99374	6.996 ng		100
62) n-Butyl Acetate	16.86	43	456459	12.850 ng		99
63) n-Octane	16.99	57	86059	6.431 ng		99
64) Tetrachloroethene	17.14	166	99690	6.942 ng		100
65) Chlorobenzene	17.79	112	241898	7.024 ng		99
66) Ethylbenzene	18.14	91	424004	6.525 ng		100
67) m- & p-Xylenes	18.30	91	662181	13.362 ng		100
68) Bromoform	18.36	173	87834	7.132 ng		100
69) Styrene	18.62	104	256659	7.082 ng		100
70) o-Xylene	18.72	91	336811	6.651 ng		100
71) n-Nonane	18.92	43	200923	5.953 ng		99
72) 1,1,2,2-Tetrachloroethane	18.70	83	162295	6.869 ng		100
74) Cumene	19.24	105	427188	6.648 ng		100
75) alpha-Pinene	19.59	93	222441	6.841 ng		99
76) n-Propylbenzene	19.69	91	531404	6.827 ng		99
77) 3-Ethyltoluene	19.88	105	349742	No Calib		
78) 4-Ethyltoluene	19.82	105	431351	6.985 ng		99
79) 1,3,5-Trimethylbenzene	19.88	105	349742	6.636 ng		99
80) alpha-Methylstyrene	19.89	118	2522	No Calib	#	
81) 2-Ethyltoluene	19.88	105	349742	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	357423	6.964 ng		100
83) n-Decane	20.24	58	19586	No Calib		
84) Benzyl Chloride	20.36	91	563764	16.316 ng		99
85) 1,3-Dichlorobenzene	20.38	146	204696	7.613 ng		100
86) 1,4-Dichlorobenzene	20.44	146	202380	7.410 ng		100
87) sec-Butylbenzene	20.48	105	484026	6.624 ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	409062	6.676 ng		99
89) 1,2,3-Trimethylbenzene	20.61	105	15069	No Calib		
90) 1,2-Dichlorobenzene	20.73	146	199174	7.658 ng		100
91) d-Limonene	20.74	68	145830	6.494 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	149891	14.579 ng		98
93) n-Undecane	21.43	57	229	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	301717	16.919 ng		100
95) Naphthalene	22.35	128	451895	7.675 ng		100
96) n-Dodecane	22.34	57	488	No Calib	#	
97) Hexachlorobutadiene	22.67	225	100307	6.785 ng		100
98) Cyclohexanone	18.31	55	445	No Calib	#	
99) tert-Butylbenzene	20.24	119	347214	6.907 ng		99
100) n-Butylbenzene	20.98	91	399132	6.929 ng		99
101) 1,1,1,2-Tetrachloroethane	17.77	131	87760	6.942 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242223.D Vial: 14
Acq On : 24 Feb 2022 16:05 Operator: TZ
Sample : 5.0ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222205 (3/24)

Quant Time: Feb 25 07:58:34 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242224.D Vial: 15
Acq On : 24 Feb 2022 16:39 Operator: TZ
Sample : 25ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

TZ 2/25/22

Quant Time: Feb 25 07:58:36 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	166942	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.45	114	750698	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	142521	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.19	65	279041	11.448	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%			
57) Toluene-d8 (SS2)	15.90	98	878263	13.574	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.56%			
73) Bromofluorobenzene (SS3)	19.12	174	257821	14.300	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.40%			
Target Compounds						Qvalue
2) Propene	4.22	42	536991	26.900	ng	100
3) Dichlorodifluoromethan...	4.38	85	857958	30.484	ng	100
4) Chloromethane	4.67	50	633116	30.016	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.95	135	406485	34.154	ng	100
6) Vinyl Chloride	5.10	62	679477	31.375	ng	100
7) 1,3-Butadiene	5.37	54	582946	31.542	ng	100
8) Bromomethane	5.82	94	369514	31.507	ng	100
9) Chloroethane	6.16	64	323346	30.129	ng	100
10) Ethanol	6.54	45	1341696	103.917	ng	100
11) Acetonitrile	6.80	41	885530	25.131	ng	100
12) Acrolein	6.98	56	612363	60.445	ng	100
13) Acetone	7.19	58	1756816	160.611	ng	100
14) Trichlorofluoromethane	7.44	101	737002	29.856	ng	100
15) 2-Propanol (Isopropanol)	7.70	45	2541122	58.023	ng	100
16) Acrylonitrile	7.96	53	1279600	61.883	ng	100
17) 1,1-Dichloroethene	8.41	96	435945	32.003	ng	100
18) 2-Methyl-2-Propanol (t...	8.57	59	2414895	64.296	ng	100
19) Methylene Chloride	8.63	84	465203	30.375	ng	100
20) 3-Chloro-1-propene (Al...	8.79	41	748990	28.680	ng	100
21) Trichlorotrifluoroethane	9.04	151	367913	33.246	ng	100
22) Carbon Disulfide	8.90	76	3405628	58.988	ng	100
23) trans-1,2-Dichloroethene	9.90	61	700014	31.574	ng	100
24) 1,1-Dichloroethane	10.15	63	837427	30.444	ng	100
25) Methyl tert-Butyl Ether	10.24	73	1460264	33.509	ng	100
26) Vinyl Acetate	10.40	86	324914	109.124	ng	100
27) 2-Butanone (MEK)	10.64	72	667354	61.666	ng	100
28) cis-1,2-Dichloroethene	11.16	61	672655	30.420	ng	100
29) Diisopropyl Ether	11.45	87	789946	60.965	ng	100
30) Ethyl Acetate	11.46	61	796042	137.944	ng	100
31) n-Hexane	11.44	57	823193	30.639	ng	100
32) Chloroform	11.51	83	811074	31.662	ng	100
34) Tetrahydrofuran (THF)	11.91	72	603011	58.735	ng	100
35) Ethyl tert-Butyl Ether	12.04	87	1150815	65.384	ng	100
36) 1,2-Dichloroethane	12.30	62	627523	29.663	ng	100
38) 1,1,1-Trichloroethane	12.58	97	717311	31.524	ng	100
39) Isopropyl Acetate	13.06	61	9941	No Calib	#	
40) 1-Butanol	13.02	56	22266	No Calib		
41) Benzene	13.06	78	1891255	31.190	ng	100
42) Carbon Tetrachloride	13.22	117	622139	32.543	ng	100
43) Cyclohexane	13.35	84	1455115	64.225	ng	100
44) tert-Amyl Methyl Ether	13.69	73	2848958	64.293	ng	100
45) 1,2-Dichloropropane	13.90	63	496189	30.644	ng	100
46) Bromodichloromethane	14.09	83	668934	31.712	ng	100
47) Trichloroethene	14.15	130	497393	32.562	ng	100
48) 1,4-Dioxane	14.12	88	403518	34.563	ng	100
49) 2,2,4-Trimethylpentane...	14.22	57	2172304	30.699	ng	100
50) Methyl Methacrylate	14.35	100	403584	70.752	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242224.D Vial: 15
Acq On : 24 Feb 2022 16:39 Operator: TZ
Sample : 25ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

Quant Time: Feb 25 07:58:36 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

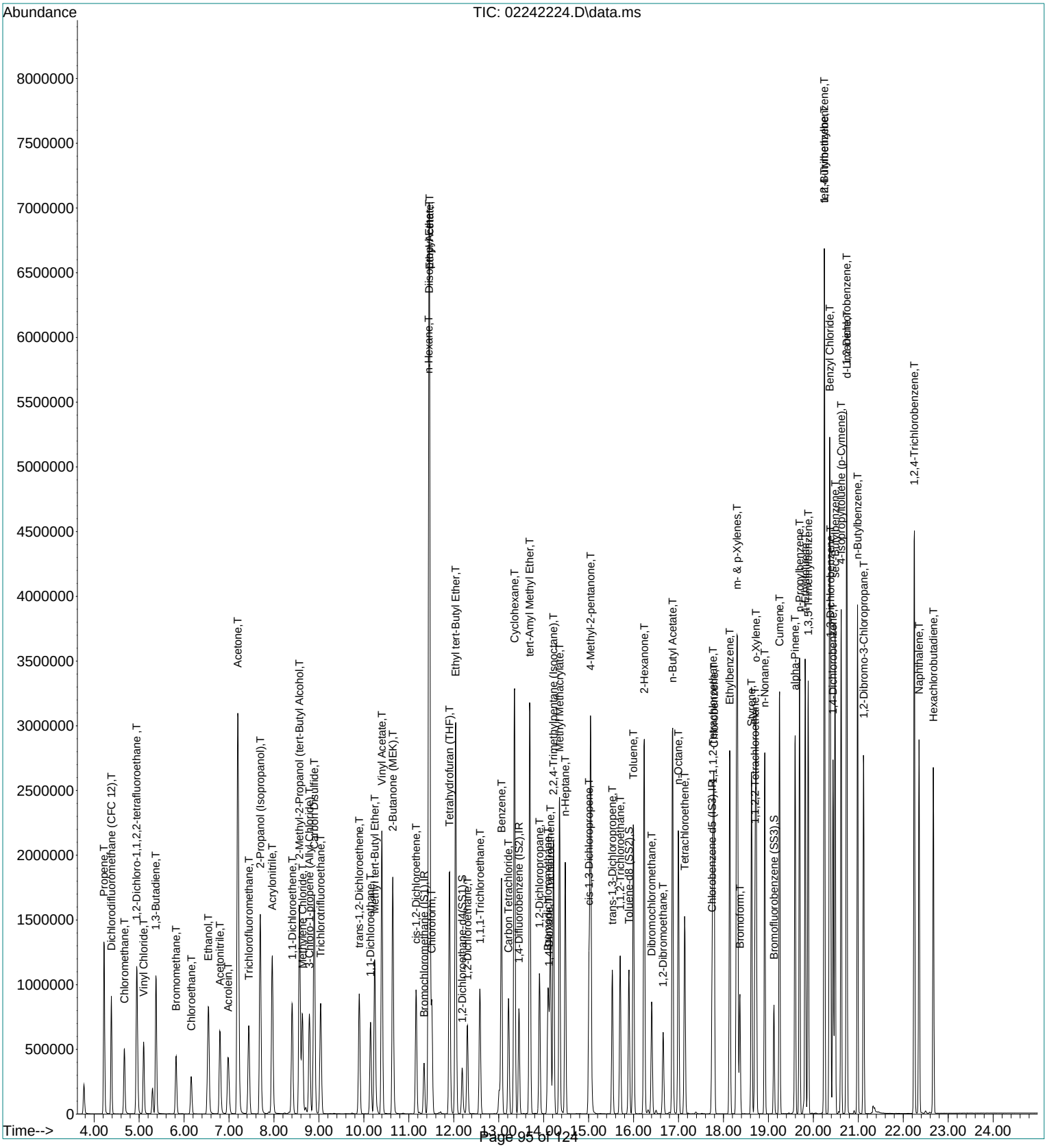
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.48	71	513997	31.533 ng		100
52) cis-1,3-Dichloropropene	15.01	75	811054	33.317 ng		100
53) 4-Methyl-2-pentanone	15.04	58	975451	65.748 ng		100
54) trans-1,3-Dichloropropene	15.53	75	740625	34.025 ng		100
55) 1,1,2-Trichloroethane	15.70	97	466896	32.120 ng		100
58) Toluene	15.99	91	1961123	33.780 ng		100
59) 2-Hexanone	16.24	43	2326653	68.105 ng		100
60) Dibromochloromethane	16.40	129	567881	36.906 ng		100
61) 1,2-Dibromoethane	16.66	107	536392	36.416 ng		100
62) n-Butyl Acetate	16.87	43	2594945	70.444 ng		100
63) n-Octane	16.99	57	455446	32.823 ng		100
64) Tetrachloroethene	17.14	166	537168	36.072 ng		100
65) Chlorobenzene	17.79	112	1295240	36.266 ng		100
66) Ethylbenzene	18.14	91	2269252	33.674 ng		100
67) m- & p-Xylenes	18.30	91	3529517	68.683 ng		100
68) Bromoform	18.37	173	489905	38.362 ng		100
69) Styrene	18.62	104	1411680	37.561 ng		100
70) o-Xylene	18.72	91	1809201	34.454 ng		100
71) n-Nonane	18.92	43	1032443	29.499 ng		100
72) 1,1,2,2-Tetrachloroethane	18.70	83	872402	35.607 ng		100
74) Cumene	19.25	105	2269004	34.049 ng		100
75) alpha-Pinene	19.59	93	1216319	36.074 ng		100
76) n-Propylbenzene	19.69	91	2810084	34.815 ng		100
77) 3-Ethyltoluene	19.89	105	1849418	No Calib		
78) 4-Ethyltoluene	19.82	105	2286315	35.701 ng		100
79) 1,3,5-Trimethylbenzene	19.89	105	1849418	33.842 ng		100
80) alpha-Methylstyrene	19.89	118	13139	No Calib		
81) 2-Ethyltoluene	19.89	105	1849418	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	1884463	35.407 ng		100
83) n-Decane	20.24	58	101506	No Calib		
84) Benzyl Chloride	20.36	91	3336478	93.120 ng		100
85) 1,3-Dichlorobenzene	20.38	146	1112998	39.921 ng		100
86) 1,4-Dichlorobenzene	20.44	146	1116129	39.406 ng		100
87) sec-Butylbenzene	20.48	105	2585551	34.121 ng		100
88) 4-Isopropyltoluene (p-...	20.62	119	2185237	34.389 ng		100
89) 1,2,3-Trimethylbenzene	20.62	105	78976	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	1071696	39.738 ng		100
91) d-Limonene	20.74	68	809852	34.778 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.12	157	822398	77.135 ng		100
93) n-Undecane	21.42	57	333	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	1505711	81.422 ng		100
95) Naphthalene	22.35	128	2282298	37.381 ng		100
96) n-Dodecane	22.34	57	722	No Calib	#	
97) Hexachlorobutadiene	22.67	225	540817	35.280 ng		100
98) Cyclohexanone	18.30	55	2710	No Calib		
99) tert-Butylbenzene	20.24	119	1830236	35.108 ng		100
100) n-Butylbenzene	20.98	91	2089789	34.983 ng		100
101) 1,1,1,2-Tetrachloroethane	17.77	131	468083	35.708 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242224.D Vial: 15
Acq On : 24 Feb 2022 16:39 Operator: TZ
Sample : 25ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

Quant Time: Feb 25 07:58:36 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242225.D Vial: 15
Acq On : 24 Feb 2022 17:13 Operator: TZ
Sample : 50ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

TZ 2/25/22

Quant Time: Feb 25 07:58:38 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	169817	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.45	114	775611	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	145187	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.19	65	285713	11.523	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.16%				
57) Toluene-d8 (SS2)	15.90	98	901928	13.684	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.44%				
73) Bromofluorobenzene (SS3)	19.12	174	266455	14.507	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.08%				
Target Compounds							Qvalue
2) Propene	4.21	42	1103297	54.332	ng		100
3) Dichlorodifluoromethan...	4.38	85	1682861	58.782	ng		100
4) Chloromethane	4.67	50	1136195	52.956	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.95	135	828220	68.411	ng		100
6) Vinyl Chloride	5.10	62	1370523	62.213	ng		100
7) 1,3-Butadiene	5.38	54	1173136	62.401	ng		100
8) Bromomethane	5.82	94	735869	61.683	ng		100
9) Chloroethane	6.16	64	649467	59.491	ng		99
10) Ethanol	6.57	45	2696728	205.330	ng		100
11) Acetonitrile	6.81	41	1794368	50.062	ng		100
12) Acrolein	6.99	56	1236960	120.030	ng		100
13) Acetone	7.21	58	3410372	306.503	ng		96
14) Trichlorofluoromethane	7.44	101	1479637	58.925	ng		100
15) 2-Propanol (Isopropanol)	7.71	45	4866068	109.229	ng		100
16) Acrylonitrile	7.97	53	2555789	121.509	ng		100
17) 1,1-Dichloroethene	8.41	96	881444	63.611	ng		99
18) 2-Methyl-2-Propanol (t...	8.58	59	4116739	107.751	ng		100
19) Methylene Chloride	8.63	84	942517	60.499	ng		99
20) 3-Chloro-1-propene (Al...	8.79	41	1513732	56.982	ng		99
21) Trichlorotrifluoroethane	9.04	151	748641	66.504	ng		99
22) Carbon Disulfide	8.90	76	6744941	114.849	ng		100
23) trans-1,2-Dichloroethene	9.90	61	1412857	62.649	ng		100
24) 1,1-Dichloroethane	10.15	63	1665665	59.529	ng		100
25) Methyl tert-Butyl Ether	10.24	73	2729554	61.576	ng		100
26) Vinyl Acetate	10.41	86	655338	216.373	ng	#	92
27) 2-Butanone (MEK)	10.65	72	1340412	121.762	ng		97
28) cis-1,2-Dichloroethene	11.17	61	1343863	59.745	ng		100
29) Diisopropyl Ether	11.45	87	1458561	110.661	ng	#	90
30) Ethyl Acetate	11.47	61	1462100	249.074	ng		97
31) n-Hexane	11.44	57	1544843	56.525	ng		100
32) Chloroform	11.52	83	1636204	62.791	ng		100
34) Tetrahydrofuran (THF)	11.91	72	1211728	116.027	ng		99
35) Ethyl tert-Butyl Ether	12.04	87	2308794	128.955	ng		98
36) 1,2-Dichloroethane	12.30	62	1264113	58.742	ng		100
38) 1,1,1-Trichloroethane	12.58	97	1439946	61.249	ng		100
39) Isopropyl Acetate	13.06	61	20770	No Calib		#	
40) 1-Butanol	13.02	56	48251	No Calib			
41) Benzene	13.06	78	3781459	60.360	ng		100
42) Carbon Tetrachloride	13.22	117	1264904	64.039	ng		100
43) Cyclohexane	13.35	84	2892584	123.571	ng		99
44) tert-Amyl Methyl Ether	13.69	73	5639047	123.170	ng		100
45) 1,2-Dichloropropane	13.91	63	1000916	59.829	ng		100
46) Bromodichloromethane	14.10	83	1350716	61.976	ng		100
47) Trichloroethene	14.15	130	1015637	64.352	ng		100
48) 1,4-Dioxane	14.13	88	821824	68.132	ng		100
49) 2,2,4-Trimethylpentane...	14.22	57	4330884	59.239	ng		100
50) Methyl Methacrylate	14.35	100	824514	139.902	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242225.D Vial: 15
Acq On : 24 Feb 2022 17:13 Operator: TZ
Sample : 50ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

Quant Time: Feb 25 07:58:38 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

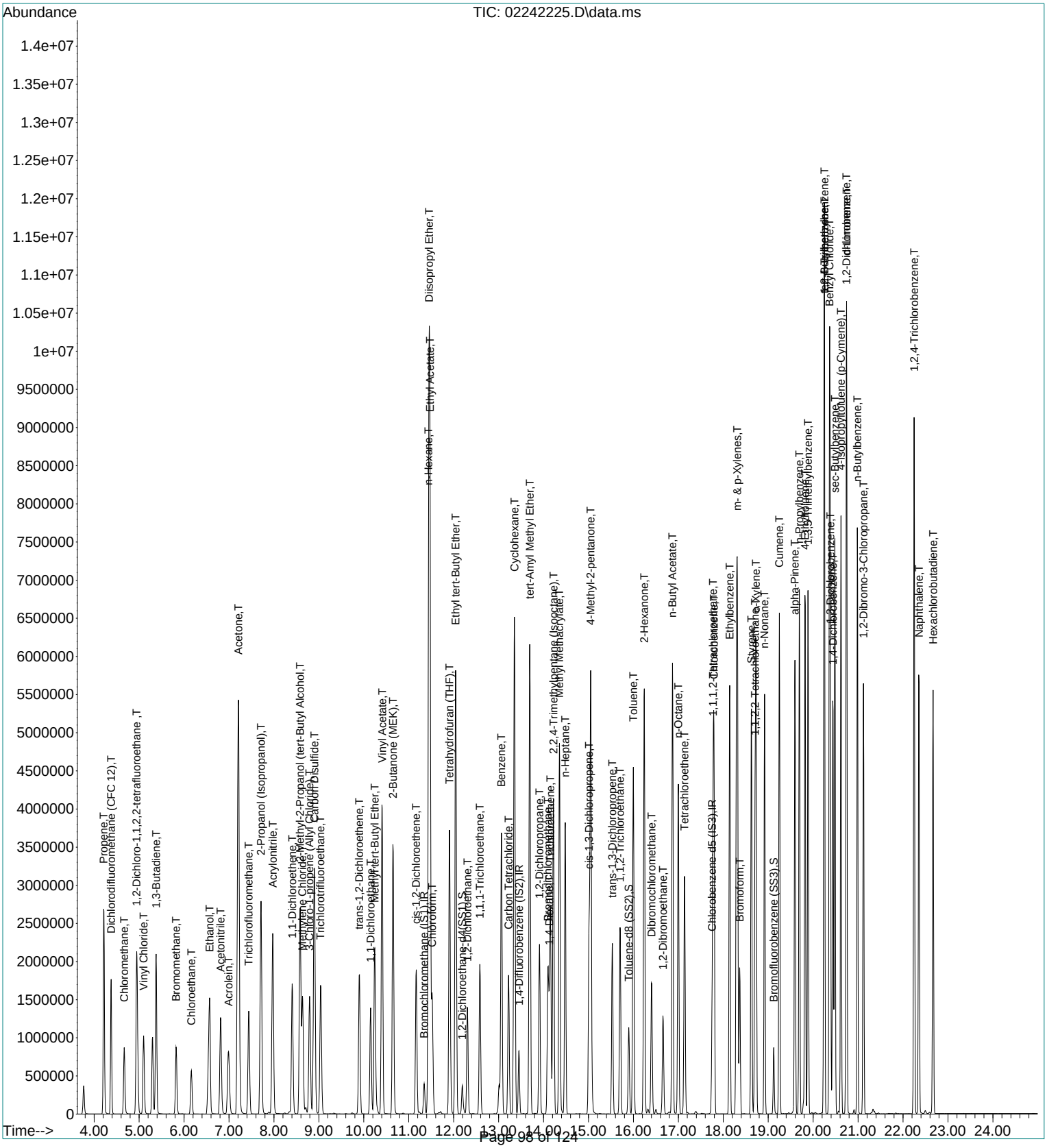
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.48	71	1033142	61.346 ng		100
52) cis-1,3-Dichloropropene	15.01	75	1637404	65.101 ng		100
53) 4-Methyl-2-pentanone	15.05	58	1937165	126.376 ng		98
54) trans-1,3-Dichloropropene	15.53	75	1508965	67.097 ng		100
55) 1,1,2-Trichloroethane	15.70	97	946404	63.016 ng		100
58) Toluene	16.00	91	3924795	66.362 ng		99
59) 2-Hexanone	16.24	43	4564216	131.149 ng		99
60) Dibromochloromethane	16.40	129	1159980	74.001 ng		100
61) 1,2-Dibromoethane	16.66	107	1094419	72.936 ng		100
62) n-Butyl Acetate	16.87	43	5094237	135.752 ng		99
63) n-Octane	17.00	57	913585	64.631 ng		99
64) Tetrachloroethene	17.14	166	1105829	72.895 ng		100
65) Chlorobenzene	17.79	112	2616644	71.919 ng		100
66) Ethylbenzene	18.14	91	4525983	65.929 ng		99
67) m- & p-Xylenes	18.31	91	7043445	134.546 ng		100
68) Bromoform	18.37	173	1022072	78.564 ng		100
69) Styrene	18.63	104	2876134	75.122 ng		100
70) o-Xylene	18.73	91	3631296	67.884 ng		100
71) n-Nonane	18.92	43	2041076	57.247 ng		99
72) 1,1,2,2-Tetrachloroethane	18.71	83	1755084	70.318 ng		100
74) Cumene	19.25	105	4509577	66.429 ng		99
75) alpha-Pinene	19.59	93	2457797	71.555 ng		100
76) n-Propylbenzene	19.69	91	5513518	67.054 ng		99
77) 3-Ethyltoluene	19.89	105	3728495	No Calib		
78) 4-Ethyltoluene	19.82	105	4560874	69.911 ng		99
79) 1,3,5-Trimethylbenzene	19.89	105	3730383	67.007 ng		100
80) alpha-Methylstyrene	19.89	118	26468	No Calib		
81) 2-Ethyltoluene	19.89	105	3730383	No Calib		
82) 1,2,4-Trimethylbenzene	20.25	105	3648273	67.289 ng		100
83) n-Decane	20.25	58	194572	No Calib		
84) Benzyl Chloride	20.36	91	6550972	179.478 ng		98
85) 1,3-Dichlorobenzene	20.39	146	2259630	79.559 ng		100
86) 1,4-Dichlorobenzene	20.44	146	2274009	78.812 ng		100
87) sec-Butylbenzene	20.48	105	5128384	66.435 ng		99
88) 4-Isopropyltoluene (p-...	20.62	119	4352467	67.237 ng		99
89) 1,2,3-Trimethylbenzene	20.62	105	161014	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	2150645	78.280 ng		100
91) d-Limonene	20.74	68	1585279	66.828 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.12	157	1675435	154.259 ng		98
93) n-Undecane	21.42	57	678	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	3087051	163.868 ng		99
95) Naphthalene	22.36	128	4677422	75.203 ng		100
96) n-Dodecane	22.34	57	1166	No Calib	#	
97) Hexachlorobutadiene	22.67	225	1135847	72.735 ng		100
98) Cyclohexanone	18.31	55	5808	No Calib		
99) tert-Butylbenzene	20.25	119	3498603	65.879 ng		99
100) n-Butylbenzene	20.98	91	4129659	67.861 ng		99
101) 1,1,1,2-Tetrachloroethane	17.77	131	952676	71.341 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242225.D Vial: 15
Acq On : 24 Feb 2022 17:13 Operator: TZ
Sample : 50ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

Quant Time: Feb 25 07:58:38 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242226.D Vial: 15
Acq On : 24 Feb 2022 17:47 Operator: TZ
Sample : 100ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

TZ 2/25/22

Quant Time: Feb 25 07:58:40 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.35	130	174361	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.45	114	803965	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	146980	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.20	65	269979	10.605	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.80%				
57) Toluene-d8 (SS2)	15.90	98	927573	13.901	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.20%				
73) Bromofluorobenzene (SS3)	19.12	174	274333	14.754	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.00%				
Target Compounds							Qvalue
2) Propene	4.22	42	2278707	109.292	ng		100
3) Dichlorodifluoromethan...	4.38	85	3235869	110.083	ng		100
4) Chloromethane	4.68	50	1547264	70.235	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.96	135	1670934	134.422	ng		100
6) Vinyl Chloride	5.12	62	2721120	120.302	ng		100
7) 1,3-Butadiene	5.40	54	2345335	121.500	ng		99
8) Bromomethane	5.84	94	1492494	121.845	ng		99
9) Chloroethane	6.18	64	1309978	116.867	ng		99
10) Ethanol	6.61	45	5323499	394.771	ng		100
11) Acetonitrile	6.85	41	3636900	98.823	ng		100
12) Acrolein	7.01	56	2488840	235.214	ng		100
13) Acetone	7.24	58	6378520	558.323	ng		90
14) Trichlorofluoromethane	7.45	101	2993352	116.100	ng		100
15) 2-Propanol (Isopropanol)	7.75	45	8973234	196.174	ng		100
16) Acrylonitrile	8.00	53	5135686	237.800	ng		100
17) 1,1-Dichloroethene	8.42	96	1796079	126.240	ng		97
18) 2-Methyl-2-Propanol (t...	8.61	59	5436035	138.574	ng		100
19) Methylene Chloride	8.65	84	1902868	118.960	ng		97
20) 3-Chloro-1-propene (Al...	8.80	41	3060738	112.215	ng		99
21) Trichlorotrifluoroethane	9.05	151	1532502	132.589	ng		98
22) Carbon Disulfide	8.91	76	12821760	212.632	ng		99
23) trans-1,2-Dichloroethene	9.91	61	2820588	121.811	ng		99
24) 1,1-Dichloroethane	10.16	63	3284289	114.318	ng		99
25) Methyl tert-Butyl Ether	10.25	73	3863700	84.889	ng		100
26) Vinyl Acetate	10.42	86	1293465	415.933	ng	#	75
27) 2-Butanone (MEK)	10.67	72	2644264	233.943	ng	#	90
28) cis-1,2-Dichloroethene	11.17	61	2663542	115.328	ng		99
29) Diisopropyl Ether	11.46	87	2491782	184.125	ng	#	80
30) Ethyl Acetate	11.49	61	2471867	410.118	ng		94
31) n-Hexane	11.45	57	2688385	95.804	ng		99
32) Chloroform	11.54	83	3263853	121.989	ng		100
34) Tetrahydrofuran (THF)	11.92	72	2387183	222.623	ng		96
35) Ethyl tert-Butyl Ether	12.05	87	4430397	241.005	ng		92
36) 1,2-Dichloroethane	12.32	62	2513302	113.748	ng		100
38) 1,1,1-Trichloroethane	12.59	97	2848011	116.869	ng		100
39) Isopropyl Acetate	13.07	61	41609	No Calib		#	
40) 1-Butanol	13.03	56	101996	No Calib			
41) Benzene	13.07	78	7437879	114.537	ng		99
42) Carbon Tetrachloride	13.23	117	2534249	123.778	ng		100
43) Cyclohexane	13.36	84	5383943	221.891	ng		98
44) tert-Amyl Methyl Ether	13.70	73	10361466	218.337	ng		98
45) 1,2-Dichloropropane	13.92	63	2001476	115.417	ng		100
46) Bromodichloromethane	14.10	83	2718570	120.339	ng		100
47) Trichloroethene	14.16	130	2064340	126.187	ng		100
48) 1,4-Dioxane	14.13	88	1659356	132.714	ng		100
49) 2,2,4-Trimethylpentane...	14.23	57	8351588	110.206	ng		99
50) Methyl Methacrylate	14.36	100	1632933	267.301	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242226.D Vial: 15
Acq On : 24 Feb 2022 17:47 Operator: TZ
Sample : 100ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

Quant Time: Feb 25 07:58:40 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

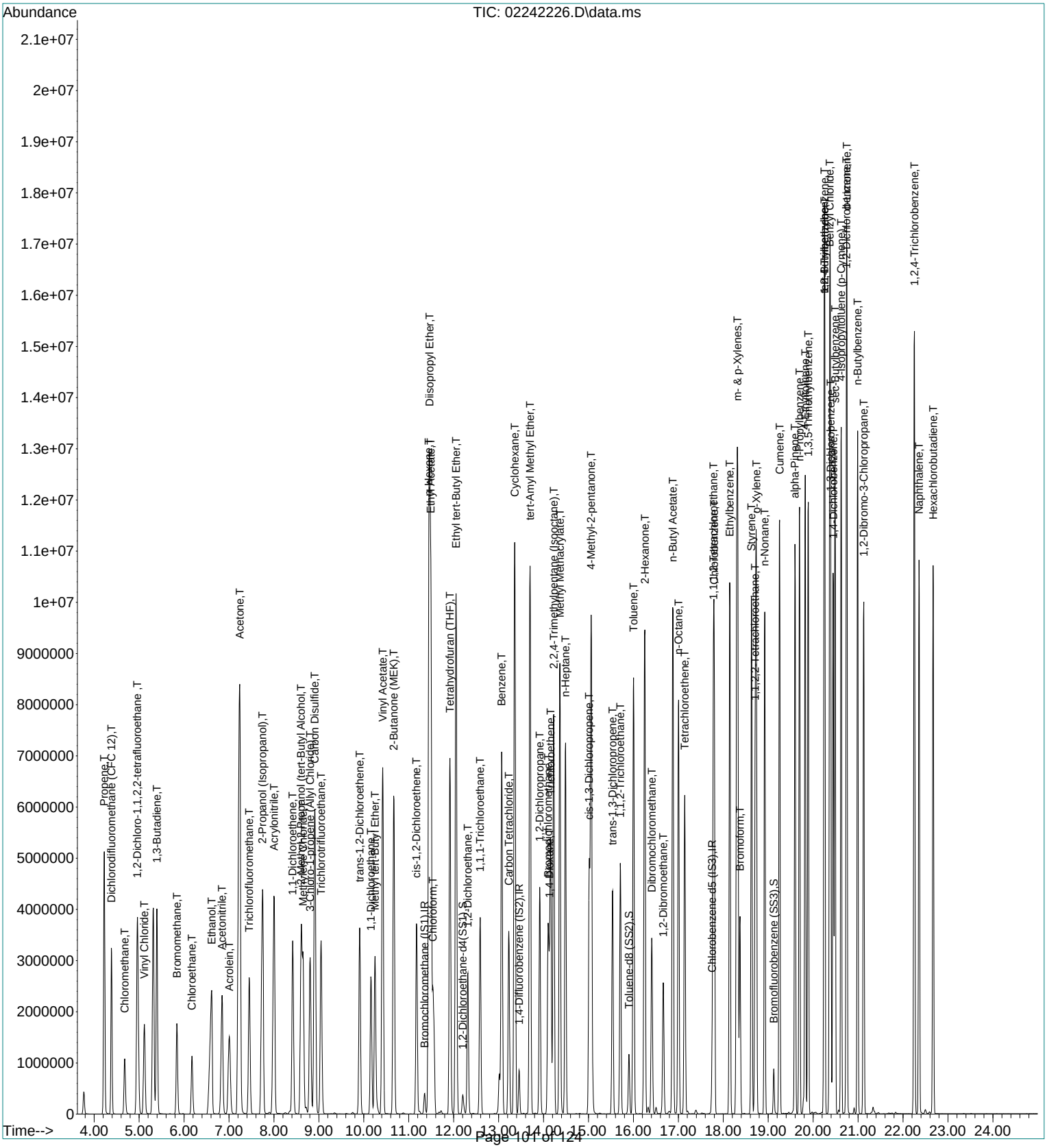
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.49	71	2053252	117.618 ng		99
52) cis-1,3-Dichloropropene	15.01	75	3263958	125.195 ng		100
53) 4-Methyl-2-pentanone	15.06	58	3675887	231.349 ng		95
54) trans-1,3-Dichloropropene	15.54	75	3043482	130.557 ng		100
55) 1,1,2-Trichloroethane	15.71	97	1900312	122.069 ng		100
58) Toluene	16.00	91	7584142	126.671 ng		98
59) 2-Hexanone	16.25	43	8445810	239.722 ng		98
60) Dibromochloromethane	16.41	129	2366840	149.151 ng		99
61) 1,2-Dibromoethane	16.66	107	2223117	146.349 ng		100
62) n-Butyl Acetate	16.87	43	9302782	244.877 ng		97
63) n-Octane	17.01	57	1778975	124.318 ng		98
64) Tetrachloroethene	17.14	166	2264912	147.478 ng		99
65) Chlorobenzene	17.80	112	5104480	138.587 ng		99
66) Ethylbenzene	18.14	91	8606618	123.841 ng		97
67) m- & p-Xylenes	18.31	91	12885707	243.144 ng		98
68) Bromoform	18.37	173	2124812	161.336 ng		100
69) Styrene	18.63	104	5628907	145.228 ng		99
70) o-Xylene	18.74	91	6895767	127.339 ng		98
71) n-Nonane	18.92	43	3836454	106.291 ng		97
72) 1,1,2,2-Tetrachloroethane	18.71	83	3395769	134.392 ng		100
74) Cumene	19.25	105	8374304	121.853 ng		96
75) alpha-Pinene	19.59	93	4700763	135.186 ng		99
76) n-Propylbenzene	19.70	91	10009373	120.246 ng		95
77) 3-Ethyltoluene	19.89	105	7043299	No Calib		
78) 4-Ethyltoluene	19.82	105	8467971	128.218 ng		96
79) 1,3,5-Trimethylbenzene	19.89	105	7042664	124.961 ng		98
80) alpha-Methylstyrene	19.89	118	52290	No Calib		
81) 2-Ethyltoluene	19.89	105	7042664	No Calib		
82) 1,2,4-Trimethylbenzene	20.25	105	6191882	112.810 ng		100
83) n-Decane	20.25	58	303824	No Calib		
84) Benzyl Chloride	20.37	91	10844128	293.474 ng		94
85) 1,3-Dichlorobenzene	20.39	146	4133903	143.775 ng		99
86) 1,4-Dichlorobenzene	20.45	146	4502469	154.142 ng		100
87) sec-Butylbenzene	20.49	105	9292636	118.911 ng		95
88) 4-Isopropyltoluene (p-...	20.62	119	7926403	120.954 ng		96
89) 1,2,3-Trimethylbenzene	20.62	105	313166	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	3898036	140.151 ng		100
91) d-Limonene	20.75	68	2699008	112.389 ng		95
92) 1,2-Dibromo-3-Chloropr...	21.13	157	3244970	295.123 ng		97
93) n-Undecane	21.42	57	1473	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	5780960	303.123 ng		99
95) Naphthalene	22.35	128	8963904	142.362 ng		99
96) n-Dodecane	22.34	57	1760	No Calib	#	
97) Hexachlorobutadiene	22.67	225	2343027	148.208 ng		100
98) Cyclohexanone	18.31	55	10846	No Calib	#	
99) tert-Butylbenzene	20.25	119	5963384	110.921 ng		98
100) n-Butylbenzene	20.99	91	7519339	122.054 ng		96
101) 1,1,1,2-Tetrachloroethane	17.78	131	1867798	138.164 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242226.D Vial: 15
Acq On : 24 Feb 2022 17:47 Operator: TZ
Sample : 100ng R13022422 ICAL Std. Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

Quant Time: Feb 25 07:58:40 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:58:02 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

TZ 2/25/22

Data File : I:\MS13\DATA\2022 02\24\02242228.D Vial: 1
Acq On : 24 Feb 2022 18:55 Operator: TZ
Sample : 25ng R13022422 ICV Std. Inst : GCMS13
Misc : S35-02242201/S35-02092204 (3/11)

Quant Time: Feb 25 08:07:42 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	178255	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.45	114	799245	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	147104	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.19	65	292062	12.307	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
57) Toluene-d8 (SS2)	15.90	98	929411	12.614	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	19.12	174	277455	13.007	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
Target Compounds							Qvalue
2) Propene	4.21	42	527500	23.169	ng		100
3) Dichlorodifluoromethan...	4.38	85	835012	22.653	ng		100
4) Chloromethane	4.66	50	561166	20.998	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.94	135	413943	24.109	ng		100
6) Vinyl Chloride	5.09	62	682147	23.492	ng		100
7) 1,3-Butadiene	5.37	54	571034	23.976	ng		100
8) Bromomethane	5.82	94	377457	23.134	ng		100
9) Chloroethane	6.15	64	322677	23.044	ng		100
10) Ethanol	6.54	45	1556867	94.219	ng		100
11) Acetonitrile	6.80	41	853812	20.739	ng		100
12) Acrolein	6.98	56	612345	46.588	ng		99
13) Acetone	7.19	58	1699275	112.017	ng		99
14) Trichlorofluoromethane	7.43	101	730248	22.419	ng		100
15) 2-Propanol (Isopropanol)	7.69	45	2474538	47.600	ng		100
16) Acrylonitrile	7.96	53	1213952	45.714	ng		99
17) 1,1-Dichloroethene	8.40	96	434171	24.078	ng		98
18) 2-Methyl-2-Propanol (t...	8.57	59	2016865	45.514	ng		99
19) Methylene Chloride	8.63	84	457202	22.374	ng		98
20) 3-Chloro-1-propene (Al...	8.79	41	679037	22.821	ng		99
21) Trichlorotrifluoroethane	9.03	151	369963	23.959	ng		98
22) Carbon Disulfide	8.89	76	3242321	43.974	ng		100
23) trans-1,2-Dichloroethene	9.89	61	676092	23.803	ng		99
24) 1,1-Dichloroethane	10.15	63	829397	23.432	ng		100
25) Methyl tert-Butyl Ether	10.24	73	1342995	23.374	ng		99
26) Vinyl Acetate	10.40	86	468605	128.357	ng	#	94
27) 2-Butanone (MEK)	10.64	72	641904	48.024	ng		98
28) cis-1,2-Dichloroethene	11.16	61	650141	22.847	ng		99
29) Diisopropyl Ether	11.45	87	758953	45.005	ng	#	68
30) Ethyl Acetate	11.46	61	536167	66.419	ng		97
31) n-Hexane	11.44	57	794403	23.086	ng		100
32) Chloroform	11.50	83	796125	23.554	ng		100
34) Tetrahydrofuran (THF)	11.90	72	608949	45.387	ng		99
35) Ethyl tert-Butyl Ether	12.04	87	1121346	48.347	ng		98
36) 1,2-Dichloroethane	12.30	62	613466	22.999	ng		100
38) 1,1,1-Trichloroethane	12.58	97	706056	23.153	ng		99
39) Isopropyl Acetate	13.06	61	12262	No Calib		#	
40) 1-Butanol	13.03	56	12002	No Calib		#	
41) Benzene	13.06	78	1875628	23.268	ng		100
42) Carbon Tetrachloride	13.22	117	589483	22.597	ng		100
43) Cyclohexane	13.35	84	1416640	46.342	ng		99
44) tert-Amyl Methyl Ether	13.69	73	2759665	48.599	ng		100
45) 1,2-Dichloropropane	13.90	63	487061	22.911	ng		100
46) Bromodichloromethane	14.09	83	655558	23.760	ng		100
47) Trichloroethene	14.15	130	503042	23.687	ng		100
48) 1,4-Dioxane	14.12	88	395790	26.174	ng		99
49) 2,2,4-Trimethylpentane...	14.22	57	2056044	22.976	ng		100
50) Methyl Methacrylate	14.35	100	396495	51.191	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242228.D Vial: 1
Acq On : 24 Feb 2022 18:55 Operator: TZ
Sample : 25ng R13022422 ICV Std. Inst : GCMS13
Misc : S35-02242201/S35-02092204 (3/11)

Quant Time: Feb 25 08:07:42 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

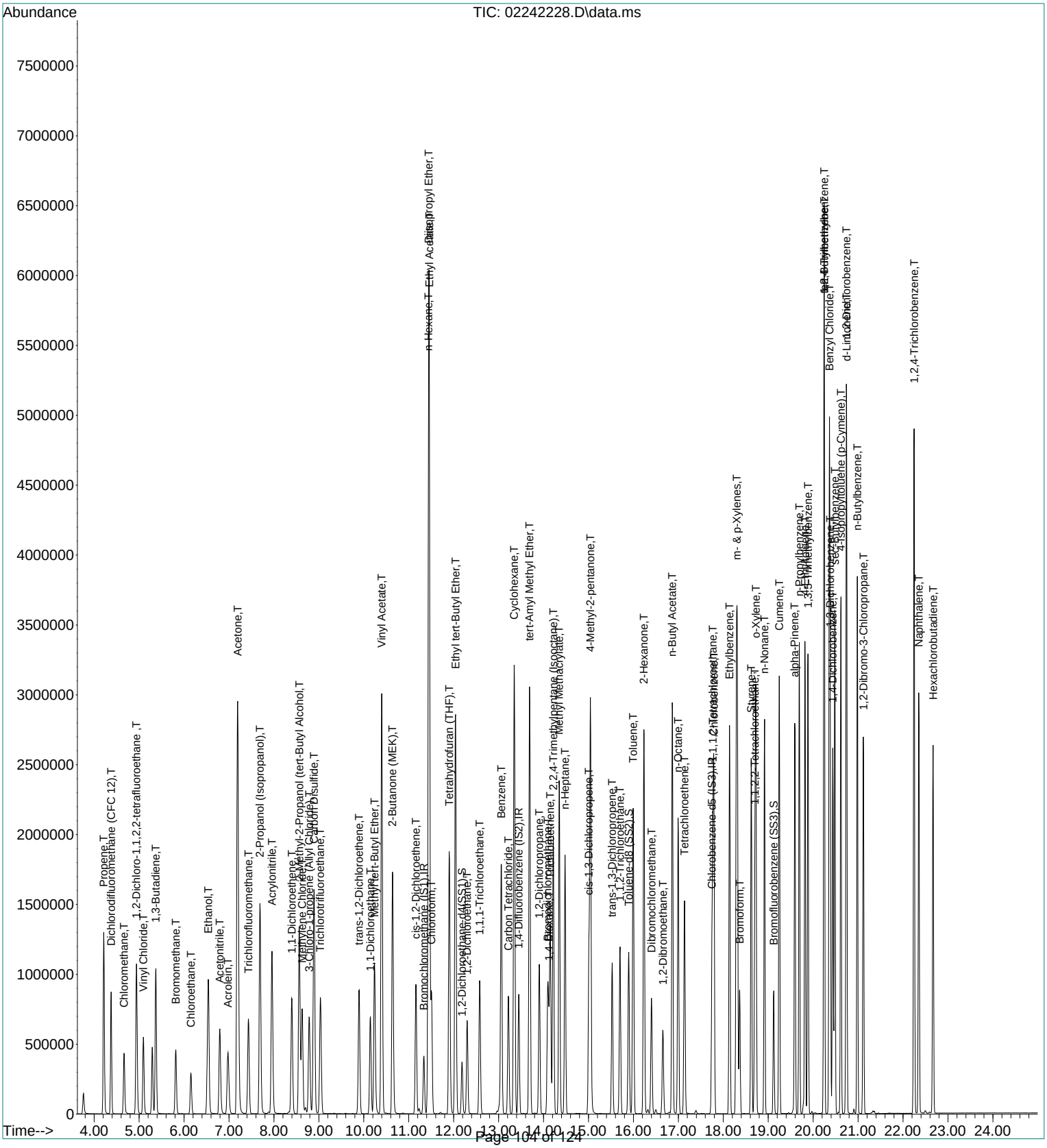
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.48	71	493393	23.444	ng		99
52) cis-1,3-Dichloropropene	15.01	75	788194	24.519	ng		100
53) 4-Methyl-2-pentanone	15.04	58	930864	51.226	ng		100
54) trans-1,3-Dichloropropene	15.53	75	715749	24.516	ng		100
55) 1,1,2-Trichloroethane	15.70	97	461142	23.580	ng		99
58) Toluene	15.99	91	1936036	23.071	ng		100
59) 2-Hexanone	16.23	43	2200350	51.427	ng		100
60) Dibromochloromethane	16.40	129	544567	23.802	ng		100
61) 1,2-Dibromoethane	16.66	107	520694	23.844	ng		100
62) n-Butyl Acetate	16.86	43	2500893	52.647	ng		100
63) n-Octane	16.99	57	433723	23.565	ng		98
64) Tetrachloroethene	17.14	166	542032	24.256	ng		100
65) Chlorobenzene	17.79	112	1264140	23.267	ng		100
66) Ethylbenzene	18.14	91	2231523	23.902	ng		100
67) m- & p-Xylenes	18.30	91	3476966	47.273	ng		100
68) Bromoform	18.37	173	477819	24.879	ng		100
69) Styrene	18.62	104	1355576	24.905	ng		100
70) o-Xylene	18.72	91	1781707	24.217	ng		100
71) n-Nonane	18.92	43	1020579	24.532	ng		100
72) 1,1,2,2-Tetrachloroethane	18.70	83	845989	23.986	ng		100
74) Cumene	19.25	105	2203502	23.739	ng		100
75) alpha-Pinene	19.59	93	1160728	25.768	ng		100
76) n-Propylbenzene	19.69	91	2700257	23.987	ng		100
77) 3-Ethyltoluene	19.89	105	1853215	No Calib			
78) 4-Ethyltoluene	19.82	105	2210352	24.765	ng		100
79) 1,3,5-Trimethylbenzene	19.89	105	1854334	24.744	ng		100
80) alpha-Methylstyrene	19.89	118	13123	No Calib			
81) 2-Ethyltoluene	19.89	105	1854334	No Calib			
82) 1,2,4-Trimethylbenzene	20.24	105	1891362	25.461	ng		100
83) n-Decane	20.24	58	97809	No Calib			
84) Benzyl Chloride	20.36	91	3169935	56.969	ng		100
85) 1,3-Dichlorobenzene	20.38	146	1086297	24.113	ng		100
86) 1,4-Dichlorobenzene	20.44	146	1087280	23.875	ng		100
87) sec-Butylbenzene	20.48	105	2491681	24.019	ng		100
88) 4-Isopropyltoluene (p-...	20.62	119	2128011	24.521	ng		100
89) 1,2,3-Trimethylbenzene	20.62	105	76951	No Calib			
90) 1,2-Dichlorobenzene	20.74	146	1037187	24.080	ng		100
91) d-Limonene	20.74	68	773844	25.651	ng		99
92) 1,2-Dibromo-3-Chloropr...	21.12	157	795236	48.217	ng		98
93) n-Undecane	21.42	57	349	No Calib		#	
94) 1,2,4-Trichlorobenzene	22.25	180	1654818	53.033	ng		100
95) Naphthalene	22.35	128	2435933	27.606	ng		100
96) n-Dodecane	22.34	57	1047	No Calib		#	
97) Hexachlorobutadiene	22.67	225	540716	23.823	ng		100
98) Cyclohexanone	18.31	55	2644	No Calib			
99) tert-Butylbenzene	20.24	119	1777134	24.339	ng		100
100) n-Butylbenzene	20.98	91	2044924	24.607	ng		100
101) 1,1,1,2-Tetrachloroethane	17.77	131	457292	23.180	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 02\24\02242228.D Vial: 1
Acq On : 24 Feb 2022 18:55 Operator: TZ
Sample : 25ng R13022422 ICV Std. Inst : GCMS13
Misc : S35-02242201/S35-02092204 (3/11)

Quant Time: Feb 25 08:07:42 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TZ 2/25/22

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **02242228.D** Acq. Method File: **TO15.M**
Data File Path: **I:\MS13\DATA\2022_02\24** Sample Name: **25ng R13022422 ICV Std.**
Operator: **TZ** Misc Info: **S35-02242201/S35-02092204 (**
Date Acquired: **2/24/2022 18:55** Instrument Name: **GCMS13**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.21**	**23.2**	**25.75**	90	**56**	**128**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.38**	**22.7**	**26.00**	87	**71**	**112**	*	*
4)	**Chloromethane**	**4.66**	**21.0**	**25.75**	82	**53**	**126**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.94**	**24.1**	**26.00**	93	**62**	**121**	*	*
6)	**Vinyl Chloride**	**5.09**	**23.5**	**26.00**	90	**63**	**123**	*	*
7)	**1,3-Butadiene**	**5.37**	**24.0**	**25.75**	93	**63**	**135**	*	*
8)	**Bromomethane**	**5.82**	**23.1**	**25.75**	90	**71**	**112**	*	*
9)	**Chloroethane**	**6.15**	**23.0**	**25.75**	89	**66**	**117**	*	*
10)	**Ethanol**	**6.54**	**94**	**104.00**	90	**57**	**117**	*	*
11)	**Acetonitrile**	**6.80**	**20.7**	**25.25**	82	**59**	**131**	*	*
12)	**Acrolein**	**6.98**	**46.6**	**52.00**	90	**71**	**123**	*	*
13)	**Acetone**	**7.19**	**112**	**128.00**	88	**60**	**117**	*	*
14)	**Trichlorofluoromethane**	**7.43**	**22.4**	**25.25**	89	**71**	**114**	*	*
15)	**2-Propanol (Isopropanol)**	**7.69**	**47.6**	**50.00**	95	**61**	**124**	*	*
16)	**Acrylonitrile**	**7.96**	**45.7**	**50.25**	91	**65**	**130**	*	*
17)	**1,1-Dichloroethene**	**8.40**	**24.1**	**26.25**	92	**74**	**114**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.57	45.5	51.00	89	56	135	*	*
19)	**Methylene Chloride**	**8.63**	**22.4**	**26.00**	86	**75**	**112**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.79**	**22.8**	**25.50**	89	**57**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**9.03**	**24.0**	**27.00**	89	**73**	**114**	*	*
22)	**Carbon Disulfide**	**8.89**	**44.0**	**51.75**	85	**70**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.89**	**23.8**	**26.00**	92	**76**	**119**	*	*
24)	**1,1-Dichloroethane**	**10.15**	**23.4**	**26.75**	87	**70**	**114**	*	*
25)	**Methyl tert-Butyl Ether**	**10.24**	**23.4**	**25.75**	91	**72**	**118**	*	*
26)	**Vinyl Acetate**	**10.40**	**128**	**117.75**	109	**56**	**137**	*	*
27)	**2-Butanone (MEK)**	**10.64**	**48.0**	**51.00**	94	**74**	**121**	*	*
28)	**cis-1,2-Dichloroethene**	**11.16**	**22.8**	**25.75**	89	**73**	**117**	*	*
29)	Diisopropyl Ether	11.45	45.0	52.25	86	58	124	*	*
30)	**Ethyl Acetate**	**11.46**	**66.4**	**72.50**	92	**59**	**161**	*	*
31)	**n-Hexane**	**11.44**	**23.1**	**26.00**	89	**55**	**130**	*	*
32)	**Chloroform**	**11.50**	**23.6**	**26.25**	90	**71**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.90**	**45.4**	**50.50**	90	**73**	**114**	*	*
35)	Ethyl tert-Butyl Ether	12.04	48.3	51.75	93	76	119	*	*
36)	**1,2-Dichloroethane**	**12.30**	**23.0**	**26.25**	88	**71**	**119**	*	*
38)	**1,1,1-Trichloroethane**	**12.58**	**23.2**	**26.00**	89	**73**	**119**	*	*
41)	**Benzene**	**13.06**	**23.3**	**26.00**	90	**72**	**113**	*	*
42)	**Carbon Tetrachloride**	**13.22**	**22.6**	**25.25**	90	**67**	**123**	*	*
43)	**Cyclohexane**	**13.35**	**46.3**	**51.50**	90	**70**	**119**	*	*
44)	tert-Amyl Methyl Ether	13.69	48.6	**51.50**	94	74	120	*	*
45)	**1,2-Dichloropropane**	**13.90**	**22.9**	**25.75**	89	**70**	**118**	*	*
46)	**Bromodichloromethane**	**14.09**	**23.8**	**26.00**	92	**74**	**119**	*	*
47)	**Trichloroethene**	**14.15**	**23.7**	**25.50**	93	**74**	**115**	*	*
48)	**1,4-Dioxane**	**14.12**	**26.2**	**25.75**	102	**77**	**124**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.22	23.0	26.25	88	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **02242228.D** **TO15.M**
Data File Path: **I:\MS13\DATA\2022_02\24** Sample Name: **25ng R13022422 ICV Std.**
Operator: **TZ** Misc Info: **S35-02242201/S35-02092204 (**
Date Acquired: **2/24/2022** **18:55** Instrument Name: **GCMS13**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.35**	**51.2**	**51.25**	100	**78**	**126**	*	*
51)	**n-Heptane**	**14.48**	**23.4**	**25.75**	91	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**15.01**	**24.5**	**26.00**	94	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**15.04**	**51.2**	**51.50**	99	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**15.53**	**24.5**	**25.00**	98	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**15.70**	**23.6**	**26.00**	91	**78**	**117**	*	*
58)	**Toluene**	**15.99**	**23.1**	**25.75**	90	**70**	**118**	*	*
59)	**2-Hexanone**	**16.23**	**51.4**	**50.75**	101	**74**	**132**	*	*
60)	**Dibromochloromethane**	**16.40**	**23.8**	**26.25**	91	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**16.66**	**23.8**	**26.00**	92	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**16.86**	**52.6**	**50.75**	104	**75**	**134**	*	*
63)	**n-Octane**	**16.99**	**23.6**	**26.00**	91	**68**	**120**	*	*
64)	**Tetrachloroethene**	**17.14**	**24.3**	**26.50**	92	**63**	**130**	*	*
65)	**Chlorobenzene**	**17.79**	**23.3**	**25.75**	90	**70**	**118**	*	*
66)	**Ethylbenzene**	**18.14**	**23.9**	**25.75**	93	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**18.30**	**47.3**	**52.00**	91	**67**	**127**	*	*
68)	**Bromoform**	**18.37**	**24.9**	**26.25**	95	**65**	**149**	*	*
69)	**Styrene**	**18.62**	**24.9**	**25.25**	99	**76**	**132**	*	*
70)	**o-Xylene**	**18.72**	**24.2**	**26.00**	93	**69**	**124**	*	*
71)	**n-Nonane**	**18.92**	**24.5**	**26.00**	94	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.70**	**24.0**	**26.00**	92	**69**	**128**	*	*
74)	**Cumene**	**19.25**	**23.7**	**25.75**	92	**69**	**125**	*	*
75)	**alpha-Pinene**	**19.59**	**25.8**	**26.25**	98	**68**	**129**	*	*
76)	**n-Propylbenzene**	**19.69**	**24.0**	**26.00**	92	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**19.82**	**24.8**	**26.00**	**95**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.89**	**24.7**	**26.00**	**95**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**20.24**	**25.5**	**25.75**	**99**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**20.36**	**57.0**	**52.00**	**110**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**20.38**	**24.1**	**26.00**	**93**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**20.44**	**23.9**	**26.25**	**91**	**63**	**134**	*	*
87)	sec-Butylbenzene	20.48	24.0	25.50	**94**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.62	24.5	25.75	**95**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**20.74**	**24.1**	**26.25**	**92**	**64**	**139**	*	*
91)	**d-Limonene**	**20.74**	**25.7**	**25.75**	**100**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.12**	**48.2**	**50.50**	**95**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**22.25**	**53.0**	**52.50**	**101**	**62**	**154**	*	*
95)	**Naphthalene**	**22.35**	**27.6**	**26.25**	**105**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**22.67**	**23.8**	**26.50**	**90**	55	142	*	*
99)	tert-Butylbenzene	20.24	24.3	25.75	94	61	140	*	*
100)	n-Butylbenzene	20.98	24.6	26.00	95	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	17.77	23.2	25.75	90	70	130	*	*

Bold = 75 Compound List
*** = Pass**

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2022 03\01\03012230.D Vial: 1
Acq On : 1 Mar 2022 19:31 Operator: TZ
Sample : CCV2 R13030122 25ng Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

TZ 3/2/22

Quant Time: Mar 02 07:57:32 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	116	-0.02
2	T	Propene	1.597	1.276	20.1	96	0.00
3	T	Dichlorodifluoromethane (CF	2.585	2.037	21.2	96	0.00
4	T	Chloromethane	1.874	1.433	23.5	89	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.204	1.009	16.2	104	-0.02
6	T	Vinyl Chloride	2.036	1.645	19.2	97	-0.02
7	T	1,3-Butadiene	1.670	1.391	16.7	96	-0.02
8	T	Bromomethane	1.144	0.940	17.8	100	-0.02
9	T	Chloroethane	0.982	0.796	18.9	97	-0.02
10	T	Ethanol	1.159	0.906	21.8	95	-0.07
11	T	Acetonitrile	2.887	2.342	18.9	95	-0.05
12	T	Acrolein	0.922	0.758	17.8	96	-0.03
13	T	Acetone	1.064	0.833	21.7	95	-0.05
14	T	Trichlorofluoromethane	2.284	1.831	19.8	99	-0.01
15	T	2-Propanol (Isopropanol)	3.645	3.027	17.0	93	-0.06
16	T	Acrylonitrile	1.862	1.544	17.1	95	-0.05
17	T	1,1-Dichloroethene	1.264	1.048	17.1	100	-0.02
18	T	2-Methyl-2-Propanol (tert-B	3.107	2.552	17.9	86	-0.04
19	T	Methylene Chloride	1.433	1.141	20.4	99	-0.02
20	T	3-Chloro-1-propene (Allyl C	2.087	1.760	15.7	96	-0.02
21	T	Trichlorotrifluoroethane	1.083	0.903	16.6	103	-0.01
22	T	Carbon Disulfide	5.170	4.088	20.9	98	-0.01
23	T	trans-1,2-Dichloroethene	1.992	1.646	17.4	96	-0.01
24	T	1,1-Dichloroethane	2.482	1.984	20.1	96	-0.01
25	T	Methyl tert-Butyl Ether	4.029	3.400	15.6	95	-0.01
26	T	Vinyl Acetate	0.256	0.245	4.3	99	-0.02
27	T	2-Butanone (MEK)	0.937	0.812	13.3	97	-0.02
28	T	cis-1,2-Dichloroethene	1.995	1.603	19.6	96	-0.01
29	T	Diisopropyl Ether	1.183	0.940	20.5	98	-0.01
30	T	Ethyl Acetate	0.566	0.475	16.1	94	-0.03
31	T	n-Hexane	2.413	1.921	20.4	95	0.00
32	T	Chloroform	2.370	1.916	19.2	98	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	1.664	1.604	3.6	111	-0.02
34	T	Tetrahydrofuran (THF)	0.941	0.768	18.4	97	-0.01
35	T	Ethyl tert-Butyl Ether	1.626	1.395	14.2	99	-0.01
36	T	1,2-Dichloroethane	1.871	1.480	20.9	97	-0.02
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	115	0.00
38	T	1,1,1-Trichloroethane	0.477	0.393	17.6	98	-0.01
39	T	Isopropyl Acetate	0.000	0.000	0.0	96	0.00
40	T	1-Butanol	0.000	0.000	0.0	97	0.00
41	T	Benzene	1.261	1.025	18.7	97	0.00
42	T	Carbon Tetrachloride	0.408	0.342	16.2	100	-0.01
43	T	Cyclohexane	0.478	0.398	16.7	98	0.00
44	T	tert-Amyl Methyl Ether	0.888	0.770	13.3	98	-0.01
45	T	1,2-Dichloropropane	0.332	0.268	19.3	96	-0.01
46	T	Bromodichloromethane	0.432	0.360	16.7	98	-0.01
47	T	Trichloroethene	0.332	0.282	15.1	101	-0.01
48	T	1,4-Dioxane	0.236	0.222	5.9	99	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.400	1.136	18.9	96	-0.01
50	T	Methyl Methacrylate	0.121	0.112	7.4	100	-0.01
51	T	n-Heptane	0.329	0.275	16.4	97	-0.01
52	T	cis-1,3-Dichloropropene	0.503	0.435	13.5	97	0.00
53	T	4-Methyl-2-pentanone	0.284	0.258	9.2	95	-0.02
54	T	trans-1,3-Dichloropropene	0.457	0.415	9.2	98	-0.01
55	T	1,1,2-Trichloroethane	0.306	0.257	16.0	99	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2022 03\01\03012230.D Vial: 1
Acq On : 1 Mar 2022 19:31 Operator: TZ
Sample : CCV2 R13030122 25ng Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

Quant Time: Mar 02 07:57:32 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	113	0.00
57	S	Toluene-d8 (SS2)	6.261	6.234	0.4	115	0.00
58	T	Toluene	7.131	5.787	18.8	98	-0.01
59	T	2-Hexanone	3.636	3.289	9.5	94	-0.02
60	T	Dibromochloromethane	1.944	1.679	13.6	100	0.00
61	T	1,2-Dibromoethane	1.856	1.584	14.7	99	0.00
62	T	n-Butyl Acetate	4.037	3.685	8.7	94	-0.01
63	T	n-Octane	1.564	1.283	18.0	96	-0.01
64	T	Tetrachloroethene	1.899	1.634	14.0	102	0.00
65	T	Chlorobenzene	4.617	3.840	16.8	100	0.00
66	T	Ethylbenzene	7.933	6.671	15.9	98	0.00
67	T	m- & p-Xylenes	6.250	5.174	17.2	98	-0.01
68	T	Bromoform	1.632	1.483	9.1	102	0.00
69	T	Styrene	4.625	4.199	9.2	99	0.00
70	T	o-Xylene	6.252	5.258	15.9	98	-0.01
71	T	n-Nonane	3.535	2.883	18.4	94	0.00
72	T	1,1,2,2-Tetrachloroethane	2.997	2.502	16.5	96	0.00
73	S	Bromofluorobenzene (SS3)	1.813	2.063	-13.8	129	0.00
74	T	Cumene	7.887	6.625	16.0	98	0.00
75	T	alpha-Pinene	3.828	3.448	9.9	99	0.00
76	T	n-Propylbenzene	9.566	8.049	15.9	97	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	98	0.00
78	T	4-Ethyltoluene	7.584	6.553	13.6	98	0.00
79	T	1,3,5-Trimethylbenzene	6.368	5.410	15.0	98	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	100	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	98	0.00
82	T	1,2,4-Trimethylbenzene	6.312	5.504	12.8	97	-0.01
83	T	n-Decane	0.000	0.000	0.0	94	0.00
84	T	Benzyl Chloride	4.728	4.924	-4.1	98	-0.01
85	T	1,3-Dichlorobenzene	3.828	3.289	14.1	99	-0.01
86	T	1,4-Dichlorobenzene	3.870	3.315	14.3	100	-0.01
87	T	sec-Butylbenzene	8.815	7.504	14.9	98	0.00
88	T	4-Isopropyltoluene (p-Cymen	7.374	6.402	13.2	98	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	97	0.00
90	T	1,2-Dichlorobenzene	3.660	3.147	14.0	100	0.00
91	T	d-Limonene	2.564	2.252	12.2	94	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.401	1.285	8.3	101	0.00
93	T	n-Undecane	0.000	0.000	0.0	86	0.00
94	T	1,2,4-Trichlorobenzene	2.652	2.282	14.0	100	0.00
95	T	Naphthalene	7.498	6.584	12.2	97	0.00
96	T	n-Dodecane	0.000	0.000	0.0	44#	0.00
97	T	Hexachlorobutadiene	1.929	1.672	13.3	103	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	101	-0.02
99	T	tert-Butylbenzene	6.205	5.328	14.1	98	0.00
100	T	n-Butylbenzene	7.062	6.002	15.0	97	0.00
101	T	1,1,1,2-Tetrachloroethane	1.676	1.401	16.4	101	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012230.D Vial: 1
Acq On : 1 Mar 2022 19:31 Operator: TZ
Sample : CCV2 R13030122 25ng Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

TZ 3/2/22

Quant Time: Mar 02 07:57:32 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	193533	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.45	114	864325	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.75	54	161535	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.19	65	310421	12.048	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
57) Toluene-d8 (SS2)	15.90	98	1007025	12.447	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
73) Bromofluorobenzene (SS3)	19.12	174	333233	14.227	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.84%				
Target Compounds							Qvalue
2) Propene	4.22	42	513699	20.781	ng		100
3) Dichlorodifluoromethan...	4.38	85	827919	20.687	ng		100
4) Chloromethane	4.67	50	565578	19.493	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.94	135	421914	22.634	ng		100
6) Vinyl Chloride	5.10	62	662178	21.004	ng		99
7) 1,3-Butadiene	5.37	54	559797	21.649	ng		100
8) Bromomethane	5.82	94	370962	20.941	ng		100
9) Chloroethane	6.15	64	314378	20.679	ng		99
10) Ethanol	6.54	45	1270162	70.800	ng		100
11) Acetonitrile	6.80	41	842986	18.860	ng		100
12) Acrolein	6.98	56	586606	41.107	ng		100
13) Acetone	7.19	58	1672572	101.553	ng		99
14) Trichlorofluoromethane	7.44	101	730021	20.643	ng		99
15) 2-Propanol (Isopropanol)	7.69	45	2366598	41.930	ng		100
16) Acrylonitrile	7.96	53	1213074	42.074	ng		99
17) 1,1-Dichloroethene	8.40	96	433915	22.164	ng		97
18) 2-Methyl-2-Propanol (t...	8.57	59	2074590	43.121	ng		99
19) Methylene Chloride	8.63	84	459450	20.709	ng		96
20) 3-Chloro-1-propene (Al...	8.79	41	715422	22.146	ng		98
21) Trichlorotrifluoroethane	9.04	151	377297	22.505	ng		96
22) Carbon Disulfide	8.90	76	3322750	41.508	ng		100
23) trans-1,2-Dichloroethene	9.90	61	675168	21.894	ng		98
24) 1,1-Dichloroethane	10.15	63	806148	20.978	ng		100
25) Methyl tert-Butyl Ether	10.24	73	1381941	22.153	ng		99
26) Vinyl Acetate	10.40	86	322305	81.314	ng	#	89
27) 2-Butanone (MEK)	10.64	72	647092	44.590	ng		94
28) cis-1,2-Dichloroethene	11.16	61	645163	20.882	ng		98
29) Diisopropyl Ether	11.45	87	771402	42.132	ng	#	91
30) Ethyl Acetate	11.46	61	749681	85.537	ng		98
31) n-Hexane	11.44	57	780775	20.899	ng		100
32) Chloroform	11.51	83	793374	21.620	ng		100
34) Tetrahydrofuran (THF)	11.91	72	585604	40.201	ng		97
35) Ethyl tert-Butyl Ether	12.04	87	1134315	45.046	ng		97
36) 1,2-Dichloroethane	12.30	62	607392	20.973	ng		100
38) 1,1,1-Trichloroethane	12.58	97	706029	21.409	ng		99
39) Isopropyl Acetate	13.06	61	9585	No Calib		#	
40) 1-Butanol	13.03	56	21568	No Calib			
41) Benzene	13.06	78	1843591	21.148	ng		100
42) Carbon Tetrachloride	13.22	117	620956	22.012	ng		100
43) Cyclohexane	13.35	84	1422724	43.037	ng		98
44) tert-Amyl Methyl Ether	13.69	73	2782887	45.317	ng		99
45) 1,2-Dichloropropane	13.90	63	476653	20.733	ng		100
46) Bromodichloromethane	14.09	83	652860	21.880	ng		100
47) Trichloroethene	14.15	130	502002	21.858	ng		100
48) 1,4-Dioxane	14.12	88	398295	24.357	ng		98
49) 2,2,4-Trimethylpentane...	14.22	57	2081222	21.506	ng		99
50) Methyl Methacrylate	14.35	100	402362	48.037	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012230.D Vial: 1
Acq On : 1 Mar 2022 19:31 Operator: TZ
Sample : CCV2 R13030122 25ng Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

Quant Time: Mar 02 07:57:32 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

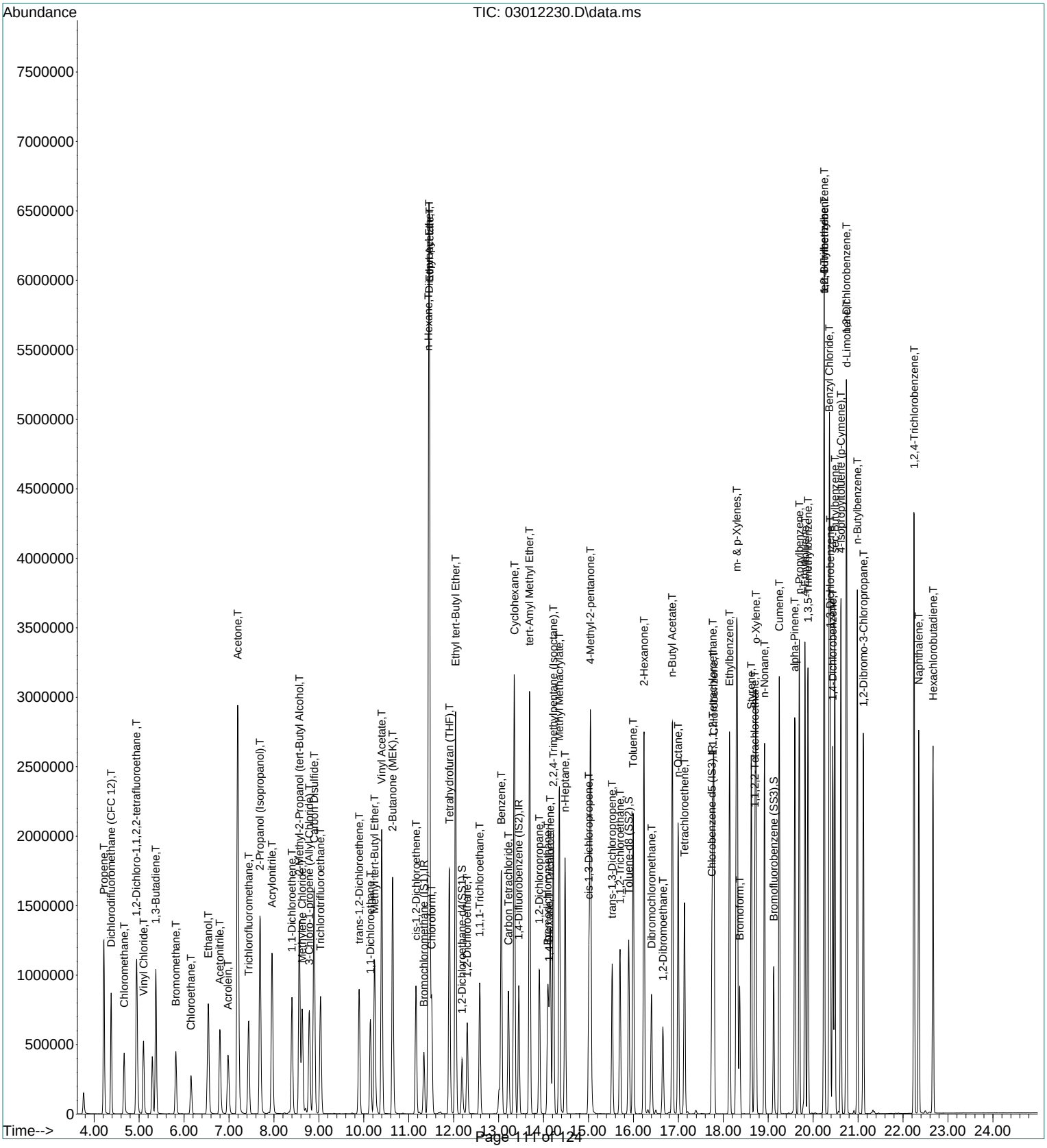
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.48	71	498855	21.918 ng		99
52) cis-1,3-Dichloropropene	15.01	75	789466	22.710 ng		100
53) 4-Methyl-2-pentanone	15.04	58	928211	47.234 ng		98
54) trans-1,3-Dichloropropene	15.53	75	724791	22.957 ng		100
55) 1,1,2-Trichloroethane	15.70	97	462893	21.887 ng		98
58) Toluene	15.99	91	1925539	20.896 ng		100
59) 2-Hexanone	16.24	43	2177990	46.357 ng		99
60) Dibromochloromethane	16.40	129	569410	22.664 ng		100
61) 1,2-Dibromoethane	16.66	107	532263	22.196 ng		99
62) n-Butyl Acetate	16.86	43	2428324	46.553 ng		99
63) n-Octane	16.99	57	435242	21.535 ng		98
64) Tetrachloroethene	17.14	166	549129	22.378 ng		100
65) Chlorobenzene	17.79	112	1290142	21.625 ng		100
66) Ethylbenzene	18.14	91	2219747	21.652 ng		99
67) m- & p-Xylenes	18.30	91	3443168	42.631 ng		99
68) Bromoform	18.37	173	498345	23.630 ng		100
69) Styrene	18.62	104	1397388	23.380 ng		99
70) o-Xylene	18.72	91	1766680	21.868 ng		100
71) n-Nonane	18.92	43	968592	21.202 ng		99
72) 1,1,2,2-Tetrachloroethane	18.70	83	840772	21.708 ng		99
74) Cumene	19.25	105	2225995	21.839 ng		99
75) alpha-Pinene	19.59	93	1203151	24.324 ng		99
76) n-Propylbenzene	19.69	91	2730288	22.087 ng		99
77) 3-Ethyltoluene	19.89	105	1817860	No Calib		
78) 4-Ethyltoluene	19.82	105	2243939	22.896 ng		99
79) 1,3,5-Trimethylbenzene	19.89	105	1817860	22.091 ng		100
80) alpha-Methylstyrene	19.89	118	13201	No Calib	#	
81) 2-Ethyltoluene	19.89	105	1817860	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	1831440	22.452 ng		100
83) n-Decane	20.24	58	95143	No Calib		
84) Benzyl Chloride	20.36	91	3276881	53.630 ng		99
85) 1,3-Dichlorobenzene	20.38	146	1104942	22.335 ng		100
86) 1,4-Dichlorobenzene	20.44	146	1113801	22.272 ng		100
87) sec-Butylbenzene	20.48	105	2521381	22.134 ng		99
88) 4-Isopropyltoluene (p-...	20.62	119	2150912	22.571 ng		99
89) 1,2,3-Trimethylbenzene	20.62	105	76582	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	1067526	22.571 ng		100
91) d-Limonene	20.74	68	763774	23.055 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.12	157	830511	45.858 ng		95
93) n-Undecane	21.43	57	288	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	1503888	43.890 ng		100
95) Naphthalene	22.35	128	2212261	22.831 ng		100
96) n-Dodecane	22.34	57	315	No Calib	#	
97) Hexachlorobutadiene	22.67	225	556521	22.329 ng		99
98) Cyclohexanone	18.30	55	2727	No Calib		
99) tert-Butylbenzene	20.24	119	1790188	22.327 ng		99
100) n-Butylbenzene	20.98	91	2016696	22.100 ng		99
101) 1,1,1,2-Tetrachloroethane	17.77	131	470878	21.736 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 03\01\03012230.D Vial: 1
Acq On : 1 Mar 2022 19:31 Operator: TZ
Sample : CCV2 R13030122 25ng Inst : GCMS13
Misc : S35-02242201/S35-02222203 (3/24)

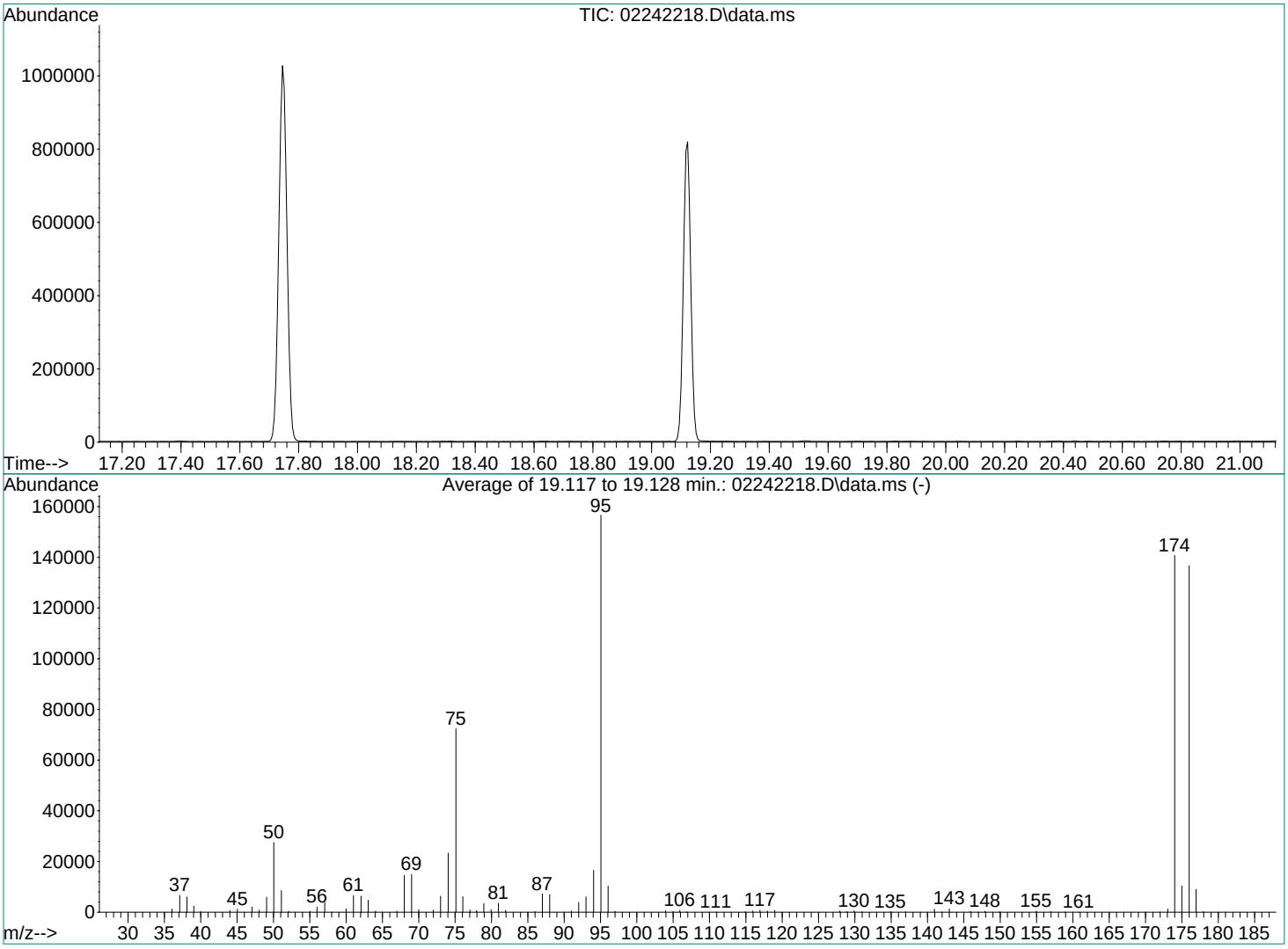
Quant Time: Mar 02 07:57:32 2022
Quant Method : I:\MS13\METHODS\R13022422.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Feb 25 07:59:38 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS13\DATA\2022 02\24\
Data File : 02242218.D
Acq On : 24 Feb 2022 13:16
Operator : TZ
Sample : BFB R13022422
Misc : S35-02242201
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13022422.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Feb 25 07:59:38 2022



AutoFind: Scans 2723, 2724, 2725; Background Corrected with Scan 2715

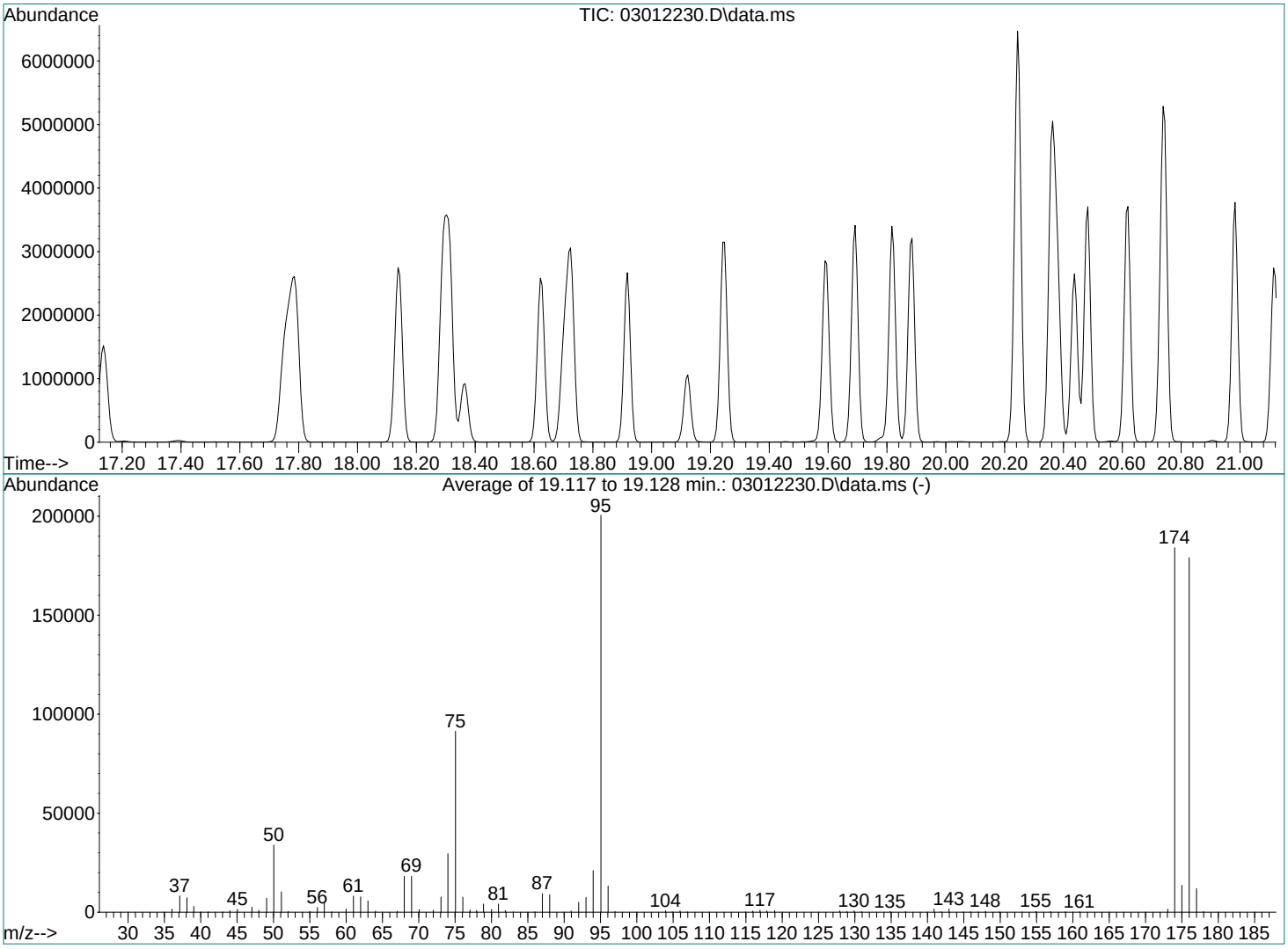
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.6	27547	PASS
75	95	30	66	46.2	72408	PASS
95	95	100	100	100.0	156608	PASS
96	95	5	9	6.6	10355	PASS
173	174	0.00	2	0.9	1227	PASS
174	95	50	120	89.8	140712	PASS
175	174	4	9	7.4	10360	PASS
176	174	93	101	97.1	136667	PASS
177	176	5	9	6.6	9009	PASS

TZ 2/25/22

Data Path : I:\MS13\DATA\2022 03\01\
Data File : 03012230.D
Acq On : 1 Mar 2022 19:31
Operator : TZ
Sample : CCV2 R13030122 25ng
Misc : S35-02242201/S35-02222203 (3/24)
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13022422.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Feb 25 07:59:38 2022



AutoFind: Scans 2723, 2724, 2725; Background Corrected with Scan 2715

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.9	33939	PASS
75	95	30	66	45.6	91395	PASS
95	95	100	100	100.0	200491	PASS
96	95	5	9	6.6	13218	PASS
173	174	0.00	2	0.9	1586	PASS
174	95	50	120	91.8	184107	PASS
175	174	4	9	7.4	13615	PASS
176	174	93	101	97.2	179008	PASS
177	176	5	9	6.7	11927	PASS

TZ 3/2/22

TZ 2/25/22

Injection Log

Directory: J:\MS13\DATA\2022_02\24\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	2/24/22 13:16	02242218.D	BFB R13022422	S35-02242201	TZ	1	passed
2	2/24/22 13:50	02242219.D	0.1ng R13022422 ICAL Std.	S35-02242201/S35-02222206 (3/24)	TZ	13	R13022422.M
3	2/24/22 14:24	02242220.D	0.2ng R13022422 ICAL Std.	S35-02242201/S35-02222206 (3/24)	TZ	13	
4	2/24/22 14:57	02242221.D	0.5ng R13022422 ICAL Std.	S35-02242201/S35-02222205 (3/24)	TZ	14	
5	2/24/22 15:31	02242222.D	1.0ng R13022422 ICAL Std.	S35-02242201/S35-02222205 (3/24)	TZ	14	
6	2/24/22 16:05	02242223.D	5.0ng R13022422 ICAL Std.	S35-02242201/S35-02222205 (3/24)	TZ	14	
7	2/24/22 16:39	02242224.D	25ng R13022422 ICAL Std.	S35-02242201/S35-02222203 (3/24)	TZ	15	
8	2/24/22 17:13	02242225.D	50ng R13022422 ICAL Std.	S35-02242201/S35-02222203 (3/24)	TZ	15	
9	2/24/22 17:47	02242226.D	100ng R13022422 ICAL Std.	S35-02242201/S35-02222203 (3/24)	TZ	15	
10	2/24/22 18:21	02242227.D	Blank	S35-02242201	TZ	1	
11	2/24/22 18:55	02242228.D	25ng R13022422 ICV Std.	S35-02242201/S35-02092204 (3/11)	TZ	1	passed
12	2/24/22 19:28	02242229.D	25ng R13022422 ICV Std.	S35-02242201/S35-02092204 (3/11)	TZ	1	not used
R13022422.M ranges from 0.1ng->100ng							

Injection Log

TZ 3/2/22

Directory: I:\MS13\DATA\2022_03\01\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/1/22 19:31	03012230.D	CCV2 R13030122 25ng	S35-02242201/S35-02222203 (3/24)	TZ	1	passed
2	3/1/22 20:05	03012231.D	CCV2 C13030122_25ng	S35-02242201/S35-02142203 (3/16)	TZ	16	passed
3	3/1/22 20:39	03012232.D	Blank	S35-02242201	TZ	1	
4	3/1/22 21:13	03012233.D	MB2 R13030122_1000mL	S35-02242201_AC01837	TZ	1	passed
5	3/1/22 21:47	03012234.D	LCS2 R13030122 25ng	S35-02242201/S35-02092204 (3/11)	TZ	1	passed
6	3/1/22 22:21	03012235.D	LCSD2 R13030122 25ng	S35-02242201/S35-02092204 (3/11)	TZ	1	passed
7	3/1/22 22:55	03012236.D	P2200651-028 (1000mL)	S35-02242201	TZ	2	
8	3/1/22 23:28	03012237.D	P2200651-029 (1000mL)	S35-02242201	TZ	3	
9	3/2/22 0:02	03012238.D	P2200651-030 (1000mL)	S35-02242201	TZ	4	
10	3/2/22 0:36	03012239.D	P2200741-001 (1000mL)	S35-02242201	TZ	8	
11	3/2/22 1:10	03012240.D	P2200741-002 (1000mL)	S35-02242201	TZ	9	
12	3/2/22 1:44	03012241.D	P2200741-003 (1000mL)	S35-02242201	TZ	10	
13	3/2/22 2:17	03012242.D	P2200741-004 (1000mL)	S35-02242201	TZ	11	
14	3/2/22 2:51	03012243.D	P2200741-004dup (1000mL)	S35-02242201	TZ	11	passed
15	3/2/22 3:25	03012244.D	P2200772-001 (15mL)	S35-02242201	TZ	5	
16	3/2/22 3:58	03012245.D	P2200729-001 (20mL)	S35-02242201	TZ	6	
17	3/2/22 4:32	03012246.D	P2200729-002 (20mL)	S35-02242201	TZ	7	not reporting
18	3/2/22 8:51	03012247.D	P2200729-002dil (10mL)	S35-02242201	TZ	4	not matching
19	3/2/22 9:25	03012248.D	P2200741-005 (1000mL)	S35-02242201	TZ	2	
20	3/2/22 9:59	03012249.D	P2200900-003 (100mL)	S35-02242201	TZ	3	
21	3/2/22 10:33	03012250.D	P2200900-001 (0.1mL)	S35-02242201	TZ	4	
22	3/2/22 11:07	03012251.D	P2200900-002 (1.5mL)	S35-02242201	TZ	4	
23	3/2/22 11:40	03012252.D	P2200729-002 (15mL)	S35-02242201	TZ	4	
24	3/2/22 12:35	03012253.D	P2200815-001 (1000mL)	S35-02242201	TZ	2	needs dilution

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-01
Cycles: 30
Batch: 28931

Batch Started By: ANAKLOWYCZ on 2/11/22 0827
Finished Cleaning By: ANAKLOWYCZ on 2/11/22 0830

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS00938	2/11/22	2/11/22	Pass w/ Conditions	-14.3	2/11/22 0830	ANAKLOWYCZ				MS21_02/11/22
AS00830	2/11/22		Pass w/ Conditions	-14.3	2/11/22 0830	ANAKLOWYCZ	-14.0	2/15/22 0310		
AS01089	2/11/22		Pass w/ Conditions	-14.3	2/11/22 0830	ANAKLOWYCZ	-14.0	2/15/22 0303		
AC02062	2/11/22		Pass w/ Conditions	-14.3	2/11/22 0830	ANAKLOWYCZ	-14.0	2/15/22 0303		
AC01909	2/11/22		Pass w/ Conditions	-14.3	2/11/22 0830	ANAKLOWYCZ	-14.0	2/15/22 0303		
AS00909	2/11/22		Pass w/ Conditions	-14.3	2/11/22 0830	ANAKLOWYCZ	-14.0	2/15/22 0310		
AC02055	2/11/22		Pass w/ Conditions	-14.3	2/11/22 0830	ANAKLOWYCZ	-14.0	2/15/22 0310		
AS00839	2/11/22		Pass w/ Conditions	-14.3	2/11/22 0830	ANAKLOWYCZ	-14.0	2/15/22 0310		
AC02409	2/11/22		Pass w/ Conditions	-14.3	2/11/22 0830	ANAKLOWYCZ	-14.0	2/15/22 0303		
AS00337	2/11/22		Pass w/ Conditions	-14.3	2/11/22 0830	ANAKLOWYCZ	-14.0	2/15/22 0310		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 02\11\
Data File : 02112211.D
Acq On : 11 Feb 2022 17:21
Operator : RVT
Sample : 021122 AS00938 28931
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 207 Sample Multiplier: 1

RVT 2/21/22

Quant Time: Feb 15 15:16:37 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane (IS1)	7.492	130	16182	1000.00 pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.654	114	34276	1000.00 pg	0.00
56) Chlorobenzene-d5 (IS3)	14.678	54	6738	1000.00 pg	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4 ...	8.298	65	25546	1007.27 pg	0.00
Spiked Amount 1000.000			Recovery = 100.73%		
57) Toluene-d8 (SS2)	12.569	98	30655	896.72 pg	0.00
Spiked Amount 1000.000			Recovery = 89.67%		
74) Bromofluorobenzene (SS3)	16.111	174	7734	557.53 pg	0.00
Spiked Amount 1000.000			Recovery = 55.75%		
Target Compounds					Qvalue
2] * Propene	3.514	42	311	16.73 pg	# 52
3) * Dichlorodifluoromethane	0.000		0	N.D.	
4] * Chloromethane	3.686	50	199	6.13 pg	# 88
5) * 1,2-Dichloro-1,1,2,2...	0.000		0	N.D.	
6) * Vinyl Chloride	0.000		0	N.D.	
7] * 1,3-Butadiene	3.966	54	11	0.48 pg	# 12
8) * Bromomethane	0.000		0	N.D.	
9) * Chloroethane	0.000		0	N.D.	
10] * Ethanol	4.448	45	2656	248.48 pg	93
11] * Acetonitrile	4.599	41	452	22.92 pg	87
12] * Acrolein	4.693	56	420	36.00 pg	100
13] * Acetone	4.818	58	7079	391.32 pg	81
14] * Trichlorofluoromethane	4.890	101	323	6.04 pg	# 1
15) * 2-Propanol (Isopropa...	0.000		0	N.D.	
16) * Acrylonitrile	0.000		0	N.D.	
17) * 1,1-Dichloroethene	0.000		0	N.D.	
18] tert-Butanol	5.074	59	237	61.13 pg	# 60
19] * Methylene Chloride	5.533	84	111	4.37 pg	# 82
20] * 3-Chloro-1-propene (...	5.615	41	54	2.21 pg	# 29
21) * Trichlorotrifluoroet...	0.000		0	N.D.	
22] * Carbon Disulfide	5.800	76	2900	32.64 pg	100
23) * trans-1,2-Dichloroet...	0.000		0	N.D.	
24) * 1,1-Dichloroethane	0.000		0	N.D.	
25) * Methyl tert-Butyl Ether	0.000		0	N.D.	
26) * Vinyl Acetate	0.000		0	N.D.	
27] * 2-Butanone (MEK)	6.962	72	1083	76.68 pg	# 59
28) * cis-1,2-Dichloroethene	0.000		0	N.D.	
29) DIPE	0.000		0	N.D.	
30] * Ethyl Acetate	7.615	61	55	7.75 pg	# 6
31) * n-Hexane	0.000		0	N.D.	
32] * Chloroform	7.621	83	229	5.32 pg	96
34) * Tetrahydrofuran	0.000		0	N.D.	
35) ETBE	0.000		0	N.D.	
36) * 1,2-Dichloroethane	0.000		0	N.D.	
38) * 1,1,1-Trichloroethane	0.000		0	N.D.	
39] * Benzene	9.232	78	160	3.72 pg	# 52
40) Isopropyl Acetate	0.000		0	N.D.	
41) 1-Butanol	9.112	56	260	No Calib	
42) * Carbon Tetrachloride	0.000		0	N.D.	
43) * Cyclohexane	0.000		0	N.D.	
44) TAME	0.000		0	N.D.	
45) * 1,2-Dichloropropane	0.000		0	N.D.	
46) * Bromodichloromethane	0.000		0	N.D.	
47) * Trichloroethene	0.000		0	N.D.	d

Data Path : I:\MS21\DATA\2022 02\11\
Data File : 02112211.D
Acq On : 11 Feb 2022 17:21
Operator : RVT
Sample : 021122 AS00938 28931
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 207 Sample Multiplier: 1

Quant Time: Feb 15 15:16:37 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

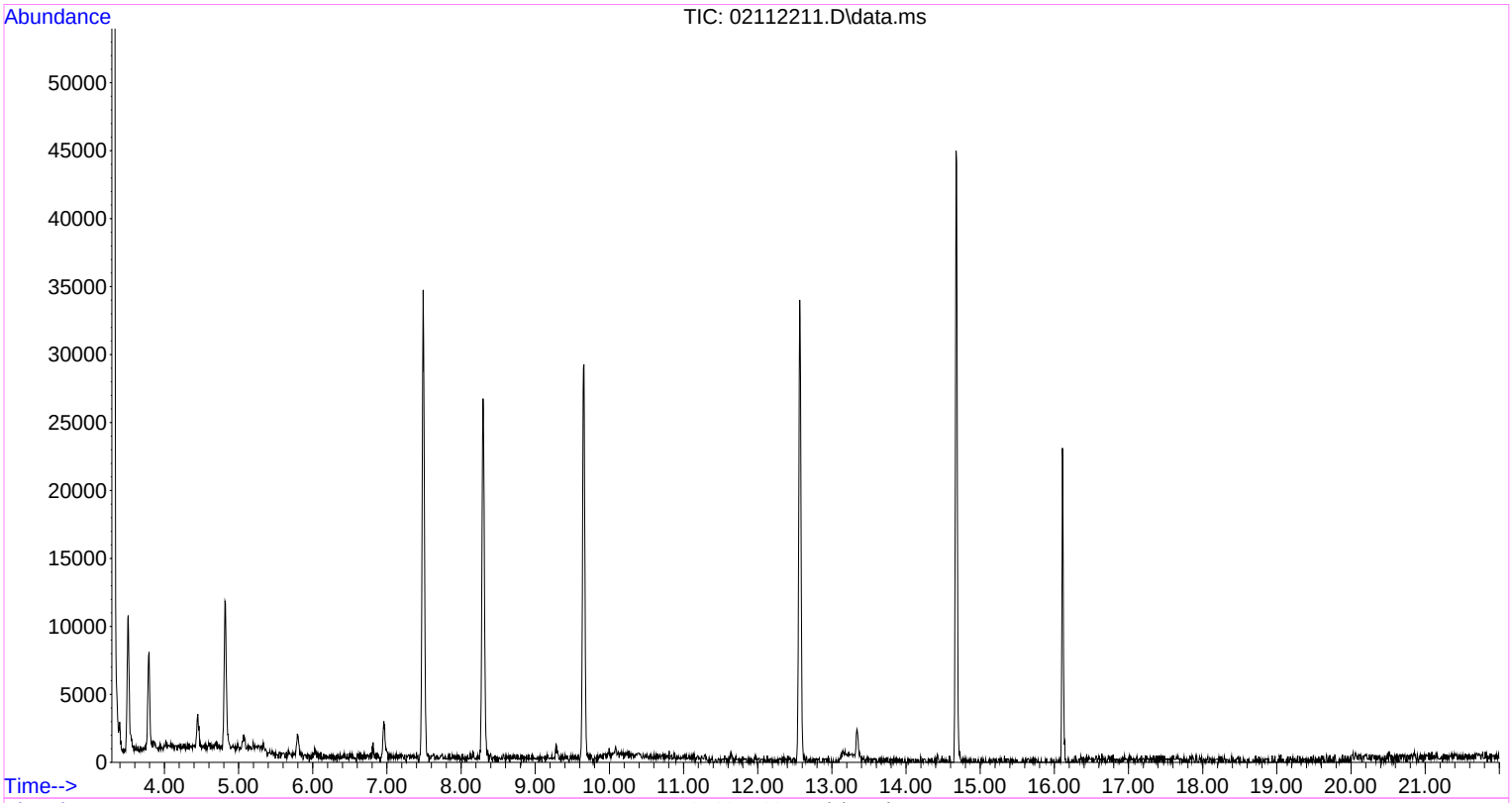
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
48)	* 1,4-Dioxane	0.000		0	N.D.			
49)	Isooctane	0.000		0	N.D.			
50)	* Methyl Methacrylate	0.000		0	N.D.			
51)	* n-Heptane	0.000		0	N.D.			
52)	* cis-1,3-Dichloropropene	0.000		0	N.D.			
53]	* 4-Methyl-2-pentanone	11.641	58	326	40.48	pg		90
54)	* trans-1,3-Dichloropr...	0.000		0	N.D.			
55)	* 1,1,2-Trichloroethane	0.000		0	N.D.			
58]	* Toluene	12.682	91	331	7.30	pg		98
59)	* 2-Hexanone	0.000		0	N.D.			
60)	* Dibromochloromethane	0.000		0	N.D.			
61)	* 1,2-Dibromoethane	0.000		0	N.D.			
62]	* n-Butyl Acetate	13.842	56	58	6.80	pg	#	27
63)	* n-Octane	0.000		0	N.D.			
64)	* Tetrachloroethene	0.000		0	N.D.			
65)	* Chlorobenzene	0.000		0	N.D.			
66)	* Ethylbenzene	0.000		0	N.D.			
67]	* m- & p-Xylenes	15.283	91	73	1.60	pg	#	29
68)	* Bromoform	0.000		0	N.D.			
69)	Cyclohexanone	0.000		0	N.D.			
70)	* Styrene	0.000		0	N.D.			
71)	* o-Xylene	0.000		0	N.D.			
72)	* n-Nonane	0.000		0	N.D.			
73)	* 1,1,2,2-Tetrachloroe...	0.000		0	N.D.			
75)	* Cumene	0.000		0	N.D.			
76)	* alpha-Pinene	0.000		0	N.D.			
77)	* n-Propylbenzene	0.000		0	N.D.			
78)	3-Ethyltoluene	0.000		0	N.D.			
79)	* 4-Ethyltoluene	0.000		0	N.D.			
80)	* 1,3,5-Trimethylbenzene	0.000		0	N.D.			
81)	alpha-Methylstyrene	0.000		0	N.D.			
82)	2-Ethyltoluene	0.000		0	N.D.			
83)	tert-Butylbenzene	0.000		0	N.D.			
84)	* 1,2,4-Trimethylbenzene	0.000		0	N.D.			
85)	* Benzyl Chloride	0.000		0	N.D.			
86)	* 1,3-Dichlorobenzene	0.000		0	N.D.			
87)	* 1,4-Dichlorobenzene	0.000		0	N.D.			
88)	n-Decane	0.000		0	N.D.			
89)	sec-Butylbenzene	0.000		0	N.D.			
90)	1,2,3-Trimethylbenzene	0.000		0	N.D.			
91)	p-Isopropyltoluene	0.000		0	N.D.			
92)	* 1,2-Dichlorobenzene	0.000		0	N.D.			
93]	* D-Limonene	17.715	68	167	16.46	pg		88
94)	n-Butylbenzene	0.000		0	N.D.			
95)	* 1,2-Dibromo-3-chloro...	0.000		0	N.D.			
96)	n-Undecane	0.000		0	N.D.			
97)	* 1,2,4-Trichlorobenzene	0.000		0	N.D.			
98)	* Naphthalene	0.000		0	N.D.			
99)	n-Dodecane	0.000		0	N.D.			
100)	* Hexachlorobutadiene	0.000		0	N.D.			

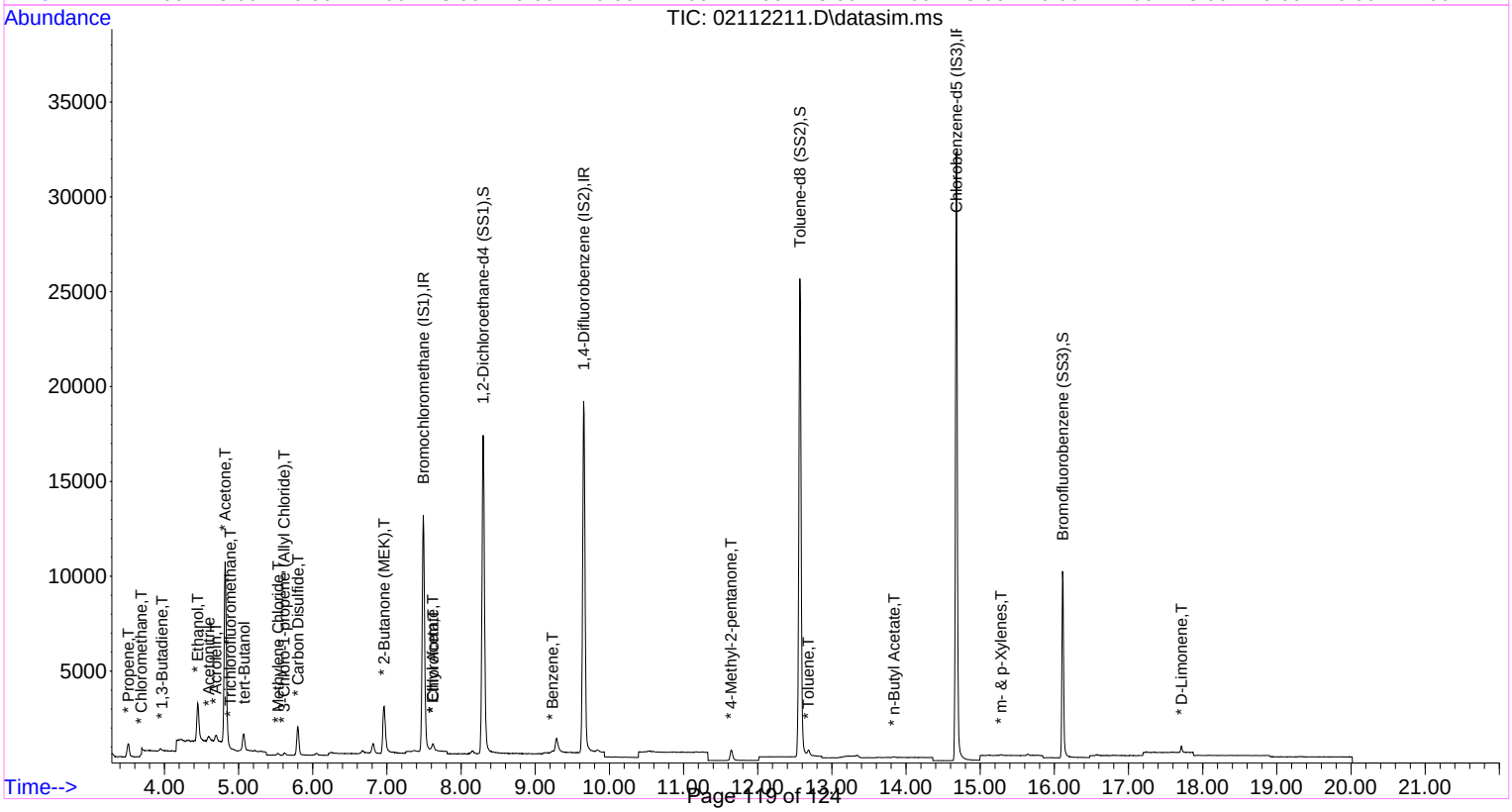
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 02\11\
Data File : 02112211.D
Acq On : 11 Feb 2022 17:21
Operator : RVT
Sample : 021122 AS00938 28931
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 207 Sample Multiplier: 1

Quant Time: Feb 15 15:16:37 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 28914

Batch Started By: **on 2/8/22 0346**
Finished Cleaning By: **on 2/8/22 0347**

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS00036	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0759		
AS01268	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0758		
AS01446	2/8/22	2/9/22	Pass w/ Conditions	-14.3	2/8/22 0347					MS21_02/09/22
AC02083	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0758		
AS00098	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0924		
AS00323	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0800		
AS00796	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0758		
AC02400	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0800		
AS00797	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0758		
AC02130	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0758		
AC02024	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0800		
AS01561	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0924		
AS00411	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0303		
AC01267	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0924		
AS00772	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0800		
AC02067	2/8/22		Pass w/ Conditions	-14.3	2/8/22 0347		-14.0	2/15/22 0758		

Passed For: TO-15 (75 Comp 0.5 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 02\09\
Data File : 02092207.D
Acq On : 9 Feb 2022 11:50
Operator : RVT
Sample : 020922 AS01446 28914
Misc : 0.5+TICS (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 202 Sample Multiplier: 1

RVT 2/11/22

Quant Time: Feb 10 10:41:18 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane (IS1)	7.485	130	16190	1000.00	pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.654	114	40234	1000.00	pg	0.00
56) Chlorobenzene-d5 (IS3)	14.673	54	8145	1000.00	pg	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4 ...	8.293	65	26167	1031.25	pg	0.00
Spiked Amount 1000.000			Recovery = 103.13%			
57) Toluene-d8 (SS2)	12.563	98	35834	867.15	pg	0.00
Spiked Amount 1000.000			Recovery = 86.72%			
74) Bromofluorobenzene (SS3)	16.111	174	12884	768.34	pg	0.00
Spiked Amount 1000.000			Recovery = 76.83%			
Target Compounds						Qvalue
2] * Propene	3.505	42	400	21.51	pg	# 43
3) * Dichlorodifluoromethane	0.000		0	N.D.		
4] * Chloromethane	3.686	50	283	8.72	pg	# 73
5) * 1,2-Dichloro-1,1,2,2...	0.000		0	N.D.		
6) * Vinyl Chloride	0.000		0	N.D.		
7] * 1,3-Butadiene	3.961	54	15	0.65	pg	# 12
8] * Bromomethane	4.183	94	197	8.81	pg	95
9) * Chloroethane	0.000		0	N.D.		
10] * Ethanol	4.417	45	793	74.15	pg	98
11] * Acetonitrile	4.583	41	139	7.05	pg	# 18
12] * Acrolein	4.682	56	200	17.13	pg	# 58
13] * Acetone	4.807	58	1845	101.94	pg	85
14] * Trichlorofluoromethane	4.919	101	780	14.58	pg	# 63
15] * 2-Propanol (Isopropa...	5.015	45	1064	22.45	pg	# 21
16) * Acrylonitrile	0.000		0	N.D.		
17) * 1,1-Dichloroethene	0.000		0	N.D.	d	
18] tert-Butanol	5.020	59	302	77.86	pg	# 37
19] * Methylene Chloride	5.523	84	113	4.45	pg	# 75
20) * 3-Chloro-1-propene (...	0.000		0	N.D.		
21) * Trichlorotrifluoroet...	0.000		0	N.D.		
22] * Carbon Disulfide	5.795	76	3145	35.38	pg	99
23) * trans-1,2-Dichloroet...	0.000		0	N.D.		
24) * 1,1-Dichloroethane	0.000		0	N.D.		
25) * Methyl tert-Butyl Ether	0.000		0	N.D.		
26) * Vinyl Acetate	0.000		0	N.D.		
27] * 2-Butanone (MEK)	6.942	72	460	32.56	pg	69
28] * cis-1,2-Dichloroethene	7.330	96	491	19.56	pg	98
29] DIPE	7.589	45	84	1.30	pg	# 45
30] * Ethyl Acetate	7.595	61	76	10.71	pg	84
31] * n-Hexane	7.576	57	84	2.66	pg	# 55
32) * Chloroform	0.000		0	N.D.		
34) * Tetrahydrofuran	0.000		0	N.D.		
35) ETBE	0.000		0	N.D.		
36) * 1,2-Dichloroethane	0.000		0	N.D.		
38) * 1,1,1-Trichloroethane	0.000		0	N.D.		
39] * Benzene	9.232	78	6120	121.35	pg	98
40) Isopropyl Acetate	9.174	61	252	No Calib	#	
41) 1-Butanol	9.221	56	2210	No Calib	#	
42) * Carbon Tetrachloride	0.000		0	N.D.		
43) * Cyclohexane	0.000		0	N.D.		
44) TAME	0.000		0	N.D.		
45) * 1,2-Dichloropropane	0.000		0	N.D.		
46) * Bromodichloromethane	0.000		0	N.D.		
47) * Trichloroethene	0.000		0	N.D.	d	

Data Path : I:\MS21\DATA\2022 02\09\
Data File : 02092207.D
Acq On : 9 Feb 2022 11:50
Operator : RVT
Sample : 020922 AS01446 28914
Misc : 0.5+TICS (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 202 Sample Multiplier: 1

Quant Time: Feb 10 10:41:18 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

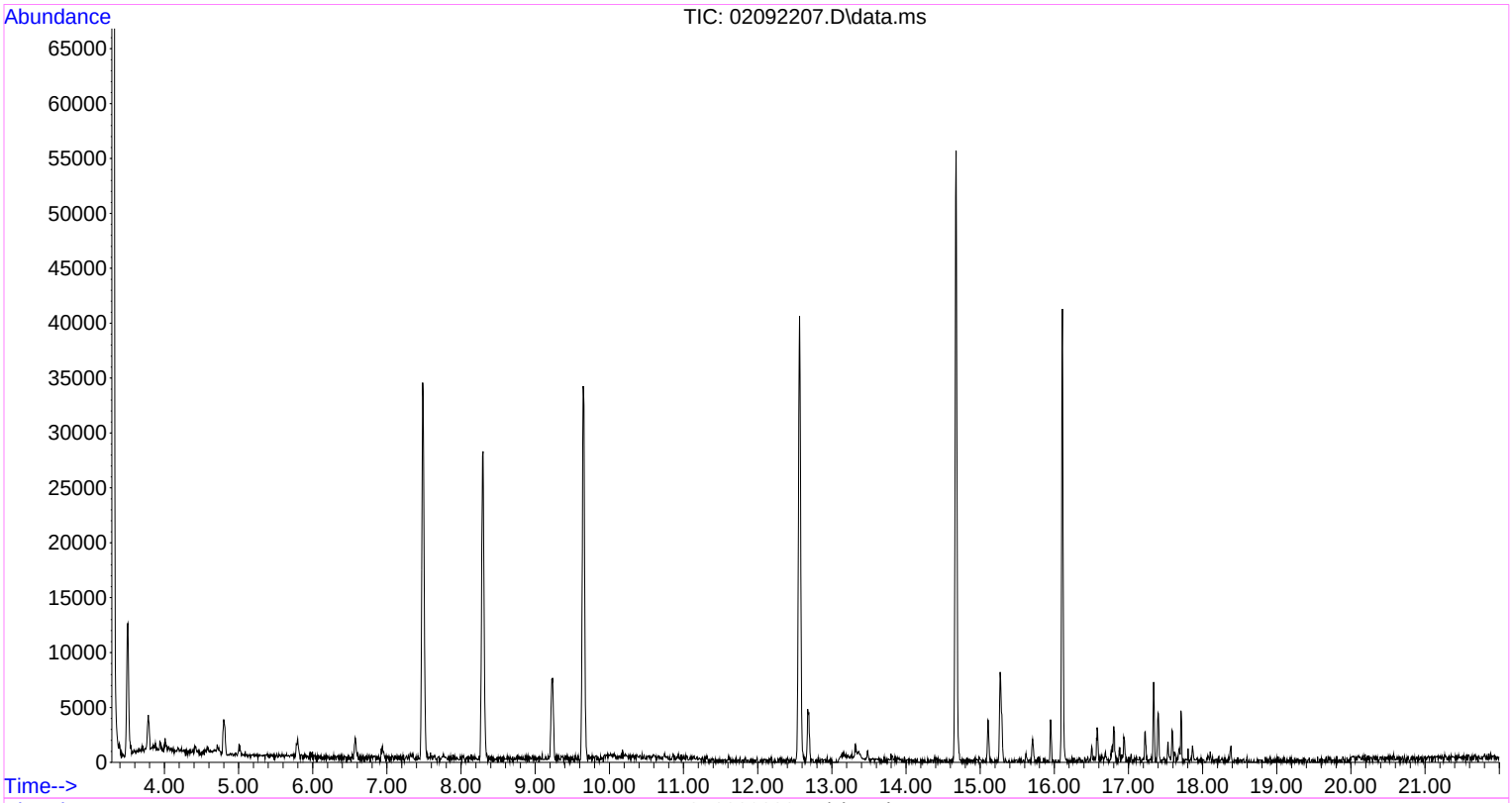
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
48] * 1,4-Dioxane	10.533	88	62	4.88	pg	#	1
49) Isooctane	0.000		0	N.D.			
50) * Methyl Methacrylate	0.000		0	N.D.			
51] * n-Heptane	10.864	71	79	5.71	pg	#	41
52) * cis-1,3-Dichloropropene	0.000		0	N.D.			
53] * 4-Methyl-2-pentanone	11.607	58	199	21.05	pg	#	86
54) * trans-1,3-Dichloropr...	0.000		0	N.D.			
55) * 1,1,2-Trichloroethane	0.000		0	N.D.			
58] * Toluene	12.682	91	5792	105.60	pg		97
59] * 2-Hexanone	13.073	58	51	3.60	pg	#	51
60) * Dibromochloromethane	0.000		0	N.D.			
61) * 1,2-Dibromoethane	0.000		0	N.D.			
62] * n-Butyl Acetate	13.811	56	165	16.00	pg		97
63] * n-Octane	13.909	85	139	9.97	pg		84
64] * Tetrachloroethene	14.007	166	89	4.60	pg		97
65] * Chlorobenzene	14.718	112	448	9.96	pg		96
66] * Ethylbenzene	15.107	91	3755	53.03	pg		98
67] * m- & p-Xylenes	15.272	91	7899	143.35	pg		96
68) * Bromoform	0.000		0	N.D.			
69) Cyclohexanone	0.000		0	N.D.			
70] * Styrene	15.614	104	160	4.54	pg	#	86
71] * o-Xylene	15.711	91	1843	33.35	pg		100
72] * n-Nonane	15.951	57	814	42.97	pg		93
73] * 1,1,2,2-Tetrachloroe...	15.694	83	60	2.29	pg	#	18
75] * Cumene	16.241	105	338	4.83	pg		97
76] * alpha-Pinene	16.580	93	1374	43.06	pg	#	75
77] * n-Propylbenzene	16.687	91	961	12.66	pg		99
78) 3-Ethyltoluene	16.813	105	1004	No Calib			
79] * 4-Ethyltoluene	16.813	105	979	17.60	pg		100
80] * 1,3,5-Trimethylbenzene	16.881	105	522	10.04	pg		100
81) alpha-Methylstyrene	17.012	118	184	No Calib			
82) 2-Ethyltoluene	17.037	105	516	No Calib	#		
83) tert-Butylbenzene	0.000		0	N.D.			
84] * 1,2,4-Trimethylbenzene	17.224	105	1385	27.66	pg		89
85) * Benzyl Chloride	0.000		0	N.D.			
86] * 1,3-Dichlorobenzene	17.348	146	513	17.26	pg		98
87] * 1,4-Dichlorobenzene	17.402	146	2385	83.52	pg		97
88) n-Decane	17.402	85	76	No Calib	#		
89] sec-Butylbenzene	17.224	105	1385	27.93	pg	#	51
90) 1,2,3-Trimethylbenzene	17.585	105	370	No Calib	#		
91] p-Isopropyltoluene	17.591	134	451	29.85	pg		99
92] * 1,2-Dichlorobenzene	17.688	146	486	15.84	pg		95
93] * D-Limonene	17.709	68	1074	87.56	pg		92
94] n-Butylbenzene	17.929	134	100	8.49	pg	#	1
95) * 1,2-Dibromo-3-chloro...	0.000		0	N.D.			
96) n-Undecane	18.379	85	137	No Calib	#		
97] * 1,2,4-Trichlorobenzene	19.158	180	70	5.68	pg	#	76
98] * Naphthalene	19.261	128	355	10.59	pg	#	69
99) n-Dodecane	0.000		0	N.D.			
100] * Hexachlorobutadiene	19.581	225	308	18.73	pg		96

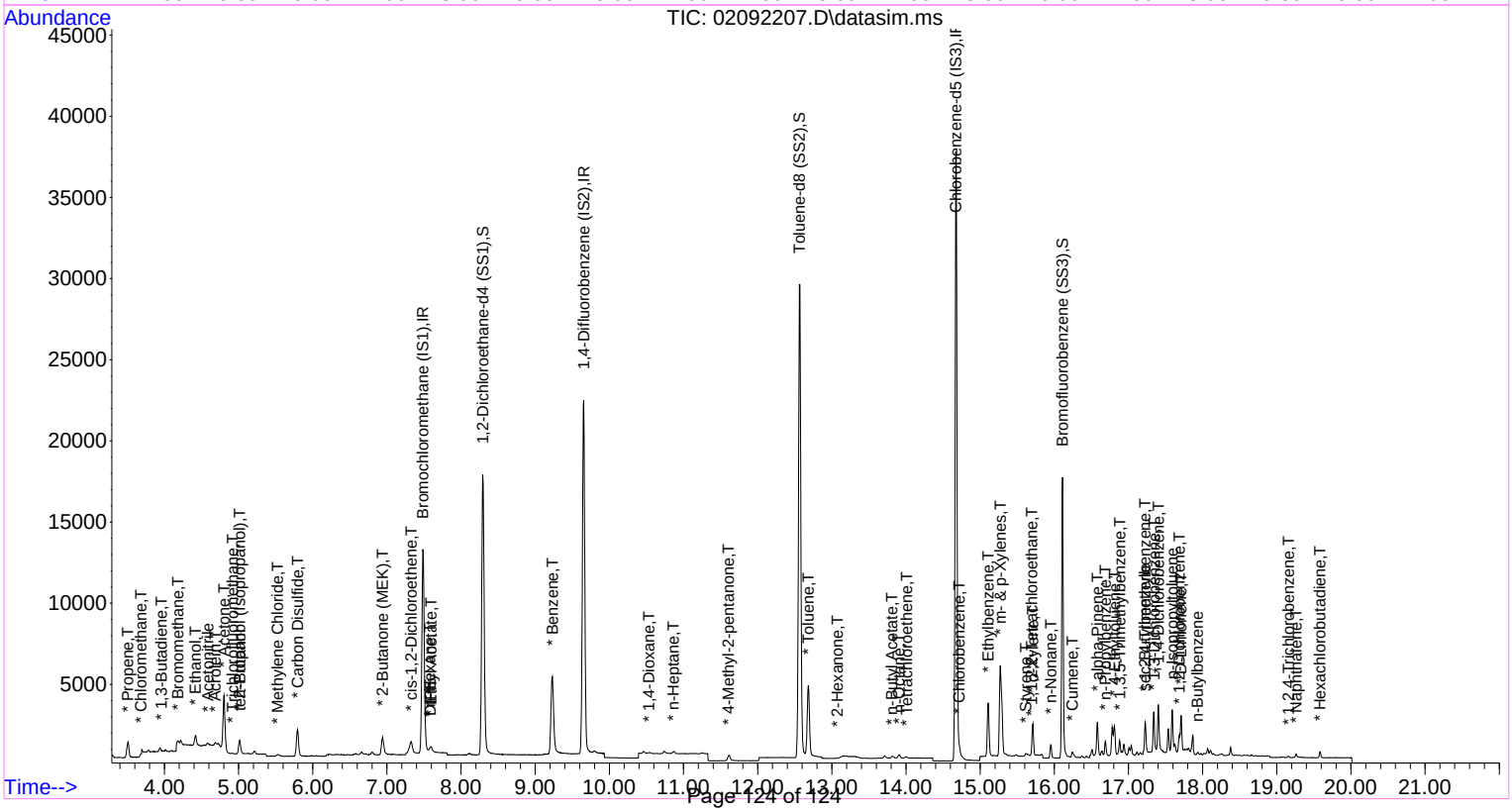
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 02\09\
Data File : 02092207.D
Acq On : 9 Feb 2022 11:50
Operator : RVT
Sample : 020922 AS01446 28914
Misc : 0.5+TICS (Sig #1); S35-12032101 (Sig #2)
ALS Vial : 202 Sample Multiplier: 1

Quant Time: Feb 10 10:41:18 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration





2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

March 23, 2022

Trina Cesnik
North Wind, Inc.
5800 Woolsey Canyon Road
Canoga Park, CA 91304

RE: DOE perimeter Air / 080153.015.15

Dear Trina:

Enclosed are the results of the samples submitted to our laboratory on March 3, 2022. For your reference, these analyses have been assigned our service request number P2200988.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 4:26 pm, Mar 23, 2022

Nicole Bryson
Laboratory Director

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: North Wind, Inc. Service Request No: P2200988
Project: DOE perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on March 3, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The lower control criterion was exceeded for Naphthalene in the Laboratory Control Sample (LCS) and Duplicate Laboratory Control Sample (DLCS) analyzed on March 17, 2022. The analyte in question was not detected in the associated field samples. Since the error associated with the elevated recovery equates to a low bias, the sample data has not been significantly affected. The data has been flagged accordingly. No corrective action was required.

The spike recovery of 1,2-Dibromoethane for the Duplicate Laboratory Control Sample (DLCS) analyzed on March 17, 2022 was outside the laboratory generated control criterion. The recovery error equates to a potential low bias. However, the spike recovery of the analyte in question was within the method criterion; therefore, the data quality has not been significantly affected. No corrective action was taken.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2200988
Project ID: DOE perimeter Air / 080153.015.15

Date Received: 3/3/2022
Time Received: 16:45

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_030222_S	P2200988-001	Air	3/2/2022	10:00	AC02348	-1.22	3.72	X
DOE-2_030222_S	P2200988-002	Air	3/2/2022	10:15	AS00372	-2.25	3.85	X
DOE-3_030222_S	P2200988-003	Air	3/2/2022	10:30	AC02213	-1.37	3.53	X
DOE-4_030222_S	P2200988-004	Air	3/2/2022	10:45	AC02403	-2.11	3.63	X
DOE-1_030222_D	P2200988-005	Air	3/2/2022	10:01	AC02387	-1.73	3.86	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. P2200988

Company Name & Address (Reporting Information)	North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304
Project Name	DOE Perimeter Air
Project Number	080153.015.15
Project Manager	Trina Cesnik
P.O. # / Billing Information	PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Phone	805-587-0691
Fax	
Email Address for Result Reporting	cchristensen@northwindgrp.com; denise.gonzalez@northwindg
Sampler (Print & Sign)	T. Stewart Williford
ALS Contact:	Hayden Akers

	Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
1	DOE-1_030222_S		3/2/2022	1000	AC02348	SFC00657	-28.5	-1.5		X		
2	DOE-2_030222_S		3/2/2022	1015	AS00372	SFC00075	-29.0	-3.0		X		
3	DOE-3_030222_S		3/2/2022	1030	AC02213	SFC00479	-29.0	-1.0		X		
4	DOE-4_030222_S		3/2/2022	1045	AC02403	SFC00058	-29.0	-3.5		X		
5	DOE-1_030222_D		3/2/2022	1001	AC02387	SFC00163	-29.0	-3.5		X		

Page 6 of 135

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) X Tier IV (Data Validation Package) 10% Surcharge X

EDD required Yes / No
Type: EQuIS Units:

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature) T. Stewart Williford	Date: 3/2/2022	Time: 1645	Received by: (Signature)	3.	Date: 3.3.22	Time: 1645
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)		Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2200988

Project: DOE perimeter Air / 080153.015.15

Sample(s) received on: 3/3/22 Date opened: 3/3/22 by: KYLE.WOODIN

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2200988-001.01	6.0 L Ambient Can					
P2200988-002.01	6.0 L Silonite Can					
P2200988-003.01	6.0 L Ambient Can					
P2200988-004.01	6.0 L Ambient Can					
P2200988-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_030222_S** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-001

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02348

Initial Pressure (psig): -1.22 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.73	**0.43**	0.15	
74-87-3	Chloromethane	ND	0.70	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.74	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.71	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.71	ND	0.32	
74-83-9	Bromomethane	ND	0.70	ND	0.18	
75-00-3	Chloroethane	ND	0.70	ND	0.26	
107-02-8	Acrolein	ND	1.4	ND	0.60	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.71	**0.19**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.56	
107-13-1	Acrylonitrile	ND	1.4	ND	0.63	
75-35-4	1,1-Dichloroethene	ND	0.74	ND	0.19	
75-09-2	Methylene Chloride	ND	0.71	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.74	ND	0.097	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	0.73	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.73	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.73	ND	0.20	
108-05-4	Vinyl Acetate	ND	6.9	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.46	
156-59-2	cis-1,2-Dichloroethene	ND	0.71	ND	0.18	
141-78-6	Ethyl Acetate	ND	2.9	ND	0.80	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_030222_S** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-001

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02348

Initial Pressure (psig): -1.22 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.73	ND	0.21	
67-66-3	Chloroform	ND	0.74	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.46	
107-06-2	1,2-Dichloroethane	ND	0.73	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.71	ND	0.13	
71-43-2	Benzene	ND	0.69	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.69	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.69	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.73	ND	0.11	
79-01-6	Trichloroethene	ND	0.71	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.71	ND	0.20	
142-82-5	n-Heptane	ND	0.73	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.69	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.70	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.71	ND	0.13	
108-88-3	Toluene	ND	0.71	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.73	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.71	ND	0.093	
111-65-9	n-Octane	ND	0.73	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_030222_S** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-001

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02348

Initial Pressure (psig): -1.22 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.71	ND	0.11	
100-41-4	Ethylbenzene	ND	0.71	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.71	ND	0.069	
100-42-5	Styrene	ND	0.69	ND	0.16	
95-47-6	o-Xylene	ND	0.71	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.71	ND	0.10	
98-82-8	Cumene	ND	0.71	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.73	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.73	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.71	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.71	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.71	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.71	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.71	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.71	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.73	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.71	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.71	ND	0.067	
104-51-8	n-Butylbenzene	ND	0.71	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.73	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_030222_S** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-002

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00372

Initial Pressure (psig): -2.25 Final Pressure (psig): 3.85

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.79	**0.42**	0.16	
74-87-3	Chloromethane	ND	0.76	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.76	ND	0.20	
75-00-3	Chloroethane	ND	0.76	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.65	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.77	**0.18**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.69	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.80	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.79	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.79	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.79	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.5	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.20	
141-78-6	Ethyl Acetate	ND	3.1	ND	0.87	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_030222_S** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-002

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00372

Initial Pressure (psig): -2.25 Final Pressure (psig): 3.85

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.79	ND	0.22	
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.79	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.75	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.75	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	0.75	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.79	ND	0.12	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.22	
142-82-5	n-Heptane	ND	0.79	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.75	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.40	
10061-02-6	trans-1,3-Dichloropropene	ND	0.76	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	ND	0.77	ND	0.21	
591-78-6	2-Hexanone	ND	1.6	ND	0.40	
124-48-1	Dibromochloromethane	ND	0.79	ND	0.093	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
111-65-9	n-Octane	ND	0.79	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_030222_S** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-002

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00372

Initial Pressure (psig): -2.25 Final Pressure (psig): 3.85

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.77	ND	0.11	
100-41-4	Ethylbenzene	ND	0.77	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.38	
75-25-2	Bromoform	ND	0.77	ND	0.075	
100-42-5	Styrene	ND	0.75	ND	0.18	
95-47-6	o-Xylene	ND	0.77	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.79	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.79	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.77	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.77	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.79	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.77	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.073	
104-51-8	n-Butylbenzene	ND	0.77	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.79	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_030222_S** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-003

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02213

Initial Pressure (psig): -1.37 Final Pressure (psig): 3.53

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	0.73	**0.40**	0.15	
74-87-3	Chloromethane	ND	0.70	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.74	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.71	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.71	ND	0.32	
74-83-9	Bromomethane	ND	0.70	ND	0.18	
75-00-3	Chloroethane	ND	0.70	ND	0.26	
107-02-8	Acrolein	ND	1.4	ND	0.60	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.99**	0.71	**0.18**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.56	
107-13-1	Acrylonitrile	ND	1.4	ND	0.63	
75-35-4	1,1-Dichloroethene	ND	0.74	ND	0.19	
75-09-2	Methylene Chloride	ND	0.71	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.74	ND	0.097	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	0.73	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.73	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.73	ND	0.20	
108-05-4	Vinyl Acetate	ND	6.9	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.46	
156-59-2	cis-1,2-Dichloroethene	ND	0.71	ND	0.18	
141-78-6	Ethyl Acetate	**4.0**	2.9	**1.1**	0.80	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_030222_S** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-003

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02213

Initial Pressure (psig): -1.37 Final Pressure (psig): 3.53

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.73	ND	0.21	
67-66-3	Chloroform	ND	0.74	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.46	
107-06-2	1,2-Dichloroethane	ND	0.73	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.71	ND	0.13	
71-43-2	Benzene	ND	0.69	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.69	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.69	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.73	ND	0.11	
79-01-6	Trichloroethene	ND	0.71	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.71	ND	0.20	
142-82-5	n-Heptane	ND	0.73	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.69	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.70	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.71	ND	0.13	
108-88-3	Toluene	ND	0.71	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.73	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.71	ND	0.093	
111-65-9	n-Octane	ND	0.73	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_030222_S** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-003

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02213

Initial Pressure (psig): -1.37 Final Pressure (psig): 3.53

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.71	ND	0.11	
100-41-4	Ethylbenzene	ND	0.71	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.71	ND	0.069	
100-42-5	Styrene	ND	0.69	ND	0.16	
95-47-6	o-Xylene	ND	0.71	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.71	ND	0.10	
98-82-8	Cumene	ND	0.71	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.73	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.73	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.71	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.71	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.71	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.71	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.71	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.71	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.73	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.71	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.71	ND	0.067	
104-51-8	n-Butylbenzene	ND	0.71	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.73	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_030222_S** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-004

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02403

Initial Pressure (psig): -2.11 Final Pressure (psig): 3.63

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.77	**0.42**	0.16	
74-87-3	Chloromethane	ND	0.74	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.76	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.76	ND	0.34	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
107-02-8	Acrolein	ND	1.5	ND	0.64	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.76	**0.18**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.59	
107-13-1	Acrylonitrile	ND	1.5	ND	0.67	
75-35-4	1,1-Dichloroethene	ND	0.79	ND	0.20	
75-09-2	Methylene Chloride	ND	0.76	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.79	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.77	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.3	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	
156-59-2	cis-1,2-Dichloroethene	ND	0.76	ND	0.19	
141-78-6	Ethyl Acetate	**18**	3.1	**5.1**	0.85	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_030222_S** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-004

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02403

Initial Pressure (psig): -2.11 Final Pressure (psig): 3.63

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.77	ND	0.22	
67-66-3	Chloroform	ND	0.79	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.50	
107-06-2	1,2-Dichloroethane	ND	0.77	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.76	ND	0.14	
71-43-2	Benzene	ND	0.73	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.73	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.73	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.77	ND	0.12	
79-01-6	Trichloroethene	ND	0.76	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.76	ND	0.21	
142-82-5	n-Heptane	ND	0.77	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.73	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.74	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.76	ND	0.14	
108-88-3	Toluene	ND	0.76	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.77	ND	0.091	
106-93-4	1,2-Dibromoethane	ND	0.76	ND	0.099	
111-65-9	n-Octane	ND	0.77	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_030222_S** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-004

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02403

Initial Pressure (psig): -2.11 Final Pressure (psig): 3.63

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.76	ND	0.11	
100-41-4	Ethylbenzene	ND	0.76	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.76	ND	0.073	
100-42-5	Styrene	ND	0.73	ND	0.17	
95-47-6	o-Xylene	ND	0.76	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.76	ND	0.11	
98-82-8	Cumene	ND	0.76	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.77	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.77	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.76	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.76	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.76	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.76	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.76	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.76	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.77	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.76	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.76	ND	0.071	
104-51-8	n-Butylbenzene	ND	0.76	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.77	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_030222_D** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-005

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02387

Initial Pressure (psig): -1.73 Final Pressure (psig): 3.86

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.76	**0.43**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.74	**0.19**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.2	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	ND	3.0	ND	0.83	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_030222_D** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-005

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02387

Initial Pressure (psig): -1.73 Final Pressure (psig): 3.86

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.76	ND	0.22	
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	ND	0.74	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.089	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_030222_D** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P2200988-005

Test Code: EPA TO-15 Date Collected: 3/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/3/22
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02387

Initial Pressure (psig): -1.73 Final Pressure (psig): 3.86

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.76	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P220317-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P220317-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.53	ND	0.15	
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P220317-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Project ID: P2200988

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 3/2/22
Analyst: Simon Cao Date(s) Received: 3/3/22
Sample Type: 6.0 L Summa Canister(s) / 6.0 L Silonite Canister(s) Date(s) Analyzed: 3/17/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220317-MB	**94**	**101**	**108**	70-130	
Lab Control Sample	P220317-LCS	**95**	**94**	**101**	70-130	
Duplicate Lab Control Sample	P220317-DLCS	**98**	**93**	**99**	70-130	
DOE-1_030222_S	P2200988-001	**103**	**94**	**98**	70-130	
DOE-2_030222_S	P2200988-002	**102**	**94**	**98**	70-130	
DOE-3_030222_S	P2200988-003	**104**	**94**	**96**	70-130	
DOE-4_030222_S	P2200988-004	**101**	**94**	**99**	70-130	
DOE-1_030222_D	P2200988-005	**99**	**96**	**100**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P220317-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	166	169	**80**	**81**	71-112	1	25	
74-87-3	Chloromethane	206	182	188	**88**	**91**	53-126	3	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	196	195	**94**	**94**	62-121	0	25	
75-01-4	Vinyl Chloride	208	192	196	**92**	**94**	63-123	2	25	
106-99-0	1,3-Butadiene	206	191	193	**93**	**94**	63-135	1	25	
74-83-9	Bromomethane	206	176	179	**85**	**87**	71-112	2	25	
75-00-3	Chloroethane	206	171	174	**83**	**84**	66-117	1	25	
107-02-8	Acrolein	416	333	343	**80**	**82**	71-123	2	25	
75-69-4	Trichlorofluoromethane (CFC 11)	202	166	169	**82**	**84**	71-114	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	342	355	**86**	**89**	61-124	3	25	
107-13-1	Acrylonitrile	402	332	339	**83**	**84**	65-130	1	25	
75-35-4	1,1-Dichloroethene	210	179	181	**85**	**86**	74-114	1	25	
75-09-2	Methylene Chloride	208	180	180	**87**	**87**	75-112	0	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	179	181	**83**	**84**	73-114	1	25	
75-15-0	Carbon Disulfide	414	353	356	**85**	**86**	70-113	1	25	
156-60-5	trans-1,2-Dichloroethene	208	177	182	**85**	**88**	76-119	3	25	
75-34-3	1,1-Dichloroethane	214	172	177	**80**	**83**	70-114	4	25	
1634-04-4	Methyl tert-Butyl Ether	206	150	151	**73**	**73**	72-118	0	25	
108-05-4	Vinyl Acetate	942	994	997	**106**	**106**	56-137	0	25	
78-93-3	2-Butanone (MEK)	408	373	376	**91**	**92**	74-121	1	25	
156-59-2	cis-1,2-Dichloroethene	206	168	172	**82**	**83**	73-117	1	25	
141-78-6	Ethyl Acetate	580	567	553	**98**	**95**	59-161	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P220317-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-54-3	n-Hexane	208	219	216	**105**	**104**	55-130	1	25	
67-66-3	Chloroform	210	177	181	**84**	**86**	71-114	2	25	
109-99-9	Tetrahydrofuran (THF)	404	358	360	**89**	**89**	73-114	0	25	
107-06-2	1,2-Dichloroethane	210	169	173	**80**	**82**	71-119	2	25	
71-55-6	1,1,1-Trichloroethane	208	169	172	**81**	**83**	73-119	2	25	
71-43-2	Benzene	208	175	176	**84**	**85**	72-113	1	25	
56-23-5	Carbon Tetrachloride	202	165	168	**82**	**83**	67-123	1	25	
110-82-7	Cyclohexane	412	369	368	**90**	**89**	70-119	1	25	
78-87-5	1,2-Dichloropropane	206	177	179	**86**	**87**	70-118	1	25	
75-27-4	Bromodichloromethane	208	179	182	**86**	**88**	74-119	2	25	
79-01-6	Trichloroethene	204	180	179	**88**	**88**	74-115	0	25	
123-91-1	1,4-Dioxane	206	196	196	**95**	**95**	77-124	0	25	
142-82-5	n-Heptane	206	181	182	**88**	**88**	70-119	0	25	
10061-01-5	cis-1,3-Dichloropropene	208	180	182	**87**	**88**	81-126	1	25	
108-10-1	4-Methyl-2-pentanone	412	402	403	**98**	**98**	73-129	0	25	
10061-02-6	trans-1,3-Dichloropropene	200	162	165	**81**	**83**	80-127	2	25	
79-00-5	1,1,2-Trichloroethane	208	178	177	**86**	**85**	78-117	1	25	
108-88-3	Toluene	206	163	161	**79**	**78**	70-118	1	25	
591-78-6	2-Hexanone	406	356	354	**88**	**87**	74-132	1	25	
124-48-1	Dibromochloromethane	210	164	163	**78**	**78**	69-137	0	25	
106-93-4	1,2-Dibromoethane	208	159	157	**76**	**75**	76-128	1	25	**L**
111-65-9	n-Octane	208	172	171	**83**	**82**	68-120	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2200988
Client Project ID: **DOE perimeter Air / 080153.015.15** ALS Sample ID: P220317-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/17/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
127-18-4	Tetrachloroethene	212	166	162	**78**	**76**	63-130	3	25	
100-41-4	Ethylbenzene	206	174	172	**84**	**83**	71-123	1	25	
179601-23-1	m,p-Xylenes	416	338	333	**81**	**80**	67-127	1	25	
75-25-2	Bromoform	210	172	170	**82**	**81**	65-149	1	25	
100-42-5	Styrene	202	158	155	**78**	**77**	76-132	1	25	
95-47-6	o-Xylene	208	172	170	**83**	**82**	69-124	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	178	176	**86**	**85**	69-128	1	25	
98-82-8	Cumene	206	169	167	**82**	**81**	69-125	1	25	
103-65-1	n-Propylbenzene	208	170	167	**82**	**80**	70-127	2	25	
622-96-8	4-Ethyltoluene	208	180	176	**87**	**85**	69-127	2	25	
108-67-8	1,3,5-Trimethylbenzene	208	182	179	**88**	**86**	66-129	2	25	
95-63-6	1,2,4-Trimethylbenzene	206	178	172	**86**	**83**	63-142	4	25	
100-44-7	Benzyl Chloride	416	368	364	**88**	**88**	73-145	0	25	
541-73-1	1,3-Dichlorobenzene	208	171	167	**82**	**80**	67-136	2	25	
106-46-7	1,4-Dichlorobenzene	210	145	142	**69**	**68**	63-134	1	25	
135-98-8	sec-Butylbenzene	204	172	169	**84**	**83**	68-130	1	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	173	169	**84**	**82**	60-139	2	25	
95-50-1	1,2-Dichlorobenzene	210	176	172	**84**	**82**	64-139	2	25	
120-82-1	1,2,4-Trichlorobenzene	420	278	272	**66**	**65**	62-154	2	25	
91-20-3	Naphthalene	210	121	121	**58**	**58**	62-156	0	25	**L**
87-68-3	Hexachlorobutadiene	212	169	165	**80**	**78**	55-142	3	25	
104-51-8	n-Butylbenzene	208	174	171	**84**	**82**	70-131	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

Client: **North Wind, Inc.** ALS Project ID: P2200988

Client Project ID: **DOE perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 03172202.D

Analyst: Simon Cao Date Analyzed: 3/17/22

Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 02:02

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	124167	11.19	526352	13.32	110017	17.64
	Upper Limit	173834	11.52	736893	13.65	154024	17.97
	Lower Limit	74500	10.86	315811	12.99	66010	17.31
	Client Sample ID						
01	Method Blank	110993	11.17	481425	13.31	92289	17.64
02	Lab Control Sample	119082	11.19	509413	13.32	105953	17.64
03	Duplicate Lab Control Sample	122553	11.19	523086	13.32	110089	17.64
04	DOE-3_030222_S	128850	11.17	558469	13.31	115777	17.64
05	DOE-1_030222_S	121714	11.17	527526	13.31	109295	17.64
06	DOE-2_030222_S	120225	11.16	520438	13.31	107427	17.64
07	DOE-4_030222_S	120055	11.17	518572	13.31	106662	17.64
08	DOE-1_030222_D	117154	11.17	503654	13.31	102464	17.64
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172217.D Vial: 9
Acq On : 17 Mar 2022 14:49 Operator: SC
Sample : P2200988-001 (1000mL) Inst : MS09
Misc : S35-03082201

3/18/22

Quant Time: Mar 18 06:58:25 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	121714	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	527526	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	109295	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	217793	12.840	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
57) Toluene-d8 (SS2)	15.77	98	620415	11.729	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
73) Bromofluorobenzene (SS3)	19.03	174	169217	12.210	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
Target Compounds							Qvalue
2) Propene	4.12	42	2284	N.D.			
3) Dichlorodifluoromethan...	4.23	85	36985	1.564	ng		99
4) Chloromethane	4.52	50	7033	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	631	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.31	45	36499	3.520	ng		99
11) Acetonitrile	6.65	41	189	N.D.			
12) Acrolein	6.80	56	889	N.D.			
13) Acetone	7.01	58	32417	3.767	ng	#	56
14) Trichlorofluoromethane	7.25	101	15805	0.764	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	8671	N.D.			
16) Acrylonitrile	8.00	53	3200	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.46	59	495	N.D.			
19) Methylene Chloride	8.44	84	2907	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.86	151	3029	N.D.			
22) Carbon Disulfide	8.70	76	13099	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.51	72	2419	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.32	61	1876	N.D.			
31) n-Hexane	11.29	57	1180	N.D.			
32) Chloroform	11.33	83	815	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	490	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.31	61	16017	No Calib		#	
40) 1-Butanol	12.92	56	2733	No Calib		#	
41) Benzene	12.91	78	7650	N.D.			
42) Carbon Tetrachloride	13.07	117	4210	N.D.			
43) Cyclohexane	13.21	84	171	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.02	130	1628	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.09	57	2639	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172217.D Vial: 9
Acq On : 17 Mar 2022 14:49 Operator: SC
Sample : P2200988-001 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:25 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

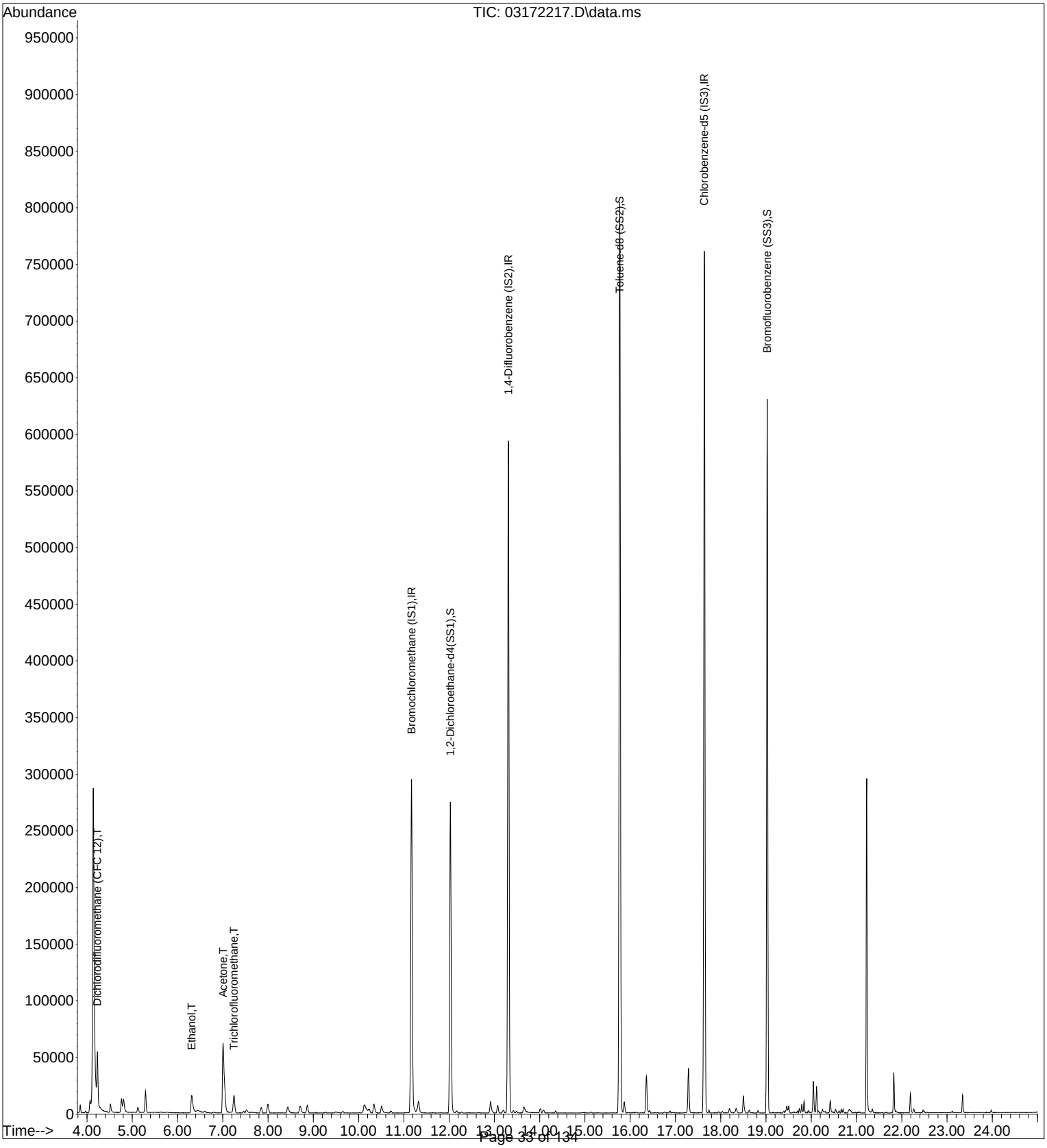
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	356	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.87	91	8290	N.D.		
59) 2-Hexanone	16.13	43	937	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.77	43	1332	N.D.		
63) n-Octane	16.88	57	389	N.D.		
64) Tetrachloroethene	17.02	166	176	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.04	91	1781	N.D.		
67) m- & p-Xylenes	18.19	91	3856	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.53	104	1282	N.D.		
70) o-Xylene	18.62	91	1435	N.D.		
71) n-Nonane	18.83	43	1117	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.03	105	190	N.D.		
75) alpha-Pinene	19.50	93	2474	N.D.		
76) n-Propylbenzene	19.60	91	561	N.D.		
77) 3-Ethyltoluene	19.73	105	601	No Calib		#
78) 4-Ethyltoluene	19.73	105	601	N.D.		
79) 1,3,5-Trimethylbenzene	19.79	105	282	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.53	105	292	No Calib		#
82) 1,2,4-Trimethylbenzene	20.16	105	1335	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.53	105	292	N.D.		
88) 4-Isopropyltoluene (p-...	20.54	119	1606	N.D.		
89) 1,2,3-Trimethylbenzene	20.53	105	292	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.66	68	871	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.23	58	3443	No Calib		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.28	128	1195	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.50	55	2227	No Calib		#
99) tert-Butylbenzene	20.16	119	172	N.D.		
100) n-Butylbenzene	20.88	91	267	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172217.D Vial: 9
Acq On : 17 Mar 2022 14:49 Operator: SC
Sample : P2200988-001 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:25 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172217.D Vial: 9
Acq On : 17 Mar 2022 14:49 Operator: SC
Sample : P2200988-001 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:25 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/18/22

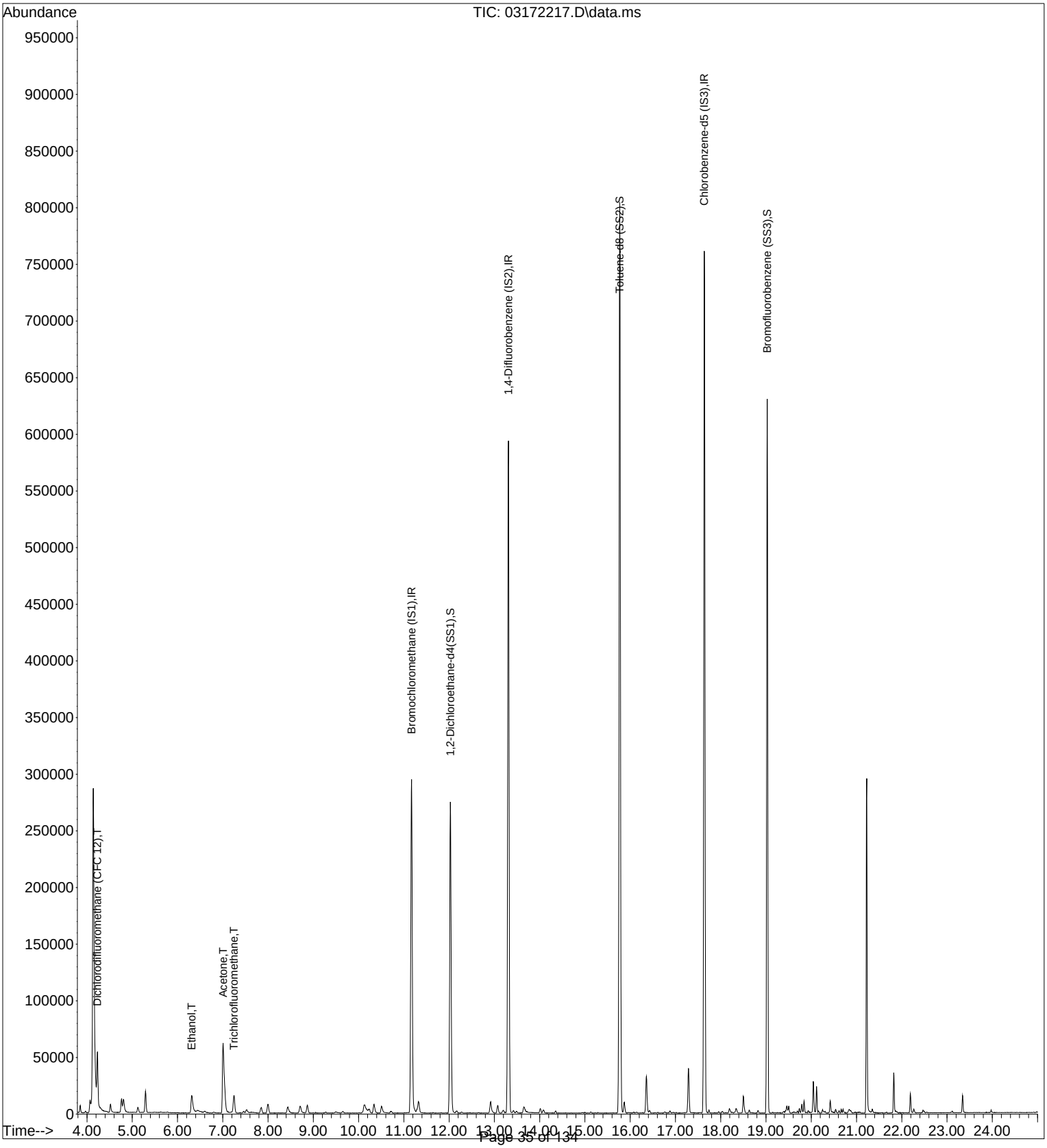
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	121714	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	527526	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	109295	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	217793	12.840	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
57) Toluene-d8 (SS2)	15.77	98	620415	11.729	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
73) Bromofluorobenzene (SS3)	19.03	174	169217	12.210	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.23	85	36985	1.564	ng		99
10) Ethanol	6.31	45	36499	3.520	ng		99
13) Acetone	7.01	58	32417	3.767	ng	#	56
14) Trichlorofluoromethane	7.25	101	15805	0.764	ng		98

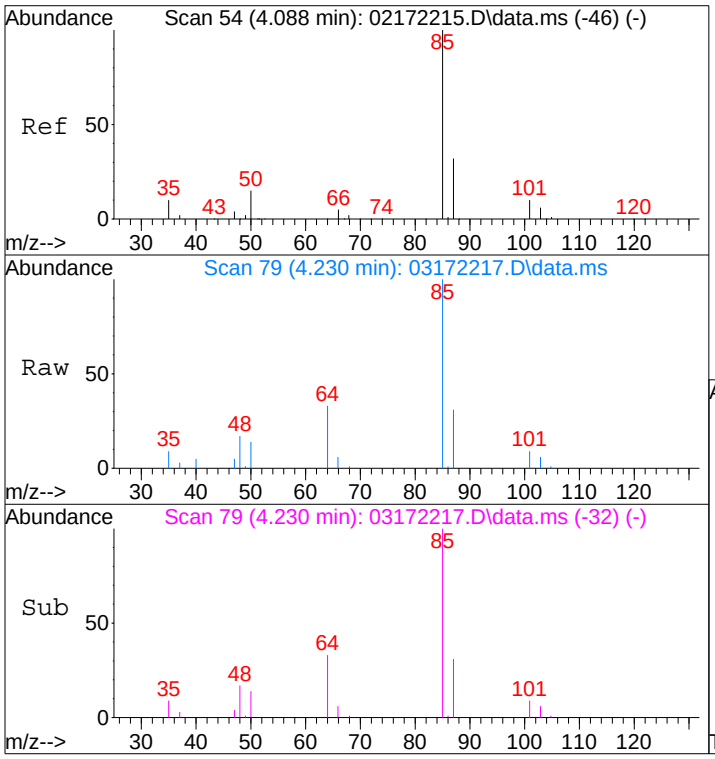
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172217.D Vial: 9
Acq On : 17 Mar 2022 14:49 Operator: SC
Sample : P2200988-001 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:25 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

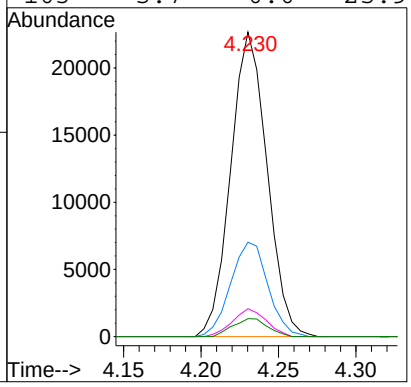


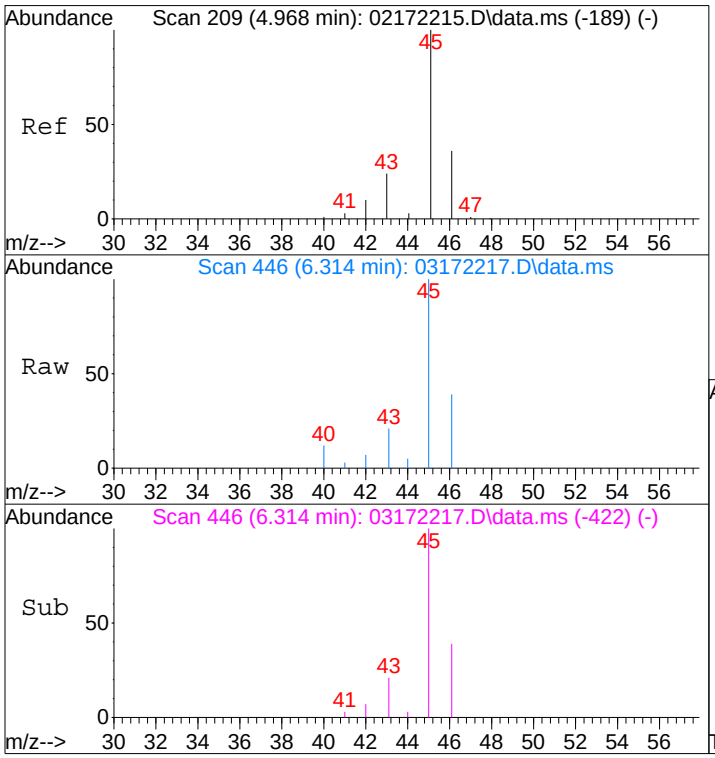


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.56 ng
RT: 4.23 min Scan# 79
Delta R.T. 0.017 min
Lab File: 03172217.D
Acq: 17 Mar 2022 14:49

Tgt Ion: 85 Resp: 36985

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.2	52.2
101	8.5	0.0	29.6
103	5.7	0.0	25.9

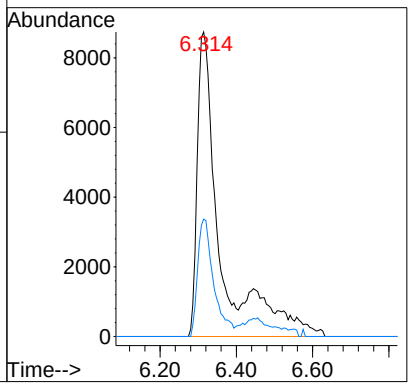


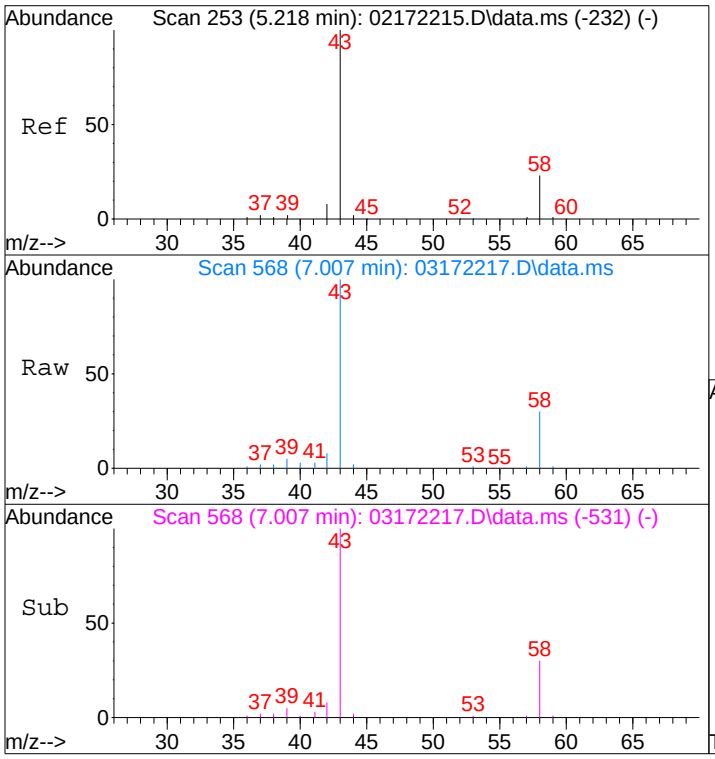


#10
Ethanol
Concen: 3.52 ng
RT: 6.31 min Scan# 446
Delta R.T. -0.114 min
Lab File: 03172217.D
Acq: 17 Mar 2022 14:49

Tgt Ion: 45 Resp: 36499

Ion	Ratio	Lower	Upper
45	100		
46	35.7	16.4	56.4

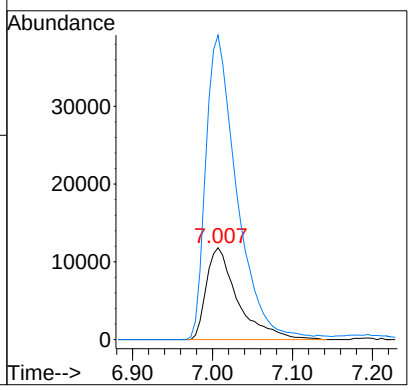


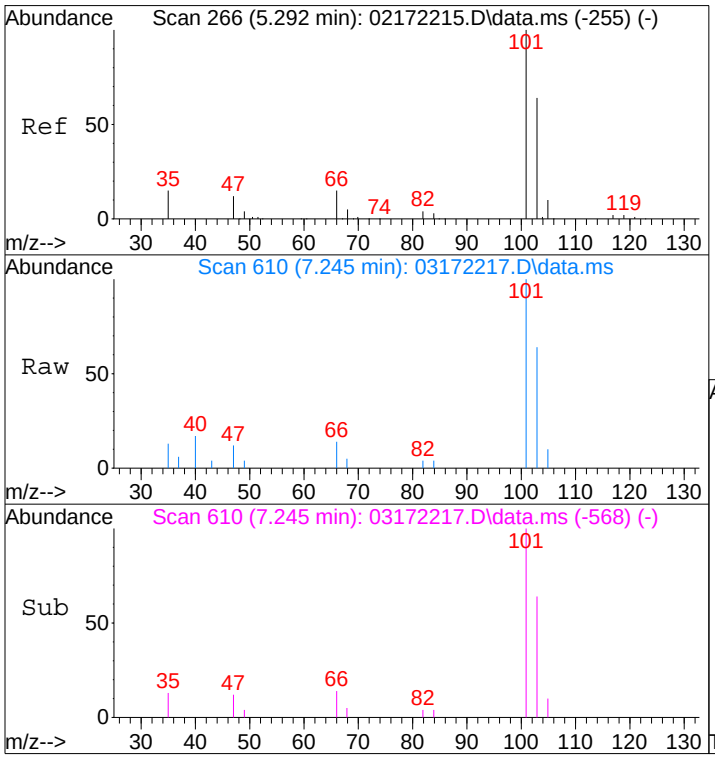


#13
Acetone
Concen: 3.77 ng
RT: 7.01 min Scan# 568
Delta R.T. -0.040 min
Lab File: 03172217.D
Acq: 17 Mar 2022 14:49

Tgt Ion: 58 Resp: 32417

Ion	Ratio	Lower	Upper
58	100		
43	328.0	408.6	468.6#

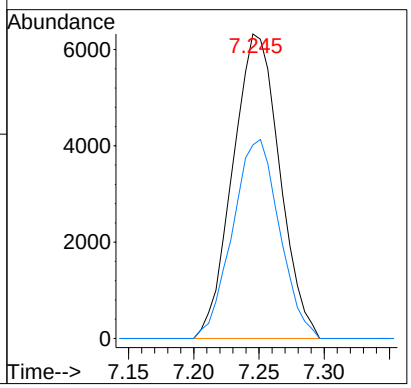




#14
Trichlorofluoromethane
Concen: 0.76 ng
RT: 7.25 min Scan# 610
Delta R.T. -0.011 min
Lab File: 03172217.D
Acq: 17 Mar 2022 14:49

Tgt Ion:101 Resp: 15805

Ion	Ratio	Lower	Upper
101	100		
103	65.3	43.5	83.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172218.D Vial: 10
Acq On : 17 Mar 2022 15:22 Operator: SC
Sample : P2200988-002 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:29 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/18/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	120225	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	520438	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	107427	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	212664	12.693	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	15.77	98	611035	11.752	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
73) Bromofluorobenzene (SS3)	19.03	174	166656	12.235	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
Target Compounds							Qvalue
2) Propene	4.10	42	1961	N.D.			
3) Dichlorodifluoromethan...	4.22	85	32879	1.408	ng		99
4) Chloromethane	4.51	50	5983	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	725	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.31	45	22824	2.228	ng		100
11) Acetonitrile	6.60	41	1981	N.D.			
12) Acrolein	6.79	56	859	N.D.			
13) Acetone	7.00	58	22676	2.668	ng	#	52
14) Trichlorofluoromethane	7.24	101	14150	0.692	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	7312	N.D.			
16) Acrylonitrile	7.99	53	1661	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.43	84	2839	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.86	151	2584	N.D.			
22) Carbon Disulfide	8.71	76	7556	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.20	86	179	N.D.			
27) 2-Butanone (MEK)	10.51	72	1750	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.32	61	2692	0.589	ng		88
31) n-Hexane	11.29	57	916	N.D.			
32) Chloroform	11.33	83	696	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	372	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.31	61	15808	No Calib		#	
40) 1-Butanol	12.93	56	3242	No Calib		#	
41) Benzene	12.91	78	7059	N.D.			
42) Carbon Tetrachloride	13.07	117	3767	N.D.			
43) Cyclohexane	13.30	84	187	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.01	130	2681	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.09	57	1963	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172218.D Vial: 10
Acq On : 17 Mar 2022 15:22 Operator: SC
Sample : P2200988-002 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:29 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

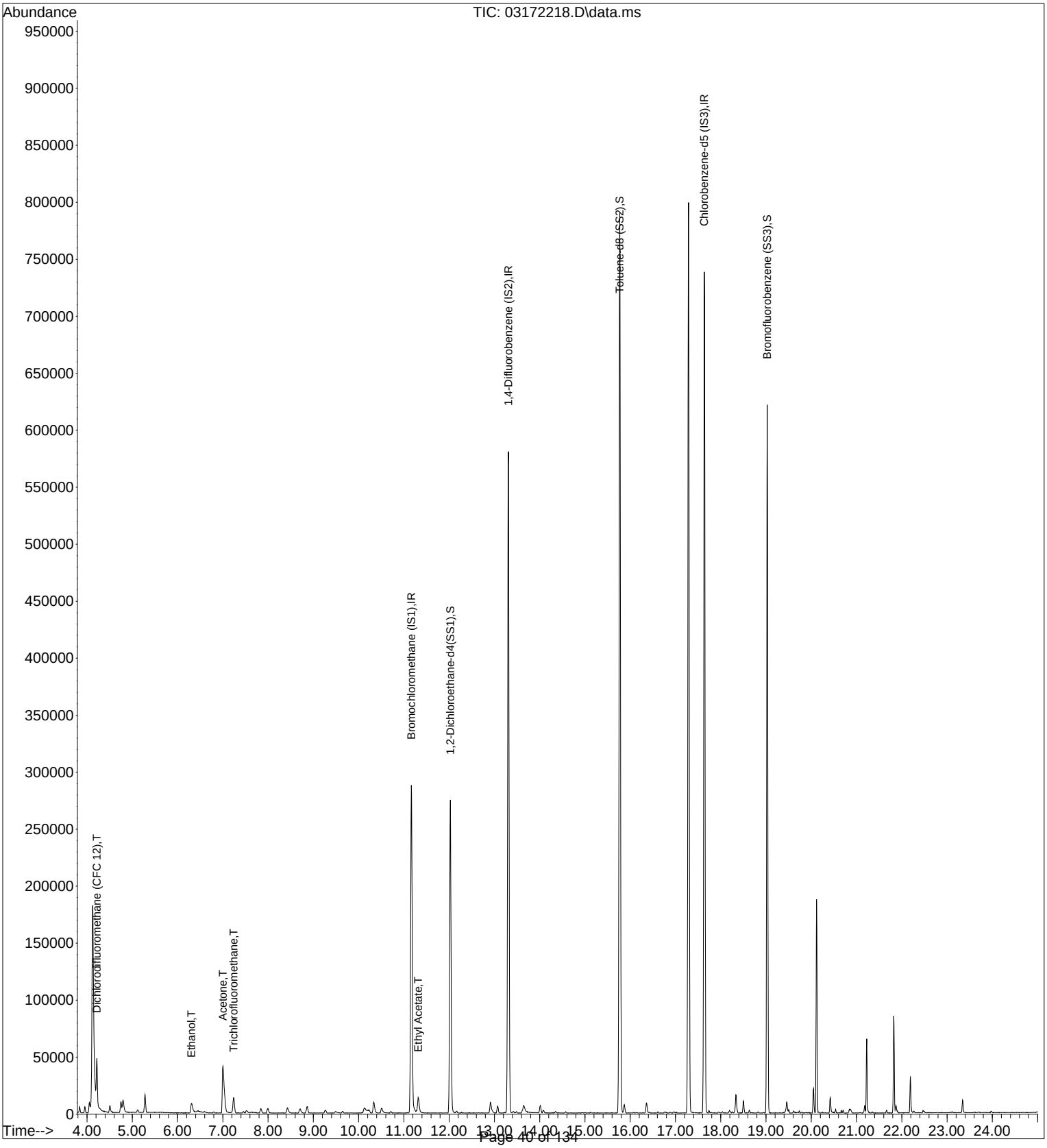
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.35	71	199	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.87	91	6280	N.D.	
59) 2-Hexanone	16.14	43	511	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.76	43	1213	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	17.02	166	252	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.03	91	1151	N.D.	
67) m- & p-Xylenes	18.19	91	2447	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.53	104	178	N.D.	
70) o-Xylene	18.62	91	986	N.D.	
71) n-Nonane	18.82	43	621	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.02	105	146	N.D.	
75) alpha-Pinene	19.50	93	1336	N.D.	
76) n-Propylbenzene	19.60	91	346	N.D.	
77) 3-Ethyltoluene	19.73	105	311	No Calib	#
78) 4-Ethyltoluene	19.73	105	311	N.D.	
79) 1,3,5-Trimethylbenzene	19.73	105	311	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.54	105	136	No Calib	#
82) 1,2,4-Trimethylbenzene	20.16	105	745	N.D.	
83) n-Decane	20.42	58	213	No Calib	#
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.54	105	136	N.D.	
88) 4-Isopropyltoluene (p-...	20.54	119	1710	N.D.	
89) 1,2,3-Trimethylbenzene	20.54	105	136	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.66	68	587	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.23	58	683	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.28	128	661	N.D.	
96) n-Dodecane	22.19	58	259	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.50	55	1593	No Calib	#
99) tert-Butylbenzene	20.12	119	3805	N.D.	
100) n-Butylbenzene	20.88	91	347	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172218.D Vial: 10
Acq On : 17 Mar 2022 15:22 Operator: SC
Sample : P2200988-002 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:29 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172218.D Vial: 10
Acq On : 17 Mar 2022 15:22 Operator: SC
Sample : P2200988-002 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:29 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/18/22

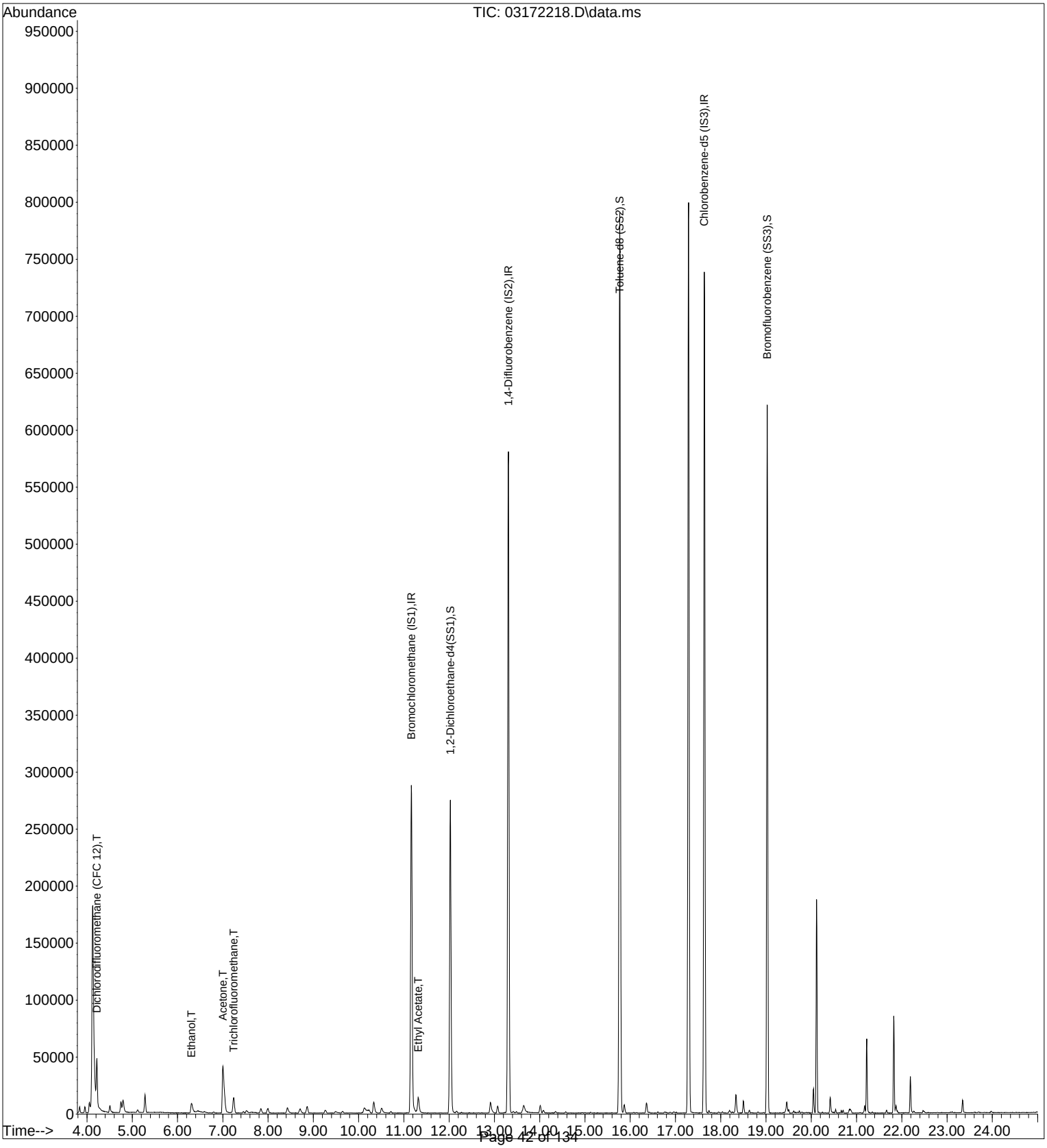
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	120225	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	520438	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	107427	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	212664	12.693	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	15.77	98	611035	11.752	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
73) Bromofluorobenzene (SS3)	19.03	174	166656	12.235	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.22	85	32879	1.408	ng		99
10) Ethanol	6.31	45	22824	2.228	ng		100
13) Acetone	7.00	58	22676	2.668	ng	#	52
14) Trichlorofluoromethane	7.24	101	14150	0.692	ng		99
30) Ethyl Acetate	11.32	61	2692	0.589	ng		88

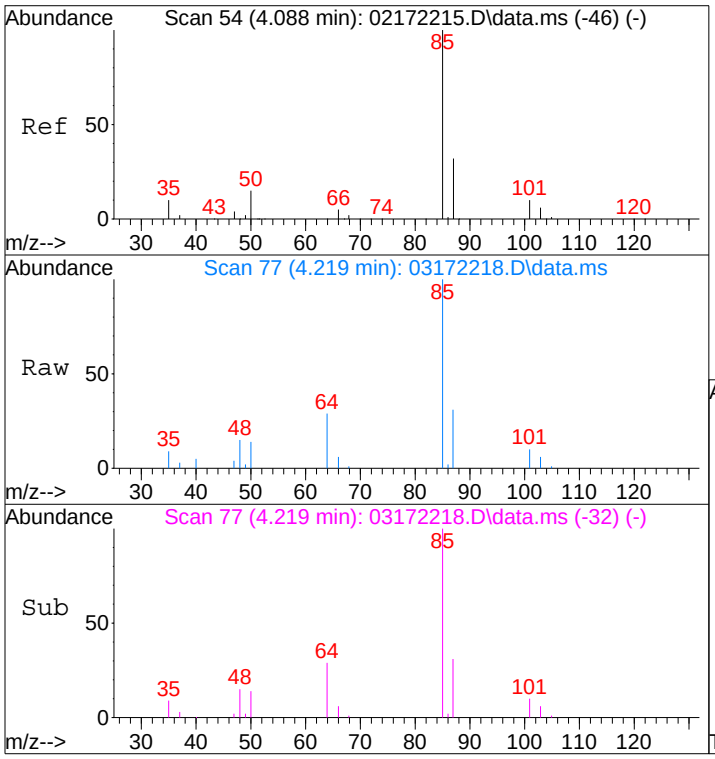
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172218.D Vial: 10
Acq On : 17 Mar 2022 15:22 Operator: SC
Sample : P2200988-002 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:29 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

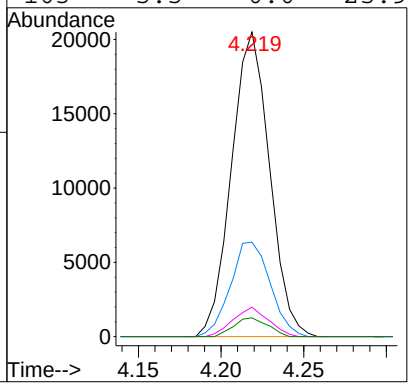


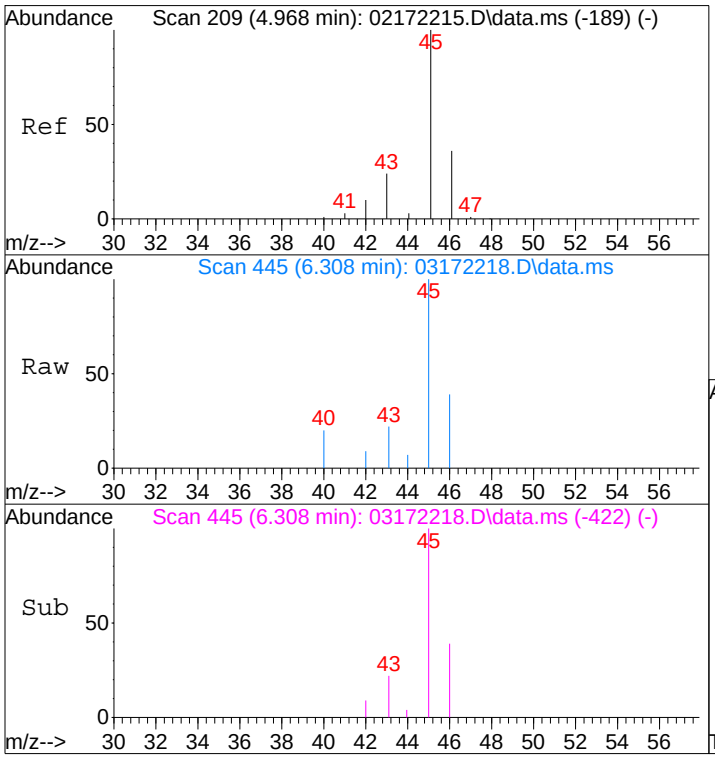


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.41 ng
RT: 4.22 min Scan# 77
Delta R.T. 0.005 min
Lab File: 03172218.D
Acq: 17 Mar 2022 15:22

Tgt Ion: 85 Resp: 32879

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.2	52.2
101	8.9	0.0	29.6
103	5.5	0.0	25.9

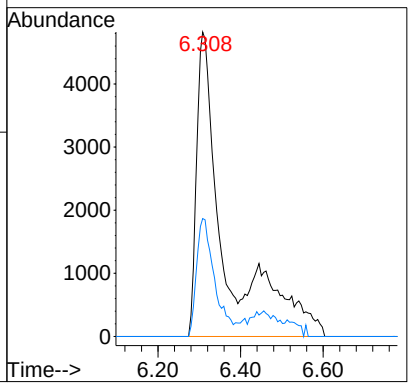


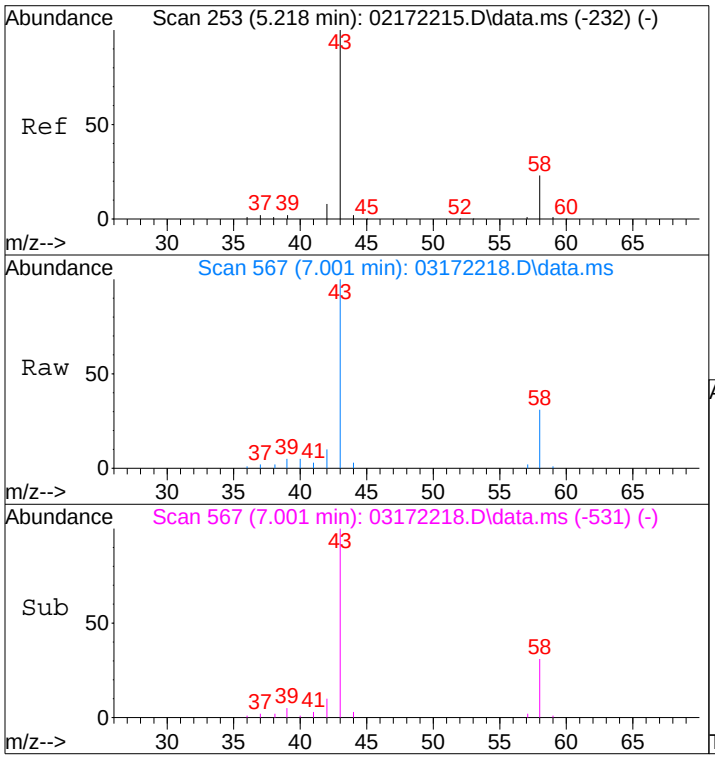


#10
Ethanol
Concen: 2.23 ng
RT: 6.31 min Scan# 445
Delta R.T. -0.119 min
Lab File: 03172218.D
Acq: 17 Mar 2022 15:22

Tgt Ion: 45 Resp: 22824

Ion	Ratio	Lower	Upper
45	100		
46	36.5	16.4	56.4

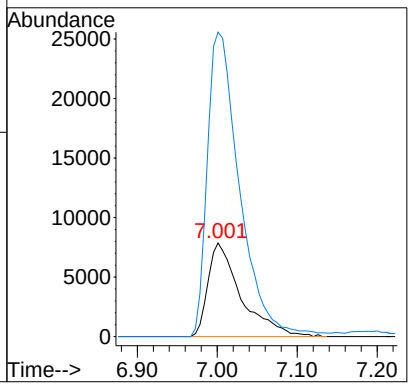


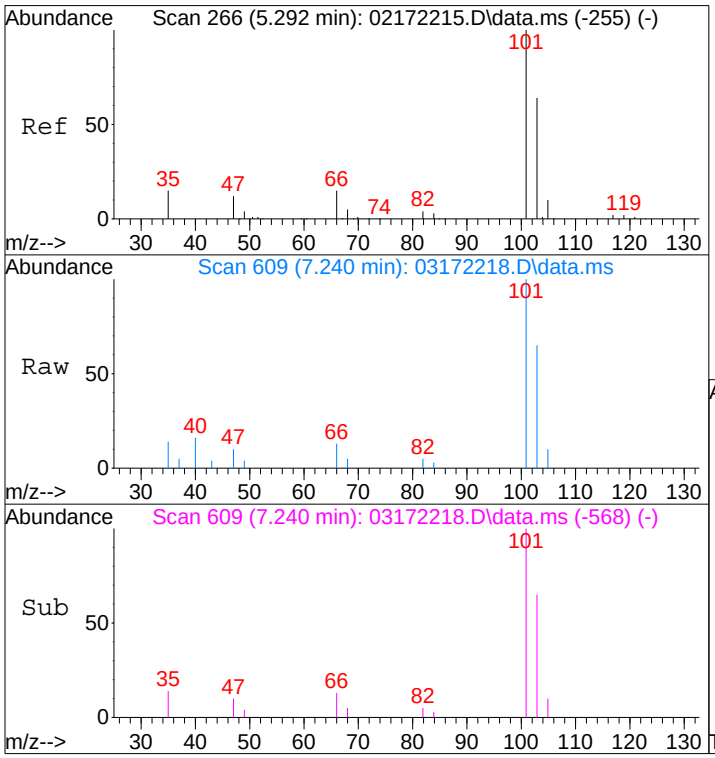


#13
Acetone
Concen: 2.67 ng
RT: 7.00 min Scan# 567
Delta R.T. -0.046 min
Lab File: 03172218.D
Acq: 17 Mar 2022 15:22

Tgt Ion: 58 Resp: 22676

Ion	Ratio	Lower	Upper
58	100		
43	318.6	408.6	468.6#

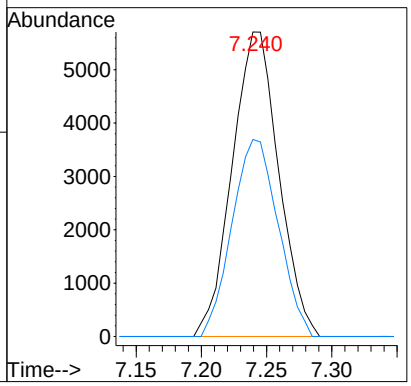


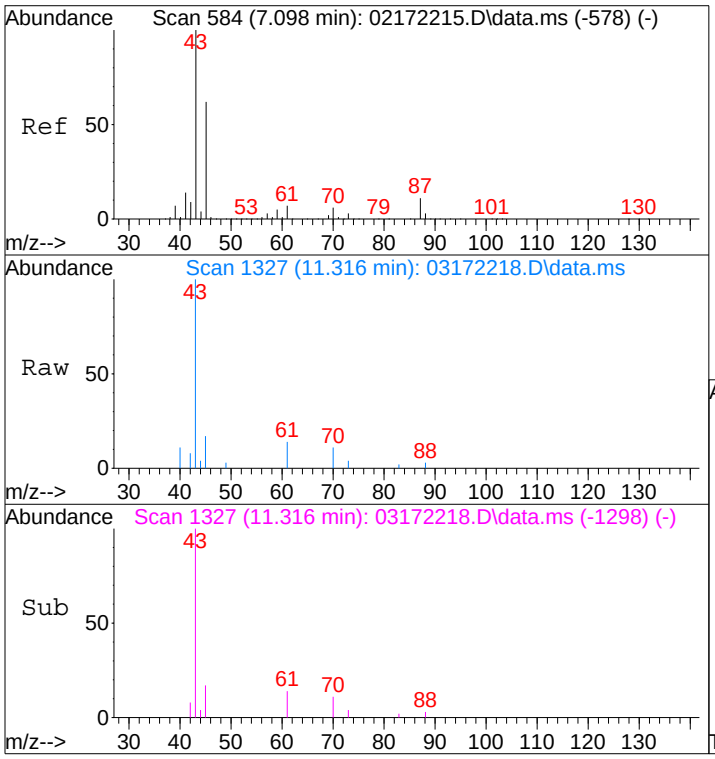


#14
Trichlorofluoromethane
Concen: 0.69 ng
RT: 7.24 min Scan# 609
Delta R.T. -0.017 min
Lab File: 03172218.D
Acq: 17 Mar 2022 15:22

Tgt Ion:101 Resp: 14150

Ion	Ratio	Lower	Upper
101	100		
103	64.2	43.5	83.5

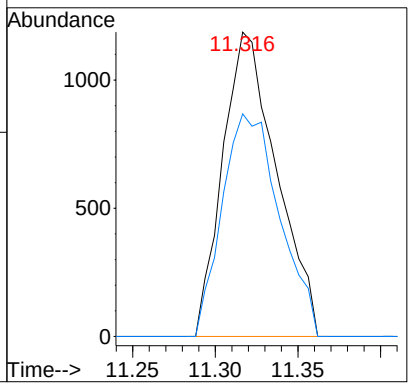




#30
Ethyl Acetate
Concen: 0.59 ng
RT: 11.32 min Scan# 1327
Delta R.T. -0.035 min
Lab File: 03172218.D
Acq: 17 Mar 2022 15:22

Tgt Ion: 61 Resp: 2692

Ion	Ratio	Lower	Upper
61	100		
70	78.0	69.7	109.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172216.D Vial: 11
Acq On : 17 Mar 2022 14:15 Operator: SC
Sample : P2200988-003 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:24 2022 3/18/22
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	128850	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	558469	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	115777	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	233817	13.021	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
57) Toluene-d8 (SS2)	15.77	98	655195	11.693	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
73) Bromofluorobenzene (SS3)	19.03	174	175773	11.973	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
Target Compounds							Qvalue
2) Propene	4.09	42	3008	N.D.			
3) Dichlorodifluoromethan...	4.23	85	36530	1.459	ng		99
4) Chloromethane	4.51	50	5981	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.77	135	708	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.31	45	127026	11.571	ng		100
11) Acetonitrile	6.60	41	3905	N.D.			
12) Acrolein	6.80	56	765	N.D.			
13) Acetone	7.01	58	25491	2.798	ng	#	56
14) Trichlorofluoromethane	7.25	101	15864	0.724	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	9211	N.D.			
16) Acrylonitrile	8.00	53	3073	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.47	59	189	N.D.			
19) Methylene Chloride	8.44	84	2959	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.87	151	2980	N.D.			
22) Carbon Disulfide	8.71	76	6758	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.50	72	2740	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.31	61	14410	2.942	ng		86
31) n-Hexane	11.29	57	1462	N.D.			
32) Chloroform	11.33	83	799	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	534	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.31	61	17005	No Calib		#	
40) 1-Butanol	12.92	56	6598	No Calib		#	
41) Benzene	12.91	78	9636	N.D.			
42) Carbon Tetrachloride	13.07	117	4202	N.D.			
43) Cyclohexane	13.21	84	105	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.08	57	2384	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172216.D Vial: 11
Acq On : 17 Mar 2022 14:15 Operator: SC
Sample : P2200988-003 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:24 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

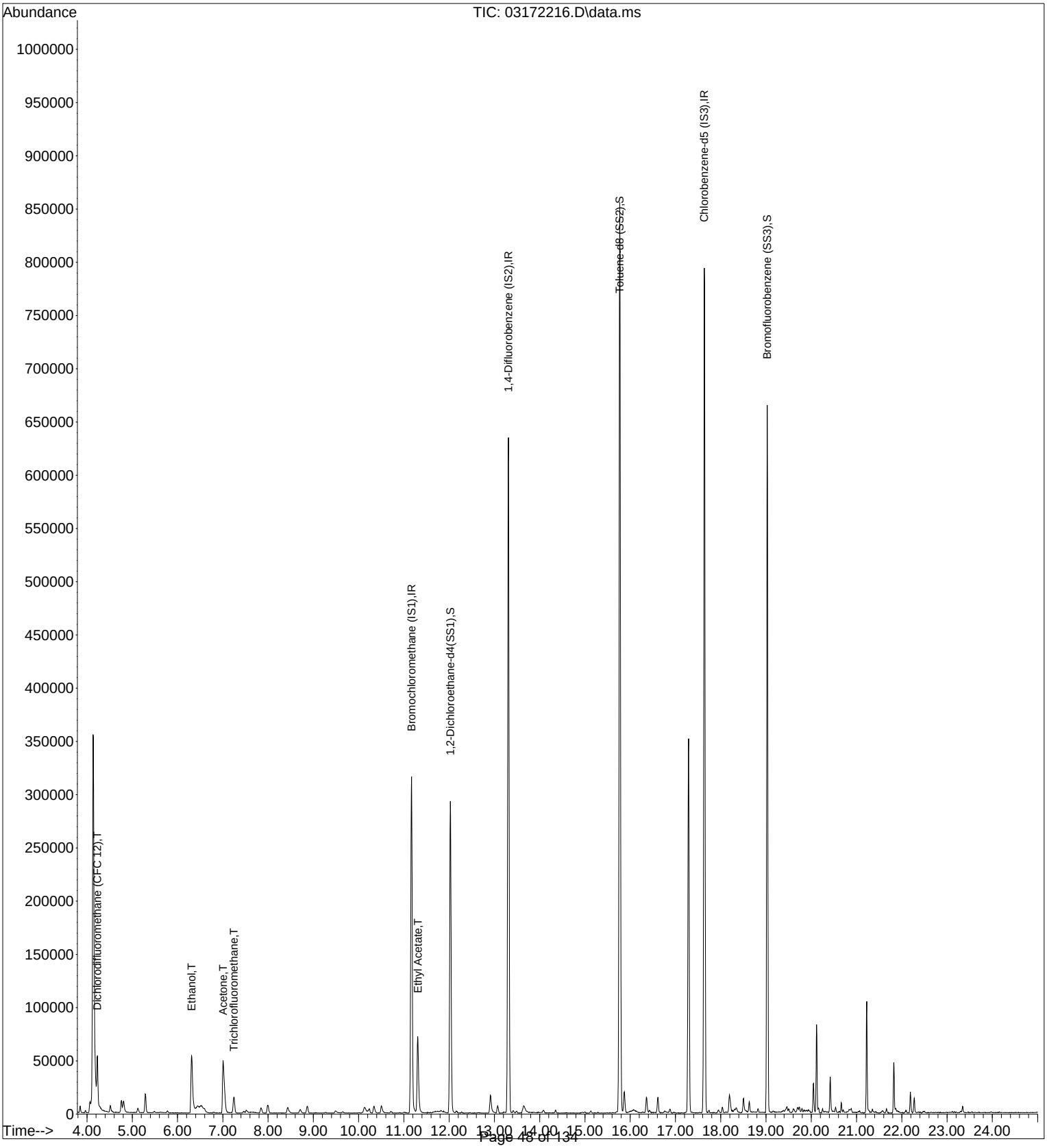
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.35	71	608	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.94	58	121	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.87	91	17185	N.D.	
59) 2-Hexanone	16.14	43	1118	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.76	43	1706	N.D.	
63) n-Octane	16.88	57	637	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.03	91	4839	N.D.	
67) m- & p-Xylenes	18.19	91	14829	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.53	104	830	N.D.	
70) o-Xylene	18.63	91	4837	N.D.	
71) n-Nonane	18.82	43	1234	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.15	105	1578	N.D.	
75) alpha-Pinene	19.50	93	1655	N.D.	
76) n-Propylbenzene	19.60	91	1847	N.D.	
77) 3-Ethyltoluene	19.73	105	1164	No Calib	
78) 4-Ethyltoluene	19.73	105	1164	N.D.	
79) 1,3,5-Trimethylbenzene	19.79	105	917	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.54	105	830	No Calib	#
82) 1,2,4-Trimethylbenzene	20.16	105	2742	N.D.	
83) n-Decane	20.42	58	609	No Calib	#
84) Benzyl Chloride	20.30	91	121	N.D.	
85) 1,3-Dichlorobenzene	20.36	146	274	N.D.	
86) 1,4-Dichlorobenzene	20.36	146	274	N.D.	
87) sec-Butylbenzene	20.54	105	830	N.D.	
88) 4-Isopropyltoluene (p-...	20.54	119	2260	N.D.	
89) 1,2,3-Trimethylbenzene	20.54	105	830	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.66	68	2136	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.23	58	1044	No Calib	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.28	128	9628	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.50	55	2159	No Calib	#
99) tert-Butylbenzene	20.12	119	2018	N.D.	
100) n-Butylbenzene	20.88	91	1095	N.D.	
101) 1,1,1,2-Tetrachloroethane	17.60	131	863	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172216.D Vial: 11
Acq On : 17 Mar 2022 14:15 Operator: SC
Sample : P2200988-003 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:24 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172216.D Vial: 11
Acq On : 17 Mar 2022 14:15 Operator: SC
Sample : P2200988-003 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:24 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/18/22

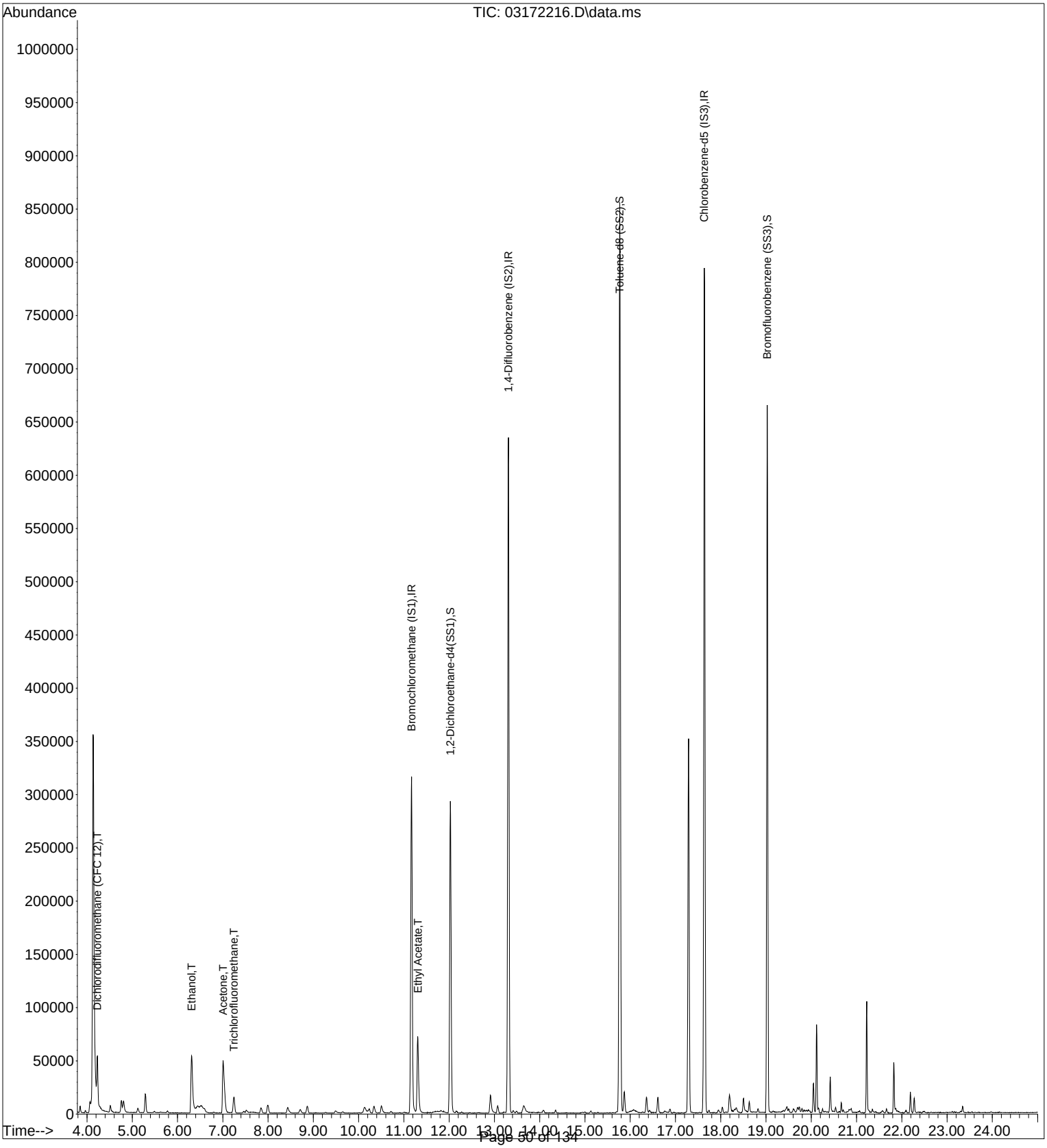
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	128850	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	558469	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	115777	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	233817	13.021	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
57) Toluene-d8 (SS2)	15.77	98	655195	11.693	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
73) Bromofluorobenzene (SS3)	19.03	174	175773	11.973	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.23	85	36530	1.459	ng		99
10) Ethanol	6.31	45	127026	11.571	ng		100
13) Acetone	7.01	58	25491	2.798	ng	#	56
14) Trichlorofluoromethane	7.25	101	15864	0.724	ng		99
30) Ethyl Acetate	11.31	61	14410	2.942	ng		86

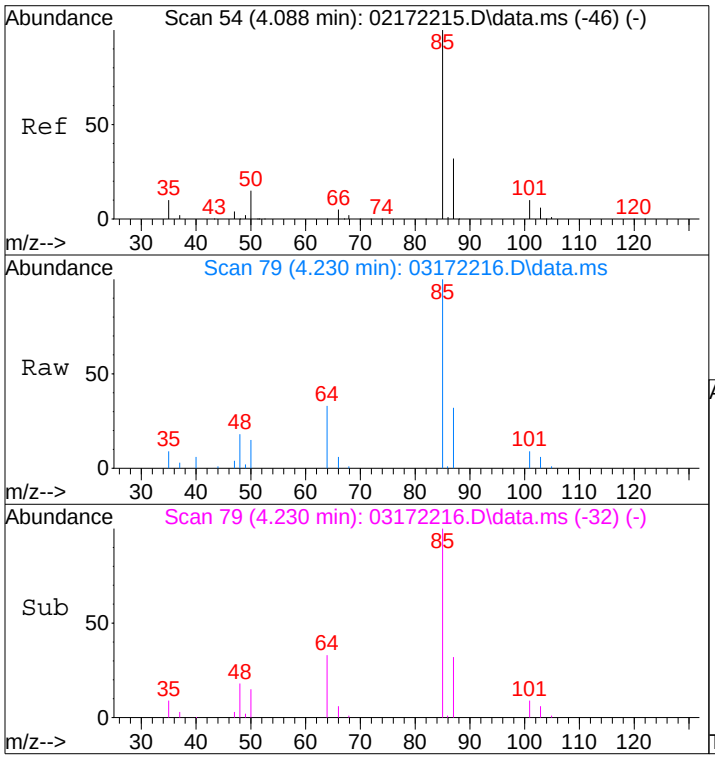
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172216.D Vial: 11
Acq On : 17 Mar 2022 14:15 Operator: SC
Sample : P2200988-003 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:24 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

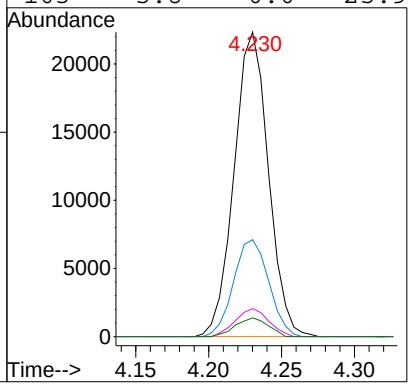


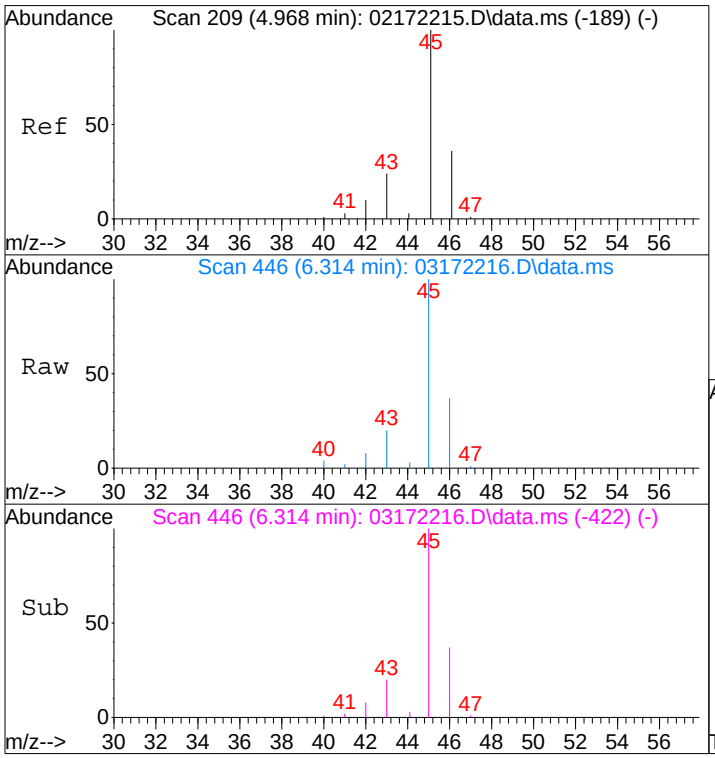


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.46 ng
RT: 4.23 min Scan# 79
Delta R.T. 0.017 min
Lab File: 03172216.D
Acq: 17 Mar 2022 14:15

Tgt Ion: 85 Resp: 36530

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.2	52.2
101	9.0	0.0	29.6
103	5.8	0.0	25.9

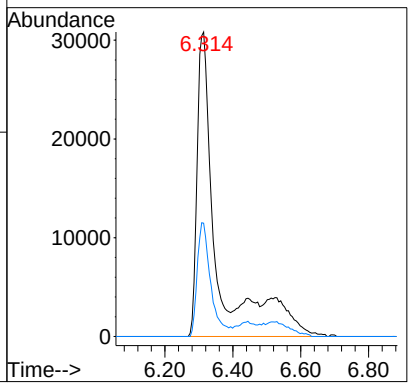


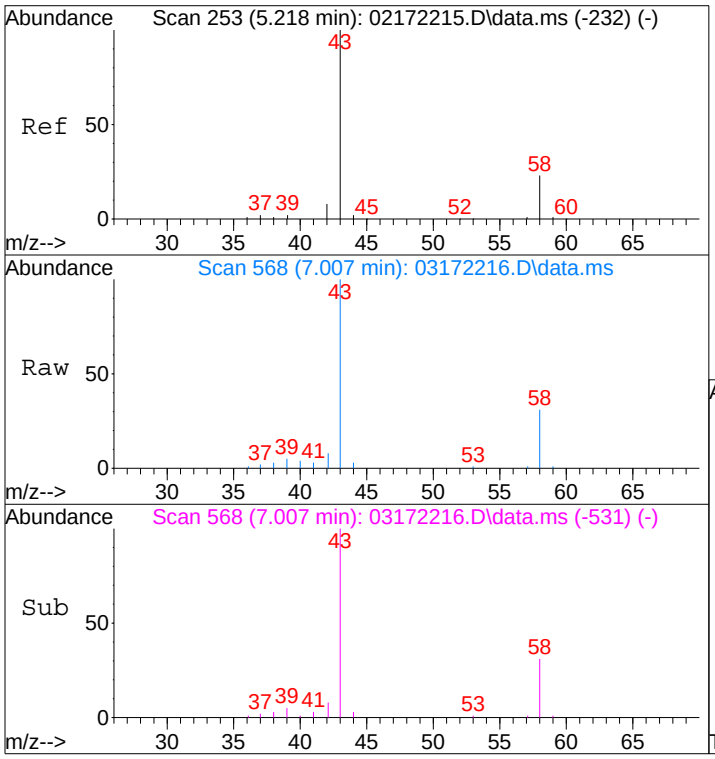


#10
Ethanol
Concen: 11.57 ng
RT: 6.31 min Scan# 446
Delta R.T. -0.114 min
Lab File: 03172216.D
Acq: 17 Mar 2022 14:15

Tgt Ion: 45 Resp: 127026

Ion	Ratio	Lower	Upper
45	100		
46	36.6	16.4	56.4

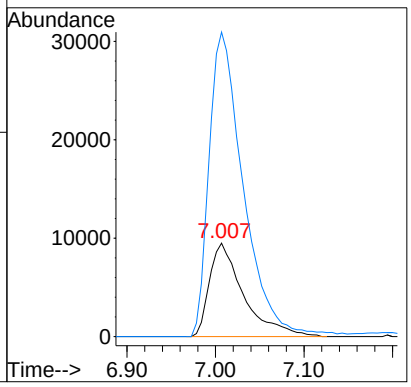


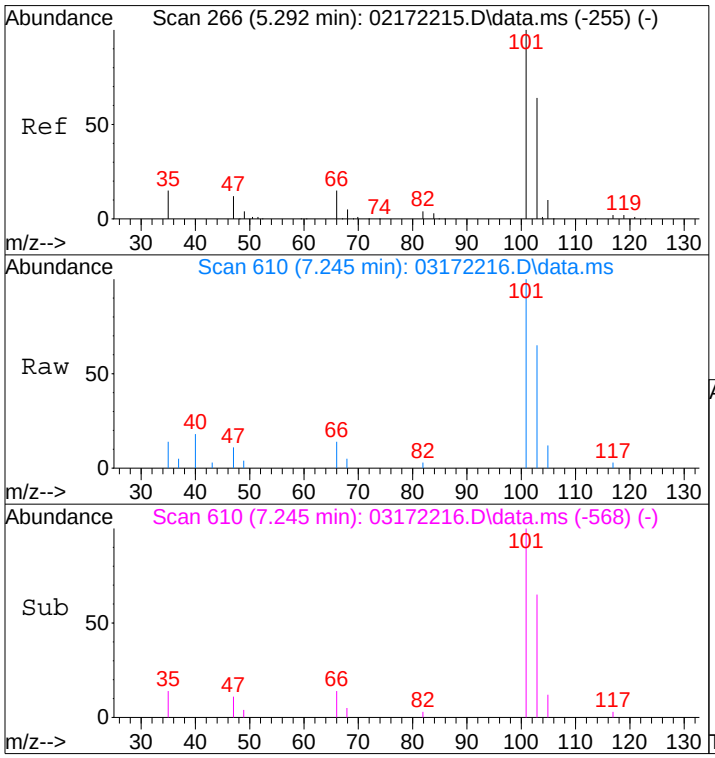


#13
Acetone
Concen: 2.80 ng
RT: 7.01 min Scan# 568
Delta R.T. -0.040 min
Lab File: 03172216.D
Acq: 17 Mar 2022 14:15

Tgt Ion: 58 Resp: 25491

Ion	Ratio	Lower	Upper
58	100		
43	328.1	408.6	468.6#

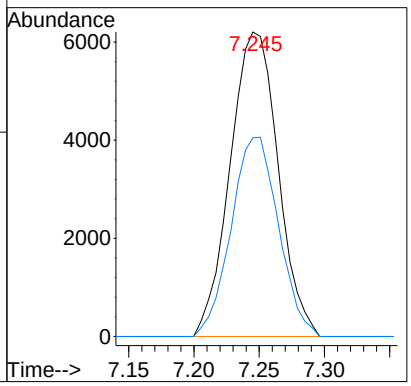


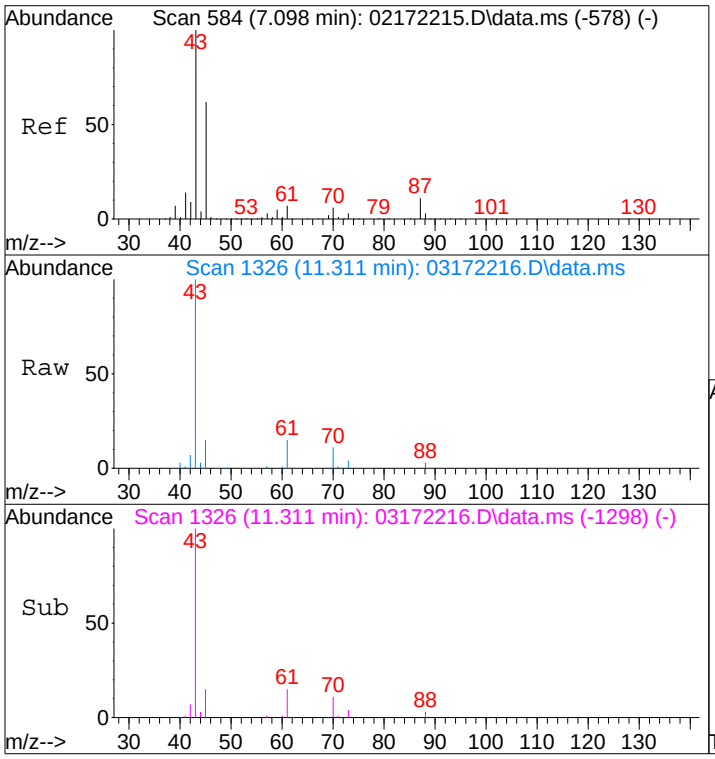


#14
Trichlorofluoromethane
Concen: 0.72 ng
RT: 7.25 min Scan# 610
Delta R.T. -0.012 min
Lab File: 03172216.D
Acq: 17 Mar 2022 14:15

Tgt Ion:101 Resp: 15864

Ion	Ratio	Lower	Upper
101	100		
103	64.6	43.5	83.5

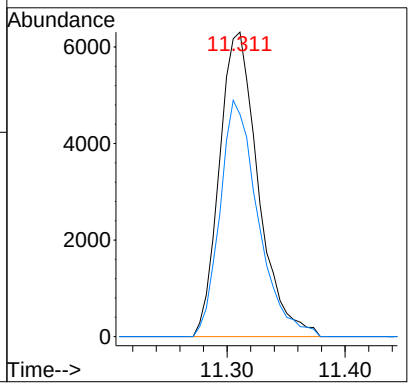




#30
Ethyl Acetate
Concen: 2.94 ng
RT: 11.31 min Scan# 1326
Delta R.T. -0.040 min
Lab File: 03172216.D
Acq: 17 Mar 2022 14:15

Tgt Ion: 61 Resp: 14410

Ion	Ratio	Lower	Upper
61	100		
70	76.2	69.7	109.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172219.D Vial: 12
Acq On : 17 Mar 2022 15:55 Operator: SC
Sample : P2200988-004 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:31 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/18/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	120055	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	518572	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	106662	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	210204	12.564	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
57) Toluene-d8 (SS2)	15.77	98	608155	11.781	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
73) Bromofluorobenzene (SS3)	19.03	174	167718	12.401	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
2) Propene	4.11	42	1975	N.D.			
3) Dichlorodifluoromethan...	4.22	85	32937	1.412	ng		98
4) Chloromethane	4.51	50	5785	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	568	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.31	45	12915	1.263	ng		74
11) Acetonitrile	6.66	41	104	N.D.			
12) Acrolein	6.79	56	1452	N.D.			
13) Acetone	7.00	58	38432	4.527	ng	#	50
14) Trichlorofluoromethane	7.25	101	14364	0.704	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	6665	N.D.			
16) Acrylonitrile	7.99	53	786	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.43	84	2600	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.86	151	2735	N.D.			
22) Carbon Disulfide	8.71	76	5226	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.24	86	524	N.D.			
27) 2-Butanone (MEK)	10.50	72	1738	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.30	87	840	N.D.			
30) Ethyl Acetate	11.30	61	57645	12.631	ng		85
31) n-Hexane	11.29	57	967	N.D.			
32) Chloroform	11.33	83	758	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	300	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.31	61	15665	No Calib		#	
40) 1-Butanol	12.91	56	10195	No Calib		#	
41) Benzene	12.91	78	10576	N.D.			
42) Carbon Tetrachloride	13.07	117	3678	N.D.			
43) Cyclohexane	13.21	84	117	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.09	57	1993	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172219.D Vial: 12
Acq On : 17 Mar 2022 15:55 Operator: SC
Sample : P2200988-004 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:31 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

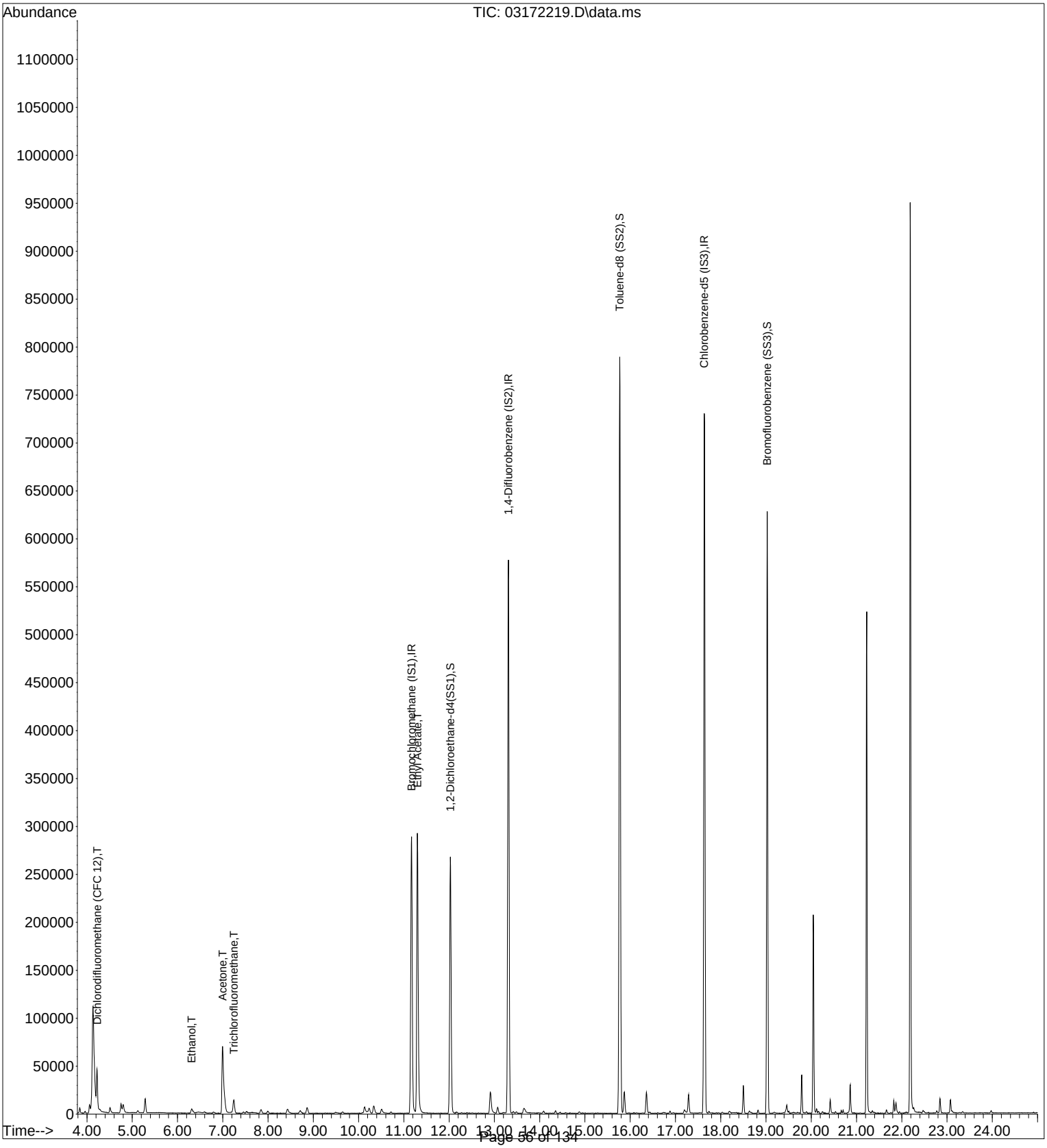
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.35	71	594	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.87	91	19561	N.D.	
59) 2-Hexanone	16.14	43	586	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.76	43	974	N.D.	
63) n-Octane	16.88	57	467	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.04	91	1274	N.D.	
67) m- & p-Xylenes	18.19	91	2682	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.63	91	970	N.D.	
71) n-Nonane	18.82	43	1437	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.03	105	169	N.D.	
75) alpha-Pinene	19.50	93	928	N.D.	
76) n-Propylbenzene	19.61	91	387	N.D.	
77) 3-Ethyltoluene	19.73	105	372	No Calib	#
78) 4-Ethyltoluene	19.73	105	372	N.D.	
79) 1,3,5-Trimethylbenzene	19.79	105	335	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.53	105	404	No Calib	
82) 1,2,4-Trimethylbenzene	20.16	105	1583	N.D.	
83) n-Decane	20.42	58	249	No Calib	#
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.53	105	404	N.D.	
88) 4-Isopropyltoluene (p-...	20.54	119	912	N.D.	
89) 1,2,3-Trimethylbenzene	20.53	105	404	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.66	68	761	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.23	58	5617	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.28	128	696	N.D.	
96) n-Dodecane	22.18	58	8568	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.50	55	3962	No Calib	#
99) tert-Butylbenzene	20.16	119	160	N.D.	
100) n-Butylbenzene	20.88	91	446	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172219.D Vial: 12
Acq On : 17 Mar 2022 15:55 Operator: SC
Sample : P2200988-004 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:31 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172219.D Vial: 12
Acq On : 17 Mar 2022 15:55 Operator: SC
Sample : P2200988-004 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:31 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/18/22

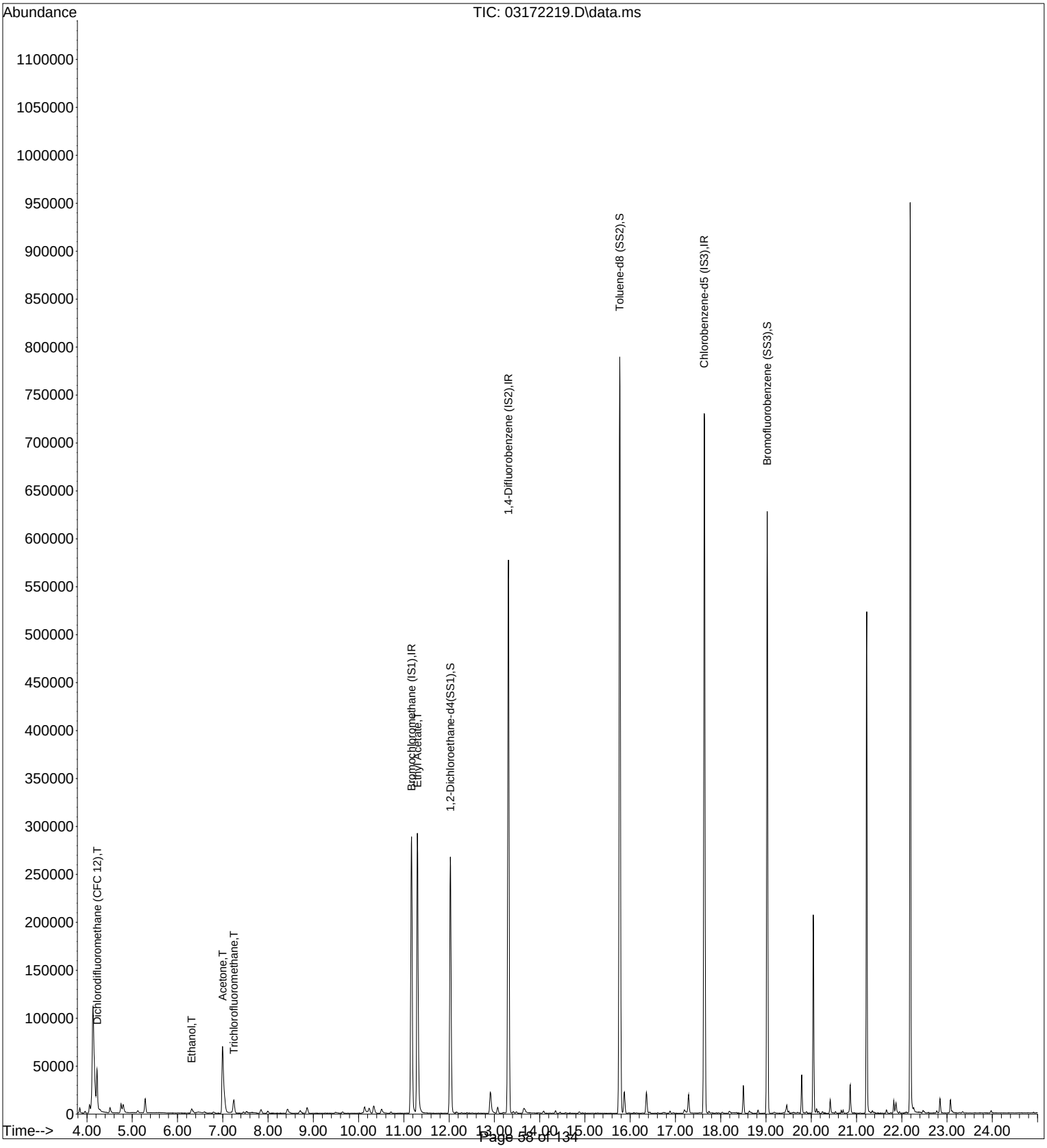
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	120055	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	518572	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	106662	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	210204	12.564	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
57) Toluene-d8 (SS2)	15.77	98	608155	11.781	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
73) Bromofluorobenzene (SS3)	19.03	174	167718	12.401	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.22	85	32937	1.412	ng		98
10) Ethanol	6.31	45	12915	1.263	ng		74
13) Acetone	7.00	58	38432	4.527	ng	#	50
14) Trichlorofluoromethane	7.25	101	14364	0.704	ng		98
30) Ethyl Acetate	11.30	61	57645	12.631	ng		85

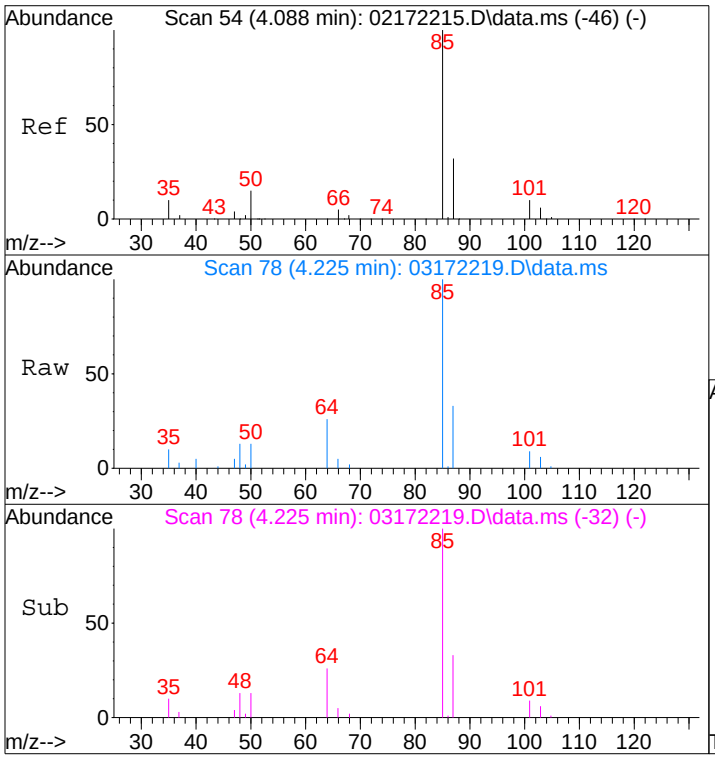
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172219.D Vial: 12
Acq On : 17 Mar 2022 15:55 Operator: SC
Sample : P2200988-004 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:31 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

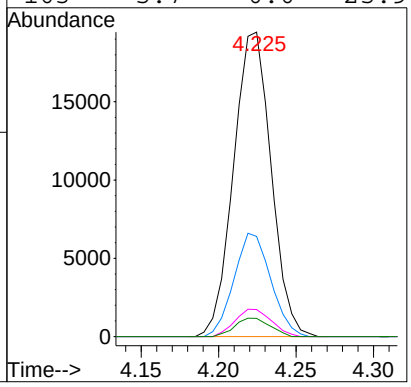


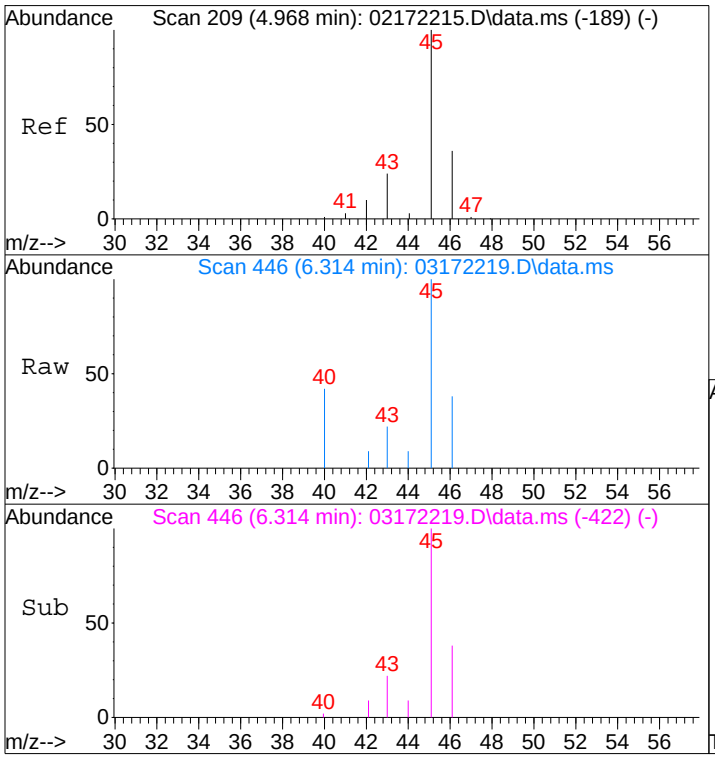


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.41 ng
RT: 4.22 min Scan# 78
Delta R.T. 0.011 min
Lab File: 03172219.D
Acq: 17 Mar 2022 15:55

Tgt Ion: 85 Resp: 32937

Ion	Ratio	Lower	Upper
85	100		
87	33.2	12.2	52.2
101	8.7	0.0	29.6
103	5.7	0.0	25.9

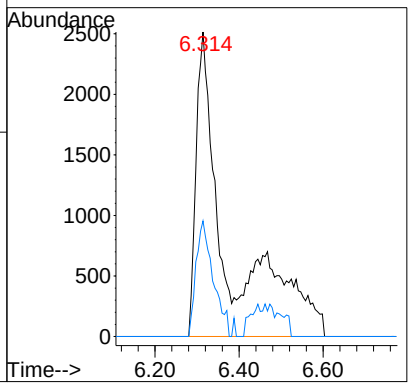


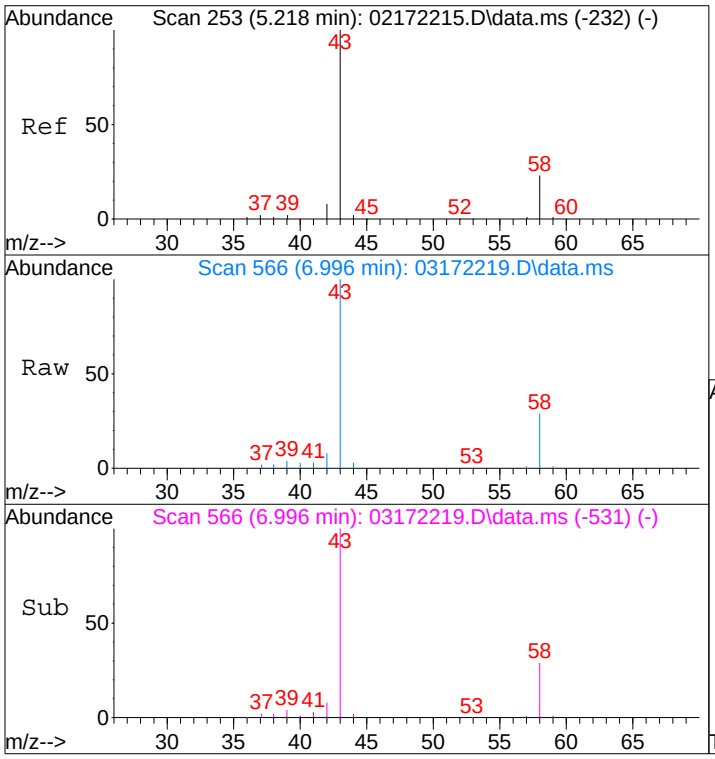


#10
Ethanol
Concen: 1.26 ng
RT: 6.31 min Scan# 446
Delta R.T. -0.114 min
Lab File: 03172219.D
Acq: 17 Mar 2022 15:55

Tgt Ion: 45 Resp: 12915

Ion	Ratio	Lower	Upper
45	100		
46	21.0	16.4	56.4

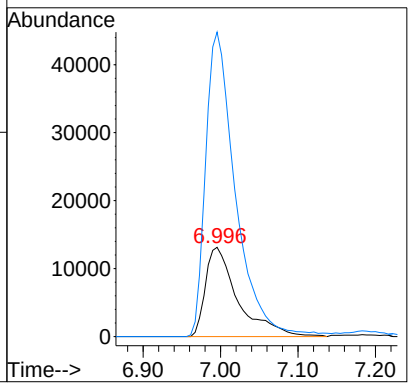


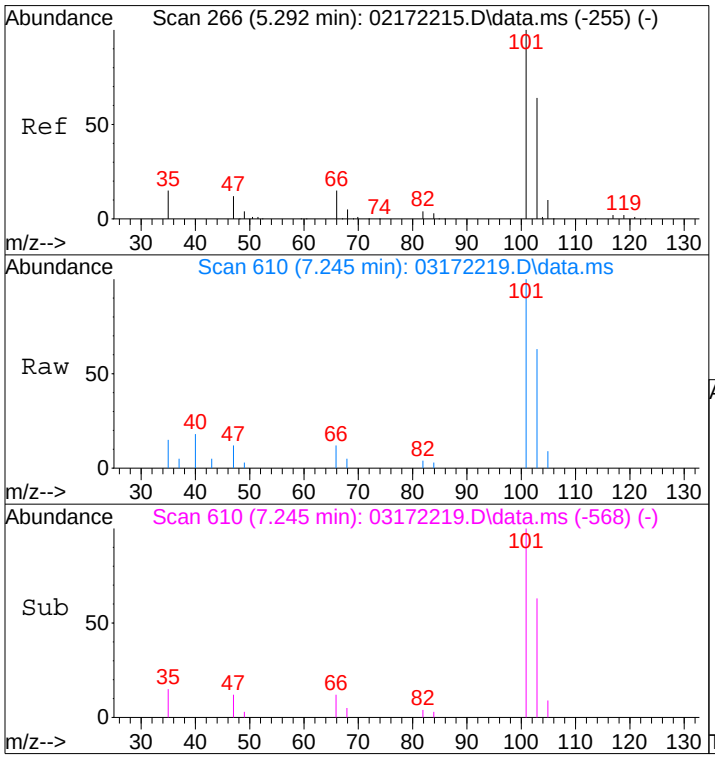


#13
Acetone
Concen: 4.53 ng
RT: 7.00 min Scan# 566
Delta R.T. -0.051 min
Lab File: 03172219.D
Acq: 17 Mar 2022 15:55

Tgt Ion: 58 Resp: 38432

Ion	Ratio	Lower	Upper
58	100		
43	313.2	408.6	468.6#

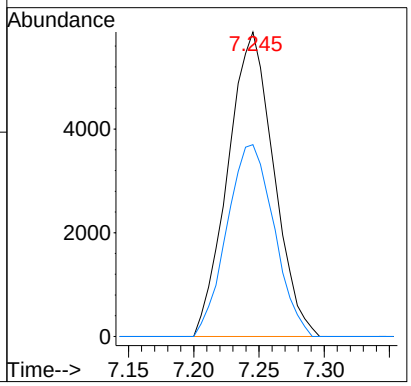


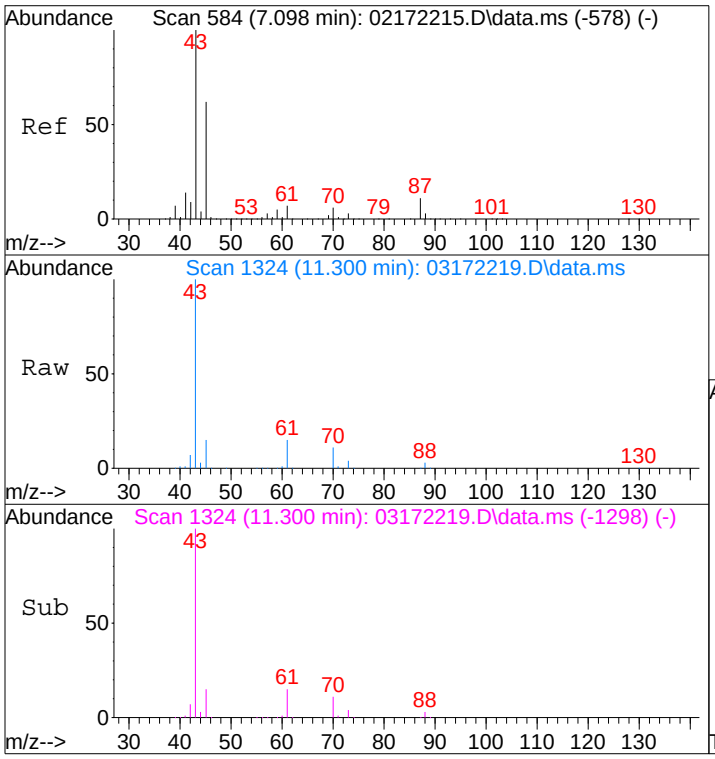


#14
Trichlorofluoromethane
Concen: 0.70 ng
RT: 7.25 min Scan# 610
Delta R.T. -0.011 min
Lab File: 03172219.D
Acq: 17 Mar 2022 15:55

Tgt Ion:101 Resp: 14364

Ion	Ratio	Lower	Upper
101	100		
103	64.7	43.5	83.5

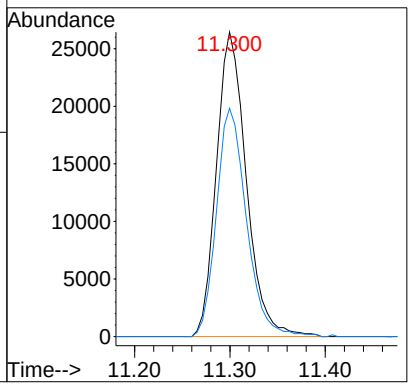




#30
Ethyl Acetate
Concen: 12.63 ng
RT: 11.30 min Scan# 1324
Delta R.T. -0.051 min
Lab File: 03172219.D
Acq: 17 Mar 2022 15:55

Tgt Ion: 61 Resp: 57645

Ion	Ratio	Lower	Upper
61	100		
70	75.2	69.7	109.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172220.D Vial: 13
Acq On : 17 Mar 2022 16:28 Operator: SC
Sample : P2200988-005 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:33 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 3/18/22
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	117154	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	503654	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	102464	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	202731	12.417	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
57) Toluene-d8 (SS2)	15.77	98	592614	11.950	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
73) Bromofluorobenzene (SS3)	19.03	174	162258	12.489	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
Target Compounds							Qvalue
2) Propene	4.12	42	2107	N.D.			
3) Dichlorodifluoromethan...	4.23	85	33538	1.474	ng		99
4) Chloromethane	4.52	50	5974	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	652	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.31	45	21498	2.154	ng		99
11) Acetonitrile	6.60	41	2129	N.D.			
12) Acrolein	6.80	56	823	N.D.			
13) Acetone	7.01	58	25254	3.049	ng	#	59
14) Trichlorofluoromethane	7.25	101	14509	0.729	ng		100
15) 2-Propanol (Isopropanol)	7.53	45	7533	N.D.			
16) Acrylonitrile	8.00	53	2793	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.43	84	3320	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.87	151	2738	N.D.			
22) Carbon Disulfide	8.70	76	4330	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.20	86	723	N.D.			
27) 2-Butanone (MEK)	10.50	72	2358	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.32	61	4226	0.949	ng		81
31) n-Hexane	11.29	57	1046	N.D.			
32) Chloroform	11.34	83	670	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	453	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.31	61	15141	No Calib		#	
40) 1-Butanol	12.93	56	2342	No Calib		#	
41) Benzene	12.91	78	7186	N.D.			
42) Carbon Tetrachloride	13.07	117	3934	N.D.			
43) Cyclohexane	13.32	84	211	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.08	57	2250	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172220.D Vial: 13
Acq On : 17 Mar 2022 16:28 Operator: SC
Sample : P2200988-005 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:33 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

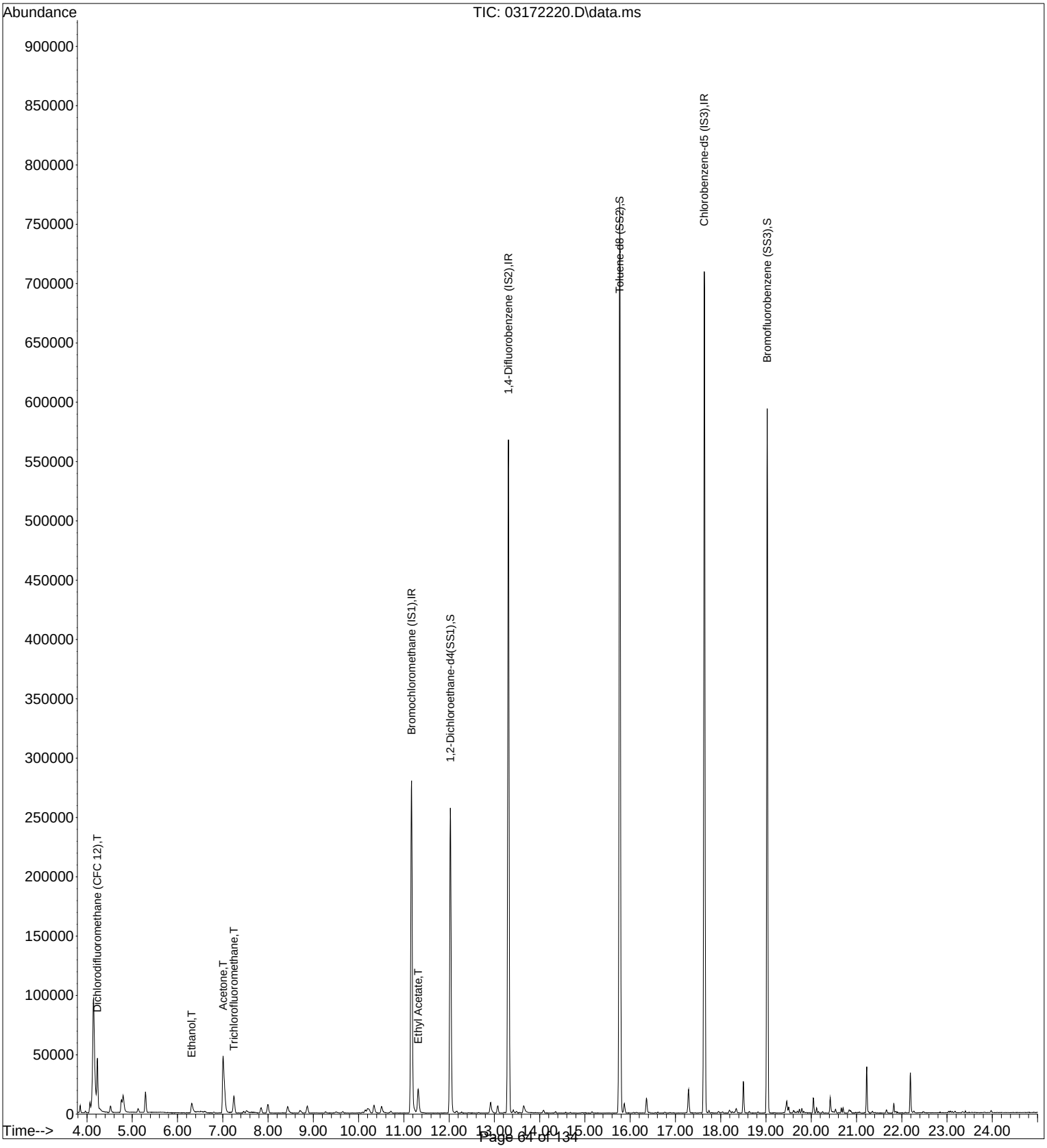
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.35	71	296	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.87	91	7057	N.D.	
59) 2-Hexanone	16.14	43	868	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.77	43	876	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.04	91	1263	N.D.	
67) m- & p-Xylenes	18.19	91	2782	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.63	91	1088	N.D.	
71) n-Nonane	18.82	43	541	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.03	105	169	N.D.	
75) alpha-Pinene	19.50	93	2248	N.D.	
76) n-Propylbenzene	19.60	91	234	N.D.	
77) 3-Ethyltoluene	19.73	105	401	No Calib	#
78) 4-Ethyltoluene	19.73	105	401	N.D.	
79) 1,3,5-Trimethylbenzene	19.73	105	401	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.54	105	231	No Calib	#
82) 1,2,4-Trimethylbenzene	20.16	105	886	N.D.	
83) n-Decane	20.41	58	128	No Calib	#
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.54	105	231	N.D.	
88) 4-Isopropyltoluene (p-...	20.54	119	1676	N.D.	
89) 1,2,3-Trimethylbenzene	20.54	105	231	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.67	68	1083	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.23	58	338	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.28	128	540	N.D.	
96) n-Dodecane	22.19	58	217	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.50	55	3769	No Calib	#
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	20.89	91	269	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172220.D Vial: 13
Acq On : 17 Mar 2022 16:28 Operator: SC
Sample : P2200988-005 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:33 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172220.D Vial: 13
Acq On : 17 Mar 2022 16:28 Operator: SC
Sample : P2200988-005 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:33 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/18/22

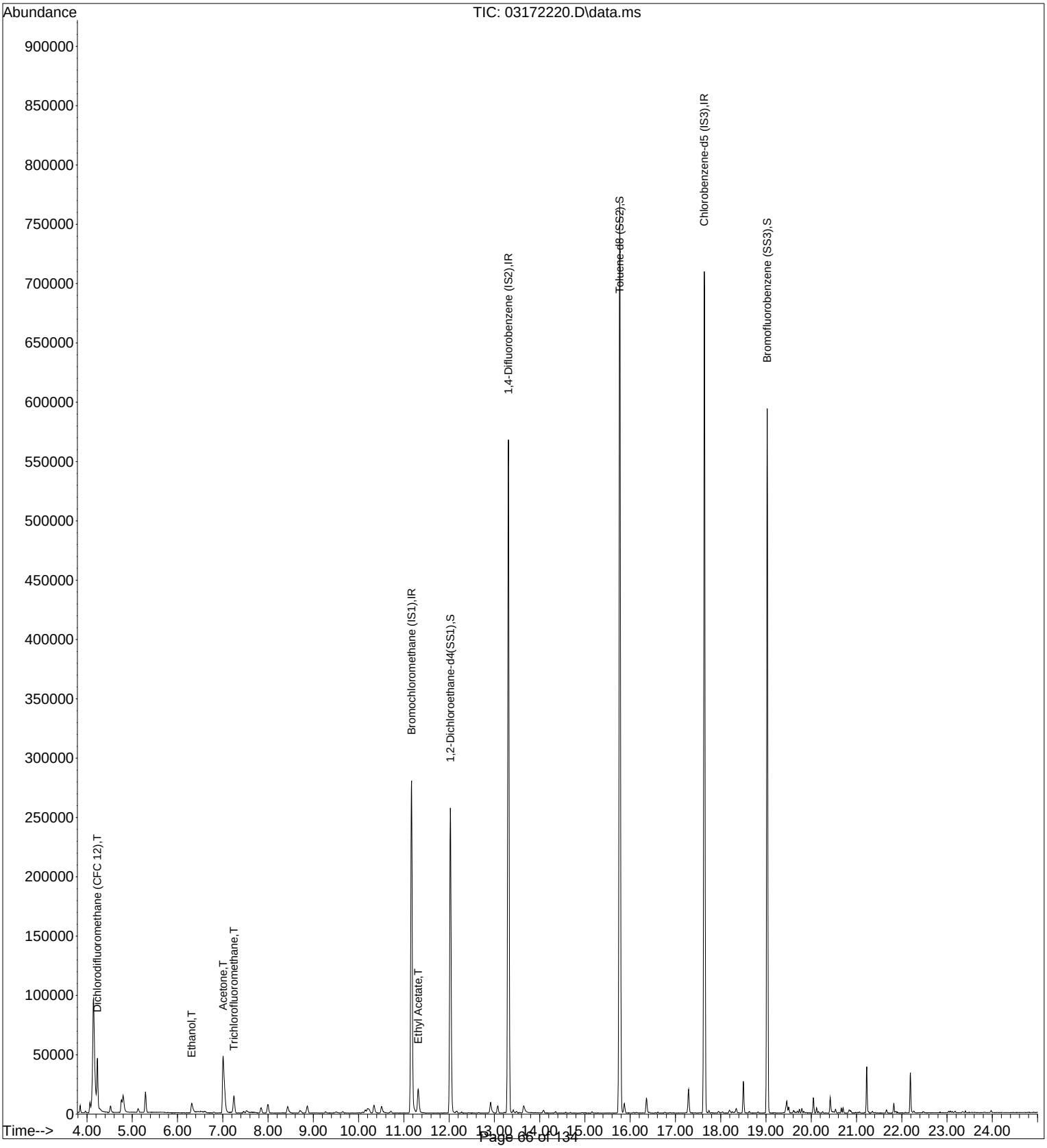
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	117154	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	503654	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	102464	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	202731	12.417	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
57) Toluene-d8 (SS2)	15.77	98	592614	11.950	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
73) Bromofluorobenzene (SS3)	19.03	174	162258	12.489	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.23	85	33538	1.474	ng		99
10) Ethanol	6.31	45	21498	2.154	ng		99
13) Acetone	7.01	58	25254	3.049	ng	#	59
14) Trichlorofluoromethane	7.25	101	14509	0.729	ng		100
30) Ethyl Acetate	11.32	61	4226	0.949	ng		81

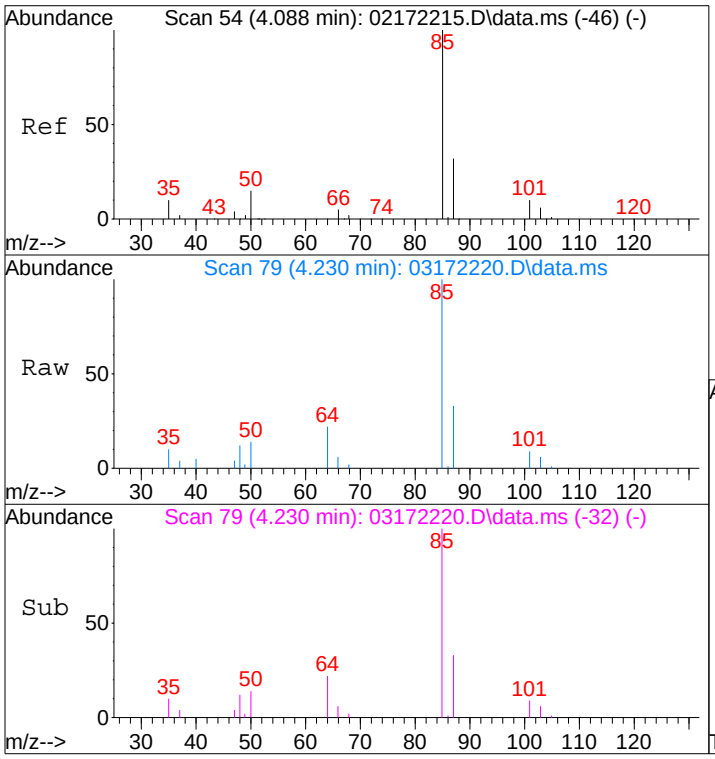
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172220.D Vial: 13
Acq On : 17 Mar 2022 16:28 Operator: SC
Sample : P2200988-005 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 18 06:58:33 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

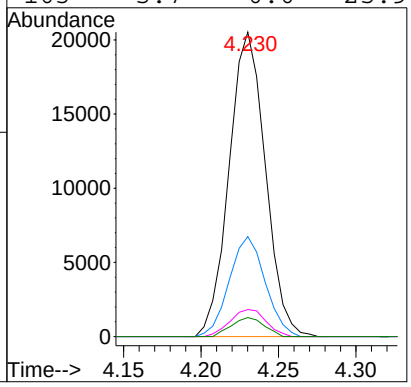


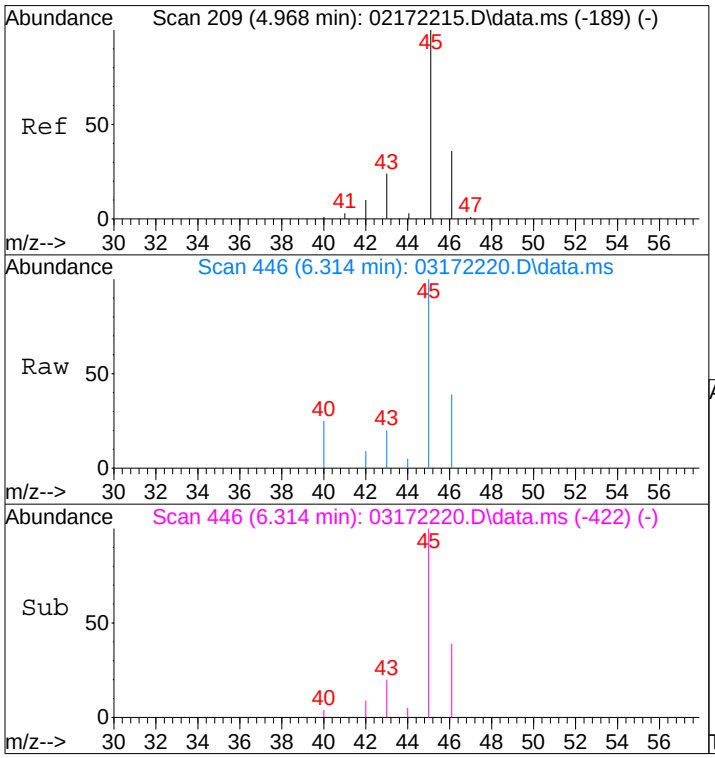


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.47 ng
RT: 4.23 min Scan# 79
Delta R.T. 0.017 min
Lab File: 03172220.D
Acq: 17 Mar 2022 16:28

Tgt Ion: 85 Resp: 33538

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.2	52.2
101	8.9	0.0	29.6
103	5.7	0.0	25.9

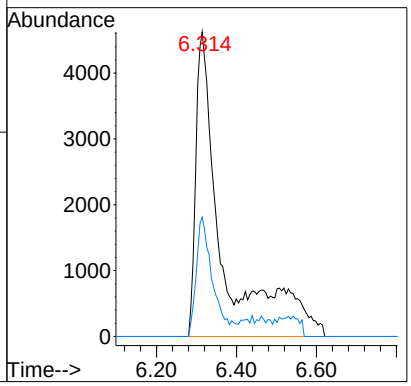


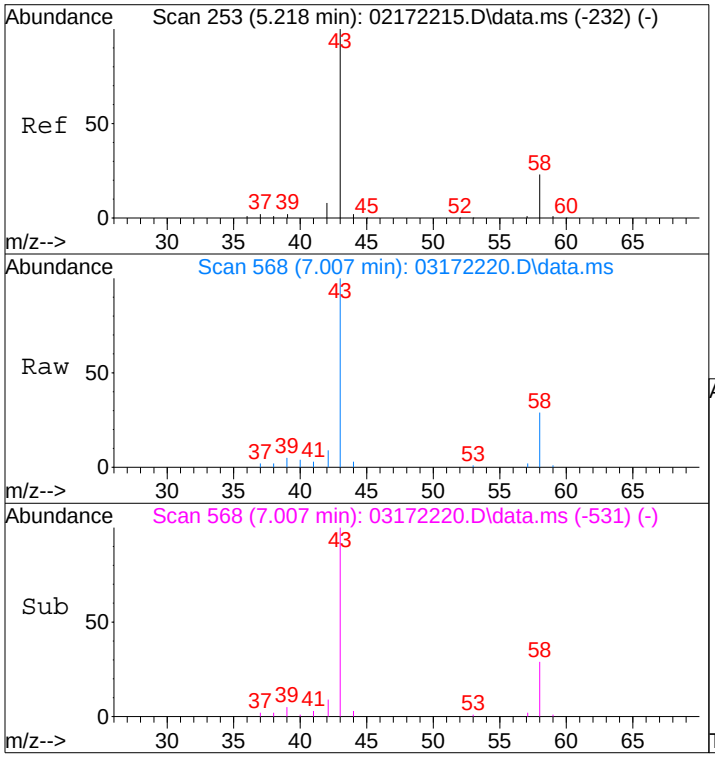


#10
Ethanol
Concen: 2.15 ng
RT: 6.31 min Scan# 446
Delta R.T. -0.114 min
Lab File: 03172220.D
Acq: 17 Mar 2022 16:28

Tgt Ion: 45 Resp: 21498

Ion	Ratio	Lower	Upper
45	100		
46	36.0	16.4	56.4

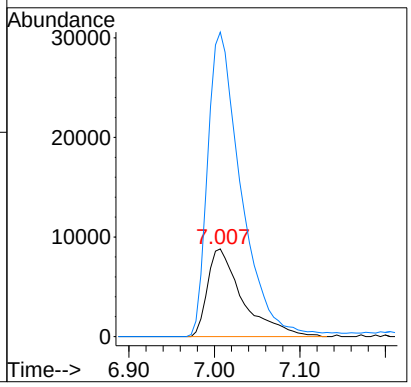


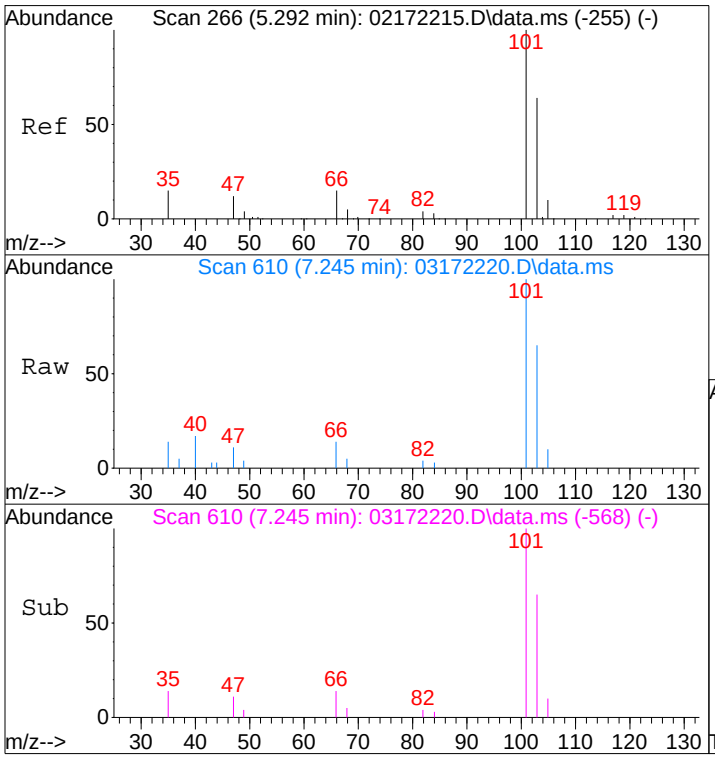


#13
Acetone
Concen: 3.05 ng
RT: 7.01 min Scan# 568
Delta R.T. -0.040 min
Lab File: 03172220.D
Acq: 17 Mar 2022 16:28

Tgt Ion: 58 Resp: 25254

Ion	Ratio	Lower	Upper
58	100		
43	334.5	408.6	468.6#

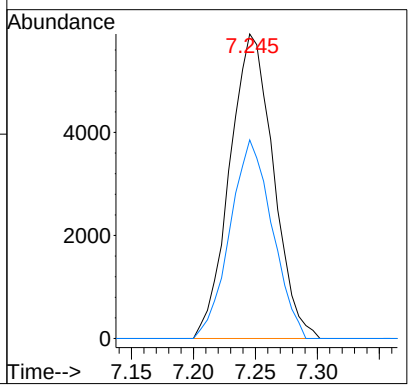


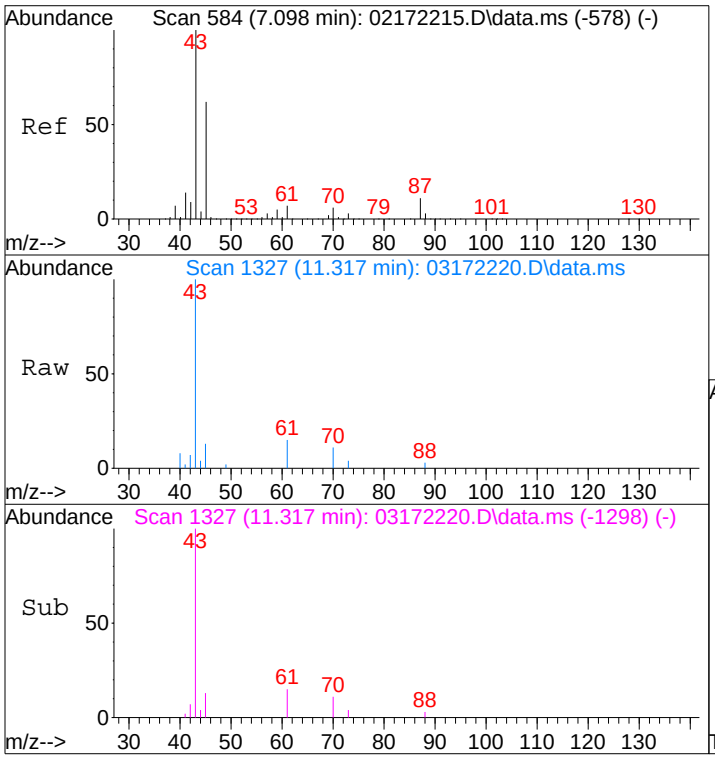


#14
Trichlorofluoromethane
Concen: 0.73 ng
RT: 7.25 min Scan# 610
Delta R.T. -0.011 min
Lab File: 03172220.D
Acq: 17 Mar 2022 16:28

Tgt Ion:101 Resp: 14509

Ion	Ratio	Lower	Upper
101	100		
103	63.1	43.5	83.5

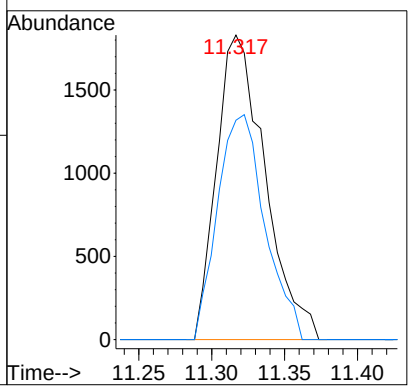




#30
Ethyl Acetate
Concen: 0.95 ng
RT: 11.32 min Scan# 1327
Delta R.T. -0.034 min
Lab File: 03172220.D
Acq: 17 Mar 2022 16:28

Tgt Ion: 61 Resp: 4226

Ion	Ratio	Lower	Upper
61	100		
70	72.1	69.7	109.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172204.D Vial: 2
Acq On : 17 Mar 2022 3:09 Operator: SC
Sample : MB R9031722 1000mL Inst : MS09
Misc : S35-03082201

Quant Time: Mar 17 08:43:26 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	110993	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	481425	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	92289	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	181922	11.761	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
57) Toluene-d8 (SS2)	15.77	98	565259	12.655	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
73) Bromofluorobenzene (SS3)	19.03	174	158320	13.529	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.24%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D. d			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	6.81	56	249	N.D.			
13) Acetone	7.04	58	3841	0.489	ng	#	16
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	0.00	76	0	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.20	86	241	0.127	ng	#	74
27) 2-Butanone (MEK)	10.54	72	108	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.31	61	13652	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	12.92	78	565	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.30	84	191	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172204.D Vial: 2
Acq On : 17 Mar 2022 3:09 Operator: SC
Sample : MB R9031722 1000mL Inst : MS09
Misc : S35-03082201

Quant Time: Mar 17 08:43:26 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

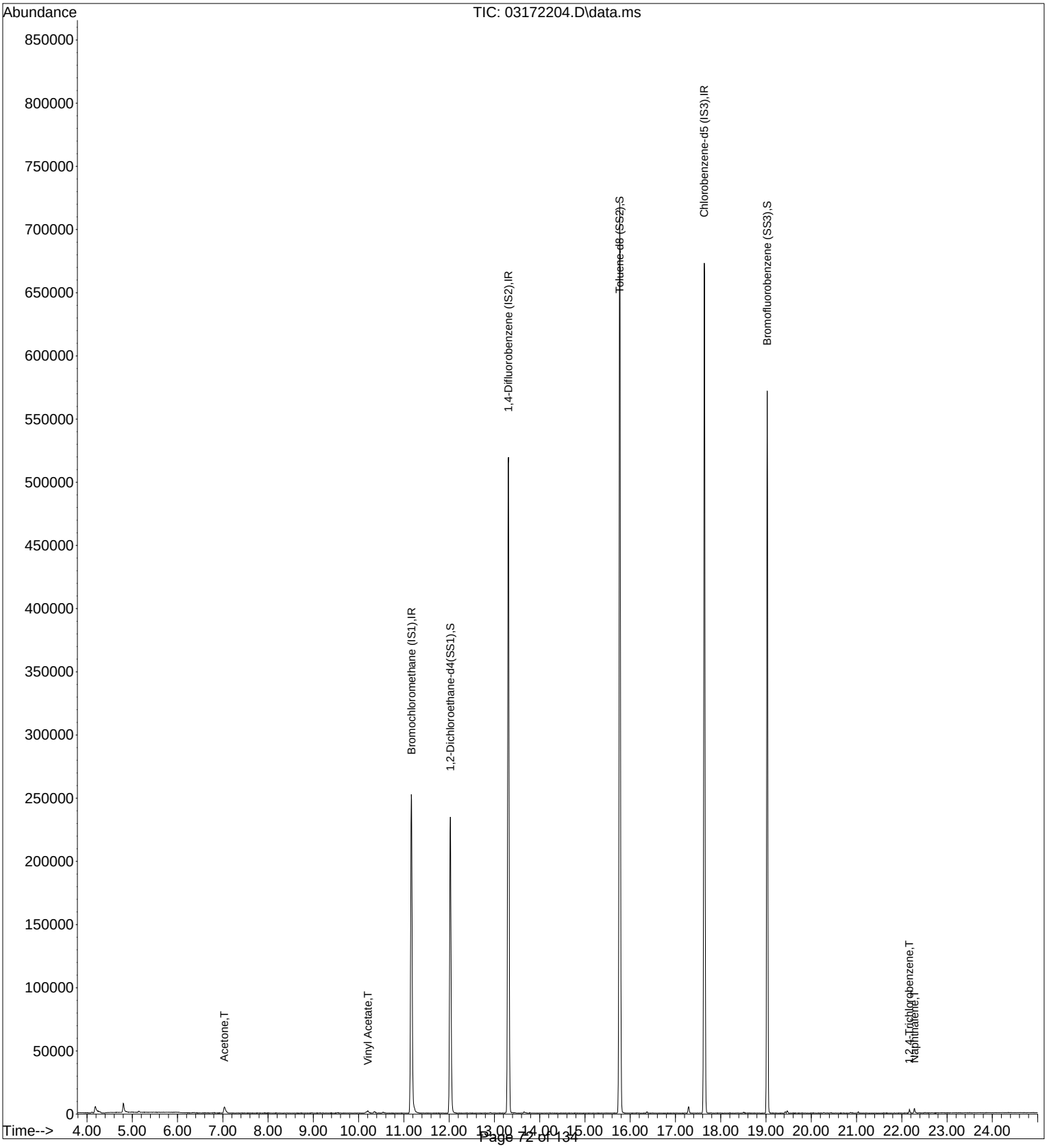
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	0.00	91	0	N.D.	
59) 2-Hexanone	16.15	43	307	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.20	91	118	N.D.	
67) m- & p-Xylenes	18.20	91	118	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	0.00	91	0	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.03	105	124	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.86	105	409	No Calib #	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.28	91	476	N.D.	
85) 1,3-Dichlorobenzene	20.36	146	175	N.D.	
86) 1,4-Dichlorobenzene	20.36	146	175	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.54	119	111	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.04	157	295	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.17	180	1115	0.073 ng	91
95) Naphthalene	22.28	128	4379	0.084 ng	90
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	20.90	91	180	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172204.D Vial: 2
Acq On : 17 Mar 2022 3:09 Operator: SC
Sample : MB R9031722 1000mL Inst : MS09
Misc : S35-03082201

Quant Time: Mar 17 08:43:26 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172205.D Vial: 2
Acq On : 17 Mar 2022 3:42 Operator: SC
Sample : LCS R9031722 25ng Inst : MS09
Misc : S35-03082201/S35-03072203 (4/6)

Quant Time: Mar 17 08:44:04 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	119082	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.32	114	509413	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	105953	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	196135	11.819	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
57) Toluene-d8 (SS2)	15.77	98	602063	11.741	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
73) Bromofluorobenzene (SS3)	19.03	174	169778	12.637	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
Target Compounds							Qvalue
2) Propene	4.04	42	265891	19.803	ng		100
3) Dichlorodifluoromethan...	4.20	85	479077	20.710	ng		99
4) Chloromethane	4.49	50	403176	22.795	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.75	135	238928	24.552	ng		99
6) Vinyl Chloride	4.92	62	403602	23.994	ng		99
7) 1,3-Butadiene	5.18	54	323285	23.844	ng	#	79
8) Bromomethane	5.63	94	216940	22.001	ng		100
9) Chloroethane	5.96	64	171105	21.372	ng		98
10) Ethanol	6.35	45	843769	83.165	ng		99
11) Acetonitrile	6.60	41	427635	19.004	ng		96
12) Acrolein	6.79	56	316083	41.667	ng		97
13) Acetone	7.00	58	968383	115.010	ng	#	52
14) Trichlorofluoromethane	7.24	101	418768	20.688	ng		98
15) 2-Propanol (Isopropanol)	7.50	45	1324297	42.806	ng		100
16) Acrylonitrile	7.76	53	654101	41.460	ng		98
17) 1,1-Dichloroethene	8.21	96	240745	22.363	ng	#	74
18) 2-Methyl-2-Propanol (t...	8.38	59	1070590	42.637	ng		96
19) Methylene Chloride	8.45	84	251242	22.438	ng	#	78
20) 3-Chloro-1-propene (Al...	8.60	41	342125	19.696	ng		84
21) Trichlorotrifluoroethane	8.86	151	199772	22.343	ng		92
22) Carbon Disulfide	8.70	76	1753526	44.064	ng		99
23) trans-1,2-Dichloroethene	9.73	61	361164	22.119	ng		85
24) 1,1-Dichloroethane	9.98	63	444749	21.549	ng		99
25) Methyl tert-Butyl Ether	10.07	73	552166	18.737	ng		100
26) Vinyl Acetate	10.24	86	253797	124.242	ng	#	43
27) 2-Butanone (MEK)	10.48	72	341857	46.598	ng	#	59
28) cis-1,2-Dichloroethene	11.00	61	346310	21.044	ng		81
29) Diisopropyl Ether	11.30	87	460256	50.100	ng	#	59
30) Ethyl Acetate	11.31	61	320607	70.824	ng		89
31) n-Hexane	11.29	57	472059	27.435	ng		98
32) Chloroform	11.36	83	434004	22.174	ng		96
34) Tetrahydrofuran (THF)	11.75	72	322828	44.790	ng	#	69
35) Ethyl tert-Butyl Ether	11.90	87	602726	47.209	ng		95
36) 1,2-Dichloroethane	12.16	62	340836	21.184	ng		99
38) 1,1,1-Trichloroethane	12.44	97	372241	21.146	ng		99
39) Isopropyl Acetate	13.32	61	14667	No Calib	#		
40) 1-Butanol	12.91	56	6027	No Calib	#		
41) Benzene	12.92	78	986968	21.899	ng		98
42) Carbon Tetrachloride	13.08	117	303856	20.657	ng		99
43) Cyclohexane	13.21	84	773021	46.122	ng		92
44) tert-Amyl Methyl Ether	13.55	73	1458557	47.845	ng		92
45) 1,2-Dichloropropane	13.77	63	260363	22.151	ng		99
46) Bromodichloromethane	13.96	83	355211	22.427	ng		98
47) Trichloroethene	14.02	130	262890	22.554	ng		96
48) 1,4-Dioxane	13.99	88	208762	24.472	ng		91
49) 2,2,4-Trimethylpentane...	14.09	57	1065939	22.000	ng		82
50) Methyl Methacrylate	14.22	100	195199	47.450	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172205.D Vial: 2
Acq On : 17 Mar 2022 3:42 Operator: SC
Sample : LCS R9031722 25ng Inst : MS09
Misc : S35-03082201/S35-03072203 (4/6)

Quant Time: Mar 17 08:44:04 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

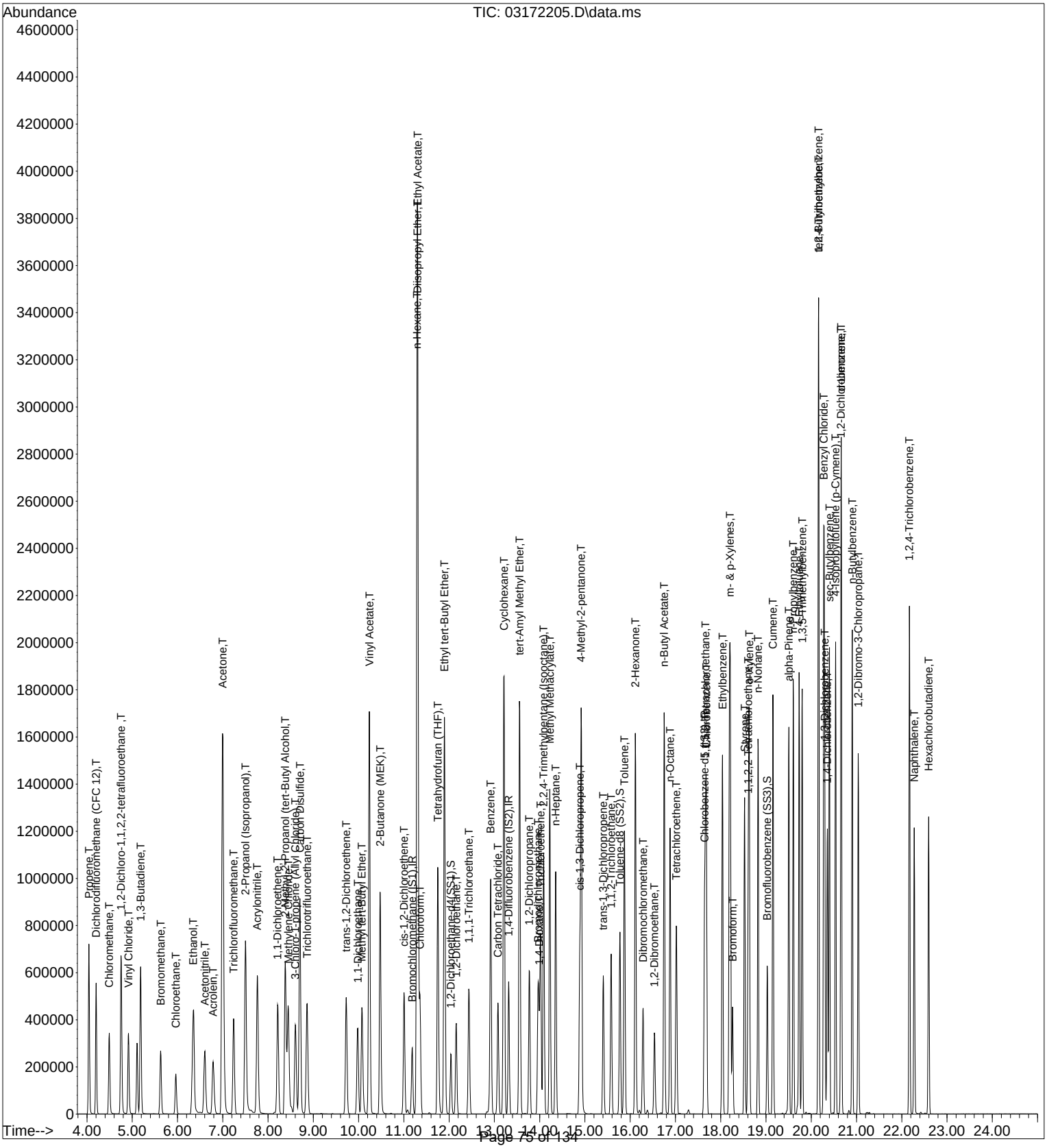
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	263236	22.662 ng		97
52) cis-1,3-Dichloropropene	14.89	75	413848	22.471 ng		98
53) 4-Methyl-2-pentanone	14.92	58	503742	50.295 ng		78
54) trans-1,3-Dichloropropene	15.40	75	356519	20.208 ng		98
55) 1,1,2-Trichloroethane	15.58	97	244392	22.268 ng		99
58) Toluene	15.87	91	1023008	20.347 ng		100
59) 2-Hexanone	16.11	43	1218419	44.546 ng		85
60) Dibromochloromethane	16.29	129	281986	20.495 ng		99
61) 1,2-Dibromoethane	16.53	107	278067	19.871 ng		99
62) n-Butyl Acetate	16.75	43	1373372	45.742 ng		90
63) n-Octane	16.88	57	232049	21.448 ng		95
64) Tetrachloroethene	17.02	166	255254	20.739 ng		97
65) Chlorobenzene	17.68	112	647720	20.281 ng		99
66) Ethylbenzene	18.04	91	1161029	21.797 ng		96
67) m- & p-Xylenes	18.20	91	1845218	42.253 ng		95
68) Bromoform	18.26	173	220632	21.447 ng		100
69) Styrene	18.53	104	662745	19.746 ng		94
70) o-Xylene	18.63	91	939348	21.497 ng		95
71) n-Nonane	18.82	43	559672	22.575 ng		80
72) 1,1,2,2-Tetrachloroethane	18.61	83	462463	22.189 ng		97
74) Cumene	19.15	105	1127200	21.184 ng		96
75) alpha-Pinene	19.50	93	616737	22.608 ng		99
76) n-Propylbenzene	19.60	91	1411384	21.268 ng		97
77) 3-Ethyltoluene	19.73	105	1121218	No Calib		
78) 4-Ethyltoluene	19.73	105	1121218	22.476 ng		96
79) 1,3,5-Trimethylbenzene	19.80	105	955337	22.811 ng		96
80) alpha-Methylstyrene	19.61	118	2044	No Calib	#	
81) 2-Ethyltoluene	20.67	105	24512	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	970655	22.211 ng		97
83) n-Decane	20.52	58	671	No Calib	#	
84) Benzyl Chloride	20.28	91	1523656	45.985 ng		95
85) 1,3-Dichlorobenzene	20.30	146	468615	21.397 ng		98
86) 1,4-Dichlorobenzene	20.36	146	450858	18.186 ng		99
87) sec-Butylbenzene	20.40	105	1260421	21.467 ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	1049272	21.577 ng		98
89) 1,2,3-Trimethylbenzene	20.40	105	1260421	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	465720	22.059 ng		99
91) d-Limonene	20.66	68	415504	24.250 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.04	157	366589	40.857 ng	#	79
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	610058	34.749 ng		98
95) Naphthalene	22.28	128	903326	15.139 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	215126	21.165 ng		100
98) Cyclohexanone	18.50	55	164	No Calib	#	
99) tert-Butylbenzene	20.16	119	887982	21.600 ng		99
100) n-Butylbenzene	20.91	91	1070769	21.763 ng		100
101) 1,1,1,2-Tetrachloroethane	17.66	131	234732	21.677 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172205.D Vial: 2
Acq On : 17 Mar 2022 3:42 Operator: SC
Sample : LCS R9031722 25ng Inst : MS09
Misc : S35-03082201/S35-03072203 (4/6)

Quant Time: Mar 17 08:44:04 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172206.D Vial: 2
Acq On : 17 Mar 2022 4:16 Operator: SC
Sample : LCSD R9031722 25ng Inst : MS09
Misc : S35-03082201/S35-03072203 (4/6)

3/17/22

Quant Time: Mar 17 08:46:14 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	122553	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.32	114	523086	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	110089	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	208490	12.207	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
57) Toluene-d8 (SS2)	15.77	98	622508	11.684	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
73) Bromofluorobenzene (SS3)	19.03	174	173568	12.434	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
Target Compounds							Qvalue
2) Propene	4.05	42	285251	20.644	ng		100
3) Dichlorodifluoromethan...	4.21	85	502458	21.105	ng		99
4) Chloromethane	4.50	50	428391	23.534	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	243548	24.318	ng		99
6) Vinyl Chloride	4.92	62	423076	24.440	ng		99
7) 1,3-Butadiene	5.19	54	336452	24.113	ng	#	78
8) Bromomethane	5.63	94	226577	22.327	ng		99
9) Chloroethane	5.97	64	179367	21.769	ng		99
10) Ethanol	6.36	45	896764	85.885	ng		100
11) Acetonitrile	6.61	41	458306	19.790	ng		97
12) Acrolein	6.79	56	334959	42.905	ng		97
13) Acetone	7.00	58	1005868	116.078	ng	#	53
14) Trichlorofluoromethane	7.25	101	440159	21.128	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	1411491	44.333	ng		99
16) Acrylonitrile	7.77	53	688075	42.379	ng		98
17) 1,1-Dichloroethene	8.22	96	250239	22.587	ng	#	76
18) 2-Methyl-2-Propanol (t...	8.39	59	1123933	43.494	ng		96
19) Methylene Chloride	8.45	84	259892	22.554	ng	#	80
20) 3-Chloro-1-propene (Al...	8.61	41	365663	20.454	ng		85
21) Trichlorotrifluoroethane	8.86	151	207702	22.572	ng		93
22) Carbon Disulfide	8.70	76	1822624	44.503	ng		99
23) trans-1,2-Dichloroethene	9.73	61	381274	22.689	ng		87
24) 1,1-Dichloroethane	9.98	63	469104	22.086	ng		99
25) Methyl tert-Butyl Ether	10.08	73	573917	18.923	ng		99
26) Vinyl Acetate	10.24	86	262073	124.660	ng	#	44
27) 2-Butanone (MEK)	10.48	72	354519	46.956	ng	#	60
28) cis-1,2-Dichloroethene	11.01	61	365171	21.562	ng		84
29) Diisopropyl Ether	11.30	87	463738	49.050	ng	#	59
30) Ethyl Acetate	11.31	61	322241	69.169	ng		90
31) n-Hexane	11.29	57	478002	26.993	ng		98
32) Chloroform	11.36	83	455164	22.597	ng		97
34) Tetrahydrofuran (THF)	11.75	72	333352	44.940	ng	#	70
35) Ethyl tert-Butyl Ether	11.90	87	622421	47.371	ng		95
36) 1,2-Dichloroethane	12.16	62	358184	21.632	ng		99
38) 1,1,1-Trichloroethane	12.44	97	388703	21.504	ng		99
39) Isopropyl Acetate	13.32	61	15492	No Calib	#		
40) 1-Butanol	12.91	56	5699	No Calib	#		
41) Benzene	12.92	78	1020178	22.044	ng		98
42) Carbon Tetrachloride	13.08	117	316986	20.987	ng		99
43) Cyclohexane	13.21	84	791833	46.010	ng		93
44) tert-Amyl Methyl Ether	13.56	73	1513742	48.357	ng		92
45) 1,2-Dichloropropane	13.78	63	269536	22.332	ng		98
46) Bromodichloromethane	13.96	83	370914	22.806	ng		99
47) Trichloroethene	14.02	130	267758	22.371	ng		96
48) 1,4-Dioxane	13.99	88	214155	24.448	ng		92
49) 2,2,4-Trimethylpentane...	14.09	57	1107708	22.264	ng		82
50) Methyl Methacrylate	14.22	100	200994	47.582	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172206.D Vial: 2
Acq On : 17 Mar 2022 4:16 Operator: SC
Sample : LCSD R9031722 25ng Inst : MS09
Misc : S35-03082201/S35-03072203 (4/6)

Quant Time: Mar 17 08:46:14 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

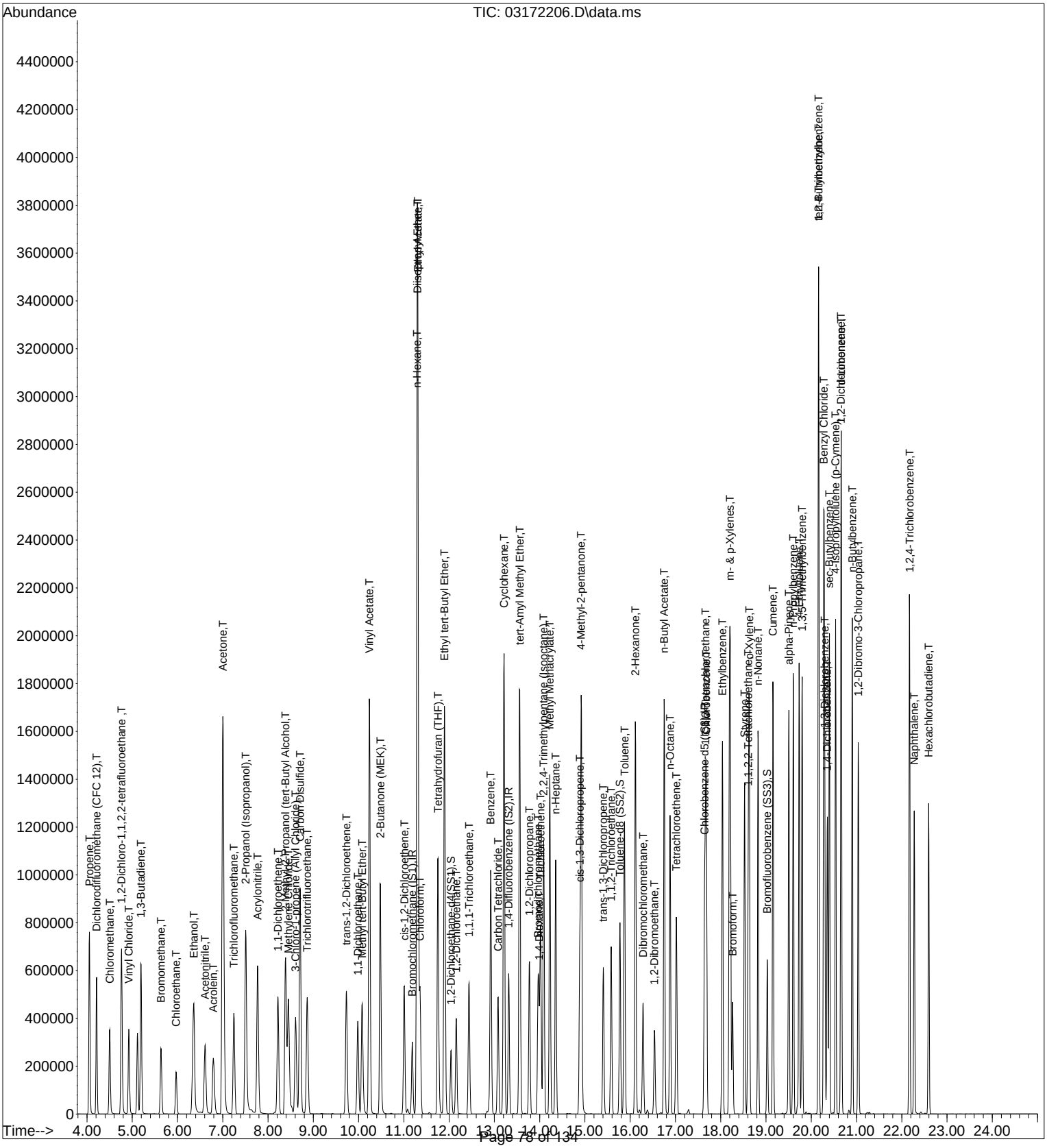
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	271299	22.745 ng		97
52) cis-1,3-Dichloropropene	14.89	75	431152	22.798 ng		99
53) 4-Methyl-2-pentanone	14.92	58	518228	50.389 ng		78
54) trans-1,3-Dichloropropene	15.40	75	373036	20.592 ng		98
55) 1,1,2-Trichloroethane	15.58	97	249787	22.165 ng		98
58) Toluene	15.88	91	1048318	20.067 ng		99
59) 2-Hexanone	16.11	43	1258953	44.298 ng		85
60) Dibromochloromethane	16.29	129	290612	20.329 ng		99
61) 1,2-Dibromoethane	16.53	107	284599	19.574 ng		99
62) n-Butyl Acetate	16.75	43	1414094	45.329 ng		89
63) n-Octane	16.88	57	240159	21.363 ng		95
64) Tetrachloroethene	17.02	166	258195	20.190 ng		97
65) Chlorobenzene	17.68	112	661598	19.937 ng		100
66) Ethylbenzene	18.04	91	1189397	21.491 ng		97
67) m- & p-Xylenes	18.20	91	1888169	41.612 ng		95
68) Bromoform	18.26	173	226745	21.213 ng		99
69) Styrene	18.53	104	676737	19.406 ng		95
70) o-Xylene	18.63	91	963690	21.226 ng		95
71) n-Nonane	18.82	43	575410	22.338 ng		80
72) 1,1,2,2-Tetrachloroethane	18.61	83	475895	21.975 ng		97
74) Cumene	19.15	105	1155164	20.894 ng		96
75) alpha-Pinene	19.50	93	634600	22.389 ng		99
76) n-Propylbenzene	19.60	91	1443610	20.936 ng		98
77) 3-Ethyltoluene	19.73	105	1141106	No Calib		
78) 4-Ethyltoluene	19.73	105	1141106	22.015 ng		96
79) 1,3,5-Trimethylbenzene	19.80	105	972346	22.344 ng		96
80) alpha-Methylstyrene	19.60	118	1984	No Calib	#	
81) 2-Ethyltoluene	20.66	105	25278	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	978935	21.558 ng		97
83) n-Decane	20.52	58	1789	No Calib	#	
84) Benzyl Chloride	20.28	91	1564414	45.441 ng		95
85) 1,3-Dichlorobenzene	20.30	146	475768	20.908 ng		98
86) 1,4-Dichlorobenzene	20.36	146	457853	17.774 ng		99
87) sec-Butylbenzene	20.40	105	1286081	21.081 ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	1065050	21.079 ng		98
89) 1,2,3-Trimethylbenzene	20.40	105	1286081	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	472874	21.556 ng		98
91) d-Limonene	20.66	68	421182	23.658 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.04	157	377559	40.499 ng	#	79
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	619234	33.946 ng		98
95) Naphthalene	22.28	128	938574	15.138 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	218231	20.664 ng		100
98) Cyclohexanone	18.63	55	600	No Calib	#	
99) tert-Butylbenzene	20.16	119	892321	20.890 ng		99
100) n-Butylbenzene	20.91	91	1092656	21.373 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	239040	21.246 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172206.D Vial: 2
Acq On : 17 Mar 2022 4:16 Operator: SC
Sample : LCSD R9031722 25ng Inst : MS09
Misc : S35-03082201/S35-03072203 (4/6)

Quant Time: Mar 17 08:46:14 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9030922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 09 16:58:43 2022
Response Via : Initial Calibration

3/10/22

Calibration Files
0.1 =03092205.D 0.2 =03092206.D 0.5 =03092207.D 1.0 =03092208.D 5.0 =03092209.D 25 =03092
100 =03092212.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	1.989	1.517	1.567	1.310	1.182	1.264	1.200	1.246	1.409	19.46
3)	T	Dichlorodifluo...	3.107	2.746	2.734	2.382	2.107	2.299	2.112	1.939	2.428	16.45
4)	T	Chloromethane	2.408	2.073	2.145	1.893	1.583	1.815	1.623	1.313	1.857	18.90
5)	T	1,2-Dichloro-1...	1.307	1.189	1.211	1.043	0.936	0.964	0.836	0.685	1.022	20.40
6)	T	Vinyl Chloride	2.086	1.898	2.026	1.787	1.592	1.726	1.577	1.433	1.766	12.95
7)	T	1,3-Butadiene	1.799	1.500	1.566	1.403	1.277	1.397	1.280	1.165	1.423	13.99
8)	T	Bromomethane	1.349	1.112	1.168	1.062	0.903	0.978	0.895	0.814	1.035	16.82
9)	T	Chloroethane	1.032	0.907	0.938	0.835	0.743	0.824	0.750	0.694	0.840	13.51
10)	T	Ethanol	1.525	1.296	1.164	1.001	0.877	0.944	0.883	0.830	1.065	22.94
11)	T	Acetonitrile			2.938	2.478	2.187	2.282	2.162	2.125	2.362	13.09
12)	T	Acrolein	0.954	0.844	0.870	0.827	0.721	0.762	0.709	0.682	0.796	11.73
13)	T	Acetone	1.195	1.002	1.000	0.888	0.783	0.838	0.748	0.616	0.884	20.38
14)	T	Trichlorofluor...	2.594	2.261	2.373	2.157	1.879	2.046	1.909	1.781	2.125	12.99
15)	T	2-Propanol (Is...	4.367	3.637	3.625	3.183	2.749	3.104	2.855	2.460	3.247	18.75
16)	T	Acrylonitrile	2.148	1.811	1.817	1.602	1.457	1.558	1.465	1.390	1.656	15.33
17)	T	1,1-Dichloroet...	1.420	1.208	1.269	1.121	0.991	1.089	1.007	0.935	1.130	14.33
18)	T	2-Methyl-2-Pro...			3.199	3.294	2.896	2.151	2.942	2.393	1.575	2.636	23.65
19)	T	Methylene Chlo...			1.357	1.380	1.212	1.082	1.156	1.064	0.976	1.175	12.89
20)	T	3-Chloro-1-pro...	2.396	2.013	2.021	1.776	1.500	1.702	1.615	1.565	1.823	16.51
21)	T	Trichlorotrifl...	1.150	0.999	1.086	0.956	0.828	0.904	0.830	0.756	0.939	14.45
22)	T	Carbon Disulfide	5.605	4.718	4.863	3.961	3.648	4.002	3.587	3.035	4.177	19.85
23)	T	trans-1,2-Dich...	1.997	1.681	1.862	1.738	1.542	1.731	1.621	1.541	1.714	9.14
24)	T	1,1-Dichloroet...	2.778	2.328	2.401	2.144	1.893	2.058	1.915	1.814	2.166	14.90
25)	T	Methyl tert-Bu...			3.960	3.965	3.461	2.754	3.139	2.524	1.851	3.093	25.15
26)	T	Vinyl Acetate	0.222	0.209	0.239	0.222	0.209	0.230	0.208	0.176	0.214	8.92
27)	T	2-Butanone (MEK)			0.832	0.879	0.797	0.732	0.789	0.723	0.638	0.770	10.31
28)	T	cis-1,2-Dichlo...	2.183	1.850	1.905	1.700	1.514	1.653	1.548	1.467	1.727	13.93
29)	T	Diisopropyl Ether			1.172	1.177	1.068	0.944	0.870	0.555		0.964	24.38
30)	T	Ethyl Acetate	0.579	0.508	0.559	0.498	0.450	0.432	0.301		0.475	19.68
31)	T	n-Hexane			2.261	2.307	2.035	1.803	1.802	1.408	1.028	1.806	25.52
32)	T	Chloroform	2.674	2.228	2.310	2.068	1.815	1.953	1.775	1.613	2.054	16.66
33)	S	1,2-Dichloroet...	1.757	1.756	1.748	1.748	1.758	1.734	1.720	1.715	1.742	0.98
34)	T	Tetrahydrofura...	0.937	0.837	0.836	0.761	0.677	0.739	0.675	0.589	0.757	14.71
35)	T	Ethyl tert-But...	1.740	1.455	1.539	1.363	1.217	1.341	1.168	0.898	1.340	19.00
36)	T	1,2-Dichloroet...	2.147	1.820	1.858	1.674	1.475	1.619	1.505	1.413	1.689	14.44
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.553	0.467	0.473	0.426	0.373	0.419	0.388	0.358	0.432	14.81
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.543	1.243	1.234	1.096	0.950	1.023	0.927	0.831	1.106	20.66
42)	T	Carbon Tetrach...	0.445	0.376	0.401	0.355	0.317	0.357	0.331	0.305	0.361	12.77
43)	T	Cyclohexane	0.548	0.469	0.479	0.423	0.371	0.400	0.342	0.259	0.411	21.85
44)	T	tert-Amyl Meth...	0.989	0.831	0.845	0.752	0.663	0.750	0.652	0.503	0.748	19.61
45)	T	1,2-Dichloropr...	0.359	0.316	0.320	0.285	0.252	0.277	0.257	0.241	0.288	14.05
46)	T	Bromodichlorom...	0.497	0.420	0.424	0.376	0.341	0.383	0.352	0.317	0.389	14.70
47)	T	Trichloroethene	0.360	0.322	0.331	0.288	0.254	0.280	0.248	0.205	0.286	17.66
48)	T	1,4-Dioxane	0.237	0.221	0.234	0.208	0.193	0.218	0.196	0.167	0.209	11.11
49)	T	2,2,4-Trimethy...	1.590	1.298	1.343	1.170	1.026	1.132	1.036	0.915	1.189	18.12
50)	T	Methyl Methacr...	0.121	0.102	0.118	0.104	0.096	0.104	0.090	0.072	0.101	15.38
51)	T	n-Heptane	0.357	0.320	0.317	0.287	0.253	0.276	0.251	0.220	0.285	15.63
52)	T	cis-1,3-Dichlo...	0.571	0.466	0.495	0.450	0.414	0.450	0.414	0.375	0.452	13.46
53)	T	4-Methyl-2-pen...	0.290	0.259	0.280	0.253	0.225	0.252	0.224	0.183	0.246	13.94
54)	T	trans-1,3-Dich...	0.520	0.445	0.465	0.417	0.386	0.440	0.410	0.381	0.433	10.55

55)	T	1,1,2-Trichlor...	0.333	0.296	0.307	0.266	0.238	0.262	0.238	0.214	0.269	14.93
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	6.058	6.068	6.028	6.033	6.029	6.036	6.063	6.083	6.050	0.35
58)	T	Toluene	8.151	6.533	6.747	5.939	5.207	5.612	5.021	4.241	5.932	20.42
59)	T	2-Hexanone	4.198	3.549	3.535	3.192	2.840	3.203	2.882	2.416	3.227	16.85
60)	T	Dibromochlorom...	2.007	1.718	1.781	1.577	1.441	1.629	1.496	1.336	1.623	13.07
61)	T	1,2-Dibromoethane	2.140	1.696	1.870	1.608	1.452	1.612	1.481	1.348	1.651	15.40
62)	T	n-Butyl Acetate	4.493	3.824	3.884	3.495	3.155	3.576	3.236	2.675	3.542	15.46
63)	T	n-Octane	1.600	1.378	1.443	1.241	1.116	1.250	1.162	1.022	1.276	14.74
64)	T	Tetrachloroethene	1.912	1.633	1.634	1.472	1.310	1.398	1.241	1.017	1.452	19.03
65)	T	Chlorobenzene	5.315	4.183	4.385	3.824	3.388	3.616	3.095	2.337	3.768	23.77
66)	T	Ethylbenzene		7.436	7.551	6.673	5.859	6.335	5.601	4.532	6.284	16.94
67)	T	m- & p-Xylenes	7.254	5.874	6.077	5.218	4.631	4.907	4.132	3.124	5.152	24.64
68)	T	Bromoform	1.405	1.294	1.355	1.198	1.114	1.263	1.132	0.948	1.214	12.16
69)	T	Styrene	5.107	4.349	4.473	3.977	3.630	3.927	3.447	2.766	3.960	17.93
70)	T	o-Xylene	6.912	5.816	5.991	5.291	4.683	4.985	4.315	3.247	5.155	21.80
71)	T	n-Nonane	3.738	3.236	3.302	2.869	2.536	2.878	2.629	2.210	2.925	16.63
72)	T	1,1,2,2-Tetrac...	3.289	2.716	2.795	2.512	2.238	2.367	2.100	1.655	2.459	20.06
73)	S	Bromofluoroben...	1.574	1.575	1.564	1.583	1.587	1.595	1.599	1.602	1.585	0.85
74)	T	Cumene	8.355	7.037	7.323	6.503	5.750	6.099	5.193	3.959	6.277	21.63
75)	T	alpha-Pinene	4.414	3.432	3.627	3.157	2.798	3.258	2.848	2.213	3.218	20.25
76)	T	n-Propylbenzene	1.065	0.871	0.910	0.808	0.716	0.755	0.646	0.492	0.783	E1 22.28
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene		6.933	7.183	6.390	5.704	6.040	5.104	3.844	5.885	19.46
79)	T	1,3,5-Trimethy...		5.817	6.006	5.364	4.787	5.077	4.308	3.228	4.941	19.30
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...		5.843	6.215	5.488	4.971	4.857	3.561		5.156	18.13
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride		4.115	4.638	4.297	4.266	4.518	3.446	2.083	3.909	22.82
85)	T	1,3-Dichlorobe...		3.241	3.417	2.961	2.646	2.611	1.945	1.265	2.584	29.22
86)	T	1,4-Dichlorobe...	3.965	3.333	3.429	3.029	2.686	2.808	2.378	1.770	2.925	23.18
87)	T	sec-Butylbenzene	9.463	7.755	8.160	7.315	6.476	6.696	5.541	4.011	6.927	24.07
88)	T	4-Isopropyltol...	7.587	6.434	6.848	6.104	5.468	5.593	4.583	3.281	5.737	23.51
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...		3.217	3.237	2.898	2.561	2.475	1.840	1.206	2.491	29.91
91)	T	d-Limonene	2.698	2.195	2.419	2.131	1.943	2.068	1.655	1.063	2.021	24.53
92)	T	1,2-Dibromo-3-...	1.418	1.209	1.201	1.113	1.034	1.055	0.849	0.589	1.059	23.68
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...		2.346	2.487	2.206	2.027	1.954	1.408		2.071	18.35
95)	T	Naphthalene	9.048	7.546	7.846	7.085	6.719	7.227	6.225	4.621	7.040	18.28
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...		1.520	1.510	1.308	1.148	1.198	1.002	0.706	1.199	23.97
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene		5.742	5.929	5.235	4.623	4.390	3.182		4.850	20.93
100)	T	n-Butylbenzene	7.613	6.333	6.755	6.017	5.462	5.758	4.881	3.618	5.805	20.85
101)	T	1,1,1,2-Tetrac...	1.562	1.368	1.516	1.339	1.195	1.285	1.109	0.845	1.278	18.05

(#) = Out of Range

R9030922.M Thu Mar 10 10:05:33 2022

Primary Source Standards Concentrations (Working & Initial Calibration)

3/10/22

1ng/L Std. ID:
4ng/L Std. ID: S35-03082207
20ng/L Std. ID: S35-03082205
40ng/L Std. ID:
200ng/L Std. ID: S35-03082204
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Do Not Use

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S35-03082207**	**200ng/L Std. ID:**	**S35-03082204**
20ng/L Std. ID:	**S35-03082205**	**1000ng/L Std. ID:**	

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**20**	**20**	**20**	**200**	**200**	**200**
	Source Std.			**Primary Working Standards**				**Injection (L):**	**0.025**	**0.050**	**0.0250**	**0.050**	**0.25**	**0.125**	**0.25**	**0.50**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Page 88 of 196

Calibration Status Report MS09

Method   : I:\MS09\Methods\R9030922.M (RTE Integrator)
Title   : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration

3/10/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\Data\2022_03\09\03092205.D
2	0.2	0	13	I:\MS09\Data\2022_03\09\03092206.D
3	0.5	1	13	I:\MS09\Data\2022_03\09\03092207.D
4	1.0	1	13	I:\MS09\Data\2022_03\09\03092208.D
5	5.0	5	13	I:\MS09\Data\2022_03\09\03092209.D
6	25	26	13	I:\MS09\Data\2022_03\09\03092210.D
7	50	52	13	I:\MS09\Data\2022_03\09\03092211.D
8	100	104	13	I:\MS09\Data\2022_03\09\03092212.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Mar 09 16:57 2022	Mar 09 13:11 2022	9 Mar 2022 12:39
2	0.2	Mar 09 16:57 2022	Mar 09 13:37 2022	9 Mar 2022 13:13
3	0.5	Mar 09 16:57 2022	Mar 09 14:15 2022	9 Mar 2022 13:46
4	1.0	Mar 09 16:57 2022	Mar 09 14:47 2022	9 Mar 2022 14:19
5	5.0	Mar 09 16:58 2022	Mar 09 15:14 2022	9 Mar 2022 14:52
6	25	Mar 09 16:58 2022	Mar 09 15:49 2022	9 Mar 2022 15:26
7	50	Mar 09 16:58 2022	Mar 09 16:21 2022	9 Mar 2022 15:59
8	100	Mar 09 16:58 2022	Mar 09 16:55 2022	9 Mar 2022 16:33

R9030922.M Thu Mar 10 10:06:01 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092205.D Vial: 5
Acq On : 9 Mar 2022 12:39 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 09 13:11:35 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	154797	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.31	114	669789	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	128083	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	272040	8.117	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.96%#				
57) Toluene-d8 (SS2)	15.77	98	775870	18.044	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 144.32%#				
73) Bromofluorobenzene (SS3)	19.03	174	201562	16.022	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 128.16%				
Target Compounds							Qvalue
2) Propene	4.10	42	2562	0.098	ng		98
3) Dichlorodifluoromethan...	4.25	85	4040	0.106	ng		95
4) Chloromethane	4.55	50	3042	0.111	ng	#	71
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	1748	0.126	ng		98
6) Vinyl Chloride	4.96	62	2687	0.122	ng		100
7) 1,3-Butadiene	5.23	54	2317	0.146	ng		91
8) Bromomethane	5.67	94	1704	0.165	ng		97
9) Chloroethane	6.00	64	1304	0.106	ng		75
10) Ethanol	6.34	45	6838	0.408	ng		77
11) Acetonitrile	6.60	41	4834	0.096	ng	#	67
12) Acrolein	6.80	56	2364	0.208	ng		98
13) Acetone	7.02	58	7681	0.594	ng	#	61
14) Trichlorofluoromethane	7.26	101	3309	0.093	ng		91
15) 2-Propanol (Isopropanol)	7.55	45	10923	0.178	ng		92
16) Acrylonitrile	7.76	53	5400	0.217	ng		90
17) 1,1-Dichloroethene	8.23	96	1881	0.132	ng	#	74
18) 2-Methyl-2-Propanol (t...	8.47	59	9457	0.196	ng		93
19) Methylene Chloride	8.44	84	2163	0.131	ng	#	79
20) 3-Chloro-1-propene (Al...	8.61	41	3115	0.061	ng		98
21) Trichlorotrifluoroethane	8.87	151	1538	0.127	ng		89
22) Carbon Disulfide	8.72	76	14577	0.255	ng		94
23) trans-1,2-Dichloroethene	9.72	61	2621	0.096	ng		89
24) 1,1-Dichloroethane	9.97	63	3612	0.108	ng		99
25) Methyl tert-Butyl Ether	10.11	73	6155	0.119	ng		92
26) Vinyl Acetate	10.24	86	935	0.290	ng	#	93
27) 2-Butanone (MEK)	10.52	72	2310	0.195	ng	#	91
28) cis-1,2-Dichloroethene	10.99	61	2811	0.103	ng		83
29) Diisopropyl Ether	11.32	87	3501	0.260	ng	#	80
30) Ethyl Acetate	11.32	61	2926	0.437	ng		93
31) n-Hexane	11.29	57	3473	0.110	ng	#	97
32) Chloroform	11.33	83	3543	0.111	ng		98
34) Tetrahydrofuran (THF)	11.79	72	2286	0.202	ng	#	78
35) Ethyl tert-Butyl Ether	11.91	87	4526	0.214	ng		94
36) 1,2-Dichloroethane	12.15	62	2818	0.088	ng		91
38) 1,1,1-Trichloroethane	12.43	97	3081	0.109	ng		97
39) Isopropyl Acetate	13.31	61	19503	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	12.91	78	8601	0.126	ng		97
42) Carbon Tetrachloride	13.08	117	2502	0.108	ng		97
43) Cyclohexane	13.21	84	6076	0.246	ng		92
44) tert-Amyl Methyl Ether	13.57	73	11072	0.229	ng		92
45) 1,2-Dichloropropane	13.76	63	1984	0.120	ng		97
46) Bromodichloromethane	13.96	83	2796	0.117	ng		99
47) Trichloroethene	14.01	130	1986	0.138	ng		97
48) 1,4-Dioxane	14.03	88	1320	0.109	ng		100
49) 2,2,4-Trimethylpentane...	14.08	57	9031	0.123	ng		83
50) Methyl Methacrylate	14.24	100	1353	0.239	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092205.D Vial: 5
Acq On : 9 Mar 2022 12:39 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 09 13:11:35 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

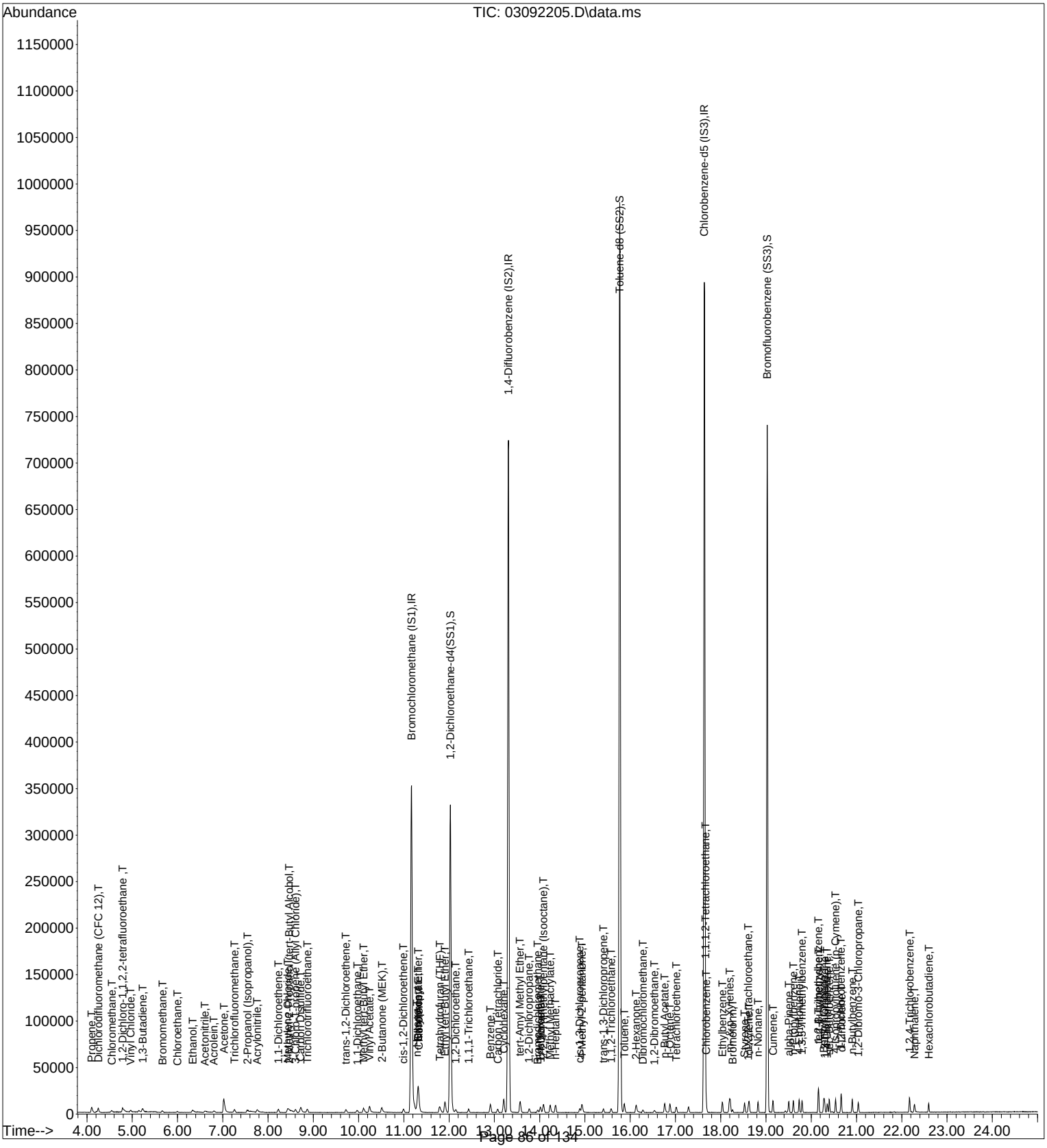
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	2007	0.124 ng		94
52) cis-1,3-Dichloropropene	14.88	75	3212	0.127 ng		92
53) 4-Methyl-2-pentanone	14.93	58	3230	0.207 ng		91
54) trans-1,3-Dichloropropene	15.41	75	2816	0.110 ng		92
55) 1,1,2-Trichloroethane	15.58	97	1855	0.135 ng		95
58) Toluene	15.87	91	8603	0.200 ng		99
59) 2-Hexanone	16.13	43	8819	0.268 ng		93
60) Dibromochloromethane	16.28	129	2159	0.200 ng		97
61) 1,2-Dibromoethane	16.53	107	2280	0.225 ng		95
62) n-Butyl Acetate	16.76	43	9391	0.264 ng		95
63) n-Octane	16.88	57	1721	0.173 ng		87
64) Tetrachloroethene	17.02	166	2037	0.195 ng		98
65) Chlorobenzene	17.68	112	5664	0.213 ng		98
66) Ethylbenzene	18.04	91	9544	0.191 ng		99
67) m- & p-Xylenes	18.20	91	15311	0.388 ng		96
68) Bromoform	18.26	173	1497	0.180 ng		95
69) Styrene	18.53	104	5390	0.204 ng		96
70) o-Xylene	18.62	91	7366	0.181 ng		95
71) n-Nonane	18.82	43	3983	0.139 ng		80
72) 1,1,2,2-Tetrachloroethane	18.61	83	3505	0.204 ng		97
74) Cumene	19.16	105	8904	0.181 ng		97
75) alpha-Pinene	19.50	93	4885	0.202 ng		85
76) n-Propylbenzene	19.61	91	11463	0.190 ng		97
77) 3-Ethyltoluene	19.73	105	9079	No Calib		
78) 4-Ethyltoluene	19.73	105	9079	0.192 ng		100
79) 1,3,5-Trimethylbenzene	19.79	105	7379	0.182 ng		93
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.54	105	328	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.16	105	7311	0.174 ng		92
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	20.28	91	10313	0.311 ng		99
85) 1,3-Dichlorobenzene	20.30	146	4279	0.208 ng		97
86) 1,4-Dichlorobenzene	20.35	146	4225	0.209 ng		97
87) sec-Butylbenzene	20.40	105	10084	0.188 ng		98
88) 4-Isopropyltoluene (p-...	20.54	119	8085	0.181 ng		99
89) 1,2,3-Trimethylbenzene	20.40	105	10084	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	4139	0.209 ng		96
91) d-Limonene	20.67	68	2903	0.179 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.04	157	2906	0.382 ng	#	80
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	5599	0.391 ng		99
95) Naphthalene	22.28	128	9642	0.247 ng		92
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.60	225	1889	0.191 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.16	119	7090	0.182 ng		98
100) n-Butylbenzene	20.91	91	8113	0.175 ng		98
101) 1,1,1,2-Tetrachloroethane	17.66	131	1665	0.173 ng	#	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092205.D Vial: 5
Acq On : 9 Mar 2022 12:39 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 09 13:11:35 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092206.D Vial: 5
Acq On : 9 Mar 2022 13:13 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 09 13:37:37 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	151990	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.31	114	655978	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	125619	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	266928	8.111	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.88%#				
57) Toluene-d8 (SS2)	15.77	98	762275	18.075	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 144.64%#				
73) Bromofluorobenzene (SS3)	19.03	174	197897	16.040	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 128.32%				
Target Compounds							Qvalue
2) Propene	4.10	42	3837	0.150	ng		97
3) Dichlorodifluoromethan...	4.25	85	7011	0.187	ng		97
4) Chloromethane	4.54	50	5142	0.191	ng	#	70
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	3124	0.230	ng		95
6) Vinyl Chloride	4.96	62	4800	0.221	ng		95
7) 1,3-Butadiene	5.22	54	3794	0.244	ng	#	86
8) Bromomethane	5.66	94	2758	0.272	ng		97
9) Chloroethane	5.98	64	2250	0.186	ng		82
10) Ethanol	6.32	45	11411	0.694	ng		78
11) Acetonitrile	6.60	41	7525	0.152	ng		83
12) Acrolein	6.80	56	4104	0.368	ng		99
13) Acetone	7.01	58	12652	0.997	ng	#	57
14) Trichlorofluoromethane	7.26	101	5664	0.162	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	17866	0.296	ng		90
16) Acrylonitrile	7.76	53	8940	0.366	ng		95
17) 1,1-Dichloroethene	8.23	96	3143	0.224	ng	#	77
18) 2-Methyl-2-Propanol (t...	8.45	59	16338	0.345	ng		97
19) Methylene Chloride	8.43	84	3433	0.211	ng	#	78
20) 3-Chloro-1-propene (Al...	8.60	41	5139	0.103	ng		99
21) Trichlorotrifluoroethane	8.86	151	2623	0.220	ng		94
22) Carbon Disulfide	8.72	76	24092	0.429	ng		95
23) trans-1,2-Dichloroethene	9.72	61	4333	0.162	ng		88
24) 1,1-Dichloroethane	9.97	63	5945	0.181	ng		100
25) Methyl tert-Butyl Ether	10.10	73	10112	0.199	ng		97
26) Vinyl Acetate	10.24	86	1728	0.546	ng	#	70
27) 2-Butanone (MEK)	10.50	72	4169	0.359	ng	#	74
28) cis-1,2-Dichloroethene	10.99	61	4678	0.175	ng		88
29) Diisopropyl Ether	11.31	87	6044	0.458	ng	#	71
30) Ethyl Acetate	11.32	61	5040	0.767	ng		88
31) n-Hexane	11.29	57	5774	0.186	ng		99
32) Chloroform	11.34	83	5797	0.184	ng		98
34) Tetrahydrofuran (THF)	11.78	72	4012	0.360	ng	#	67
35) Ethyl tert-Butyl Ether	11.91	87	7431	0.358	ng		96
36) 1,2-Dichloroethane	12.15	62	4692	0.150	ng		95
38) 1,1,1-Trichloroethane	12.44	97	5096	0.184	ng		97
39) Isopropyl Acetate	13.30	61	19314	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	12.91	78	13571	0.204	ng		98
42) Carbon Tetrachloride	13.07	117	4146	0.183	ng		100
43) Cyclohexane	13.21	84	10186	0.421	ng		89
44) tert-Amyl Methyl Ether	13.57	73	18234	0.385	ng		93
45) 1,2-Dichloropropane	13.78	63	3416	0.211	ng		96
46) Bromodichloromethane	13.96	83	4624	0.198	ng		97
47) Trichloroethene	14.01	130	3486	0.248	ng		95
48) 1,4-Dioxane	14.01	88	2414	0.204	ng		84
49) 2,2,4-Trimethylpentane...	14.08	57	14440	0.201	ng		82
50) Methyl Methacrylate	14.23	100	2223	0.400	ng		91

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092206.D Vial: 5
Acq On : 9 Mar 2022 13:13 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 09 13:37:37 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

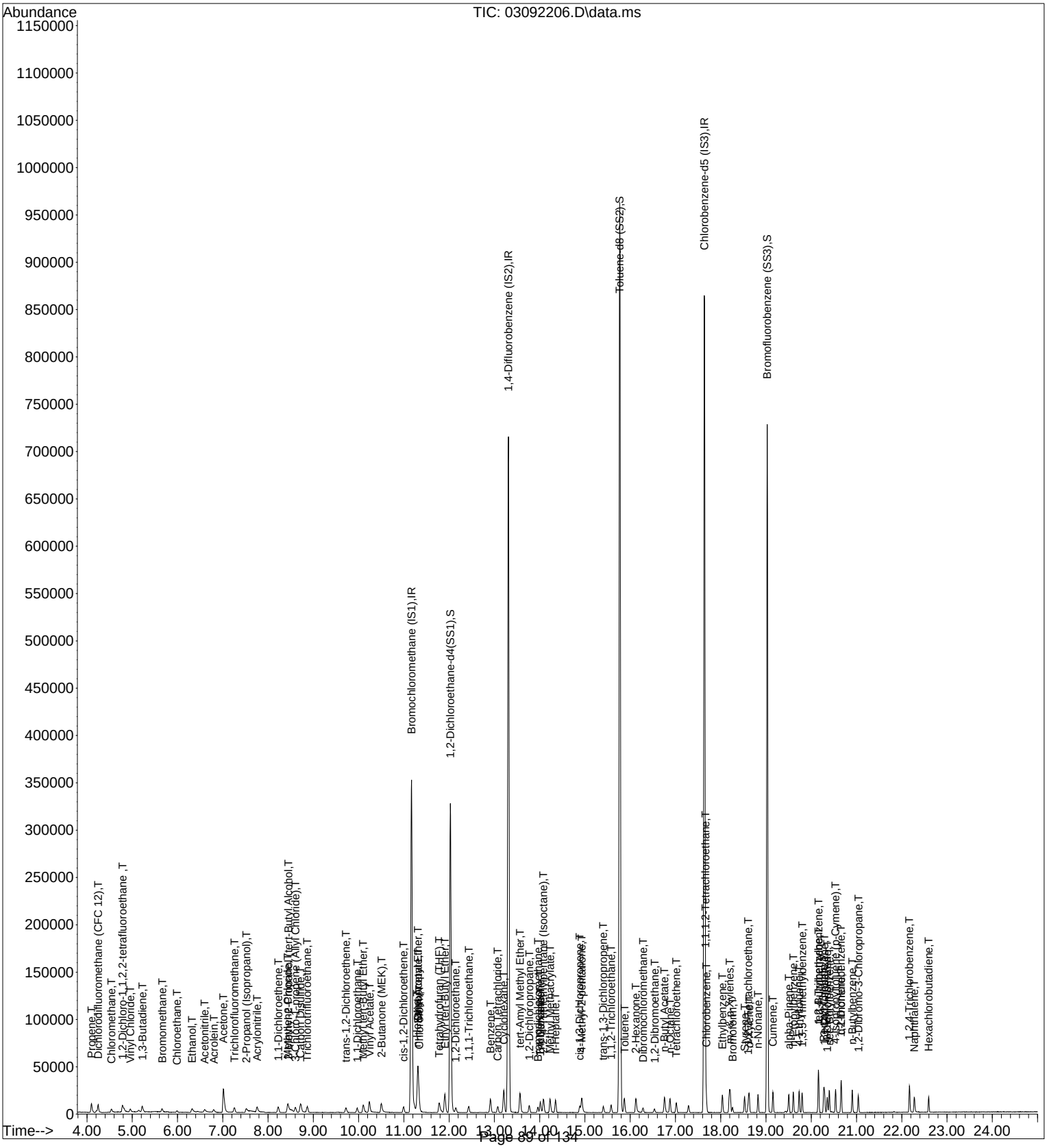
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.35	71	3530	0.222	ng		93
52) cis-1,3-Dichloropropene	14.88	75	5131	0.207	ng		98
53) 4-Methyl-2-pentanone	14.93	58	5660	0.370	ng		79
54) trans-1,3-Dichloropropene	15.41	75	4722	0.188	ng		98
55) 1,1,2-Trichloroethane	15.58	97	3232	0.240	ng		99
58) Toluene	15.88	91	13524	0.320	ng		99
59) 2-Hexanone	16.13	43	14623	0.453	ng		91
60) Dibromochloromethane	16.29	129	3626	0.342	ng		99
61) 1,2-Dibromoethane	16.54	107	3546	0.357	ng		99
62) n-Butyl Acetate	16.76	43	15678	0.449	ng		91
63) n-Octane	16.88	57	2908	0.299	ng		92
64) Tetrachloroethene	17.02	166	3414	0.333	ng		100
65) Chlorobenzene	17.68	112	8743	0.335	ng		96
66) Ethylbenzene	18.03	91	15394	0.314	ng		98
67) m- & p-Xylenes	18.20	91	24319	0.628	ng		96
68) Bromoform	18.26	173	2704	0.332	ng		88
69) Styrene	18.53	104	9004	0.348	ng		92
70) o-Xylene	18.63	91	12158	0.304	ng		96
71) n-Nonane	18.82	43	6765	0.240	ng		81
72) 1,1,2,2-Tetrachloroethane	18.61	83	5677	0.337	ng		98
74) Cumene	19.15	105	14710	0.305	ng		97
75) alpha-Pinene	19.50	93	7449	0.315	ng		80
76) n-Propylbenzene	19.61	91	18375	0.310	ng		97
77) 3-Ethyltoluene	19.73	105	14770	No Calib			
78) 4-Ethyltoluene	19.73	105	14770	0.319	ng		99
79) 1,3,5-Trimethylbenzene	19.80	105	12160	0.306	ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	20.66	105	270	No Calib		#	
82) 1,2,4-Trimethylbenzene	20.16	105	12096	0.294	ng		95
83) n-Decane	20.53	58	111	No Calib		#	
84) Benzyl Chloride	20.28	91	17039	0.524	ng		94
85) 1,3-Dichlorobenzene	20.29	146	6774	0.336	ng		98
86) 1,4-Dichlorobenzene	20.36	146	6968	0.351	ng		98
87) sec-Butylbenzene	20.40	105	16210	0.307	ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	13449	0.308	ng		97
89) 1,2,3-Trimethylbenzene	20.40	105	16210	No Calib		#	
90) 1,2-Dichlorobenzene	20.66	146	6790	0.349	ng		98
91) d-Limonene	20.66	68	4632	0.291	ng		99
92) 1,2-Dibromo-3-Chloropr...	21.04	157	4860	0.651	ng	#	77
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.17	180	9618	0.685	ng		96
95) Naphthalene	22.28	128	15774	0.413	ng		98
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.59	225	3147	0.324	ng		97
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	20.16	119	12002	0.314	ng		99
100) n-Butylbenzene	20.91	91	13238	0.291	ng		98
101) 1,1,1,2-Tetrachloroethane	17.66	131	2859	0.302	ng		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092206.D Vial: 5
Acq On : 9 Mar 2022 13:13 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 09 13:37:37 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092207.D Vial: 6
Acq On : 9 Mar 2022 13:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 14:15:14 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	146840	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.31	114	636823	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	122722	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	256617	8.072	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.56%#				
57) Toluene-d8 (SS2)	15.77	98	739771	17.956	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 143.68%#				
73) Bromofluorobenzene (SS3)	19.03	174	191946	15.924	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 127.36%				
Target Compounds							Qvalue
2) Propene	4.08	42	9573	0.388	ng		98
3) Dichlorodifluoromethan...	4.23	85	16861	0.465	ng		98
4) Chloromethane	4.53	50	12852	0.494	ng	#	67
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	7682	0.584	ng		100
6) Vinyl Chloride	4.94	62	12373	0.590	ng		99
7) 1,3-Butadiene	5.21	54	9564	0.637	ng	#	81
8) Bromomethane	5.65	94	6997	0.714	ng		97
9) Chloroethane	5.98	64	5619	0.480	ng		99
10) Ethanol	6.31	45	24749	1.557	ng		99
11) Acetonitrile	6.58	41	16049	0.336	ng		94
12) Acrolein	6.79	56	10222	0.949	ng		97
13) Acetone	7.00	58	30489	2.487	ng	#	53
14) Trichlorofluoromethane	7.25	101	14354	0.424	ng		96
15) 2-Propanol (Isopropanol)	7.48	45	43015	0.739	ng		96
16) Acrylonitrile	7.74	53	21664	0.918	ng		99
17) 1,1-Dichloroethene	8.22	96	7977	0.588	ng	#	77
18) 2-Methyl-2-Propanol (t...	8.45	59	40631	0.888	ng		97
19) Methylene Chloride	8.43	84	8432	0.537	ng	#	78
20) 3-Chloro-1-propene (Al...	8.60	41	12464	0.259	ng		93
21) Trichlorotrifluoroethane	8.86	151	6888	0.599	ng		95
22) Carbon Disulfide	8.71	76	59986	1.107	ng		98
23) trans-1,2-Dichloroethene	9.72	61	11590	0.448	ng		87
24) 1,1-Dichloroethane	9.97	63	14806	0.465	ng		100
25) Methyl tert-Butyl Ether	10.09	73	24451	0.499	ng		100
26) Vinyl Acetate	10.23	86	4774	1.562	ng	#	54
27) 2-Butanone (MEK)	10.49	72	10638	0.948	ng	#	66
28) cis-1,2-Dichloroethene	10.99	61	11637	0.450	ng		84
29) Diisopropyl Ether	11.30	87	14657	1.149	ng	#	76
30) Ethyl Acetate	11.31	61	13399	2.109	ng		92
31) n-Hexane	11.29	57	14228	0.476	ng		97
32) Chloroform	11.34	83	14519	0.478	ng		96
34) Tetrahydrofuran (THF)	11.77	72	9674	0.899	ng	#	70
35) Ethyl tert-Butyl Ether	11.90	87	18987	0.947	ng		92
36) 1,2-Dichloroethane	12.15	62	11569	0.383	ng		100
38) 1,1,1-Trichloroethane	12.43	97	12529	0.465	ng		97
39) Isopropyl Acetate	13.31	61	19065	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	12.91	78	32690	0.505	ng		98
42) Carbon Tetrachloride	13.07	117	10735	0.489	ng		98
43) Cyclohexane	13.21	84	25258	1.076	ng		90
44) tert-Amyl Methyl Ether	13.56	73	44987	0.978	ng		92
45) 1,2-Dichloropropane	13.77	63	8400	0.535	ng		98
46) Bromodichloromethane	13.96	83	11333	0.500	ng		99
47) Trichloroethene	14.01	130	8680	0.636	ng		97
48) 1,4-Dioxane	14.00	88	6197	0.540	ng		90
49) 2,2,4-Trimethylpentane...	14.08	57	36276	0.520	ng		80
50) Methyl Methacrylate	14.22	100	6256	1.160	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092207.D Vial: 6
Acq On : 9 Mar 2022 13:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 14:15:14 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

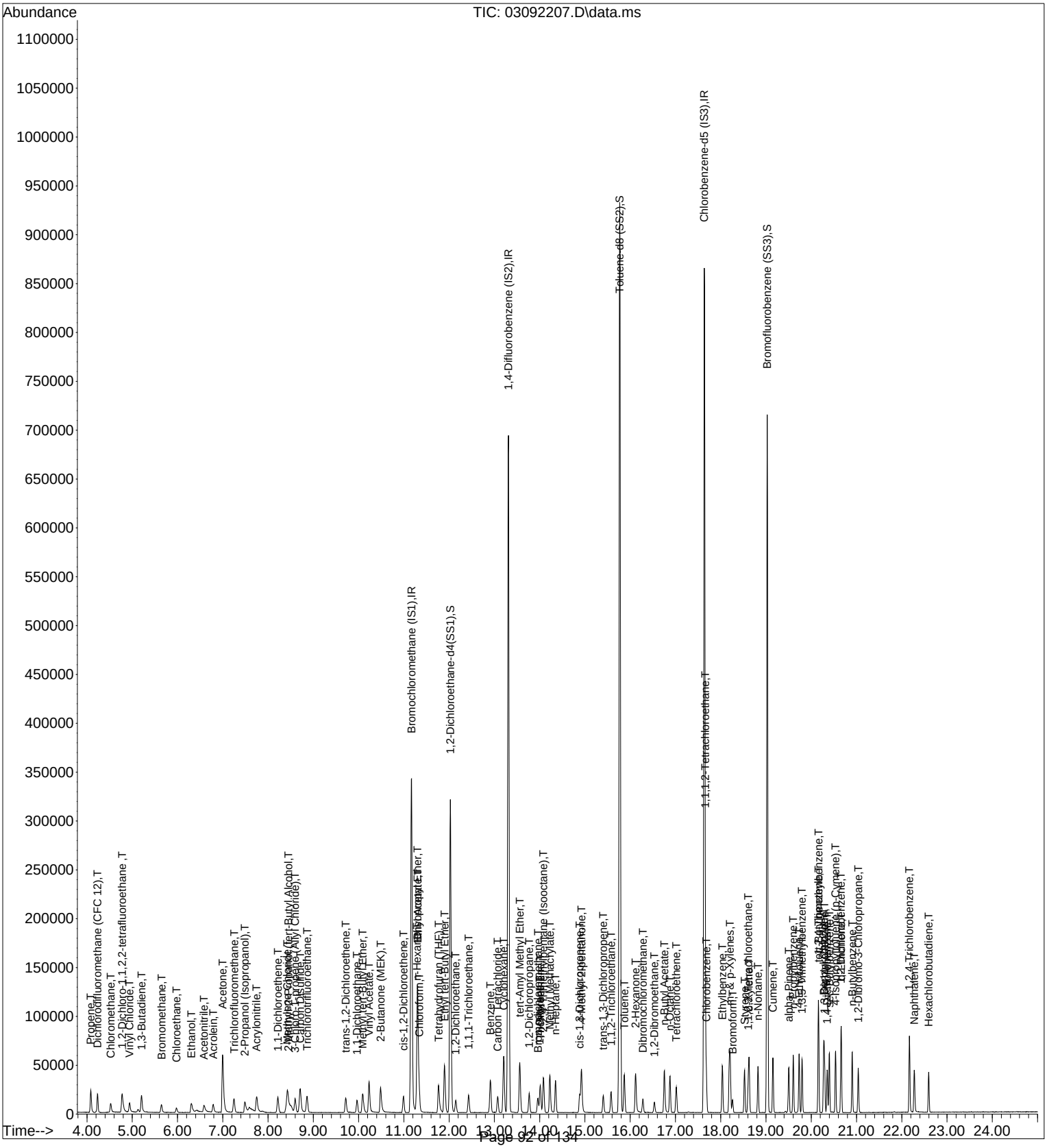
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.35	71	8477	0.550	ng		96
52) cis-1,3-Dichloropropene	14.88	75	13236	0.550	ng		100
53) 4-Methyl-2-pentanone	14.92	58	14842	1.000	ng		77
54) trans-1,3-Dichloropropene	15.40	75	11954	0.491	ng		99
55) 1,1,2-Trichloroethane	15.58	97	8142	0.623	ng		97
58) Toluene	15.87	91	34116	0.827	ng		100
59) 2-Hexanone	16.12	43	35573	1.129	ng		86
60) Dibromochloromethane	16.28	129	9181	0.887	ng		99
61) 1,2-Dibromoethane	16.53	107	9548	0.983	ng		97
62) n-Butyl Acetate	16.76	43	38897	1.140	ng		90
63) n-Octane	16.88	57	7438	0.782	ng		93
64) Tetrachloroethene	17.02	166	8340	0.832	ng		98
65) Chlorobenzene	17.68	112	22386	0.878	ng		99
66) Ethylbenzene	18.03	91	38180	0.798	ng		95
67) m- & p-Xylenes	18.20	91	61454	1.624	ng		95
68) Bromoform	18.26	173	6917	0.869	ng		97
69) Styrene	18.53	104	22616	0.895	ng		93
70) o-Xylene	18.62	91	30586	0.783	ng		94
71) n-Nonane	18.82	43	16860	0.613	ng		79
72) 1,1,2,2-Tetrachloroethane	18.61	83	14267	0.866	ng		98
74) Cumene	19.15	105	37387	0.793	ng		97
75) alpha-Pinene	19.50	93	19227	0.832	ng		100
76) n-Propylbenzene	19.60	91	46910	0.810	ng		97
77) 3-Ethyltoluene	19.73	105	37375	No Calib			
78) 4-Ethyltoluene	19.73	105	37375	0.827	ng		97
79) 1,3,5-Trimethylbenzene	19.79	105	30661	0.790	ng		96
80) alpha-Methylstyrene	19.79	118	149	No Calib		#	
81) 2-Ethyltoluene	20.66	105	720	No Calib		#	
82) 1,2,4-Trimethylbenzene	20.16	105	31425	0.781	ng		94
83) n-Decane	20.54	58	769	No Calib		#	
84) Benzyl Chloride	20.28	91	46896	1.477	ng		96
85) 1,3-Dichlorobenzene	20.29	146	17445	0.887	ng		96
86) 1,4-Dichlorobenzene	20.35	146	17508	0.902	ng		98
87) sec-Butylbenzene	20.40	105	41657	0.809	ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	34960	0.819	ng		97
89) 1,2,3-Trimethylbenzene	20.40	105	41657	No Calib		#	
90) 1,2-Dichlorobenzene	20.66	146	16687	0.878	ng		99
91) d-Limonene	20.66	68	12470	0.802	ng		98
92) 1,2-Dibromo-3-Chloropr...	21.04	157	11790	1.618	ng	#	76
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.17	180	24904	1.816	ng		97
95) Naphthalene	22.28	128	40057	1.072	ng		98
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.59	225	7637	0.804	ng		98
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	20.16	119	30270	0.810	ng		97
100) n-Butylbenzene	20.91	91	34485	0.777	ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	7742	0.838	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092207.D Vial: 6
Acq On : 9 Mar 2022 13:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 14:15:14 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092208.D Vial: 6
Acq On : 9 Mar 2022 14:19 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 14:47:27 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	147201	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.31	114	634791	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	122889	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	257291	8.073	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.56%#				
57) Toluene-d8 (SS2)	15.77	98	741362	17.970	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 143.76%#				
73) Bromofluorobenzene (SS3)	19.03	174	194555	16.119	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 128.96%				
Target Compounds							Qvalue
2) Propene	4.08	42	16044	0.648	ng		98
3) Dichlorodifluoromethan...	4.23	85	29457	0.811	ng		99
4) Chloromethane	4.52	50	22732	0.872	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	13264	1.007	ng		99
6) Vinyl Chloride	4.93	62	21883	1.041	ng		100
7) 1,3-Butadiene	5.20	54	17186	1.142	ng	#	79
8) Bromomethane	5.64	94	12756	1.298	ng		98
9) Chloroethane	5.97	64	10032	0.856	ng		95
10) Ethanol	6.31	45	42664	2.677	ng		100
11) Acetonitrile	6.58	41	27137	0.566	ng		93
12) Acrolein	6.78	56	19480	1.805	ng		98
13) Acetone	6.99	58	54299	4.419	ng	#	52
14) Trichlorofluoromethane	7.25	101	26162	0.771	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	75712	1.297	ng		97
16) Acrylonitrile	7.75	53	38307	1.619	ng		99
17) 1,1-Dichloroethene	8.22	96	14127	1.039	ng	#	77
18) 2-Methyl-2-Propanol (t...	8.38	59	71616	1.561	ng		96
19) Methylene Chloride	8.43	84	14843	0.942	ng	#	76
20) 3-Chloro-1-propene (Al...	8.60	41	21964	0.454	ng		91
21) Trichlorotrifluoroethane	8.86	151	12159	1.054	ng		97
22) Carbon Disulfide	8.70	76	97961	1.803	ng		99
23) trans-1,2-Dichloroethene	9.72	61	21693	0.836	ng		92
24) 1,1-Dichloroethane	9.97	63	26507	0.831	ng		100
25) Methyl tert-Butyl Ether	10.08	73	42801	0.871	ng		100
26) Vinyl Acetate	10.23	86	8906	2.906	ng	#	43
27) 2-Butanone (MEK)	10.48	72	19326	1.719	ng	#	55
28) cis-1,2-Dichloroethene	10.99	61	20826	0.804	ng		86
29) Diisopropyl Ether	11.30	87	26652	2.085	ng	#	71
30) Ethyl Acetate	11.31	61	23922	3.757	ng		91
31) n-Hexane	11.29	57	25164	0.839	ng		97
32) Chloroform	11.34	83	26052	0.856	ng		98
34) Tetrahydrofuran (THF)	11.76	72	17657	1.637	ng	#	65
35) Ethyl tert-Butyl Ether	11.90	87	33709	1.677	ng		92
36) 1,2-Dichloroethane	12.15	62	20901	0.690	ng		98
38) 1,1,1-Trichloroethane	12.44	97	22483	0.838	ng		98
39) Isopropyl Acetate	13.31	61	18598	No Calib		#	
40) 1-Butanol	12.96	56	348	No Calib		#	
41) Benzene	12.92	78	57870	0.897	ng		99
42) Carbon Tetrachloride	13.07	117	18942	0.866	ng		99
43) Cyclohexane	13.21	84	44439	1.899	ng		89
44) tert-Amyl Methyl Ether	13.56	73	79792	1.740	ng		91
45) 1,2-Dichloropropane	13.77	63	14887	0.951	ng		100
46) Bromodichloromethane	13.96	83	20042	0.887	ng		98
47) Trichloroethene	14.01	130	15046	1.105	ng		94
48) 1,4-Dioxane	14.00	88	10989	0.960	ng		90
49) 2,2,4-Trimethylpentane...	14.08	57	62997	0.905	ng		81
50) Methyl Methacrylate	14.22	100	10974	2.041	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092208.D Vial: 6
Acq On : 9 Mar 2022 14:19 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 14:47:27 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

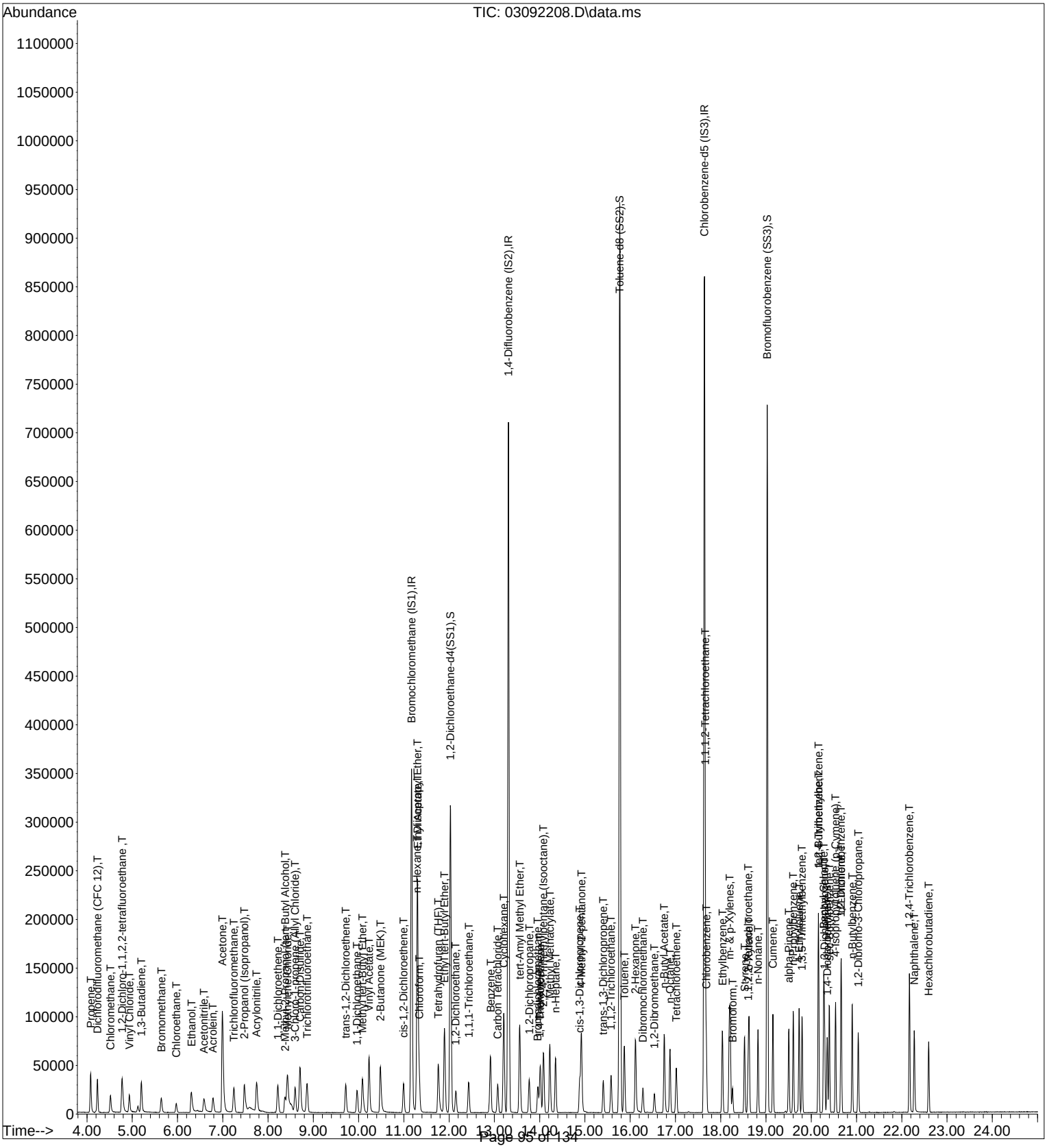
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	15278	0.994 ng		96
52) cis-1,3-Dichloropropene	14.88	75	23454	0.977 ng		99
53) 4-Methyl-2-pentanone	14.92	58	26717	1.805 ng		75
54) trans-1,3-Dichloropropene	15.40	75	21409	0.882 ng		99
55) 1,1,2-Trichloroethane	15.58	97	14075	1.081 ng		99
58) Toluene	15.87	91	60140	1.457 ng		99
59) 2-Hexanone	16.11	43	64328	2.039 ng		85
60) Dibromochloromethane	16.28	129	16282	1.571 ng		99
61) 1,2-Dibromoethane	16.53	107	16442	1.690 ng		100
62) n-Butyl Acetate	16.75	43	70103	2.052 ng		88
63) n-Octane	16.88	57	12809	1.345 ng		92
64) Tetrachloroethene	17.02	166	15051	1.500 ng		99
65) Chlorobenzene	17.68	112	39102	1.531 ng		100
66) Ethylbenzene	18.04	91	67575	1.410 ng		96
67) m- & p-Xylenes	18.20	91	105680	2.788 ng		94
68) Bromoform	18.26	173	12249	1.537 ng		99
69) Styrene	18.53	104	40273	1.592 ng		94
70) o-Xylene	18.62	91	54097	1.383 ng		95
71) n-Nonane	18.82	43	29329	1.064 ng	#	77
72) 1,1,2,2-Tetrachloroethane	18.61	83	25682	1.556 ng		97
74) Cumene	19.15	105	66489	1.408 ng		96
75) alpha-Pinene	19.50	93	33520	1.448 ng		99
76) n-Propylbenzene	19.60	91	83402	1.438 ng		96
77) 3-Ethyltoluene	19.73	105	66588	No Calib		
78) 4-Ethyltoluene	19.73	105	66588	1.471 ng		96
79) 1,3,5-Trimethylbenzene	19.79	105	54846	1.412 ng		96
80) alpha-Methylstyrene	19.73	118	249	No Calib	#	
81) 2-Ethyltoluene	20.66	105	1480	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.16	105	55570	1.379 ng		94
83) n-Decane	20.52	58	379	No Calib	#	
84) Benzyl Chloride	20.28	91	87021	2.737 ng		94
85) 1,3-Dichlorobenzene	20.29	146	30276	1.537 ng		99
86) 1,4-Dichlorobenzene	20.36	146	30971	1.593 ng		98
87) sec-Butylbenzene	20.40	105	74788	1.450 ng		98
88) 4-Isopropyltoluene (p-...	20.54	119	62406	1.459 ng		97
89) 1,2,3-Trimethylbenzene	20.40	105	74788	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	29917	1.573 ng		99
91) d-Limonene	20.66	68	21999	1.413 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.04	157	21893	3.000 ng	#	72
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	44246	3.221 ng		99
95) Naphthalene	22.28	128	72440	1.937 ng		98
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	13249	1.393 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.16	119	53521	1.430 ng		99
100) n-Butylbenzene	20.91	91	61521	1.384 ng		100
101) 1,1,1,2-Tetrachloroethane	17.66	131	13694	1.481 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092208.D Vial: 6
Acq On : 9 Mar 2022 14:19 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 14:47:27 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092209.D Vial: 6
Acq On : 9 Mar 2022 14:52 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 15:14:36 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	147993	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.32	114	643149	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	123823	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	260198	8.121	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.96%#				
57) Toluene-d8 (SS2)	15.77	98	746581	17.960	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 143.68%#				
73) Bromofluorobenzene (SS3)	19.03	174	196549	16.161	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 129.28%				
Target Compounds							Qvalue
2) Propene	4.07	42	72746	2.922	ng		99
3) Dichlorodifluoromethan...	4.22	85	130948	3.584	ng		99
4) Chloromethane	4.50	50	95567	3.645	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.77	135	59873	4.519	ng		100
6) Vinyl Chloride	4.92	62	98012	4.637	ng		99
7) 1,3-Butadiene	5.19	54	78591	5.193	ng	#	77
8) Bromomethane	5.63	94	54534	5.521	ng		99
9) Chloroethane	5.97	64	44882	3.807	ng		98
10) Ethanol	6.32	45	187859	11.726	ng		99
11) Acetonitrile	6.59	41	120429	2.499	ng		98
12) Acrolein	6.79	56	85420	7.872	ng		100
13) Acetone	6.99	58	240557	19.473	ng	#	52
14) Trichlorofluoromethane	7.25	101	114541	3.357	ng		98
15) 2-Propanol (Isopropanol)	7.48	45	328696	5.601	ng		99
16) Acrylonitrile	7.75	53	175090	7.358	ng		98
17) 1,1-Dichloroethene	8.22	96	62746	4.588	ng	#	77
18) 2-Methyl-2-Propanol (t...	8.37	59	267440	5.798	ng		95
19) Methylene Chloride	8.44	84	66619	4.207	ng	#	78
20) 3-Chloro-1-propene (Al...	8.60	41	93264	1.919	ng		85
21) Trichlorotrifluoroethane	8.86	151	52912	4.563	ng		93
22) Carbon Disulfide	8.70	76	453444	8.299	ng		99
23) trans-1,2-Dichloroethene	9.72	61	96753	3.710	ng		87
24) 1,1-Dichloroethane	9.98	63	117659	3.670	ng		99
25) Methyl tert-Butyl Ether	10.08	73	171199	3.464	ng		100
26) Vinyl Acetate	10.23	86	41971	13.623	ng	#	35
27) 2-Butanone (MEK)	10.48	72	89275	7.897	ng	#	54
28) cis-1,2-Dichloroethene	11.00	61	93222	3.579	ng		85
29) Diisopropyl Ether	11.30	87	118527	9.222	ng	#	72
30) Ethyl Acetate	11.31	61	108622	16.966	ng		91
31) n-Hexane	11.29	57	112040	3.716	ng		96
32) Chloroform	11.35	83	114968	3.758	ng		96
34) Tetrahydrofuran (THF)	11.75	72	78991	7.285	ng	#	66
35) Ethyl tert-Butyl Ether	11.90	87	151238	7.485	ng		92
36) 1,2-Dichloroethane	12.15	62	92560	3.037	ng		99
38) 1,1,1-Trichloroethane	12.44	97	99818	3.672	ng		98
39) Isopropyl Acetate	13.31	61	18804	No Calib		#	
40) 1-Butanol	12.92	56	3220	No Calib		#	
41) Benzene	12.92	78	254067	3.889	ng		98
42) Carbon Tetrachloride	13.08	117	85728	3.867	ng		98
43) Cyclohexane	13.21	84	197768	8.341	ng		90
44) tert-Amyl Methyl Ether	13.56	73	356287	7.667	ng		90
45) 1,2-Dichloropropane	13.77	63	66661	4.203	ng		99
46) Bromodichloromethane	13.96	83	92066	4.021	ng		98
47) Trichloroethene	14.02	130	67332	4.881	ng		96
48) 1,4-Dioxane	13.99	88	51623	4.450	ng		89
49) 2,2,4-Trimethylpentane...	14.09	57	279764	3.968	ng		81
50) Methyl Methacrylate	14.22	100	51454	9.446	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092209.D Vial: 6
Acq On : 9 Mar 2022 14:52 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 15:14:36 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

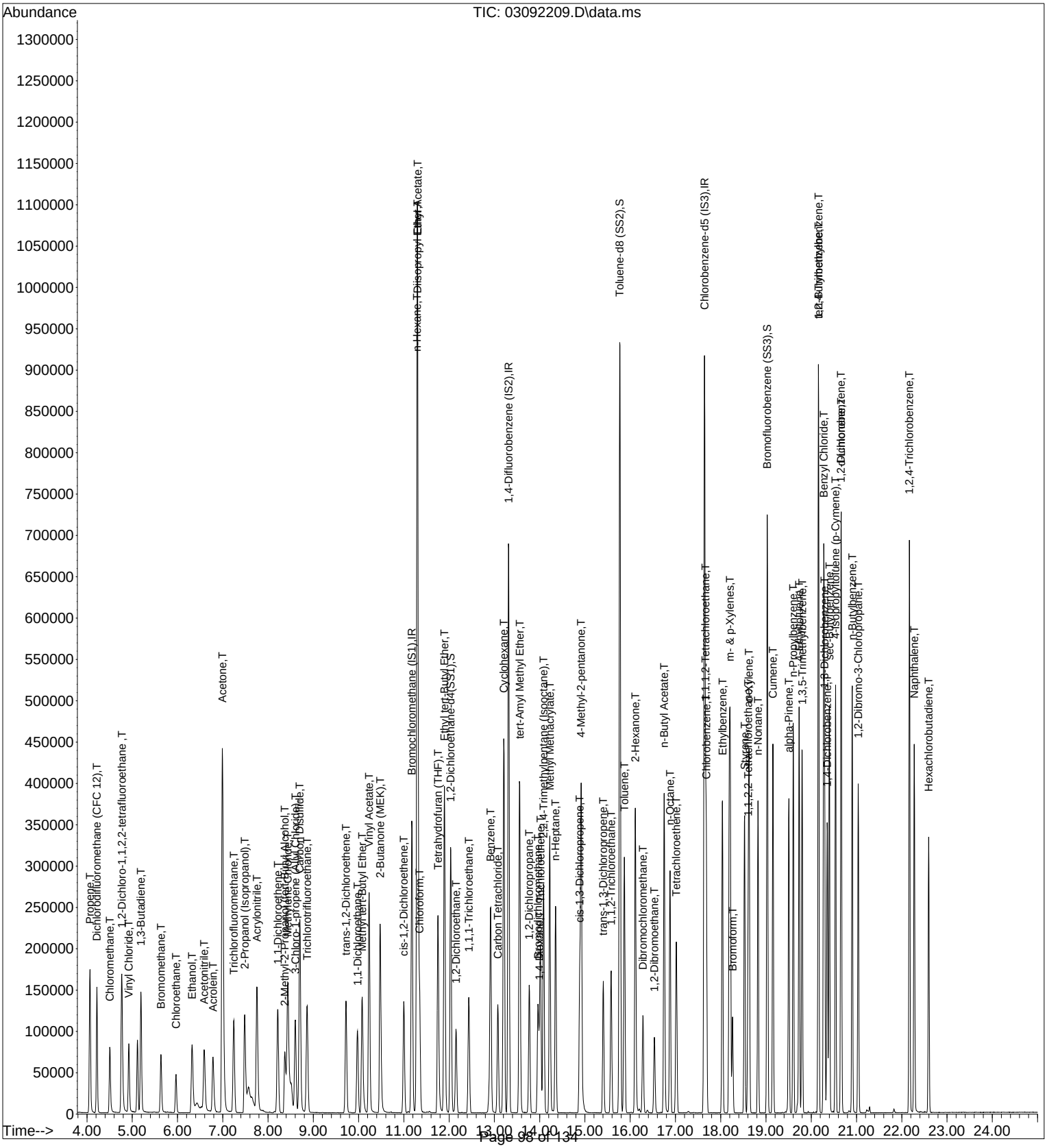
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	68324	4.389 ng		94
52) cis-1,3-Dichloropropene	14.88	75	109492	4.501 ng		99
53) 4-Methyl-2-pentanone	14.92	58	120432	8.031 ng		74
54) trans-1,3-Dichloropropene	15.40	75	100178	4.076 ng		99
55) 1,1,2-Trichloroethane	15.58	97	63734	4.832 ng		100
58) Toluene	15.87	91	265652	6.386 ng		100
59) 2-Hexanone	16.11	43	288407	9.072 ng		84
60) Dibromochloromethane	16.28	129	74948	7.177 ng		99
61) 1,2-Dibromoethane	16.53	107	74775	7.627 ng		99
62) n-Butyl Acetate	16.75	43	318769	9.259 ng		88
63) n-Octane	16.88	57	58061	6.050 ng		91
64) Tetrachloroethene	17.02	166	67494	6.676 ng		98
65) Chlorobenzene	17.68	112	174509	6.781 ng		99
66) Ethylbenzene	18.04	91	298918	6.190 ng		96
67) m- & p-Xylenes	18.20	91	472516	12.374 ng		94
68) Bromoform	18.26	173	57397	7.147 ng		99
69) Styrene	18.53	104	185169	7.266 ng		93
70) o-Xylene	18.62	91	241236	6.121 ng		95
71) n-Nonane	18.82	43	130616	4.703 ng	#	77
72) 1,1,2,2-Tetrachloroethane	18.61	83	115275	6.933 ng		97
74) Cumene	19.15	105	296189	6.225 ng		96
75) alpha-Pinene	19.50	93	149658	6.415 ng		98
76) n-Propylbenzene	19.60	91	372361	6.370 ng		97
77) 3-Ethyltoluene	19.73	105	299479	No Calib		
78) 4-Ethyltoluene	19.73	105	299479	6.564 ng		96
79) 1,3,5-Trimethylbenzene	19.80	105	246598	6.299 ng		96
80) alpha-Methylstyrene	19.60	118	448	No Calib	#	
81) 2-Ethyltoluene	20.66	105	6678	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	253615	6.245 ng		95
83) n-Decane	20.53	58	2914	No Calib	#	
84) Benzyl Chloride	20.28	91	435284	13.585 ng		95
85) 1,3-Dichlorobenzene	20.29	146	136295	6.866 ng		97
86) 1,4-Dichlorobenzene	20.36	146	138335	7.062 ng		98
87) sec-Butylbenzene	20.40	105	333569	6.418 ng		98
88) 4-Isopropyltoluene (p-...	20.54	119	281649	6.537 ng		97
89) 1,2,3-Trimethylbenzene	20.40	105	333569	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	133208	6.950 ng		99
91) d-Limonene	20.66	68	101047	6.441 ng		95
92) 1,2-Dibromo-3-Chloropr...	21.04	157	102385	13.922 ng	#	73
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	204834	14.801 ng		98
95) Naphthalene	22.28	128	346120	9.185 ng		99
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	58587	6.115 ng		100
98) Cyclohexanone	18.62	55	216	No Calib	#	
99) tert-Butylbenzene	20.16	119	238132	6.315 ng		99
100) n-Butylbenzene	20.91	91	281356	6.284 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	61549	6.605 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092209.D Vial: 6
Acq On : 9 Mar 2022 14:52 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 15:14:36 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092210.D Vial: 7
Acq On : 9 Mar 2022 15:26 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 15:49:07 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	147491	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.32	114	635947	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	121829	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	255737	8.008	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.08%#				
57) Toluene-d8 (SS2)	15.77	98	735328	17.979	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 143.84%#				
73) Bromofluorobenzene (SS3)	19.03	174	194354	16.242	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 129.92%				
Target Compounds							Qvalue
2) Propene	4.05	42	387846	15.633	ng		99
3) Dichlorodifluoromethan...	4.21	85	712192	19.559	ng		99
4) Chloromethane	4.50	50	546159	20.902	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	307052	23.255	ng		99
6) Vinyl Chloride	4.92	62	529512	25.137	ng		99
7) 1,3-Butadiene	5.19	54	428476	28.407	ng	#	76
8) Bromomethane	5.63	94	294178	29.885	ng		99
9) Chloroethane	5.97	64	247903	21.102	ng		99
10) Ethanol	6.36	45	1008249	63.146	ng		99
11) Acetonitrile	6.61	41	625941	13.031	ng		96
12) Acrolein	6.80	56	449499	41.568	ng		98
13) Acetone	7.01	58	1282713	104.186	ng	#	51
14) Trichlorofluoromethane	7.25	101	621616	18.279	ng		98
15) 2-Propanol (Isopropanol)	7.51	45	1849312	31.620	ng		98
16) Acrylonitrile	7.77	53	932796	39.336	ng		98
17) 1,1-Dichloroethene	8.22	96	343715	25.220	ng	#	76
18) 2-Methyl-2-Propanol (t...	8.39	59	1822417	39.646	ng		94
19) Methylene Chloride	8.45	84	354501	22.462	ng	#	78
20) 3-Chloro-1-propene (Al...	8.61	41	527074	10.884	ng		84
21) Trichlorotrifluoroethane	8.86	151	288010	24.923	ng		93
22) Carbon Disulfide	8.71	76	2478781	45.524	ng		99
23) trans-1,2-Dichloroethene	9.73	61	541188	20.824	ng		88
24) 1,1-Dichloroethane	9.98	63	637543	19.952	ng		99
25) Methyl tert-Butyl Ether	10.08	73	972096	19.737	ng		100
26) Vinyl Acetate	10.24	86	230988	75.227	ng	#	35
27) 2-Butanone (MEK)	10.48	72	479313	42.543	ng	#	54
28) cis-1,2-Dichloroethene	11.01	61	506962	19.529	ng		84
29) Diisopropyl Ether	11.30	87	544017	42.470	ng	#	83
30) Ethyl Acetate	11.31	61	519713	81.452	ng		92
31) n-Hexane	11.29	57	558085	18.574	ng		98
32) Chloroform	11.36	83	616571	20.221	ng		96
34) Tetrahydrofuran (THF)	11.75	72	429721	39.766	ng	#	67
35) Ethyl tert-Butyl Ether	11.90	87	830473	41.240	ng		94
36) 1,2-Dichloroethane	12.16	62	506090	16.664	ng		98
38) 1,1,1-Trichloroethane	12.44	97	553739	20.598	ng		98
39) Isopropyl Acetate	13.32	61	18667	No Calib	#		
40) 1-Butanol	12.90	56	17723	No Calib	#		
41) Benzene	12.92	78	1352755	20.940	ng		98
42) Carbon Tetrachloride	13.08	117	476158	21.723	ng		99
43) Cyclohexane	13.21	84	1052163	44.878	ng		92
44) tert-Amyl Methyl Ether	13.56	73	1992399	43.359	ng		91
45) 1,2-Dichloropropane	13.78	63	362520	23.118	ng		99
46) Bromodichloromethane	13.97	83	511942	22.613	ng		98
47) Trichloroethene	14.02	130	366838	26.896	ng		97
48) 1,4-Dioxane	13.99	88	288298	25.136	ng		92
49) 2,2,4-Trimethylpentane...	14.09	57	1526124	21.888	ng		81
50) Methyl Methacrylate	14.22	100	274450	50.954	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092210.D Vial: 7
Acq On : 9 Mar 2022 15:26 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 15:49:07 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

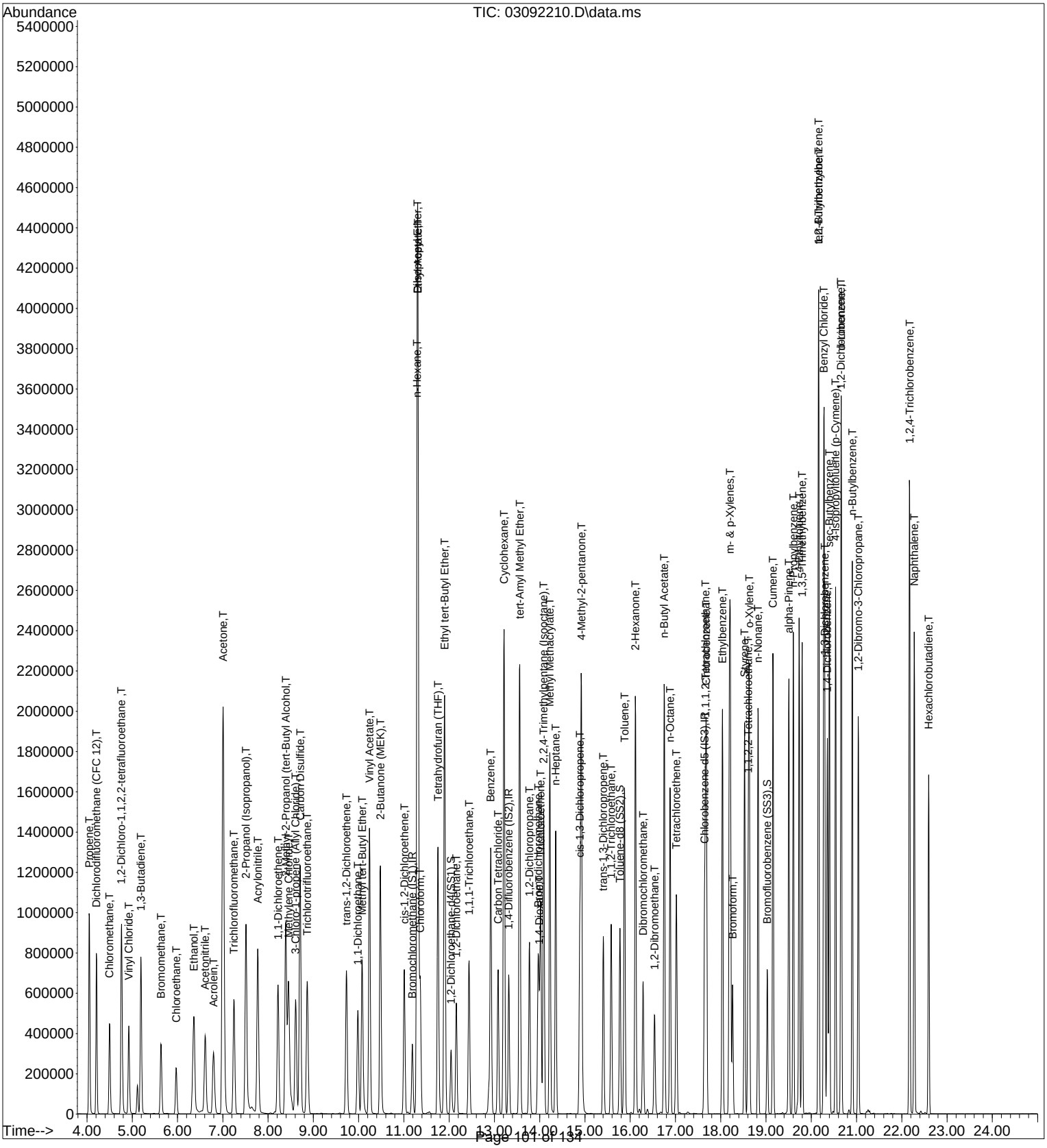
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	368188	23.922 ng		96
52) cis-1,3-Dichloropropene	14.89	75	601303	25.000 ng		99
53) 4-Methyl-2-pentanone	14.92	58	666044	44.916 ng		74
54) trans-1,3-Dichloropropene	15.40	75	564729	23.236 ng		98
55) 1,1,2-Trichloroethane	15.58	97	346236	26.545 ng		100
58) Toluene	15.88	91	1408431	34.409 ng		100
59) 2-Hexanone	16.11	43	1599696	51.145 ng		84
60) Dibromochloromethane	16.29	129	416784	40.565 ng		99
61) 1,2-Dibromoethane	16.54	107	408525	42.353 ng		99
62) n-Butyl Acetate	16.75	43	1777374	52.473 ng		88
63) n-Octane	16.88	57	319723	33.859 ng		94
64) Tetrachloroethene	17.02	166	354261	35.615 ng		97
65) Chlorobenzene	17.68	112	916393	36.190 ng		99
66) Ethylbenzene	18.04	91	1589959	33.462 ng		96
67) m- & p-Xylenes	18.20	91	2463151	65.558 ng		96
68) Bromoform	18.26	173	320116	40.513 ng		100
69) Styrene	18.53	104	985619	39.308 ng		95
70) o-Xylene	18.63	91	1263177	32.575 ng		95
71) n-Nonane	18.82	43	729367	26.691 ng		77
72) 1,1,2,2-Tetrachloroethane	18.61	83	599924	36.670 ng		97
74) Cumene	19.15	105	1545426	33.012 ng		96
75) alpha-Pinene	19.50	93	857395	37.355 ng		97
76) n-Propylbenzene	19.61	91	1931677	33.586 ng		97
77) 3-Ethyltoluene	19.73	105	1560018	No Calib		
78) 4-Ethyltoluene	19.73	105	1560018	34.753 ng		96
79) 1,3,5-Trimethylbenzene	19.80	105	1286428	33.398 ng		97
80) alpha-Methylstyrene	19.61	118	2761	No Calib	#	
81) 2-Ethyltoluene	20.67	105	32769	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	1218843	30.504 ng		97
83) n-Decane	20.51	58	157	No Calib	#	
84) Benzyl Chloride	20.28	91	2267989	71.942 ng		96
85) 1,3-Dichlorobenzene	20.30	146	661739	33.882 ng		98
86) 1,4-Dichlorobenzene	20.36	146	711573	36.918 ng		99
87) sec-Butylbenzene	20.40	105	1696811	33.183 ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	1417249	33.430 ng		98
89) 1,2,3-Trimethylbenzene	20.40	105	1696811	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	633196	33.576 ng		99
91) d-Limonene	20.66	68	529004	34.270 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.04	157	514266	71.075 ng	#	77
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	971128	71.321 ng		98
95) Naphthalene	22.28	128	1831430	49.394 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	300623	31.893 ng		99
98) Cyclohexanone	18.62	55	1166	No Calib	#	
99) tert-Butylbenzene	20.16	119	1112415	29.982 ng		99
100) n-Butylbenzene	20.91	91	1459228	33.124 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	325578	35.510 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092210.D Vial: 7
Acq On : 9 Mar 2022 15:26 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 15:49:07 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092211.D Vial: 7
Acq On : 9 Mar 2022 15:59 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 16:21:02 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.20	130	149829	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.32	114	647289	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	123101	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.05	65	257733	7.945	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 63.60%#				
57) Toluene-d8 (SS2)	15.77	98	746307	18.058	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 144.48%#				
73) Bromofluorobenzene (SS3)	19.03	174	196896	16.285	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 130.24%#				
Target Compounds							Qvalue
2) Propene	4.05	42	747786	29.671	ng		99
3) Dichlorodifluoromethan...	4.21	85	1328784	35.924	ng		99
4) Chloromethane	4.50	50	991964	37.371	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	541219	40.351	ng		99
6) Vinyl Chloride	4.93	62	983166	45.945	ng		99
7) 1,3-Butadiene	5.20	54	797617	52.054	ng	#	76
8) Bromomethane	5.64	94	547304	54.731	ng		99
9) Chloroethane	5.97	64	458445	38.415	ng		98
10) Ethanol	6.39	45	1916065	118.129	ng		99
11) Acetonitrile	6.63	41	1205165	24.698	ng		96
12) Acrolein	6.81	56	849863	77.365	ng		98
13) Acetone	7.02	58	2326086	185.984	ng	#	50
14) Trichlorofluoromethane	7.25	101	1178142	34.104	ng		98
15) 2-Propanol (Isopropanol)	7.54	45	3456039	58.170	ng		98
16) Acrylonitrile	7.79	53	1782582	73.998	ng		98
17) 1,1-Dichloroethene	8.23	96	646070	46.665	ng	#	77
18) 2-Methyl-2-Propanol (t...	8.41	59	3011737	64.496	ng		94
19) Methylene Chloride	8.46	84	663363	41.377	ng	#	79
20) 3-Chloro-1-propene (Al...	8.61	41	1016002	20.652	ng		87
21) Trichlorotrifluoroethane	8.87	151	536959	45.741	ng		92
22) Carbon Disulfide	8.71	76	4514556	81.617	ng		98
23) trans-1,2-Dichloroethene	9.74	61	1030045	39.016	ng		89
24) 1,1-Dichloroethane	9.99	63	1205370	37.133	ng		99
25) Methyl tert-Butyl Ether	10.08	73	1588066	31.740	ng		100
26) Vinyl Acetate	10.25	86	423894	135.898	ng	#	39
27) 2-Butanone (MEK)	10.49	72	892840	78.011	ng	#	56
28) cis-1,2-Dichloroethene	11.02	61	965031	36.594	ng		86
29) Diisopropyl Ether	11.30	87	704632	54.151	ng	#	81
30) Ethyl Acetate	11.33	61	734958	113.389	ng		93
31) n-Hexane	11.29	57	885941	29.026	ng		99
32) Chloroform	11.37	83	1138080	36.743	ng		96
34) Tetrahydrofuran (THF)	11.75	72	796706	72.575	ng	#	69
35) Ethyl tert-Butyl Ether	11.90	87	1470541	71.886	ng		95
36) 1,2-Dichloroethane	12.16	62	956169	30.993	ng		98
38) 1,1,1-Trichloroethane	12.44	97	1043917	38.152	ng		98
39) Isopropyl Acetate	13.32	61	19082	No Calib	#		
40) 1-Butanol	12.90	56	34348	No Calib	#		
41) Benzene	12.92	78	2496898	37.974	ng		97
42) Carbon Tetrachloride	13.08	117	900334	40.355	ng		99
43) Cyclohexane	13.22	84	1833857	76.850	ng		96
44) tert-Amyl Methyl Ether	13.56	73	3528517	75.443	ng		93
45) 1,2-Dichloropropane	13.78	63	686614	43.018	ng		99
46) Bromodichloromethane	13.97	83	955915	41.483	ng		98
47) Trichloroethene	14.03	130	662455	47.719	ng		96
48) 1,4-Dioxane	13.99	88	529009	45.314	ng		95
49) 2,2,4-Trimethylpentane...	14.09	57	2844358	40.080	ng		81
50) Methyl Methacrylate	14.23	100	485483	88.554	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092211.D Vial: 7
Acq On : 9 Mar 2022 15:59 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 16:21:02 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

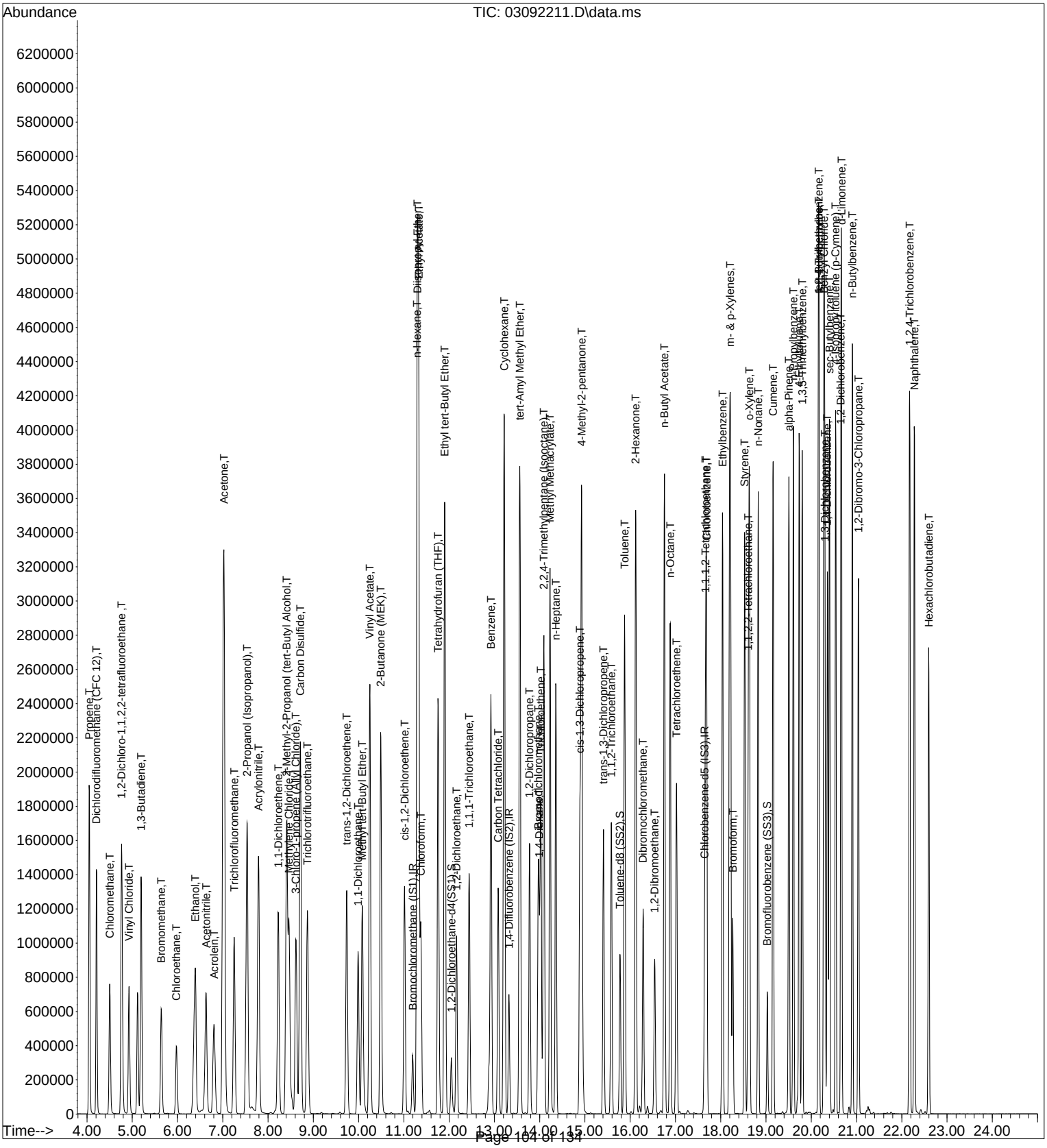
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.36	71	682348	43.556 ng		97
52) cis-1,3-Dichloropropene	14.89	75	1125024	45.955 ng		99
53) 4-Methyl-2-pentanone	14.93	58	1207006	79.970 ng		75
54) trans-1,3-Dichloropropene	15.41	75	1070997	43.294 ng		98
55) 1,1,2-Trichloroethane	15.59	97	640912	48.275 ng		99
58) Toluene	15.88	91	2546780	61.577 ng		99
59) 2-Hexanone	16.12	43	2908798	92.038 ng		83
60) Dibromochloromethane	16.29	129	773251	74.482 ng		99
61) 1,2-Dibromoethane	16.54	107	758492	77.823 ng		99
62) n-Butyl Acetate	16.76	43	3250158	94.963 ng		87
63) n-Octane	16.89	57	600598	62.947 ng		96
64) Tetrachloroethene	17.02	166	635370	63.215 ng		97
65) Chlorobenzene	17.69	112	1584784	61.940 ng		99
66) Ethylbenzene	18.04	91	2840717	59.167 ng		96
67) m- & p-Xylenes	18.21	91	4191564	110.407 ng		97
68) Bromoform	18.27	173	579815	72.621 ng		100
69) Styrene	18.53	104	1748442	69.009 ng		96
70) o-Xylene	18.63	91	2209555	56.392 ng		96
71) n-Nonane	18.83	43	1346485	48.766 ng	#	78
72) 1,1,2,2-Tetrachloroethane	18.61	83	1075198	65.041 ng		97
74) Cumene	19.16	105	2659290	56.219 ng		96
75) alpha-Pinene	19.50	93	1514661	65.309 ng		99
76) n-Propylbenzene	19.61	91	3341303	57.494 ng		98
77) 3-Ethyltoluene	19.73	105	2664195	No Calib		
78) 4-Ethyltoluene	19.73	105	2664195	58.737 ng		96
79) 1,3,5-Trimethylbenzene	19.80	105	2206206	56.685 ng		97
80) alpha-Methylstyrene	19.60	118	4688	No Calib	#	
81) 2-Ethyltoluene	20.67	105	52349	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	1806242	44.738 ng		99
83) n-Decane	20.52	58	862	No Calib	#	
84) Benzyl Chloride	20.28	91	3495246	109.726 ng		98
85) 1,3-Dichlorobenzene	20.31	146	996223	50.480 ng		98
86) 1,4-Dichlorobenzene	20.36	146	1217976	62.539 ng		99
87) sec-Butylbenzene	20.40	105	2837625	54.919 ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	2346827	54.785 ng		98
89) 1,2,3-Trimethylbenzene	20.40	105	2837625	No Calib	#	
90) 1,2-Dichlorobenzene	20.65	146	951581	49.937 ng		99
91) d-Limonene	20.67	68	855476	54.847 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.04	157	835875	114.330 ng	#	85
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	1413909	102.767 ng		98
95) Naphthalene	22.28	128	3187681	85.084 ng		99
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.60	225	508380	53.377 ng		100
98) Cyclohexanone	18.51	55	556	No Calib	#	
99) tert-Butylbenzene	20.16	119	1629703	43.470 ng		100
100) n-Butylbenzene	20.91	91	2499501	56.151 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	567903	61.299 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092211.D Vial: 7
Acq On : 9 Mar 2022 15:59 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 16:21:02 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092212.D Vial: 7
Acq On : 9 Mar 2022 16:33 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 16:55:19 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.20	130	150679	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.33	114	644048	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	122309	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.05	65	258371	7.920	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 63.36%#				
57) Toluene-d8 (SS2)	15.78	98	744032	18.120	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 144.96%#				
73) Bromofluorobenzene (SS3)	19.03	174	195894	16.307	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 130.48%#				
Target Compounds							Qvalue
2) Propene	4.05	42	1561820	61.621	ng		99
3) Dichlorodifluoromethan...	4.21	85	2454715	65.989	ng		99
4) Chloromethane	4.51	50	1614923	60.497	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.77	135	892249	66.147	ng		99
6) Vinyl Chloride	4.93	62	1796970	83.501	ng		99
7) 1,3-Butadiene	5.21	54	1459894	94.739	ng	#	77
8) Bromomethane	5.65	94	1000238	99.461	ng		99
9) Chloroethane	5.98	64	852776	71.054	ng		99
10) Ethanol	6.43	45	3619853	221.912	ng		99
11) Acetonitrile	6.65	41	2382308	48.547	ng		96
12) Acrolein	6.82	56	1645175	148.920	ng		98
13) Acetone	7.05	58	3853674	306.386	ng	#	52
14) Trichlorofluoromethane	7.26	101	2210898	63.638	ng		98
15) 2-Propanol (Isopropanol)	7.57	45	5991206	100.271	ng		98
16) Acrylonitrile	7.81	53	3401598	140.410	ng		98
17) 1,1-Dichloroethene	8.23	96	1206245	86.634	ng	#	81
18) 2-Methyl-2-Propanol (t...	8.43	59	3986093	84.881	ng		94
19) Methylene Chloride	8.47	84	1223251	75.869	ng		82
20) 3-Chloro-1-propene (Al...	8.63	41	1980685	40.034	ng		89
21) Trichlorotrifluoroethane	8.88	151	984822	83.418	ng		91
22) Carbon Disulfide	8.72	76	7681796	138.094	ng		98
23) trans-1,2-Dichloroethene	9.74	61	1968644	74.147	ng		92
24) 1,1-Dichloroethane	9.99	63	2296116	70.335	ng		99
25) Methyl tert-Butyl Ether	10.08	73	2342970	46.564	ng		99
26) Vinyl Acetate	10.26	86	721340	229.952	ng	#	47
27) 2-Butanone (MEK)	10.50	72	1585398	137.741	ng	#	58
28) cis-1,2-Dichloroethene	11.02	61	1838736	69.332	ng		89
29) Diisopropyl Ether	11.31	87	897630	68.593	ng	#	73
30) Ethyl Acetate	11.35	61	935072	143.448	ng		95
31) n-Hexane	11.29	57	1300679	42.374	ng		99
32) Chloroform	11.39	83	2080766	66.798	ng		97
34) Tetrahydrofuran (THF)	11.77	72	1399604	126.776	ng	#	72
35) Ethyl tert-Butyl Ether	11.91	87	2272587	110.466	ng		98
36) 1,2-Dichloroethane	12.17	62	1805033	58.177	ng		98
38) 1,1,1-Trichloroethane	12.45	97	1917732	70.440	ng		99
39) Isopropyl Acetate	13.32	61	19139	No Calib	#		
40) 1-Butanol	12.90	56	68597	No Calib	#		
41) Benzene	12.93	78	4454508	68.088	ng		97
42) Carbon Tetrachloride	13.09	117	1649533	74.309	ng		98
43) Cyclohexane	13.22	84	2757426	116.134	ng		99
44) tert-Amyl Methyl Ether	13.57	73	5421030	116.489	ng		94
45) 1,2-Dichloropropane	13.78	63	1281170	80.673	ng		99
46) Bromodichloromethane	13.97	83	1716406	74.861	ng		98
47) Trichloroethene	14.03	130	1086934	78.690	ng		96
48) 1,4-Dioxane	14.00	88	896066	77.142	ng		100
49) 2,2,4-Trimethylpentane...	14.10	57	4999995	70.809	ng		82
50) Methyl Methacrylate	14.24	100	774989	142.073	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092212.D Vial: 7
Acq On : 9 Mar 2022 16:33 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 16:55:19 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

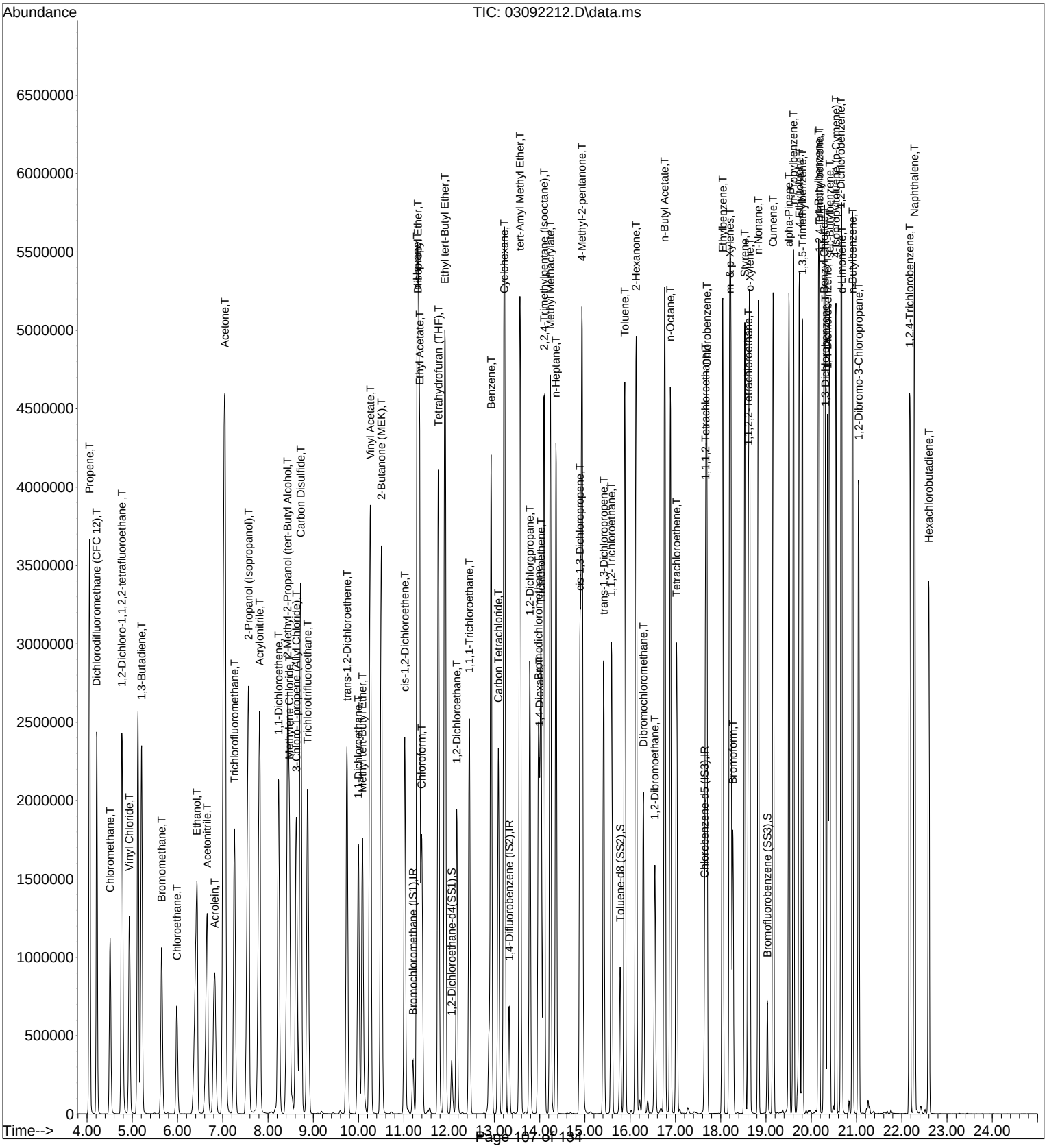
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.36	71	1191014	76.408 ng		98
52) cis-1,3-Dichloropropene	14.89	75	2027569	83.238 ng		98
53) 4-Methyl-2-pentanone	14.93	58	1961895	130.639 ng		77
54) trans-1,3-Dichloropropene	15.42	75	1981317	80.495 ng		97
55) 1,1,2-Trichloroethane	15.59	97	1144728	86.658 ng		98
58) Toluene	15.88	91	4274076	104.009 ng		98
59) 2-Hexanone	16.13	43	4847146	154.364 ng		85
60) Dibromochloromethane	16.29	129	1372915	133.100 ng		99
61) 1,2-Dibromoethane	16.55	107	1371856	141.666 ng		98
62) n-Butyl Acetate	16.76	43	5339306	157.014 ng		89
63) n-Octane	16.89	57	1050202	110.782 ng		98
64) Tetrachloroethene	17.02	166	1034901	103.632 ng		96
65) Chlorobenzene	17.69	112	2378389	93.559 ng		99
66) Ethylbenzene	18.05	91	4567648	95.751 ng		96
67) m- & p-Xylenes	18.20	91	6297112	166.942 ng		100
68) Bromoform	18.27	173	964980	121.645 ng		100
69) Styrene	18.53	104	2788019	110.753 ng		99
70) o-Xylene	18.64	91	3304528	84.884 ng		98
71) n-Nonane	18.83	43	2249075	81.982 ng		80
72) 1,1,2,2-Tetrachloroethane	18.61	83	1684037	102.531 ng		97
74) Cumene	19.16	105	4028346	85.713 ng		96
75) alpha-Pinene	19.50	93	2338929	101.502 ng		99
76) n-Propylbenzene	19.61	91	5053037	87.511 ng		99
77) 3-Ethyltoluene	19.74	105	3986877	No Calib		
78) 4-Ethyltoluene	19.74	105	3986665	88.463 ng		96
79) 1,3,5-Trimethylbenzene	19.81	105	3284498	84.937 ng		98
80) alpha-Methylstyrene	19.61	118	7598	No Calib	#	
81) 2-Ethyltoluene	20.67	105	68716	No Calib		
82) 1,2,4-Trimethylbenzene	20.18	105	2277292	56.771 ng		98
83) n-Decane	20.52	58	3619	No Calib	#	
84) Benzyl Chloride	20.28	91	4198274	132.650 ng		97
85) 1,3-Dichlorobenzene	20.31	146	1287154	65.645 ng		98
86) 1,4-Dichlorobenzene	20.36	146	1801396	93.095 ng		99
87) sec-Butylbenzene	20.41	105	4081684	79.509 ng		98
88) 4-Isopropyltoluene (p-...	20.54	119	3339131	78.454 ng		97
89) 1,2,3-Trimethylbenzene	20.41	105	4081684	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	1238920	65.437 ng		99
91) d-Limonene	20.67	68	1091795	70.452 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.05	157	1153162	158.750 ng		91
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	1850468	135.368 ng		98
95) Naphthalene	22.28	128	4701993	126.316 ng		99
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.60	225	711975	75.238 ng		100
98) Cyclohexanone	18.52	55	943	No Calib	#	
99) tert-Butylbenzene	20.16	119	2119933	56.913 ng		100
100) n-Butylbenzene	20.91	91	3681302	83.236 ng		98
101) 1,1,1,2-Tetrachloroethane	17.67	131	860222	93.453 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092212.D Vial: 7
Acq On : 9 Mar 2022 16:33 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 16:55:19 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092205a.D Vial: 5
Acq On : 9 Mar 2022 12:39 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 10 10:14:17 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/10/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	12.500	12.500	0.0	100	-0.03
2	T	Propene	0.104	0.147	-41.3#	100	0.05
3	T	Dichlorodifluoromethane (CF	0.105	0.134	-27.6	100	0.04
4	T	Chloromethane	0.102	0.132	-29.4	100	0.04
5	T	1,2-Dichloro-1,1,2,2-tetraf	0.108	0.138	-27.8	100	0.02
6	T	Vinyl Chloride	0.104	0.123	-18.3	100	0.03
7	T	1,3-Butadiene	0.104	0.131	-26.0	100	0.02
8	T	Bromomethane	0.102	0.133	-30.4#	100	0.02
9	T	Chloroethane	0.102	0.125	-22.5	100	0.01
10	T	Ethanol	0.362	0.518	-43.1#	100	-0.09
11	T	Acetonitrile	0.093	0.165	-77.4#	0	-0.05
12	T	Acrolein	0.200	0.240	-20.0	100	-0.02
13	T	Acetone	0.519	0.702	-35.3#	100	-0.02
14	T	Trichlorofluoromethane	0.103	0.126	-22.3	100	0.00
15	T	2-Propanol (Isopropanol)	0.202	0.272	-34.7#	100	-0.02
16	T	Acrylonitrile	0.203	0.263	-29.6	100	-0.05
17	T	1,1-Dichloroethene	0.107	0.134	-25.2	100	0.00
18	T	2-Methyl-2-Propanol (tert-B	0.210	0.290	-38.1#	0	0.03
19	T	Methylene Chloride	0.104	0.149	-43.3#	0	-0.03
20	T	3-Chloro-1-propene (Allyl C	0.105	0.138	-31.4#	100	-0.02
21	T	Trichlorotrifluoroethane	0.108	0.132	-22.2	100	0.00
22	T	Carbon Disulfide	0.210	0.282	-34.3#	100	0.00
23	T	trans-1,2-Dichloroethene	0.106	0.123	-16.0	100	-0.03
24	T	1,1-Dichloroethane	0.105	0.135	-28.6	100	-0.02
25	T	Methyl tert-Butyl Ether	0.105	0.161	-53.3#	0	0.02
26	T	Vinyl Acetate	0.340	0.352	-3.5	100	-0.02
27	T	2-Butanone (MEK)	0.206	0.242	-17.5	0	0.01
28	T	cis-1,2-Dichloroethene	0.104	0.131	-26.0	100	-0.03
29	T	Diisopropyl Ether	0.212	0.293	-38.2#	0	0.00
30	T	Ethyl Acetate	0.408	0.497	-21.8	100	-0.03
31	T	n-Hexane	0.105	0.155	-47.6#	0	0.00
32	T	Chloroform	0.107	0.139	-29.9	100	-0.06
33	S	1,2-Dichloroethane-d4(SS1)	12.500	12.610	-0.9	100	-0.03
34	T	Tetrahydrofuran (THF)	0.197	0.244	-23.9	100	0.03
35	T	Ethyl tert-Butyl Ether	0.210	0.273	-30.0#	100	0.00
36	T	1,2-Dichloroethane	0.106	0.135	-27.4	100	-0.02
37	IR	1,4-Difluorobenzene (IS2)	12.500	12.500	0.0	100	-0.02
38	T	1,1,1-Trichloroethane	0.104	0.133	-27.9	100	-0.02
39	T	Isopropyl Acetate	-1.000	0.000	0.0	100	-0.01
40	T	1-Butanol	-1.000	0.000	0.0	0	-12.90#
41	T	Benzene	0.104	0.145	-39.4#	100	-0.02
42	T	Carbon Tetrachloride	0.105	0.129	-22.9	100	-0.01
43	T	Cyclohexane	0.207	0.276	-33.3#	100	-0.01
44	T	tert-Amyl Methyl Ether	0.209	0.276	-32.1#	100	0.00
45	T	1,2-Dichloropropane	0.103	0.128	-24.3	100	-0.02
46	T	Bromodichloromethane	0.105	0.134	-27.6	100	-0.02
47	T	Trichloroethene	0.103	0.130	-26.2	100	-0.02
48	T	1,4-Dioxane	0.104	0.118	-13.5	100	0.03
49	T	2,2,4-Trimethylpentane (Iso	0.106	0.142	-34.0#	100	-0.02
50	T	Methyl Methacrylate	0.208	0.250	-20.2	100	0.00
51	T	n-Heptane	0.105	0.131	-24.8	100	-0.01
52	T	cis-1,3-Dichloropropene	0.105	0.133	-26.7	100	0.00
53	T	4-Methyl-2-pentanone	0.208	0.245	-17.8	100	0.00
54	T	trans-1,3-Dichloropropene	0.101	0.121	-19.8	100	0.00
55	T	1,1,2-Trichloroethane	0.104	0.129	-24.0	100	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092205a.D Vial: 5
Acq On : 9 Mar 2022 12:39 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 10 10:14:17 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	12.500	12.500	0.0	100	0.00
57	S	Toluene-d8 (SS2)	12.500	12.516	-0.1	100	-0.01
58	T	Toluene	0.103	0.142	-37.9#	100	-0.01
59	T	2-Hexanone	0.205	0.267	-30.2#	100	0.00
60	T	Dibromochloromethane	0.105	0.130	-23.8	100	-0.01
61	T	1,2-Dibromoethane	0.104	0.135	-29.8	100	-0.01
62	T	n-Butyl Acetate	0.204	0.259	-27.0	100	0.00
63	T	n-Octane	0.105	0.132	-25.7	100	-0.01
64	T	Tetrachloroethene	0.104	0.137	-31.7#	100	0.00
65	T	Chlorobenzene	0.104	0.147	-41.3#	100	-0.01
66	T	Ethylbenzene	0.103	0.148	-43.7#	0	0.00
67	T	m- & p-Xylenes	0.206	0.290	-40.8#	100	0.00
68	T	Bromoform	0.104	0.120	-15.4	100	0.00
69	T	Styrene	0.103	0.133	-29.1	100	0.00
70	T	o-Xylene	0.104	0.139	-33.7#	100	-0.02
71	T	n-Nonane	0.104	0.133	-27.9	100	0.00
72	T	1,1,2,2-Tetrachloroethane	0.104	0.139	-33.7#	100	0.00
73	S	Bromofluorobenzene (SS3)	12.500	12.411	0.7	100	0.00
74	T	Cumene	0.104	0.138	-32.7#	100	0.00
75	T	alpha-Pinene	0.108	0.148	-37.0#	100	0.00
76	T	n-Propylbenzene	0.105	0.143	-36.2#	100	0.00
77	T	3-Ethyltoluene	-1.000	0.000	0.0	100	0.00
78	T	4-Ethyltoluene	0.106	0.151	-42.5#	0	0.00
79	T	1,3,5-Trimethylbenzene	0.104	0.146	-40.4#	0	-0.01
80	T	alpha-Methylstyrene	-1.000	0.000	0.0	0	-19.61#
81	T	2-Ethyltoluene	-1.000	0.000	0.0	100	-0.14
82	T	1,2,4-Trimethylbenzene	0.103	0.138	-34.0#	0	-0.02
83	T	n-Decane	-1.000	0.000	0.0	0	-20.52#
84	T	Benzyl Chloride	0.206	0.257	-24.8	0	0.00
85	T	1,3-Dichlorobenzene	0.104	0.162	-55.8#	0	-0.01
86	T	1,4-Dichlorobenzene	0.104	0.141	-35.6#	100	-0.01
87	T	sec-Butylbenzene	0.104	0.142	-36.5#	100	0.00
88	T	4-Isopropyltoluene (p-Cymen	0.104	0.138	-32.7#	100	0.00
89	T	1,2,3-Trimethylbenzene	-1.000	0.000	0.0	100	0.00
90	T	1,2-Dichlorobenzene	0.105	0.162	-54.3#	0	0.00
91	T	d-Limonene	0.105	0.140	-33.3#	100	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.200	0.268	-34.0#	100	-0.01
93	T	n-Undecane	-1.000	0.000	0.0	0	-21.41#
94	T	1,2,4-Trichlorobenzene	0.204	0.264	-29.4	0	0.00
95	T	Naphthalene	0.104	0.134	-28.8	100	0.00
96	T	n-Dodecane	-1.000	0.000	0.0	0	-22.22#
97	T	Hexachlorobutadiene	0.103	0.154	-49.5#	0	0.00
98	T	Cyclohexanone	-1.000	0.000	0.0	0	-18.52#
99	T	tert-Butylbenzene	0.104	0.143	-37.5#	0	0.00
100	T	n-Butylbenzene	0.104	0.136	-30.8#	100	0.00
101	T	1,1,1,2-Tetrachloroethane	0.104	0.127	-22.1	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092207a.D Vial: 6
Acq On : 9 Mar 2022 13:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 10 10:17:01 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/10/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	12.500	12.500	0.0	100	-0.03
2	T	Propene	0.520	0.578	-11.2	100	0.03
3	T	Dichlorodifluoromethane (CF	0.525	0.591	-12.6	100	0.02
4	T	Chloromethane	0.510	0.589	-15.5	100	0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	0.540	0.640	-18.5	100	0.00
6	T	Vinyl Chloride	0.520	0.597	-14.8	100	0.00
7	T	1,3-Butadiene	0.520	0.572	-10.0	100	0.00
8	T	Bromomethane	0.510	0.575	-12.7	100	0.00
9	T	Chloroethane	0.510	0.569	-11.6	100	0.00
10	T	Ethanol	1.810	1.978	-9.3	100	-0.12
11	T	Acetonitrile	0.465	0.578	-24.3	100	-0.07
12	T	Acrolein	1.000	1.093	-9.3	100	-0.03
13	T	Acetone	2.595	2.937	-13.2	100	-0.05
14	T	Trichlorofluoromethane	0.515	0.575	-11.7	100	0.00
15	T	2-Propanol (Isopropanol)	1.010	1.128	-11.7	100	-0.09
16	T	Acrylonitrile	1.015	1.114	-9.8	100	-0.07
17	T	1,1-Dichloroethene	0.535	0.601	-12.3	100	-0.02
18	T	2-Methyl-2-Propanol (tert-B	1.050	1.312	-25.0	100	0.02
19	T	Methylene Chloride	0.520	0.611	-17.5	100	-0.05
20	T	3-Chloro-1-propene (Allyl C	0.525	0.582	-10.9	100	-0.03
21	T	Trichlorotrifluoroethane	0.540	0.625	-15.7	100	-0.01
22	T	Carbon Disulfide	1.050	1.222	-16.4	100	-0.01
23	T	trans-1,2-Dichloroethene	0.530	0.576	-8.7	100	-0.03
24	T	1,1-Dichloroethane	0.525	0.582	-10.9	100	-0.03
25	T	Methyl tert-Butyl Ether	0.525	0.673	-28.2	100	0.00
26	T	Vinyl Acetate	1.700	1.895	-11.5	100	-0.03
27	T	2-Butanone (MEK)	1.030	1.176	-14.2	100	-0.02
28	T	cis-1,2-Dichloroethene	0.520	0.573	-10.2	100	-0.03
29	T	Diisopropyl Ether	1.060	1.294	-22.1	100	-0.01
30	T	Ethyl Acetate	2.040	2.400	-17.6	100	-0.05
31	T	n-Hexane	0.525	0.671	-27.8	100	0.00
32	T	Chloroform	0.535	0.602	-12.5	100	-0.05
33	S	1,2-Dichloroethane-d4(SS1)	12.500	12.540	-0.3	100	-0.03
34	T	Tetrahydrofuran (THF)	0.985	1.088	-10.5	100	0.00
35	T	Ethyl tert-Butyl Ether	1.050	1.206	-14.9	100	0.00
36	T	1,2-Dichloroethane	0.530	0.583	-10.0	100	-0.02
37	IR	1,4-Difluorobenzene (IS2)	12.500	12.500	0.0	100	-0.02
38	T	1,1,1-Trichloroethane	0.520	0.569	-9.4	100	-0.02
39	T	Isopropyl Acetate	-1.000	0.000	0.0	100	-0.01
40	T	1-Butanol	-1.000	0.000	0.0	0	-12.90#
41	T	Benzene	0.520	0.580	-11.5	100	-0.02
42	T	Carbon Tetrachloride	0.525	0.584	-11.2	100	-0.02
43	T	Cyclohexane	1.035	1.206	-16.5	100	-0.01
44	T	tert-Amyl Methyl Ether	1.045	1.180	-12.9	100	0.00
45	T	1,2-Dichloropropane	0.515	0.572	-11.1	100	-0.01
46	T	Bromodichloromethane	0.525	0.572	-9.0	100	-0.01
47	T	Trichloroethene	0.515	0.596	-15.7	100	-0.02
48	T	1,4-Dioxane	0.520	0.581	-11.7	100	0.00
49	T	2,2,4-Trimethylpentane (Iso	0.530	0.599	-13.0	100	-0.02
50	T	Methyl Methacrylate	1.040	1.216	-16.9	100	-0.01
51	T	n-Heptane	0.525	0.584	-11.2	100	-0.01
52	T	cis-1,3-Dichloropropene	0.525	0.575	-9.5	100	0.00
53	T	4-Methyl-2-pentanone	1.040	1.185	-13.9	100	-0.01
54	T	trans-1,3-Dichloropropene	0.505	0.542	-7.3	100	-0.01
55	T	1,1,2-Trichloroethane	0.520	0.593	-14.0	100	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092207a.D Vial: 6
Acq On : 9 Mar 2022 13:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 10 10:17:01 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	12.500	12.500	0.0	100	0.00
57	S	Toluene-d8 (SS2)	12.500	12.455	0.4	100	-0.01
58	T	Toluene	0.515	0.586	-13.8	100	-0.01
59	T	2-Hexanone	1.025	1.123	-9.6	100	-0.01
60	T	Dibromochloromethane	0.525	0.576	-9.7	100	-0.01
61	T	1,2-Dibromoethane	0.520	0.589	-13.3	100	-0.01
62	T	n-Butyl Acetate	1.020	1.119	-9.7	100	0.00
63	T	n-Octane	0.525	0.594	-13.1	100	-0.01
64	T	Tetrachloroethene	0.520	0.585	-12.5	100	0.00
65	T	Chlorobenzene	0.520	0.605	-16.3	100	-0.01
66	T	Ethylbenzene	0.515	0.619	-20.2	100	-0.01
67	T	m- & p-Xylenes	1.030	1.215	-18.0	100	0.00
68	T	Bromoform	0.520	0.581	-11.7	100	0.00
69	T	Styrene	0.515	0.582	-13.0	100	0.00
70	T	o-Xylene	0.520	0.604	-16.2	100	-0.02
71	T	n-Nonane	0.520	0.587	-12.9	100	0.00
72	T	1,1,2,2-Tetrachloroethane	0.520	0.591	-13.7	100	0.00
73	S	Bromofluorobenzene (SS3)	12.500	12.335	1.3	100	0.00
74	T	Cumene	0.520	0.607	-16.7	100	0.00
75	T	alpha-Pinene	0.540	0.609	-12.8	100	0.00
76	T	n-Propylbenzene	0.525	0.610	-16.2	100	0.00
77	T	3-Ethyltoluene	-1.000	0.000	0.0	100	0.00
78	T	4-Ethyltoluene	0.530	0.647	-22.1	100	0.00
79	T	1,3,5-Trimethylbenzene	0.520	0.632	-21.5	100	-0.01
80	T	alpha-Methylstyrene	-1.000	0.000	0.0	100	0.19
81	T	2-Ethyltoluene	-1.000	0.000	0.0	100	-0.01
82	T	1,2,4-Trimethylbenzene	0.515	0.621	-20.6	100	-0.02
83	T	n-Decane	-1.000	0.000	0.0	100	0.02
84	T	Benzyl Chloride	1.030	1.222	-18.6	100	0.00
85	T	1,3-Dichlorobenzene	0.520	0.688	-32.3#	100	-0.02
86	T	1,4-Dichlorobenzene	0.520	0.610	-17.3	100	-0.01
87	T	sec-Butylbenzene	0.520	0.613	-17.9	100	0.00
88	T	4-Isopropyltoluene (p-Cymen	0.520	0.621	-19.4	100	0.00
89	T	1,2,3-Trimethylbenzene	-1.000	0.000	0.0	100	0.00
90	T	1,2-Dichlorobenzene	0.525	0.682	-29.9	100	0.00
91	T	d-Limonene	0.525	0.628	-19.6	100	-0.01
92	T	1,2-Dibromo-3-Chloropropane	1.000	1.134	-13.4	100	-0.01
93	T	n-Undecane	-1.000	0.000	0.0	0	-21.41#
94	T	1,2,4-Trichlorobenzene	1.020	1.225	-20.1	100	0.00
95	T	Naphthalene	0.520	0.580	-11.5	100	0.00
96	T	n-Dodecane	-1.000	0.000	0.0	0	-22.22#
97	T	Hexachlorobutadiene	0.515	0.649	-26.0	100	0.00
98	T	Cyclohexanone	-1.000	0.000	0.0	0	-18.52#
99	T	tert-Butylbenzene	0.520	0.636	-22.3	100	0.00
100	T	n-Butylbenzene	0.520	0.605	-16.3	100	0.00
101	T	1,1,1,2-Tetrachloroethane	0.520	0.617	-18.7	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092209a.D Vial: 6
Acq On : 9 Mar 2022 14:52 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 10 10:19:15 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/10/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	12.500	12.500	0.0	100	-0.03
2	T	Propene	5.200	4.360	16.2	100	0.01
3	T	Dichlorodifluoromethane (CF	5.250	4.555	13.2	100	0.00
4	T	Chloromethane	5.100	4.348	14.7	100	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	5.400	4.951	8.3	100	0.00
6	T	Vinyl Chloride	5.200	4.689	9.8	100	-0.01
7	T	1,3-Butadiene	5.200	4.664	10.3	100	-0.02
8	T	Bromomethane	5.100	4.450	12.7	100	-0.02
9	T	Chloroethane	5.100	4.511	11.5	100	-0.02
10	T	Ethanol	18.100	14.899	17.7	100	-0.11
11	T	Acetonitrile	4.650	4.306	7.4	100	-0.07
12	T	Acrolein	10.000	9.103	9.0	100	-0.03
13	T	Acetone	25.950	22.989	11.4	100	-0.06
14	T	Trichlorofluoromethane	5.150	4.553	11.6	100	-0.01
15	T	2-Propanol (Isopropanol)	10.100	8.560	15.2	100	-0.09
16	T	Acrylonitrile	10.150	8.930	12.0	100	-0.06
17	T	1,1-Dichloroethene	5.350	4.690	12.3	100	-0.02
18	T	2-Methyl-2-Propanol (tert-B	10.500	8.582	18.3	100	-0.06
19	T	Methylene Chloride	5.200	4.787	7.9	100	-0.03
20	T	3-Chloro-1-propene (Allyl C	5.250	4.320	17.7	100	-0.02
21	T	Trichlorotrifluoroethane	5.400	4.762	11.8	100	-0.01
22	T	Carbon Disulfide	10.500	9.169	12.7	100	-0.02
23	T	trans-1,2-Dichloroethene	5.300	4.768	10.0	100	-0.02
24	T	1,1-Dichloroethane	5.250	4.587	12.6	100	-0.02
25	T	Methyl tert-Butyl Ether	5.250	4.674	11.0	100	0.00
26	T	Vinyl Acetate	17.000	16.532	2.8	100	-0.03
27	T	2-Butanone (MEK)	10.300	9.792	4.9	100	-0.03
28	T	cis-1,2-Dichloroethene	5.200	4.558	12.3	100	-0.02
29	T	Diisopropyl Ether	10.600	10.382	2.1	100	-0.01
30	T	Ethyl Acetate	20.400	19.308	5.4	100	-0.05
31	T	n-Hexane	5.250	5.239	0.2	100	0.00
32	T	Chloroform	5.350	4.727	11.6	100	-0.05
33	S	1,2-Dichloroethane-d4(SS1)	12.500	12.616	-0.9	100	-0.02
34	T	Tetrahydrofuran (THF)	9.850	8.818	10.5	100	-0.01
35	T	Ethyl tert-Butyl Ether	10.500	9.532	9.2	100	-0.01
36	T	1,2-Dichloroethane	5.300	4.629	12.7	100	-0.02
37	IR	1,4-Difluorobenzene (IS2)	12.500	12.500	0.0	100	-0.01
38	T	1,1,1-Trichloroethane	5.200	4.491	13.6	100	-0.01
39	T	Isopropyl Acetate	-1.000	0.000	0.0	100	-0.01
40	T	1-Butanol	-1.000	0.000	0.0	100	0.03
41	T	Benzene	5.200	4.465	14.1	100	-0.01
42	T	Carbon Tetrachloride	5.250	4.616	12.1	100	-0.01
43	T	Cyclohexane	10.350	9.346	9.7	100	-0.01
44	T	tert-Amyl Methyl Ether	10.450	9.257	11.4	100	0.00
45	T	1,2-Dichloropropane	5.150	4.492	12.8	100	-0.01
46	T	Bromodichloromethane	5.250	4.604	12.3	100	-0.01
47	T	Trichloroethene	5.150	4.575	11.2	100	-0.01
48	T	1,4-Dioxane	5.200	4.793	7.8	100	0.00
49	T	2,2,4-Trimethylpentane (Iso	5.300	4.573	13.7	100	-0.01
50	T	Methyl Methacrylate	10.400	9.907	4.7	100	-0.01
51	T	n-Heptane	5.250	4.659	11.3	100	-0.01
52	T	cis-1,3-Dichloropropene	5.250	4.709	10.3	100	0.00
53	T	4-Methyl-2-pentanone	10.400	9.524	8.4	100	-0.02
54	T	trans-1,3-Dichloropropene	5.050	4.498	10.9	100	-0.01
55	T	1,1,2-Trichloroethane	5.200	4.600	11.5	100	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092209a.D Vial: 6
Acq On : 9 Mar 2022 14:52 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 10 10:19:15 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	12.500	12.500	0.0	100	0.00
57	S	Toluene-d8 (SS2)	12.500	12.458	0.3	100	-0.01
58	T	Toluene	5.150	4.521	12.2	100	-0.01
59	T	2-Hexanone	10.250	9.022	12.0	100	-0.02
60	T	Dibromochloromethane	5.250	4.661	11.2	100	-0.01
61	T	1,2-Dibromoethane	5.200	4.572	12.1	100	-0.01
62	T	n-Butyl Acetate	10.200	9.085	10.9	100	-0.01
63	T	n-Octane	5.250	4.592	12.5	100	0.00
64	T	Tetrachloroethene	5.200	4.692	9.8	100	0.00
65	T	Chlorobenzene	5.200	4.676	10.1	100	-0.01
66	T	Ethylbenzene	5.150	4.802	6.8	100	0.00
67	T	m- & p-Xylenes	10.300	9.258	10.1	100	0.00
68	T	Bromoform	5.200	4.774	8.2	100	0.00
69	T	Styrene	5.150	4.721	8.3	100	0.00
70	T	o-Xylene	5.200	4.724	9.2	100	-0.02
71	T	n-Nonane	5.200	4.508	13.3	100	0.00
72	T	1,1,2,2-Tetrachloroethane	5.200	4.733	9.0	100	0.00
73	S	Bromofluorobenzene (SS3)	12.500	12.518	-0.1	100	0.00
74	T	Cumene	5.200	4.763	8.4	100	0.00
75	T	alpha-Pinene	5.400	4.694	13.1	100	0.00
76	T	n-Propylbenzene	5.250	4.801	8.6	100	0.00
77	T	3-Ethyltoluene	-1.000	0.000	0.0	100	0.00
78	T	4-Ethyltoluene	5.300	5.137	3.1	100	0.00
79	T	1,3,5-Trimethylbenzene	5.200	5.038	3.1	100	0.00
80	T	alpha-Methylstyrene	-1.000	0.000	0.0	100	0.00
81	T	2-Ethyltoluene	-1.000	0.000	0.0	100	-0.01
82	T	1,2,4-Trimethylbenzene	5.150	4.966	3.6	100	-0.02
83	T	n-Decane	-1.000	0.000	0.0	100	0.01
84	T	Benzyl Chloride	10.300	11.241	-9.1	100	0.00
85	T	1,3-Dichlorobenzene	5.200	5.325	-2.4	100	-0.02
86	T	1,4-Dichlorobenzene	5.200	4.775	8.2	100	0.00
87	T	sec-Butylbenzene	5.200	4.861	6.5	100	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.200	4.956	4.7	100	0.00
89	T	1,2,3-Trimethylbenzene	-1.000	0.000	0.0	100	0.00
90	T	1,2-Dichlorobenzene	5.250	5.399	-2.8	100	0.00
91	T	d-Limonene	5.250	5.046	3.9	100	-0.01
92	T	1,2-Dibromo-3-Chloropropane	10.000	9.764	2.4	100	-0.01
93	T	n-Undecane	-1.000	0.000	0.0	0	-21.41#
94	T	1,2,4-Trichlorobenzene	10.200	9.983	2.1	100	0.00
95	T	Naphthalene	5.200	4.963	4.6	100	0.00
96	T	n-Dodecane	-1.000	0.000	0.0	0	-22.22#
97	T	Hexachlorobutadiene	5.150	4.932	4.2	100	0.00
98	T	Cyclohexanone	-1.000	0.000	0.0	100	0.11
99	T	tert-Butylbenzene	5.200	4.956	4.7	100	0.00
100	T	n-Butylbenzene	5.200	4.893	5.9	100	0.00
101	T	1,1,1,2-Tetrachloroethane	5.200	4.864	6.5	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092210a.D Vial: 7
Acq On : 9 Mar 2022 15:26 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 10 10:21:37 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/10/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	12.500	12.500	0.0	100	-0.02
2	T	Propene	26.000	23.323	10.3	100	0.00
3	T	Dichlorodifluoromethane (CF	26.250	24.857	5.3	100	0.00
4	T	Chloromethane	25.500	24.931	2.2	100	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	27.000	25.475	5.6	100	-0.01
6	T	Vinyl Chloride	26.000	25.416	2.2	100	-0.01
7	T	1,3-Butadiene	26.000	25.516	1.9	100	-0.02
8	T	Bromomethane	25.500	24.087	5.5	100	-0.02
9	T	Chloroethane	25.500	25.000	2.0	100	-0.01
10	T	Ethanol	90.500	80.244	11.3	100	-0.07
11	T	Acetonitrile	23.250	22.459	3.4	100	-0.05
12	T	Acrolein	50.000	47.841	4.3	100	-0.02
13	T	Acetone	129.750	123.017	5.2	100	-0.04
14	T	Trichlorofluoromethane	25.750	24.794	3.7	100	-0.01
15	T	2-Propanol (Isopropanol)	50.500	48.282	4.4	100	-0.06
16	T	Acrylonitrile	50.750	47.764	5.9	100	-0.04
17	T	1,1-Dichloroethene	26.750	25.779	3.6	100	-0.01
18	T	2-Methyl-2-Propanol (tert-B	52.500	58.612	-11.6	100	-0.04
19	T	Methylene Chloride	26.000	25.562	1.7	100	-0.02
20	T	3-Chloro-1-propene (Allyl C	26.250	24.498	6.7	100	-0.02
21	T	Trichlorotrifluoroethane	27.000	26.008	3.7	100	-0.01
22	T	Carbon Disulfide	52.500	50.291	4.2	100	-0.01
23	T	trans-1,2-Dichloroethene	26.500	26.760	-1.0	100	-0.01
24	T	1,1-Dichloroethane	26.250	24.941	5.0	100	-0.01
25	T	Methyl tert-Butyl Ether	26.250	26.633	-1.5	100	0.00
26	T	Vinyl Acetate	85.000	91.296	-7.4	100	-0.02
27	T	2-Butanone (MEK)	51.500	52.751	-2.4	100	-0.02
28	T	cis-1,2-Dichloroethene	26.000	24.872	4.3	100	-0.01
29	T	Diisopropyl Ether	53.000	47.812	9.8	100	-0.01
30	T	Ethyl Acetate	102.000	92.695	9.1	100	-0.04
31	T	n-Hexane	26.250	26.187	0.2	100	0.00
32	T	Chloroform	26.750	25.435	4.9	100	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	12.500	12.442	0.5	100	-0.01
34	T	Tetrahydrofuran (THF)	49.250	48.136	2.3	100	-0.01
35	T	Ethyl tert-Butyl Ether	52.500	52.519	-0.0	100	0.00
36	T	1,2-Dichloroethane	26.500	25.397	4.2	100	-0.01
37	IR	1,4-Difluorobenzene (IS2)	12.500	12.500	0.0	100	-0.01
38	T	1,1,1-Trichloroethane	26.000	25.197	3.1	100	0.00
39	T	Isopropyl Acetate	-1.000	0.000	0.0	100	0.00
40	T	1-Butanol	-1.000	0.000	0.0	100	0.00
41	T	Benzene	26.000	24.043	7.5	100	-0.01
42	T	Carbon Tetrachloride	26.250	25.930	1.2	100	0.00
43	T	Cyclohexane	51.750	50.287	2.8	100	0.00
44	T	tert-Amyl Methyl Ether	52.250	52.353	-0.2	100	0.00
45	T	1,2-Dichloropropane	25.750	24.705	4.1	100	0.00
46	T	Bromodichloromethane	26.250	25.891	1.4	100	0.00
47	T	Trichloroethene	25.750	25.210	2.1	100	-0.01
48	T	1,4-Dioxane	26.000	27.071	-4.1	100	0.00
49	T	2,2,4-Trimethylpentane (Iso	26.500	25.230	4.8	100	-0.01
50	T	Methyl Methacrylate	52.000	53.441	-2.8	100	-0.01
51	T	n-Heptane	26.250	25.390	3.3	100	0.00
52	T	cis-1,3-Dichloropropene	26.250	26.153	0.4	100	0.00
53	T	4-Methyl-2-pentanone	52.000	53.268	-2.4	100	-0.01
54	T	trans-1,3-Dichloropropene	25.250	25.641	-1.5	100	-0.01
55	T	1,1,2-Trichloroethane	26.000	25.273	2.8	100	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092210a.D Vial: 7
Acq On : 9 Mar 2022 15:26 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 10 10:21:37 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	12.500	12.500	0.0	100	0.00
57	S	Toluene-d8 (SS2)	12.500	12.471	0.2	100	0.00
58	T	Toluene	25.750	24.363	5.4	100	0.00
59	T	2-Hexanone	51.250	50.869	0.7	100	-0.02
60	T	Dibromochloromethane	26.250	26.345	-0.4	100	0.00
61	T	1,2-Dibromoethane	26.000	25.389	2.4	100	0.00
62	T	n-Butyl Acetate	51.000	51.484	-0.9	100	-0.01
63	T	n-Octane	26.250	25.700	2.1	100	0.00
64	T	Tetrachloroethene	26.000	25.032	3.7	100	0.00
65	T	Chlorobenzene	26.000	24.954	4.0	100	-0.01
66	T	Ethylbenzene	25.750	25.960	-0.8	100	0.00
67	T	m- & p-Xylenes	51.500	49.052	4.8	100	0.00
68	T	Bromoform	26.000	27.062	-4.1	100	0.00
69	T	Styrene	25.750	25.539	0.8	100	0.00
70	T	o-Xylene	26.000	25.141	3.3	100	-0.01
71	T	n-Nonane	26.000	25.586	1.6	100	0.00
72	T	1,1,2,2-Tetrachloroethane	26.000	25.033	3.7	100	0.00
73	S	Bromofluorobenzene (SS3)	12.500	12.581	-0.6	100	0.00
74	T	Cumene	26.000	25.260	2.8	100	0.00
75	T	alpha-Pinene	27.000	27.334	-1.2	100	0.00
76	T	n-Propylbenzene	26.250	25.315	3.6	100	0.00
77	T	3-Ethyltoluene	-1.000	0.000	0.0	100	0.00
78	T	4-Ethyltoluene	26.500	27.197	-2.6	100	0.00
79	T	1,3,5-Trimethylbenzene	26.000	26.713	-2.7	100	0.00
80	T	alpha-Methylstyrene	-1.000	0.000	0.0	100	0.00
81	T	2-Ethyltoluene	-1.000	0.000	0.0	100	0.00
82	T	1,2,4-Trimethylbenzene	25.750	24.255	5.8	100	-0.02
83	T	n-Decane	-1.000	0.000	0.0	100	-0.01
84	T	Benzyl Chloride	51.500	59.530	-15.6	100	0.00
85	T	1,3-Dichlorobenzene	26.000	26.278	-1.1	100	-0.01
86	T	1,4-Dichlorobenzene	26.000	24.962	4.0	100	0.00
87	T	sec-Butylbenzene	26.000	25.133	3.3	100	0.00
88	T	4-Isopropyltoluene (p-Cymen	26.000	25.346	2.5	100	0.00
89	T	1,2,3-Trimethylbenzene	-1.000	0.000	0.0	100	0.00
90	T	1,2-Dichlorobenzene	26.250	26.083	0.6	100	0.00
91	T	d-Limonene	26.250	26.851	-2.3	100	-0.01
92	T	1,2-Dibromo-3-Chloropropane	50.000	49.847	0.3	100	-0.01
93	T	n-Undecane	-1.000	0.000	0.0	0	-21.41#
94	T	1,2,4-Trichlorobenzene	51.000	48.107	5.7	100	0.00
95	T	Naphthalene	26.000	26.693	-2.7	100	0.00
96	T	n-Dodecane	-1.000	0.000	0.0	0	-22.22#
97	T	Hexachlorobutadiene	25.750	25.722	0.1	100	0.00
98	T	Cyclohexanone	-1.000	0.000	0.0	100	0.11
99	T	tert-Butylbenzene	26.000	23.533	9.5	100	0.00
100	T	n-Butylbenzene	26.000	25.793	0.8	100	0.00
101	T	1,1,1,2-Tetrachloroethane	26.000	26.149	-0.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092214.D Vial: 16
Acq On : 9 Mar 2022 17:47 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-03082201/S35-03072203 (4/6)

Quant Time: Mar 10 08:40:15 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	147958	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.32	114	639247	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	124353	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	258673	12.545	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
57) Toluene-d8 (SS2)	15.77	98	743390	12.352	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	19.03	174	195342	12.388	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
Target Compounds							Qvalue
2) Propene	4.05	42	372397	22.323	ng		99
3) Dichlorodifluoromethan...	4.21	85	686415	23.882	ng		99
4) Chloromethane	4.50	50	527949	24.024	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	294171	24.329	ng		99
6) Vinyl Chloride	4.92	62	515789	24.679	ng		99
7) 1,3-Butadiene	5.19	54	410975	24.396	ng	#	76
8) Bromomethane	5.63	94	288314	23.533	ng		99
9) Chloroethane	5.97	64	246017	24.731	ng		99
10) Ethanol	6.36	45	1160624	92.070	ng		99
11) Acetonitrile	6.61	41	602930	21.565	ng		96
12) Acrolein	6.79	56	445790	47.296	ng		98
13) Acetone	7.01	58	1242078	118.726	ng	#	50
14) Trichlorofluoromethane	7.25	101	608412	24.190	ng		98
15) 2-Propanol (Isopropanol)	7.51	45	1838423	47.827	ng		98
16) Acrylonitrile	7.77	53	885424	45.170	ng		98
17) 1,1-Dichloroethene	8.22	96	332710	24.874	ng	#	77
18) 2-Methyl-2-Propanol (t...	8.39	59	1702759	54.579	ng		94
19) Methylene Chloride	8.45	84	344621	24.771	ng	#	77
20) 3-Chloro-1-propene (Al...	8.61	41	474609	21.990	ng		85
21) Trichlorotrifluoroethane	8.86	151	275942	24.839	ng		92
22) Carbon Disulfide	8.70	76	2357486	47.679	ng		99
23) trans-1,2-Dichloroethene	9.73	61	518674	25.566	ng		88
24) 1,1-Dichloroethane	9.98	63	628331	24.503	ng		99
25) Methyl tert-Butyl Ether	10.08	73	855695	23.370	ng		100
26) Vinyl Acetate	10.24	86	326850	128.777	ng	#	37
27) 2-Butanone (MEK)	10.48	72	460802	50.553	ng	#	54
28) cis-1,2-Dichloroethene	11.01	61	490667	23.997	ng		85
29) Diisopropyl Ether	11.30	87	547059	47.927	ng	#	51
30) Ethyl Acetate	11.31	61	366656	65.189	ng		93
31) n-Hexane	11.29	57	553836	25.905	ng		98
32) Chloroform	11.36	83	603136	24.802	ng		97
34) Tetrahydrofuran (THF)	11.75	72	434774	48.549	ng	#	67
35) Ethyl tert-Butyl Ether	11.90	87	799245	50.384	ng		94
36) 1,2-Dichloroethane	12.16	62	485872	24.305	ng		99
38) 1,1,1-Trichloroethane	12.44	97	539982	24.445	ng		98
39) Isopropyl Acetate	13.32	61	18988	No Calib		#	
40) 1-Butanol	12.90	56	8193	No Calib		#	
41) Benzene	12.92	78	1337700	23.653	ng		98
42) Carbon Tetrachloride	13.08	117	443207	24.011	ng		99
43) Cyclohexane	13.21	84	1012568	48.144	ng		92
44) tert-Amyl Methyl Ether	13.56	73	1928087	50.401	ng		91
45) 1,2-Dichloropropane	13.78	63	356347	24.159	ng		99
46) Bromodichloromethane	13.97	83	500332	25.174	ng		99
47) Trichloroethene	14.02	130	355785	24.324	ng		97
48) 1,4-Dioxane	13.99	88	285115	26.634	ng		91
49) 2,2,4-Trimethylpentane...	14.09	57	1446169	23.785	ng		81
50) Methyl Methacrylate	14.22	100	263559	51.055	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092214.D Vial: 16
Acq On : 9 Mar 2022 17:47 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-03082201/S35-03072203 (4/6)

Quant Time: Mar 10 08:40:15 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

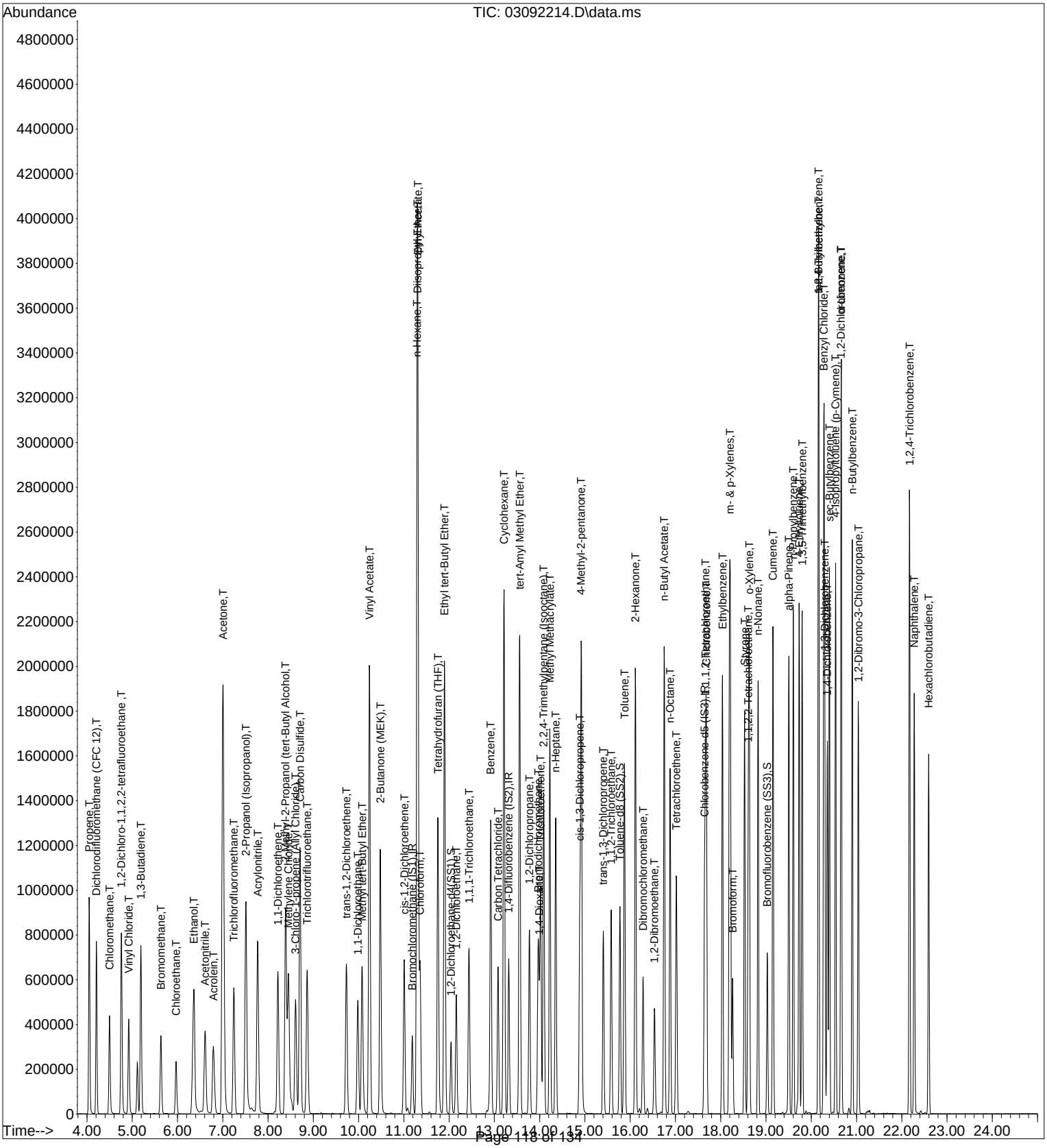
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	354427	24.315 ng		96
52) cis-1,3-Dichloropropene	14.89	75	576322	24.937 ng		99
53) 4-Methyl-2-pentanone	14.92	58	645091	51.326 ng		74
54) trans-1,3-Dichloropropene	15.40	75	524352	23.685 ng		98
55) 1,1,2-Trichloroethane	15.58	97	334484	24.287 ng		100
58) Toluene	15.88	91	1373805	23.282 ng		100
59) 2-Hexanone	16.11	43	1529838	47.655 ng		83
60) Dibromochloromethane	16.29	129	391679	24.256 ng		100
61) 1,2-Dibromoethane	16.53	107	383682	23.361 ng		99
62) n-Butyl Acetate	16.75	43	1728623	49.056 ng		87
63) n-Octane	16.88	57	307371	24.206 ng		94
64) Tetrachloroethene	17.02	166	344940	23.879 ng		98
65) Chlorobenzene	17.68	112	867879	23.153 ng		100
66) Ethylbenzene	18.04	91	1546684	24.741 ng		96
67) m- & p-Xylenes	18.20	91	2385767	46.547 ng		96
68) Bromoform	18.26	173	300371	24.878 ng		100
69) Styrene	18.53	104	910791	23.121 ng		95
70) o-Xylene	18.63	91	1227037	23.926 ng		95
71) n-Nonane	18.82	43	705391	24.243 ng	#	77
72) 1,1,2,2-Tetrachloroethane	18.61	83	587877	24.033 ng		97
74) Cumene	19.15	105	1486249	23.799 ng		96
75) alpha-Pinene	19.50	93	808540	25.253 ng		98
76) n-Propylbenzene	19.60	91	1830112	23.497 ng		97
77) 3-Ethyltoluene	19.73	105	1468018	No Calib		
78) 4-Ethyltoluene	19.73	105	1468018	25.073 ng		96
79) 1,3,5-Trimethylbenzene	19.80	105	1243475	25.297 ng		96
80) alpha-Methylstyrene	19.60	118	2647	No Calib	#	
81) 2-Ethyltoluene	20.67	105	31425	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	1177466	22.956 ng		98
83) n-Decane	20.53	58	8951	No Calib	#	
84) Benzyl Chloride	20.28	91	2040840	52.480 ng		96
85) 1,3-Dichlorobenzene	20.30	146	616248	23.975 ng		98
86) 1,4-Dichlorobenzene	20.36	146	636166	21.863 ng		99
87) sec-Butylbenzene	20.40	105	1609178	23.351 ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	1342265	23.518 ng		98
89) 1,2,3-Trimethylbenzene	20.40	105	1609178	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	591417	23.867 ng		99
91) d-Limonene	20.66	68	506945	25.209 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.04	157	479110	45.497 ng	#	77
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	849454	41.225 ng		98
95) Naphthalene	22.28	128	1429221	20.408 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	284032	23.809 ng		100
98) Cyclohexanone	18.63	55	965	No Calib	#	
99) tert-Butylbenzene	20.16	119	1067775	22.130 ng		99
100) n-Butylbenzene	20.91	91	1374546	23.803 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	311060	24.476 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092214.D Vial: 16
Acq On : 9 Mar 2022 17:47 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-03082201/S35-03072203 (4/6)

Quant Time: Mar 10 08:40:15 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **03092214.D**
Data File Path: **I:\MS09\Data\2022_03\09**
Operator: **SC**
Date Acquired: **3/9/2022** **17:47**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO-15 ICV STD**
Misc Info: **S35-03082201/S35-03072203 (**
Instrument Name: **MS09**

3/10/22

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	Propene	4.05	22.3	25.75	87	56	128	*	*
3)	Dichlorodifluoromethane (CFC 12	4.21	23.9	26.00	92	71	112	*	*
4)	Chloromethane	4.50	24.0	25.75	93	53	126	*	*
5)	1,2-Dichloro-1,1,2,2-tetrafluoroeth	4.76	24.3	26.00	93	62	121	*	*
6)	Vinyl Chloride	4.92	24.7	26.00	95	63	123	*	*
7)	1,3-Butadiene	5.19	24.4	25.75	95	63	135	*	*
8)	Bromomethane	5.63	23.5	25.75	91	71	112	*	*
9)	Chloroethane	5.97	24.7	25.75	96	66	117	*	*
10)	Ethanol	6.36	92	104.00	88	57	117	*	*
11)	Acetonitrile	6.61	21.6	25.25	86	59	131	*	*
12)	Acrolein	6.79	47.3	52.00	91	71	123	*	*
13)	Acetone	7.01	119	128.00	93	60	117	*	*
14)	Trichlorofluoromethane	7.25	24.2	25.25	96	71	114	*	*
15)	2-Propanol (Isopropanol)	7.51	47.8	50.00	96	61	124	*	*
16)	Acrylonitrile	7.77	45.2	50.25	90	65	130	*	*
17)	1,1-Dichloroethene	8.22	24.9	26.25	95	74	114	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.39	54.6	51.00	107	56	135	*	*
19)	Methylene Chloride	8.45	24.8	26.00	95	75	112	*	*
20)	3-Chloro-1-propene (Allyl Chloric	8.61	22.0	25.50	86	57	127	*	*
21)	Trichlorotrifluoroethane	8.86	24.8	27.00	92	73	114	*	*
22)	Carbon Disulfide	8.70	47.7	51.75	92	70	113	*	*
23)	trans-1,2-Dichloroethene	9.73	25.6	26.00	98	76	119	*	*
24)	1,1-Dichloroethane	9.98	24.5	26.75	92	70	114	*	*
25)	Methyl tert-Butyl Ether	10.08	23.4	25.75	91	72	118	*	*
26)	Vinyl Acetate	10.24	129	117.75	110	56	137	*	*
27)	2-Butanone (MEK)	10.48	50.6	51.00	99	74	121	*	*
28)	cis-1,2-Dichloroethene	11.01	24.0	25.75	93	73	117	*	*
29)	Diisopropyl Ether	11.30	47.9	52.25	92	58	124	*	*
30)	Ethyl Acetate	11.31	65.2	72.50	90	59	161	*	*
31)	n-Hexane	11.29	25.9	26.00	100	55	130	*	*
32)	Chloroform	11.36	24.8	26.25	94	71	114	*	*
34)	Tetrahydrofuran (THF)	11.75	48.5	50.50	96	73	114	*	*
35)	Ethyl tert-Butyl Ether	11.90	50.4	51.75	97	76	119	*	*
36)	1,2-Dichloroethane	12.16	24.3	26.25	93	71	119	*	*
38)	1,1,1-Trichloroethane	12.44	24.4	26.00	94	73	119	*	*
41)	Benzene	12.92	23.7	26.00	91	72	113	*	*
42)	Carbon Tetrachloride	13.08	24.0	25.25	95	67	123	*	*
43)	Cyclohexane	13.21	48.1	51.50	93	70	119	*	*
44)	tert-Amyl Methyl Ether	13.56	50.4	51.50	98	74	120	*	*
45)	1,2-Dichloropropane	13.78	24.2	25.75	94	70	118	*	*
46)	Bromodichloromethane	13.97	25.2	26.00	97	74	119	*	*
47)	Trichloroethene	14.02	24.3	25.50	95	74	115	*	*
48)	1,4-Dioxane	13.99	26.6	25.75	103	77	124	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.09	23.8	26.25	91	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **03092214.D** **TO15.M**
Data File Path: **I:\MS09\Data\2022_03\09** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S35-03082201/S35-03072203 (**
Date Acquired: **3/9/2022** **17:47** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.22**	**51.1**	**51.25**	100	**78**	**126**	*	*
51)	**n-Heptane**	**14.35**	**24.3**	**25.75**	94	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**14.89**	**24.9**	**26.00**	96	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**14.92**	**51.3**	**51.50**	100	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**15.40**	**23.7**	**25.00**	95	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**15.58**	**24.3**	**26.00**	93	**78**	**117**	*	*
58)	**Toluene**	**15.88**	**23.3**	**25.75**	90	**70**	**118**	*	*
59)	**2-Hexanone**	**16.11**	**47.7**	**50.75**	94	**74**	**132**	*	*
60)	**Dibromochloromethane**	**16.29**	**24.3**	**26.25**	93	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**16.53**	**23.4**	**26.00**	90	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**16.75**	**49.1**	**50.75**	97	**75**	**134**	*	*
63)	**n-Octane**	**16.88**	**24.2**	**26.00**	93	**68**	**120**	*	*
64)	**Tetrachloroethene**	**17.02**	**23.9**	**26.50**	90	**63**	**130**	*	*
65)	**Chlorobenzene**	**17.68**	**23.2**	**25.75**	90	**70**	**118**	*	*
66)	**Ethylbenzene**	**18.04**	**24.7**	**25.75**	96	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**18.20**	**46.5**	**52.00**	89	**67**	**127**	*	*
68)	**Bromoform**	**18.26**	**24.9**	**26.25**	95	**65**	**149**	*	*
69)	**Styrene**	**18.53**	**23.1**	**25.25**	91	**76**	**132**	*	*
70)	**o-Xylene**	**18.63**	**23.9**	**26.00**	92	**69**	**124**	*	*
71)	**n-Nonane**	**18.82**	**24.2**	**26.00**	93	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.61**	**24.0**	**26.00**	92	**69**	**128**	*	*
74)	**Cumene**	**19.15**	**23.8**	**25.75**	92	**69**	**125**	*	*
75)	**alpha-Pinene**	**19.50**	**25.3**	**26.25**	96	**68**	**129**	*	*
76)	**n-Propylbenzene**	**19.60**	**23.5**	**26.00**	90	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**19.73**	**25.1**	**26.00**	**97**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.80**	**25.3**	**26.00**	**97**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**20.16**	**23.0**	**25.75**	**89**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**20.28**	**52.5**	**52.00**	**101**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**20.30**	**24.0**	**26.00**	**92**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**20.36**	**21.9**	**26.25**	**83**	**63**	**134**	*	*
87)	sec-Butylbenzene	20.40	23.4	25.50	**92**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.54	23.5	25.75	**91**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**20.66**	**23.9**	**26.25**	**91**	**64**	**139**	*	*
91)	**d-Limonene**	**20.66**	**25.2**	**25.75**	**98**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.04**	**45.5**	**50.50**	**90**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**22.17**	**41.2**	**52.50**	**78**	**62**	**154**	*	*
95)	**Naphthalene**	**22.28**	**20.4**	**26.25**	**78**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**22.59**	**23.8**	**26.50**	**90**	55	142	*	*
99)	tert-Butylbenzene	20.16	22.1	25.75	86	61	140	*	*
100)	n-Butylbenzene	20.91	23.8	26.00	92	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	17.66	24.5	25.75	95	70	130	*	*

Bold = 75 Compound List
*** = Pass**

ICV/LCS Standard Concentrations (Secondary Source)

3/10/22

4ng/L Working Std. ID:
20ng/L Working Std. ID:
200ng/L Working Std. ID: S35-03072203
1000ng/L Working Std. ID:

Dilution Factor:	1	5	50	250
Working Std. Conc. Utilized:	200			

Working Std. Injection Amounts (L):						0.125
		Secondary Working Std. Conc.				ICV / LCS
Compounds	mg/m³	1000ng/L	200ng/L	20ng/L	4ng/L	Actual Conc.(ng)
Propene	1.03	1030	206	20.6	4.12	25.75
Dichlorodifluoromethane(12)	1.04	1040	208	20.8	4.16	26.00
Chloromethane	1.03	1030	206	20.6	4.12	25.75
Freon-114	1.04	1040	208	20.8	4.16	26.00
Vinyl Chloride	1.04	1040	208	20.8	4.16	26.00
1,3-Butadiene	1.03	1030	206	20.6	4.12	25.75
Bromomethane	1.03	1030	206	20.6	4.12	25.75
Chloroethane	1.03	1030	206	20.6	4.12	25.75
Ethanol	4.16	4160	832	83.2	16.64	104.00
Acetonitrile	1.01	1010	202	20.2	4.04	25.25
Acrolein	2.08	2080	416	41.6	8.32	52.00
Acetone	5.12	5120	1024	102.4	20.48	128.00
Trichlorofluoromethane(11)	1.01	1010	202	20.2	4.04	25.25
Isopropanol	2.00	2000	400	40.0	8.00	50.00
Acrylonitrile	2.01	2010	402	40.2	8.04	50.25
1,1-Dichloroethene	1.05	1050	210	21.0	4.20	26.25
tert-Butanol	2.04	2040	408	40.8	8.16	51.00
Methylene Chloride	1.04	1040	208	20.8	4.16	26.00
Allyl Chloride	1.02	1020	204	20.4	4.08	25.50
Trichlorotrifluoroethane(113)	1.08	1080	216	21.6	4.32	27.00
Carbon Disulfide	2.07	2070	414	41.4	8.28	51.75
trans-1,2-Dichloroethene	1.04	1040	208	20.8	4.16	26.00
1,1-Dichloroethane	1.07	1070	214	21.4	4.28	26.75
Methyl tert-Butyl Ether	1.03	1030	206	20.6	4.12	25.75
Vinyl Acetate	4.71	4710	942	94.2	18.84	117.75
2-Butanone	2.04	2040	408	40.8	8.16	51.00
cis-1,2-Dichloroethene	1.03	1030	206	20.6	4.12	25.75
Diisopropyl Ether	2.09	2090	418	41.8	8.36	52.25
Ethyl Acetate	2.90	2900	580	58.0	11.60	72.50
n-Hexane	1.04	1040	208	20.8	4.16	26.00
Chloroform	1.05	1050	210	21.0	4.20	26.25
Tetrahydrofuran	2.02	2020	404	40.4	8.08	50.50
Ethyl tert-Butyl Ether	2.07	2070	414	41.4	8.28	51.75
1,2-Dichloroethane	1.05	1050	210	21.0	4.20	26.25
1,1,1-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Benzene	1.04	1040	208	20.8	4.16	26.00
Carbon Tetrachloride	1.01	1010	202	20.2	4.04	25.25
Cyclohexane	2.06	2060	412	41.2	8.24	51.50
tert-Amyl Methyl Ether	2.06	2060	412	41.2	8.24	51.50
1,2-Dichloropropane	1.03	1030	206	20.6	4.12	25.75
Bromodichloromethane	1.04	1040	208	20.8	4.16	26.00
Trichloroethene	1.02	1020	204	20.4	4.08	25.50
1,4-Dioxane	1.03	1030	206	20.6	4.12	25.75
Isooctane	1.05	1050	210	21.0	4.20	26.25

						0.125
		Secondary Working Std. Conc.				ICV / LCS
Compounds	mg/m³	1000ng/L	200ng/L	20ng/L	4ng/L	Actual Conc.(ng)
Methyl Methacrylate	2.05	2050	410	41.0	8.20	51.25
n-Heptane	1.03	1030	206	20.6	4.12	25.75
cis-1,3-Dichloropropene	1.04	1040	208	20.8	4.16	26.00
4-Methyl-2-pentanone	2.06	2060	412	41.2	8.24	51.50
trans-1,3-Dichloropropene	1.00	1000	200	20.0	4.00	25.00
1,1,2-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Toluene	1.03	1030	206	20.6	4.12	25.75
2-Hexanone	2.03	2030	406	40.6	8.12	50.75
Dibromochloromethane	1.05	1050	210	21.0	4.20	26.25
1,2-Dibromoethane	1.04	1040	208	20.8	4.16	26.00
n-Butyl Acetate	2.03	2030	406	40.6	8.12	50.75
n-Octane	1.04	1040	208	20.8	4.16	26.00
Tetrachloroethene	1.06	1060	212	21.2	4.24	26.50
Chlorobenzene	1.03	1030	206	20.6	4.12	25.75
Ethylbenzene	1.03	1030	206	20.6	4.12	25.75
m-,p-Xylene	2.08	2080	416	41.6	8.32	52.00
Bromoform	1.05	1050	210	21.0	4.20	26.25
Styrene	1.01	1010	202	20.2	4.04	25.25
o-Xylene	1.04	1040	208	20.8	4.16	26.00
n-Nonane	1.04	1040	208	20.8	4.16	26.00
1,1,2,2-Tetrachloroethane	1.04	1040	208	20.8	4.16	26.00
Cumene	1.03	1030	206	20.6	4.12	25.75
alpha-Pinene	1.05	1050	210	21.0	4.20	26.25
n-Propylbenzene	1.04	1040	208	20.8	4.16	26.00
4-Ethyltoluene	1.04	1040	208	20.8	4.16	26.00
1,3,5-Trimethylbenzene	1.04	1040	208	20.8	4.16	26.00
1,2,4-Trimethylbenzene	1.03	1030	206	20.6	4.12	25.75
Benzyl Chloride	2.08	2080	416	41.6	8.32	52.00
1,3-Dichlorobenzene	1.04	1040	208	20.8	4.16	26.00
1,4-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
sec-Butylbenzene	1.02	1020	204	20.4	4.08	25.50
p-Isopropyltoluene	1.03	1030	206	20.6	4.12	25.75
1,2-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
d-Limonene	1.03	1030	206	20.6	4.12	25.75
1,2-Dibromo-3-chloropropane	2.02	2020	404	40.4	8.08	50.50
1,2,4-Trichlorobenzene	2.10	2100	420	42.0	8.40	52.50
Naphthalene	1.05	1050	210	21.0	4.20	26.25
Hexachloro-1,3-butadiene	1.06	1060	212	21.2	4.24	26.50
tert-Butylbenzene	1.03	1030	206	20.6	4.12	25.75
n-Butylbenzene	1.04	1040	208	20.8	4.16	26.00
1,1,1,2-Tetrachloroethane	1.03	1030	206	20.6	4.12	25.75

***Enter Information in the Solid Shaded Areas ONLY.**

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\17\03172202.D Vial: 2
Acq On : 17 Mar 2022 2:02 Operator: SC
Sample : CCV R9031722 25ng Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 17 08:40:23 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/17/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	84	-0.02
2	T	Propene	1.409	1.051	25.4	70	0.00
3	T	Dichlorodifluoromethane (CF	2.428	1.887	22.3	69	0.00
4	T	Chloromethane	1.857	1.617	12.9	75	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.022	0.909	11.1	79	-0.01
6	T	Vinyl Chloride	1.766	1.574	10.9	77	-0.01
7	T	1,3-Butadiene	1.423	1.289	9.4	78	-0.02
8	T	Bromomethane	1.035	0.863	16.6	74	-0.02
9	T	Chloroethane	0.840	0.676	19.5	69	-0.02
10	T	Ethanol	1.065	0.806	24.3	72	-0.07
11	T	Acetonitrile	2.362	1.911	19.1	70	-0.05
12	T	Acrolein	0.796	0.652	18.1	72	-0.03
13	T	Acetone	0.884	0.776	12.2	78	-0.05
14	T	Trichlorofluoromethane	2.125	1.672	21.3	69	-0.01
15	T	2-Propanol (Isopropanol)	3.247	2.654	18.3	72	-0.06
16	T	Acrylonitrile	1.656	1.372	17.1	74	-0.05
17	T	1,1-Dichloroethene	1.130	0.930	17.7	72	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.636	2.215	16.0	63	-0.05
19	T	Methylene Chloride	1.175	1.001	14.8	73	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.823	1.436	21.2	71	-0.02
21	T	Trichlorotrifluoroethane	0.939	0.771	17.9	72	-0.01
22	T	Carbon Disulfide	4.177	3.548	15.1	75	-0.02
23	T	trans-1,2-Dichloroethene	1.714	1.428	16.7	69	-0.01
24	T	1,1-Dichloroethane	2.166	1.716	20.8	70	-0.01
25	T	Methyl tert-Butyl Ether	3.093	2.282	26.2	61	0.00
26	T	Vinyl Acetate	0.214	0.208	2.8	76	-0.02
27	T	2-Butanone (MEK)	0.770	0.698	9.4	75	-0.02
28	T	cis-1,2-Dichloroethene	1.727	1.386	19.7	71	-0.01
29	T	Diisopropyl Ether	0.964	0.886	8.1	86	-0.01
30	T	Ethyl Acetate	0.475	0.461	2.9	90	-0.04
31	T	n-Hexane	1.806	1.844	-2.1	86	0.00
32	T	Chloroform	2.054	1.662	19.1	72	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	1.742	1.644	5.6	80	-0.01
34	T	Tetrahydrofuran (THF)	0.757	0.646	14.7	74	-0.01
35	T	Ethyl tert-Butyl Ether	1.340	1.188	11.3	75	0.00
36	T	1,2-Dichloroethane	1.689	1.329	21.3	69	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	83	-0.01
38	T	1,1,1-Trichloroethane	0.432	0.346	19.9	68	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	82	0.00
40	T	1-Butanol	0.000	0.000	0.0	70	0.00
41	T	Benzene	1.106	0.906	18.1	73	-0.01
42	T	Carbon Tetrachloride	0.361	0.294	18.6	68	0.00
43	T	Cyclohexane	0.411	0.362	11.9	75	0.00
44	T	tert-Amyl Methyl Ether	0.748	0.683	8.7	75	0.00
45	T	1,2-Dichloropropane	0.288	0.242	16.0	72	0.00
46	T	Bromodichloromethane	0.389	0.330	15.2	71	-0.01
47	T	Trichloroethene	0.286	0.245	14.3	73	-0.01
48	T	1,4-Dioxane	0.209	0.192	8.1	73	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.189	0.999	16.0	73	-0.01
50	T	Methyl Methacrylate	0.101	0.093	7.9	74	-0.01
51	T	n-Heptane	0.285	0.244	14.4	73	0.00
52	T	cis-1,3-Dichloropropene	0.452	0.396	12.4	73	0.00
53	T	4-Methyl-2-pentanone	0.246	0.236	4.1	78	-0.01
54	T	trans-1,3-Dichloropropene	0.433	0.374	13.6	70	-0.01
55	T	1,1,2-Trichloroethane	0.269	0.230	14.5	73	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\17\03172202.D Vial: 2
Acq On : 17 Mar 2022 2:02 Operator: SC
Sample : CCV R9031722 25ng Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 17 08:40:23 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	90	0.00
57	S	Toluene-d8 (SS2)	6.050	5.688	6.0	85	0.00
58	T	Toluene	5.932	4.602	22.4	74	-0.01
59	T	2-Hexanone	3.227	2.859	11.4	81	-0.02
60	T	Dibromochloromethane	1.623	1.310	19.3	73	0.00
61	T	1,2-Dibromoethane	1.651	1.310	20.7	73	-0.01
62	T	n-Butyl Acetate	3.542	3.170	10.5	80	-0.01
63	T	n-Octane	1.276	1.040	18.5	75	0.00
64	T	Tetrachloroethene	1.452	1.130	22.2	73	0.00
65	T	Chlorobenzene	3.768	3.014	20.0	75	-0.01
66	T	Ethylbenzene	6.284	5.247	16.5	75	0.00
67	T	m- & p-Xylenes	5.152	4.183	18.8	77	0.00
68	T	Bromoform	1.214	1.021	15.9	73	0.00
69	T	Styrene	3.960	3.256	17.8	75	0.00
70	T	o-Xylene	5.155	4.192	18.7	76	-0.01
71	T	n-Nonane	2.925	2.511	14.2	79	0.00
72	T	1,1,2,2-Tetrachloroethane	2.459	2.083	15.3	79	0.00
73	S	Bromofluorobenzene (SS3)	1.585	1.615	-1.9	91	0.00
74	T	Cumene	6.277	5.097	18.8	75	0.00
75	T	alpha-Pinene	3.218	2.737	14.9	76	0.00
76	T	n-Propylbenzene	7.829	6.461	17.5	77	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	77	0.00
78	T	4-Ethyltoluene	5.885	5.122	13.0	77	0.00
79	T	1,3,5-Trimethylbenzene	4.941	4.280	13.4	76	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	77	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	80	0.00
82	T	1,2,4-Trimethylbenzene	5.156	4.444	13.8	83	-0.02
83	T	n-Decane	0.000	0.000	0.0	1291#	0.00
84	T	Benzyl Chloride	3.909	4.050	-3.6	81	0.00
85	T	1,3-Dichlorobenzene	2.584	2.299	11.0	80	-0.01
86	T	1,4-Dichlorobenzene	2.925	2.361	19.3	76	0.00
87	T	sec-Butylbenzene	6.927	5.781	16.5	78	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.737	4.832	15.8	78	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	78	0.00
90	T	1,2-Dichlorobenzene	2.491	2.215	11.1	81	0.00
91	T	d-Limonene	2.021	1.893	6.3	83	-0.01
92	T	1,2-Dibromo-3-Chloropropane	1.059	0.914	13.7	78	-0.01
93	T	n-Undecane	0.000	0.000	0.0	0#	-21.41#
94	T	1,2,4-Trichlorobenzene	2.071	1.725	16.7	80	0.00
95	T	Naphthalene	7.040	5.893	16.3	74	0.00
96	T	n-Dodecane	0.000	0.000	0.0	0#	-22.22#
97	T	Hexachlorobutadiene	1.199	0.990	17.4	75	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	56	0.11
99	T	tert-Butylbenzene	4.850	4.004	17.4	82	0.00
100	T	n-Butylbenzene	5.805	5.025	13.4	79	0.00
101	T	1,1,1,2-Tetrachloroethane	1.278	1.070	16.3	75	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172202.D Vial: 2
Acq On : 17 Mar 2022 2:02 Operator: SC
Sample : CCV R9031722 25ng Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 17 08:40:23 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	124167	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.32	114	526352	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	110017	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	204108	11.795	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%				
57) Toluene-d8 (SS2)	15.77	98	625789	11.753	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
73) Bromofluorobenzene (SS3)	19.03	174	177656	12.735	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
Target Compounds							Qvalue
2) Propene	4.05	42	271487	19.392	ng		99
3) Dichlorodifluoromethan...	4.21	85	492155	20.404	ng		99
4) Chloromethane	4.50	50	409526	22.205	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	243882	24.034	ng		99
6) Vinyl Chloride	4.92	62	406621	23.184	ng		99
7) 1,3-Butadiene	5.19	54	332898	23.548	ng	#	78
8) Bromomethane	5.63	94	218702	21.271	ng		99
9) Chloroethane	5.97	64	171219	20.510	ng		99
10) Ethanol	6.35	45	724557	68.491	ng		99
11) Acetonitrile	6.61	41	441271	18.807	ng		96
12) Acrolein	6.79	56	323592	40.910	ng		97
13) Acetone	7.00	58	999565	113.852	ng	#	53
14) Trichlorofluoromethane	7.25	101	427697	20.263	ng		98
15) 2-Propanol (Isopropanol)	7.51	45	1331393	41.273	ng		99
16) Acrylonitrile	7.77	53	691791	42.054	ng		98
17) 1,1-Dichloroethene	8.22	96	247150	22.018	ng	#	74
18) 2-Methyl-2-Propanol (t...	8.39	59	1155141	44.120	ng		96
19) Methylene Chloride	8.45	84	258633	22.153	ng	#	78
20) 3-Chloro-1-propene (Al...	8.61	41	374494	20.676	ng		83
21) Trichlorotrifluoroethane	8.86	151	206789	22.181	ng		93
22) Carbon Disulfide	8.70	76	1850326	44.592	ng		99
23) trans-1,2-Dichloroethene	9.73	61	375920	22.080	ng		85
24) 1,1-Dichloroethane	9.98	63	447393	20.790	ng		99
25) Methyl tert-Butyl Ether	10.08	73	595150	19.368	ng		100
26) Vinyl Acetate	10.24	86	175496	82.393	ng	#	41
27) 2-Butanone (MEK)	10.48	72	357200	46.696	ng	#	59
28) cis-1,2-Dichloroethene	11.01	61	358042	20.866	ng		82
29) Diisopropyl Ether	11.30	87	466445	48.695	ng	#	90
30) Ethyl Acetate	11.31	61	467323	99.007	ng		88
31) n-Hexane	11.29	57	480856	26.801	ng		97
32) Chloroform	11.36	83	441730	21.645	ng		96
34) Tetrahydrofuran (THF)	11.75	72	316150	42.067	ng	#	69
35) Ethyl tert-Butyl Ether	11.90	87	619738	46.554	ng		94
36) 1,2-Dichloroethane	12.16	62	349914	20.858	ng		99
38) 1,1,1-Trichloroethane	12.44	97	379110	20.843	ng		98
39) Isopropyl Acetate	13.32	61	15235	No Calib		#	
40) 1-Butanol	12.90	56	12365	No Calib		#	
41) Benzene	12.92	78	992266	21.308	ng		98
42) Carbon Tetrachloride	13.08	117	325338	21.406	ng		98
43) Cyclohexane	13.21	84	789224	45.574	ng		92
44) tert-Amyl Methyl Ether	13.56	73	1502349	47.696	ng		92
45) 1,2-Dichloropropane	13.78	63	262189	21.588	ng		99
46) Bromodichloromethane	13.96	83	364565	22.277	ng		99
47) Trichloroethene	14.02	130	265987	22.085	ng		96
48) 1,4-Dioxane	13.99	88	209814	23.804	ng		91
49) 2,2,4-Trimethylpentane...	14.09	57	1114637	22.264	ng		82
50) Methyl Methacrylate	14.22	100	203781	47.942	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172202.D Vial: 2
Acq On : 17 Mar 2022 2:02 Operator: SC
Sample : CCV R9031722 25ng Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 17 08:40:23 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

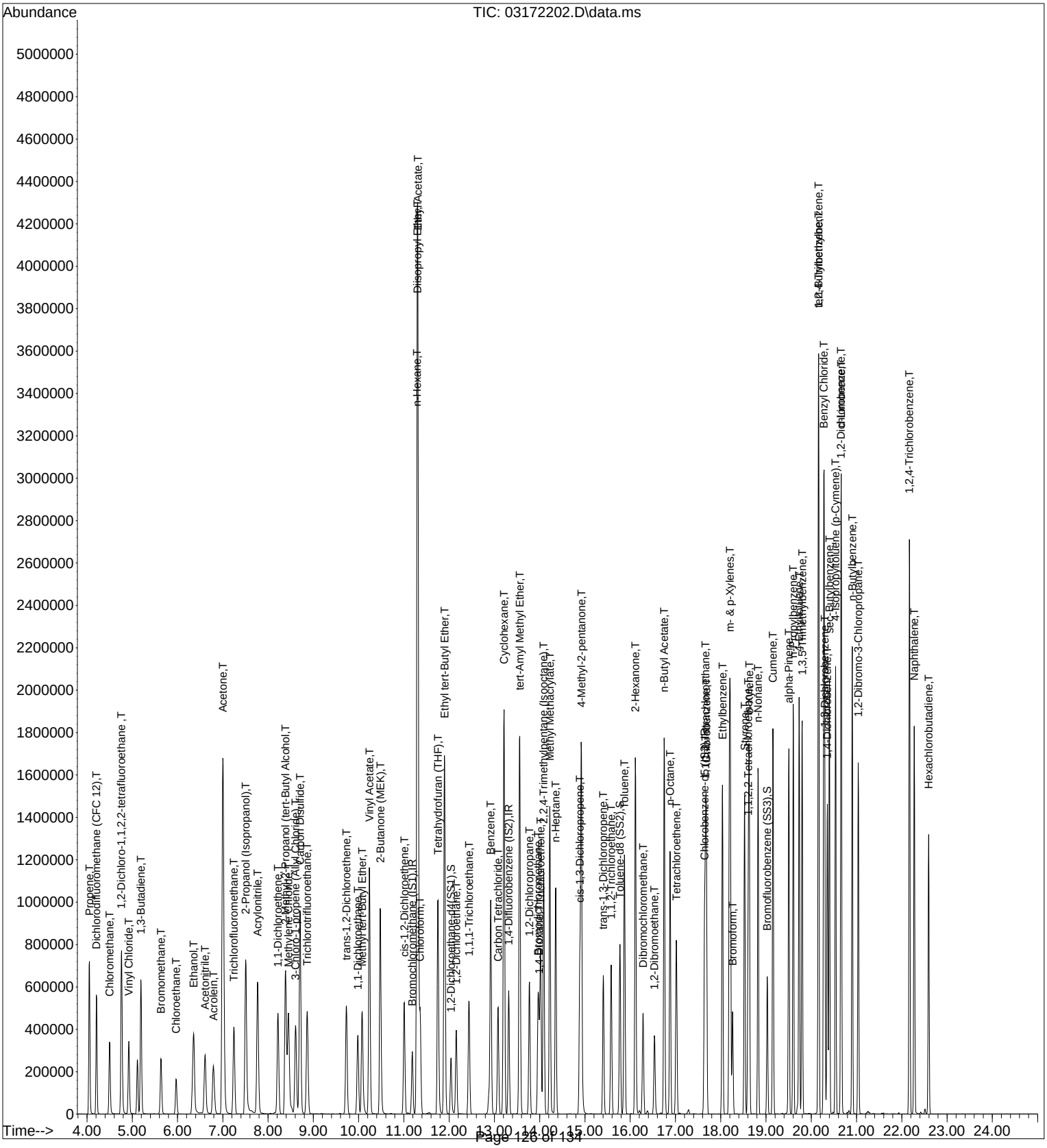
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	269818	22.481 ng		97
52) cis-1,3-Dichloropropene	14.89	75	437417	22.986 ng		99
53) 4-Methyl-2-pentanone	14.92	58	517010	49.958 ng		77
54) trans-1,3-Dichloropropene	15.40	75	397409	21.801 ng		98
55) 1,1,2-Trichloroethane	15.58	97	251810	22.206 ng		99
58) Toluene	15.87	91	1043082	19.980 ng		100
59) 2-Hexanone	16.11	43	1289476	45.402 ng		86
60) Dibromochloromethane	16.28	129	302542	21.177 ng		100
61) 1,2-Dibromoethane	16.53	107	299699	20.626 ng		99
62) n-Butyl Acetate	16.75	43	1422756	45.637 ng		89
63) n-Octane	16.88	57	240273	21.387 ng		95
64) Tetrachloroethene	17.02	166	258474	20.225 ng		97
65) Chlorobenzene	17.68	112	689817	20.801 ng		99
66) Ethylbenzene	18.04	91	1189043	21.498 ng		96
67) m- & p-Xylenes	18.20	91	1896253	41.817 ng		95
68) Bromoform	18.26	173	233697	21.878 ng		100
69) Styrene	18.53	104	738026	21.177 ng		95
70) o-Xylene	18.63	91	959192	21.141 ng		94
71) n-Nonane	18.82	43	574576	22.320 ng		80
72) 1,1,2,2-Tetrachloroethane	18.61	83	476580	22.021 ng		97
74) Cumene	19.15	105	1166368	21.111 ng		96
75) alpha-Pinene	19.50	93	650437	22.962 ng		98
76) n-Propylbenzene	19.60	91	1492705	21.663 ng		97
77) 3-Ethyltoluene	19.73	105	1194581	No Calib		
78) 4-Ethyltoluene	19.73	105	1194581	23.062 ng		96
79) 1,3,5-Trimethylbenzene	19.80	105	979454	22.523 ng		96
80) alpha-Methylstyrene	19.61	118	2124	No Calib	#	
81) 2-Ethyltoluene	20.67	105	26116	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	1007121	22.194 ng		97
83) n-Decane	20.52	58	2027	No Calib	#	
84) Benzyl Chloride	20.28	91	1835747	53.358 ng		95
85) 1,3-Dichlorobenzene	20.30	146	526090	23.134 ng		98
86) 1,4-Dichlorobenzene	20.36	146	540202	20.985 ng		99
87) sec-Butylbenzene	20.40	105	1322988	21.700 ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	1105643	21.896 ng		98
89) 1,2,3-Trimethylbenzene	20.40	105	1322988	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	511722	23.342 ng		99
91) d-Limonene	20.66	68	437435	24.587 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.04	157	402283	43.179 ng	#	79
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	774272	42.473 ng		98
95) Naphthalene	22.28	128	1348574	21.766 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	224430	21.265 ng		100
98) Cyclohexanone	18.62	55	650	No Calib	#	
99) tert-Butylbenzene	20.16	119	916179	21.462 ng		99
100) n-Butylbenzene	20.91	91	1149793	22.506 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	244898	21.781 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\17\03172202.D Vial: 2
Acq On : 17 Mar 2022 2:02 Operator: SC
Sample : CCV R9031722 25ng Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 17 08:40:23 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

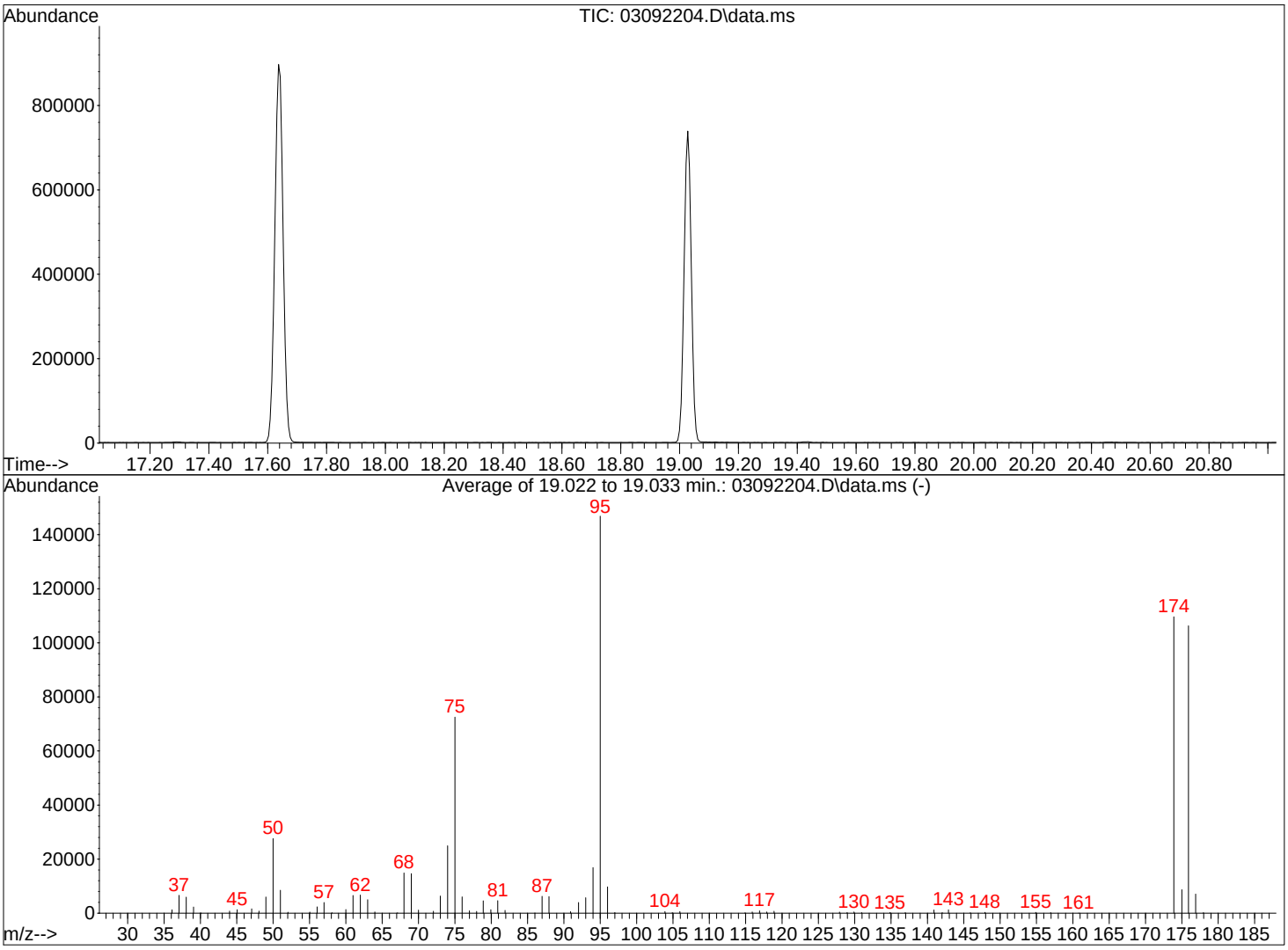


Data Path : I:\MS09\Data\2022 03\09\
Data File : 03092204.D
Acq On : 9 Mar 2022 12:06
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S35-03082201
ALS Vial : 2 Sample Multiplier: 1

3/9/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9030922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 09 10:18:59 2022



AutoFind: Scans 2684, 2685, 2686; Background Corrected with Scan 2676

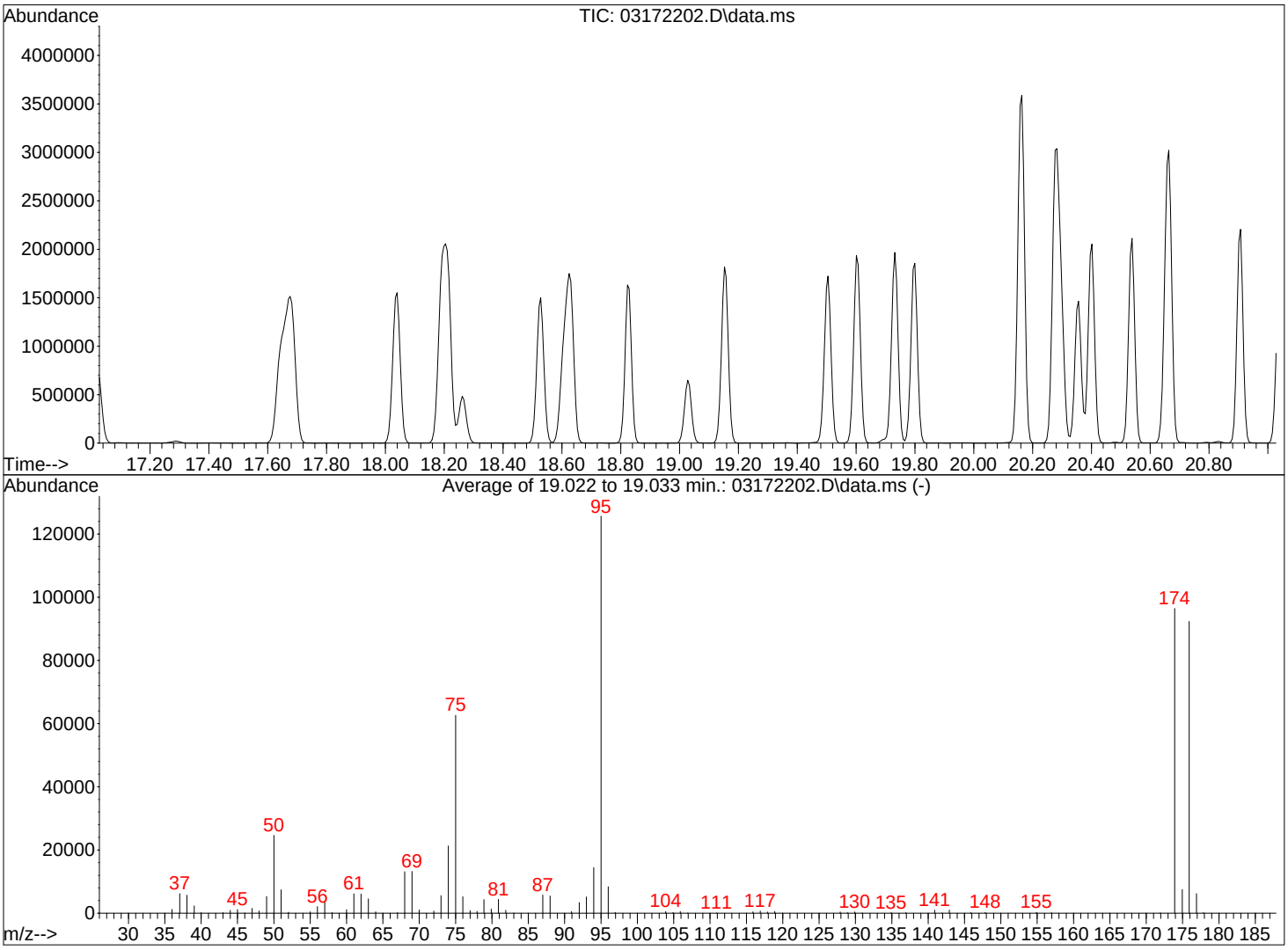
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.8	27600	PASS
75	95	30	66	49.4	72531	PASS
95	95	100	100	100.0	146837	PASS
96	95	5	9	6.6	9727	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	74.7	109627	PASS
175	174	4	9	7.9	8695	PASS
176	174	93	101	97.0	106315	PASS
177	176	5	9	6.7	7088	PASS

Data Path : I:\MS09\Data\2022 03\17\
Data File : 03172202.D
Acq On : 17 Mar 2022 2:02
Operator : SC
Sample : CCV R9031722 25ng
Misc : S35-03082201/S35-03082204 (4/7)
ALS Vial : 2 Sample Multiplier: 1

3/17/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9030922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 09 16:58:43 2022



AutoFind: Scans 2684, 2685, 2686; Background Corrected with Scan 2677

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.6	24613	PASS
75	95	30	66	49.8	62621	PASS
95	95	100	100	100.0	125637	PASS
96	95	5	9	6.7	8363	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	76.8	96432	PASS
175	174	4	9	7.7	7471	PASS
176	174	93	101	95.7	92331	PASS
177	176	5	9	6.7	6213	PASS

Injection Log

Directory: J:\MS09\Data\2022_03\09\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/9/22 9:10	03092201.D	CCV R9030922_25ng	S35-03082201/S35-02092207 (3/11)	SC	2	
2	3/9/22 10:40	03092202.D	0.1ng TO-15 ICAL STD	S35-03082201/S35-03082207 (4/7)	SC	5	
3	3/9/22 11:33	03092203.D	Blank	S35-03082201	SC	2	
4	3/9/22 12:06	03092204.D	12.5ng TO-15 BFB STD	S35-03082201	SC	2	pass
5	3/9/22 12:39	03092205.D	0.1ng TO-15 ICAL STD	S35-03082201/S35-03082207 (4/7)	SC	5	
6	3/9/22 12:39	03092205a.D	0.1ng TO-15 ICAL STD	S35-03082201/S35-03082207 (4/7)	SC	5	
7	3/9/22 13:13	03092206.D	0.2ng TO-15 ICAL STD	S35-03082201/S35-03082207 (4/7)	SC	5	
8	3/9/22 13:46	03092207.D	0.5ng TO-15 ICAL STD	S35-03082201/S35-03082205 (4/7)	SC	6	
9	3/9/22 13:46	03092207a.D	0.5ng TO-15 ICAL STD	S35-03082201/S35-03082205 (4/7)	SC	6	
10	3/9/22 14:19	03092208.D	1.0ng TO-15 ICAL STD	S35-03082201/S35-03082205 (4/7)	SC	6	
11	3/9/22 14:52	03092209.D	5.0ng TO-15 ICAL STD	S35-03082201/S35-03082205 (4/7)	SC	6	
12	3/9/22 14:52	03092209a.D	5.0ng TO-15 ICAL STD	S35-03082201/S35-03082205 (4/7)	SC	6	
13	3/9/22 15:26	03092210.D	25ng TO-15 ICAL STD	S35-03082201/S35-03082204 (4/7)	SC	7	
14	3/9/22 15:26	03092210a.D	25ng TO-15 ICAL STD	S35-03082201/S35-03082204 (4/7)	SC	7	
15	3/9/22 15:59	03092211.D	50ng TO-15 ICAL STD	S35-03082201/S35-03082204 (4/7)	SC	7	
16	3/9/22 16:33	03092212.D	100ng TO-15 ICAL STD	S35-03082201/S35-03082204 (4/7)	SC	7	
17	3/9/22 17:13	03092213.D	Blank	S35-03082201	SC	2	
18	3/9/22 17:47	03092214.D	25ng TO-15 ICV STD	S35-03082201/S35-03072203 (4/6)	SC	16	pass
19	3/9/22 18:20	03092215.D	25ng TO-15 ICV STD	S35-03082201/S35-03072203 (4/6)	SC	16	
20	3/9/22 18:53	03092216.D	Blank	S35-03082201	SC	2	
21	3/9/22 19:27	03092217.D	12.5ng TO-15 BFB STD	S35-03082201	SC	2	pass
22	3/9/22 20:00	03092218.D	0.4ng TO-15 Custom STD	S35-03082201/S35-03032201 (3/16)	SC	10	
23	3/9/22 20:33	03092219.D	1.0ng TO-15 Custom STD	S35-03082201/S35-03032201 (3/16)	SC	10	
24	3/9/22 21:06	03092220.D	2.5ng TO-15 Custom STD	S35-03082201/S35-03032201 (3/16)	SC	10	
25	3/9/22 21:39	03092221.D	5.0ng TO-15 Custom STD	S35-03082201/S35-03032201 (3/16)	SC	10	
26	3/9/22 22:12	03092222.D	25ng TO-15 Custom STD	S35-03082201/S35-02142202 (3/16)	SC	11	
27	3/9/22 22:46	03092223.D	50ng TO-15 Custom STD	S35-03082201/S35-02142202 (3/16)	SC	11	
28	3/9/22 23:19	03092224.D	100ng TO-15 Custom STD	S35-03082201/S35-02142202 (3/16)	SC	11	
29	3/9/22 23:52	03092225.D	Blank	S35-03082201	SC	2	
30	3/10/22 0:25	03092226.D	25ng TO-15 Custom ICV	S35-03082201/S35-03032202 (4/2)	SC	12	pass
31	3/10/22 0:58	03092227.D	25ng TO-15 Custom ICV	S35-03082201/S35-03032202 (4/2)	SC	12	
32							
33							
34							3/21/22
35							
36							
37							
38							

Injection Log

Directory: I:\MS09\Data\2022_03\17\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/17/22 1:29	03172201.D	CCV C9031722_25ng	S35-03082201/S35-03142203 (4/16)	SC	16	Passed
2	3/17/22 2:02	03172202.D	CCV R9031722_25ng	S35-03082201/S35-03082204 (4/7)	SC	2	Passed
3	3/17/22 2:36	03172203.D	Blank	S35-03082201	SC	1	
4	3/17/22 3:09	03172204.D	MB R9031722_1000mL	S35-03082201	SC	2	Passed
5	3/17/22 3:42	03172205.D	LCS R9031722_25ng	S35-03082201/S35-03072203 (4/6)	SC	2	Passed
6	3/17/22 4:16	03172206.D	LCSD R9031722_25ng	S35-03082201/S35-03072203 (4/6)	SC	2	Passed
7	3/17/22 9:05	03172207.D	P2200997-004Dil (10mL)	S35-03082201	SC	1	
8	3/17/22 9:38	03172208.D	P2200997-005Dil (50mL)	S35-03082201	SC	8	
9	3/17/22 10:11	03172209.D	P2200997-006Dil (15mL)	S35-03082201	SC	9	
10	3/17/22 10:45	03172210.D	P2200943-001 (15mL)	S35-03082201	SC	1	
11	3/17/22 11:18	03172211.D	P2200943-002 (15mL)	S35-03082201	SC	1	
12	3/17/22 11:53	03172212.D	P2200997-007Dil (15mL)	S35-03082201	SC	14	
13	3/17/22 12:26	03172213.D	P2200997-012Dil (15mL)	S35-03082201	SC	15	
14	3/17/22 13:00	03172214.D	P2200943-001Dil (5.0mL)	S35-03082201	SC	1	
15	3/17/22 13:33	03172215.D	P2200943-003 (10mL)	S35-03082201	SC	1	
16	3/17/22 14:15	03172216.D	P2200988-003 (1000mL)	S35-03082201	SC	11	
17	3/17/22 14:49	03172217.D	P2200988-001 (1000mL)	S35-03082201	SC	9	
18	3/17/22 15:22	03172218.D	P2200988-002 (1000mL)	S35-03082201	SC	10	
19	3/17/22 15:55	03172219.D	P2200988-004 (1000mL)	S35-03082201	SC	12	
20	3/17/22 16:28	03172220.D	P2200988-005 (1000mL)	S35-03082201	SC	13	
21	3/17/22 17:01	03172221.D	P2201119-001 (1000mL)	S35-03082201	SC	3	
22	3/17/22 17:35	03172222.D	P2201119-002 (1000mL)	S35-03082201	SC	5	
23	3/17/22 18:09	03172223.D	P2201119-003 (1000mL)	S35-03082201	SC	6	
24	3/17/22 18:42	03172224.D	P2201119-004 (1000mL)	S35-03082201	SC	7	
25	3/17/22 19:15	03172225.D	P2201119-005 (1000mL)	S35-03082201	SC	8	
26	3/17/22 19:49	03172226.D	P2201119-005dup (1000mL)	S35-03082201	SC	8	Passed
27	3/17/22 20:22	03172227.D	Blank	S35-03082201	SC	1	
28	3/17/22 20:55	03172228.D	RL R9031622_0.5ng	S35-03082201/S35-03112201 (4/10)	SC	4	Passed
						WDA 3/18/22	

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-03
Cycles: 30
Batch: 29003

Batch Started By: **on 2/24/22 0419**
Finished Cleaning By: **on 2/24/22 0420**

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02403	2/24/22		Pass w/ Conditions	-14.3	2/24/22 0420		-14.0	3/1/22 0755		
AS01473	2/24/22	2/25/22	Pass w/ Conditions	-14.3	2/24/22 0420					MS21_02/25/22
AS00575	2/24/22		Pass w/ Conditions	-14.3	2/24/22 0420		-14.0	3/2/22 0944		
AS01262	2/24/22		Pass w/ Conditions	-14.3	2/24/22 0420		-14.0	3/2/22 0944		
AC02361	2/24/22		Pass w/ Conditions	-14.3	2/24/22 0420		-14.0	3/2/22 0944		
AC02387	2/24/22		Pass w/ Conditions	-14.3	2/24/22 0420		-14.0	3/1/22 0755		
AS00435	2/24/22		Pass w/ Conditions	-14.3	2/24/22 0420		-14.0	3/2/22 0944		
AS00618	2/24/22		Pass w/ Conditions	-14.3	2/24/22 0420		-14.0	3/2/22 0944		
AC02134	2/24/22		Pass w/ Conditions	-14.3	2/24/22 0420		-14.0	3/1/22 0833		
AC02348	2/24/22		Pass w/ Conditions	-14.3	2/24/22 0420		-14.0	3/1/22 0755		
AC02294	2/24/22		Pass w/ Conditions	-14.3	2/24/22 0420		-14.0	3/2/22 0944		
AS01343	2/24/22		Pass w/ Conditions	-14.3	2/24/22 0420		-14.0	3/2/22 0944		
AC02213	2/24/22		Pass w/ Conditions	-14.3	2/24/22 0420		-14.0	3/1/22 0755		
AS00372	2/24/22		Pass w/ Conditions	-14.3	2/24/22 0420		-14.0	3/1/22 0755		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 02\25\
Data File : 02252211.D
Acq On : 25 Feb 2022 17:28
Operator : RVT
Sample : 022522 AS01473 29003
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 207 Sample Multiplier: 1

RVT 3/1/22

Quant Time: Feb 28 06:44:16 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane (IS1)	7.472	130	28811	1000.00 pg	-0.01
37) 1,4-Difluorobenzene (IS2)	9.643	114	59861	1000.00 pg	0.00
56) Chlorobenzene-d5 (IS3)	14.678	54	11394	1000.00 pg	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4 ...	8.283	65	39011	863.94 pg	-0.01
Spiked Amount 1000.000			Recovery = 86.39%		
57) Toluene-d8 (SS2)	12.563	98	52995	916.74 pg	0.00
Spiked Amount 1000.000			Recovery = 91.67%		
74) Bromofluorobenzene (SS3)	16.111	174	17844	760.69 pg	0.00
Spiked Amount 1000.000			Recovery = 76.07%		
Target Compounds					Qvalue
2] * Propene	3.480	42	689	20.82 pg #	7
3) * Dichlorodifluoromethane	0.000		0	N.D.	
4] * Chloromethane	3.660	50	189	3.27 pg #	41
5) * 1,2-Dichloro-1,1,2,2...	0.000		0	N.D.	
6) * Vinyl Chloride	0.000		0	N.D.	
7] * 1,3-Butadiene	3.961	54	11	0.27 pg #	12
8) * Bromomethane	0.000		0	N.D.	
9) * Chloroethane	0.000		0	N.D.	
10] * Ethanol	4.417	45	40	2.10 pg	96
11] * Acetonitrile	4.573	41	276	7.86 pg #	1
12] * Acrolein	4.677	56	152	7.32 pg #	66
13] * Acetone	4.812	58	2124	65.95 pg	73
14] * Trichlorofluoromethane	4.896	101	868	9.12 pg #	53
15] * 2-Propanol (Isopropa...	5.050	45	76	0.90 pg #	60
16) * Acrylonitrile	0.000		0	N.D.	
17] * 1,1-Dichloroethene	5.397	96	716	13.06 pg #	36
18) tert-Butanol	0.000		0	N.D.	
19] * Methylene Chloride	5.504	84	222	4.91 pg	96
20) * 3-Chloro-1-propene (...	0.000		0	N.D.	
21) * Trichlorotrifluoroet...	0.000		0	N.D.	
22] * Carbon Disulfide	5.771	76	4620	29.21 pg	98
23) * trans-1,2-Dichloroet...	0.000		0	N.D.	
24) * 1,1-Dichloroethane	0.000		0	N.D.	
25) * Methyl tert-Butyl Ether	0.000		0	N.D.	
26) * Vinyl Acetate	0.000		0	N.D.	
27) * 2-Butanone (MEK)	0.000		0	N.D.	
28) * cis-1,2-Dichloroethene	0.000		0	N.D.	
29) DIPE	0.000		0	N.D.	
30) * Ethyl Acetate	0.000		0	N.D.	
31] * n-Hexane	7.563	57	179	3.18 pg #	55
32) * Chloroform	0.000		0	N.D.	
34) * Tetrahydrofuran	0.000		0	N.D.	
35) ETBE	0.000		0	N.D.	
36) * 1,2-Dichloroethane	0.000		0	N.D.	
38) * 1,1,1-Trichloroethane	0.000		0	N.D.	
39] * Benzene	9.221	78	512	6.82 pg	97
40) Isopropyl Acetate	9.221	61	483	No Calib #	
41) 1-Butanol	9.148	56	361	No Calib #	
42) * Carbon Tetrachloride	0.000		0	N.D.	
43) * Cyclohexane	0.000		0	N.D.	
44) TAME	0.000		0	N.D.	
45) * 1,2-Dichloropropane	0.000		0	N.D.	
46) * Bromodichloromethane	0.000		0	N.D.	
47] * Trichloroethene	10.402	130	85	3.29 pg #	3

Data Path : I:\MS21\DATA\2022 02\25\
Data File : 02252211.D
Acq On : 25 Feb 2022 17:28
Operator : RVT
Sample : 022522 AS01473 29003
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 207 Sample Multiplier: 1

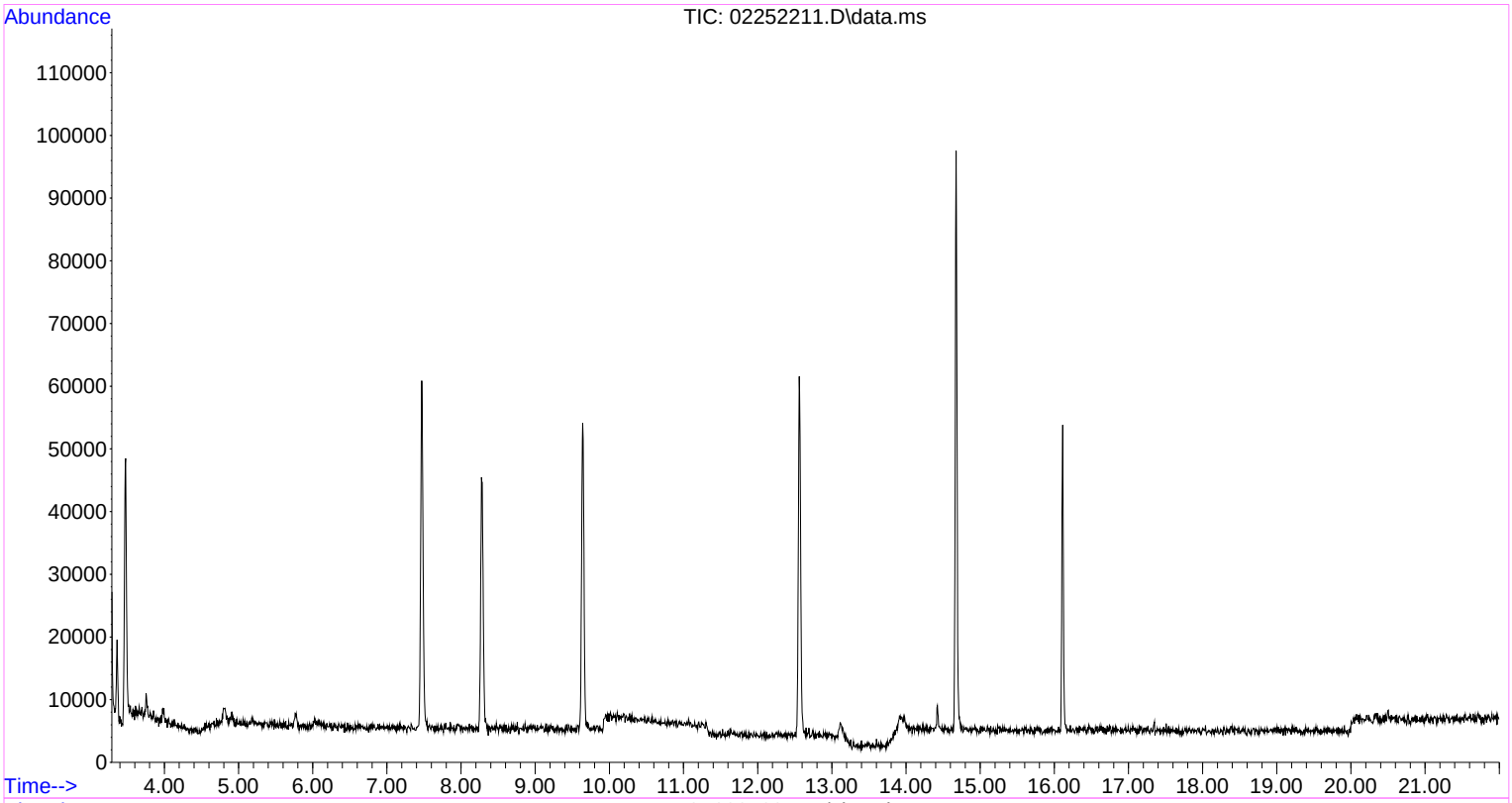
Quant Time: Feb 28 06:44:16 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

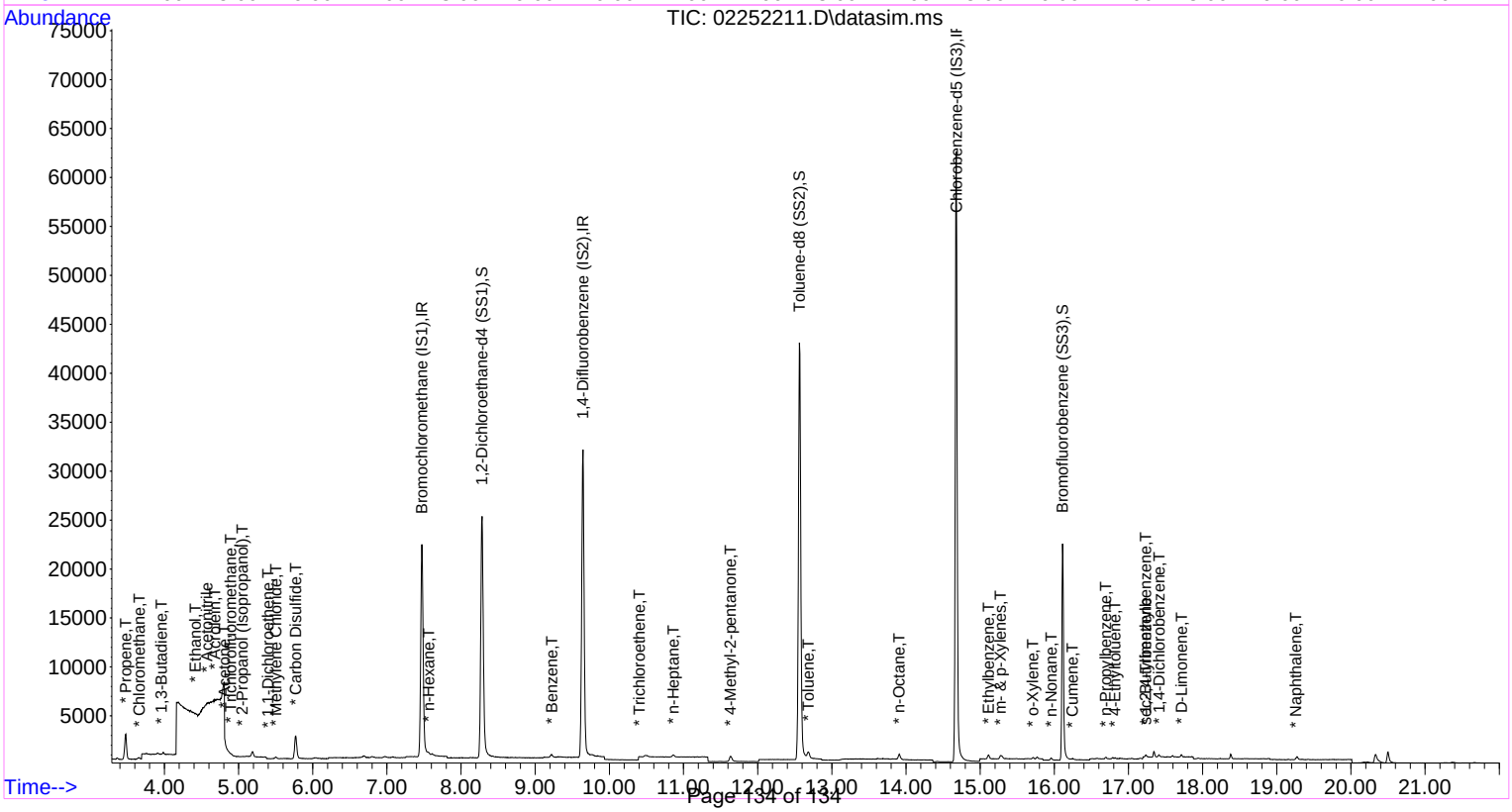
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
48)	* 1,4-Dioxane	0.000		0	N.D.			
49)	Isooctane	0.000		0	N.D.			
50)	* Methyl Methacrylate	0.000		0	N.D.			
51]	* n-Heptane	10.864	71	156	7.58	pg	#	41
52)	* cis-1,3-Dichloropropene	0.000		0	N.D.			
53]	* 4-Methyl-2-pentanone	11.630	58	323	22.96	pg	#	86
54)	* trans-1,3-Dichloropr...	0.000		0	N.D.			
55)	* 1,1,2-Trichloroethane	0.000		0	N.D.			
58]	* Toluene	12.682	91	756	9.85	pg		100
59)	* 2-Hexanone	0.000		0	N.D.			
60)	* Dibromochloromethane	0.000		0	N.D.			
61)	* 1,2-Dibromoethane	0.000		0	N.D.			
62)	* n-Butyl Acetate	0.000		0	N.D.			
63]	* n-Octane	13.909	85	444	22.78	pg		99
64)	* Tetrachloroethene	0.000		0	N.D.			
65)	* Chlorobenzene	0.000		0	N.D.			
66]	* Ethylbenzene	15.112	91	499	5.04	pg		96
67]	* m- & p-Xylenes	15.272	91	565	7.33	pg		87
68)	* Bromoform	0.000		0	N.D.			
69)	Cyclohexanone	0.000		0	N.D.			
70)	* Styrene	0.000		0	N.D.			
71]	* o-Xylene	15.711	91	132	1.71	pg		95
72]	* n-Nonane	15.956	57	246	9.28	pg		94
73)	* 1,1,2,2-Tetrachloroe...	0.000		0	N.D.			
75]	* Cumene	16.246	105	114	1.16	pg	#	48
76)	* alpha-Pinene	0.000		0	N.D.			
77]	* n-Propylbenzene	16.692	91	186	1.75	pg	#	52
78)	3-Ethyltoluene	16.818	105	77	No Calib		#	
79]	* 4-Ethyltoluene	16.818	105	77	0.99	pg	#	45
80)	* 1,3,5-Trimethylbenzene	0.000		0	N.D.			
81)	alpha-Methylstyrene	0.000		0	N.D.			
82)	2-Ethyltoluene	17.041	105	63	No Calib		#	
83)	tert-Butylbenzene	0.000		0	N.D.			
84]	* 1,2,4-Trimethylbenzene	17.229	105	179	2.56	pg		86
85)	* Benzyl Chloride	0.000		0	N.D.			
86)	* 1,3-Dichlorobenzene	0.000		0	N.D.			
87]	* 1,4-Dichlorobenzene	17.413	146	219	5.48	pg		93
88)	n-Decane	0.000		0	N.D.			
89]	sec-Butylbenzene	17.229	105	179	2.58	pg	#	51
90)	1,2,3-Trimethylbenzene	0.000		0	N.D.			
91)	p-Isopropyltoluene	0.000		0	N.D.			
92)	* 1,2-Dichlorobenzene	0.000		0	N.D.			
93]	* D-Limonene	17.715	68	125	7.29	pg		89
94)	n-Butylbenzene	0.000		0	N.D.			
95)	* 1,2-Dibromo-3-chloro...	0.000		0	N.D.			
96)	n-Undecane	18.379	85	129	No Calib		#	
97)	* 1,2,4-Trichlorobenzene	0.000		0	N.D.			
98]	* Naphthalene	19.256	128	272	5.80	pg	#	69
99)	n-Dodecane	19.275	85	78	No Calib		#	
100)	* Hexachlorobutadiene	0.000		0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS21\DATA\2022 02\25\
Data File : 02252211.D
Acq On : 25 Feb 2022 17:28
Operator : RVT
Sample : 022522 AS01473 29003
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 207 Sample Multiplier: 1

Quant Time: Feb 28 06:44:16 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration





2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

April 5, 2022

Trina Cesnik
North Wind, Inc.
5800 Woolsey Canyon Road
Canoga Park, CA 91304

RE: DOE Perimeter Air / 080153.015.15

Dear Trina:

Enclosed are the results of the samples submitted to our laboratory on March 15, 2022. For your reference, these analyses have been assigned our service request number P2201179.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 4:10 pm, Apr 05, 2022

Nicole Bryson
Laboratory Director

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: North Wind, Inc. Service Request No: P2201179
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on March 15, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The spike recovery of 1,2 Dibromoethane and styrene for the Duplicate Laboratory Control Sample (DLCS) analyzed on March 29, 2022 was outside the laboratory generated control criterion. The recovery error equates to a potential low bias. However, the spike recovery of the analytes in question was within the method criteria; therefore, the data quality has not been significantly affected. No corrective action was taken.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2201179

Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 3/15/2022

Time Received: 13:42

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_031522_S	P2201179-001	Air	3/15/2022	11:00	AS01109	-0.17	3.81	X
DOE-2_031522_S	P2201179-002	Air	3/15/2022	11:15	AS00749	-2.07	3.81	X
DOE-3_031522_S	P2201179-003	Air	3/15/2022	11:30	AS01664	-2.20	3.92	X
DOE-4_031522_S	P2201179-004	Air	3/15/2022	11:45	AS01300	-2.02	3.83	X
DOE-2_031522_D	P2201179-005	Air	3/15/2022	11:16	AS01143	-1.51	3.79	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. PJ201179

Company Name & Address (Reporting Information) North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304	Project Name: DOE Perimeter Air Project Number: 080153.015.15
Project Manager: Trina Cesnik	P.O. # / Billing Information: PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Phone: 805-587-0691 / Fax:	Sampler (Print & Sign): T. Stewart Williford
Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg	ALS Contact: Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_031522_S	1	3/15/2022	1100	AS01109	FCR00220	-29.0	-1.0		X		
DOE-2_031522_S	2	3/15/2022	1115	AS00749	FCR00564	-28.5	-3.0		X		
DOE-3_031522_S	3	3/15/2022	1130	AS01664	FCR00005	-29.0	-3.5		X		
DOE-4_031522_S	4	3/15/2022	1145	AS01300	FCR00058	-28.5	-2.0		X		
DOE-2_031522_D	5	3/15/2022	1116	AS01143	FCR00098	-28.5	-2.0		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) X Tier IV (Data Validation Package) 10% Surcharge X

EDD required Yes / No
Type: EQuIS Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
T. Stewart Williford	3/15/2022	1342		3-15-22	1342
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2201179

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 3/17/22 Date opened: 3/17/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2201179-001.01	6.0 L Silonite Can					
P2201179-002.01	6.0 L Silonite Can					
P2201179-003.01	6.0 L Silonite Can					
P2201179-004.01	6.0 L Silonite Can					
P2201179-005.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_031522_S** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-001

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01109

Initial Pressure (psig): -0.17 Final Pressure (psig): 3.81

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.67	**0.45**	0.14	
74-87-3	Chloromethane	ND	0.65	ND	0.31	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.69	ND	0.098	
75-01-4	Vinyl Chloride	ND	0.66	ND	0.26	
106-99-0	1,3-Butadiene	ND	0.66	ND	0.30	
74-83-9	Bromomethane	ND	0.65	ND	0.17	
75-00-3	Chloroethane	ND	0.65	ND	0.25	
107-02-8	Acrolein	ND	1.3	ND	0.55	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.66	**0.19**	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.3	ND	0.52	
107-13-1	Acrylonitrile	ND	1.3	ND	0.59	
75-35-4	1,1-Dichloroethene	ND	0.69	ND	0.17	
75-09-2	Methylene Chloride	ND	0.66	ND	0.19	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.69	ND	0.090	
75-15-0	Carbon Disulfide	ND	1.4	ND	0.45	
156-60-5	trans-1,2-Dichloroethene	ND	0.67	ND	0.17	
75-34-3	1,1-Dichloroethane	ND	0.67	ND	0.17	
1634-04-4	Methyl tert-Butyl Ether	ND	0.67	ND	0.19	
108-05-4	Vinyl Acetate	ND	6.4	ND	1.8	
78-93-3	2-Butanone (MEK)	ND	1.3	ND	0.43	
156-59-2	cis-1,2-Dichloroethene	ND	0.66	ND	0.17	
141-78-6	Ethyl Acetate	**2.9**	2.7	**0.81**	0.74	
110-54-3	n-Hexane	ND	0.67	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_031522_S** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-001

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01109

Initial Pressure (psig): -0.17 Final Pressure (psig): 3.81

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.69	ND	0.14	
109-99-9	Tetrahydrofuran (THF)	ND	1.3	ND	0.43	
107-06-2	1,2-Dichloroethane	ND	0.67	ND	0.17	
71-55-6	1,1,1-Trichloroethane	ND	0.66	ND	0.12	
71-43-2	Benzene	ND	0.64	ND	0.20	
56-23-5	Carbon Tetrachloride	ND	0.64	ND	0.10	
110-82-7	Cyclohexane	ND	1.4	ND	0.41	
78-87-5	1,2-Dichloropropane	ND	0.64	ND	0.14	
75-27-4	Bromodichloromethane	ND	0.67	ND	0.10	
79-01-6	Trichloroethene	ND	0.66	ND	0.12	
123-91-1	1,4-Dioxane	ND	0.66	ND	0.18	
142-82-5	n-Heptane	ND	0.67	ND	0.16	
10061-01-5	cis-1,3-Dichloropropene	ND	0.64	ND	0.14	
108-10-1	4-Methyl-2-pentanone	ND	1.4	ND	0.34	
10061-02-6	trans-1,3-Dichloropropene	ND	0.65	ND	0.14	
79-00-5	1,1,2-Trichloroethane	ND	0.66	ND	0.12	
108-88-3	Toluene	ND	0.66	ND	0.18	
591-78-6	2-Hexanone	ND	1.4	ND	0.34	
124-48-1	Dibromochloromethane	ND	0.67	ND	0.079	
106-93-4	1,2-Dibromoethane	ND	0.66	ND	0.086	
111-65-9	n-Octane	ND	0.67	ND	0.14	
127-18-4	Tetrachloroethene	ND	0.66	ND	0.097	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_031522_S** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-001

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01109

Initial Pressure (psig): -0.17 Final Pressure (psig): 3.81

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.66	ND	0.15	
179601-23-1	m,p-Xylenes	ND	1.4	ND	0.32	
75-25-2	Bromoform	ND	0.66	ND	0.064	
100-42-5	Styrene	ND	0.64	ND	0.15	
95-47-6	o-Xylene	ND	0.66	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.66	ND	0.096	
98-82-8	Cumene	ND	0.66	ND	0.13	
103-65-1	n-Propylbenzene	ND	0.67	ND	0.14	
622-96-8	4-Ethyltoluene	ND	0.67	ND	0.14	
108-67-8	1,3,5-Trimethylbenzene	ND	0.66	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	ND	0.66	ND	0.13	
100-44-7	Benzyl Chloride	ND	1.4	ND	0.27	
541-73-1	1,3-Dichlorobenzene	ND	0.66	ND	0.11	
106-46-7	1,4-Dichlorobenzene	ND	0.66	ND	0.11	
135-98-8	sec-Butylbenzene	ND	0.66	ND	0.12	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.66	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.67	ND	0.11	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ND	0.19	
91-20-3	Naphthalene	ND	0.66	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.66	ND	0.062	
104-51-8	n-Butylbenzene	ND	0.66	ND	0.12	
1330-20-7	Xylenes, Total	ND	0.67	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_031522_S** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-002

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00749

Initial Pressure (psig): -2.07 Final Pressure (psig): 3.81

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.78	**0.44**	0.16	
74-87-3	Chloromethane	ND	0.75	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.76	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.76	ND	0.35	
74-83-9	Bromomethane	ND	0.75	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.28	
107-02-8	Acrolein	ND	1.5	ND	0.64	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.76	**0.19**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.60	
107-13-1	Acrylonitrile	ND	1.5	ND	0.68	
75-35-4	1,1-Dichloroethene	ND	0.79	ND	0.20	
75-09-2	Methylene Chloride	ND	0.76	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.79	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.78	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.4	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	
156-59-2	cis-1,2-Dichloroethene	ND	0.76	ND	0.19	
141-78-6	Ethyl Acetate	**28**	3.1	**7.6**	0.86	
110-54-3	n-Hexane	ND	0.78	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_031522_S** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-002

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00749

Initial Pressure (psig): -2.07 Final Pressure (psig): 3.81

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.79	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.50	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.76	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.74	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.76	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.76	ND	0.21	
142-82-5	n-Heptane	ND	0.78	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.74	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.76	ND	0.14	
108-88-3	Toluene	ND	0.76	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.78	ND	0.091	
106-93-4	1,2-Dibromoethane	ND	0.76	ND	0.10	
111-65-9	n-Octane	ND	0.78	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.76	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_031522_S** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-002

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00749

Initial Pressure (psig): -2.07 Final Pressure (psig): 3.81

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.76	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.76	ND	0.074	
100-42-5	Styrene	ND	0.74	ND	0.17	
95-47-6	o-Xylene	ND	0.76	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.76	ND	0.11	
98-82-8	Cumene	ND	0.76	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.78	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.78	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.76	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.76	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.76	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.76	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.76	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.76	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.78	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.76	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.76	ND	0.072	
104-51-8	n-Butylbenzene	ND	0.76	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.78	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_031522_S** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-003

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01664

Initial Pressure (psig): -2.20 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.79	**0.44**	0.16	
74-87-3	Chloromethane	ND	0.76	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.76	ND	0.20	
75-00-3	Chloroethane	ND	0.76	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.65	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.77	**0.19**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.69	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.80	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.79	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.79	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.79	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.5	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.20	
141-78-6	Ethyl Acetate	**6.9**	3.1	**1.9**	0.87	
110-54-3	n-Hexane	ND	0.79	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_031522_S** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-003

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01664

Initial Pressure (psig): -2.20 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.79	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.75	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.75	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	0.75	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.79	ND	0.12	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.22	
142-82-5	n-Heptane	ND	0.79	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.75	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.40	
10061-02-6	trans-1,3-Dichloropropene	ND	0.76	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	ND	0.77	ND	0.21	
591-78-6	2-Hexanone	ND	1.6	ND	0.40	
124-48-1	Dibromochloromethane	ND	0.79	ND	0.093	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
111-65-9	n-Octane	ND	0.79	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.77	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_031522_S** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-003

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01664

Initial Pressure (psig): -2.20 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.77	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.38	
75-25-2	Bromoform	ND	0.77	ND	0.075	
100-42-5	Styrene	ND	0.75	ND	0.18	
95-47-6	o-Xylene	ND	0.77	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.79	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.79	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.77	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.77	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.79	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.77	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.073	
104-51-8	n-Butylbenzene	ND	0.77	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.79	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_031522_S** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-004

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01300

Initial Pressure (psig): -2.02 Final Pressure (psig): 3.83

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.77	**0.44**	0.16	
74-87-3	Chloromethane	ND	0.74	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.76	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.76	ND	0.34	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
107-02-8	Acrolein	ND	1.5	ND	0.64	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.76	**0.19**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.59	
107-13-1	Acrylonitrile	ND	1.5	ND	0.67	
75-35-4	1,1-Dichloroethene	ND	0.79	ND	0.20	
75-09-2	Methylene Chloride	ND	0.76	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.79	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.77	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.3	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	
156-59-2	cis-1,2-Dichloroethene	ND	0.76	ND	0.19	
141-78-6	Ethyl Acetate	**6.4**	3.1	**1.8**	0.85	
110-54-3	n-Hexane	ND	0.77	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_031522_S** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-004

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01300

Initial Pressure (psig): -2.02 Final Pressure (psig): 3.83

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.79	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.50	
107-06-2	1,2-Dichloroethane	ND	0.77	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.76	ND	0.14	
71-43-2	Benzene	ND	0.73	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.73	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.73	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.77	ND	0.12	
79-01-6	Trichloroethene	ND	0.76	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.76	ND	0.21	
142-82-5	n-Heptane	ND	0.77	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.73	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.74	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.76	ND	0.14	
108-88-3	Toluene	ND	0.76	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.77	ND	0.091	
106-93-4	1,2-Dibromoethane	ND	0.76	ND	0.099	
111-65-9	n-Octane	ND	0.77	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.76	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_031522_S** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-004

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01300

Initial Pressure (psig): -2.02 Final Pressure (psig): 3.83

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.76	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.76	ND	0.073	
100-42-5	Styrene	ND	0.73	ND	0.17	
95-47-6	o-Xylene	ND	0.76	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.76	ND	0.11	
98-82-8	Cumene	ND	0.76	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.77	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.77	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.76	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.76	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.76	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.76	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.76	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.76	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.77	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.76	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.76	ND	0.071	
104-51-8	n-Butylbenzene	ND	0.76	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.77	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_031522_D** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-005

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01143

Initial Pressure (psig): -1.51 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.74	**0.46**	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.76	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.71	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.61	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.73	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.1**	1.4	**0.87**	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene Chloride	**0.82**	0.73	**0.24**	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.0	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.47	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.18	
141-78-6	Ethyl Acetate	**13**	2.9	**3.5**	0.82	
110-54-3	n-Hexane	ND	0.74	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_031522_D** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-005

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01143

Initial Pressure (psig): -1.51 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.76	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.47	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.70	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	ND	0.73	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	
142-82-5	n-Heptane	ND	0.74	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.71	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	ND	0.73	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.087	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.095	
111-65-9	n-Octane	ND	0.74	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.73	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_031522_D** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201179-005

Test Code: EPA TO-15 Date Collected: 3/15/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/15/22
Analyst: Simon Cao Date Analyzed: 3/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01143

Initial Pressure (psig): -1.51 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.73	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.73	ND	0.070	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	o-Xylene	ND	0.73	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.74	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.74	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.73	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.73	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.21	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.068	
104-51-8	n-Butylbenzene	ND	0.73	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.74	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220329-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220329-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220329-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2201179

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 3/15/22
Analyst: Simon Cao Date(s) Received: 3/15/22
Sample Type: 6.0 L Silonite Canister(s) Date(s) Analyzed: 3/29 - 3/30/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220329-MB	**105**	**94**	**85**	70-130	
Lab Control Sample	P220329-LCS	**105**	**87**	**82**	70-130	
Duplicate Lab Control Sample	P220329-DLCS	**108**	**83**	**83**	70-130	
DOE-1_031522_S	P2201179-001	**107**	**90**	**87**	70-130	
DOE-2_031522_S	P2201179-002	**106**	**90**	**87**	70-130	
DOE-3_031522_S	P2201179-003	**105**	**90**	**86**	70-130	
DOE-4_031522_S	P2201179-004	**105**	**90**	**87**	70-130	
DOE-2_031522_D	P2201179-005	**105**	**91**	**86**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220329-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	187	186	**90**	**89**	71-112	1	25	
74-87-3	Chloromethane	206	222	215	**108**	**104**	53-126	4	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	204	194	**98**	**93**	62-121	5	25	
75-01-4	Vinyl Chloride	208	225	217	**108**	**104**	63-123	4	25	
106-99-0	1,3-Butadiene	206	233	221	**113**	**107**	63-135	5	25	
74-83-9	Bromomethane	206	200	192	**97**	**93**	71-112	4	25	
75-00-3	Chloroethane	206	199	195	**97**	**95**	66-117	2	25	
107-02-8	Acrolein	416	408	400	**98**	**96**	71-123	2	25	
75-69-4	Trichlorofluoromethane (CFC 11)	202	185	181	**92**	**90**	71-114	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	435	431	**109**	**108**	61-124	0.9	25	
107-13-1	Acrylonitrile	402	416	405	**103**	**101**	65-130	2	25	
75-35-4	1,1-Dichloroethene	210	199	193	**95**	**92**	74-114	3	25	
75-09-2	Methylene Chloride	208	203	197	**98**	**95**	75-112	3	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	186	180	**86**	**83**	73-114	4	25	
75-15-0	Carbon Disulfide	414	406	391	**98**	**94**	70-113	4	25	
156-60-5	trans-1,2-Dichloroethene	208	211	207	**101**	**100**	76-119	1	25	
75-34-3	1,1-Dichloroethane	214	204	199	**95**	**93**	70-114	2	25	
1634-04-4	Methyl tert-Butyl Ether	206	172	166	**83**	**81**	72-118	2	25	
108-05-4	Vinyl Acetate	942	1130	1080	**120**	**115**	56-137	4	25	
78-93-3	2-Butanone (MEK)	408	442	426	**108**	**104**	74-121	4	25	
156-59-2	cis-1,2-Dichloroethene	206	201	197	**98**	**96**	73-117	2	25	
141-78-6	Ethyl Acetate	580	665	611	**115**	**105**	59-161	9	25	
110-54-3	n-Hexane	208	259	239	**125**	**115**	55-130	8	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220329-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	210	203	196	**97**	**93**	71-114	4	25	
109-99-9	Tetrahydrofuran (THF)	404	419	400	**104**	**99**	73-114	5	25	
107-06-2	1,2-Dichloroethane	210	200	198	**95**	**94**	71-119	1	25	
71-55-6	1,1,1-Trichloroethane	208	187	183	**90**	**88**	73-119	2	25	
71-43-2	Benzene	208	198	192	**95**	**92**	72-113	3	25	
56-23-5	Carbon Tetrachloride	202	178	175	**88**	**87**	67-123	1	25	
110-82-7	Cyclohexane	412	409	393	**99**	**95**	70-119	4	25	
78-87-5	1,2-Dichloropropane	206	208	201	**101**	**98**	70-118	3	25	
75-27-4	Bromodichloromethane	208	203	200	**98**	**96**	74-119	2	25	
79-01-6	Trichloroethene	204	188	182	**92**	**89**	74-115	3	25	
123-91-1	1,4-Dioxane	206	217	211	**105**	**102**	77-124	3	25	
142-82-5	n-Heptane	206	207	200	**100**	**97**	70-119	3	25	
10061-01-5	cis-1,3-Dichloropropene	208	209	204	**100**	**98**	81-126	2	25	
108-10-1	4-Methyl-2-pentanone	412	485	470	**118**	**114**	73-129	3	25	
10061-02-6	trans-1,3-Dichloropropene	200	196	192	**98**	**96**	80-127	2	25	
79-00-5	1,1,2-Trichloroethane	208	195	189	**94**	**91**	78-117	3	25	
108-88-3	Toluene	206	164	149	**80**	**72**	70-118	11	25	
591-78-6	2-Hexanone	406	418	382	**103**	**94**	74-132	9	25	
124-48-1	Dibromochloromethane	210	158	145	**75**	**69**	69-137	8	25	
106-93-4	1,2-Dibromoethane	208	160	148	**77**	**71**	76-128	8	25	**L**
111-65-9	n-Octane	208	186	171	**89**	**82**	68-120	8	25	
127-18-4	Tetrachloroethene	212	151	137	**71**	**65**	63-130	9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201179
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220329-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	206	175	160	**85**	**78**	71-123	9	25	
179601-23-1	m,p-Xylenes	416	341	309	**82**	**74**	67-127	10	25	
75-25-2	Bromoform	210	158	145	**75**	**69**	65-149	8	25	
100-42-5	Styrene	202	161	147	**80**	**73**	76-132	9	25	**L**
95-47-6	o-Xylene	208	172	157	**83**	**75**	69-124	10	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	181	166	**87**	**80**	69-128	8	25	
98-82-8	Cumene	206	165	150	**80**	**73**	69-125	9	25	
103-65-1	n-Propylbenzene	208	172	156	**83**	**75**	70-127	10	25	
622-96-8	4-Ethyltoluene	208	177	160	**85**	**77**	69-127	10	25	
108-67-8	1,3,5-Trimethylbenzene	208	177	160	**85**	**77**	66-129	10	25	
95-63-6	1,2,4-Trimethylbenzene	206	173	152	**84**	**74**	63-142	13	25	
100-44-7	Benzyl Chloride	416	407	361	**98**	**87**	73-145	12	25	
541-73-1	1,3-Dichlorobenzene	208	169	151	**81**	**73**	67-136	10	25	
106-46-7	1,4-Dichlorobenzene	210	152	136	**72**	**65**	63-134	10	25	
135-98-8	sec-Butylbenzene	204	167	150	**82**	**74**	68-130	10	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	163	148	**79**	**72**	60-139	9	25	
95-50-1	1,2-Dichlorobenzene	210	168	149	**80**	**71**	64-139	12	25	
120-82-1	1,2,4-Trichlorobenzene	420	283	264	**67**	**63**	62-154	6	25	
91-20-3	Naphthalene	210	139	133	**66**	**63**	62-156	5	25	
87-68-3	Hexachlorobutadiene	212	142	132	**67**	**62**	55-142	8	25	
104-51-8	n-Butylbenzene	208	177	161	**85**	**77**	70-131	10	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

Client: **North Wind, Inc.** ALS Project ID: P2201179

Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 03292201.D

Analyst: Simon Cao Date Analyzed: 3/29/22

Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 01:01

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	107583	11.17	467093	13.31	101656	17.64
	Upper Limit	150616	11.50	653930	13.64	142318	17.97
	Lower Limit	64550	10.84	280256	12.98	60994	17.31
	Client Sample ID						
01	Method Blank	95724	11.17	419053	13.31	87811	17.64
02	Lab Control Sample	101284	11.18	439509	13.32	100753	17.64
03	Duplicate Lab Control Sample	113874	11.19	487088	13.32	117724	17.64
04	DOE-1_031522_S	106301	11.16	465345	13.31	103212	17.64
05	DOE-2_031522_S	104079	11.17	454153	13.31	99996	17.64
06	DOE-3_031522_S	101947	11.17	445739	13.31	97840	17.64
07	DOE-4_031522_S	100352	11.17	439523	13.31	96426	17.64
08	DOE-2_031522_D	97830	11.17	431342	13.31	94571	17.64
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292232.D Vial: 10
Acq On : 29 Mar 2022 22:50 Operator: SC
Sample : P2201179-001 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:31:11 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/30/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	106301	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	465345	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	103212	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	198364	13.390	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%				
57) Toluene-d8 (SS2)	15.77	98	559980	11.210	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.68%				
73) Bromofluorobenzene (SS3)	19.03	174	142449	10.884	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.04%				
Target Compounds							Qvalue
2) Propene	4.10	42	3513	N.D.			
3) Dichlorodifluoromethan...	4.21	85	35963	1.742	ng		98
4) Chloromethane	4.50	50	5605	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.77	135	746	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.30	45	29708	3.280	ng		100
11) Acetonitrile	6.67	41	196	N.D.			
12) Acrolein	6.79	56	1042	N.D.			
13) Acetone	7.00	58	29954	3.985	ng	#	57
14) Trichlorofluoromethane	7.24	101	15409	0.853	ng		97
15) 2-Propanol (Isopropanol)	7.51	45	9311	N.D.			
16) Acrylonitrile	7.76	53	109	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.46	59	460	N.D.			
19) Methylene Chloride	8.43	84	4874	0.488	ng		83
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.86	151	2727	N.D.			
22) Carbon Disulfide	8.70	76	5890	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.20	86	465	N.D.			
27) 2-Butanone (MEK)	10.49	72	3493	0.533	ng	#	85
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.31	61	9241	2.287	ng		82
31) n-Hexane	11.28	57	1297	N.D.			
32) Chloroform	11.33	83	942	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	447	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.30	61	15239	No Calib		#	
40) 1-Butanol	12.93	56	1847	No Calib		#	
41) Benzene	12.91	78	7571	N.D.			
42) Carbon Tetrachloride	13.07	117	3822	N.D.			
43) Cyclohexane	13.30	84	188	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.08	57	3330	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292232.D Vial: 10
Acq On : 29 Mar 2022 22:50 Operator: SC
Sample : P2201179-001 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:31:11 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

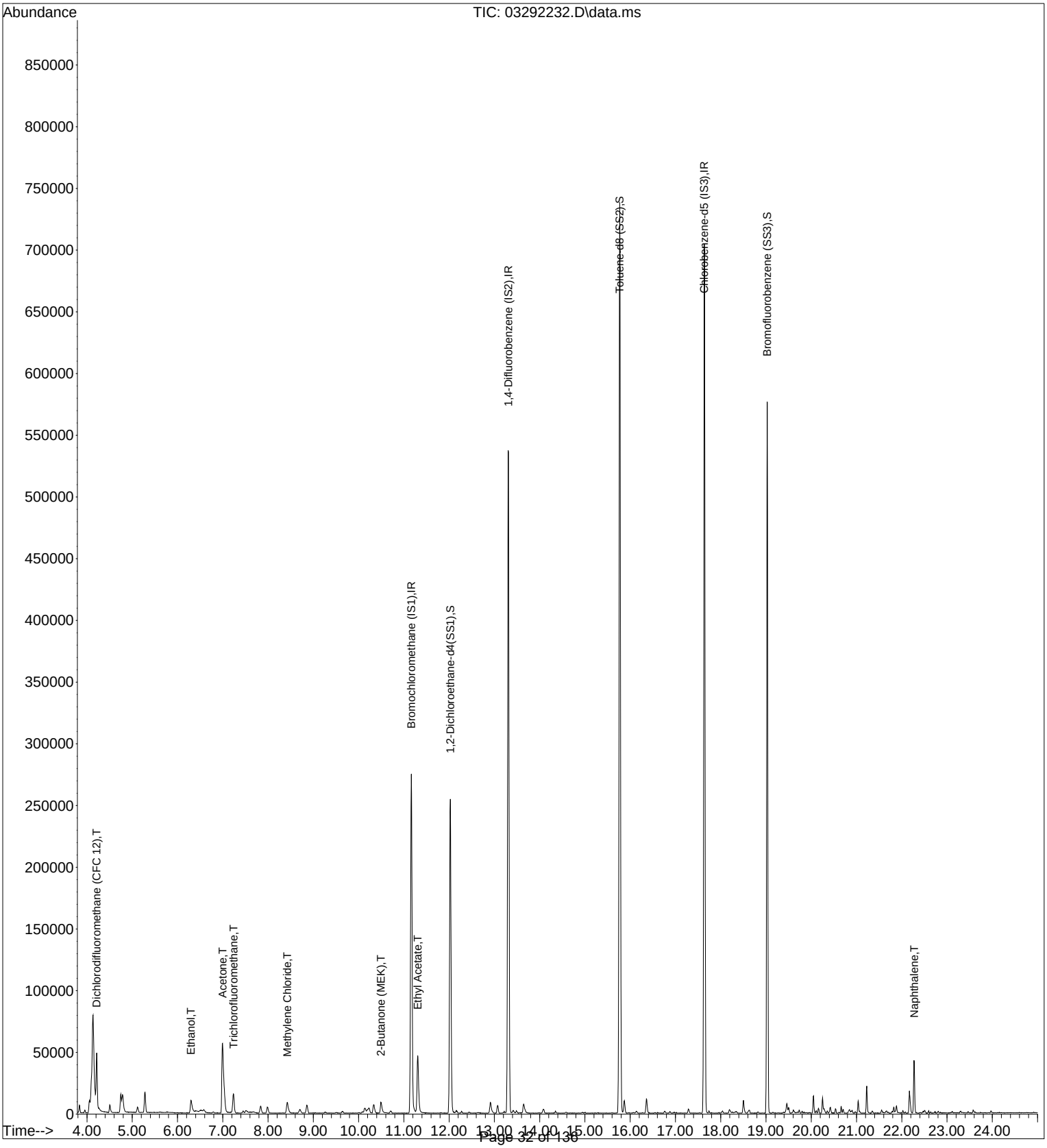
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.35	71	310	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.87	91	8252	N.D.	
59) 2-Hexanone	16.13	43	1871	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.77	43	1829	N.D.	
63) n-Octane	16.88	57	250	N.D.	
64) Tetrachloroethene	17.02	166	120	N.D.	
65) Chlorobenzene	17.68	112	123	N.D.	
66) Ethylbenzene	18.04	91	2123	N.D.	
67) m- & p-Xylenes	18.19	91	3325	N.D.	
68) Bromoform	18.26	173	172	N.D.	
69) Styrene	18.53	104	832	N.D.	
70) o-Xylene	18.62	91	1622	N.D.	
71) n-Nonane	18.82	43	690	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.60	83	1036	N.D.	
74) Cumene	19.16	105	859	N.D.	
75) alpha-Pinene	19.50	93	1894	N.D.	
76) n-Propylbenzene	19.61	91	1998	N.D.	
77) 3-Ethyltoluene	19.73	105	1236	No Calib	
78) 4-Ethyltoluene	19.73	105	1236	N.D.	
79) 1,3,5-Trimethylbenzene	19.80	105	929	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.53	105	275	No Calib	#
82) 1,2,4-Trimethylbenzene	20.16	105	2071	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.28	91	3012	N.D.	
85) 1,3-Dichlorobenzene	20.29	146	671	N.D.	
86) 1,4-Dichlorobenzene	20.35	146	852	N.D.	
87) sec-Butylbenzene	20.40	105	760	N.D.	
88) 4-Isopropyltoluene (p-...	20.54	119	2009	N.D.	
89) 1,2,3-Trimethylbenzene	20.40	105	760	No Calib	#
90) 1,2-Dichlorobenzene	20.66	146	880	N.D.	
91) d-Limonene	20.66	68	986	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.04	157	2158	N.D.	
93) n-Undecane	21.23	58	125	No Calib	#
94) 1,2,4-Trichlorobenzene	22.17	180	4605	N.D.	
95) Naphthalene	22.28	128	28480	0.490 ng	99
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.59	225	528	N.D.	
98) Cyclohexanone	18.50	55	1616	No Calib	#
99) tert-Butylbenzene	20.16	119	769	N.D.	
100) n-Butylbenzene	20.91	91	1632	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292232.D Vial: 10
Acq On : 29 Mar 2022 22:50 Operator: SC
Sample : P2201179-001 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:31:11 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292232.D Vial: 10
Acq On : 29 Mar 2022 22:50 Operator: SC
Sample : P2201179-001 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:31:11 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/30/22

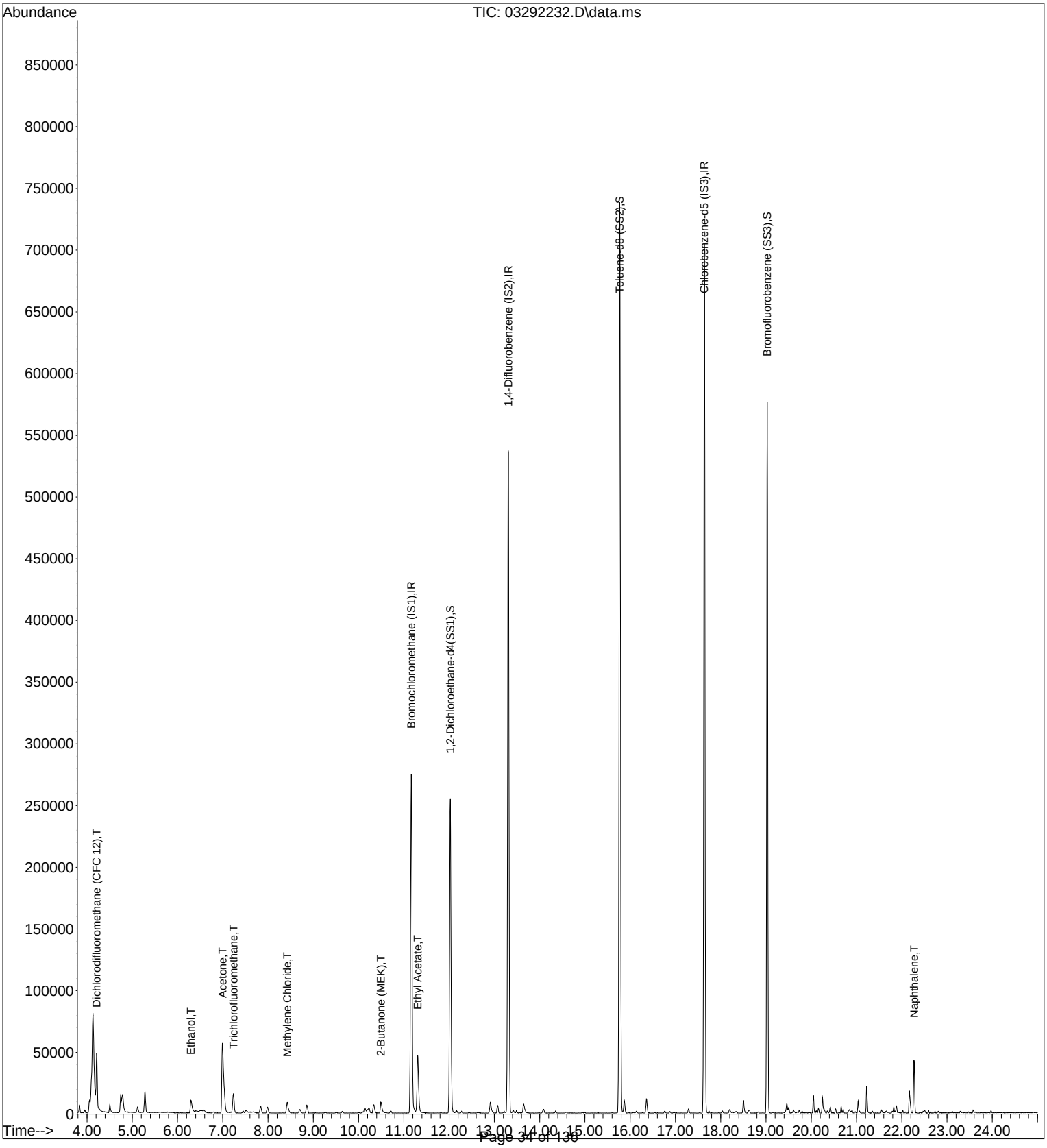
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	106301	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	465345	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	103212	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	198364	13.390	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%				
57) Toluene-d8 (SS2)	15.77	98	559980	11.210	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.68%				
73) Bromofluorobenzene (SS3)	19.03	174	142449	10.884	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.04%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.21	85	35963	1.742	ng		98
10) Ethanol	6.30	45	29708	3.280	ng		100
13) Acetone	7.00	58	29954	3.985	ng	#	57
14) Trichlorofluoromethane	7.24	101	15409	0.853	ng		97
19) Methylene Chloride	8.43	84	4874	0.488	ng		83
27) 2-Butanone (MEK)	10.49	72	3493	0.533	ng	#	85
30) Ethyl Acetate	11.31	61	9241	2.287	ng		82
95) Naphthalene	22.28	128	28480	0.490	ng		99

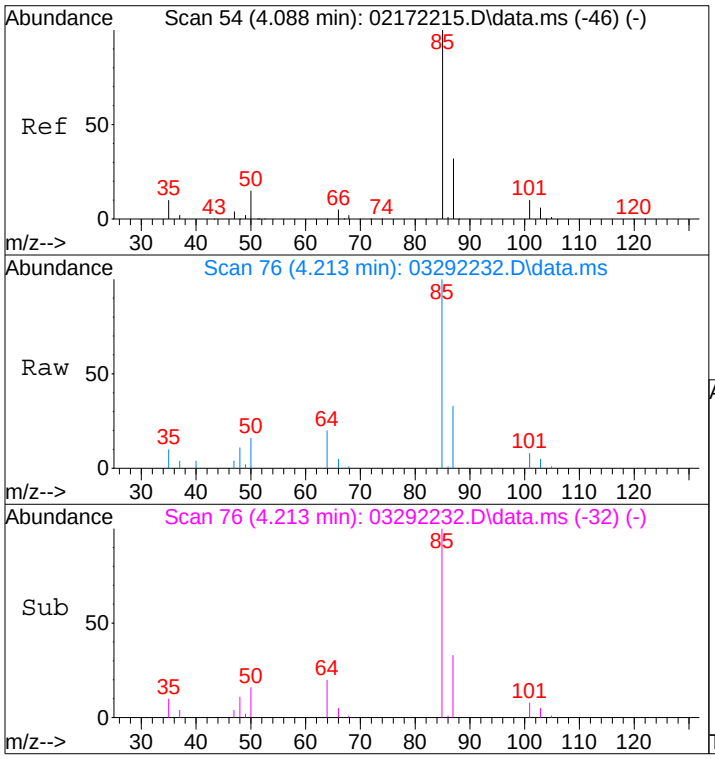
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292232.D Vial: 10
Acq On : 29 Mar 2022 22:50 Operator: SC
Sample : P2201179-001 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:31:11 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

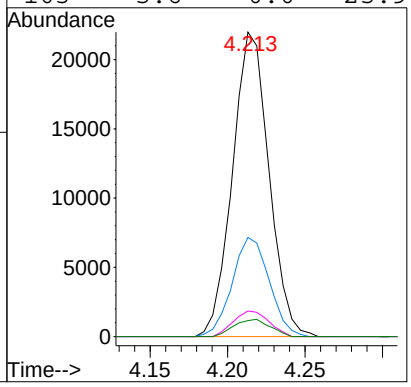


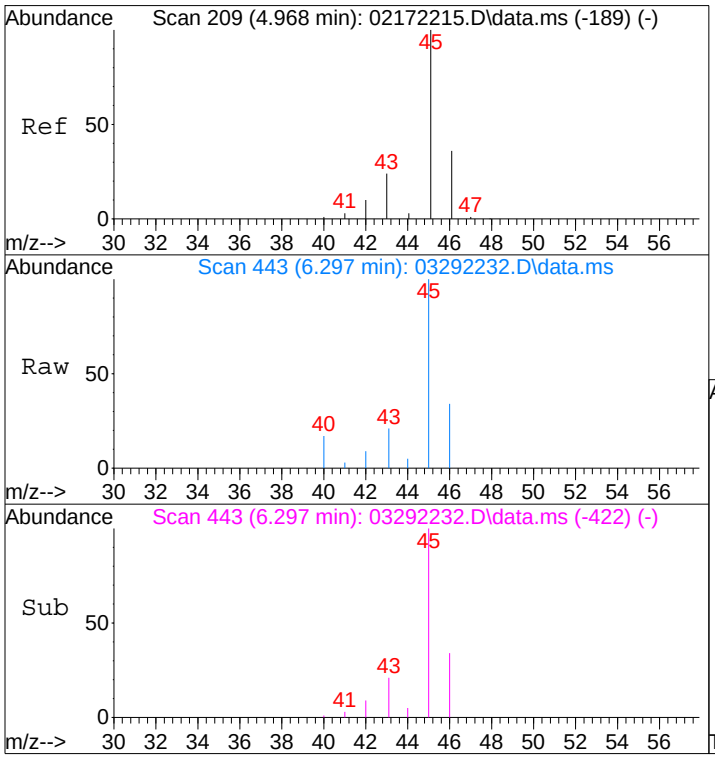


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.74 ng
RT: 4.21 min Scan# 76
Delta R.T. -0.000 min
Lab File: 03292232.D
Acq: 29 Mar 2022 22:50

Tgt Ion: 85 Resp: 35963

Ion	Ratio	Lower	Upper
85	100		
87	33.1	12.2	52.2
101	8.2	0.0	29.6
103	5.6	0.0	25.9

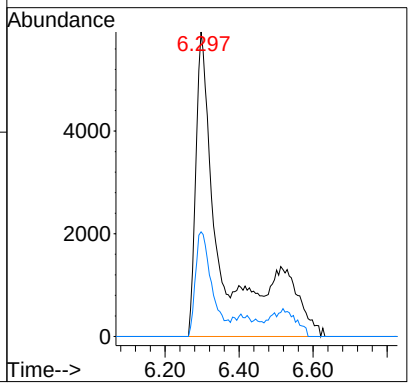


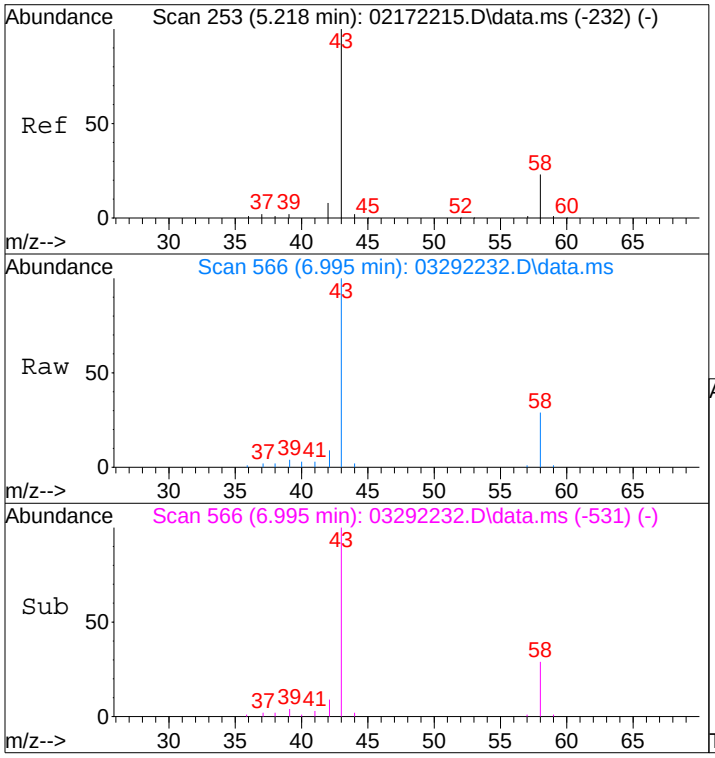


#10
Ethanol
Concen: 3.28 ng
RT: 6.30 min Scan# 443
Delta R.T. -0.131 min
Lab File: 03292232.D
Acq: 29 Mar 2022 22:50

Tgt Ion: 45 Resp: 29708

Ion	Ratio	Lower	Upper
45	100		
46	36.2	16.4	56.4

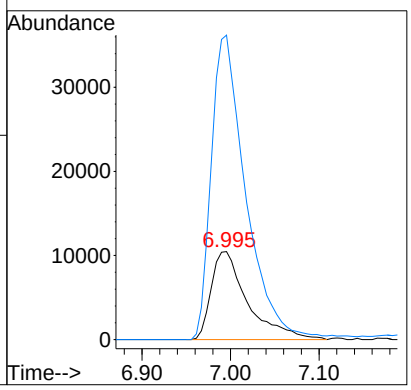


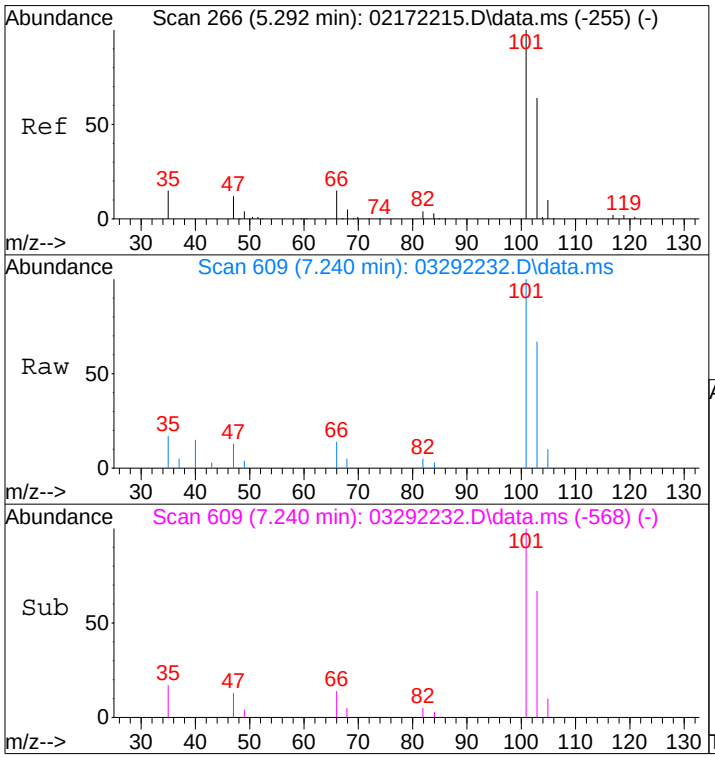


#13
Acetone
Concen: 3.99 ng
RT: 7.00 min Scan# 566
Delta R.T. -0.051 min
Lab File: 03292232.D
Acq: 29 Mar 2022 22:50

Tgt Ion: 58 Resp: 29954

Ion	Ratio	Lower	Upper
58	100		
43	329.7	408.6	468.6#

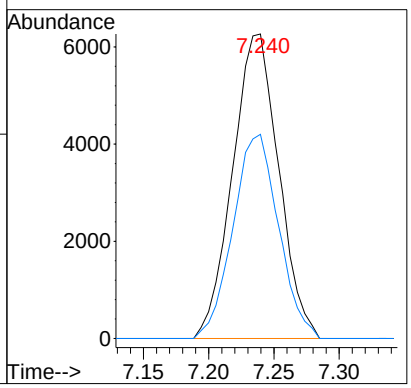


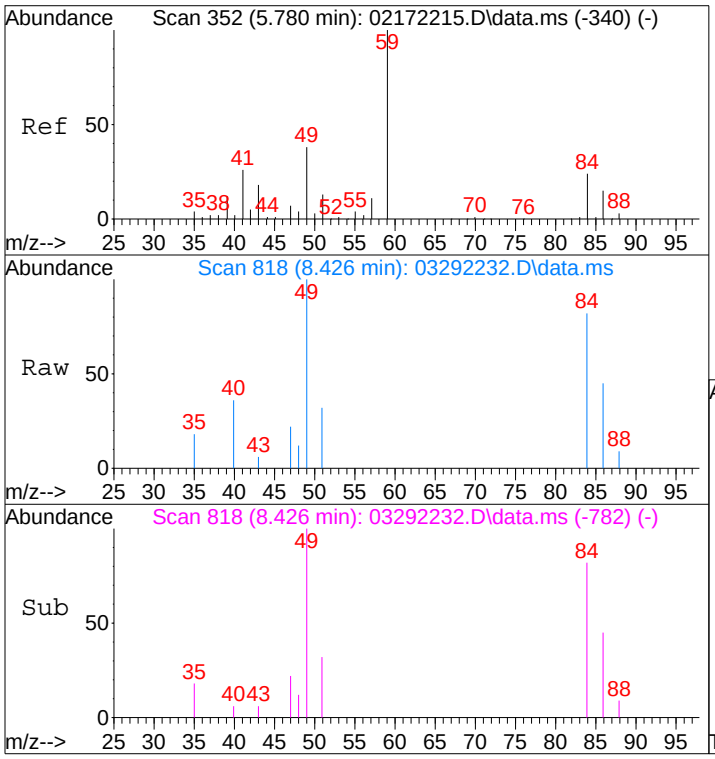


#14
Trichlorofluoromethane
Concen: 0.85 ng
RT: 7.24 min Scan# 609
Delta R.T. -0.017 min
Lab File: 03292232.D
Acq: 29 Mar 2022 22:50

Tgt Ion:101 Resp: 15409

Ion	Ratio	Lower	Upper
101	100		
103	66.2	43.5	83.5

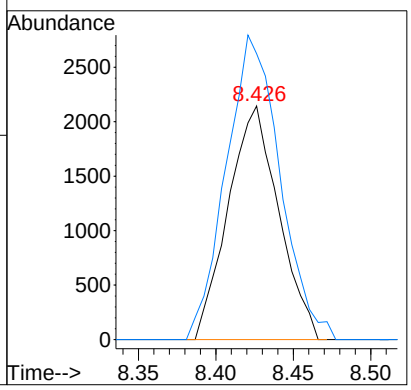


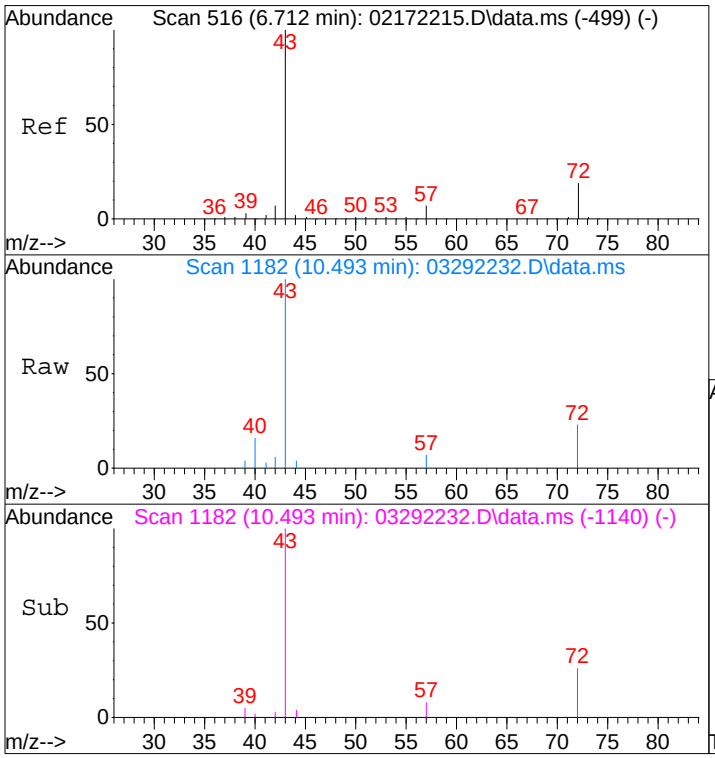


#19
Methylene Chloride
Concen: 0.49 ng
RT: 8.43 min Scan# 818
Delta R.T. -0.046 min
Lab File: 03292232.D
Acq: 29 Mar 2022 22:50

Tgt Ion: 84 Resp: 4874

Ion	Ratio	Lower	Upper
84	100		
49	139.1	136.2	186.2

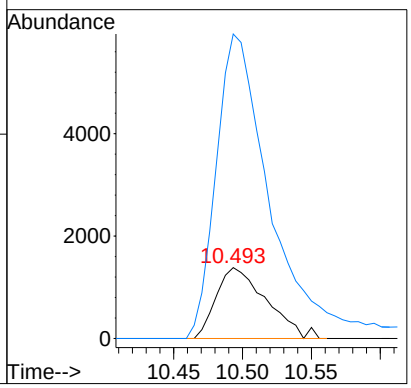


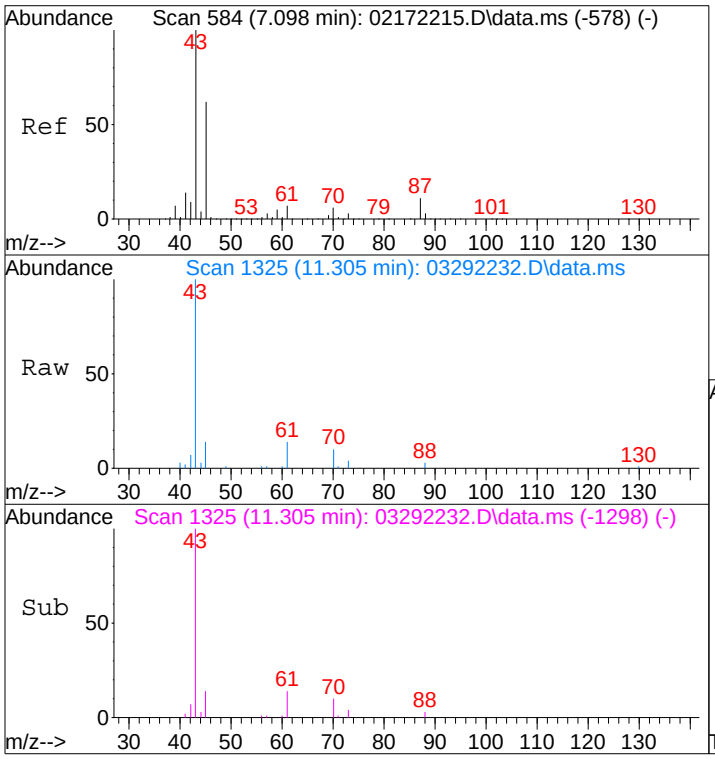


#27
2-Butanone (MEK)
Concen: 0.53 ng
RT: 10.49 min Scan# 1182
Delta R.T. -0.012 min
Lab File: 03292232.D
Acq: 29 Mar 2022 22:50

Tgt Ion: 72 Resp: 3493

Ion	Ratio	Lower	Upper
72	100		
43	478.2	502.2	542.2#

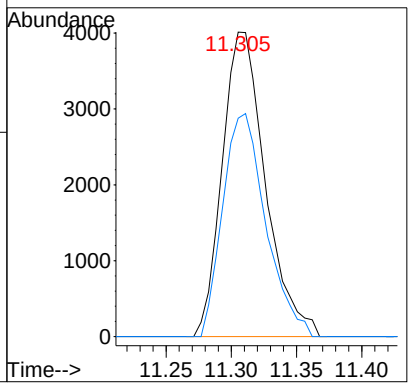


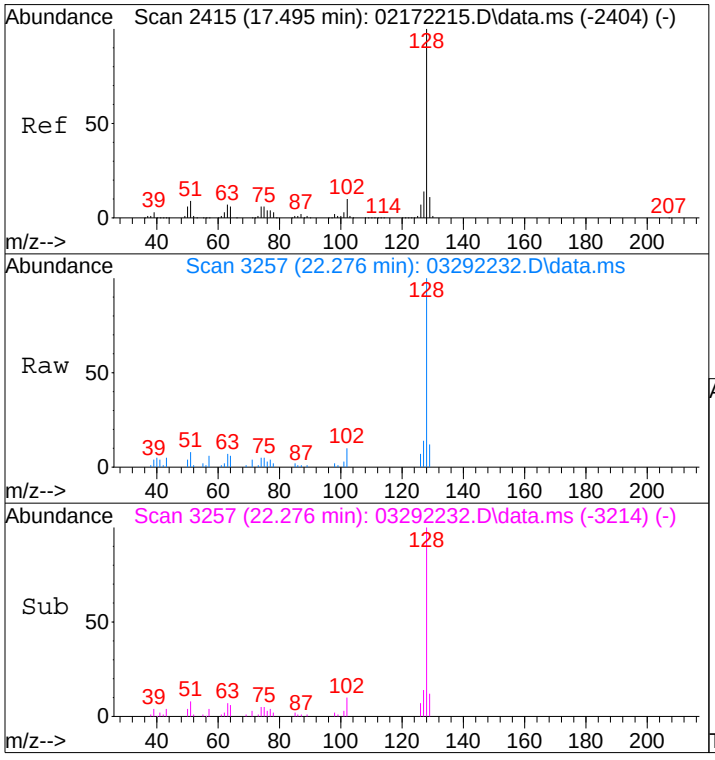


#30
Ethyl Acetate
Concen: 2.29 ng
RT: 11.31 min Scan# 1325
Delta R.T. -0.046 min
Lab File: 03292232.D
Acq: 29 Mar 2022 22:50

Tgt Ion: 61 Resp: 9241

Ion	Ratio	Lower	Upper
61	100		
70	73.0	69.7	109.7

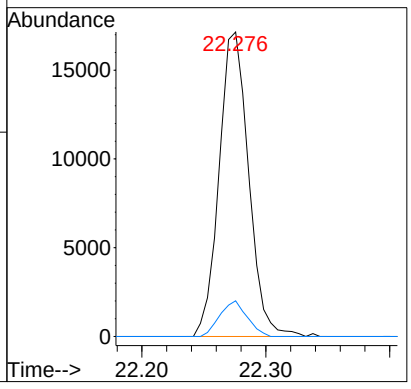




#95
Naphthalene
Concen: 0.49 ng
RT: 22.28 min Scan# 3257
Delta R.T. -0.006 min
Lab File: 03292232.D
Acq: 29 Mar 2022 22:50

Tgt Ion:128 Resp: 28480

Ion	Ratio	Lower	Upper
128	100		
129	10.8	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292233.D Vial: 11
Acq On : 29 Mar 2022 23:23 Operator: SC
Sample : P2201179-002 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:34:00 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/30/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	104079	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	454153	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	99996	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	191396	13.196	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%				
57) Toluene-d8 (SS2)	15.77	98	544233	11.246	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
73) Bromofluorobenzene (SS3)	19.03	174	137706	10.860	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.88%				
Target Compounds							Qvalue
2) Propene	4.10	42	2654	N.D.			
3) Dichlorodifluoromethan...	4.22	85	30191	1.493	ng		99
4) Chloromethane	4.51	50	4631	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.77	135	573	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.30	45	18026	2.033	ng		84
11) Acetonitrile	6.67	41	60	N.D.			
12) Acrolein	6.80	56	662	N.D.			
13) Acetone	7.00	58	25119	3.413	ng	#	56
14) Trichlorofluoromethane	7.24	101	13016	0.736	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	6248	N.D.			
16) Acrylonitrile	8.00	53	902	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.43	84	3579	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.86	151	2275	N.D.			
22) Carbon Disulfide	8.71	76	3486	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.23	86	636	N.D.			
27) 2-Butanone (MEK)	10.50	72	2994	0.467	ng	#	85
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.30	87	1104	N.D.			
30) Ethyl Acetate	11.30	61	74068	18.721	ng		83
31) n-Hexane	11.29	57	1203	N.D.			
32) Chloroform	11.34	83	679	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	438	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.31	61	14581	No Calib		#	
40) 1-Butanol	12.94	56	861	No Calib		#	
41) Benzene	12.91	78	10422	N.D.			
42) Carbon Tetrachloride	13.07	117	3266	N.D.			
43) Cyclohexane	13.20	84	167	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.08	57	3214	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292233.D Vial: 11
Acq On : 29 Mar 2022 23:23 Operator: SC
Sample : P2201179-002 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:34:00 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

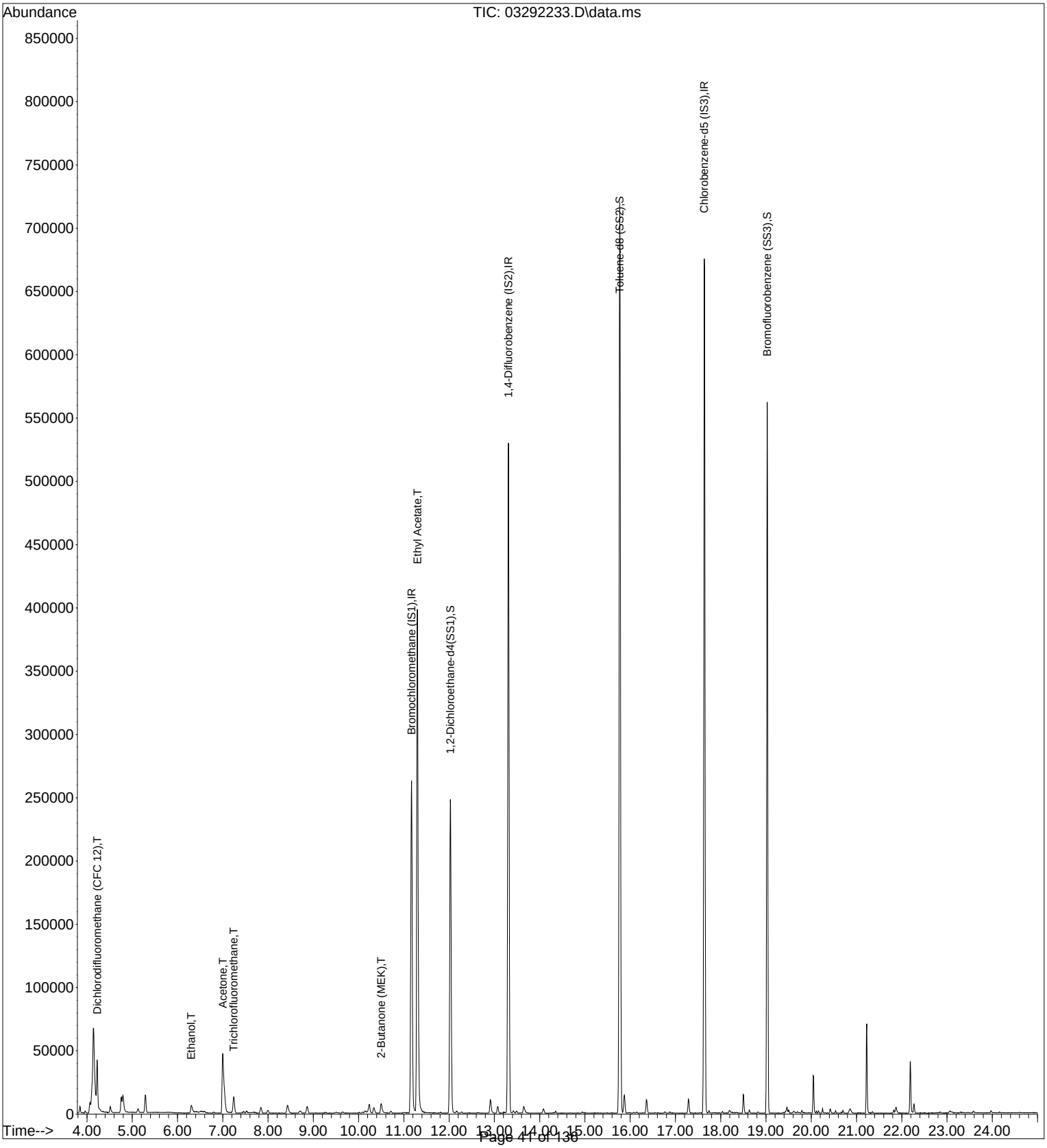
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.35	71	233	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.95	58	118	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.87	91	12387	N.D.	
59) 2-Hexanone	16.14	43	1064	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.76	43	1283	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.04	91	1436	N.D.	
67) m- & p-Xylenes	18.19	91	2792	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.53	104	307	N.D.	
70) o-Xylene	18.63	91	1197	N.D.	
71) n-Nonane	18.82	43	626	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.16	105	112	N.D.	
75) alpha-Pinene	19.50	93	1059	N.D.	
76) n-Propylbenzene	19.60	91	657	N.D.	
77) 3-Ethyltoluene	19.73	105	495	No Calib	#
78) 4-Ethyltoluene	19.73	105	495	N.D.	
79) 1,3,5-Trimethylbenzene	19.80	105	154	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.54	105	165	No Calib	#
82) 1,2,4-Trimethylbenzene	20.16	105	1240	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.28	91	330	N.D.	
85) 1,3-Dichlorobenzene	20.36	146	184	N.D.	
86) 1,4-Dichlorobenzene	20.36	146	184	N.D.	
87) sec-Butylbenzene	20.54	105	165	N.D.	
88) 4-Isopropyltoluene (p-...	20.54	119	1038	N.D.	
89) 1,2,3-Trimethylbenzene	20.54	105	165	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.66	68	309	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.23	58	690	No Calib	
94) 1,2,4-Trichlorobenzene	22.17	180	615	N.D.	
95) Naphthalene	22.28	128	3633	N.D.	
96) n-Dodecane	22.18	58	329	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.51	55	2187	No Calib	#
99) tert-Butylbenzene	20.16	119	177	N.D.	
100) n-Butylbenzene	20.90	91	823	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292233.D Vial: 11
Acq On : 29 Mar 2022 23:23 Operator: SC
Sample : P2201179-002 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:34:00 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292233.D Vial: 11
Acq On : 29 Mar 2022 23:23 Operator: SC
Sample : P2201179-002 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:34:00 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/30/22

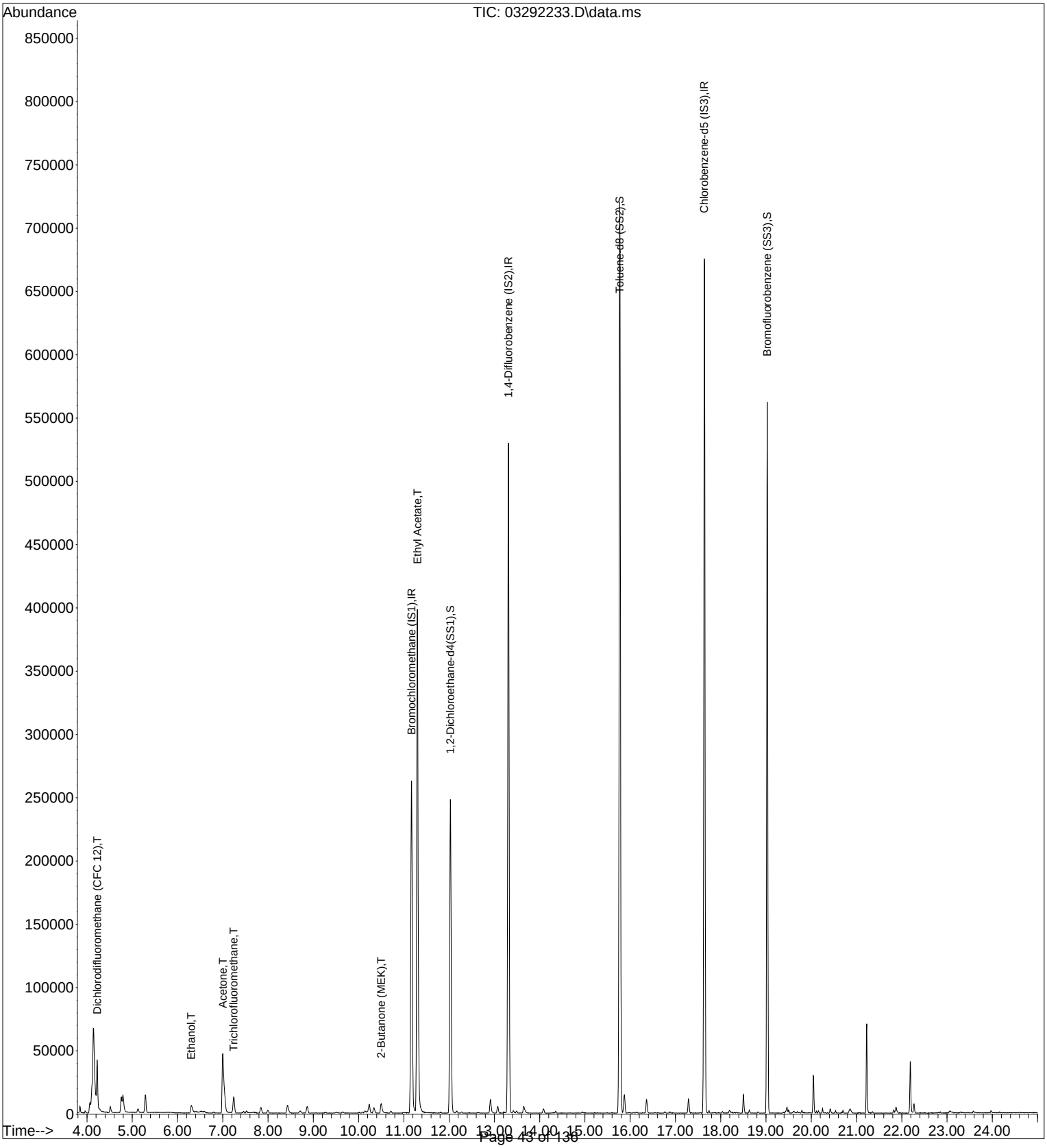
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	104079	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	454153	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	99996	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	191396	13.196	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%				
57) Toluene-d8 (SS2)	15.77	98	544233	11.246	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
73) Bromofluorobenzene (SS3)	19.03	174	137706	10.860	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.88%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.22	85	30191	1.493	ng		99
10) Ethanol	6.30	45	18026	2.033	ng		84
13) Acetone	7.00	58	25119	3.413	ng	#	56
14) Trichlorofluoromethane	7.24	101	13016	0.736	ng		98
27) 2-Butanone (MEK)	10.50	72	2994	0.467	ng	#	85
30) Ethyl Acetate	11.30	61	74068	18.721	ng		83

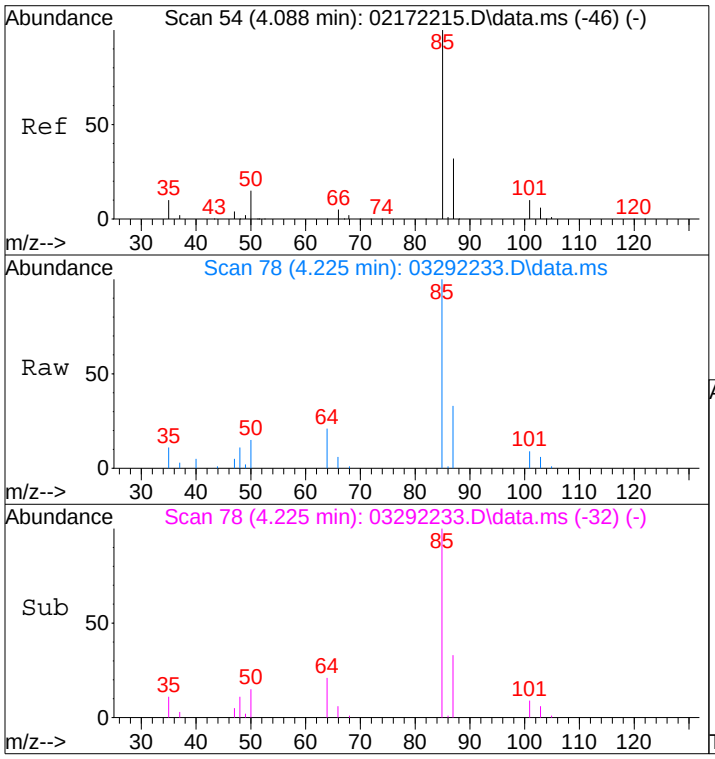
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292233.D Vial: 11
Acq On : 29 Mar 2022 23:23 Operator: SC
Sample : P2201179-002 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:34:00 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

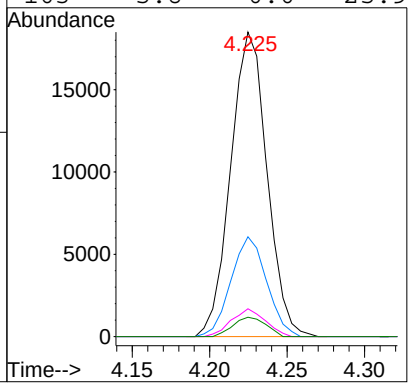


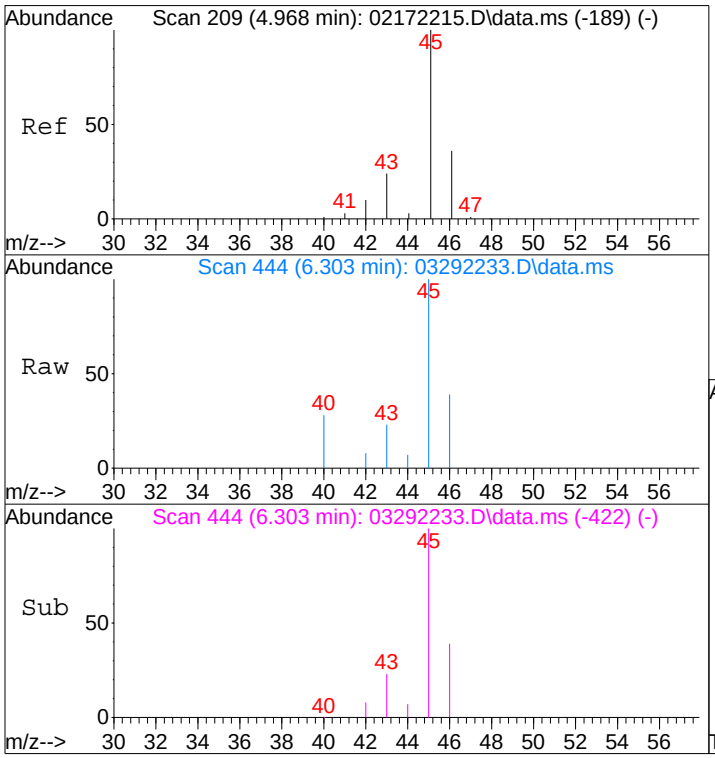


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.49 ng
RT: 4.22 min Scan# 78
Delta R.T. 0.011 min
Lab File: 03292233.D
Acq: 29 Mar 2022 23:23

Tgt Ion: 85 Resp: 30191

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.2	52.2
101	8.5	0.0	29.6
103	5.8	0.0	25.9

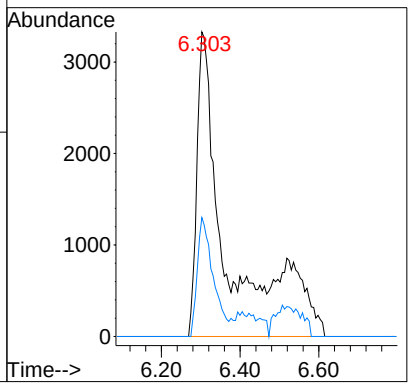


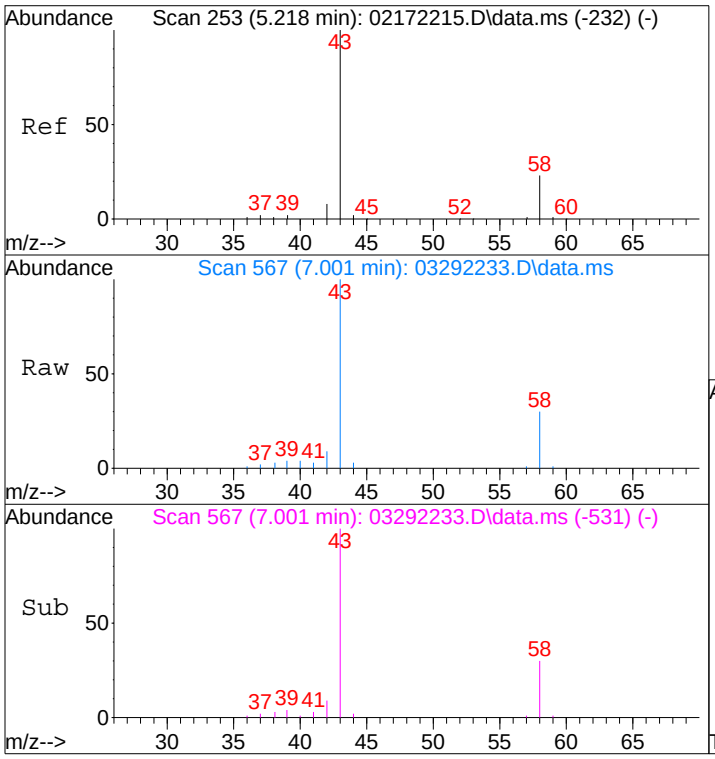


#10
Ethanol
Concen: 2.03 ng
RT: 6.30 min Scan# 444
Delta R.T. -0.125 min
Lab File: 03292233.D
Acq: 29 Mar 2022 23:23

Tgt Ion: 45 Resp: 18026

Ion	Ratio	Lower	Upper
45	100		
46	27.2	16.4	56.4

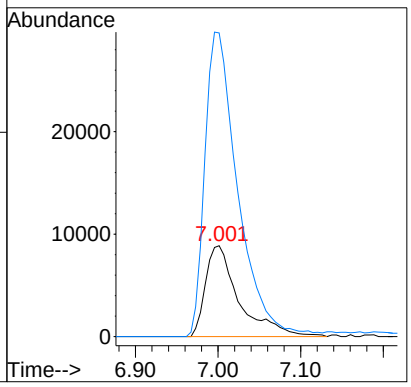


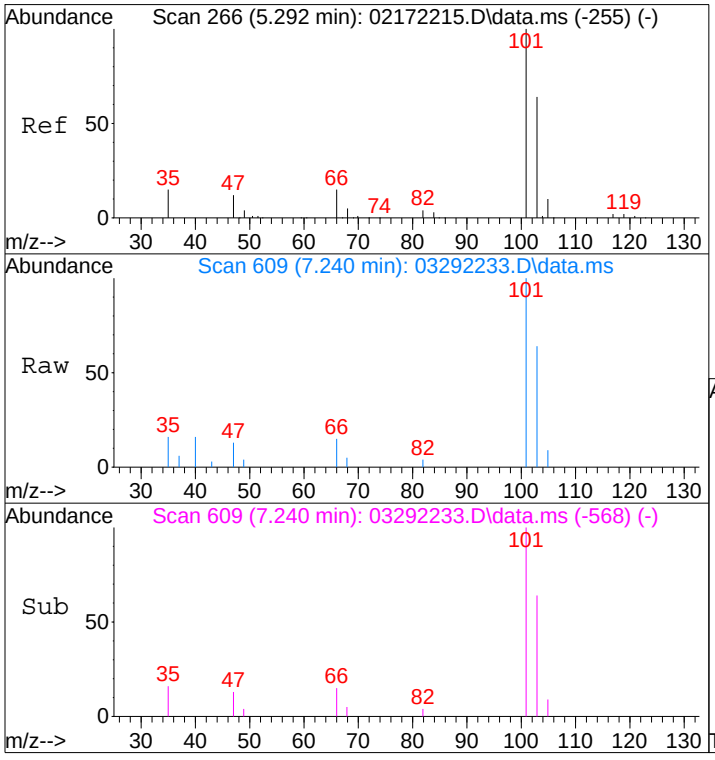


#13
Acetone
Concen: 3.41 ng
RT: 7.00 min Scan# 567
Delta R.T. -0.045 min
Lab File: 03292233.D
Acq: 29 Mar 2022 23:23

Tgt Ion: 58 Resp: 25119

Ion	Ratio	Lower	Upper
58	100		
43	328.2	408.6	468.6#

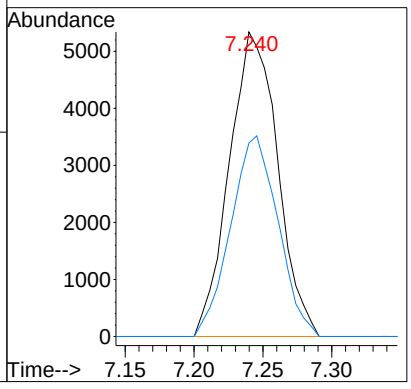


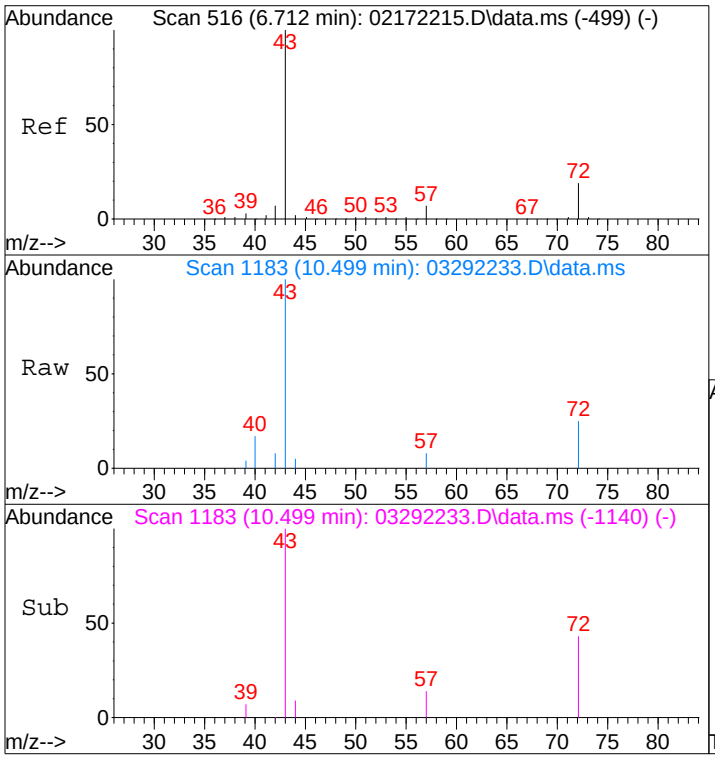


#14
Trichlorofluoromethane
Concen: 0.74 ng
RT: 7.24 min Scan# 609
Delta R.T. -0.017 min
Lab File: 03292233.D
Acq: 29 Mar 2022 23:23

Tgt Ion:101 Resp: 13016

Ion	Ratio	Lower	Upper
101	100		
103	64.7	43.5	83.5

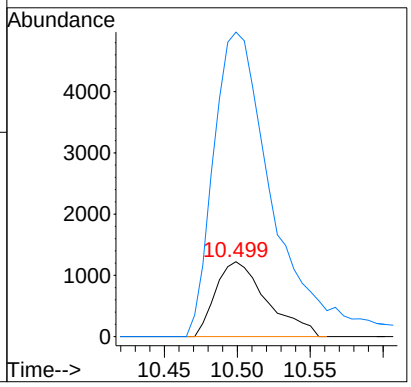


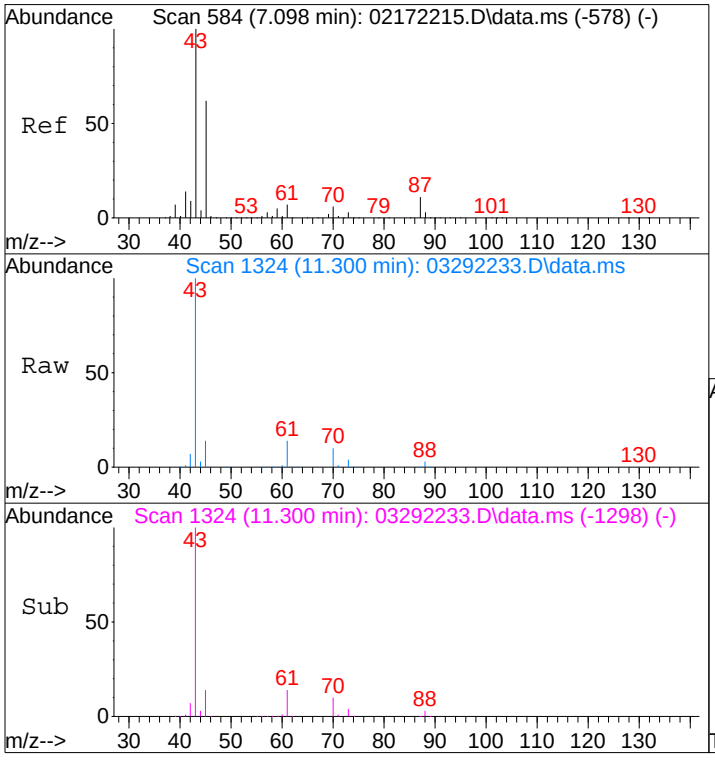


#27
2-Butanone (MEK)
Concen: 0.47 ng
RT: 10.50 min Scan# 1183
Delta R.T. -0.006 min
Lab File: 03292233.D
Acq: 29 Mar 2022 23:23

Tgt Ion: 72 Resp: 2994

Ion	Ratio	Lower	Upper
72	100		
43	478.6	502.2	542.2#

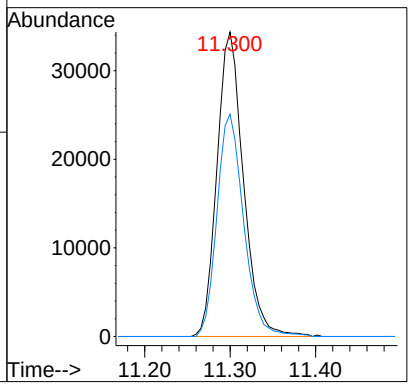




#30
Ethyl Acetate
Concen: 18.72 ng
RT: 11.30 min Scan# 1324
Delta R.T. -0.051 min
Lab File: 03292233.D
Acq: 29 Mar 2022 23:23

Tgt Ion: 61 Resp: 74068

Ion	Ratio	Lower	Upper
61	100		
70	73.5	69.7	109.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292234.D Vial: 12
Acq On : 29 Mar 2022 23:56 Operator: SC
Sample : P2201179-003 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:35:23 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 3/30/22
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	101947	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	445739	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	97840	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	187323	13.185	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%				
57) Toluene-d8 (SS2)	15.77	98	530392	11.201	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.60%				
73) Bromofluorobenzene (SS3)	19.03	174	133872	10.791	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.32%				
Target Compounds							Qvalue
2) Propene	4.08	42	3448	N.D.			
3) Dichlorodifluoromethan...	4.22	85	29160	1.472	ng		99
4) Chloromethane	4.51	50	4900	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.77	135	562	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.30	45	15440	1.778	ng		85
11) Acetonitrile	6.59	41	1451	N.D.			
12) Acrolein	6.79	56	360	N.D.			
13) Acetone	7.00	58	25410	3.525	ng	#	59
14) Trichlorofluoromethane	7.24	101	12626	0.729	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	21609	0.816	ng		93
16) Acrylonitrile	7.99	53	752	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.47	59	55	N.D.			
19) Methylene Chloride	8.43	84	2160	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.86	151	2178	N.D.			
22) Carbon Disulfide	8.71	76	3570	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.20	86	128	N.D.			
27) 2-Butanone (MEK)	10.50	72	2554	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.31	61	17905	4.620	ng		82
31) n-Hexane	11.28	57	1250	N.D.			
32) Chloroform	11.35	83	775	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	321	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.31	61	14200	No Calib		#	
40) 1-Butanol	12.94	56	1255	No Calib		#	
41) Benzene	12.91	78	6544	N.D.			
42) Carbon Tetrachloride	13.08	117	3071	N.D.			
43) Cyclohexane	13.30	84	185	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.09	57	2382	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292234.D Vial: 12
Acq On : 29 Mar 2022 23:56 Operator: SC
Sample : P2201179-003 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:35:23 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

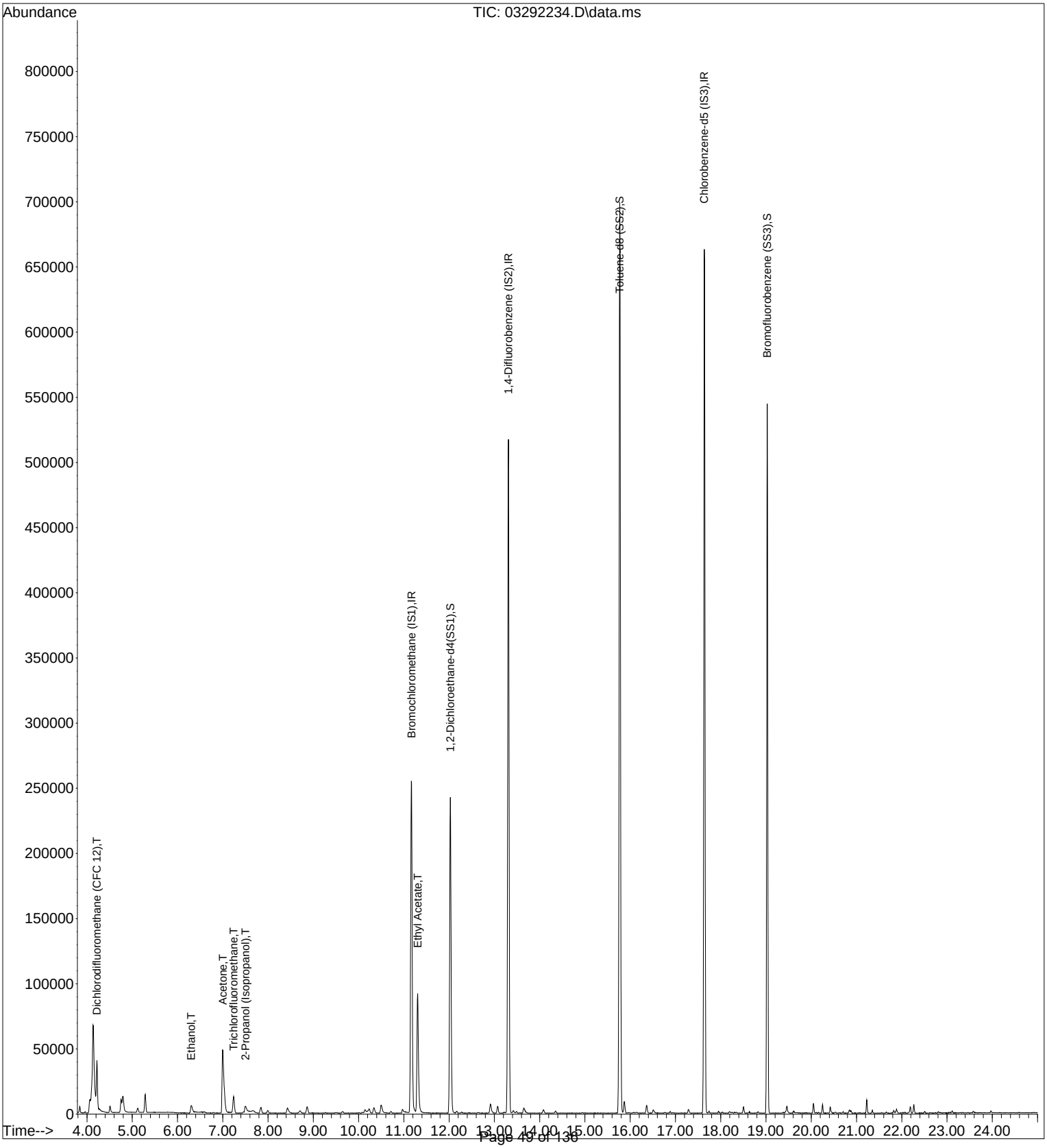
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.35	71	381	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.87	91	7643	N.D.		
59) 2-Hexanone	16.14	43	1015	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.76	43	782	N.D.		
63) n-Octane	16.89	57	124	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.03	91	916	N.D.		
67) m- & p-Xylenes	18.19	91	1512	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.62	91	644	N.D.		
71) n-Nonane	18.82	43	656	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.03	105	113	N.D.		
75) alpha-Pinene	19.50	93	303	N.D.		
76) n-Propylbenzene	19.61	91	381	N.D.		
77) 3-Ethyltoluene	19.73	105	250	No Calib		#
78) 4-Ethyltoluene	19.73	105	250	N.D.		
79) 1,3,5-Trimethylbenzene	19.73	105	250	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.84	105	1737	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	434	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	20.36	146	324	N.D.		
86) 1,4-Dichlorobenzene	20.36	146	324	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	20.53	119	720	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	115	N.D.		
95) Naphthalene	22.28	128	1128	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.51	55	783	No Calib		#
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	20.88	91	405	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292234.D Vial: 12
Acq On : 29 Mar 2022 23:56 Operator: SC
Sample : P2201179-003 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:35:23 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292234.D Vial: 12
Acq On : 29 Mar 2022 23:56 Operator: SC
Sample : P2201179-003 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:35:23 2022 3/30/22
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

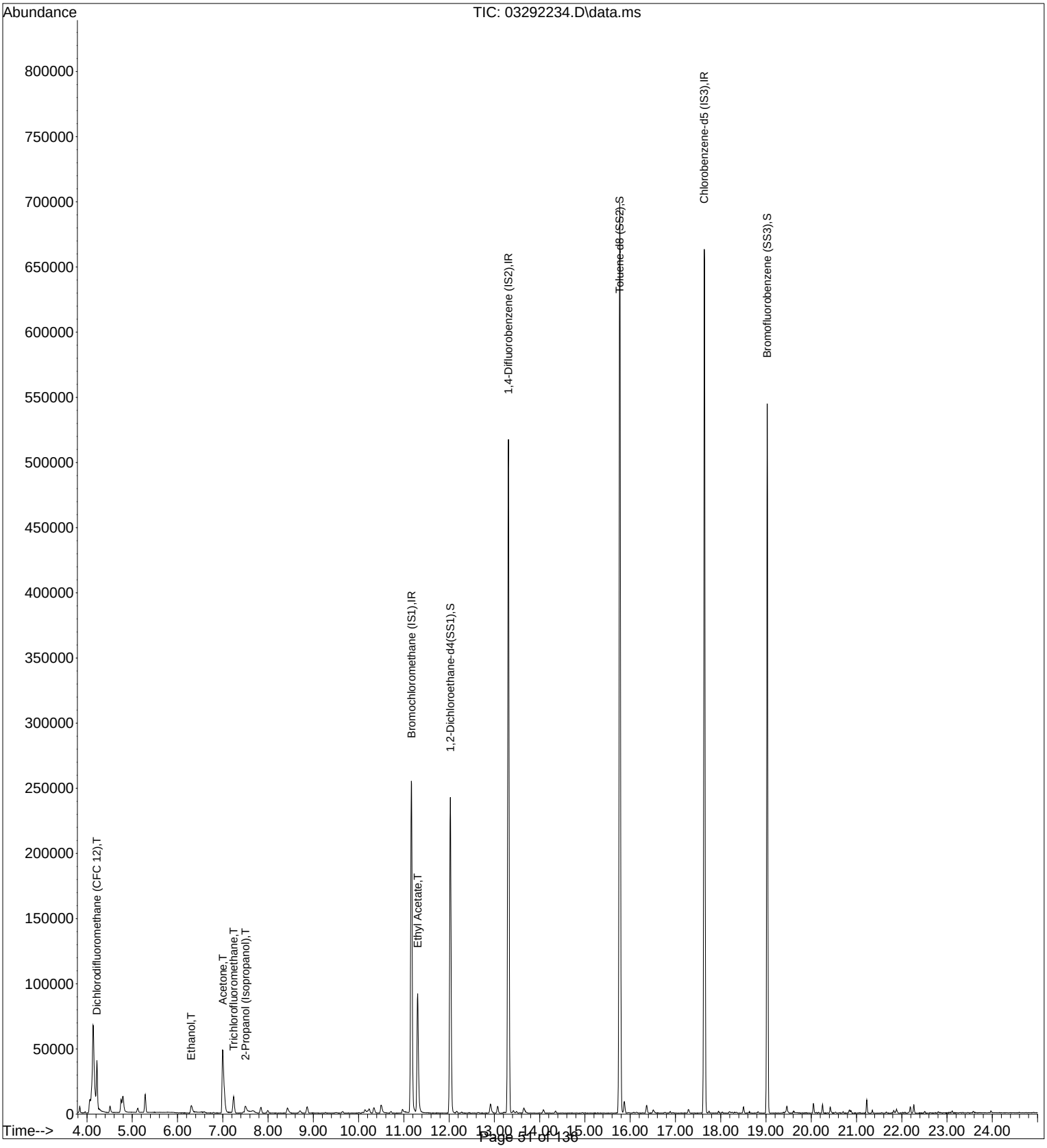
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	101947	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	445739	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	97840	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	187323	13.185	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%				
57) Toluene-d8 (SS2)	15.77	98	530392	11.201	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.60%				
73) Bromofluorobenzene (SS3)	19.03	174	133872	10.791	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.32%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.22	85	29160	1.472	ng		99
10) Ethanol	6.30	45	15440	1.778	ng		85
13) Acetone	7.00	58	25410	3.525	ng	#	59
14) Trichlorofluoromethane	7.24	101	12626	0.729	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	21609	0.816	ng		93
30) Ethyl Acetate	11.31	61	17905	4.620	ng		82

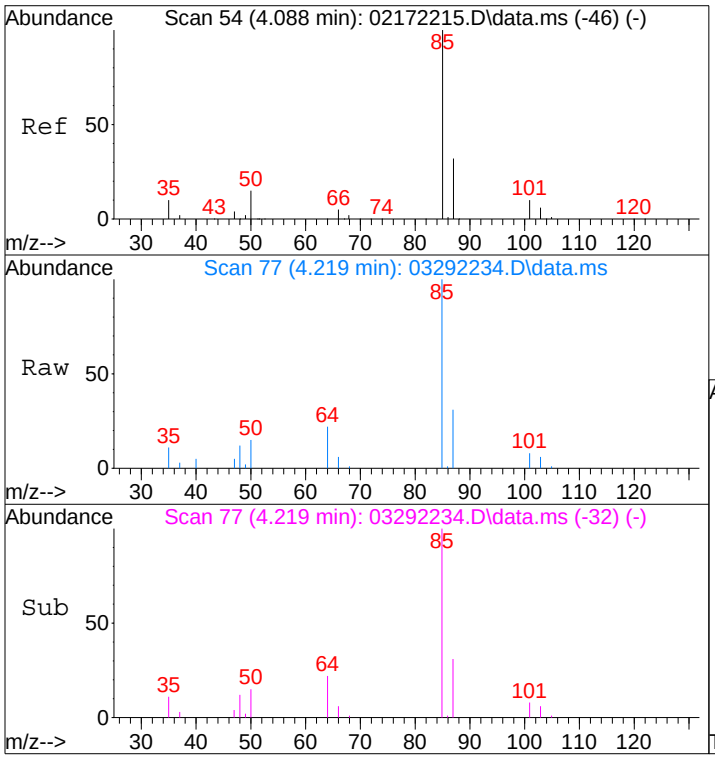
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292234.D Vial: 12
Acq On : 29 Mar 2022 23:56 Operator: SC
Sample : P2201179-003 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:35:23 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

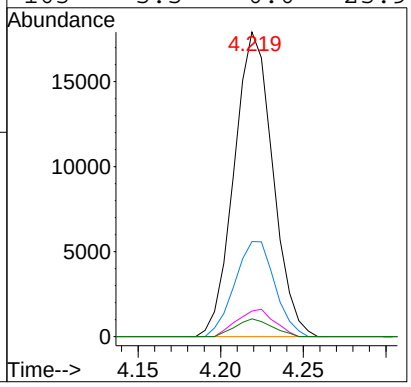


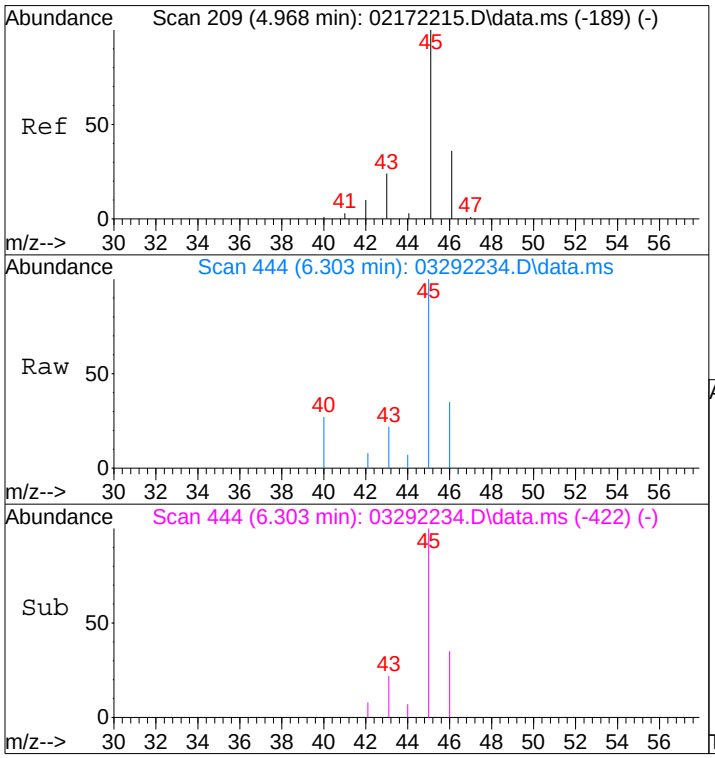


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.47 ng
RT: 4.22 min Scan# 77
Delta R.T. 0.006 min
Lab File: 03292234.D
Acq: 29 Mar 2022 23:56

Tgt Ion: 85 Resp: 29160

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.2	52.2
101	8.7	0.0	29.6
103	5.5	0.0	25.9

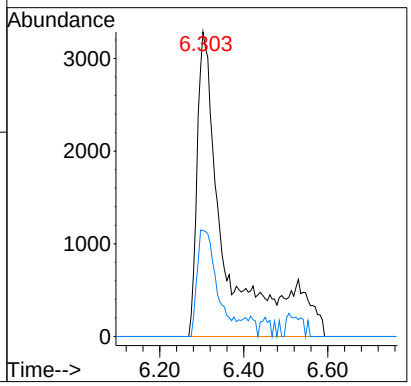


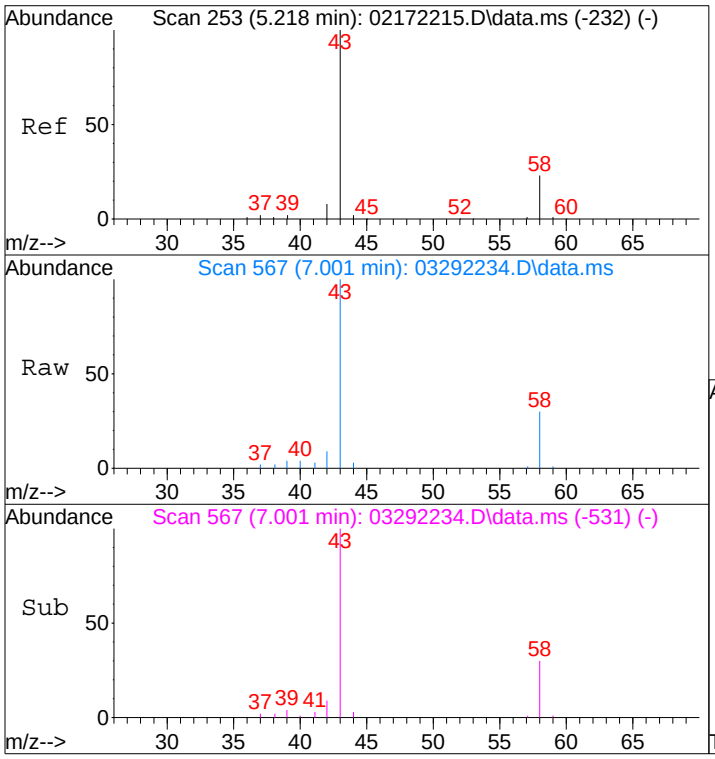


#10
Ethanol
Concen: 1.78 ng
RT: 6.30 min Scan# 444
Delta R.T. -0.125 min
Lab File: 03292234.D
Acq: 29 Mar 2022 23:56

Tgt Ion: 45 Resp: 15440

Ion	Ratio	Lower	Upper
45	100		
46	27.6	16.4	56.4

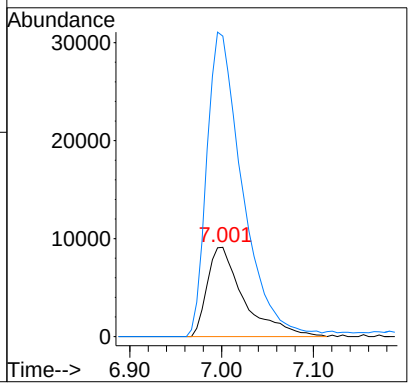


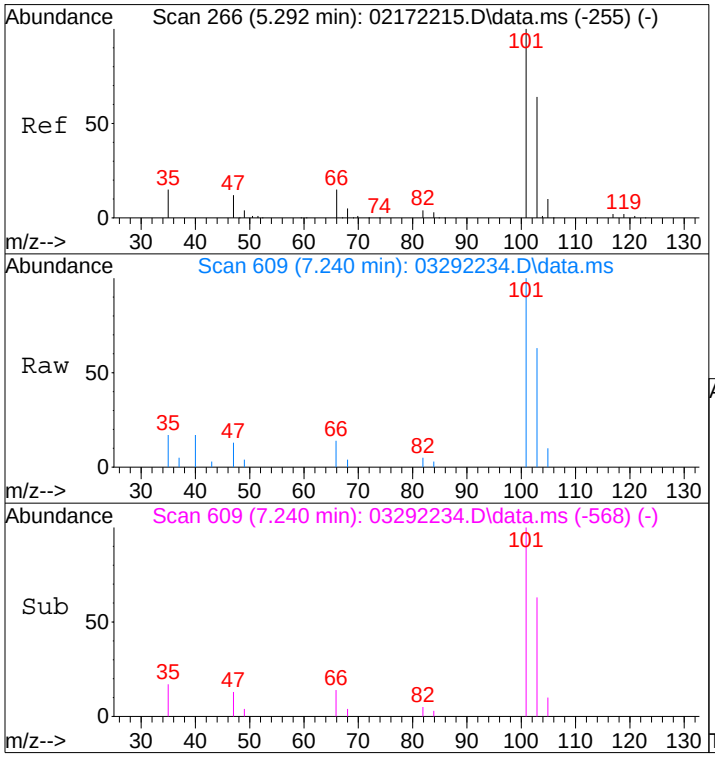


#13
Acetone
Concen: 3.53 ng
RT: 7.00 min Scan# 567
Delta R.T. -0.045 min
Lab File: 03292234.D
Acq: 29 Mar 2022 23:56

Tgt Ion: 58 Resp: 25410

Ion	Ratio	Lower	Upper
58	100		
43	335.2	408.6	468.6#

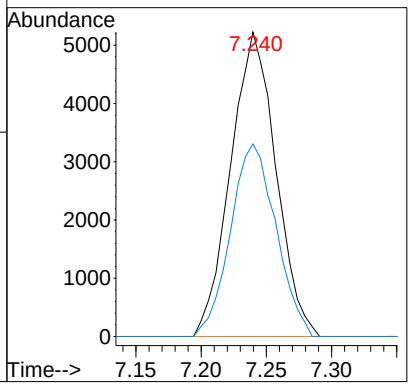


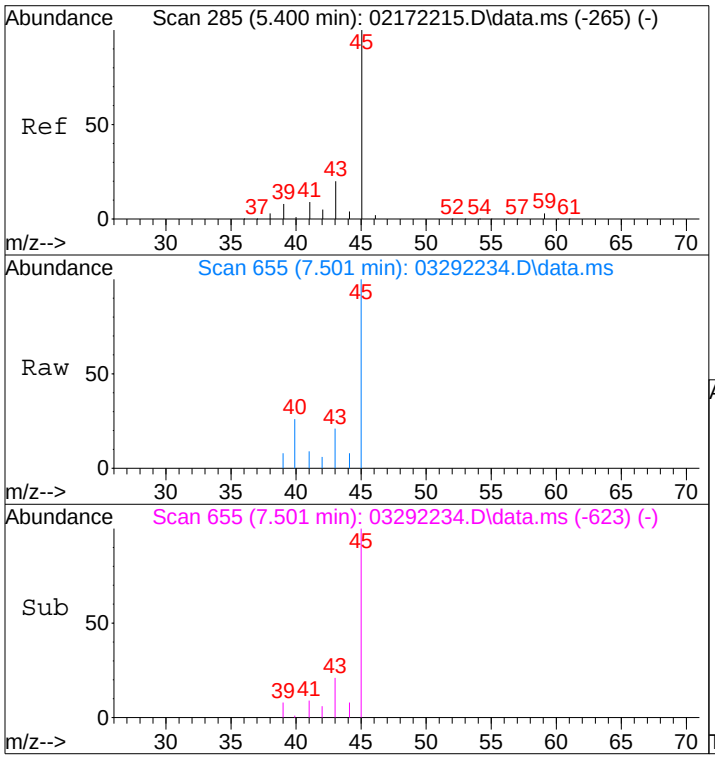


#14
Trichlorofluoromethane
Concen: 0.73 ng
RT: 7.24 min Scan# 609
Delta R.T. -0.017 min
Lab File: 03292234.D
Acq: 29 Mar 2022 23:56

Tgt Ion:101 Resp: 12626

Ion	Ratio	Lower	Upper
101	100		
103	63.5	43.5	83.5

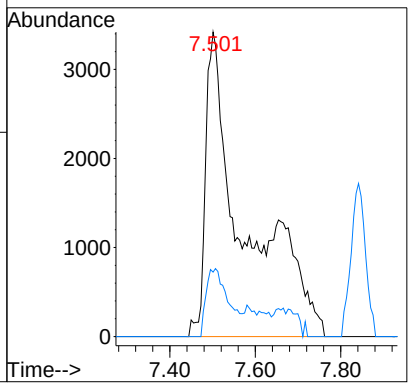


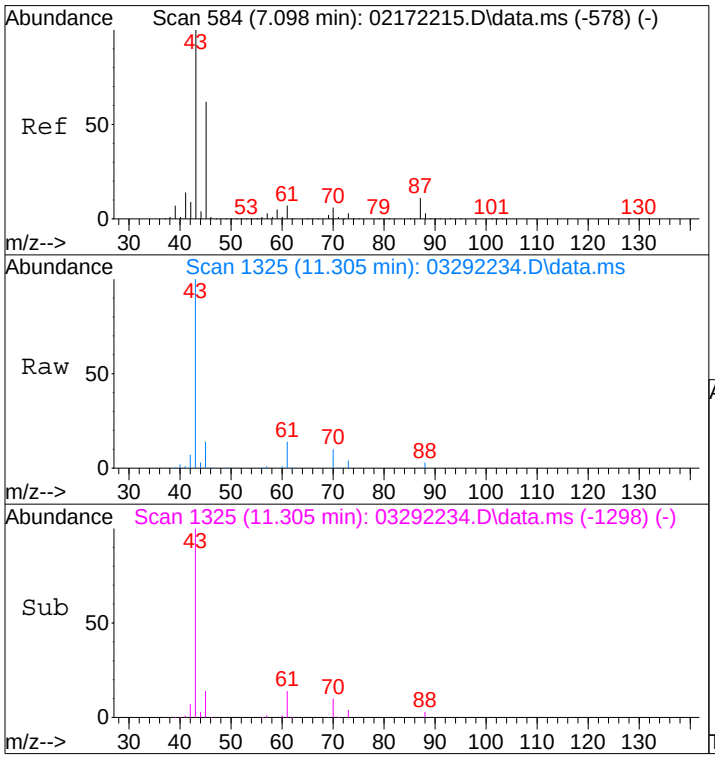


#15
2-Propanol (Isopropanol)
Concen: 0.82 ng
RT: 7.50 min Scan# 655
Delta R.T. -0.068 min
Lab File: 03292234.D
Acq: 29 Mar 2022 23:56

Tgt Ion: 45 Resp: 21609

Ion	Ratio	Lower	Upper
45	100		
43	23.6	0.3	40.3

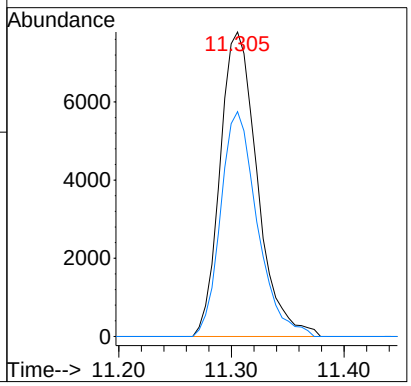




#30
Ethyl Acetate
Concen: 4.62 ng
RT: 11.31 min Scan# 1325
Delta R.T. -0.046 min
Lab File: 03292234.D
Acq: 29 Mar 2022 23:56

Tgt Ion: 61 Resp: 17905

Ion	Ratio	Lower	Upper
61	100		
70	72.6	69.7	109.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292235.D Vial: 13
Acq On : 30 Mar 2022 00:30 Operator: SC
Sample : P2201179-004 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:37:00 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/30/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	100352	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	439523	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	96426	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	183717	13.137	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%				
57) Toluene-d8 (SS2)	15.77	98	526584	11.284	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%				
73) Bromofluorobenzene (SS3)	19.03	174	132485	10.836	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
Target Compounds							Qvalue
2) Propene	4.11	42	2323	N.D.			
3) Dichlorodifluoromethan...	4.22	85	29293	1.503	ng		99
4) Chloromethane	4.51	50	5124	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	532	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.30	45	13705	1.603	ng		76
11) Acetonitrile	6.59	41	1540	N.D.			
12) Acrolein	6.80	56	596	N.D.			
13) Acetone	7.00	58	23574	3.322	ng	#	63
14) Trichlorofluoromethane	7.25	101	12424	0.728	ng		97
15) 2-Propanol (Isopropanol)	7.51	45	6690	N.D.			
16) Acrylonitrile	7.99	53	110	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.47	59	52	N.D.			
19) Methylene Chloride	8.43	84	2357	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.87	151	2204	N.D.			
22) Carbon Disulfide	8.71	76	5885	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.20	86	122	N.D.			
27) 2-Butanone (MEK)	10.50	72	2355	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.31	61	16597	4.351	ng		83
31) n-Hexane	11.29	57	1336	N.D.			
32) Chloroform	11.34	83	619	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	352	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.31	61	14283	No Calib		#	
40) 1-Butanol	12.93	56	708	No Calib		#	
41) Benzene	12.91	78	6821	N.D.			
42) Carbon Tetrachloride	13.08	117	3129	N.D.			
43) Cyclohexane	13.30	84	205	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.09	57	2743	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292235.D Vial: 13
Acq On : 30 Mar 2022 00:30 Operator: SC
Sample : P2201179-004 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:37:00 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

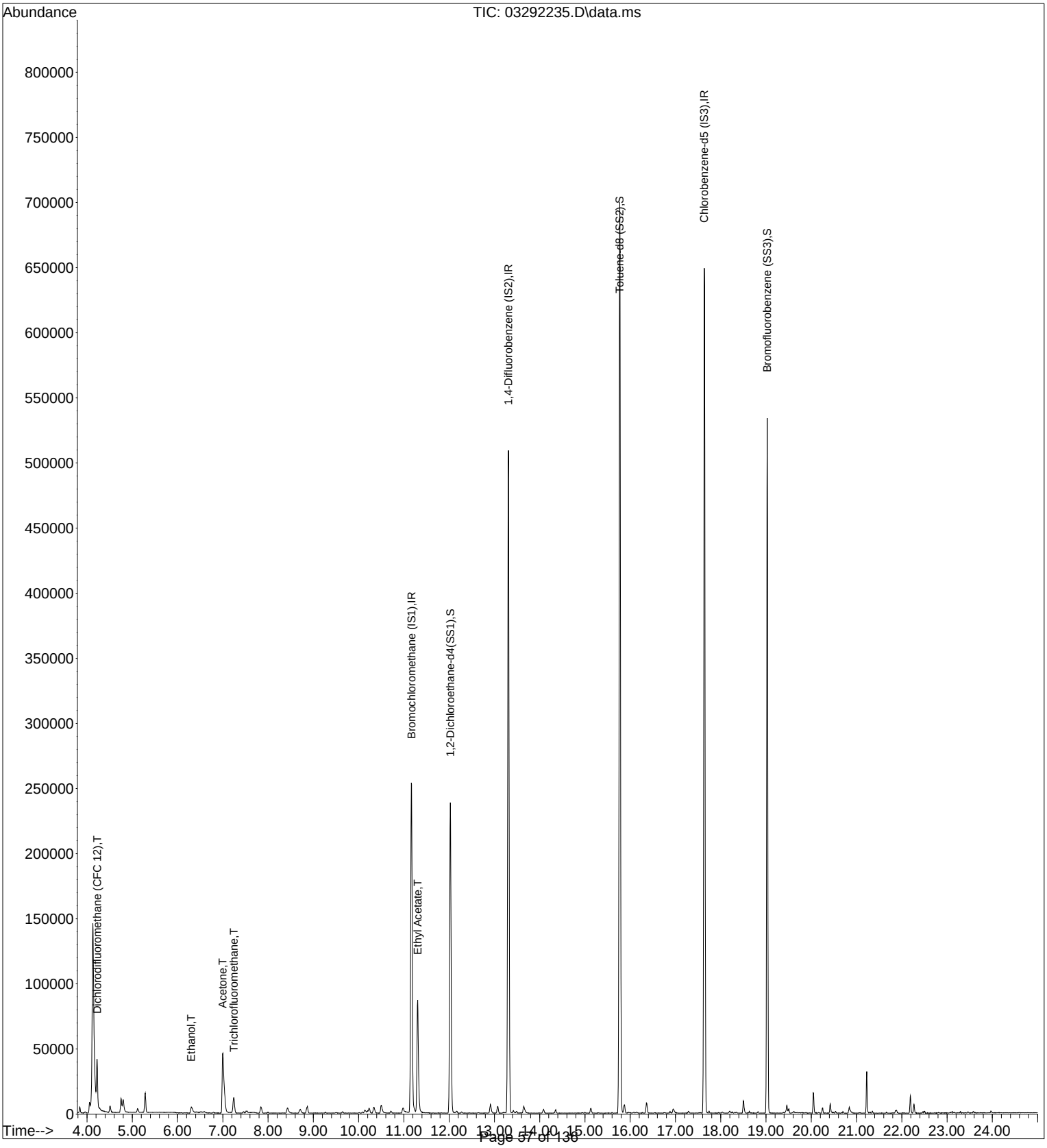
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.35	71	521	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.88	91	5747	N.D.	
59) 2-Hexanone	16.14	43	1136	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.76	43	735	N.D.	
63) n-Octane	16.88	57	210	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.04	91	985	N.D.	
67) m- & p-Xylenes	18.20	91	1768	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.53	104	786	N.D.	
70) o-Xylene	18.62	91	698	N.D.	
71) n-Nonane	18.83	43	695	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.02	105	105	N.D.	
75) alpha-Pinene	19.50	93	1481	N.D.	
76) n-Propylbenzene	19.60	91	301	N.D.	
77) 3-Ethyltoluene	19.74	105	244	No Calib	#
78) 4-Ethyltoluene	19.74	105	244	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	244	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.84	105	2936	No Calib	
82) 1,2,4-Trimethylbenzene	20.16	105	550	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.54	119	1000	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.66	68	120	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.23	58	316	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.28	128	3066	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.50	55	1535	No Calib	#
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	20.90	91	596	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292235.D Vial: 13
Acq On : 30 Mar 2022 00:30 Operator: SC
Sample : P2201179-004 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:37:00 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292235.D Vial: 13
Acq On : 30 Mar 2022 00:30 Operator: SC
Sample : P2201179-004 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:37:00 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/30/22

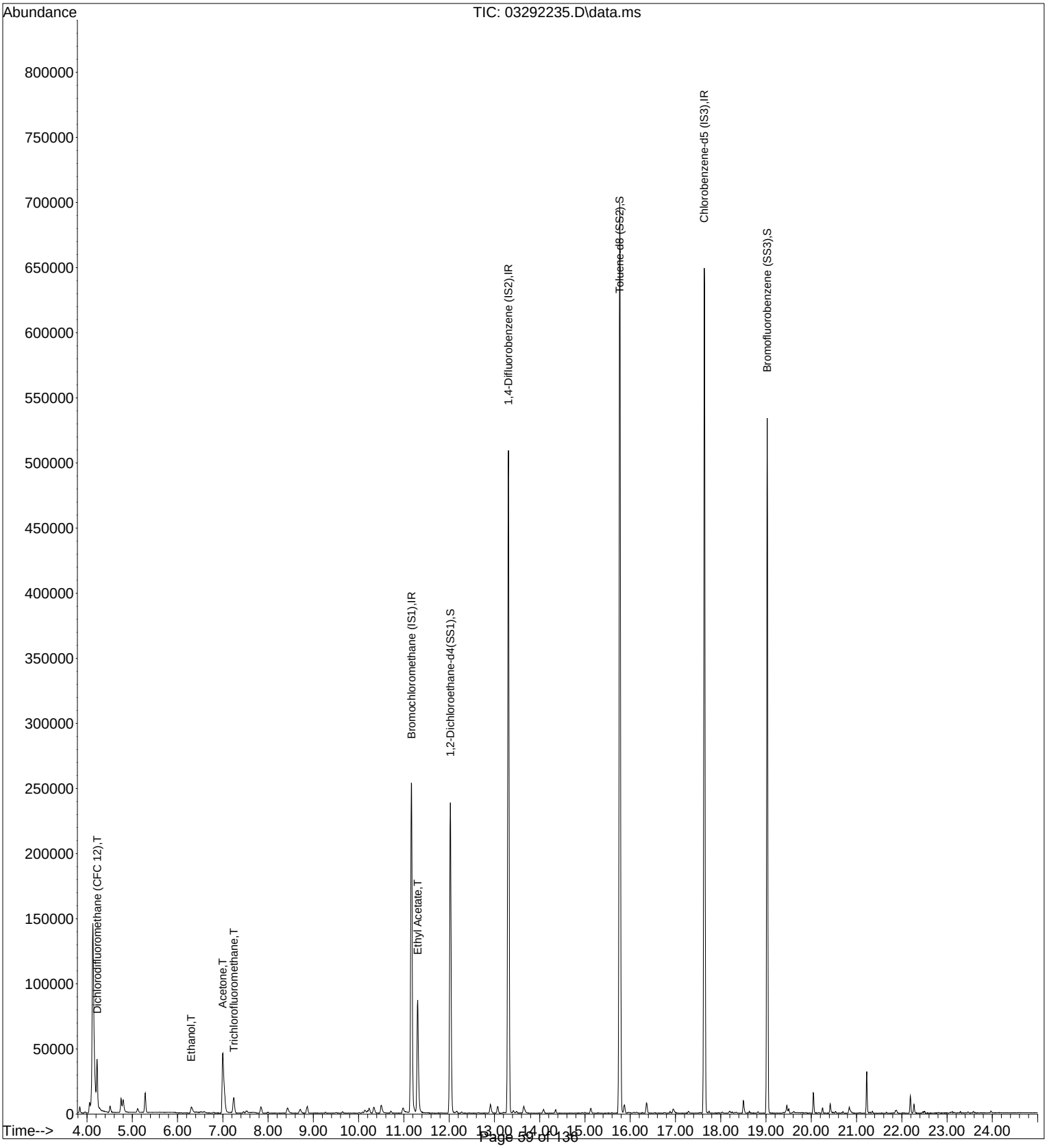
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	100352	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	439523	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	96426	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	183717	13.137	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%				
57) Toluene-d8 (SS2)	15.77	98	526584	11.284	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%				
73) Bromofluorobenzene (SS3)	19.03	174	132485	10.836	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.22	85	29293	1.503	ng		99
10) Ethanol	6.30	45	13705	1.603	ng		76
13) Acetone	7.00	58	23574	3.322	ng	#	63
14) Trichlorofluoromethane	7.25	101	12424	0.728	ng		97
30) Ethyl Acetate	11.31	61	16597	4.351	ng		83

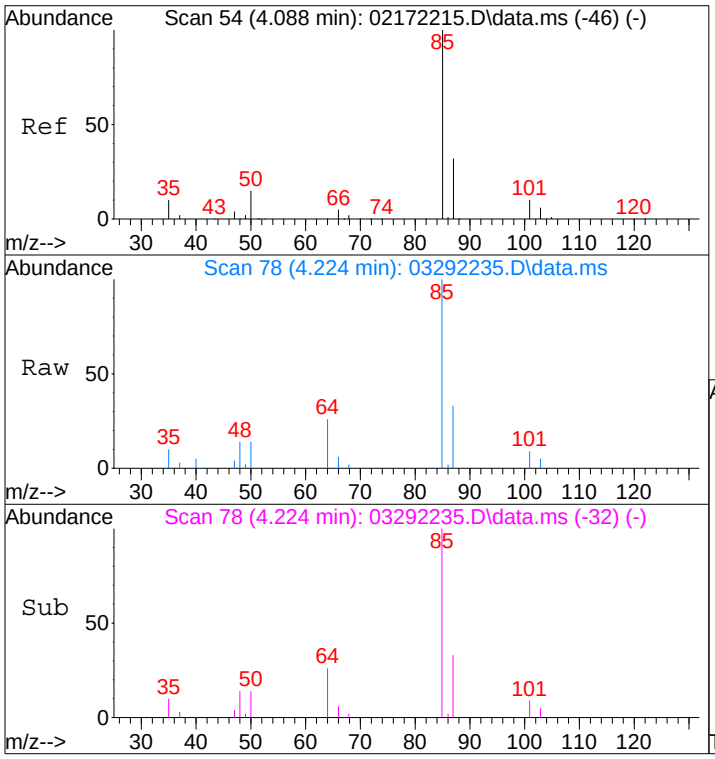
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292235.D Vial: 13
Acq On : 30 Mar 2022 00:30 Operator: SC
Sample : P2201179-004 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:37:00 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

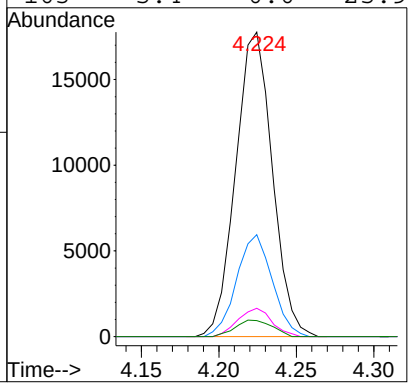


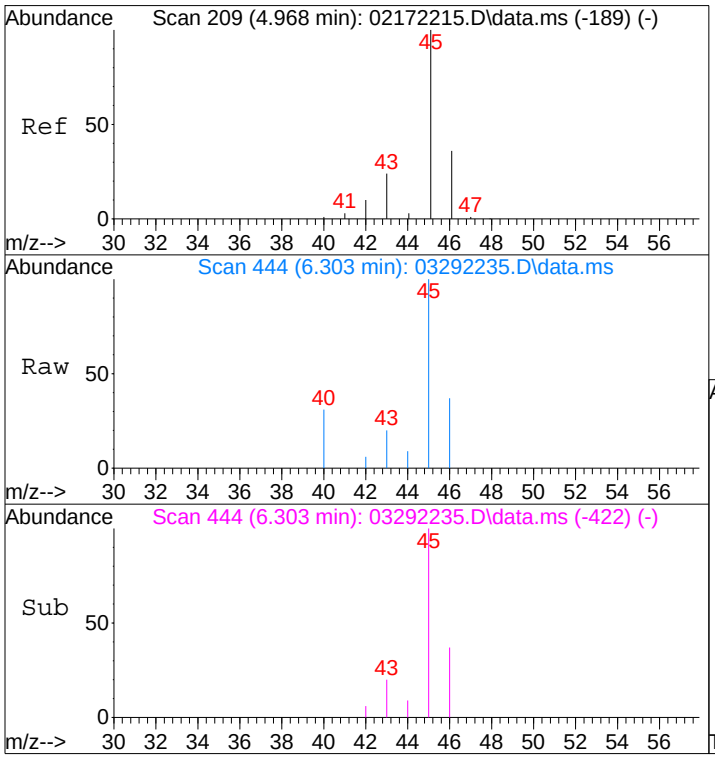


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.50 ng
RT: 4.22 min Scan# 78
Delta R.T. 0.011 min
Lab File: 03292235.D
Acq: 30 Mar 2022 00:30

Tgt Ion: 85 Resp: 29293

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.2	52.2
101	8.6	0.0	29.6
103	5.4	0.0	25.9

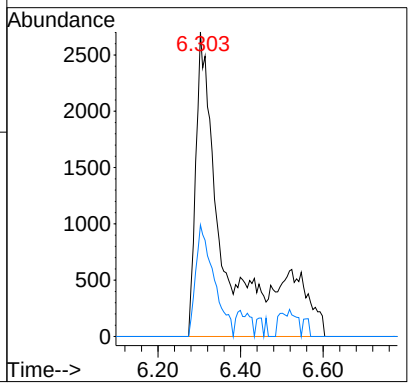


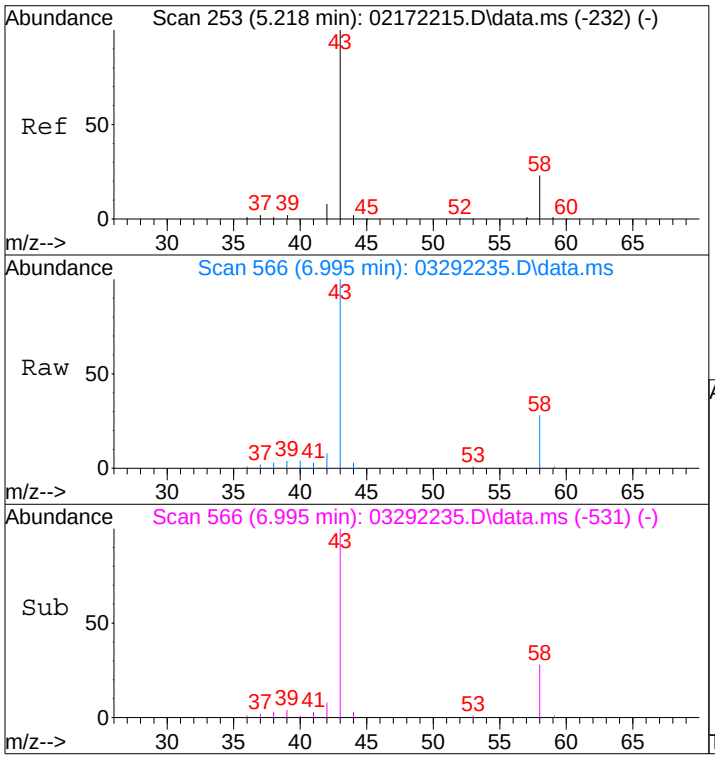


#10
Ethanol
Concen: 1.60 ng
RT: 6.30 min Scan# 444
Delta R.T. -0.125 min
Lab File: 03292235.D
Acq: 30 Mar 2022 00:30

Tgt Ion: 45 Resp: 13705

Ion	Ratio	Lower	Upper
45	100		
46	22.0	16.4	56.4

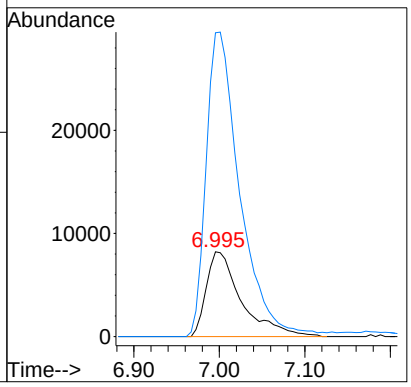


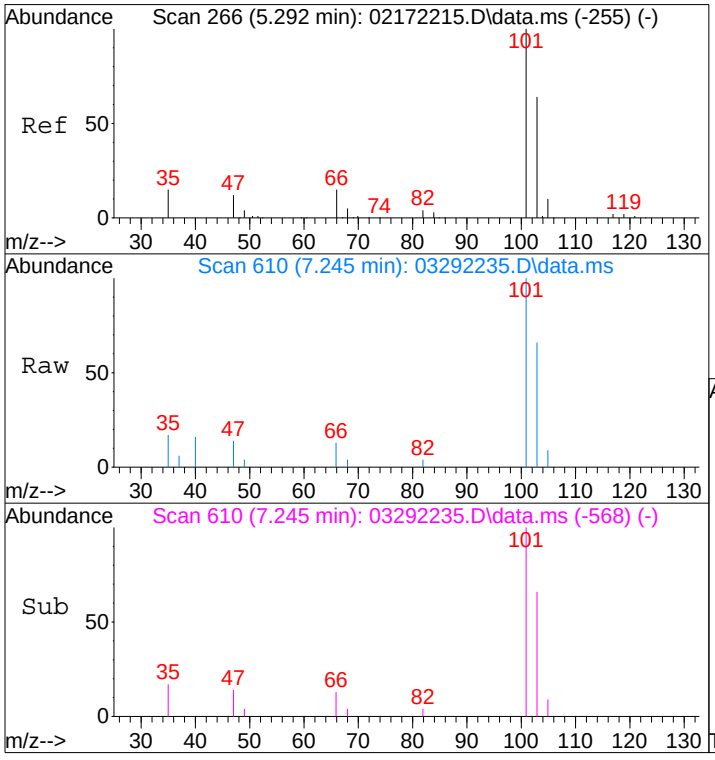


#13
Acetone
Concen: 3.32 ng
RT: 7.00 min Scan# 566
Delta R.T. -0.051 min
Lab File: 03292235.D
Acq: 30 Mar 2022 00:30

Tgt Ion: 58 Resp: 23574

Ion	Ratio	Lower	Upper
58	100		
43	346.5	408.6	468.6#

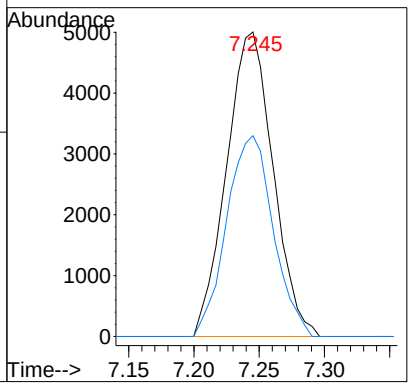


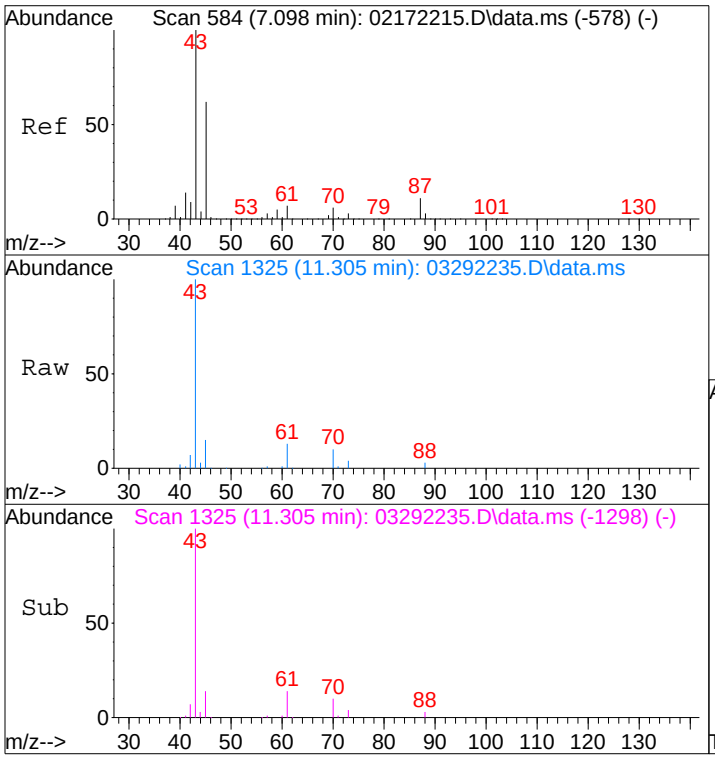


#14
Trichlorofluoromethane
Concen: 0.73 ng
RT: 7.25 min Scan# 610
Delta R.T. -0.012 min
Lab File: 03292235.D
Acq: 30 Mar 2022 00:30

Tgt Ion:101 Resp: 12424

Ion	Ratio	Lower	Upper
101	100		
103	65.9	43.5	83.5

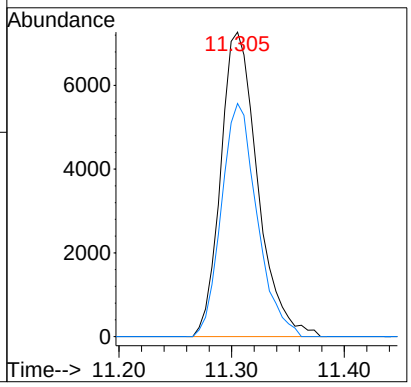




#30
Ethyl Acetate
Concen: 4.35 ng
RT: 11.31 min Scan# 1325
Delta R.T. -0.046 min
Lab File: 03292235.D
Acq: 30 Mar 2022 00:30

Tgt Ion: 61 Resp: 16597

Ion	Ratio	Lower	Upper
61	100		
70	73.7	69.7	109.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292236.D Vial: 14
Acq On : 30 Mar 2022 1:04 Operator: SC
Sample : P2201179-005 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:39:47 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/30/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	97830	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	431342	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	94571	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	179451	13.162	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.28%				
57) Toluene-d8 (SS2)	15.77	98	518921	11.338	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.72%				
73) Bromofluorobenzene (SS3)	19.03	174	129114	10.767	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.16%				
Target Compounds							Qvalue
2) Propene	4.08	42	4372	N.D.			
3) Dichlorodifluoromethan...	4.22	85	30536	1.607	ng		99
4) Chloromethane	4.51	50	4623	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	580	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.30	45	26946	3.233	ng		99
11) Acetonitrile	6.59	41	2596	N.D.			
12) Acrolein	6.80	56	663	N.D.			
13) Acetone	7.00	58	31289	4.523	ng	#	60
14) Trichlorofluoromethane	7.25	101	13041	0.784	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	38746	1.524	ng		94
16) Acrylonitrile	7.99	53	1001	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.43	84	5365	0.583	ng	#	79
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.86	151	2303	N.D.			
22) Carbon Disulfide	8.70	76	2844	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.23	86	218	N.D.			
27) 2-Butanone (MEK)	10.50	72	2767	0.459	ng	#	76
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.31	87	352	N.D.			
30) Ethyl Acetate	11.30	61	33812	9.092	ng		83
31) n-Hexane	11.29	57	1817	N.D.			
32) Chloroform	11.34	83	678	N.D.			
34) Tetrahydrofuran (THF)	11.79	72	1271	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	351	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.31	61	13905	No Calib		#	
40) 1-Butanol	12.93	56	1708	No Calib		#	
41) Benzene	12.91	78	8173	N.D.			
42) Carbon Tetrachloride	13.07	117	3230	N.D.			
43) Cyclohexane	13.21	84	163	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.09	57	3207	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292236.D Vial: 14
Acq On : 30 Mar 2022 1:04 Operator: SC
Sample : P2201179-005 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:39:47 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

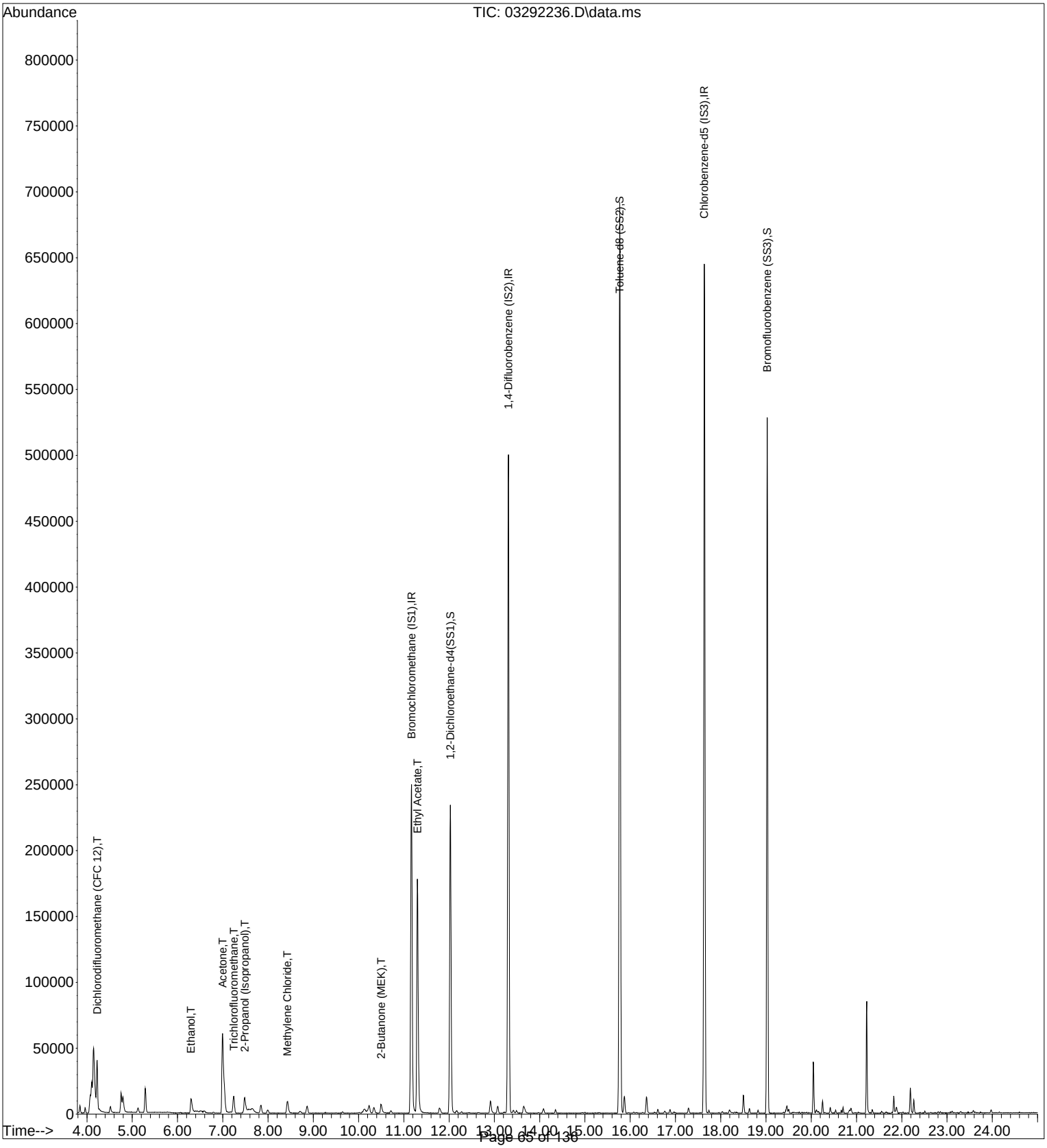
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.35	71	580	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.87	91	10457	N.D.		
59) 2-Hexanone	16.13	43	664	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.76	43	1692	N.D.		
63) n-Octane	16.88	57	497	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.03	91	1405	N.D.		
67) m- & p-Xylenes	18.20	91	2674	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.62	91	1142	N.D.		
71) n-Nonane	18.82	43	1010	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.02	105	166	N.D.		
75) alpha-Pinene	19.50	93	1333	N.D.		
76) n-Propylbenzene	19.61	91	515	N.D.		
77) 3-Ethyltoluene	19.73	105	395	No Calib		#
78) 4-Ethyltoluene	19.73	105	395	N.D.		
79) 1,3,5-Trimethylbenzene	19.79	105	131	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.84	105	1523	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	982	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	20.54	119	1308	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.66	68	678	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.23	58	815	No Calib		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.28	128	2040	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.50	55	2104	No Calib		#
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	20.88	91	1037	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292236.D Vial: 14
Acq On : 30 Mar 2022 1:04 Operator: SC
Sample : P2201179-005 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:39:47 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292236.D Vial: 14
Acq On : 30 Mar 2022 1:04 Operator: SC
Sample : P2201179-005 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:39:47 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/30/22

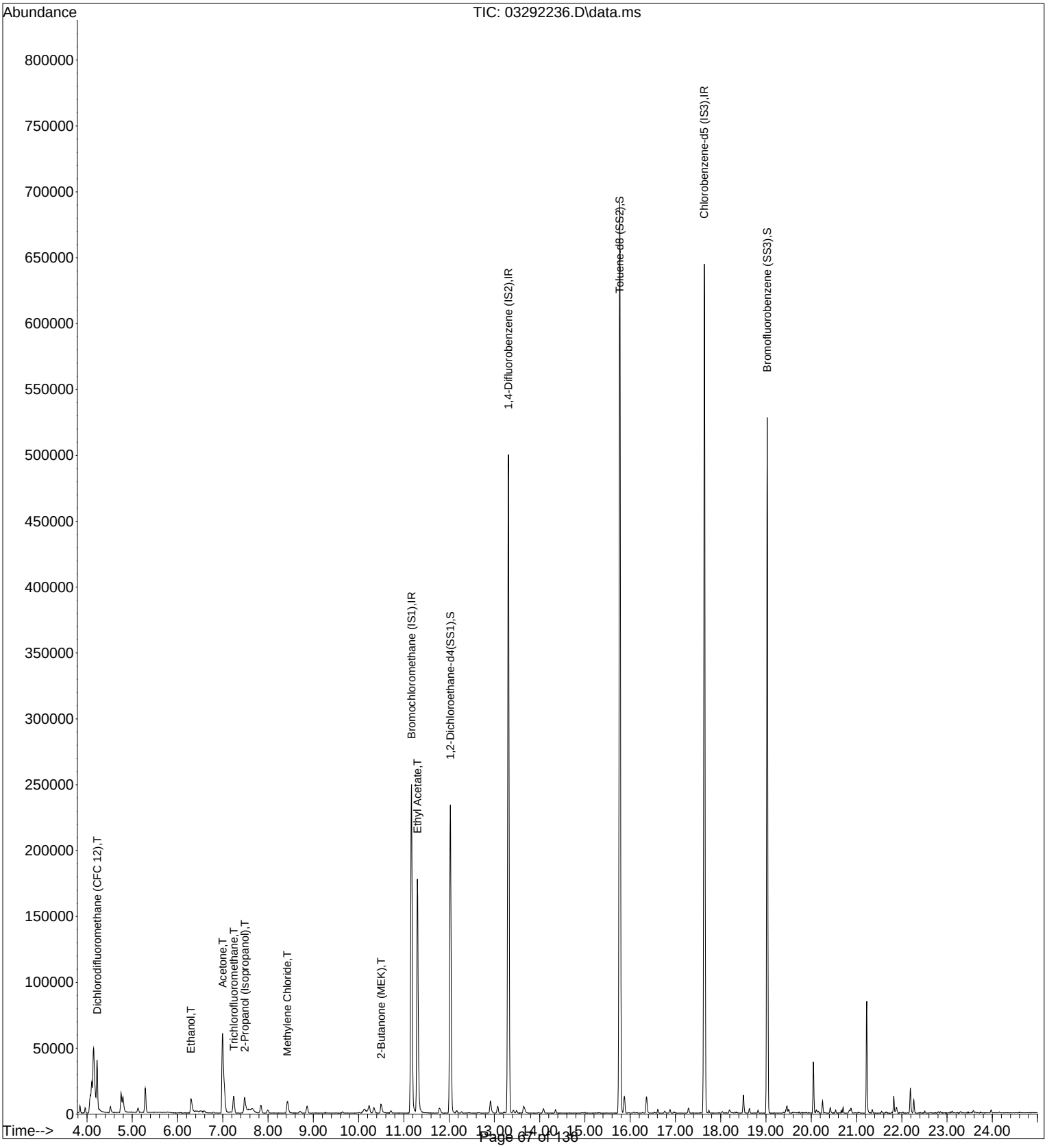
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	97830	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	431342	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	94571	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	179451	13.162	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.28%				
57) Toluene-d8 (SS2)	15.77	98	518921	11.338	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.72%				
73) Bromofluorobenzene (SS3)	19.03	174	129114	10.767	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.16%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.22	85	30536	1.607	ng		99
10) Ethanol	6.30	45	26946	3.233	ng		99
13) Acetone	7.00	58	31289	4.523	ng	#	60
14) Trichlorofluoromethane	7.25	101	13041	0.784	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	38746	1.524	ng		94
19) Methylene Chloride	8.43	84	5365	0.583	ng	#	79
27) 2-Butanone (MEK)	10.50	72	2767	0.459	ng	#	76
30) Ethyl Acetate	11.30	61	33812	9.092	ng		83

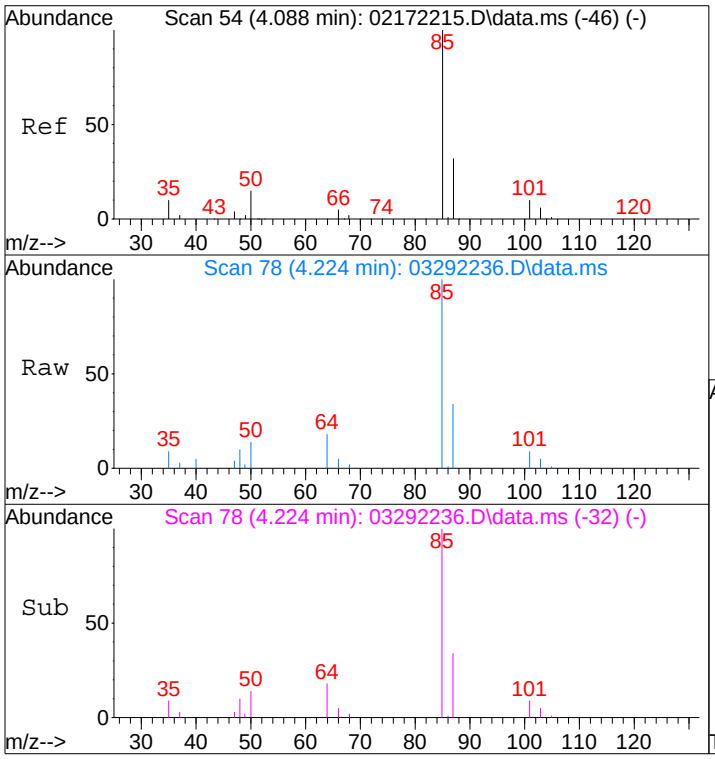
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292236.D Vial: 14
Acq On : 30 Mar 2022 1:04 Operator: SC
Sample : P2201179-005 (1000mL) Inst : MS09
Misc : S35-03082201

Quant Time: Mar 30 08:39:47 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

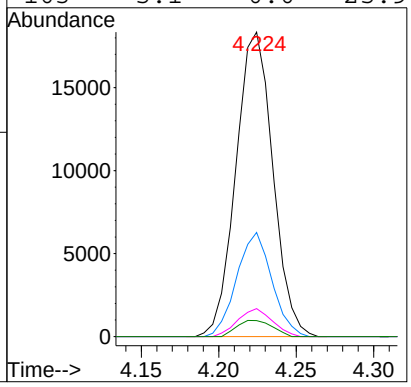


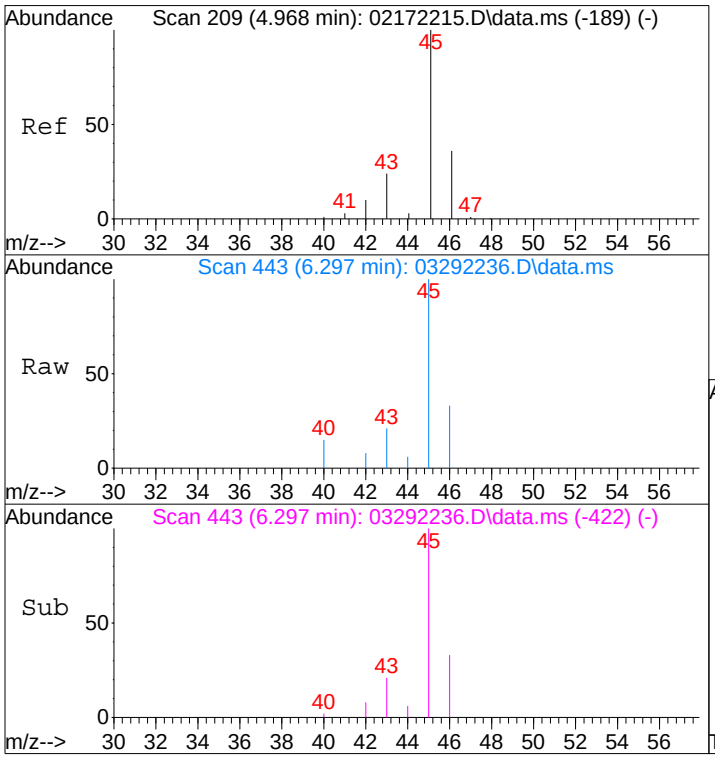


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.61 ng
RT: 4.22 min Scan# 78
Delta R.T. 0.011 min
Lab File: 03292236.D
Acq: 30 Mar 2022 1:04

Tgt Ion: 85 Resp: 30536

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.2	52.2
101	8.6	0.0	29.6
103	5.1	0.0	25.9

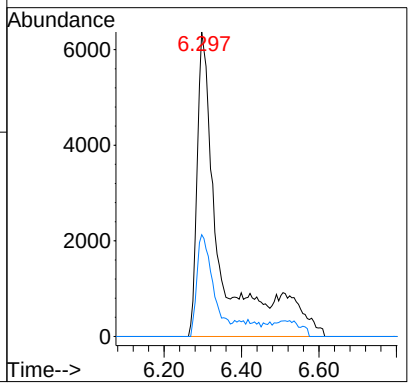


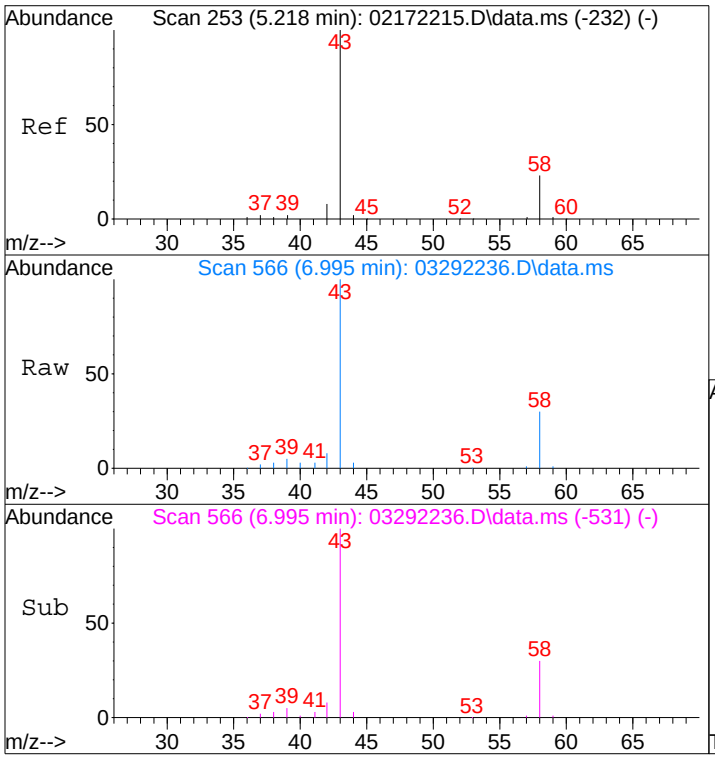


#10
Ethanol
Concen: 3.23 ng
RT: 6.30 min Scan# 443
Delta R.T. -0.131 min
Lab File: 03292236.D
Acq: 30 Mar 2022 1:04

Tgt Ion: 45 Resp: 26946

Ion	Ratio	Lower	Upper
45	100		
46	35.5	16.4	56.4

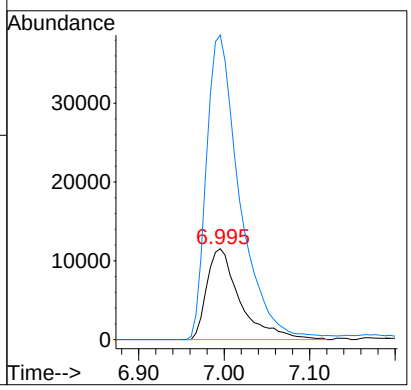


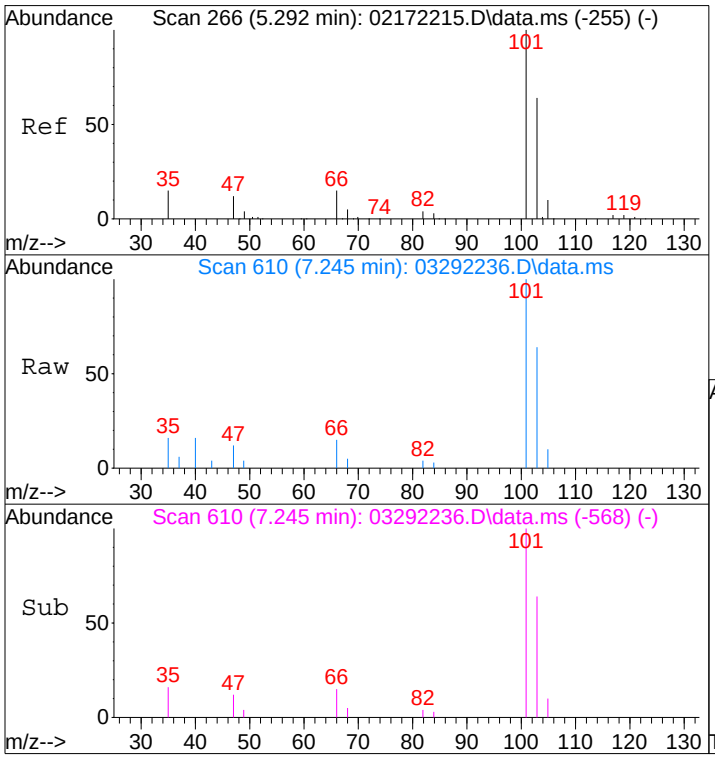


#13
Acetone
Concen: 4.52 ng
RT: 7.00 min Scan# 566
Delta R.T. -0.051 min
Lab File: 03292236.D
Acq: 30 Mar 2022 1:04

Tgt Ion: 58 Resp: 31289

Ion	Ratio	Lower	Upper
58	100		
43	338.8	408.6	468.6#

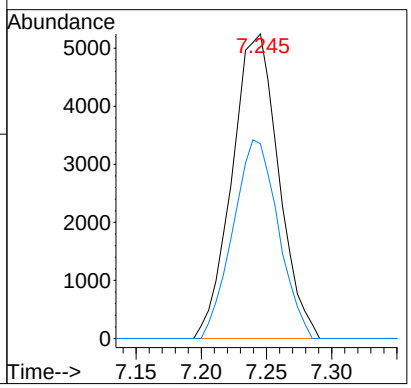


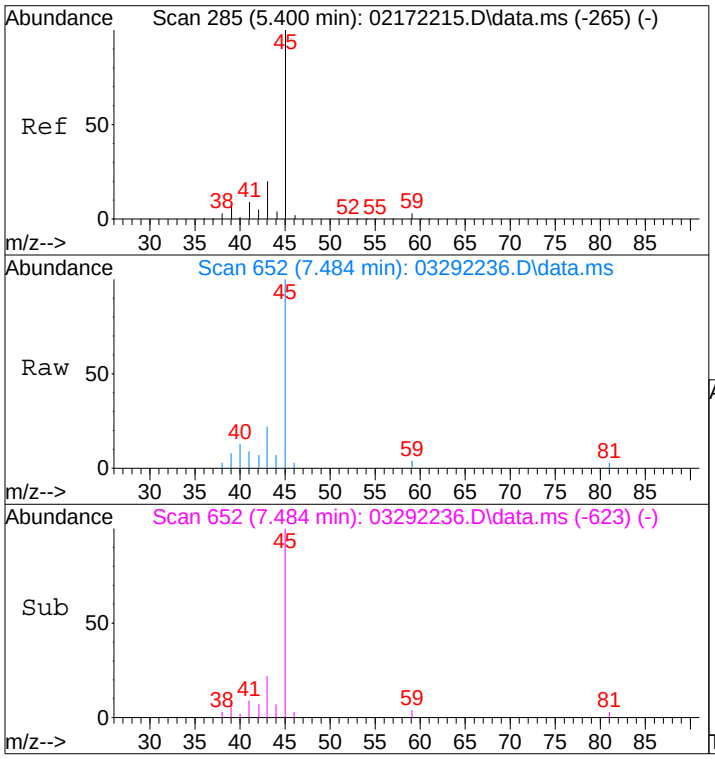


#14
Trichlorofluoromethane
Concen: 0.78 ng
RT: 7.25 min Scan# 610
Delta R.T. -0.012 min
Lab File: 03292236.D
Acq: 30 Mar 2022 1:04

Tgt Ion:101 Resp: 13041

Ion	Ratio	Lower	Upper
101	100		
103	63.3	43.5	83.5

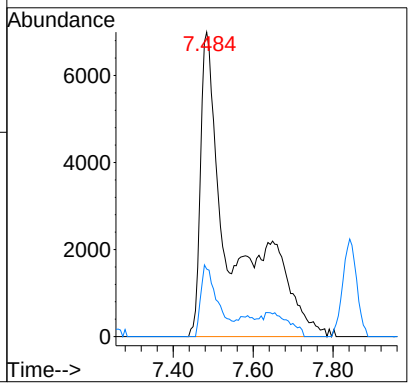


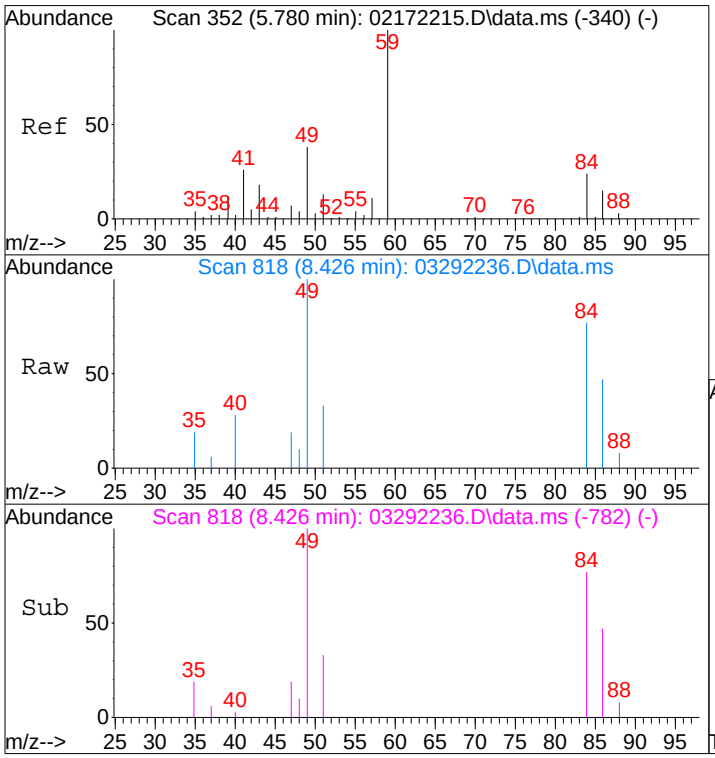


#15
2-Propanol (Isopropanol)
Concen: 1.52 ng
RT: 7.48 min Scan# 652
Delta R.T. -0.085 min
Lab File: 03292236.D
Acq: 30 Mar 2022 1:04

Tgt Ion: 45 Resp: 38746

Ion	Ratio	Lower	Upper
45	100		
43	23.3	0.3	40.3

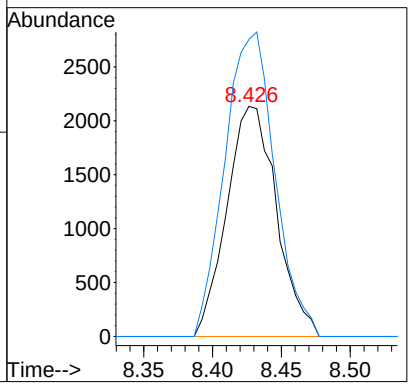


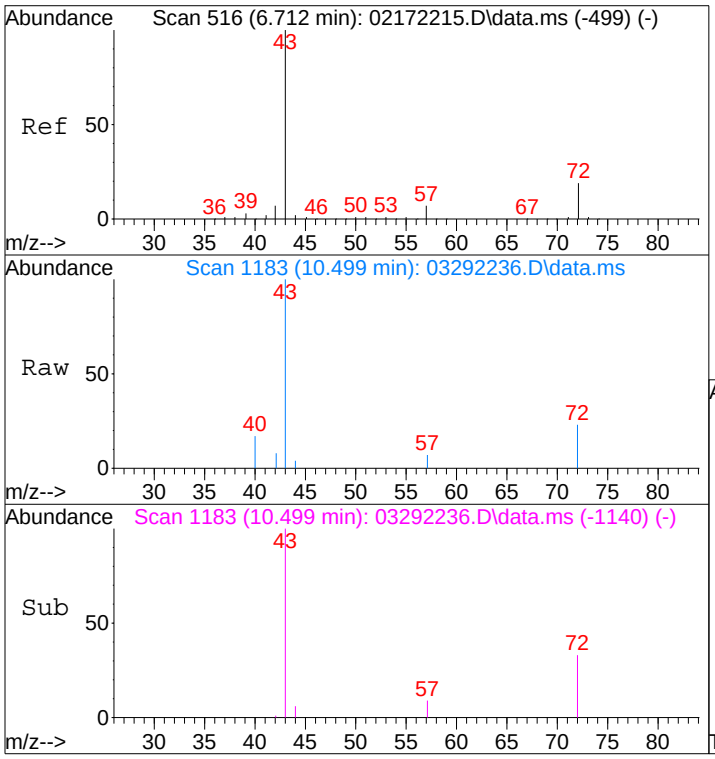


#19
Methylene Chloride
Concen: 0.58 ng
RT: 8.43 min Scan# 818
Delta R.T. -0.046 min
Lab File: 03292236.D
Acq: 30 Mar 2022 1:04

Tgt Ion: 84 Resp: 5365

Ion	Ratio	Lower	Upper
84	100		
49	133.3	136.2	186.2#

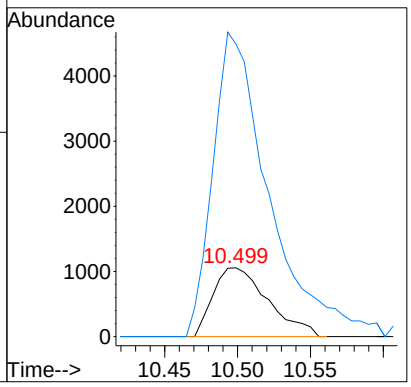


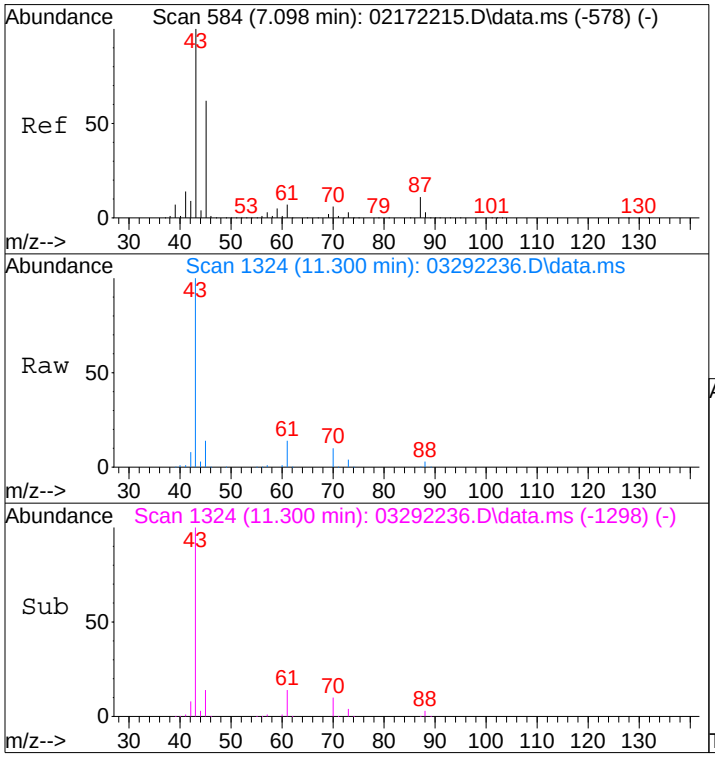


#27
2-Butanone (MEK)
Concen: 0.46 ng
RT: 10.50 min Scan# 1183
Delta R.T. -0.006 min
Lab File: 03292236.D
Acq: 30 Mar 2022 1:04

Tgt Ion: 72 Resp: 2767

Ion	Ratio	Lower	Upper
72	100		
43	454.1	502.2	542.2#

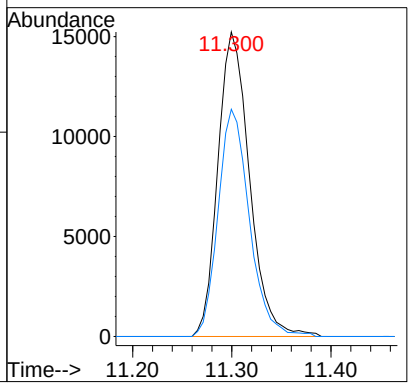




#30
Ethyl Acetate
Concen: 9.09 ng
RT: 11.30 min Scan# 1324
Delta R.T. -0.051 min
Lab File: 03292236.D
Acq: 30 Mar 2022 1:04

Tgt Ion: 61 Resp: 33812

Ion	Ratio	Lower	Upper
61	100		
70	73.8	69.7	109.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292204.D Vial: 2
Acq On : 29 Mar 2022 2:40 Operator: SC
Sample : MB R9032922 1000mL Inst : MS09
Misc : S35-03082201

Quant Time: Mar 29 08:27:19 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/29/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	95724	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	419053	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	87811	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	174642	13.091	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.72%				
57) Toluene-d8 (SS2)	15.77	98	499574	11.755	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
73) Bromofluorobenzene (SS3)	19.03	174	118567	10.649	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.20%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.37	45	54	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	6.80	56	137	N.D.			
13) Acetone	7.05	58	3251	0.480	ng	#	25
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	0.00	76	0	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.35	72	168	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.30	61	13399	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	12.91	78	749	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.30	84	230	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292204.D Vial: 2
Acq On : 29 Mar 2022 2:40 Operator: SC
Sample : MB R9032922 1000mL Inst : MS09
Misc : S35-03082201

Quant Time: Mar 29 08:27:19 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

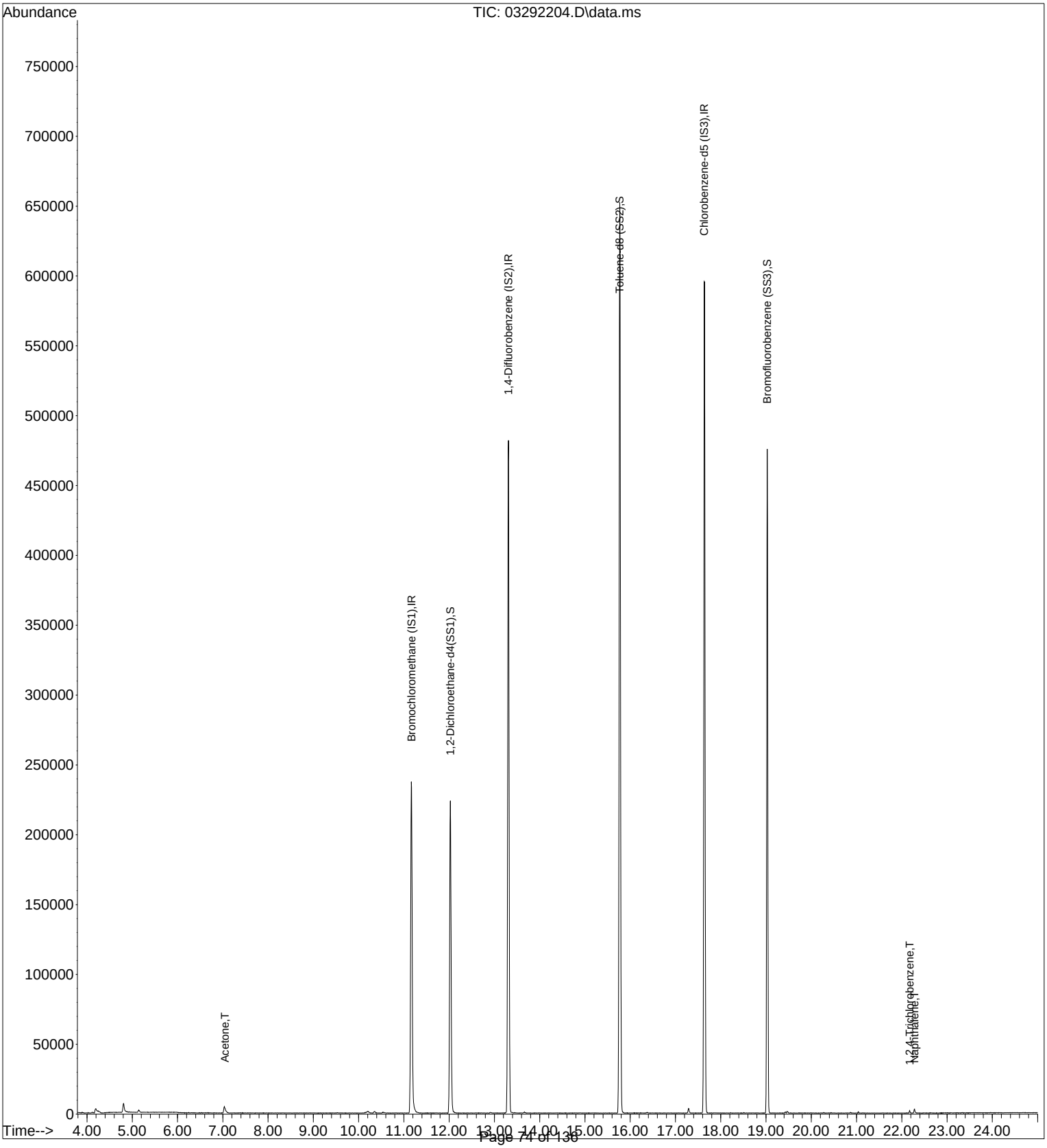
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	0.00	91	0	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	0.00	91	0	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.03	105	131	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.87	105	261	No Calib	#	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	20.28	91	325	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	21.04	157	221	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	767	0.053 ng	#	91
95) Naphthalene	22.28	128	3565	0.072 ng		93
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292204.D Vial: 2
Acq On : 29 Mar 2022 2:40 Operator: SC
Sample : MB R9032922 1000mL Inst : MS09
Misc : S35-03082201

Quant Time: Mar 29 08:27:19 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292206.D Vial: 2
Acq On : 29 Mar 2022 3:46 Operator: SC
Sample : LCS R9032922 25ng Inst : MS09
Misc : S35-03082201/S35-03162204 (4/15)

Quant Time: Mar 29 08:31:47 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/29/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.18	130	101284	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.32	114	439509	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	100753	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	185832	13.166	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
57) Toluene-d8 (SS2)	15.77	98	531979	10.910	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.28%				
73) Bromofluorobenzene (SS3)	19.03	174	130276	10.197	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.60%				
Target Compounds							Qvalue
2) Propene	4.04	42	287205	25.150	ng		99
3) Dichlorodifluoromethan...	4.20	85	461015	23.431	ng		99
4) Chloromethane	4.49	50	417794	27.772	ng	#	66
5) 1,2-Dichloro-1,1,2,2-t...	4.75	135	210771	25.464	ng		100
6) Vinyl Chloride	4.92	62	401931	28.094	ng		99
7) 1,3-Butadiene	5.18	54	335847	29.124	ng	#	81
8) Bromomethane	5.63	94	210084	25.049	ng		99
9) Chloroethane	5.96	64	169682	24.918	ng		98
10) Ethanol	6.35	45	939324	108.853	ng		100
11) Acetonitrile	6.60	41	476178	24.880	ng		96
12) Acrolein	6.79	56	329275	51.033	ng		96
13) Acetone	7.00	58	1022000	142.707	ng	#	57
14) Trichlorofluoromethane	7.24	101	397941	23.113	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	1430274	54.356	ng		100
16) Acrylonitrile	7.76	53	697021	51.945	ng		98
17) 1,1-Dichloroethene	8.21	96	227208	24.815	ng	#	82
18) 2-Methyl-2-Propanol (t...	8.38	59	1095586	51.300	ng		99
19) Methylene Chloride	8.44	84	241785	25.388	ng		88
20) 3-Chloro-1-propene (Al...	8.60	41	366965	24.838	ng		90
21) Trichlorotrifluoroethane	8.86	151	177131	23.292	ng		85
22) Carbon Disulfide	8.70	76	1715812	50.693	ng		99
23) trans-1,2-Dichloroethene	9.73	61	365916	26.348	ng		91
24) 1,1-Dichloroethane	9.98	63	447798	25.510	ng		100
25) Methyl tert-Butyl Ether	10.07	73	538504	21.484	ng		98
26) Vinyl Acetate	10.24	86	245634	141.376	ng	#	67
27) 2-Butanone (MEK)	10.48	72	344965	55.285	ng	#	72
28) cis-1,2-Dichloroethene	11.00	61	352349	25.173	ng		89
29) Diisopropyl Ether	11.30	87	424754	54.361	ng	#	81
30) Ethyl Acetate	11.31	61	320073	83.131	ng		87
31) n-Hexane	11.29	57	473728	32.370	ng		97
32) Chloroform	11.36	83	423258	25.426	ng		97
34) Tetrahydrofuran (THF)	11.75	72	320902	52.346	ng	#	78
35) Ethyl tert-Butyl Ether	11.90	87	575204	52.970	ng		95
36) 1,2-Dichloroethane	12.16	62	342159	25.004	ng		99
38) 1,1,1-Trichloroethane	12.44	97	354068	23.313	ng		98
39) Isopropyl Acetate	13.32	61	13980	No Calib		#	
40) 1-Butanol	12.90	56	6469	No Calib		#	
41) Benzene	12.92	78	960558	24.703	ng		98
42) Carbon Tetrachloride	13.08	117	283118	22.309	ng		98
43) Cyclohexane	13.21	84	738520	51.072	ng		99
44) tert-Amyl Methyl Ether	13.55	73	1424211	54.149	ng		94
45) 1,2-Dichloropropane	13.77	63	263053	25.939	ng		99
46) Bromodichloromethane	13.96	83	346253	25.338	ng		99
47) Trichloroethene	14.02	130	236346	23.502	ng		96
48) 1,4-Dioxane	13.99	88	199977	27.171	ng		97
49) 2,2,4-Trimethylpentane...	14.09	57	1092354	26.130	ng		84
50) Methyl Methacrylate	14.22	100	181914	51.254	ng	#	89

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292206.D Vial: 2
Acq On : 29 Mar 2022 3:46 Operator: SC
Sample : LCS R9032922 25ng Inst : MS09
Misc : S35-03082201/S35-03162204 (4/15)

Quant Time: Mar 29 08:31:47 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

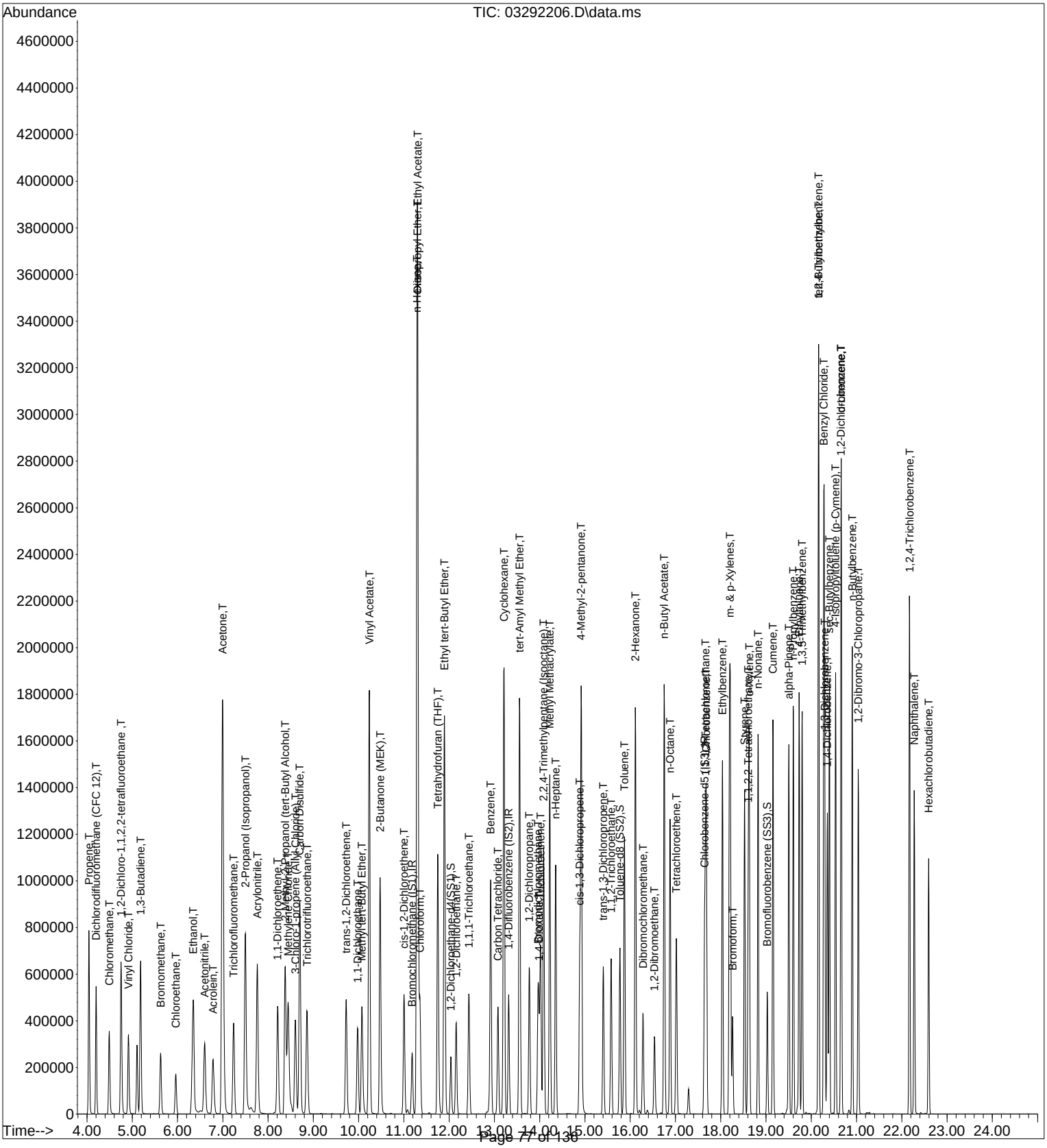
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	259617	25.905 ng		99
52) cis-1,3-Dichloropropene	14.88	75	415809	26.168 ng		99
53) 4-Methyl-2-pentanone	14.92	58	523886	60.625 ng		83
54) trans-1,3-Dichloropropene	15.40	75	373115	24.513 ng		98
55) 1,1,2-Trichloroethane	15.58	97	230386	24.331 ng		96
58) Toluene	15.87	91	977437	20.444 ng		99
59) 2-Hexanone	16.11	43	1357985	52.211 ng		89
60) Dibromochloromethane	16.28	129	257698	19.697 ng		99
61) 1,2-Dibromoethane	16.53	107	266123	19.999 ng		98
62) n-Butyl Acetate	16.75	43	1530264	53.598 ng		92
63) n-Octane	16.88	57	239087	23.239 ng		99
64) Tetrachloroethene	17.02	166	220286	18.822 ng		97
65) Chlorobenzene	17.68	112	608974	20.052 ng		100
66) Ethylbenzene	18.04	91	1109300	21.901 ng		98
67) m- & p-Xylenes	18.20	91	1770147	42.626 ng		98
68) Bromoform	18.26	173	193476	19.778 ng		99
69) Styrene	18.53	104	642417	20.128 ng		96
70) o-Xylene	18.63	91	894180	21.520 ng		97
71) n-Nonane	18.82	43	602565	25.560 ng		86
72) 1,1,2,2-Tetrachloroethane	18.61	83	449025	22.656 ng		97
74) Cumene	19.15	105	1046334	20.680 ng		97
75) alpha-Pinene	19.50	93	580843	22.391 ng		98
76) n-Propylbenzene	19.60	91	1358131	21.522 ng		99
77) 3-Ethyltoluene	19.73	105	1046734	No Calib		
78) 4-Ethyltoluene	19.73	105	1046734	22.066 ng		98
79) 1,3,5-Trimethylbenzene	19.80	105	882298	22.154 ng		98
80) alpha-Methylstyrene	19.60	118	1944	No Calib	#	
81) 2-Ethyltoluene	20.66	105	23086	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	896386	21.570 ng		99
83) n-Decane	20.51	58	146	No Calib	#	
84) Benzyl Chloride	20.28	91	1603292	50.886 ng		98
85) 1,3-Dichlorobenzene	20.30	146	439043	21.082 ng		98
86) 1,4-Dichlorobenzene	20.36	146	446730	18.949 ng		98
87) sec-Butylbenzene	20.40	105	1163080	20.831 ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	943236	20.397 ng		99
89) 1,2,3-Trimethylbenzene	20.40	105	1163080	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	422397	21.039 ng		98
91) d-Limonene	20.66	68	415479	25.500 ng		96
92) 1,2-Dibromo-3-Chloropr...	21.04	157	323238	37.885 ng		92
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	589833	35.331 ng		97
95) Naphthalene	22.28	128	986412	17.384 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	171126	17.705 ng		100
98) Cyclohexanone	18.51	55	167	No Calib	#	
99) tert-Butylbenzene	20.16	119	791996	20.259 ng		100
100) n-Butylbenzene	20.91	91	1037380	22.172 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	210783	20.470 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292206.D Vial: 2
Acq On : 29 Mar 2022 3:46 Operator: SC
Sample : LCS R9032922 25ng Inst : MS09
Misc : S35-03082201/S35-03162204 (4/15)

Quant Time: Mar 29 08:31:47 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292231.D Vial: 2
Acq On : 29 Mar 2022 22:16 Operator: SC
Sample : LCSD R9032922 25ng Inst : MS09
Misc : S35-03082201/S35-03162204 (4/15)

Quant Time: Mar 30 08:31:00 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/30/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	113874	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.32	114	487088	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	117724	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	213543	13.456	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.68%				
57) Toluene-d8 (SS2)	15.77	98	593259	10.413	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.28%				
73) Bromofluorobenzene (SS3)	19.03	174	154186	10.329	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.64%				
Target Compounds							Qvalue
2) Propene	4.05	42	324590	25.281	ng		98
3) Dichlorodifluoromethan...	4.21	85	514724	23.268	ng		99
4) Chloromethane	4.50	50	455454	26.928	ng	#	66
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	226112	24.297	ng		99
6) Vinyl Chloride	4.92	62	436829	27.157	ng		99
7) 1,3-Butadiene	5.19	54	357505	27.574	ng	#	81
8) Bromomethane	5.63	94	226416	24.012	ng		99
9) Chloroethane	5.97	64	186618	24.375	ng		99
10) Ethanol	6.35	45	1037713	106.959	ng		99
11) Acetonitrile	6.60	41	538851	25.042	ng		96
12) Acrolein	6.79	56	362787	50.011	ng		97
13) Acetone	7.00	58	1107854	137.592	ng	#	57
14) Trichlorofluoromethane	7.25	101	438390	22.647	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	1592932	53.845	ng		100
16) Acrylonitrile	7.77	53	764477	50.673	ng		98
17) 1,1-Dichloroethene	8.22	96	247958	24.087	ng	#	83
18) 2-Methyl-2-Propanol (t...	8.38	59	1204390	50.159	ng		98
19) Methylene Chloride	8.45	84	263578	24.617	ng		89
20) 3-Chloro-1-propene (Al...	8.61	41	409956	24.680	ng		92
21) Trichlorotrifluoroethane	8.86	151	192726	22.541	ng		86
22) Carbon Disulfide	8.70	76	1861605	48.919	ng		99
23) trans-1,2-Dichloroethene	9.73	61	404497	25.906	ng		93
24) 1,1-Dichloroethane	9.98	63	490355	24.846	ng		100
25) Methyl tert-Butyl Ether	10.07	73	583501	20.706	ng		98
26) Vinyl Acetate	10.24	86	264852	135.584	ng	#	68
27) 2-Butanone (MEK)	10.48	72	373254	53.205	ng	#	73
28) cis-1,2-Dichloroethene	11.00	61	387085	24.597	ng		90
29) Diisopropyl Ether	11.30	87	437891	49.846	ng	#	82
30) Ethyl Acetate	11.31	61	330719	76.400	ng		88
31) n-Hexane	11.29	57	491503	29.871	ng		97
32) Chloroform	11.36	83	459477	24.550	ng		96
34) Tetrahydrofuran (THF)	11.75	72	344488	49.981	ng	#	79
35) Ethyl tert-Butyl Ether	11.90	87	612735	50.188	ng		94
36) 1,2-Dichloroethane	12.16	62	380551	24.734	ng		99
38) 1,1,1-Trichloroethane	12.44	97	385865	22.924	ng		98
39) Isopropyl Acetate	13.32	61	16089	No Calib		#	
40) 1-Butanol	12.90	56	7786	No Calib		#	
41) Benzene	12.92	78	1034200	23.999	ng		97
42) Carbon Tetrachloride	13.08	117	306980	21.826	ng		99
43) Cyclohexane	13.21	84	788012	49.172	ng		99
44) tert-Amyl Methyl Ether	13.55	73	1516918	52.040	ng		94
45) 1,2-Dichloropropane	13.78	63	282819	25.164	ng		99
46) Bromodichloromethane	13.96	83	377727	24.942	ng		99
47) Trichloroethene	14.02	130	253514	22.746	ng		96
48) 1,4-Dioxane	13.99	88	215339	26.400	ng		98
49) 2,2,4-Trimethylpentane...	14.09	57	1178872	25.445	ng		85
50) Methyl Methacrylate	14.22	100	194994	49.573	ng	#	88

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292231.D Vial: 2
Acq On : 29 Mar 2022 22:16 Operator: SC
Sample : LCSD R9032922 25ng Inst : MS09
Misc : S35-03082201/S35-03162204 (4/15)

Quant Time: Mar 30 08:31:00 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

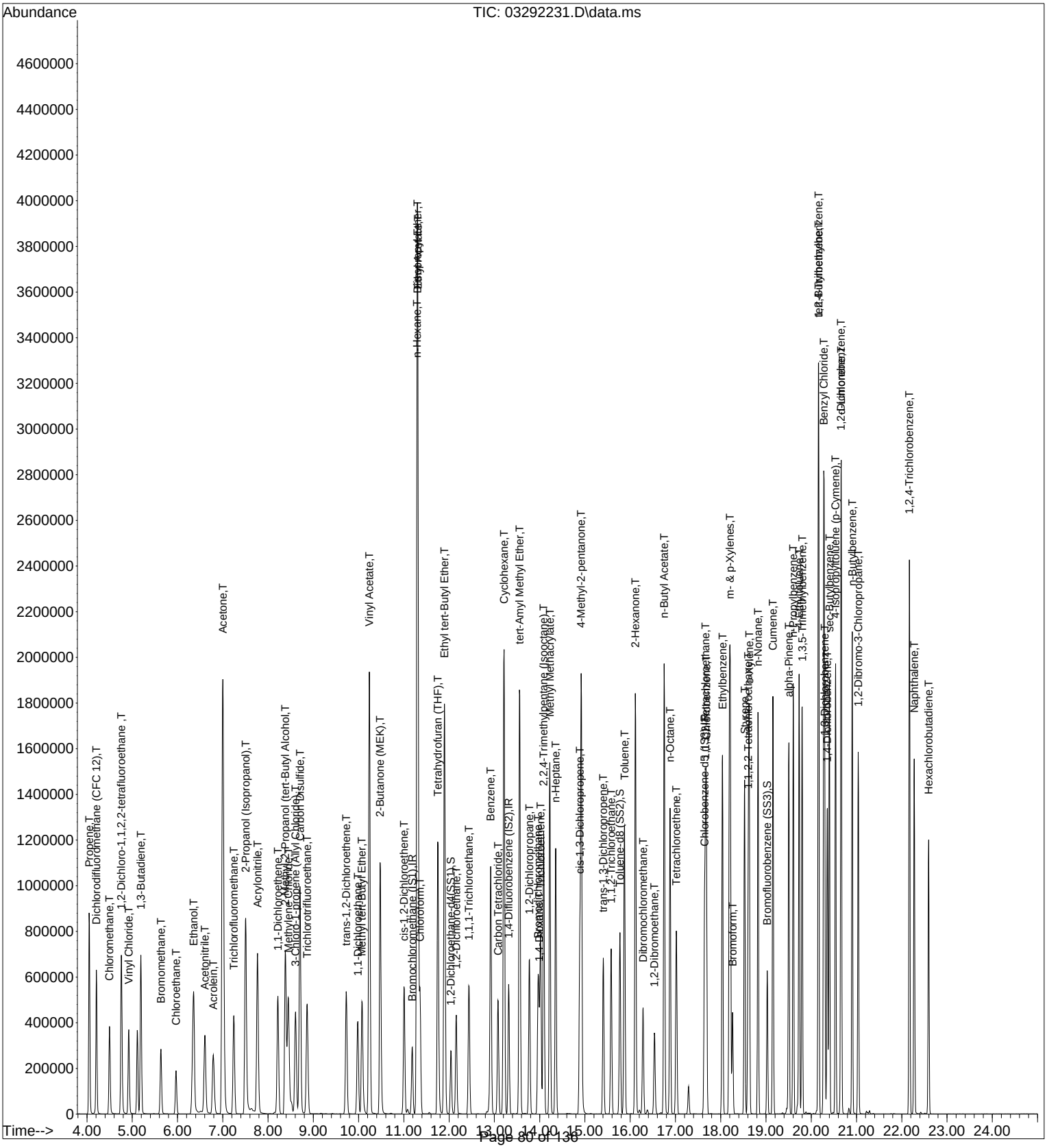
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	278212	25.049 ng		99
52) cis-1,3-Dichloropropene	14.89	75	449130	25.504 ng		99
53) 4-Methyl-2-pentanone	14.92	58	562339	58.719 ng		82
54) trans-1,3-Dichloropropene	15.40	75	403883	23.942 ng		98
55) 1,1,2-Trichloroethane	15.58	97	248320	23.663 ng		96
58) Toluene	15.88	91	1037913	18.580 ng		99
59) 2-Hexanone	16.11	43	1452002	47.777 ng		89
60) Dibromochloromethane	16.29	129	276196	18.067 ng		99
61) 1,2-Dibromoethane	16.53	107	287127	18.467 ng		98
62) n-Butyl Acetate	16.75	43	1632018	48.922 ng		92
63) n-Octane	16.88	57	257152	21.391 ng		98
64) Tetrachloroethene	17.02	166	234188	17.125 ng		97
65) Chlorobenzene	17.68	112	647045	18.234 ng		100
66) Ethylbenzene	18.04	91	1183294	19.994 ng		98
67) m- & p-Xylenes	18.20	91	1874213	38.625 ng		98
68) Bromoform	18.26	173	207350	18.141 ng		99
69) Styrene	18.53	104	684045	18.343 ng		97
70) o-Xylene	18.63	91	953124	19.632 ng		98
71) n-Nonane	18.82	43	645880	23.448 ng		86
72) 1,1,2,2-Tetrachloroethane	18.61	83	479988	20.727 ng		97
74) Cumene	19.15	105	1108239	18.746 ng		98
75) alpha-Pinene	19.50	93	593360	19.576 ng		99
76) n-Propylbenzene	19.60	91	1438381	19.508 ng		99
77) 3-Ethyltoluene	19.73	105	1111545	No Calib		
78) 4-Ethyltoluene	19.73	105	1111545	20.054 ng		98
79) 1,3,5-Trimethylbenzene	19.80	105	933237	20.055 ng		99
80) alpha-Methylstyrene	19.60	118	1967	No Calib	#	
81) 2-Ethyltoluene	20.66	105	24267	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	924694	19.043 ng		100
83) n-Decane	20.51	58	238	No Calib	#	
84) Benzyl Chloride	20.28	91	1661717	45.137 ng		99
85) 1,3-Dichlorobenzene	20.30	146	458667	18.849 ng		98
86) 1,4-Dichlorobenzene	20.36	146	467431	16.969 ng		99
87) sec-Butylbenzene	20.40	105	1221992	18.731 ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	996481	18.442 ng		99
89) 1,2,3-Trimethylbenzene	20.40	105	1221992	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	438115	18.676 ng		99
91) d-Limonene	20.66	68	432681	22.728 ng		95
92) 1,2-Dibromo-3-Chloropr...	21.04	157	350750	35.183 ng		94
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	643705	32.999 ng		98
95) Naphthalene	22.28	128	1105373	16.672 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	185743	16.447 ng		100
98) Cyclohexanone	18.50	55	376	No Calib	#	
99) tert-Butylbenzene	20.16	119	812724	17.792 ng		100
100) n-Butylbenzene	20.91	91	1097131	20.069 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	227236	18.887 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292231.D Vial: 2
Acq On : 29 Mar 2022 22:16 Operator: SC
Sample : LCSD R9032922 25ng Inst : MS09
Misc : S35-03082201/S35-03162204 (4/15)

Quant Time: Mar 30 08:31:00 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9030922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 09 16:58:43 2022
Response Via : Initial Calibration

3/10/22

Calibration Files
0.1 =03092205.D 0.2 =03092206.D 0.5 =03092207.D 1.0 =03092208.D 5.0 =03092209.D 25 =03092
100 =03092212.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	1.989	1.517	1.567	1.310	1.182	1.264	1.200	1.246	1.409	19.46
3)	T	Dichlorodifluo...	3.107	2.746	2.734	2.382	2.107	2.299	2.112	1.939	2.428	16.45
4)	T	Chloromethane	2.408	2.073	2.145	1.893	1.583	1.815	1.623	1.313	1.857	18.90
5)	T	1,2-Dichloro-1...	1.307	1.189	1.211	1.043	0.936	0.964	0.836	0.685	1.022	20.40
6)	T	Vinyl Chloride	2.086	1.898	2.026	1.787	1.592	1.726	1.577	1.433	1.766	12.95
7)	T	1,3-Butadiene	1.799	1.500	1.566	1.403	1.277	1.397	1.280	1.165	1.423	13.99
8)	T	Bromomethane	1.349	1.112	1.168	1.062	0.903	0.978	0.895	0.814	1.035	16.82
9)	T	Chloroethane	1.032	0.907	0.938	0.835	0.743	0.824	0.750	0.694	0.840	13.51
10)	T	Ethanol	1.525	1.296	1.164	1.001	0.877	0.944	0.883	0.830	1.065	22.94
11)	T	Acetonitrile			2.938	2.478	2.187	2.282	2.162	2.125	2.362	13.09
12)	T	Acrolein	0.954	0.844	0.870	0.827	0.721	0.762	0.709	0.682	0.796	11.73
13)	T	Acetone	1.195	1.002	1.000	0.888	0.783	0.838	0.748	0.616	0.884	20.38
14)	T	Trichlorofluor...	2.594	2.261	2.373	2.157	1.879	2.046	1.909	1.781	2.125	12.99
15)	T	2-Propanol (Is...	4.367	3.637	3.625	3.183	2.749	3.104	2.855	2.460	3.247	18.75
16)	T	Acrylonitrile	2.148	1.811	1.817	1.602	1.457	1.558	1.465	1.390	1.656	15.33
17)	T	1,1-Dichloroet...	1.420	1.208	1.269	1.121	0.991	1.089	1.007	0.935	1.130	14.33
18)	T	2-Methyl-2-Pro...			3.199	3.294	2.896	2.151	2.942	2.393	1.575	2.636	23.65
19)	T	Methylene Chlo...			1.357	1.380	1.212	1.082	1.156	1.064	0.976	1.175	12.89
20)	T	3-Chloro-1-pro...	2.396	2.013	2.021	1.776	1.500	1.702	1.615	1.565	1.823	16.51
21)	T	Trichlorotrifl...	1.150	0.999	1.086	0.956	0.828	0.904	0.830	0.756	0.939	14.45
22)	T	Carbon Disulfide	5.605	4.718	4.863	3.961	3.648	4.002	3.587	3.035	4.177	19.85
23)	T	trans-1,2-Dich...	1.997	1.681	1.862	1.738	1.542	1.731	1.621	1.541	1.714	9.14
24)	T	1,1-Dichloroet...	2.778	2.328	2.401	2.144	1.893	2.058	1.915	1.814	2.166	14.90
25)	T	Methyl tert-Bu...			3.960	3.965	3.461	2.754	3.139	2.524	1.851	3.093	25.15
26)	T	Vinyl Acetate	0.222	0.209	0.239	0.222	0.209	0.230	0.208	0.176	0.214	8.92
27)	T	2-Butanone (MEK)			0.832	0.879	0.797	0.732	0.789	0.723	0.638	0.770	10.31
28)	T	cis-1,2-Dichlo...	2.183	1.850	1.905	1.700	1.514	1.653	1.548	1.467	1.727	13.93
29)	T	Diisopropyl Ether			1.172	1.177	1.068	0.944	0.870	0.555		0.964	24.38
30)	T	Ethyl Acetate	0.579	0.508	0.559	0.498	0.450	0.432	0.301			0.475	19.68
31)	T	n-Hexane			2.261	2.307	2.035	1.803	1.802	1.408	1.028	1.806	25.52
32)	T	Chloroform	2.674	2.228	2.310	2.068	1.815	1.953	1.775	1.613	2.054	16.66
33)	S	1,2-Dichloroet...	1.757	1.756	1.748	1.748	1.758	1.734	1.720	1.715	1.742	0.98
34)	T	Tetrahydrofura...	0.937	0.837	0.836	0.761	0.677	0.739	0.675	0.589	0.757	14.71
35)	T	Ethyl tert-But...	1.740	1.455	1.539	1.363	1.217	1.341	1.168	0.898	1.340	19.00
36)	T	1,2-Dichloroet...	2.147	1.820	1.858	1.674	1.475	1.619	1.505	1.413	1.689	14.44
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.553	0.467	0.473	0.426	0.373	0.419	0.388	0.358	0.432	14.81
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.543	1.243	1.234	1.096	0.950	1.023	0.927	0.831	1.106	20.66
42)	T	Carbon Tetrach...	0.445	0.376	0.401	0.355	0.317	0.357	0.331	0.305	0.361	12.77
43)	T	Cyclohexane	0.548	0.469	0.479	0.423	0.371	0.400	0.342	0.259	0.411	21.85
44)	T	tert-Amyl Meth...	0.989	0.831	0.845	0.752	0.663	0.750	0.652	0.503	0.748	19.61
45)	T	1,2-Dichloropr...	0.359	0.316	0.320	0.285	0.252	0.277	0.257	0.241	0.288	14.05
46)	T	Bromodichlorom...	0.497	0.420	0.424	0.376	0.341	0.383	0.352	0.317	0.389	14.70
47)	T	Trichloroethene	0.360	0.322	0.331	0.288	0.254	0.280	0.248	0.205	0.286	17.66
48)	T	1,4-Dioxane	0.237	0.221	0.234	0.208	0.193	0.218	0.196	0.167	0.209	11.11
49)	T	2,2,4-Trimethy...	1.590	1.298	1.343	1.170	1.026	1.132	1.036	0.915	1.189	18.12
50)	T	Methyl Methacr...	0.121	0.102	0.118	0.104	0.096	0.104	0.090	0.072	0.101	15.38
51)	T	n-Heptane	0.357	0.320	0.317	0.287	0.253	0.276	0.251	0.220	0.285	15.63
52)	T	cis-1,3-Dichlo...	0.571	0.466	0.495	0.450	0.406	0.450	0.414	0.375	0.452	13.46
53)	T	4-Methyl-2-pen...	0.290	0.259	0.280	0.253	0.225	0.252	0.224	0.183	0.246	13.94
54)	T	trans-1,3-Dich...	0.520	0.445	0.465	0.417	0.386	0.440	0.410	0.381	0.433	10.55

55)	T	1,1,2-Trichlor...	0.333	0.296	0.307	0.266	0.238	0.262	0.238	0.214	0.269	14.93
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	6.058	6.068	6.028	6.033	6.029	6.036	6.063	6.083	6.050	0.35
58)	T	Toluene	8.151	6.533	6.747	5.939	5.207	5.612	5.021	4.241	5.932	20.42
59)	T	2-Hexanone	4.198	3.549	3.535	3.192	2.840	3.203	2.882	2.416	3.227	16.85
60)	T	Dibromochlorom...	2.007	1.718	1.781	1.577	1.441	1.629	1.496	1.336	1.623	13.07
61)	T	1,2-Dibromoethane	2.140	1.696	1.870	1.608	1.452	1.612	1.481	1.348	1.651	15.40
62)	T	n-Butyl Acetate	4.493	3.824	3.884	3.495	3.155	3.576	3.236	2.675	3.542	15.46
63)	T	n-Octane	1.600	1.378	1.443	1.241	1.116	1.250	1.162	1.022	1.276	14.74
64)	T	Tetrachloroethene	1.912	1.633	1.634	1.472	1.310	1.398	1.241	1.017	1.452	19.03
65)	T	Chlorobenzene	5.315	4.183	4.385	3.824	3.388	3.616	3.095	2.337	3.768	23.77
66)	T	Ethylbenzene		7.436	7.551	6.673	5.859	6.335	5.601	4.532	6.284	16.94
67)	T	m- & p-Xylenes	7.254	5.874	6.077	5.218	4.631	4.907	4.132	3.124	5.152	24.64
68)	T	Bromoform	1.405	1.294	1.355	1.198	1.114	1.263	1.132	0.948	1.214	12.16
69)	T	Styrene	5.107	4.349	4.473	3.977	3.630	3.927	3.447	2.766	3.960	17.93
70)	T	o-Xylene	6.912	5.816	5.991	5.291	4.683	4.985	4.315	3.247	5.155	21.80
71)	T	n-Nonane	3.738	3.236	3.302	2.869	2.536	2.878	2.629	2.210	2.925	16.63
72)	T	1,1,2,2-Tetrac...	3.289	2.716	2.795	2.512	2.238	2.367	2.100	1.655	2.459	20.06
73)	S	Bromofluoroben...	1.574	1.575	1.564	1.583	1.587	1.595	1.599	1.602	1.585	0.85
74)	T	Cumene	8.355	7.037	7.323	6.503	5.750	6.099	5.193	3.959	6.277	21.63
75)	T	alpha-Pinene	4.414	3.432	3.627	3.157	2.798	3.258	2.848	2.213	3.218	20.25
76)	T	n-Propylbenzene	1.065	0.871	0.910	0.808	0.716	0.755	0.646	0.492	0.783	E1 22.28
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene		6.933	7.183	6.390	5.704	6.040	5.104	3.844	5.885	19.46
79)	T	1,3,5-Trimethy...		5.817	6.006	5.364	4.787	5.077	4.308	3.228	4.941	19.30
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...		5.843	6.215	5.488	4.971	4.857	3.561		5.156	18.13
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride		4.115	4.638	4.297	4.266	4.518	3.446	2.083	3.909	22.82
85)	T	1,3-Dichlorobe...		3.241	3.417	2.961	2.646	2.611	1.945	1.265	2.584	29.22
86)	T	1,4-Dichlorobe...	3.965	3.333	3.429	3.029	2.686	2.808	2.378	1.770	2.925	23.18
87)	T	sec-Butylbenzene	9.463	7.755	8.160	7.315	6.476	6.696	5.541	4.011	6.927	24.07
88)	T	4-Isopropyltol...	7.587	6.434	6.848	6.104	5.468	5.593	4.583	3.281	5.737	23.51
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...		3.217	3.237	2.898	2.561	2.475	1.840	1.206	2.491	29.91
91)	T	d-Limonene	2.698	2.195	2.419	2.131	1.943	2.068	1.655	1.063	2.021	24.53
92)	T	1,2-Dibromo-3-...	1.418	1.209	1.201	1.113	1.034	1.055	0.849	0.589	1.059	23.68
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...		2.346	2.487	2.206	2.027	1.954	1.408		2.071	18.35
95)	T	Naphthalene	9.048	7.546	7.846	7.085	6.719	7.227	6.225	4.621	7.040	18.28
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...		1.520	1.510	1.308	1.148	1.198	1.002	0.706	1.199	23.97
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene		5.742	5.929	5.235	4.623	4.390	3.182		4.850	20.93
100)	T	n-Butylbenzene	7.613	6.333	6.755	6.017	5.462	5.758	4.881	3.618	5.805	20.85
101)	T	1,1,1,2-Tetrac...	1.562	1.368	1.516	1.339	1.195	1.285	1.109	0.845	1.278	18.05

(#) = Out of Range

R9030922.M Thu Mar 10 10:05:33 2022

Primary Source Standards Concentrations (Working & Initial Calibration)

3/10/22

1ng/L Std. ID:
4ng/L Std. ID: S35-03082207
20ng/L Std. ID: S35-03082205
40ng/L Std. ID:
200ng/L Std. ID: S35-03082204
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

03082207, 03082205, 03082204

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S35-03082207**	**200ng/L Std. ID:**	**S35-03082204**
20ng/L Std. ID:	**S35-03082205**	**1000ng/L Std. ID:**	

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**20**	**20**	**20**	**200**	**200**	**200**
	Source Std.			**Primary Working Standards**				**Injection (L):**	**0.025**	**0.050**	**0.0250**	**0.050**	**0.25**	**0.125**	**0.25**	**0.50**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Calibration Status Report MS09

Method   : I:\MS09\Methods\R9030922.M (RTE Integrator)
Title   : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration

3/10/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\Data\2022_03\09\03092205.D
2	0.2	0	13	I:\MS09\Data\2022_03\09\03092206.D
3	0.5	1	13	I:\MS09\Data\2022_03\09\03092207.D
4	1.0	1	13	I:\MS09\Data\2022_03\09\03092208.D
5	5.0	5	13	I:\MS09\Data\2022_03\09\03092209.D
6	25	26	13	I:\MS09\Data\2022_03\09\03092210.D
7	50	52	13	I:\MS09\Data\2022_03\09\03092211.D
8	100	104	13	I:\MS09\Data\2022_03\09\03092212.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Mar 09 16:57 2022	Mar 09 13:11 2022	9 Mar 2022 12:39
2	0.2	Mar 09 16:57 2022	Mar 09 13:37 2022	9 Mar 2022 13:13
3	0.5	Mar 09 16:57 2022	Mar 09 14:15 2022	9 Mar 2022 13:46
4	1.0	Mar 09 16:57 2022	Mar 09 14:47 2022	9 Mar 2022 14:19
5	5.0	Mar 09 16:58 2022	Mar 09 15:14 2022	9 Mar 2022 14:52
6	25	Mar 09 16:58 2022	Mar 09 15:49 2022	9 Mar 2022 15:26
7	50	Mar 09 16:58 2022	Mar 09 16:21 2022	9 Mar 2022 15:59
8	100	Mar 09 16:58 2022	Mar 09 16:55 2022	9 Mar 2022 16:33

R9030922.M Thu Mar 10 10:06:01 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092205.D Vial: 5
Acq On : 9 Mar 2022 12:39 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 09 13:11:35 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	154797	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.31	114	669789	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	128083	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	272040	8.117	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.96%#				
57) Toluene-d8 (SS2)	15.77	98	775870	18.044	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 144.32%#				
73) Bromofluorobenzene (SS3)	19.03	174	201562	16.022	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 128.16%				
Target Compounds							Qvalue
2) Propene	4.10	42	2562	0.098	ng		98
3) Dichlorodifluoromethan...	4.25	85	4040	0.106	ng		95
4) Chloromethane	4.55	50	3042	0.111	ng	#	71
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	1748	0.126	ng		98
6) Vinyl Chloride	4.96	62	2687	0.122	ng		100
7) 1,3-Butadiene	5.23	54	2317	0.146	ng		91
8) Bromomethane	5.67	94	1704	0.165	ng		97
9) Chloroethane	6.00	64	1304	0.106	ng		75
10) Ethanol	6.34	45	6838	0.408	ng		77
11) Acetonitrile	6.60	41	4834	0.096	ng	#	67
12) Acrolein	6.80	56	2364	0.208	ng		98
13) Acetone	7.02	58	7681	0.594	ng	#	61
14) Trichlorofluoromethane	7.26	101	3309	0.093	ng		91
15) 2-Propanol (Isopropanol)	7.55	45	10923	0.178	ng		92
16) Acrylonitrile	7.76	53	5400	0.217	ng		90
17) 1,1-Dichloroethene	8.23	96	1881	0.132	ng	#	74
18) 2-Methyl-2-Propanol (t...	8.47	59	9457	0.196	ng		93
19) Methylene Chloride	8.44	84	2163	0.131	ng	#	79
20) 3-Chloro-1-propene (Al...	8.61	41	3115	0.061	ng		98
21) Trichlorotrifluoroethane	8.87	151	1538	0.127	ng		89
22) Carbon Disulfide	8.72	76	14577	0.255	ng		94
23) trans-1,2-Dichloroethene	9.72	61	2621	0.096	ng		89
24) 1,1-Dichloroethane	9.97	63	3612	0.108	ng		99
25) Methyl tert-Butyl Ether	10.11	73	6155	0.119	ng		92
26) Vinyl Acetate	10.24	86	935	0.290	ng	#	93
27) 2-Butanone (MEK)	10.52	72	2310	0.195	ng	#	91
28) cis-1,2-Dichloroethene	10.99	61	2811	0.103	ng		83
29) Diisopropyl Ether	11.32	87	3501	0.260	ng	#	80
30) Ethyl Acetate	11.32	61	2926	0.437	ng		93
31) n-Hexane	11.29	57	3473	0.110	ng	#	97
32) Chloroform	11.33	83	3543	0.111	ng		98
34) Tetrahydrofuran (THF)	11.79	72	2286	0.202	ng	#	78
35) Ethyl tert-Butyl Ether	11.91	87	4526	0.214	ng		94
36) 1,2-Dichloroethane	12.15	62	2818	0.088	ng		91
38) 1,1,1-Trichloroethane	12.43	97	3081	0.109	ng		97
39) Isopropyl Acetate	13.31	61	19503	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	12.91	78	8601	0.126	ng		97
42) Carbon Tetrachloride	13.08	117	2502	0.108	ng		97
43) Cyclohexane	13.21	84	6076	0.246	ng		92
44) tert-Amyl Methyl Ether	13.57	73	11072	0.229	ng		92
45) 1,2-Dichloropropane	13.76	63	1984	0.120	ng		97
46) Bromodichloromethane	13.96	83	2796	0.117	ng		99
47) Trichloroethene	14.01	130	1986	0.138	ng		97
48) 1,4-Dioxane	14.03	88	1320	0.109	ng		100
49) 2,2,4-Trimethylpentane...	14.08	57	9031	0.123	ng		83
50) Methyl Methacrylate	14.24	100	1353	0.239	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092205.D Vial: 5
Acq On : 9 Mar 2022 12:39 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 09 13:11:35 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

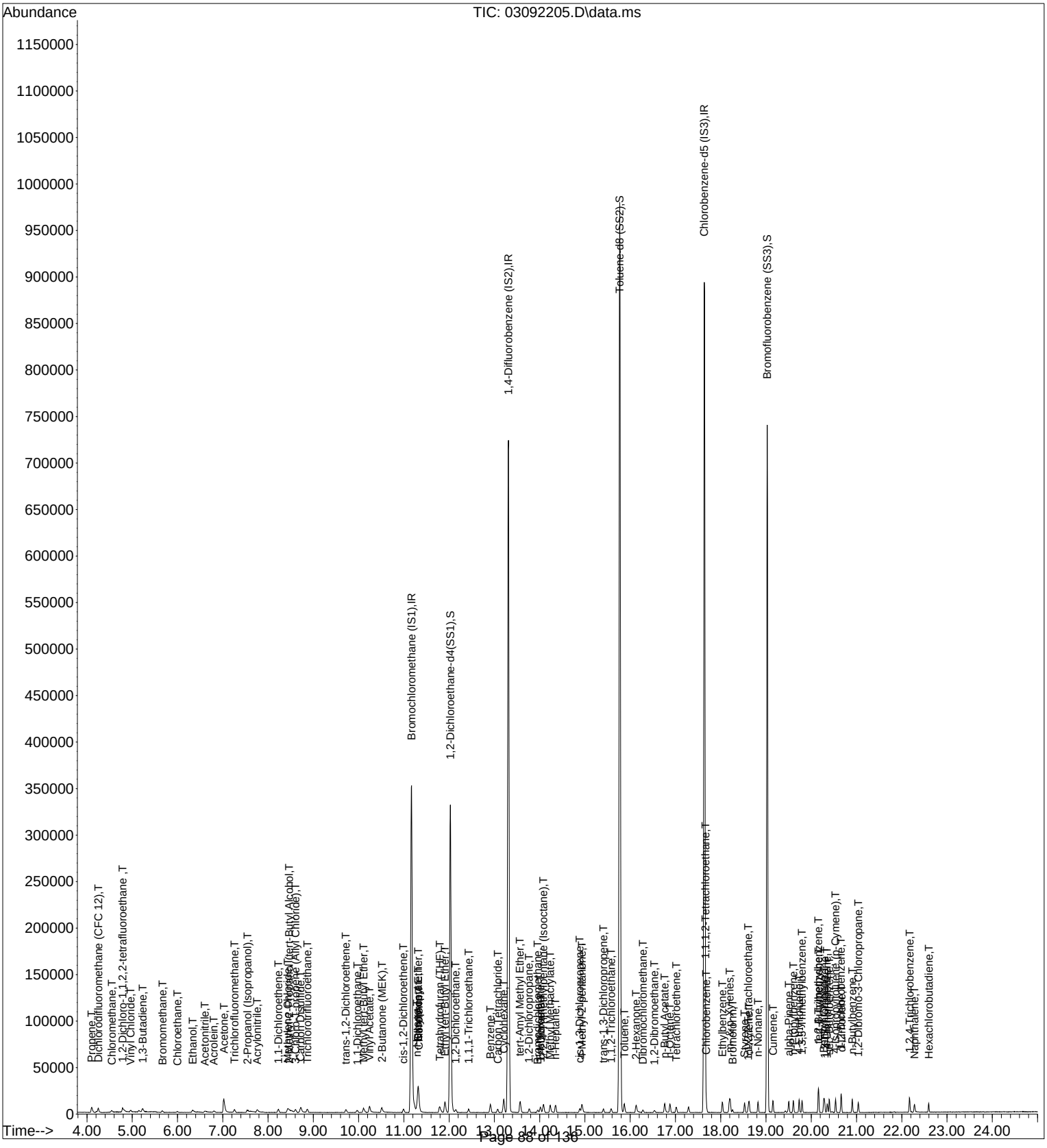
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	2007	0.124 ng		94
52) cis-1,3-Dichloropropene	14.88	75	3212	0.127 ng		92
53) 4-Methyl-2-pentanone	14.93	58	3230	0.207 ng		91
54) trans-1,3-Dichloropropene	15.41	75	2816	0.110 ng		92
55) 1,1,2-Trichloroethane	15.58	97	1855	0.135 ng		95
58) Toluene	15.87	91	8603	0.200 ng		99
59) 2-Hexanone	16.13	43	8819	0.268 ng		93
60) Dibromochloromethane	16.28	129	2159	0.200 ng		97
61) 1,2-Dibromoethane	16.53	107	2280	0.225 ng		95
62) n-Butyl Acetate	16.76	43	9391	0.264 ng		95
63) n-Octane	16.88	57	1721	0.173 ng		87
64) Tetrachloroethene	17.02	166	2037	0.195 ng		98
65) Chlorobenzene	17.68	112	5664	0.213 ng		98
66) Ethylbenzene	18.04	91	9544	0.191 ng		99
67) m- & p-Xylenes	18.20	91	15311	0.388 ng		96
68) Bromoform	18.26	173	1497	0.180 ng		95
69) Styrene	18.53	104	5390	0.204 ng		96
70) o-Xylene	18.62	91	7366	0.181 ng		95
71) n-Nonane	18.82	43	3983	0.139 ng		80
72) 1,1,2,2-Tetrachloroethane	18.61	83	3505	0.204 ng		97
74) Cumene	19.16	105	8904	0.181 ng		97
75) alpha-Pinene	19.50	93	4885	0.202 ng		85
76) n-Propylbenzene	19.61	91	11463	0.190 ng		97
77) 3-Ethyltoluene	19.73	105	9079	No Calib		
78) 4-Ethyltoluene	19.73	105	9079	0.192 ng		100
79) 1,3,5-Trimethylbenzene	19.79	105	7379	0.182 ng		93
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.54	105	328	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.16	105	7311	0.174 ng		92
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	20.28	91	10313	0.311 ng		99
85) 1,3-Dichlorobenzene	20.30	146	4279	0.208 ng		97
86) 1,4-Dichlorobenzene	20.35	146	4225	0.209 ng		97
87) sec-Butylbenzene	20.40	105	10084	0.188 ng		98
88) 4-Isopropyltoluene (p-...	20.54	119	8085	0.181 ng		99
89) 1,2,3-Trimethylbenzene	20.40	105	10084	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	4139	0.209 ng		96
91) d-Limonene	20.67	68	2903	0.179 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.04	157	2906	0.382 ng	#	80
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	5599	0.391 ng		99
95) Naphthalene	22.28	128	9642	0.247 ng		92
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.60	225	1889	0.191 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.16	119	7090	0.182 ng		98
100) n-Butylbenzene	20.91	91	8113	0.175 ng		98
101) 1,1,1,2-Tetrachloroethane	17.66	131	1665	0.173 ng	#	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092205.D Vial: 5
Acq On : 9 Mar 2022 12:39 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 09 13:11:35 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092206.D Vial: 5
Acq On : 9 Mar 2022 13:13 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 09 13:37:37 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	151990	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.31	114	655978	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	125619	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	266928	8.111	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.88%#				
57) Toluene-d8 (SS2)	15.77	98	762275	18.075	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 144.64%#				
73) Bromofluorobenzene (SS3)	19.03	174	197897	16.040	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 128.32%				
Target Compounds							Qvalue
2) Propene	4.10	42	3837	0.150	ng		97
3) Dichlorodifluoromethan...	4.25	85	7011	0.187	ng		97
4) Chloromethane	4.54	50	5142	0.191	ng	#	70
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	3124	0.230	ng		95
6) Vinyl Chloride	4.96	62	4800	0.221	ng		95
7) 1,3-Butadiene	5.22	54	3794	0.244	ng	#	86
8) Bromomethane	5.66	94	2758	0.272	ng		97
9) Chloroethane	5.98	64	2250	0.186	ng		82
10) Ethanol	6.32	45	11411	0.694	ng		78
11) Acetonitrile	6.60	41	7525	0.152	ng		83
12) Acrolein	6.80	56	4104	0.368	ng		99
13) Acetone	7.01	58	12652	0.997	ng	#	57
14) Trichlorofluoromethane	7.26	101	5664	0.162	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	17866	0.296	ng		90
16) Acrylonitrile	7.76	53	8940	0.366	ng		95
17) 1,1-Dichloroethene	8.23	96	3143	0.224	ng	#	77
18) 2-Methyl-2-Propanol (t...	8.45	59	16338	0.345	ng		97
19) Methylene Chloride	8.43	84	3433	0.211	ng	#	78
20) 3-Chloro-1-propene (Al...	8.60	41	5139	0.103	ng		99
21) Trichlorotrifluoroethane	8.86	151	2623	0.220	ng		94
22) Carbon Disulfide	8.72	76	24092	0.429	ng		95
23) trans-1,2-Dichloroethene	9.72	61	4333	0.162	ng		88
24) 1,1-Dichloroethane	9.97	63	5945	0.181	ng		100
25) Methyl tert-Butyl Ether	10.10	73	10112	0.199	ng		97
26) Vinyl Acetate	10.24	86	1728	0.546	ng	#	70
27) 2-Butanone (MEK)	10.50	72	4169	0.359	ng	#	74
28) cis-1,2-Dichloroethene	10.99	61	4678	0.175	ng		88
29) Diisopropyl Ether	11.31	87	6044	0.458	ng	#	71
30) Ethyl Acetate	11.32	61	5040	0.767	ng		88
31) n-Hexane	11.29	57	5774	0.186	ng		99
32) Chloroform	11.34	83	5797	0.184	ng		98
34) Tetrahydrofuran (THF)	11.78	72	4012	0.360	ng	#	67
35) Ethyl tert-Butyl Ether	11.91	87	7431	0.358	ng		96
36) 1,2-Dichloroethane	12.15	62	4692	0.150	ng		95
38) 1,1,1-Trichloroethane	12.44	97	5096	0.184	ng		97
39) Isopropyl Acetate	13.30	61	19314	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	12.91	78	13571	0.204	ng		98
42) Carbon Tetrachloride	13.07	117	4146	0.183	ng		100
43) Cyclohexane	13.21	84	10186	0.421	ng		89
44) tert-Amyl Methyl Ether	13.57	73	18234	0.385	ng		93
45) 1,2-Dichloropropane	13.78	63	3416	0.211	ng		96
46) Bromodichloromethane	13.96	83	4624	0.198	ng		97
47) Trichloroethene	14.01	130	3486	0.248	ng		95
48) 1,4-Dioxane	14.01	88	2414	0.204	ng		84
49) 2,2,4-Trimethylpentane...	14.08	57	14440	0.201	ng		82
50) Methyl Methacrylate	14.23	100	2223	0.400	ng		91

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092206.D Vial: 5
Acq On : 9 Mar 2022 13:13 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 09 13:37:37 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

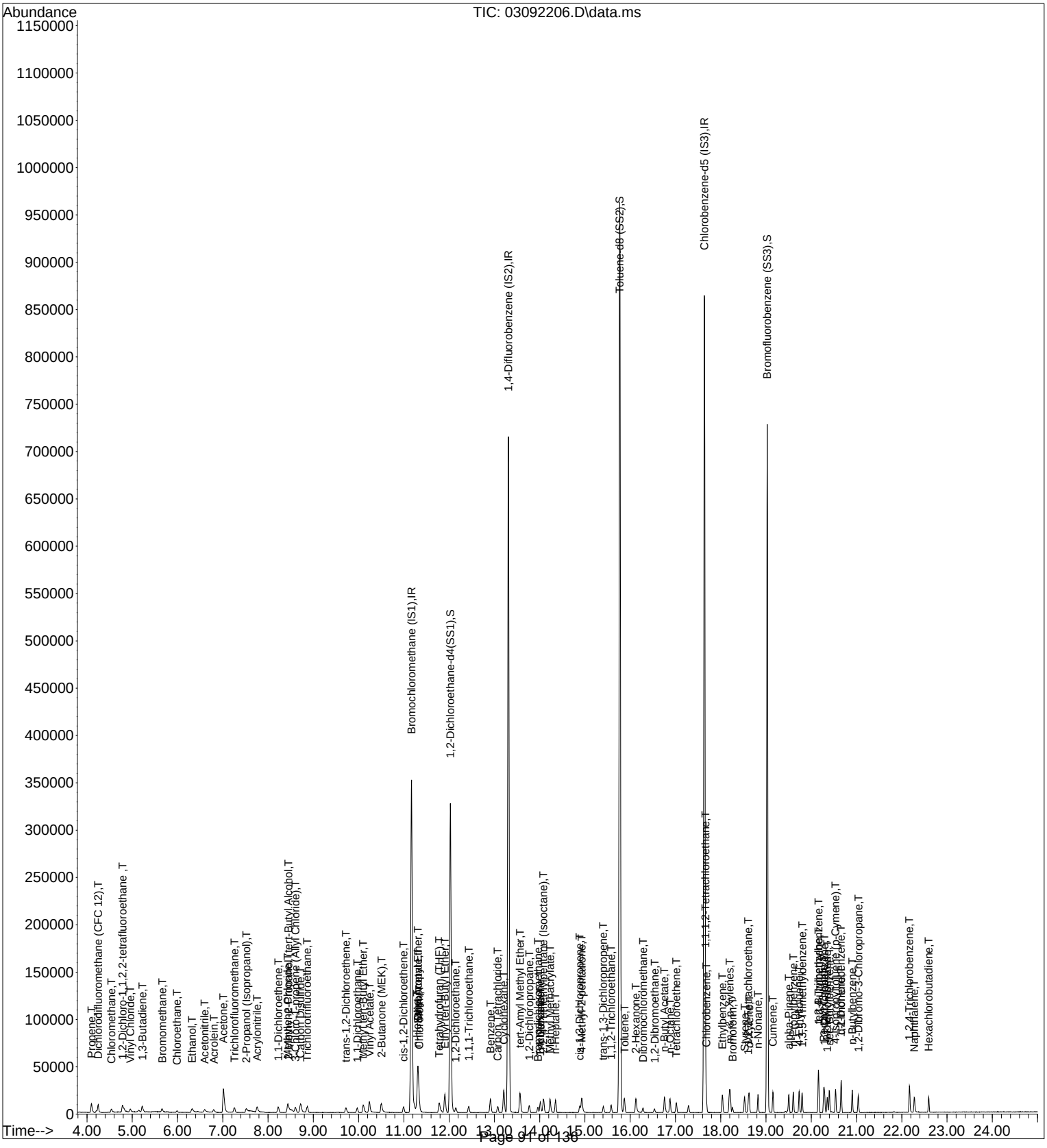
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.35	71	3530	0.222	ng		93
52) cis-1,3-Dichloropropene	14.88	75	5131	0.207	ng		98
53) 4-Methyl-2-pentanone	14.93	58	5660	0.370	ng		79
54) trans-1,3-Dichloropropene	15.41	75	4722	0.188	ng		98
55) 1,1,2-Trichloroethane	15.58	97	3232	0.240	ng		99
58) Toluene	15.88	91	13524	0.320	ng		99
59) 2-Hexanone	16.13	43	14623	0.453	ng		91
60) Dibromochloromethane	16.29	129	3626	0.342	ng		99
61) 1,2-Dibromoethane	16.54	107	3546	0.357	ng		99
62) n-Butyl Acetate	16.76	43	15678	0.449	ng		91
63) n-Octane	16.88	57	2908	0.299	ng		92
64) Tetrachloroethene	17.02	166	3414	0.333	ng		100
65) Chlorobenzene	17.68	112	8743	0.335	ng		96
66) Ethylbenzene	18.03	91	15394	0.314	ng		98
67) m- & p-Xylenes	18.20	91	24319	0.628	ng		96
68) Bromoform	18.26	173	2704	0.332	ng		88
69) Styrene	18.53	104	9004	0.348	ng		92
70) o-Xylene	18.63	91	12158	0.304	ng		96
71) n-Nonane	18.82	43	6765	0.240	ng		81
72) 1,1,2,2-Tetrachloroethane	18.61	83	5677	0.337	ng		98
74) Cumene	19.15	105	14710	0.305	ng		97
75) alpha-Pinene	19.50	93	7449	0.315	ng		80
76) n-Propylbenzene	19.61	91	18375	0.310	ng		97
77) 3-Ethyltoluene	19.73	105	14770	No Calib			
78) 4-Ethyltoluene	19.73	105	14770	0.319	ng		99
79) 1,3,5-Trimethylbenzene	19.80	105	12160	0.306	ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	20.66	105	270	No Calib		#	
82) 1,2,4-Trimethylbenzene	20.16	105	12096	0.294	ng		95
83) n-Decane	20.53	58	111	No Calib		#	
84) Benzyl Chloride	20.28	91	17039	0.524	ng		94
85) 1,3-Dichlorobenzene	20.29	146	6774	0.336	ng		98
86) 1,4-Dichlorobenzene	20.36	146	6968	0.351	ng		98
87) sec-Butylbenzene	20.40	105	16210	0.307	ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	13449	0.308	ng		97
89) 1,2,3-Trimethylbenzene	20.40	105	16210	No Calib		#	
90) 1,2-Dichlorobenzene	20.66	146	6790	0.349	ng		98
91) d-Limonene	20.66	68	4632	0.291	ng		99
92) 1,2-Dibromo-3-Chloropr...	21.04	157	4860	0.651	ng	#	77
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.17	180	9618	0.685	ng		96
95) Naphthalene	22.28	128	15774	0.413	ng		98
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.59	225	3147	0.324	ng		97
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	20.16	119	12002	0.314	ng		99
100) n-Butylbenzene	20.91	91	13238	0.291	ng		98
101) 1,1,1,2-Tetrachloroethane	17.66	131	2859	0.302	ng		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092206.D Vial: 5
Acq On : 9 Mar 2022 13:13 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 09 13:37:37 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092207.D Vial: 6
Acq On : 9 Mar 2022 13:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 14:15:14 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	146840	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.31	114	636823	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	122722	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	256617	8.072	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.56%#				
57) Toluene-d8 (SS2)	15.77	98	739771	17.956	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 143.68%#				
73) Bromofluorobenzene (SS3)	19.03	174	191946	15.924	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 127.36%				
Target Compounds							Qvalue
2) Propene	4.08	42	9573	0.388	ng		98
3) Dichlorodifluoromethan...	4.23	85	16861	0.465	ng		98
4) Chloromethane	4.53	50	12852	0.494	ng	#	67
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	7682	0.584	ng		100
6) Vinyl Chloride	4.94	62	12373	0.590	ng		99
7) 1,3-Butadiene	5.21	54	9564	0.637	ng	#	81
8) Bromomethane	5.65	94	6997	0.714	ng		97
9) Chloroethane	5.98	64	5619	0.480	ng		99
10) Ethanol	6.31	45	24749	1.557	ng		99
11) Acetonitrile	6.58	41	16049	0.336	ng		94
12) Acrolein	6.79	56	10222	0.949	ng		97
13) Acetone	7.00	58	30489	2.487	ng	#	53
14) Trichlorofluoromethane	7.25	101	14354	0.424	ng		96
15) 2-Propanol (Isopropanol)	7.48	45	43015	0.739	ng		96
16) Acrylonitrile	7.74	53	21664	0.918	ng		99
17) 1,1-Dichloroethene	8.22	96	7977	0.588	ng	#	77
18) 2-Methyl-2-Propanol (t...	8.45	59	40631	0.888	ng		97
19) Methylene Chloride	8.43	84	8432	0.537	ng	#	78
20) 3-Chloro-1-propene (Al...	8.60	41	12464	0.259	ng		93
21) Trichlorotrifluoroethane	8.86	151	6888	0.599	ng		95
22) Carbon Disulfide	8.71	76	59986	1.107	ng		98
23) trans-1,2-Dichloroethene	9.72	61	11590	0.448	ng		87
24) 1,1-Dichloroethane	9.97	63	14806	0.465	ng		100
25) Methyl tert-Butyl Ether	10.09	73	24451	0.499	ng		100
26) Vinyl Acetate	10.23	86	4774	1.562	ng	#	54
27) 2-Butanone (MEK)	10.49	72	10638	0.948	ng	#	66
28) cis-1,2-Dichloroethene	10.99	61	11637	0.450	ng		84
29) Diisopropyl Ether	11.30	87	14657	1.149	ng	#	76
30) Ethyl Acetate	11.31	61	13399	2.109	ng		92
31) n-Hexane	11.29	57	14228	0.476	ng		97
32) Chloroform	11.34	83	14519	0.478	ng		96
34) Tetrahydrofuran (THF)	11.77	72	9674	0.899	ng	#	70
35) Ethyl tert-Butyl Ether	11.90	87	18987	0.947	ng		92
36) 1,2-Dichloroethane	12.15	62	11569	0.383	ng		100
38) 1,1,1-Trichloroethane	12.43	97	12529	0.465	ng		97
39) Isopropyl Acetate	13.31	61	19065	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	12.91	78	32690	0.505	ng		98
42) Carbon Tetrachloride	13.07	117	10735	0.489	ng		98
43) Cyclohexane	13.21	84	25258	1.076	ng		90
44) tert-Amyl Methyl Ether	13.56	73	44987	0.978	ng		92
45) 1,2-Dichloropropane	13.77	63	8400	0.535	ng		98
46) Bromodichloromethane	13.96	83	11333	0.500	ng		99
47) Trichloroethene	14.01	130	8680	0.636	ng		97
48) 1,4-Dioxane	14.00	88	6197	0.540	ng		90
49) 2,2,4-Trimethylpentane...	14.08	57	36276	0.520	ng		80
50) Methyl Methacrylate	14.22	100	6256	1.160	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092207.D Vial: 6
Acq On : 9 Mar 2022 13:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 14:15:14 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

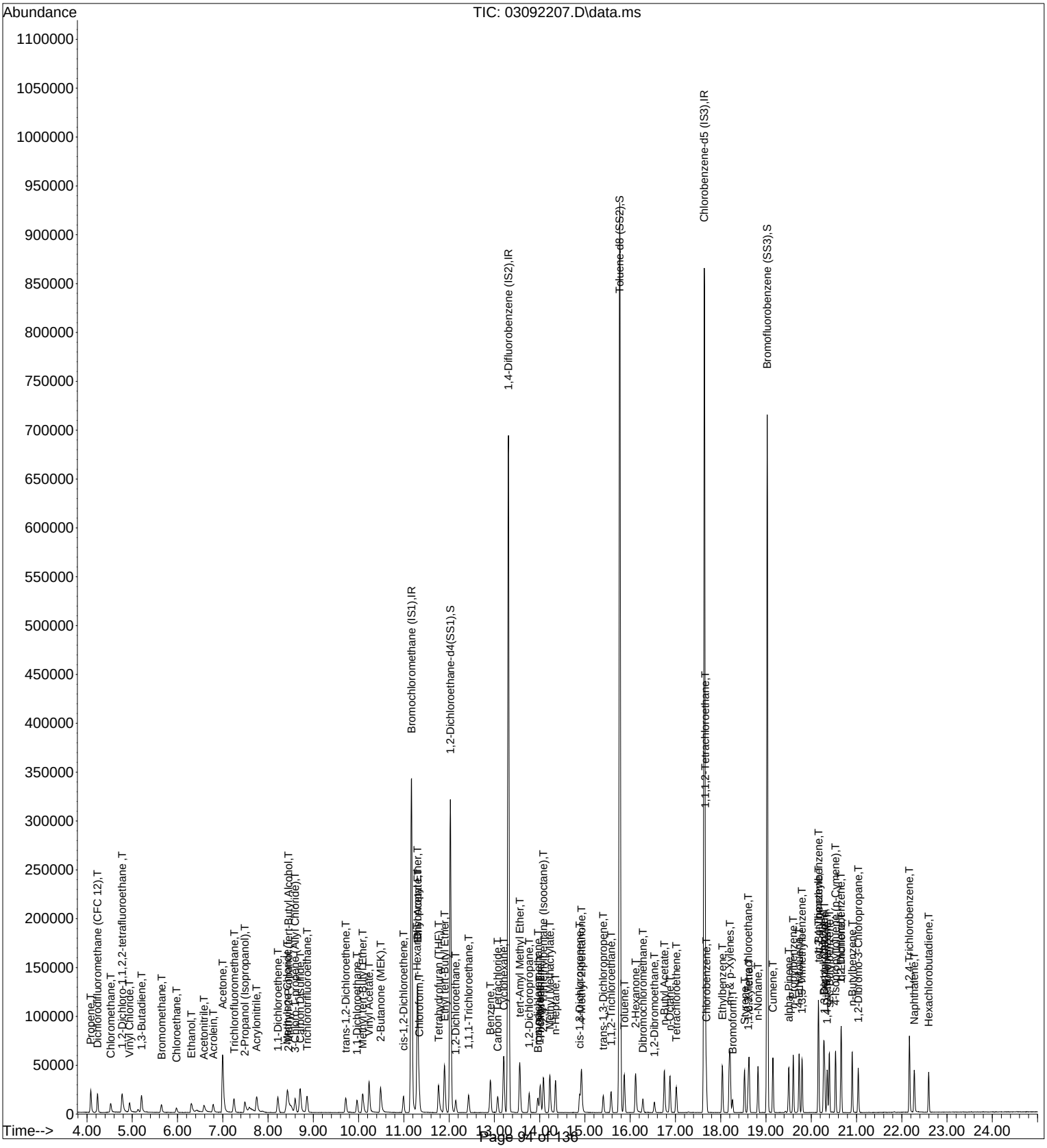
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	8477	0.550 ng		96
52) cis-1,3-Dichloropropene	14.88	75	13236	0.550 ng		100
53) 4-Methyl-2-pentanone	14.92	58	14842	1.000 ng		77
54) trans-1,3-Dichloropropene	15.40	75	11954	0.491 ng		99
55) 1,1,2-Trichloroethane	15.58	97	8142	0.623 ng		97
58) Toluene	15.87	91	34116	0.827 ng		100
59) 2-Hexanone	16.12	43	35573	1.129 ng		86
60) Dibromochloromethane	16.28	129	9181	0.887 ng		99
61) 1,2-Dibromoethane	16.53	107	9548	0.983 ng		97
62) n-Butyl Acetate	16.76	43	38897	1.140 ng		90
63) n-Octane	16.88	57	7438	0.782 ng		93
64) Tetrachloroethene	17.02	166	8340	0.832 ng		98
65) Chlorobenzene	17.68	112	22386	0.878 ng		99
66) Ethylbenzene	18.03	91	38180	0.798 ng		95
67) m- & p-Xylenes	18.20	91	61454	1.624 ng		95
68) Bromoform	18.26	173	6917	0.869 ng		97
69) Styrene	18.53	104	22616	0.895 ng		93
70) o-Xylene	18.62	91	30586	0.783 ng		94
71) n-Nonane	18.82	43	16860	0.613 ng		79
72) 1,1,2,2-Tetrachloroethane	18.61	83	14267	0.866 ng		98
74) Cumene	19.15	105	37387	0.793 ng		97
75) alpha-Pinene	19.50	93	19227	0.832 ng		100
76) n-Propylbenzene	19.60	91	46910	0.810 ng		97
77) 3-Ethyltoluene	19.73	105	37375	No Calib		
78) 4-Ethyltoluene	19.73	105	37375	0.827 ng		97
79) 1,3,5-Trimethylbenzene	19.79	105	30661	0.790 ng		96
80) alpha-Methylstyrene	19.79	118	149	No Calib	#	
81) 2-Ethyltoluene	20.66	105	720	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.16	105	31425	0.781 ng		94
83) n-Decane	20.54	58	769	No Calib	#	
84) Benzyl Chloride	20.28	91	46896	1.477 ng		96
85) 1,3-Dichlorobenzene	20.29	146	17445	0.887 ng		96
86) 1,4-Dichlorobenzene	20.35	146	17508	0.902 ng		98
87) sec-Butylbenzene	20.40	105	41657	0.809 ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	34960	0.819 ng		97
89) 1,2,3-Trimethylbenzene	20.40	105	41657	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	16687	0.878 ng		99
91) d-Limonene	20.66	68	12470	0.802 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.04	157	11790	1.618 ng	#	76
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	24904	1.816 ng		97
95) Naphthalene	22.28	128	40057	1.072 ng		98
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	7637	0.804 ng		98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.16	119	30270	0.810 ng		97
100) n-Butylbenzene	20.91	91	34485	0.777 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	7742	0.838 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092207.D Vial: 6
Acq On : 9 Mar 2022 13:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 14:15:14 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092208.D Vial: 6
Acq On : 9 Mar 2022 14:19 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 14:47:27 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	147201	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.31	114	634791	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	122889	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	257291	8.073	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.56%#				
57) Toluene-d8 (SS2)	15.77	98	741362	17.970	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 143.76%#				
73) Bromofluorobenzene (SS3)	19.03	174	194555	16.119	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 128.96%				
Target Compounds							Qvalue
2) Propene	4.08	42	16044	0.648	ng		98
3) Dichlorodifluoromethan...	4.23	85	29457	0.811	ng		99
4) Chloromethane	4.52	50	22732	0.872	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	13264	1.007	ng		99
6) Vinyl Chloride	4.93	62	21883	1.041	ng		100
7) 1,3-Butadiene	5.20	54	17186	1.142	ng	#	79
8) Bromomethane	5.64	94	12756	1.298	ng		98
9) Chloroethane	5.97	64	10032	0.856	ng		95
10) Ethanol	6.31	45	42664	2.677	ng		100
11) Acetonitrile	6.58	41	27137	0.566	ng		93
12) Acrolein	6.78	56	19480	1.805	ng		98
13) Acetone	6.99	58	54299	4.419	ng	#	52
14) Trichlorofluoromethane	7.25	101	26162	0.771	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	75712	1.297	ng		97
16) Acrylonitrile	7.75	53	38307	1.619	ng		99
17) 1,1-Dichloroethene	8.22	96	14127	1.039	ng	#	77
18) 2-Methyl-2-Propanol (t...	8.38	59	71616	1.561	ng		96
19) Methylene Chloride	8.43	84	14843	0.942	ng	#	76
20) 3-Chloro-1-propene (Al...	8.60	41	21964	0.454	ng		91
21) Trichlorotrifluoroethane	8.86	151	12159	1.054	ng		97
22) Carbon Disulfide	8.70	76	97961	1.803	ng		99
23) trans-1,2-Dichloroethene	9.72	61	21693	0.836	ng		92
24) 1,1-Dichloroethane	9.97	63	26507	0.831	ng		100
25) Methyl tert-Butyl Ether	10.08	73	42801	0.871	ng		100
26) Vinyl Acetate	10.23	86	8906	2.906	ng	#	43
27) 2-Butanone (MEK)	10.48	72	19326	1.719	ng	#	55
28) cis-1,2-Dichloroethene	10.99	61	20826	0.804	ng		86
29) Diisopropyl Ether	11.30	87	26652	2.085	ng	#	71
30) Ethyl Acetate	11.31	61	23922	3.757	ng		91
31) n-Hexane	11.29	57	25164	0.839	ng		97
32) Chloroform	11.34	83	26052	0.856	ng		98
34) Tetrahydrofuran (THF)	11.76	72	17657	1.637	ng	#	65
35) Ethyl tert-Butyl Ether	11.90	87	33709	1.677	ng		92
36) 1,2-Dichloroethane	12.15	62	20901	0.690	ng		98
38) 1,1,1-Trichloroethane	12.44	97	22483	0.838	ng		98
39) Isopropyl Acetate	13.31	61	18598	No Calib		#	
40) 1-Butanol	12.96	56	348	No Calib		#	
41) Benzene	12.92	78	57870	0.897	ng		99
42) Carbon Tetrachloride	13.07	117	18942	0.866	ng		99
43) Cyclohexane	13.21	84	44439	1.899	ng		89
44) tert-Amyl Methyl Ether	13.56	73	79792	1.740	ng		91
45) 1,2-Dichloropropane	13.77	63	14887	0.951	ng		100
46) Bromodichloromethane	13.96	83	20042	0.887	ng		98
47) Trichloroethene	14.01	130	15046	1.105	ng		94
48) 1,4-Dioxane	14.00	88	10989	0.960	ng		90
49) 2,2,4-Trimethylpentane...	14.08	57	62997	0.905	ng		81
50) Methyl Methacrylate	14.22	100	10974	2.041	ng		99

Data File : I:\MS09\Data\2022 03\09\03092208.D Vial: 6
Acq On : 9 Mar 2022 14:19 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 14:47:27 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

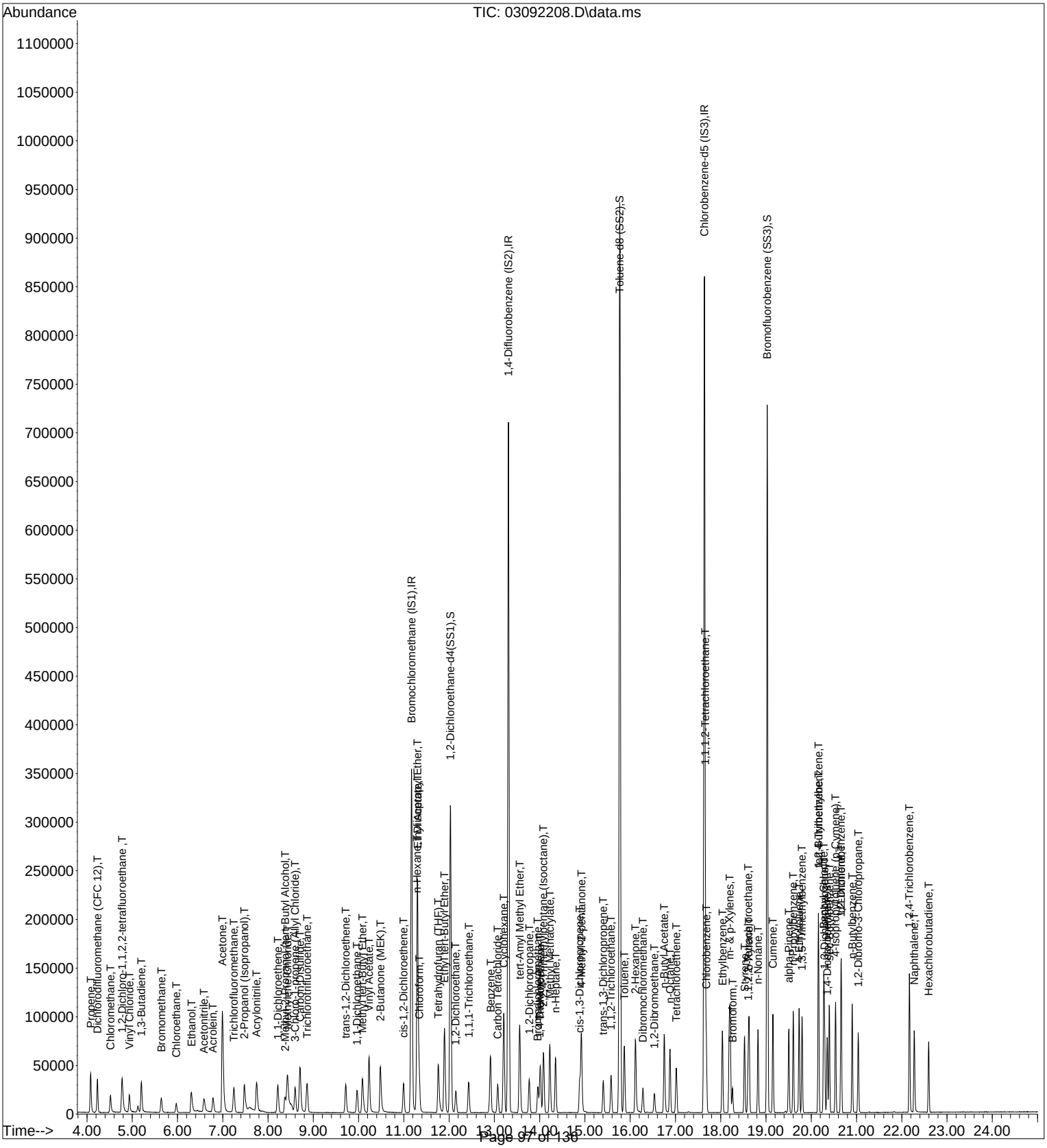
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	15278	0.994 ng		96
52) cis-1,3-Dichloropropene	14.88	75	23454	0.977 ng		99
53) 4-Methyl-2-pentanone	14.92	58	26717	1.805 ng		75
54) trans-1,3-Dichloropropene	15.40	75	21409	0.882 ng		99
55) 1,1,2-Trichloroethane	15.58	97	14075	1.081 ng		99
58) Toluene	15.87	91	60140	1.457 ng		99
59) 2-Hexanone	16.11	43	64328	2.039 ng		85
60) Dibromochloromethane	16.28	129	16282	1.571 ng		99
61) 1,2-Dibromoethane	16.53	107	16442	1.690 ng		100
62) n-Butyl Acetate	16.75	43	70103	2.052 ng		88
63) n-Octane	16.88	57	12809	1.345 ng		92
64) Tetrachloroethene	17.02	166	15051	1.500 ng		99
65) Chlorobenzene	17.68	112	39102	1.531 ng		100
66) Ethylbenzene	18.04	91	67575	1.410 ng		96
67) m- & p-Xylenes	18.20	91	105680	2.788 ng		94
68) Bromoform	18.26	173	12249	1.537 ng		99
69) Styrene	18.53	104	40273	1.592 ng		94
70) o-Xylene	18.62	91	54097	1.383 ng		95
71) n-Nonane	18.82	43	29329	1.064 ng	#	77
72) 1,1,2,2-Tetrachloroethane	18.61	83	25682	1.556 ng		97
74) Cumene	19.15	105	66489	1.408 ng		96
75) alpha-Pinene	19.50	93	33520	1.448 ng		99
76) n-Propylbenzene	19.60	91	83402	1.438 ng		96
77) 3-Ethyltoluene	19.73	105	66588	No Calib		
78) 4-Ethyltoluene	19.73	105	66588	1.471 ng		96
79) 1,3,5-Trimethylbenzene	19.79	105	54846	1.412 ng		96
80) alpha-Methylstyrene	19.73	118	249	No Calib	#	
81) 2-Ethyltoluene	20.66	105	1480	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.16	105	55570	1.379 ng		94
83) n-Decane	20.52	58	379	No Calib	#	
84) Benzyl Chloride	20.28	91	87021	2.737 ng		94
85) 1,3-Dichlorobenzene	20.29	146	30276	1.537 ng		99
86) 1,4-Dichlorobenzene	20.36	146	30971	1.593 ng		98
87) sec-Butylbenzene	20.40	105	74788	1.450 ng		98
88) 4-Isopropyltoluene (p-...	20.54	119	62406	1.459 ng		97
89) 1,2,3-Trimethylbenzene	20.40	105	74788	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	29917	1.573 ng		99
91) d-Limonene	20.66	68	21999	1.413 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.04	157	21893	3.000 ng	#	72
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	44246	3.221 ng		99
95) Naphthalene	22.28	128	72440	1.937 ng		98
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	13249	1.393 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.16	119	53521	1.430 ng		99
100) n-Butylbenzene	20.91	91	61521	1.384 ng		100
101) 1,1,1,2-Tetrachloroethane	17.66	131	13694	1.481 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092208.D Vial: 6
Acq On : 9 Mar 2022 14:19 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 14:47:27 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092209.D Vial: 6
Acq On : 9 Mar 2022 14:52 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 15:14:36 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	147993	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.32	114	643149	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	123823	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	260198	8.121	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.96%#				
57) Toluene-d8 (SS2)	15.77	98	746581	17.960	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 143.68%#				
73) Bromofluorobenzene (SS3)	19.03	174	196549	16.161	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 129.28%				
Target Compounds							Qvalue
2) Propene	4.07	42	72746	2.922	ng		99
3) Dichlorodifluoromethan...	4.22	85	130948	3.584	ng		99
4) Chloromethane	4.50	50	95567	3.645	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.77	135	59873	4.519	ng		100
6) Vinyl Chloride	4.92	62	98012	4.637	ng		99
7) 1,3-Butadiene	5.19	54	78591	5.193	ng	#	77
8) Bromomethane	5.63	94	54534	5.521	ng		99
9) Chloroethane	5.97	64	44882	3.807	ng		98
10) Ethanol	6.32	45	187859	11.726	ng		99
11) Acetonitrile	6.59	41	120429	2.499	ng		98
12) Acrolein	6.79	56	85420	7.872	ng		100
13) Acetone	6.99	58	240557	19.473	ng	#	52
14) Trichlorofluoromethane	7.25	101	114541	3.357	ng		98
15) 2-Propanol (Isopropanol)	7.48	45	328696	5.601	ng		99
16) Acrylonitrile	7.75	53	175090	7.358	ng		98
17) 1,1-Dichloroethene	8.22	96	62746	4.588	ng	#	77
18) 2-Methyl-2-Propanol (t...	8.37	59	267440	5.798	ng		95
19) Methylene Chloride	8.44	84	66619	4.207	ng	#	78
20) 3-Chloro-1-propene (Al...	8.60	41	93264	1.919	ng		85
21) Trichlorotrifluoroethane	8.86	151	52912	4.563	ng		93
22) Carbon Disulfide	8.70	76	453444	8.299	ng		99
23) trans-1,2-Dichloroethene	9.72	61	96753	3.710	ng		87
24) 1,1-Dichloroethane	9.98	63	117659	3.670	ng		99
25) Methyl tert-Butyl Ether	10.08	73	171199	3.464	ng		100
26) Vinyl Acetate	10.23	86	41971	13.623	ng	#	35
27) 2-Butanone (MEK)	10.48	72	89275	7.897	ng	#	54
28) cis-1,2-Dichloroethene	11.00	61	93222	3.579	ng		85
29) Diisopropyl Ether	11.30	87	118527	9.222	ng	#	72
30) Ethyl Acetate	11.31	61	108622	16.966	ng		91
31) n-Hexane	11.29	57	112040	3.716	ng		96
32) Chloroform	11.35	83	114968	3.758	ng		96
34) Tetrahydrofuran (THF)	11.75	72	78991	7.285	ng	#	66
35) Ethyl tert-Butyl Ether	11.90	87	151238	7.485	ng		92
36) 1,2-Dichloroethane	12.15	62	92560	3.037	ng		99
38) 1,1,1-Trichloroethane	12.44	97	99818	3.672	ng		98
39) Isopropyl Acetate	13.31	61	18804	No Calib		#	
40) 1-Butanol	12.92	56	3220	No Calib		#	
41) Benzene	12.92	78	254067	3.889	ng		98
42) Carbon Tetrachloride	13.08	117	85728	3.867	ng		98
43) Cyclohexane	13.21	84	197768	8.341	ng		90
44) tert-Amyl Methyl Ether	13.56	73	356287	7.667	ng		90
45) 1,2-Dichloropropane	13.77	63	66661	4.203	ng		99
46) Bromodichloromethane	13.96	83	92066	4.021	ng		98
47) Trichloroethene	14.02	130	67332	4.881	ng		96
48) 1,4-Dioxane	13.99	88	51623	4.450	ng		89
49) 2,2,4-Trimethylpentane...	14.09	57	279764	3.968	ng		81
50) Methyl Methacrylate	14.22	100	51454	9.446	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092209.D Vial: 6
Acq On : 9 Mar 2022 14:52 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 15:14:36 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

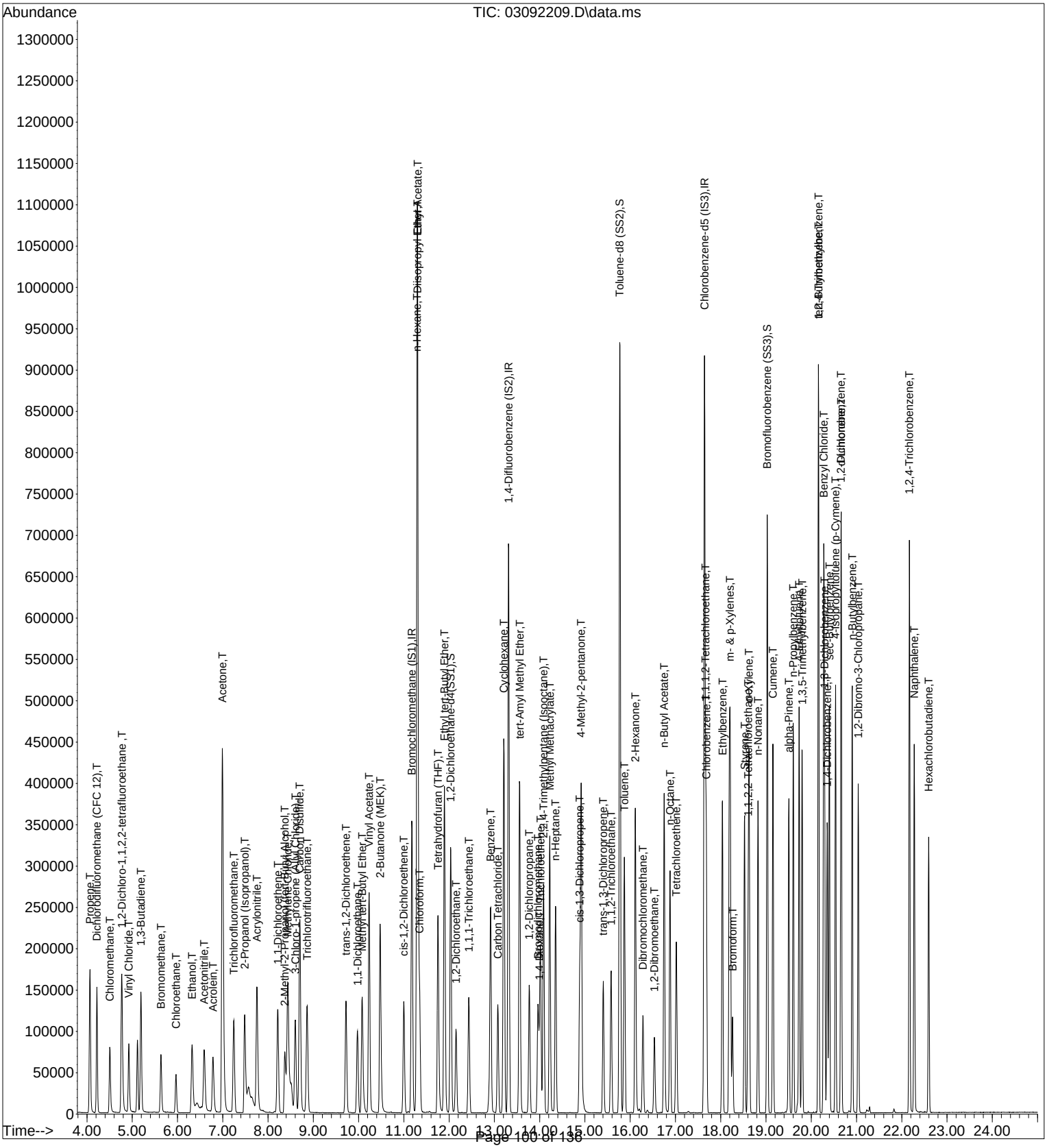
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	68324	4.389 ng		94
52) cis-1,3-Dichloropropene	14.88	75	109492	4.501 ng		99
53) 4-Methyl-2-pentanone	14.92	58	120432	8.031 ng		74
54) trans-1,3-Dichloropropene	15.40	75	100178	4.076 ng		99
55) 1,1,2-Trichloroethane	15.58	97	63734	4.832 ng		100
58) Toluene	15.87	91	265652	6.386 ng		100
59) 2-Hexanone	16.11	43	288407	9.072 ng		84
60) Dibromochloromethane	16.28	129	74948	7.177 ng		99
61) 1,2-Dibromoethane	16.53	107	74775	7.627 ng		99
62) n-Butyl Acetate	16.75	43	318769	9.259 ng		88
63) n-Octane	16.88	57	58061	6.050 ng		91
64) Tetrachloroethene	17.02	166	67494	6.676 ng		98
65) Chlorobenzene	17.68	112	174509	6.781 ng		99
66) Ethylbenzene	18.04	91	298918	6.190 ng		96
67) m- & p-Xylenes	18.20	91	472516	12.374 ng		94
68) Bromoform	18.26	173	57397	7.147 ng		99
69) Styrene	18.53	104	185169	7.266 ng		93
70) o-Xylene	18.62	91	241236	6.121 ng		95
71) n-Nonane	18.82	43	130616	4.703 ng	#	77
72) 1,1,2,2-Tetrachloroethane	18.61	83	115275	6.933 ng		97
74) Cumene	19.15	105	296189	6.225 ng		96
75) alpha-Pinene	19.50	93	149658	6.415 ng		98
76) n-Propylbenzene	19.60	91	372361	6.370 ng		97
77) 3-Ethyltoluene	19.73	105	299479	No Calib		
78) 4-Ethyltoluene	19.73	105	299479	6.564 ng		96
79) 1,3,5-Trimethylbenzene	19.80	105	246598	6.299 ng		96
80) alpha-Methylstyrene	19.60	118	448	No Calib	#	
81) 2-Ethyltoluene	20.66	105	6678	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	253615	6.245 ng		95
83) n-Decane	20.53	58	2914	No Calib	#	
84) Benzyl Chloride	20.28	91	435284	13.585 ng		95
85) 1,3-Dichlorobenzene	20.29	146	136295	6.866 ng		97
86) 1,4-Dichlorobenzene	20.36	146	138335	7.062 ng		98
87) sec-Butylbenzene	20.40	105	333569	6.418 ng		98
88) 4-Isopropyltoluene (p-...	20.54	119	281649	6.537 ng		97
89) 1,2,3-Trimethylbenzene	20.40	105	333569	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	133208	6.950 ng		99
91) d-Limonene	20.66	68	101047	6.441 ng		95
92) 1,2-Dibromo-3-Chloropr...	21.04	157	102385	13.922 ng	#	73
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	204834	14.801 ng		98
95) Naphthalene	22.28	128	346120	9.185 ng		99
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	58587	6.115 ng		100
98) Cyclohexanone	18.62	55	216	No Calib	#	
99) tert-Butylbenzene	20.16	119	238132	6.315 ng		99
100) n-Butylbenzene	20.91	91	281356	6.284 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	61549	6.605 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092209.D Vial: 6
Acq On : 9 Mar 2022 14:52 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 09 15:14:36 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092210.D Vial: 7
Acq On : 9 Mar 2022 15:26 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 15:49:07 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	147491	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.32	114	635947	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	121829	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	255737	8.008	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.08%#				
57) Toluene-d8 (SS2)	15.77	98	735328	17.979	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 143.84%#				
73) Bromofluorobenzene (SS3)	19.03	174	194354	16.242	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 129.92%				
Target Compounds							Qvalue
2) Propene	4.05	42	387846	15.633	ng		99
3) Dichlorodifluoromethan...	4.21	85	712192	19.559	ng		99
4) Chloromethane	4.50	50	546159	20.902	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	307052	23.255	ng		99
6) Vinyl Chloride	4.92	62	529512	25.137	ng		99
7) 1,3-Butadiene	5.19	54	428476	28.407	ng	#	76
8) Bromomethane	5.63	94	294178	29.885	ng		99
9) Chloroethane	5.97	64	247903	21.102	ng		99
10) Ethanol	6.36	45	1008249	63.146	ng		99
11) Acetonitrile	6.61	41	625941	13.031	ng		96
12) Acrolein	6.80	56	449499	41.568	ng		98
13) Acetone	7.01	58	1282713	104.186	ng	#	51
14) Trichlorofluoromethane	7.25	101	621616	18.279	ng		98
15) 2-Propanol (Isopropanol)	7.51	45	1849312	31.620	ng		98
16) Acrylonitrile	7.77	53	932796	39.336	ng		98
17) 1,1-Dichloroethene	8.22	96	343715	25.220	ng	#	76
18) 2-Methyl-2-Propanol (t...	8.39	59	1822417	39.646	ng		94
19) Methylene Chloride	8.45	84	354501	22.462	ng	#	78
20) 3-Chloro-1-propene (Al...	8.61	41	527074	10.884	ng		84
21) Trichlorotrifluoroethane	8.86	151	288010	24.923	ng		93
22) Carbon Disulfide	8.71	76	2478781	45.524	ng		99
23) trans-1,2-Dichloroethene	9.73	61	541188	20.824	ng		88
24) 1,1-Dichloroethane	9.98	63	637543	19.952	ng		99
25) Methyl tert-Butyl Ether	10.08	73	972096	19.737	ng		100
26) Vinyl Acetate	10.24	86	230988	75.227	ng	#	35
27) 2-Butanone (MEK)	10.48	72	479313	42.543	ng	#	54
28) cis-1,2-Dichloroethene	11.01	61	506962	19.529	ng		84
29) Diisopropyl Ether	11.30	87	544017	42.470	ng	#	83
30) Ethyl Acetate	11.31	61	519713	81.452	ng		92
31) n-Hexane	11.29	57	558085	18.574	ng		98
32) Chloroform	11.36	83	616571	20.221	ng		96
34) Tetrahydrofuran (THF)	11.75	72	429721	39.766	ng	#	67
35) Ethyl tert-Butyl Ether	11.90	87	830473	41.240	ng		94
36) 1,2-Dichloroethane	12.16	62	506090	16.664	ng		98
38) 1,1,1-Trichloroethane	12.44	97	553739	20.598	ng		98
39) Isopropyl Acetate	13.32	61	18667	No Calib	#		
40) 1-Butanol	12.90	56	17723	No Calib	#		
41) Benzene	12.92	78	1352755	20.940	ng		98
42) Carbon Tetrachloride	13.08	117	476158	21.723	ng		99
43) Cyclohexane	13.21	84	1052163	44.878	ng		92
44) tert-Amyl Methyl Ether	13.56	73	1992399	43.359	ng		91
45) 1,2-Dichloropropane	13.78	63	362520	23.118	ng		99
46) Bromodichloromethane	13.97	83	511942	22.613	ng		98
47) Trichloroethene	14.02	130	366838	26.896	ng		97
48) 1,4-Dioxane	13.99	88	288298	25.136	ng		92
49) 2,2,4-Trimethylpentane...	14.09	57	1526124	21.888	ng		81
50) Methyl Methacrylate	14.22	100	274450	50.954	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092210.D Vial: 7
Acq On : 9 Mar 2022 15:26 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 15:49:07 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

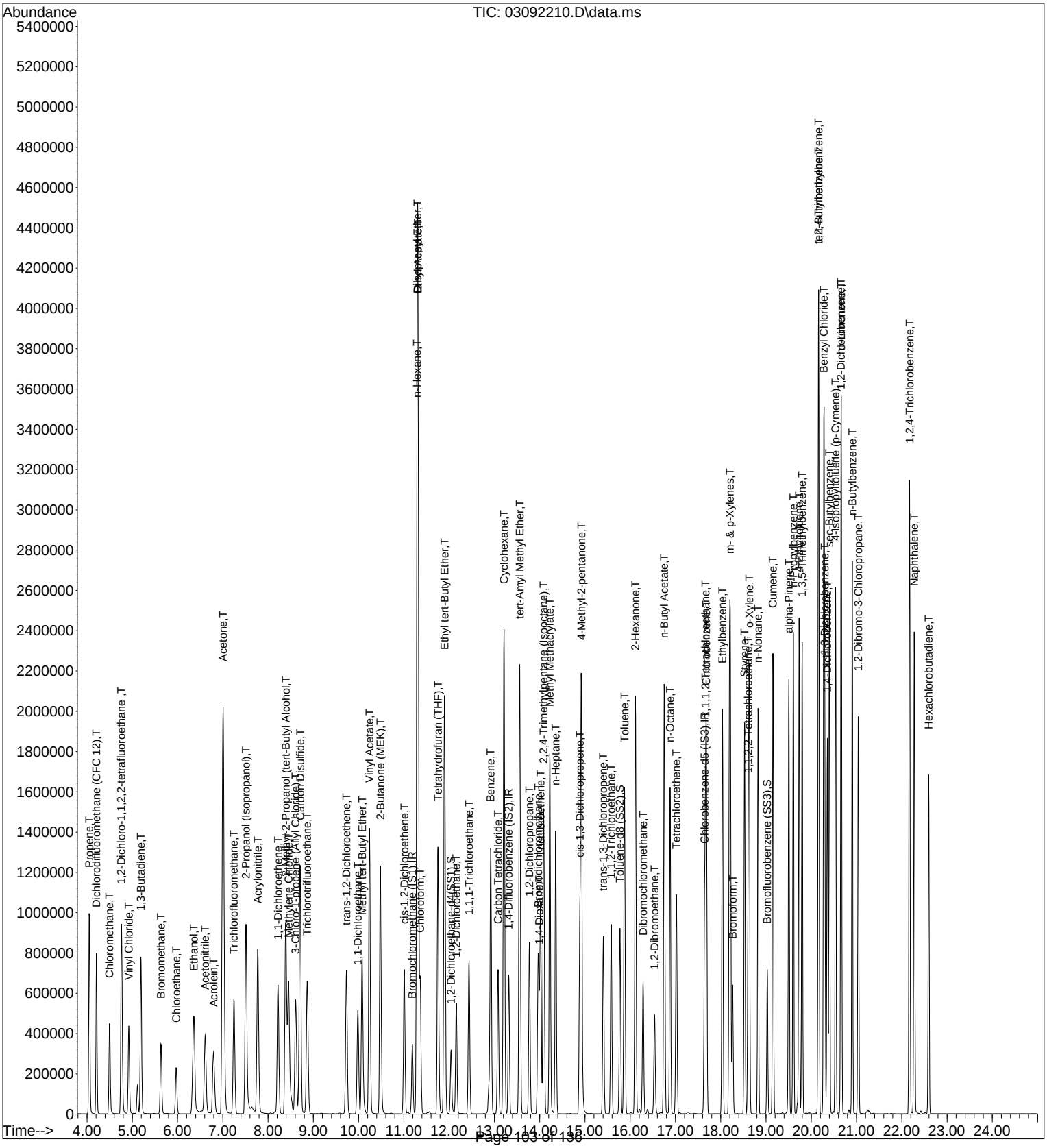
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	368188	23.922 ng		96
52) cis-1,3-Dichloropropene	14.89	75	601303	25.000 ng		99
53) 4-Methyl-2-pentanone	14.92	58	666044	44.916 ng		74
54) trans-1,3-Dichloropropene	15.40	75	564729	23.236 ng		98
55) 1,1,2-Trichloroethane	15.58	97	346236	26.545 ng		100
58) Toluene	15.88	91	1408431	34.409 ng		100
59) 2-Hexanone	16.11	43	1599696	51.145 ng		84
60) Dibromochloromethane	16.29	129	416784	40.565 ng		99
61) 1,2-Dibromoethane	16.54	107	408525	42.353 ng		99
62) n-Butyl Acetate	16.75	43	1777374	52.473 ng		88
63) n-Octane	16.88	57	319723	33.859 ng		94
64) Tetrachloroethene	17.02	166	354261	35.615 ng		97
65) Chlorobenzene	17.68	112	916393	36.190 ng		99
66) Ethylbenzene	18.04	91	1589959	33.462 ng		96
67) m- & p-Xylenes	18.20	91	2463151	65.558 ng		96
68) Bromoform	18.26	173	320116	40.513 ng		100
69) Styrene	18.53	104	985619	39.308 ng		95
70) o-Xylene	18.63	91	1263177	32.575 ng		95
71) n-Nonane	18.82	43	729367	26.691 ng		77
72) 1,1,2,2-Tetrachloroethane	18.61	83	599924	36.670 ng		97
74) Cumene	19.15	105	1545426	33.012 ng		96
75) alpha-Pinene	19.50	93	857395	37.355 ng		97
76) n-Propylbenzene	19.61	91	1931677	33.586 ng		97
77) 3-Ethyltoluene	19.73	105	1560018	No Calib		
78) 4-Ethyltoluene	19.73	105	1560018	34.753 ng		96
79) 1,3,5-Trimethylbenzene	19.80	105	1286428	33.398 ng		97
80) alpha-Methylstyrene	19.61	118	2761	No Calib	#	
81) 2-Ethyltoluene	20.67	105	32769	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	1218843	30.504 ng		97
83) n-Decane	20.51	58	157	No Calib	#	
84) Benzyl Chloride	20.28	91	2267989	71.942 ng		96
85) 1,3-Dichlorobenzene	20.30	146	661739	33.882 ng		98
86) 1,4-Dichlorobenzene	20.36	146	711573	36.918 ng		99
87) sec-Butylbenzene	20.40	105	1696811	33.183 ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	1417249	33.430 ng		98
89) 1,2,3-Trimethylbenzene	20.40	105	1696811	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	633196	33.576 ng		99
91) d-Limonene	20.66	68	529004	34.270 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.04	157	514266	71.075 ng	#	77
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	971128	71.321 ng		98
95) Naphthalene	22.28	128	1831430	49.394 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	300623	31.893 ng		99
98) Cyclohexanone	18.62	55	1166	No Calib	#	
99) tert-Butylbenzene	20.16	119	1112415	29.982 ng		99
100) n-Butylbenzene	20.91	91	1459228	33.124 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	325578	35.510 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092210.D Vial: 7
Acq On : 9 Mar 2022 15:26 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 15:49:07 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092211.D Vial: 7
Acq On : 9 Mar 2022 15:59 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 16:21:02 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.20	130	149829	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.32	114	647289	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	123101	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.05	65	257733	7.945	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 63.60%#				
57) Toluene-d8 (SS2)	15.77	98	746307	18.058	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 144.48%#				
73) Bromofluorobenzene (SS3)	19.03	174	196896	16.285	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 130.24%#				
Target Compounds							Qvalue
2) Propene	4.05	42	747786	29.671	ng		99
3) Dichlorodifluoromethan...	4.21	85	1328784	35.924	ng		99
4) Chloromethane	4.50	50	991964	37.371	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	541219	40.351	ng		99
6) Vinyl Chloride	4.93	62	983166	45.945	ng		99
7) 1,3-Butadiene	5.20	54	797617	52.054	ng	#	76
8) Bromomethane	5.64	94	547304	54.731	ng		99
9) Chloroethane	5.97	64	458445	38.415	ng		98
10) Ethanol	6.39	45	1916065	118.129	ng		99
11) Acetonitrile	6.63	41	1205165	24.698	ng		96
12) Acrolein	6.81	56	849863	77.365	ng		98
13) Acetone	7.02	58	2326086	185.984	ng	#	50
14) Trichlorofluoromethane	7.25	101	1178142	34.104	ng		98
15) 2-Propanol (Isopropanol)	7.54	45	3456039	58.170	ng		98
16) Acrylonitrile	7.79	53	1782582	73.998	ng		98
17) 1,1-Dichloroethene	8.23	96	646070	46.665	ng	#	77
18) 2-Methyl-2-Propanol (t...	8.41	59	3011737	64.496	ng		94
19) Methylene Chloride	8.46	84	663363	41.377	ng	#	79
20) 3-Chloro-1-propene (Al...	8.61	41	1016002	20.652	ng		87
21) Trichlorotrifluoroethane	8.87	151	536959	45.741	ng		92
22) Carbon Disulfide	8.71	76	4514556	81.617	ng		98
23) trans-1,2-Dichloroethene	9.74	61	1030045	39.016	ng		89
24) 1,1-Dichloroethane	9.99	63	1205370	37.133	ng		99
25) Methyl tert-Butyl Ether	10.08	73	1588066	31.740	ng		100
26) Vinyl Acetate	10.25	86	423894	135.898	ng	#	39
27) 2-Butanone (MEK)	10.49	72	892840	78.011	ng	#	56
28) cis-1,2-Dichloroethene	11.02	61	965031	36.594	ng		86
29) Diisopropyl Ether	11.30	87	704632	54.151	ng	#	81
30) Ethyl Acetate	11.33	61	734958	113.389	ng		93
31) n-Hexane	11.29	57	885941	29.026	ng		99
32) Chloroform	11.37	83	1138080	36.743	ng		96
34) Tetrahydrofuran (THF)	11.75	72	796706	72.575	ng	#	69
35) Ethyl tert-Butyl Ether	11.90	87	1470541	71.886	ng		95
36) 1,2-Dichloroethane	12.16	62	956169	30.993	ng		98
38) 1,1,1-Trichloroethane	12.44	97	1043917	38.152	ng		98
39) Isopropyl Acetate	13.32	61	19082	No Calib	#		
40) 1-Butanol	12.90	56	34348	No Calib	#		
41) Benzene	12.92	78	2496898	37.974	ng		97
42) Carbon Tetrachloride	13.08	117	900334	40.355	ng		99
43) Cyclohexane	13.22	84	1833857	76.850	ng		96
44) tert-Amyl Methyl Ether	13.56	73	3528517	75.443	ng		93
45) 1,2-Dichloropropane	13.78	63	686614	43.018	ng		99
46) Bromodichloromethane	13.97	83	955915	41.483	ng		98
47) Trichloroethene	14.03	130	662455	47.719	ng		96
48) 1,4-Dioxane	13.99	88	529009	45.314	ng		95
49) 2,2,4-Trimethylpentane...	14.09	57	2844358	40.080	ng		81
50) Methyl Methacrylate	14.23	100	485483	88.554	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092211.D Vial: 7
Acq On : 9 Mar 2022 15:59 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 16:21:02 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

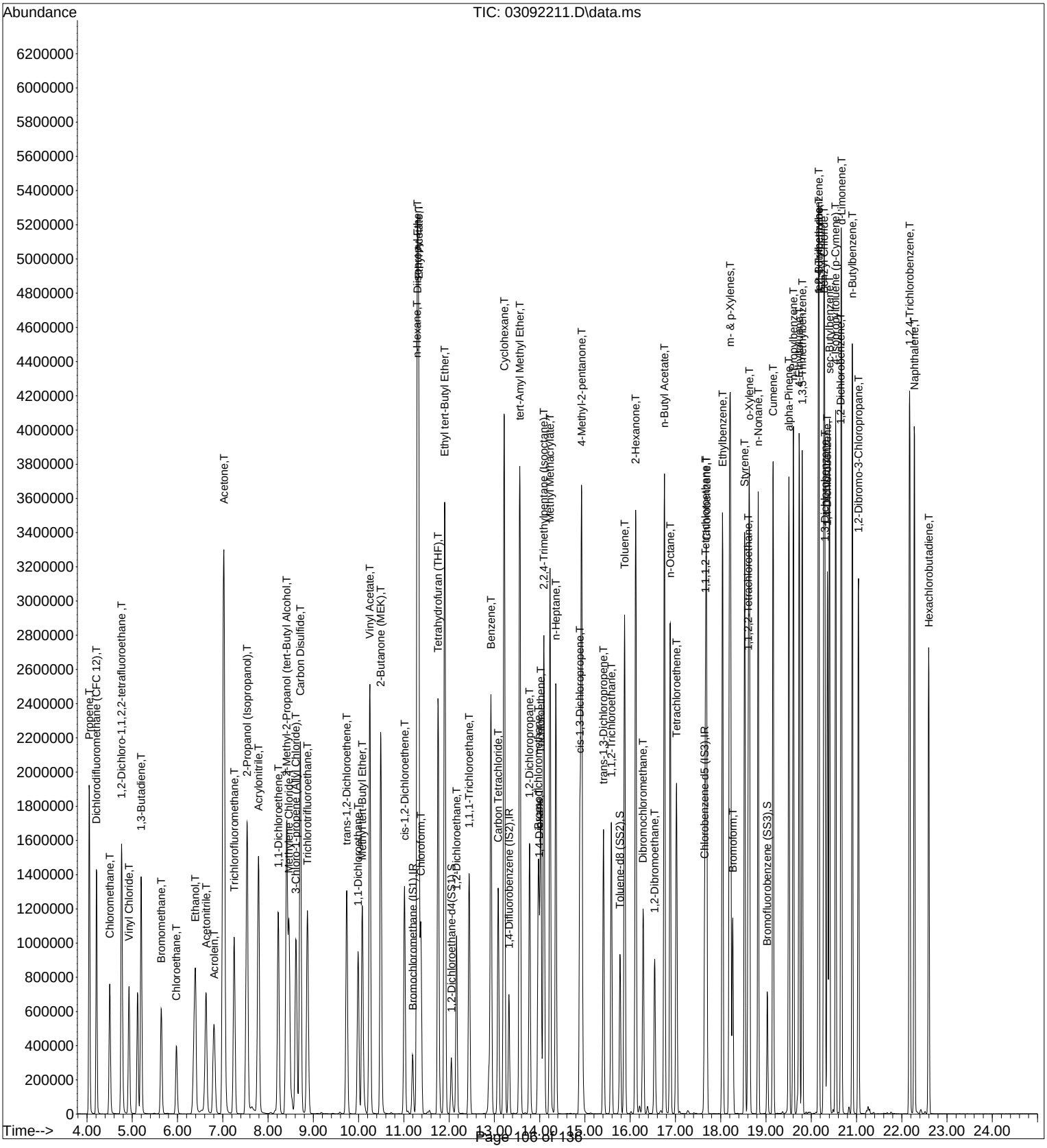
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.36	71	682348	43.556 ng		97
52) cis-1,3-Dichloropropene	14.89	75	1125024	45.955 ng		99
53) 4-Methyl-2-pentanone	14.93	58	1207006	79.970 ng		75
54) trans-1,3-Dichloropropene	15.41	75	1070997	43.294 ng		98
55) 1,1,2-Trichloroethane	15.59	97	640912	48.275 ng		99
58) Toluene	15.88	91	2546780	61.577 ng		99
59) 2-Hexanone	16.12	43	2908798	92.038 ng		83
60) Dibromochloromethane	16.29	129	773251	74.482 ng		99
61) 1,2-Dibromoethane	16.54	107	758492	77.823 ng		99
62) n-Butyl Acetate	16.76	43	3250158	94.963 ng		87
63) n-Octane	16.89	57	600598	62.947 ng		96
64) Tetrachloroethene	17.02	166	635370	63.215 ng		97
65) Chlorobenzene	17.69	112	1584784	61.940 ng		99
66) Ethylbenzene	18.04	91	2840717	59.167 ng		96
67) m- & p-Xylenes	18.21	91	4191564	110.407 ng		97
68) Bromoform	18.27	173	579815	72.621 ng		100
69) Styrene	18.53	104	1748442	69.009 ng		96
70) o-Xylene	18.63	91	2209555	56.392 ng		96
71) n-Nonane	18.83	43	1346485	48.766 ng	#	78
72) 1,1,2,2-Tetrachloroethane	18.61	83	1075198	65.041 ng		97
74) Cumene	19.16	105	2659290	56.219 ng		96
75) alpha-Pinene	19.50	93	1514661	65.309 ng		99
76) n-Propylbenzene	19.61	91	3341303	57.494 ng		98
77) 3-Ethyltoluene	19.73	105	2664195	No Calib		
78) 4-Ethyltoluene	19.73	105	2664195	58.737 ng		96
79) 1,3,5-Trimethylbenzene	19.80	105	2206206	56.685 ng		97
80) alpha-Methylstyrene	19.60	118	4688	No Calib	#	
81) 2-Ethyltoluene	20.67	105	52349	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	1806242	44.738 ng		99
83) n-Decane	20.52	58	862	No Calib	#	
84) Benzyl Chloride	20.28	91	3495246	109.726 ng		98
85) 1,3-Dichlorobenzene	20.31	146	996223	50.480 ng		98
86) 1,4-Dichlorobenzene	20.36	146	1217976	62.539 ng		99
87) sec-Butylbenzene	20.40	105	2837625	54.919 ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	2346827	54.785 ng		98
89) 1,2,3-Trimethylbenzene	20.40	105	2837625	No Calib	#	
90) 1,2-Dichlorobenzene	20.65	146	951581	49.937 ng		99
91) d-Limonene	20.67	68	855476	54.847 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.04	157	835875	114.330 ng	#	85
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	1413909	102.767 ng		98
95) Naphthalene	22.28	128	3187681	85.084 ng		99
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.60	225	508380	53.377 ng		100
98) Cyclohexanone	18.51	55	556	No Calib	#	
99) tert-Butylbenzene	20.16	119	1629703	43.470 ng		100
100) n-Butylbenzene	20.91	91	2499501	56.151 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	567903	61.299 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092211.D Vial: 7
Acq On : 9 Mar 2022 15:59 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 16:21:02 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092212.D Vial: 7
Acq On : 9 Mar 2022 16:33 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 16:55:19 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/9/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.20	130	150679	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.33	114	644048	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	122309	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.05	65	258371	7.920	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 63.36%#				
57) Toluene-d8 (SS2)	15.78	98	744032	18.120	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 144.96%#				
73) Bromofluorobenzene (SS3)	19.03	174	195894	16.307	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 130.48%#				
Target Compounds							Qvalue
2) Propene	4.05	42	1561820	61.621	ng		99
3) Dichlorodifluoromethan...	4.21	85	2454715	65.989	ng		99
4) Chloromethane	4.51	50	1614923	60.497	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.77	135	892249	66.147	ng		99
6) Vinyl Chloride	4.93	62	1796970	83.501	ng		99
7) 1,3-Butadiene	5.21	54	1459894	94.739	ng	#	77
8) Bromomethane	5.65	94	1000238	99.461	ng		99
9) Chloroethane	5.98	64	852776	71.054	ng		99
10) Ethanol	6.43	45	3619853	221.912	ng		99
11) Acetonitrile	6.65	41	2382308	48.547	ng		96
12) Acrolein	6.82	56	1645175	148.920	ng		98
13) Acetone	7.05	58	3853674	306.386	ng	#	52
14) Trichlorofluoromethane	7.26	101	2210898	63.638	ng		98
15) 2-Propanol (Isopropanol)	7.57	45	5991206	100.271	ng		98
16) Acrylonitrile	7.81	53	3401598	140.410	ng		98
17) 1,1-Dichloroethene	8.23	96	1206245	86.634	ng	#	81
18) 2-Methyl-2-Propanol (t...	8.43	59	3986093	84.881	ng		94
19) Methylene Chloride	8.47	84	1223251	75.869	ng		82
20) 3-Chloro-1-propene (Al...	8.63	41	1980685	40.034	ng		89
21) Trichlorotrifluoroethane	8.88	151	984822	83.418	ng		91
22) Carbon Disulfide	8.72	76	7681796	138.094	ng		98
23) trans-1,2-Dichloroethene	9.74	61	1968644	74.147	ng		92
24) 1,1-Dichloroethane	9.99	63	2296116	70.335	ng		99
25) Methyl tert-Butyl Ether	10.08	73	2342970	46.564	ng		99
26) Vinyl Acetate	10.26	86	721340	229.952	ng	#	47
27) 2-Butanone (MEK)	10.50	72	1585398	137.741	ng	#	58
28) cis-1,2-Dichloroethene	11.02	61	1838736	69.332	ng		89
29) Diisopropyl Ether	11.31	87	897630	68.593	ng	#	73
30) Ethyl Acetate	11.35	61	935072	143.448	ng		95
31) n-Hexane	11.29	57	1300679	42.374	ng		99
32) Chloroform	11.39	83	2080766	66.798	ng		97
34) Tetrahydrofuran (THF)	11.77	72	1399604	126.776	ng	#	72
35) Ethyl tert-Butyl Ether	11.91	87	2272587	110.466	ng		98
36) 1,2-Dichloroethane	12.17	62	1805033	58.177	ng		98
38) 1,1,1-Trichloroethane	12.45	97	1917732	70.440	ng		99
39) Isopropyl Acetate	13.32	61	19139	No Calib	#		
40) 1-Butanol	12.90	56	68597	No Calib	#		
41) Benzene	12.93	78	4454508	68.088	ng		97
42) Carbon Tetrachloride	13.09	117	1649533	74.309	ng		98
43) Cyclohexane	13.22	84	2757426	116.134	ng		99
44) tert-Amyl Methyl Ether	13.57	73	5421030	116.489	ng		94
45) 1,2-Dichloropropane	13.78	63	1281170	80.673	ng		99
46) Bromodichloromethane	13.97	83	1716406	74.861	ng		98
47) Trichloroethene	14.03	130	1086934	78.690	ng		96
48) 1,4-Dioxane	14.00	88	896066	77.142	ng		100
49) 2,2,4-Trimethylpentane...	14.10	57	4999995	70.809	ng		82
50) Methyl Methacrylate	14.24	100	774989	142.073	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092212.D Vial: 7
Acq On : 9 Mar 2022 16:33 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 16:55:19 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

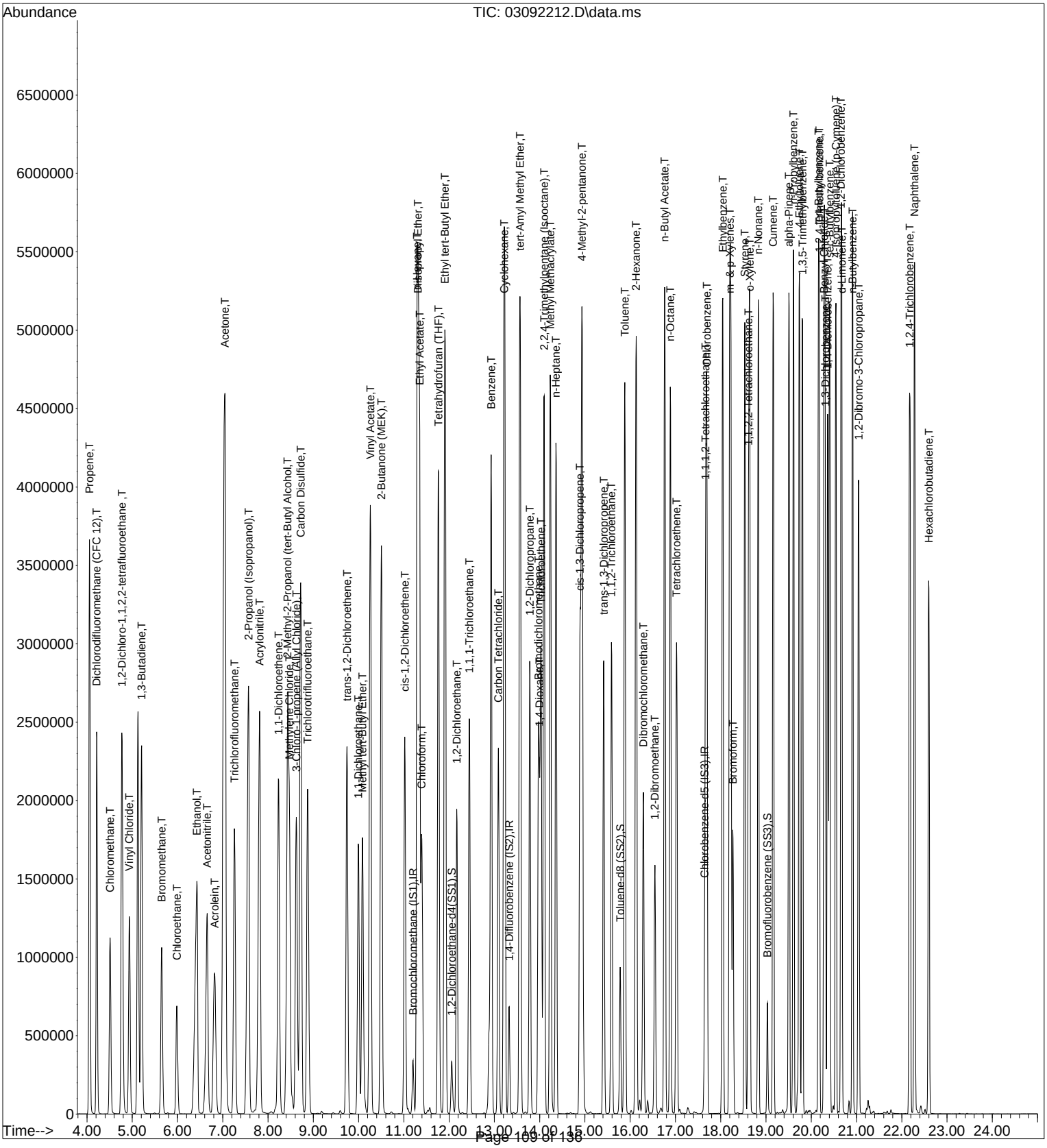
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.36	71	1191014	76.408 ng		98
52) cis-1,3-Dichloropropene	14.89	75	2027569	83.238 ng		98
53) 4-Methyl-2-pentanone	14.93	58	1961895	130.639 ng		77
54) trans-1,3-Dichloropropene	15.42	75	1981317	80.495 ng		97
55) 1,1,2-Trichloroethane	15.59	97	1144728	86.658 ng		98
58) Toluene	15.88	91	4274076	104.009 ng		98
59) 2-Hexanone	16.13	43	4847146	154.364 ng		85
60) Dibromochloromethane	16.29	129	1372915	133.100 ng		99
61) 1,2-Dibromoethane	16.55	107	1371856	141.666 ng		98
62) n-Butyl Acetate	16.76	43	5339306	157.014 ng		89
63) n-Octane	16.89	57	1050202	110.782 ng		98
64) Tetrachloroethene	17.02	166	1034901	103.632 ng		96
65) Chlorobenzene	17.69	112	2378389	93.559 ng		99
66) Ethylbenzene	18.05	91	4567648	95.751 ng		96
67) m- & p-Xylenes	18.20	91	6297112	166.942 ng		100
68) Bromoform	18.27	173	964980	121.645 ng		100
69) Styrene	18.53	104	2788019	110.753 ng		99
70) o-Xylene	18.64	91	3304528	84.884 ng		98
71) n-Nonane	18.83	43	2249075	81.982 ng		80
72) 1,1,2,2-Tetrachloroethane	18.61	83	1684037	102.531 ng		97
74) Cumene	19.16	105	4028346	85.713 ng		96
75) alpha-Pinene	19.50	93	2338929	101.502 ng		99
76) n-Propylbenzene	19.61	91	5053037	87.511 ng		99
77) 3-Ethyltoluene	19.74	105	3986877	No Calib		
78) 4-Ethyltoluene	19.74	105	3986665	88.463 ng		96
79) 1,3,5-Trimethylbenzene	19.81	105	3284498	84.937 ng		98
80) alpha-Methylstyrene	19.61	118	7598	No Calib	#	
81) 2-Ethyltoluene	20.67	105	68716	No Calib		
82) 1,2,4-Trimethylbenzene	20.18	105	2277292	56.771 ng		98
83) n-Decane	20.52	58	3619	No Calib	#	
84) Benzyl Chloride	20.28	91	4198274	132.650 ng		97
85) 1,3-Dichlorobenzene	20.31	146	1287154	65.645 ng		98
86) 1,4-Dichlorobenzene	20.36	146	1801396	93.095 ng		99
87) sec-Butylbenzene	20.41	105	4081684	79.509 ng		98
88) 4-Isopropyltoluene (p-...	20.54	119	3339131	78.454 ng		97
89) 1,2,3-Trimethylbenzene	20.41	105	4081684	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	1238920	65.437 ng		99
91) d-Limonene	20.67	68	1091795	70.452 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.05	157	1153162	158.750 ng		91
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	1850468	135.368 ng		98
95) Naphthalene	22.28	128	4701993	126.316 ng		99
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.60	225	711975	75.238 ng		100
98) Cyclohexanone	18.52	55	943	No Calib	#	
99) tert-Butylbenzene	20.16	119	2119933	56.913 ng		100
100) n-Butylbenzene	20.91	91	3681302	83.236 ng		98
101) 1,1,1,2-Tetrachloroethane	17.67	131	860222	93.453 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092212.D Vial: 7
Acq On : 9 Mar 2022 16:33 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 09 16:55:19 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 10:18:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092205a.D Vial: 5
Acq On : 9 Mar 2022 12:39 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 10 10:14:17 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/10/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	12.500	12.500	0.0	100	-0.03
2	T	Propene	0.104	0.147	-41.3#	100	0.05
3	T	Dichlorodifluoromethane (CF	0.105	0.134	-27.6	100	0.04
4	T	Chloromethane	0.102	0.132	-29.4	100	0.04
5	T	1,2-Dichloro-1,1,2,2-tetraf	0.108	0.138	-27.8	100	0.02
6	T	Vinyl Chloride	0.104	0.123	-18.3	100	0.03
7	T	1,3-Butadiene	0.104	0.131	-26.0	100	0.02
8	T	Bromomethane	0.102	0.133	-30.4#	100	0.02
9	T	Chloroethane	0.102	0.125	-22.5	100	0.01
10	T	Ethanol	0.362	0.518	-43.1#	100	-0.09
11	T	Acetonitrile	0.093	0.165	-77.4#	0	-0.05
12	T	Acrolein	0.200	0.240	-20.0	100	-0.02
13	T	Acetone	0.519	0.702	-35.3#	100	-0.02
14	T	Trichlorofluoromethane	0.103	0.126	-22.3	100	0.00
15	T	2-Propanol (Isopropanol)	0.202	0.272	-34.7#	100	-0.02
16	T	Acrylonitrile	0.203	0.263	-29.6	100	-0.05
17	T	1,1-Dichloroethene	0.107	0.134	-25.2	100	0.00
18	T	2-Methyl-2-Propanol (tert-B	0.210	0.290	-38.1#	0	0.03
19	T	Methylene Chloride	0.104	0.149	-43.3#	0	-0.03
20	T	3-Chloro-1-propene (Allyl C	0.105	0.138	-31.4#	100	-0.02
21	T	Trichlorotrifluoroethane	0.108	0.132	-22.2	100	0.00
22	T	Carbon Disulfide	0.210	0.282	-34.3#	100	0.00
23	T	trans-1,2-Dichloroethene	0.106	0.123	-16.0	100	-0.03
24	T	1,1-Dichloroethane	0.105	0.135	-28.6	100	-0.02
25	T	Methyl tert-Butyl Ether	0.105	0.161	-53.3#	0	0.02
26	T	Vinyl Acetate	0.340	0.352	-3.5	100	-0.02
27	T	2-Butanone (MEK)	0.206	0.242	-17.5	0	0.01
28	T	cis-1,2-Dichloroethene	0.104	0.131	-26.0	100	-0.03
29	T	Diisopropyl Ether	0.212	0.293	-38.2#	0	0.00
30	T	Ethyl Acetate	0.408	0.497	-21.8	100	-0.03
31	T	n-Hexane	0.105	0.155	-47.6#	0	0.00
32	T	Chloroform	0.107	0.139	-29.9	100	-0.06
33	S	1,2-Dichloroethane-d4(SS1)	12.500	12.610	-0.9	100	-0.03
34	T	Tetrahydrofuran (THF)	0.197	0.244	-23.9	100	0.03
35	T	Ethyl tert-Butyl Ether	0.210	0.273	-30.0#	100	0.00
36	T	1,2-Dichloroethane	0.106	0.135	-27.4	100	-0.02
37	IR	1,4-Difluorobenzene (IS2)	12.500	12.500	0.0	100	-0.02
38	T	1,1,1-Trichloroethane	0.104	0.133	-27.9	100	-0.02
39	T	Isopropyl Acetate	-1.000	0.000	0.0	100	-0.01
40	T	1-Butanol	-1.000	0.000	0.0	0	-12.90#
41	T	Benzene	0.104	0.145	-39.4#	100	-0.02
42	T	Carbon Tetrachloride	0.105	0.129	-22.9	100	-0.01
43	T	Cyclohexane	0.207	0.276	-33.3#	100	-0.01
44	T	tert-Amyl Methyl Ether	0.209	0.276	-32.1#	100	0.00
45	T	1,2-Dichloropropane	0.103	0.128	-24.3	100	-0.02
46	T	Bromodichloromethane	0.105	0.134	-27.6	100	-0.02
47	T	Trichloroethene	0.103	0.130	-26.2	100	-0.02
48	T	1,4-Dioxane	0.104	0.118	-13.5	100	0.03
49	T	2,2,4-Trimethylpentane (Iso	0.106	0.142	-34.0#	100	-0.02
50	T	Methyl Methacrylate	0.208	0.250	-20.2	100	0.00
51	T	n-Heptane	0.105	0.131	-24.8	100	-0.01
52	T	cis-1,3-Dichloropropene	0.105	0.133	-26.7	100	0.00
53	T	4-Methyl-2-pentanone	0.208	0.245	-17.8	100	0.00
54	T	trans-1,3-Dichloropropene	0.101	0.121	-19.8	100	0.00
55	T	1,1,2-Trichloroethane	0.104	0.129	-24.0	100	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092205a.D Vial: 5
Acq On : 9 Mar 2022 12:39 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082207 (4/7)

Quant Time: Mar 10 10:14:17 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	12.500	12.500	0.0	100	0.00
57	S	Toluene-d8 (SS2)	12.500	12.516	-0.1	100	-0.01
58	T	Toluene	0.103	0.142	-37.9#	100	-0.01
59	T	2-Hexanone	0.205	0.267	-30.2#	100	0.00
60	T	Dibromochloromethane	0.105	0.130	-23.8	100	-0.01
61	T	1,2-Dibromoethane	0.104	0.135	-29.8	100	-0.01
62	T	n-Butyl Acetate	0.204	0.259	-27.0	100	0.00
63	T	n-Octane	0.105	0.132	-25.7	100	-0.01
64	T	Tetrachloroethene	0.104	0.137	-31.7#	100	0.00
65	T	Chlorobenzene	0.104	0.147	-41.3#	100	-0.01
66	T	Ethylbenzene	0.103	0.148	-43.7#	0	0.00
67	T	m- & p-Xylenes	0.206	0.290	-40.8#	100	0.00
68	T	Bromoform	0.104	0.120	-15.4	100	0.00
69	T	Styrene	0.103	0.133	-29.1	100	0.00
70	T	o-Xylene	0.104	0.139	-33.7#	100	-0.02
71	T	n-Nonane	0.104	0.133	-27.9	100	0.00
72	T	1,1,2,2-Tetrachloroethane	0.104	0.139	-33.7#	100	0.00
73	S	Bromofluorobenzene (SS3)	12.500	12.411	0.7	100	0.00
74	T	Cumene	0.104	0.138	-32.7#	100	0.00
75	T	alpha-Pinene	0.108	0.148	-37.0#	100	0.00
76	T	n-Propylbenzene	0.105	0.143	-36.2#	100	0.00
77	T	3-Ethyltoluene	-1.000	0.000	0.0	100	0.00
78	T	4-Ethyltoluene	0.106	0.151	-42.5#	0	0.00
79	T	1,3,5-Trimethylbenzene	0.104	0.146	-40.4#	0	-0.01
80	T	alpha-Methylstyrene	-1.000	0.000	0.0	0	-19.61#
81	T	2-Ethyltoluene	-1.000	0.000	0.0	100	-0.14
82	T	1,2,4-Trimethylbenzene	0.103	0.138	-34.0#	0	-0.02
83	T	n-Decane	-1.000	0.000	0.0	0	-20.52#
84	T	Benzyl Chloride	0.206	0.257	-24.8	0	0.00
85	T	1,3-Dichlorobenzene	0.104	0.162	-55.8#	0	-0.01
86	T	1,4-Dichlorobenzene	0.104	0.141	-35.6#	100	-0.01
87	T	sec-Butylbenzene	0.104	0.142	-36.5#	100	0.00
88	T	4-Isopropyltoluene (p-Cymen	0.104	0.138	-32.7#	100	0.00
89	T	1,2,3-Trimethylbenzene	-1.000	0.000	0.0	100	0.00
90	T	1,2-Dichlorobenzene	0.105	0.162	-54.3#	0	0.00
91	T	d-Limonene	0.105	0.140	-33.3#	100	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.200	0.268	-34.0#	100	-0.01
93	T	n-Undecane	-1.000	0.000	0.0	0	-21.41#
94	T	1,2,4-Trichlorobenzene	0.204	0.264	-29.4	0	0.00
95	T	Naphthalene	0.104	0.134	-28.8	100	0.00
96	T	n-Dodecane	-1.000	0.000	0.0	0	-22.22#
97	T	Hexachlorobutadiene	0.103	0.154	-49.5#	0	0.00
98	T	Cyclohexanone	-1.000	0.000	0.0	0	-18.52#
99	T	tert-Butylbenzene	0.104	0.143	-37.5#	0	0.00
100	T	n-Butylbenzene	0.104	0.136	-30.8#	100	0.00
101	T	1,1,1,2-Tetrachloroethane	0.104	0.127	-22.1	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092207a.D Vial: 6
Acq On : 9 Mar 2022 13:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 10 10:17:01 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/10/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	12.500	12.500	0.0	100	-0.03
2	T	Propene	0.520	0.578	-11.2	100	0.03
3	T	Dichlorodifluoromethane (CF	0.525	0.591	-12.6	100	0.02
4	T	Chloromethane	0.510	0.589	-15.5	100	0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	0.540	0.640	-18.5	100	0.00
6	T	Vinyl Chloride	0.520	0.597	-14.8	100	0.00
7	T	1,3-Butadiene	0.520	0.572	-10.0	100	0.00
8	T	Bromomethane	0.510	0.575	-12.7	100	0.00
9	T	Chloroethane	0.510	0.569	-11.6	100	0.00
10	T	Ethanol	1.810	1.978	-9.3	100	-0.12
11	T	Acetonitrile	0.465	0.578	-24.3	100	-0.07
12	T	Acrolein	1.000	1.093	-9.3	100	-0.03
13	T	Acetone	2.595	2.937	-13.2	100	-0.05
14	T	Trichlorofluoromethane	0.515	0.575	-11.7	100	0.00
15	T	2-Propanol (Isopropanol)	1.010	1.128	-11.7	100	-0.09
16	T	Acrylonitrile	1.015	1.114	-9.8	100	-0.07
17	T	1,1-Dichloroethene	0.535	0.601	-12.3	100	-0.02
18	T	2-Methyl-2-Propanol (tert-B	1.050	1.312	-25.0	100	0.02
19	T	Methylene Chloride	0.520	0.611	-17.5	100	-0.05
20	T	3-Chloro-1-propene (Allyl C	0.525	0.582	-10.9	100	-0.03
21	T	Trichlorotrifluoroethane	0.540	0.625	-15.7	100	-0.01
22	T	Carbon Disulfide	1.050	1.222	-16.4	100	-0.01
23	T	trans-1,2-Dichloroethene	0.530	0.576	-8.7	100	-0.03
24	T	1,1-Dichloroethane	0.525	0.582	-10.9	100	-0.03
25	T	Methyl tert-Butyl Ether	0.525	0.673	-28.2	100	0.00
26	T	Vinyl Acetate	1.700	1.895	-11.5	100	-0.03
27	T	2-Butanone (MEK)	1.030	1.176	-14.2	100	-0.02
28	T	cis-1,2-Dichloroethene	0.520	0.573	-10.2	100	-0.03
29	T	Diisopropyl Ether	1.060	1.294	-22.1	100	-0.01
30	T	Ethyl Acetate	2.040	2.400	-17.6	100	-0.05
31	T	n-Hexane	0.525	0.671	-27.8	100	0.00
32	T	Chloroform	0.535	0.602	-12.5	100	-0.05
33	S	1,2-Dichloroethane-d4(SS1)	12.500	12.540	-0.3	100	-0.03
34	T	Tetrahydrofuran (THF)	0.985	1.088	-10.5	100	0.00
35	T	Ethyl tert-Butyl Ether	1.050	1.206	-14.9	100	0.00
36	T	1,2-Dichloroethane	0.530	0.583	-10.0	100	-0.02
37	IR	1,4-Difluorobenzene (IS2)	12.500	12.500	0.0	100	-0.02
38	T	1,1,1-Trichloroethane	0.520	0.569	-9.4	100	-0.02
39	T	Isopropyl Acetate	-1.000	0.000	0.0	100	-0.01
40	T	1-Butanol	-1.000	0.000	0.0	0	-12.90#
41	T	Benzene	0.520	0.580	-11.5	100	-0.02
42	T	Carbon Tetrachloride	0.525	0.584	-11.2	100	-0.02
43	T	Cyclohexane	1.035	1.206	-16.5	100	-0.01
44	T	tert-Amyl Methyl Ether	1.045	1.180	-12.9	100	0.00
45	T	1,2-Dichloropropane	0.515	0.572	-11.1	100	-0.01
46	T	Bromodichloromethane	0.525	0.572	-9.0	100	-0.01
47	T	Trichloroethene	0.515	0.596	-15.7	100	-0.02
48	T	1,4-Dioxane	0.520	0.581	-11.7	100	0.00
49	T	2,2,4-Trimethylpentane (Iso	0.530	0.599	-13.0	100	-0.02
50	T	Methyl Methacrylate	1.040	1.216	-16.9	100	-0.01
51	T	n-Heptane	0.525	0.584	-11.2	100	-0.01
52	T	cis-1,3-Dichloropropene	0.525	0.575	-9.5	100	0.00
53	T	4-Methyl-2-pentanone	1.040	1.185	-13.9	100	-0.01
54	T	trans-1,3-Dichloropropene	0.505	0.542	-7.3	100	-0.01
55	T	1,1,2-Trichloroethane	0.520	0.593	-14.0	100	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092207a.D Vial: 6
Acq On : 9 Mar 2022 13:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 10 10:17:01 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	12.500	12.500	0.0	100	0.00
57	S	Toluene-d8 (SS2)	12.500	12.455	0.4	100	-0.01
58	T	Toluene	0.515	0.586	-13.8	100	-0.01
59	T	2-Hexanone	1.025	1.123	-9.6	100	-0.01
60	T	Dibromochloromethane	0.525	0.576	-9.7	100	-0.01
61	T	1,2-Dibromoethane	0.520	0.589	-13.3	100	-0.01
62	T	n-Butyl Acetate	1.020	1.119	-9.7	100	0.00
63	T	n-Octane	0.525	0.594	-13.1	100	-0.01
64	T	Tetrachloroethene	0.520	0.585	-12.5	100	0.00
65	T	Chlorobenzene	0.520	0.605	-16.3	100	-0.01
66	T	Ethylbenzene	0.515	0.619	-20.2	100	-0.01
67	T	m- & p-Xylenes	1.030	1.215	-18.0	100	0.00
68	T	Bromoform	0.520	0.581	-11.7	100	0.00
69	T	Styrene	0.515	0.582	-13.0	100	0.00
70	T	o-Xylene	0.520	0.604	-16.2	100	-0.02
71	T	n-Nonane	0.520	0.587	-12.9	100	0.00
72	T	1,1,2,2-Tetrachloroethane	0.520	0.591	-13.7	100	0.00
73	S	Bromofluorobenzene (SS3)	12.500	12.335	1.3	100	0.00
74	T	Cumene	0.520	0.607	-16.7	100	0.00
75	T	alpha-Pinene	0.540	0.609	-12.8	100	0.00
76	T	n-Propylbenzene	0.525	0.610	-16.2	100	0.00
77	T	3-Ethyltoluene	-1.000	0.000	0.0	100	0.00
78	T	4-Ethyltoluene	0.530	0.647	-22.1	100	0.00
79	T	1,3,5-Trimethylbenzene	0.520	0.632	-21.5	100	-0.01
80	T	alpha-Methylstyrene	-1.000	0.000	0.0	100	0.19
81	T	2-Ethyltoluene	-1.000	0.000	0.0	100	-0.01
82	T	1,2,4-Trimethylbenzene	0.515	0.621	-20.6	100	-0.02
83	T	n-Decane	-1.000	0.000	0.0	100	0.02
84	T	Benzyl Chloride	1.030	1.222	-18.6	100	0.00
85	T	1,3-Dichlorobenzene	0.520	0.688	-32.3#	100	-0.02
86	T	1,4-Dichlorobenzene	0.520	0.610	-17.3	100	-0.01
87	T	sec-Butylbenzene	0.520	0.613	-17.9	100	0.00
88	T	4-Isopropyltoluene (p-Cymen	0.520	0.621	-19.4	100	0.00
89	T	1,2,3-Trimethylbenzene	-1.000	0.000	0.0	100	0.00
90	T	1,2-Dichlorobenzene	0.525	0.682	-29.9	100	0.00
91	T	d-Limonene	0.525	0.628	-19.6	100	-0.01
92	T	1,2-Dibromo-3-Chloropropane	1.000	1.134	-13.4	100	-0.01
93	T	n-Undecane	-1.000	0.000	0.0	0	-21.41#
94	T	1,2,4-Trichlorobenzene	1.020	1.225	-20.1	100	0.00
95	T	Naphthalene	0.520	0.580	-11.5	100	0.00
96	T	n-Dodecane	-1.000	0.000	0.0	0	-22.22#
97	T	Hexachlorobutadiene	0.515	0.649	-26.0	100	0.00
98	T	Cyclohexanone	-1.000	0.000	0.0	0	-18.52#
99	T	tert-Butylbenzene	0.520	0.636	-22.3	100	0.00
100	T	n-Butylbenzene	0.520	0.605	-16.3	100	0.00
101	T	1,1,1,2-Tetrachloroethane	0.520	0.617	-18.7	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092209a.D Vial: 6
Acq On : 9 Mar 2022 14:52 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 10 10:19:15 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/10/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	12.500	12.500	0.0	100	-0.03
2	T	Propene	5.200	4.360	16.2	100	0.01
3	T	Dichlorodifluoromethane (CF	5.250	4.555	13.2	100	0.00
4	T	Chloromethane	5.100	4.348	14.7	100	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	5.400	4.951	8.3	100	0.00
6	T	Vinyl Chloride	5.200	4.689	9.8	100	-0.01
7	T	1,3-Butadiene	5.200	4.664	10.3	100	-0.02
8	T	Bromomethane	5.100	4.450	12.7	100	-0.02
9	T	Chloroethane	5.100	4.511	11.5	100	-0.02
10	T	Ethanol	18.100	14.899	17.7	100	-0.11
11	T	Acetonitrile	4.650	4.306	7.4	100	-0.07
12	T	Acrolein	10.000	9.103	9.0	100	-0.03
13	T	Acetone	25.950	22.989	11.4	100	-0.06
14	T	Trichlorofluoromethane	5.150	4.553	11.6	100	-0.01
15	T	2-Propanol (Isopropanol)	10.100	8.560	15.2	100	-0.09
16	T	Acrylonitrile	10.150	8.930	12.0	100	-0.06
17	T	1,1-Dichloroethene	5.350	4.690	12.3	100	-0.02
18	T	2-Methyl-2-Propanol (tert-B	10.500	8.582	18.3	100	-0.06
19	T	Methylene Chloride	5.200	4.787	7.9	100	-0.03
20	T	3-Chloro-1-propene (Allyl C	5.250	4.320	17.7	100	-0.02
21	T	Trichlorotrifluoroethane	5.400	4.762	11.8	100	-0.01
22	T	Carbon Disulfide	10.500	9.169	12.7	100	-0.02
23	T	trans-1,2-Dichloroethene	5.300	4.768	10.0	100	-0.02
24	T	1,1-Dichloroethane	5.250	4.587	12.6	100	-0.02
25	T	Methyl tert-Butyl Ether	5.250	4.674	11.0	100	0.00
26	T	Vinyl Acetate	17.000	16.532	2.8	100	-0.03
27	T	2-Butanone (MEK)	10.300	9.792	4.9	100	-0.03
28	T	cis-1,2-Dichloroethene	5.200	4.558	12.3	100	-0.02
29	T	Diisopropyl Ether	10.600	10.382	2.1	100	-0.01
30	T	Ethyl Acetate	20.400	19.308	5.4	100	-0.05
31	T	n-Hexane	5.250	5.239	0.2	100	0.00
32	T	Chloroform	5.350	4.727	11.6	100	-0.05
33	S	1,2-Dichloroethane-d4(SS1)	12.500	12.616	-0.9	100	-0.02
34	T	Tetrahydrofuran (THF)	9.850	8.818	10.5	100	-0.01
35	T	Ethyl tert-Butyl Ether	10.500	9.532	9.2	100	-0.01
36	T	1,2-Dichloroethane	5.300	4.629	12.7	100	-0.02
37	IR	1,4-Difluorobenzene (IS2)	12.500	12.500	0.0	100	-0.01
38	T	1,1,1-Trichloroethane	5.200	4.491	13.6	100	-0.01
39	T	Isopropyl Acetate	-1.000	0.000	0.0	100	-0.01
40	T	1-Butanol	-1.000	0.000	0.0	100	0.03
41	T	Benzene	5.200	4.465	14.1	100	-0.01
42	T	Carbon Tetrachloride	5.250	4.616	12.1	100	-0.01
43	T	Cyclohexane	10.350	9.346	9.7	100	-0.01
44	T	tert-Amyl Methyl Ether	10.450	9.257	11.4	100	0.00
45	T	1,2-Dichloropropane	5.150	4.492	12.8	100	-0.01
46	T	Bromodichloromethane	5.250	4.604	12.3	100	-0.01
47	T	Trichloroethene	5.150	4.575	11.2	100	-0.01
48	T	1,4-Dioxane	5.200	4.793	7.8	100	0.00
49	T	2,2,4-Trimethylpentane (Iso	5.300	4.573	13.7	100	-0.01
50	T	Methyl Methacrylate	10.400	9.907	4.7	100	-0.01
51	T	n-Heptane	5.250	4.659	11.3	100	-0.01
52	T	cis-1,3-Dichloropropene	5.250	4.709	10.3	100	0.00
53	T	4-Methyl-2-pentanone	10.400	9.524	8.4	100	-0.02
54	T	trans-1,3-Dichloropropene	5.050	4.498	10.9	100	-0.01
55	T	1,1,2-Trichloroethane	5.200	4.600	11.5	100	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092209a.D Vial: 6
Acq On : 9 Mar 2022 14:52 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082205 (4/7)

Quant Time: Mar 10 10:19:15 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	12.500	12.500	0.0	100	0.00
57	S	Toluene-d8 (SS2)	12.500	12.458	0.3	100	-0.01
58	T	Toluene	5.150	4.521	12.2	100	-0.01
59	T	2-Hexanone	10.250	9.022	12.0	100	-0.02
60	T	Dibromochloromethane	5.250	4.661	11.2	100	-0.01
61	T	1,2-Dibromoethane	5.200	4.572	12.1	100	-0.01
62	T	n-Butyl Acetate	10.200	9.085	10.9	100	-0.01
63	T	n-Octane	5.250	4.592	12.5	100	0.00
64	T	Tetrachloroethene	5.200	4.692	9.8	100	0.00
65	T	Chlorobenzene	5.200	4.676	10.1	100	-0.01
66	T	Ethylbenzene	5.150	4.802	6.8	100	0.00
67	T	m- & p-Xylenes	10.300	9.258	10.1	100	0.00
68	T	Bromoform	5.200	4.774	8.2	100	0.00
69	T	Styrene	5.150	4.721	8.3	100	0.00
70	T	o-Xylene	5.200	4.724	9.2	100	-0.02
71	T	n-Nonane	5.200	4.508	13.3	100	0.00
72	T	1,1,2,2-Tetrachloroethane	5.200	4.733	9.0	100	0.00
73	S	Bromofluorobenzene (SS3)	12.500	12.518	-0.1	100	0.00
74	T	Cumene	5.200	4.763	8.4	100	0.00
75	T	alpha-Pinene	5.400	4.694	13.1	100	0.00
76	T	n-Propylbenzene	5.250	4.801	8.6	100	0.00
77	T	3-Ethyltoluene	-1.000	0.000	0.0	100	0.00
78	T	4-Ethyltoluene	5.300	5.137	3.1	100	0.00
79	T	1,3,5-Trimethylbenzene	5.200	5.038	3.1	100	0.00
80	T	alpha-Methylstyrene	-1.000	0.000	0.0	100	0.00
81	T	2-Ethyltoluene	-1.000	0.000	0.0	100	-0.01
82	T	1,2,4-Trimethylbenzene	5.150	4.966	3.6	100	-0.02
83	T	n-Decane	-1.000	0.000	0.0	100	0.01
84	T	Benzyl Chloride	10.300	11.241	-9.1	100	0.00
85	T	1,3-Dichlorobenzene	5.200	5.325	-2.4	100	-0.02
86	T	1,4-Dichlorobenzene	5.200	4.775	8.2	100	0.00
87	T	sec-Butylbenzene	5.200	4.861	6.5	100	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.200	4.956	4.7	100	0.00
89	T	1,2,3-Trimethylbenzene	-1.000	0.000	0.0	100	0.00
90	T	1,2-Dichlorobenzene	5.250	5.399	-2.8	100	0.00
91	T	d-Limonene	5.250	5.046	3.9	100	-0.01
92	T	1,2-Dibromo-3-Chloropropane	10.000	9.764	2.4	100	-0.01
93	T	n-Undecane	-1.000	0.000	0.0	0	-21.41#
94	T	1,2,4-Trichlorobenzene	10.200	9.983	2.1	100	0.00
95	T	Naphthalene	5.200	4.963	4.6	100	0.00
96	T	n-Dodecane	-1.000	0.000	0.0	0	-22.22#
97	T	Hexachlorobutadiene	5.150	4.932	4.2	100	0.00
98	T	Cyclohexanone	-1.000	0.000	0.0	100	0.11
99	T	tert-Butylbenzene	5.200	4.956	4.7	100	0.00
100	T	n-Butylbenzene	5.200	4.893	5.9	100	0.00
101	T	1,1,1,2-Tetrachloroethane	5.200	4.864	6.5	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092210a.D Vial: 7
Acq On : 9 Mar 2022 15:26 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 10 10:21:37 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/10/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	12.500	12.500	0.0	100	-0.02
2	T	Propene	26.000	23.323	10.3	100	0.00
3	T	Dichlorodifluoromethane (CF	26.250	24.857	5.3	100	0.00
4	T	Chloromethane	25.500	24.931	2.2	100	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	27.000	25.475	5.6	100	-0.01
6	T	Vinyl Chloride	26.000	25.416	2.2	100	-0.01
7	T	1,3-Butadiene	26.000	25.516	1.9	100	-0.02
8	T	Bromomethane	25.500	24.087	5.5	100	-0.02
9	T	Chloroethane	25.500	25.000	2.0	100	-0.01
10	T	Ethanol	90.500	80.244	11.3	100	-0.07
11	T	Acetonitrile	23.250	22.459	3.4	100	-0.05
12	T	Acrolein	50.000	47.841	4.3	100	-0.02
13	T	Acetone	129.750	123.017	5.2	100	-0.04
14	T	Trichlorofluoromethane	25.750	24.794	3.7	100	-0.01
15	T	2-Propanol (Isopropanol)	50.500	48.282	4.4	100	-0.06
16	T	Acrylonitrile	50.750	47.764	5.9	100	-0.04
17	T	1,1-Dichloroethene	26.750	25.779	3.6	100	-0.01
18	T	2-Methyl-2-Propanol (tert-B	52.500	58.612	-11.6	100	-0.04
19	T	Methylene Chloride	26.000	25.562	1.7	100	-0.02
20	T	3-Chloro-1-propene (Allyl C	26.250	24.498	6.7	100	-0.02
21	T	Trichlorotrifluoroethane	27.000	26.008	3.7	100	-0.01
22	T	Carbon Disulfide	52.500	50.291	4.2	100	-0.01
23	T	trans-1,2-Dichloroethene	26.500	26.760	-1.0	100	-0.01
24	T	1,1-Dichloroethane	26.250	24.941	5.0	100	-0.01
25	T	Methyl tert-Butyl Ether	26.250	26.633	-1.5	100	0.00
26	T	Vinyl Acetate	85.000	91.296	-7.4	100	-0.02
27	T	2-Butanone (MEK)	51.500	52.751	-2.4	100	-0.02
28	T	cis-1,2-Dichloroethene	26.000	24.872	4.3	100	-0.01
29	T	Diisopropyl Ether	53.000	47.812	9.8	100	-0.01
30	T	Ethyl Acetate	102.000	92.695	9.1	100	-0.04
31	T	n-Hexane	26.250	26.187	0.2	100	0.00
32	T	Chloroform	26.750	25.435	4.9	100	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	12.500	12.442	0.5	100	-0.01
34	T	Tetrahydrofuran (THF)	49.250	48.136	2.3	100	-0.01
35	T	Ethyl tert-Butyl Ether	52.500	52.519	-0.0	100	0.00
36	T	1,2-Dichloroethane	26.500	25.397	4.2	100	-0.01
37	IR	1,4-Difluorobenzene (IS2)	12.500	12.500	0.0	100	-0.01
38	T	1,1,1-Trichloroethane	26.000	25.197	3.1	100	0.00
39	T	Isopropyl Acetate	-1.000	0.000	0.0	100	0.00
40	T	1-Butanol	-1.000	0.000	0.0	100	0.00
41	T	Benzene	26.000	24.043	7.5	100	-0.01
42	T	Carbon Tetrachloride	26.250	25.930	1.2	100	0.00
43	T	Cyclohexane	51.750	50.287	2.8	100	0.00
44	T	tert-Amyl Methyl Ether	52.250	52.353	-0.2	100	0.00
45	T	1,2-Dichloropropane	25.750	24.705	4.1	100	0.00
46	T	Bromodichloromethane	26.250	25.891	1.4	100	0.00
47	T	Trichloroethene	25.750	25.210	2.1	100	-0.01
48	T	1,4-Dioxane	26.000	27.071	-4.1	100	0.00
49	T	2,2,4-Trimethylpentane (Iso	26.500	25.230	4.8	100	-0.01
50	T	Methyl Methacrylate	52.000	53.441	-2.8	100	-0.01
51	T	n-Heptane	26.250	25.390	3.3	100	0.00
52	T	cis-1,3-Dichloropropene	26.250	26.153	0.4	100	0.00
53	T	4-Methyl-2-pentanone	52.000	53.268	-2.4	100	-0.01
54	T	trans-1,3-Dichloropropene	25.250	25.641	-1.5	100	-0.01
55	T	1,1,2-Trichloroethane	26.000	25.273	2.8	100	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2022 03\09\03092210a.D Vial: 7
Acq On : 9 Mar 2022 15:26 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-03082204 (4/7)

Quant Time: Mar 10 10:21:37 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	12.500	12.500	0.0	100	0.00
57	S	Toluene-d8 (SS2)	12.500	12.471	0.2	100	0.00
58	T	Toluene	25.750	24.363	5.4	100	0.00
59	T	2-Hexanone	51.250	50.869	0.7	100	-0.02
60	T	Dibromochloromethane	26.250	26.345	-0.4	100	0.00
61	T	1,2-Dibromoethane	26.000	25.389	2.4	100	0.00
62	T	n-Butyl Acetate	51.000	51.484	-0.9	100	-0.01
63	T	n-Octane	26.250	25.700	2.1	100	0.00
64	T	Tetrachloroethene	26.000	25.032	3.7	100	0.00
65	T	Chlorobenzene	26.000	24.954	4.0	100	-0.01
66	T	Ethylbenzene	25.750	25.960	-0.8	100	0.00
67	T	m- & p-Xylenes	51.500	49.052	4.8	100	0.00
68	T	Bromoform	26.000	27.062	-4.1	100	0.00
69	T	Styrene	25.750	25.539	0.8	100	0.00
70	T	o-Xylene	26.000	25.141	3.3	100	-0.01
71	T	n-Nonane	26.000	25.586	1.6	100	0.00
72	T	1,1,2,2-Tetrachloroethane	26.000	25.033	3.7	100	0.00
73	S	Bromofluorobenzene (SS3)	12.500	12.581	-0.6	100	0.00
74	T	Cumene	26.000	25.260	2.8	100	0.00
75	T	alpha-Pinene	27.000	27.334	-1.2	100	0.00
76	T	n-Propylbenzene	26.250	25.315	3.6	100	0.00
77	T	3-Ethyltoluene	-1.000	0.000	0.0	100	0.00
78	T	4-Ethyltoluene	26.500	27.197	-2.6	100	0.00
79	T	1,3,5-Trimethylbenzene	26.000	26.713	-2.7	100	0.00
80	T	alpha-Methylstyrene	-1.000	0.000	0.0	100	0.00
81	T	2-Ethyltoluene	-1.000	0.000	0.0	100	0.00
82	T	1,2,4-Trimethylbenzene	25.750	24.255	5.8	100	-0.02
83	T	n-Decane	-1.000	0.000	0.0	100	-0.01
84	T	Benzyl Chloride	51.500	59.530	-15.6	100	0.00
85	T	1,3-Dichlorobenzene	26.000	26.278	-1.1	100	-0.01
86	T	1,4-Dichlorobenzene	26.000	24.962	4.0	100	0.00
87	T	sec-Butylbenzene	26.000	25.133	3.3	100	0.00
88	T	4-Isopropyltoluene (p-Cymen	26.000	25.346	2.5	100	0.00
89	T	1,2,3-Trimethylbenzene	-1.000	0.000	0.0	100	0.00
90	T	1,2-Dichlorobenzene	26.250	26.083	0.6	100	0.00
91	T	d-Limonene	26.250	26.851	-2.3	100	-0.01
92	T	1,2-Dibromo-3-Chloropropane	50.000	49.847	0.3	100	-0.01
93	T	n-Undecane	-1.000	0.000	0.0	0	-21.41#
94	T	1,2,4-Trichlorobenzene	51.000	48.107	5.7	100	0.00
95	T	Naphthalene	26.000	26.693	-2.7	100	0.00
96	T	n-Dodecane	-1.000	0.000	0.0	0	-22.22#
97	T	Hexachlorobutadiene	25.750	25.722	0.1	100	0.00
98	T	Cyclohexanone	-1.000	0.000	0.0	100	0.11
99	T	tert-Butylbenzene	26.000	23.533	9.5	100	0.00
100	T	n-Butylbenzene	26.000	25.793	0.8	100	0.00
101	T	1,1,1,2-Tetrachloroethane	26.000	26.149	-0.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092214.D Vial: 16
Acq On : 9 Mar 2022 17:47 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-03082201/S35-03072203 (4/6)

Quant Time: Mar 10 08:40:15 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	147958	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.32	114	639247	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	124353	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	258673	12.545	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
57) Toluene-d8 (SS2)	15.77	98	743390	12.352	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	19.03	174	195342	12.388	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
Target Compounds							Qvalue
2) Propene	4.05	42	372397	22.323	ng		99
3) Dichlorodifluoromethan...	4.21	85	686415	23.882	ng		99
4) Chloromethane	4.50	50	527949	24.024	ng	#	65
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	294171	24.329	ng		99
6) Vinyl Chloride	4.92	62	515789	24.679	ng		99
7) 1,3-Butadiene	5.19	54	410975	24.396	ng	#	76
8) Bromomethane	5.63	94	288314	23.533	ng		99
9) Chloroethane	5.97	64	246017	24.731	ng		99
10) Ethanol	6.36	45	1160624	92.070	ng		99
11) Acetonitrile	6.61	41	602930	21.565	ng		96
12) Acrolein	6.79	56	445790	47.296	ng		98
13) Acetone	7.01	58	1242078	118.726	ng	#	50
14) Trichlorofluoromethane	7.25	101	608412	24.190	ng		98
15) 2-Propanol (Isopropanol)	7.51	45	1838423	47.827	ng		98
16) Acrylonitrile	7.77	53	885424	45.170	ng		98
17) 1,1-Dichloroethene	8.22	96	332710	24.874	ng	#	77
18) 2-Methyl-2-Propanol (t...	8.39	59	1702759	54.579	ng		94
19) Methylene Chloride	8.45	84	344621	24.771	ng	#	77
20) 3-Chloro-1-propene (Al...	8.61	41	474609	21.990	ng		85
21) Trichlorotrifluoroethane	8.86	151	275942	24.839	ng		92
22) Carbon Disulfide	8.70	76	2357486	47.679	ng		99
23) trans-1,2-Dichloroethene	9.73	61	518674	25.566	ng		88
24) 1,1-Dichloroethane	9.98	63	628331	24.503	ng		99
25) Methyl tert-Butyl Ether	10.08	73	855695	23.370	ng		100
26) Vinyl Acetate	10.24	86	326850	128.777	ng	#	37
27) 2-Butanone (MEK)	10.48	72	460802	50.553	ng	#	54
28) cis-1,2-Dichloroethene	11.01	61	490667	23.997	ng		85
29) Diisopropyl Ether	11.30	87	547059	47.927	ng	#	51
30) Ethyl Acetate	11.31	61	366656	65.189	ng		93
31) n-Hexane	11.29	57	553836	25.905	ng		98
32) Chloroform	11.36	83	603136	24.802	ng		97
34) Tetrahydrofuran (THF)	11.75	72	434774	48.549	ng	#	67
35) Ethyl tert-Butyl Ether	11.90	87	799245	50.384	ng		94
36) 1,2-Dichloroethane	12.16	62	485872	24.305	ng		99
38) 1,1,1-Trichloroethane	12.44	97	539982	24.445	ng		98
39) Isopropyl Acetate	13.32	61	18988	No Calib	#		
40) 1-Butanol	12.90	56	8193	No Calib	#		
41) Benzene	12.92	78	1337700	23.653	ng		98
42) Carbon Tetrachloride	13.08	117	443207	24.011	ng		99
43) Cyclohexane	13.21	84	1012568	48.144	ng		92
44) tert-Amyl Methyl Ether	13.56	73	1928087	50.401	ng		91
45) 1,2-Dichloropropane	13.78	63	356347	24.159	ng		99
46) Bromodichloromethane	13.97	83	500332	25.174	ng		99
47) Trichloroethene	14.02	130	355785	24.324	ng		97
48) 1,4-Dioxane	13.99	88	285115	26.634	ng		91
49) 2,2,4-Trimethylpentane...	14.09	57	1446169	23.785	ng		81
50) Methyl Methacrylate	14.22	100	263559	51.055	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092214.D Vial: 16
Acq On : 9 Mar 2022 17:47 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-03082201/S35-03072203 (4/6)

Quant Time: Mar 10 08:40:15 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

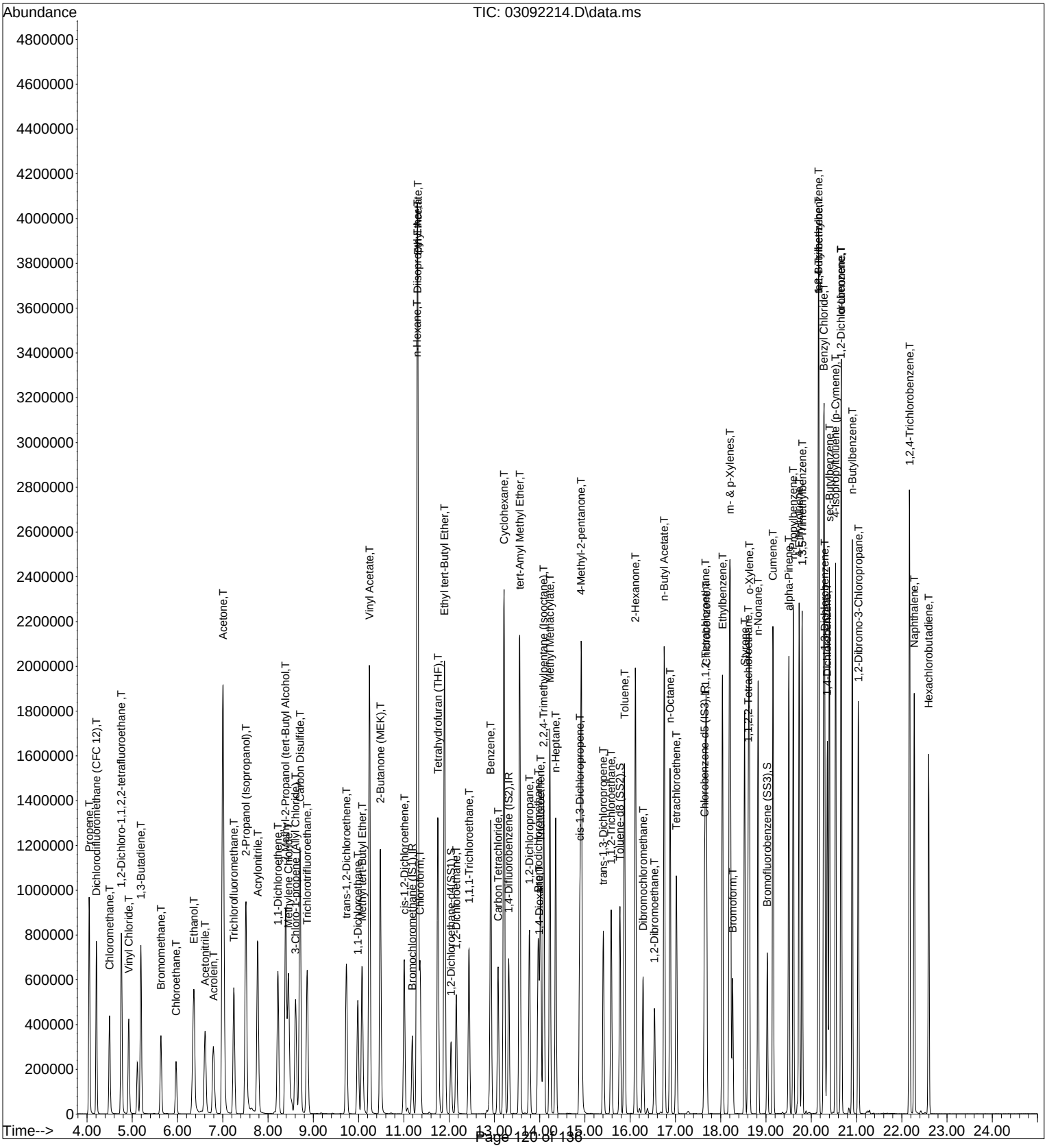
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	354427	24.315 ng		96
52) cis-1,3-Dichloropropene	14.89	75	576322	24.937 ng		99
53) 4-Methyl-2-pentanone	14.92	58	645091	51.326 ng		74
54) trans-1,3-Dichloropropene	15.40	75	524352	23.685 ng		98
55) 1,1,2-Trichloroethane	15.58	97	334484	24.287 ng		100
58) Toluene	15.88	91	1373805	23.282 ng		100
59) 2-Hexanone	16.11	43	1529838	47.655 ng		83
60) Dibromochloromethane	16.29	129	391679	24.256 ng		100
61) 1,2-Dibromoethane	16.53	107	383682	23.361 ng		99
62) n-Butyl Acetate	16.75	43	1728623	49.056 ng		87
63) n-Octane	16.88	57	307371	24.206 ng		94
64) Tetrachloroethene	17.02	166	344940	23.879 ng		98
65) Chlorobenzene	17.68	112	867879	23.153 ng		100
66) Ethylbenzene	18.04	91	1546684	24.741 ng		96
67) m- & p-Xylenes	18.20	91	2385767	46.547 ng		96
68) Bromoform	18.26	173	300371	24.878 ng		100
69) Styrene	18.53	104	910791	23.121 ng		95
70) o-Xylene	18.63	91	1227037	23.926 ng		95
71) n-Nonane	18.82	43	705391	24.243 ng	#	77
72) 1,1,2,2-Tetrachloroethane	18.61	83	587877	24.033 ng		97
74) Cumene	19.15	105	1486249	23.799 ng		96
75) alpha-Pinene	19.50	93	808540	25.253 ng		98
76) n-Propylbenzene	19.60	91	1830112	23.497 ng		97
77) 3-Ethyltoluene	19.73	105	1468018	No Calib		
78) 4-Ethyltoluene	19.73	105	1468018	25.073 ng		96
79) 1,3,5-Trimethylbenzene	19.80	105	1243475	25.297 ng		96
80) alpha-Methylstyrene	19.60	118	2647	No Calib	#	
81) 2-Ethyltoluene	20.67	105	31425	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	1177466	22.956 ng		98
83) n-Decane	20.53	58	8951	No Calib	#	
84) Benzyl Chloride	20.28	91	2040840	52.480 ng		96
85) 1,3-Dichlorobenzene	20.30	146	616248	23.975 ng		98
86) 1,4-Dichlorobenzene	20.36	146	636166	21.863 ng		99
87) sec-Butylbenzene	20.40	105	1609178	23.351 ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	1342265	23.518 ng		98
89) 1,2,3-Trimethylbenzene	20.40	105	1609178	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	591417	23.867 ng		99
91) d-Limonene	20.66	68	506945	25.209 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.04	157	479110	45.497 ng	#	77
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	849454	41.225 ng		98
95) Naphthalene	22.28	128	1429221	20.408 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	284032	23.809 ng		100
98) Cyclohexanone	18.63	55	965	No Calib	#	
99) tert-Butylbenzene	20.16	119	1067775	22.130 ng		99
100) n-Butylbenzene	20.91	91	1374546	23.803 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	311060	24.476 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2022 03\09\03092214.D Vial: 16
Acq On : 9 Mar 2022 17:47 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-03082201/S35-03072203 (4/6)

Quant Time: Mar 10 08:40:15 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **03092214.D**
Data File Path: **I:\MS09\Data\2022_03\09**
Operator: **SC**
Date Acquired: **3/9/2022** **17:47**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO-15 ICV STD**
Misc Info: **S35-03082201/S35-03072203 (**
Instrument Name: **MS09**

3/10/22

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	Propene	4.05	22.3	25.75	87	56	128	*	*
3)	Dichlorodifluoromethane (CFC 1	4.21	23.9	26.00	92	71	112	*	*
4)	Chloromethane	4.50	24.0	25.75	93	53	126	*	*
5)	1,2-Dichloro-1,1,2,2-tetrafluoroet	4.76	24.3	26.00	93	62	121	*	*
6)	Vinyl Chloride	4.92	24.7	26.00	95	63	123	*	*
7)	1,3-Butadiene	5.19	24.4	25.75	95	63	135	*	*
8)	Bromomethane	5.63	23.5	25.75	91	71	112	*	*
9)	Chloroethane	5.97	24.7	25.75	96	66	117	*	*
10)	Ethanol	6.36	92	104.00	88	57	117	*	*
11)	Acetonitrile	6.61	21.6	25.25	86	59	131	*	*
12)	Acrolein	6.79	47.3	52.00	91	71	123	*	*
13)	Acetone	7.01	119	128.00	93	60	117	*	*
14)	Trichlorofluoromethane	7.25	24.2	25.25	96	71	114	*	*
15)	2-Propanol (Isopropanol)	7.51	47.8	50.00	96	61	124	*	*
16)	Acrylonitrile	7.77	45.2	50.25	90	65	130	*	*
17)	1,1-Dichloroethene	8.22	24.9	26.25	95	74	114	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.39	54.6	51.00	107	56	135	*	*
19)	Methylene Chloride	8.45	24.8	26.00	95	75	112	*	*
20)	3-Chloro-1-propene (Allyl Chloric	8.61	22.0	25.50	86	57	127	*	*
21)	Trichlorotrifluoroethane	8.86	24.8	27.00	92	73	114	*	*
22)	Carbon Disulfide	8.70	47.7	51.75	92	70	113	*	*
23)	trans-1,2-Dichloroethene	9.73	25.6	26.00	98	76	119	*	*
24)	1,1-Dichloroethane	9.98	24.5	26.75	92	70	114	*	*
25)	Methyl tert-Butyl Ether	10.08	23.4	25.75	91	72	118	*	*
26)	Vinyl Acetate	10.24	129	117.75	110	56	137	*	*
27)	2-Butanone (MEK)	10.48	50.6	51.00	99	74	121	*	*
28)	cis-1,2-Dichloroethene	11.01	24.0	25.75	93	73	117	*	*
29)	Diisopropyl Ether	11.30	47.9	52.25	92	58	124	*	*
30)	Ethyl Acetate	11.31	65.2	72.50	90	59	161	*	*
31)	n-Hexane	11.29	25.9	26.00	100	55	130	*	*
32)	Chloroform	11.36	24.8	26.25	94	71	114	*	*
34)	Tetrahydrofuran (THF)	11.75	48.5	50.50	96	73	114	*	*
35)	Ethyl tert-Butyl Ether	11.90	50.4	51.75	97	76	119	*	*
36)	1,2-Dichloroethane	12.16	24.3	26.25	93	71	119	*	*
38)	1,1,1-Trichloroethane	12.44	24.4	26.00	94	73	119	*	*
41)	Benzene	12.92	23.7	26.00	91	72	113	*	*
42)	Carbon Tetrachloride	13.08	24.0	25.25	95	67	123	*	*
43)	Cyclohexane	13.21	48.1	51.50	93	70	119	*	*
44)	tert-Amyl Methyl Ether	13.56	50.4	51.50	98	74	120	*	*
45)	1,2-Dichloropropane	13.78	24.2	25.75	94	70	118	*	*
46)	Bromodichloromethane	13.97	25.2	26.00	97	74	119	*	*
47)	Trichloroethene	14.02	24.3	25.50	95	74	115	*	*
48)	1,4-Dioxane	13.99	26.6	25.75	103	77	124	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.09	23.8	26.25	91	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **03092214.D** **TO15.M**
Data File Path: **I:\MS09\Data\2022_03\09** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S35-03082201/S35-03072203 (**
Date Acquired: **3/9/2022** **17:47** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.22**	**51.1**	**51.25**	100	**78**	**126**	*	*
51)	**n-Heptane**	**14.35**	**24.3**	**25.75**	94	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**14.89**	**24.9**	**26.00**	96	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**14.92**	**51.3**	**51.50**	100	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**15.40**	**23.7**	**25.00**	95	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**15.58**	**24.3**	**26.00**	93	**78**	**117**	*	*
58)	**Toluene**	**15.88**	**23.3**	**25.75**	90	**70**	**118**	*	*
59)	**2-Hexanone**	**16.11**	**47.7**	**50.75**	94	**74**	**132**	*	*
60)	**Dibromochloromethane**	**16.29**	**24.3**	**26.25**	93	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**16.53**	**23.4**	**26.00**	90	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**16.75**	**49.1**	**50.75**	97	**75**	**134**	*	*
63)	**n-Octane**	**16.88**	**24.2**	**26.00**	93	**68**	**120**	*	*
64)	**Tetrachloroethene**	**17.02**	**23.9**	**26.50**	90	**63**	**130**	*	*
65)	**Chlorobenzene**	**17.68**	**23.2**	**25.75**	90	**70**	**118**	*	*
66)	**Ethylbenzene**	**18.04**	**24.7**	**25.75**	96	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**18.20**	**46.5**	**52.00**	89	**67**	**127**	*	*
68)	**Bromoform**	**18.26**	**24.9**	**26.25**	95	**65**	**149**	*	*
69)	**Styrene**	**18.53**	**23.1**	**25.25**	91	**76**	**132**	*	*
70)	**o-Xylene**	**18.63**	**23.9**	**26.00**	92	**69**	**124**	*	*
71)	**n-Nonane**	**18.82**	**24.2**	**26.00**	93	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.61**	**24.0**	**26.00**	92	**69**	**128**	*	*
74)	**Cumene**	**19.15**	**23.8**	**25.75**	92	**69**	**125**	*	*
75)	**alpha-Pinene**	**19.50**	**25.3**	**26.25**	96	**68**	**129**	*	*
76)	**n-Propylbenzene**	**19.60**	**23.5**	**26.00**	90	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**19.73**	**25.1**	**26.00**	**97**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.80**	**25.3**	**26.00**	**97**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**20.16**	**23.0**	**25.75**	**89**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**20.28**	**52.5**	**52.00**	**101**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**20.30**	**24.0**	**26.00**	**92**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**20.36**	**21.9**	**26.25**	**83**	**63**	**134**	*	*
87)	sec-Butylbenzene	20.40	23.4	25.50	**92**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.54	23.5	25.75	**91**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**20.66**	**23.9**	**26.25**	**91**	**64**	**139**	*	*
91)	**d-Limonene**	**20.66**	**25.2**	**25.75**	**98**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.04**	**45.5**	**50.50**	**90**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**22.17**	**41.2**	**52.50**	**78**	**62**	**154**	*	*
95)	**Naphthalene**	**22.28**	**20.4**	**26.25**	**78**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**22.59**	**23.8**	**26.50**	**90**	55	142	*	*
99)	tert-Butylbenzene	20.16	22.1	25.75	86	61	140	*	*
100)	n-Butylbenzene	20.91	23.8	26.00	92	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	17.66	24.5	25.75	95	70	130	*	*

Bold = 75 Compound List
*** = Pass**

ICV/LCS Standard Concentrations (Secondary Source)

3/10/22

4ng/L Working Std. ID:	
20ng/L Working Std. ID:	
200ng/L Working Std. ID:	S35-03072203
1000ng/L Working Std. ID:	

Dilution Factor:	1	5	50	250
Working Std. Conc. Utilized:	200			
Working Std. Injection Amounts (L):				0.125

Compounds	mg/m³	Secondary Working Std. Conc. 1000ng/L	200ng/L	20ng/L	4ng/L	ICV / LCS Actual Conc.(ng)
Propene	1.03	1030	206	20.6	4.12	25.75
Dichlorodifluoromethane(12)	1.04	1040	208	20.8	4.16	26.00
Chloromethane	1.03	1030	206	20.6	4.12	25.75
Freon-114	1.04	1040	208	20.8	4.16	26.00
Vinyl Chloride	1.04	1040	208	20.8	4.16	26.00
1,3-Butadiene	1.03	1030	206	20.6	4.12	25.75
Bromomethane	1.03	1030	206	20.6	4.12	25.75
Chloroethane	1.03	1030	206	20.6	4.12	25.75
Ethanol	4.16	4160	832	83.2	16.64	104.00
Acetonitrile	1.01	1010	202	20.2	4.04	25.25
Acrolein	2.08	2080	416	41.6	8.32	52.00
Acetone	5.12	5120	1024	102.4	20.48	128.00
Trichlorofluoromethane(11)	1.01	1010	202	20.2	4.04	25.25
Isopropanol	2.00	2000	400	40.0	8.00	50.00
Acrylonitrile	2.01	2010	402	40.2	8.04	50.25
1,1-Dichloroethene	1.05	1050	210	21.0	4.20	26.25
tert-Butanol	2.04	2040	408	40.8	8.16	51.00
Methylene Chloride	1.04	1040	208	20.8	4.16	26.00
Allyl Chloride	1.02	1020	204	20.4	4.08	25.50
Trichlorotrifluoroethane(113)	1.08	1080	216	21.6	4.32	27.00
Carbon Disulfide	2.07	2070	414	41.4	8.28	51.75
trans-1,2-Dichloroethene	1.04	1040	208	20.8	4.16	26.00
1,1-Dichloroethane	1.07	1070	214	21.4	4.28	26.75
Methyl tert-Butyl Ether	1.03	1030	206	20.6	4.12	25.75
Vinyl Acetate	4.71	4710	942	94.2	18.84	117.75
2-Butanone	2.04	2040	408	40.8	8.16	51.00
cis-1,2-Dichloroethene	1.03	1030	206	20.6	4.12	25.75
Diisopropyl Ether	2.09	2090	418	41.8	8.36	52.25
Ethyl Acetate	2.90	2900	580	58.0	11.60	72.50
n-Hexane	1.04	1040	208	20.8	4.16	26.00
Chloroform	1.05	1050	210	21.0	4.20	26.25
Tetrahydrofuran	2.02	2020	404	40.4	8.08	50.50
Ethyl tert-Butyl Ether	2.07	2070	414	41.4	8.28	51.75
1,2-Dichloroethane	1.05	1050	210	21.0	4.20	26.25
1,1,1-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Benzene	1.04	1040	208	20.8	4.16	26.00
Carbon Tetrachloride	1.01	1010	202	20.2	4.04	25.25
Cyclohexane	2.06	2060	412	41.2	8.24	51.50
tert-Amyl Methyl Ether	2.06	2060	412	41.2	8.24	51.50
1,2-Dichloropropane	1.03	1030	206	20.6	4.12	25.75
Bromodichloromethane	1.04	1040	208	20.8	4.16	26.00
Trichloroethene	1.02	1020	204	20.4	4.08	25.50
1,4-Dioxane	1.03	1030	206	20.6	4.12	25.75
Isooctane	1.05	1050	210	21.0	4.20	26.25

Compounds	mg/m³	Secondary Working Std. Conc. 1000ng/L	200ng/L	20ng/L	4ng/L	ICV / LCS Actual Conc.(ng)
Methyl Methacrylate	2.05	2050	410	41.0	8.20	51.25
n-Heptane	1.03	1030	206	20.6	4.12	25.75
cis-1,3-Dichloropropene	1.04	1040	208	20.8	4.16	26.00
4-Methyl-2-pentanone	2.06	2060	412	41.2	8.24	51.50
trans-1,3-Dichloropropene	1.00	1000	200	20.0	4.00	25.00
1,1,2-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Toluene	1.03	1030	206	20.6	4.12	25.75
2-Hexanone	2.03	2030	406	40.6	8.12	50.75
Dibromochloromethane	1.05	1050	210	21.0	4.20	26.25
1,2-Dibromoethane	1.04	1040	208	20.8	4.16	26.00
n-Butyl Acetate	2.03	2030	406	40.6	8.12	50.75
n-Octane	1.04	1040	208	20.8	4.16	26.00
Tetrachloroethene	1.06	1060	212	21.2	4.24	26.50
Chlorobenzene	1.03	1030	206	20.6	4.12	25.75
Ethylbenzene	1.03	1030	206	20.6	4.12	25.75
m-,p-Xylene	2.08	2080	416	41.6	8.32	52.00
Bromoform	1.05	1050	210	21.0	4.20	26.25
Styrene	1.01	1010	202	20.2	4.04	25.25
o-Xylene	1.04	1040	208	20.8	4.16	26.00
n-Nonane	1.04	1040	208	20.8	4.16	26.00
1,1,2,2-Tetrachloroethane	1.04	1040	208	20.8	4.16	26.00
Cumene	1.03	1030	206	20.6	4.12	25.75
alpha-Pinene	1.05	1050	210	21.0	4.20	26.25
n-Propylbenzene	1.04	1040	208	20.8	4.16	26.00
4-Ethyltoluene	1.04	1040	208	20.8	4.16	26.00
1,3,5-Trimethylbenzene	1.04	1040	208	20.8	4.16	26.00
1,2,4-Trimethylbenzene	1.03	1030	206	20.6	4.12	25.75
Benzyl Chloride	2.08	2080	416	41.6	8.32	52.00
1,3-Dichlorobenzene	1.04	1040	208	20.8	4.16	26.00
1,4-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
sec-Butylbenzene	1.02	1020	204	20.4	4.08	25.50
p-Isopropyltoluene	1.03	1030	206	20.6	4.12	25.75
1,2-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
d-Limonene	1.03	1030	206	20.6	4.12	25.75
1,2-Dibromo-3-chloropropane	2.02	2020	404	40.4	8.08	50.50
1,2,4-Trichlorobenzene	2.10	2100	420	42.0	8.40	52.50
Naphthalene	1.05	1050	210	21.0	4.20	26.25
Hexachloro-1,3-butadiene	1.06	1060	212	21.2	4.24	26.50
tert-Butylbenzene	1.03	1030	206	20.6	4.12	25.75
n-Butylbenzene	1.04	1040	208	20.8	4.16	26.00
1,1,1,2-Tetrachloroethane	1.03	1030	206	20.6	4.12	25.75

***Enter Information in the Solid Shaded Areas ONLY.**

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 03\29\03292201.D Vial: 2
Acq On : 29 Mar 2022 1:01 Operator: SC
Sample : CCV R9032922 5.0ng Inst : MS09
Misc : S35-03082201/S35-03072208 (4/6)

Quant Time: Mar 29 08:21:55 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/29/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	73	-0.03
2	T	Propene	1.409	1.379	2.1	85	0.00
3	T	Dichlorodifluoromethane (CF	2.428	2.361	2.8	81	0.00
4	T	Chloromethane	1.857	2.180	-17.4	100	-0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.022	1.072	-4.9	83	-0.02
6	T	Vinyl Chloride	1.766	2.006	-13.6	92	-0.02
7	T	1,3-Butadiene	1.423	1.666	-17.1	95	-0.03
8	T	Bromomethane	1.035	1.059	-2.3	85	-0.03
9	T	Chloroethane	0.840	0.860	-2.4	84	-0.03
10	T	Ethanol	1.065	1.062	0.3	88	-0.12
11	T	Acetonitrile	2.362	2.670	-13.0	89	-0.08
12	T	Acrolein	0.796	0.838	-5.3	84	-0.05
13	T	Acetone	0.884	0.976	-10.4	91	-0.07
14	T	Trichlorofluoromethane	2.125	2.060	3.1	80	-0.02
15	T	2-Propanol (Isopropanol)	3.247	3.426	-5.5	91	-0.10
16	T	Acrylonitrile	1.656	1.761	-6.3	88	-0.07
17	T	1,1-Dichloroethene	1.130	1.117	1.2	82	-0.03
18	T	2-Methyl-2-Propanol (tert-B	2.636	3.061	-16.1	103	-0.07
19	T	Methylene Chloride	1.175	1.220	-3.8	82	-0.05
20	T	3-Chloro-1-propene (Allyl C	1.823	1.893	-3.8	92	-0.03
21	T	Trichlorotrifluoroethane	0.939	0.883	6.0	78	-0.02
22	T	Carbon Disulfide	4.177	4.366	-4.5	87	-0.03
23	T	trans-1,2-Dichloroethene	1.714	1.761	-2.7	83	-0.03
24	T	1,1-Dichloroethane	2.166	2.179	-0.6	84	-0.02
25	T	Methyl tert-Butyl Ether	3.093	3.453	-11.6	91	-0.01
26	T	Vinyl Acetate	0.214	0.236	-10.3	82	-0.03
27	T	2-Butanone (MEK)	0.770	0.851	-10.5	85	-0.03
28	T	cis-1,2-Dichloroethene	1.727	1.728	-0.1	83	-0.03
29	T	Diisopropyl Ether	0.964	1.095	-13.6	84	-0.02
30	T	Ethyl Acetate	0.475	0.567	-19.4	92	-0.05
31	T	n-Hexane	1.806	2.258	-25.0	91	0.00
32	T	Chloroform	2.054	2.041	0.6	82	-0.05
33	S	1,2-Dichloroethane-d4(SS1)	1.742	1.809	-3.8	75	-0.02
34	T	Tetrahydrofuran (THF)	0.757	0.794	-4.9	85	-0.02
35	T	Ethyl tert-Butyl Ether	1.340	1.393	-4.0	83	-0.01
36	T	1,2-Dichloroethane	1.689	1.652	2.2	81	-0.02
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	73	-0.02
38	T	1,1,1-Trichloroethane	0.432	0.404	6.5	79	-0.02
39	T	Isopropyl Acetate	0.000	0.000	0.0	79	-0.01
40	T	1-Butanol	0.000	0.000	0.0	88	0.02
41	T	Benzene	1.106	1.090	1.4	83	-0.02
42	T	Carbon Tetrachloride	0.361	0.332	8.0	76	-0.01
43	T	Cyclohexane	0.411	0.422	-2.7	83	-0.01
44	T	tert-Amyl Methyl Ether	0.748	0.786	-5.1	86	-0.01
45	T	1,2-Dichloropropane	0.288	0.298	-3.5	86	-0.01
46	T	Bromodichloromethane	0.389	0.377	3.1	80	-0.01
47	T	Trichloroethene	0.286	0.276	3.5	79	-0.02
48	T	1,4-Dioxane	0.209	0.228	-9.1	86	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.189	1.215	-2.2	86	-0.01
50	T	Methyl Methacrylate	0.101	0.103	-2.0	78	-0.01
51	T	n-Heptane	0.285	0.290	-1.8	83	0.00
52	T	cis-1,3-Dichloropropene	0.452	0.450	0.4	81	0.00
53	T	4-Methyl-2-pentanone	0.246	0.279	-13.4	90	-0.02
54	T	trans-1,3-Dichloropropene	0.433	0.426	1.6	80	-0.01
55	T	1,1,2-Trichloroethane	0.269	0.266	1.1	81	-0.01

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 03\29\03292201.D Vial: 2
Acq On : 29 Mar 2022 1:01 Operator: SC
Sample : CCV R9032922 5.0ng Inst : MS09
Misc : S35-03082201/S35-03072208 (4/6)

Quant Time: Mar 29 08:21:55 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	82	0.00
57	S	Toluene-d8 (SS2)	6.050	5.512	8.9	75	-0.01
58	T	Toluene	5.932	5.176	12.7	82	-0.01
59	T	2-Hexanone	3.227	3.399	-5.3	98	-0.02
60	T	Dibromochloromethane	1.623	1.355	16.5	77	-0.01
61	T	1,2-Dibromoethane	1.651	1.419	14.1	80	-0.01
62	T	n-Butyl Acetate	3.542	3.737	-5.5	97	-0.01
63	T	n-Octane	1.276	1.192	6.6	88	0.00
64	T	Tetrachloroethene	1.452	1.192	17.9	75	0.00
65	T	Chlorobenzene	3.768	3.267	13.3	79	-0.01
66	T	Ethylbenzene	6.284	5.816	7.4	81	0.00
67	T	m- & p-Xylenes	5.152	4.582	11.1	81	0.00
68	T	Bromoform	1.214	1.002	17.5	74	0.00
69	T	Styrene	3.960	3.485	12.0	79	0.00
70	T	o-Xylene	5.155	4.580	11.2	80	-0.02
71	T	n-Nonane	2.925	2.866	2.0	93	0.00
72	T	1,1,2,2-Tetrachloroethane	2.459	2.309	6.1	85	0.00
73	S	Bromofluorobenzene (SS3)	1.585	1.375	13.2	71	0.00
74	T	Cumene	6.277	5.565	11.3	79	0.00
75	T	alpha-Pinene	3.218	2.881	10.5	85	0.00
76	T	n-Propylbenzene	7.829	7.185	8.2	82	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	80	0.00
78	T	4-Ethyltoluene	5.885	5.536	5.9	80	0.00
79	T	1,3,5-Trimethylbenzene	4.941	4.594	7.0	79	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	110	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	76	-0.01
82	T	1,2,4-Trimethylbenzene	5.156	4.803	6.8	79	-0.02
83	T	n-Decane	0.000	0.000	0.0	47#	0.01
84	T	Benzyl Chloride	3.909	4.050	-3.6	78	0.00
85	T	1,3-Dichlorobenzene	2.584	2.492	3.6	77	-0.02
86	T	1,4-Dichlorobenzene	2.925	2.518	13.9	77	-0.01
87	T	sec-Butylbenzene	6.927	6.299	9.1	80	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.737	5.144	10.3	77	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	80	0.00
90	T	1,2-Dichlorobenzene	2.491	2.394	3.9	77	0.00
91	T	d-Limonene	2.021	2.016	0.2	85	-0.01
92	T	1,2-Dibromo-3-Chloropropane	1.059	0.925	12.7	73	-0.01
93	T	n-Undecane	0.000	0.000	0.0	0#	-21.41#
94	T	1,2,4-Trichlorobenzene	2.071	1.787	13.7	72	0.00
95	T	Naphthalene	7.040	6.096	13.4	74	0.00
96	T	n-Dodecane	0.000	0.000	0.0	0#	-22.22#
97	T	Hexachlorobutadiene	1.199	0.955	20.4	68	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-18.52#
99	T	tert-Butylbenzene	4.850	4.419	8.9	78	0.00
100	T	n-Butylbenzene	5.805	5.469	5.8	82	0.00
101	T	1,1,1,2-Tetrachloroethane	1.278	1.119	12.4	77	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292201.D Vial: 2
Acq On : 29 Mar 2022 1:01 Operator: SC
Sample : CCV R9032922 5.0ng Inst : MS09
Misc : S35-03082201/S35-03072208 (4/6)

Quant Time: Mar 29 08:21:55 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/29/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	107583	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.31	114	467093	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	101656	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	194624	12.981	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
57) Toluene-d8 (SS2)	15.77	98	560286	11.388	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
73) Bromofluorobenzene (SS3)	19.03	174	139751	10.842	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
Target Compounds							Qvalue
2) Propene	4.05	42	61730	5.089	ng		98
3) Dichlorodifluoromethan...	4.21	85	106680	5.105	ng		99
4) Chloromethane	4.49	50	95688	5.988	ng	#	66
5) 1,2-Dichloro-1,1,2,2-t...	4.75	135	49801	5.664	ng		99
6) Vinyl Chloride	4.91	62	89771	5.907	ng		99
7) 1,3-Butadiene	5.18	54	74569	6.088	ng	#	82
8) Bromomethane	5.62	94	46490	5.219	ng		100
9) Chloroethane	5.96	64	37748	5.219	ng		98
10) Ethanol	6.31	45	165412	18.046	ng		99
11) Acetonitrile	6.58	41	106841	5.255	ng		100
12) Acrolein	6.77	56	72129	10.525	ng		97
13) Acetone	6.98	58	218000	28.658	ng	#	57
14) Trichlorofluoromethane	7.23	101	91304	4.993	ng		98
15) 2-Propanol (Isopropanol)	7.47	45	297792	10.655	ng		99
16) Acrylonitrile	7.74	53	153794	10.790	ng		98
17) 1,1-Dichloroethene	8.20	96	51440	5.289	ng	#	78
18) 2-Methyl-2-Propanol (t...	8.36	59	276659	12.196	ng		98
19) Methylene Chloride	8.43	84	54594	5.397	ng		86
20) 3-Chloro-1-propene (Al...	8.60	41	85543	5.451	ng		90
21) Trichlorotrifluoroethane	8.86	151	41039	5.081	ng		88
22) Carbon Disulfide	8.69	76	394576	10.975	ng		100
23) trans-1,2-Dichloroethene	9.72	61	80342	5.446	ng		89
24) 1,1-Dichloroethane	9.97	63	98468	5.281	ng		100
25) Methyl tert-Butyl Ether	10.07	73	156018	5.860	ng		99
26) Vinyl Acetate	10.23	86	34488	18.688	ng	#	57
27) 2-Butanone (MEK)	10.47	72	75457	11.385	ng	#	67
28) cis-1,2-Dichloroethene	10.99	61	77340	5.202	ng		86
29) Diisopropyl Ether	11.29	87	99865	12.033	ng	#	82
30) Ethyl Acetate	11.30	61	99638	24.363	ng		86
31) n-Hexane	11.29	57	102011	6.562	ng		96
32) Chloroform	11.35	83	93960	5.314	ng		96
34) Tetrahydrofuran (THF)	11.75	72	67306	10.336	ng	#	74
35) Ethyl tert-Butyl Ether	11.90	87	125853	10.911	ng		96
36) 1,2-Dichloroethane	12.15	62	75369	5.185	ng		99
38) 1,1,1-Trichloroethane	12.43	97	78576	4.868	ng		99
39) Isopropyl Acetate	13.31	61	14894	No Calib	#		
40) 1-Butanol	12.91	56	2835	No Calib	#		
41) Benzene	12.91	78	211743	5.124	ng		98
42) Carbon Tetrachloride	13.08	117	65085	4.826	ng		98
43) Cyclohexane	13.21	84	163308	10.627	ng		93
44) tert-Amyl Methyl Ether	13.55	73	306906	10.980	ng		93
45) 1,2-Dichloropropane	13.77	63	57283	5.315	ng		99
46) Bromodichloromethane	13.96	83	73914	5.090	ng		98
47) Trichloroethene	14.01	130	53073	4.966	ng		97
48) 1,4-Dioxane	13.99	88	44254	5.658	ng		93
49) 2,2,4-Trimethylpentane...	14.09	57	240668	5.417	ng		83
50) Methyl Methacrylate	14.22	100	40041	10.615	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292201.D Vial: 2
Acq On : 29 Mar 2022 1:01 Operator: SC
Sample : CCV R9032922 5.0ng Inst : MS09
Misc : S35-03082201/S35-03072208 (4/6)

Quant Time: Mar 29 08:21:55 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

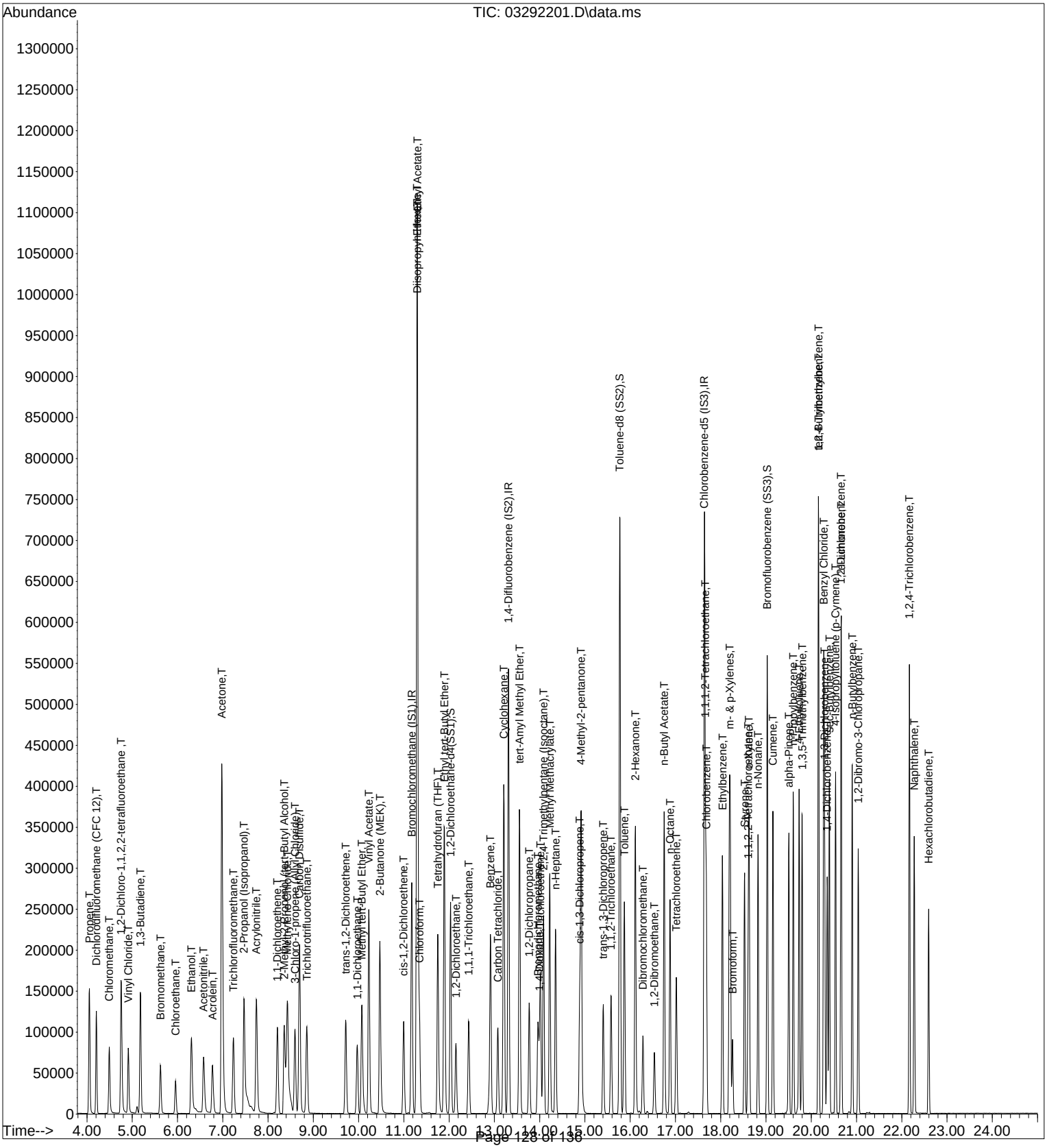
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.35	71	56990	5.351	ng		98
52) cis-1,3-Dichloropropene	14.88	75	88370	5.233	ng		99
53) 4-Methyl-2-pentanone	14.92	58	108376	11.801	ng		83
54) trans-1,3-Dichloropropene	15.40	75	80373	4.968	ng		98
55) 1,1,2-Trichloroethane	15.58	97	51629	5.131	ng		97
58) Toluene	15.87	91	216791	4.494	ng		99
59) 2-Hexanone	16.11	43	283295	10.795	ng		88
60) Dibromochloromethane	16.28	129	57846	4.382	ng		100
61) 1,2-Dibromoethane	16.53	107	60019	4.470	ng		100
62) n-Butyl Acetate	16.75	43	310018	10.762	ng		93
63) n-Octane	16.88	57	50878	4.901	ng		98
64) Tetrachloroethene	17.02	166	50407	4.269	ng		98
65) Chlorobenzene	17.68	112	138157	4.509	ng		100
66) Ethylbenzene	18.04	91	243608	4.767	ng		98
67) m- & p-Xylenes	18.20	91	383795	9.160	ng		96
68) Bromoform	18.26	173	42379	4.294	ng		100
69) Styrene	18.53	104	145975	4.533	ng		94
70) o-Xylene	18.62	91	193676	4.620	ng		96
71) n-Nonane	18.82	43	121186	5.095	ng		84
72) 1,1,2,2-Tetrachloroethane	18.61	83	97665	4.884	ng		98
74) Cumene	19.15	105	235338	4.610	ng		97
75) alpha-Pinene	19.50	93	126528	4.834	ng		100
76) n-Propylbenzene	19.60	91	306781	4.818	ng		98
77) 3-Ethyltoluene	19.73	105	238631	No Calib			
78) 4-Ethyltoluene	19.73	105	238631	4.986	ng		97
79) 1,3,5-Trimethylbenzene	19.80	105	194281	4.835	ng		97
80) alpha-Methylstyrene	19.60	118	494	No Calib		#	
81) 2-Ethyltoluene	20.66	105	5097	No Calib			
82) 1,2,4-Trimethylbenzene	20.16	105	201163	4.798	ng		96
83) n-Decane	20.53	58	1384	No Calib		#	
84) Benzyl Chloride	20.28	91	339254	10.672	ng		96
85) 1,3-Dichlorobenzene	20.29	146	105380	5.015	ng		97
86) 1,4-Dichlorobenzene	20.35	146	106491	4.477	ng		99
87) sec-Butylbenzene	20.40	105	266388	4.729	ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	217533	4.662	ng		97
89) 1,2,3-Trimethylbenzene	20.40	105	266388	No Calib		#	
90) 1,2-Dichlorobenzene	20.66	146	102224	5.046	ng		100
91) d-Limonene	20.66	68	86059	5.235	ng		98
92) 1,2-Dibromo-3-Chloropr...	21.04	157	75230	8.739	ng		82
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.17	180	148244	8.801	ng		99
95) Naphthalene	22.28	128	257790	4.503	ng		99
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.59	225	40013	4.103	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	20.16	119	186883	4.738	ng		99
100) n-Butylbenzene	20.91	91	231265	4.899	ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	47317	4.554	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 03\29\03292201.D Vial: 2
Acq On : 29 Mar 2022 1:01 Operator: SC
Sample : CCV R9032922 5.0ng Inst : MS09
Misc : S35-03082201/S35-03072208 (4/6)

Quant Time: Mar 29 08:21:55 2022
Quant Method : I:\MS09\Methods\R9030922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 09 16:58:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

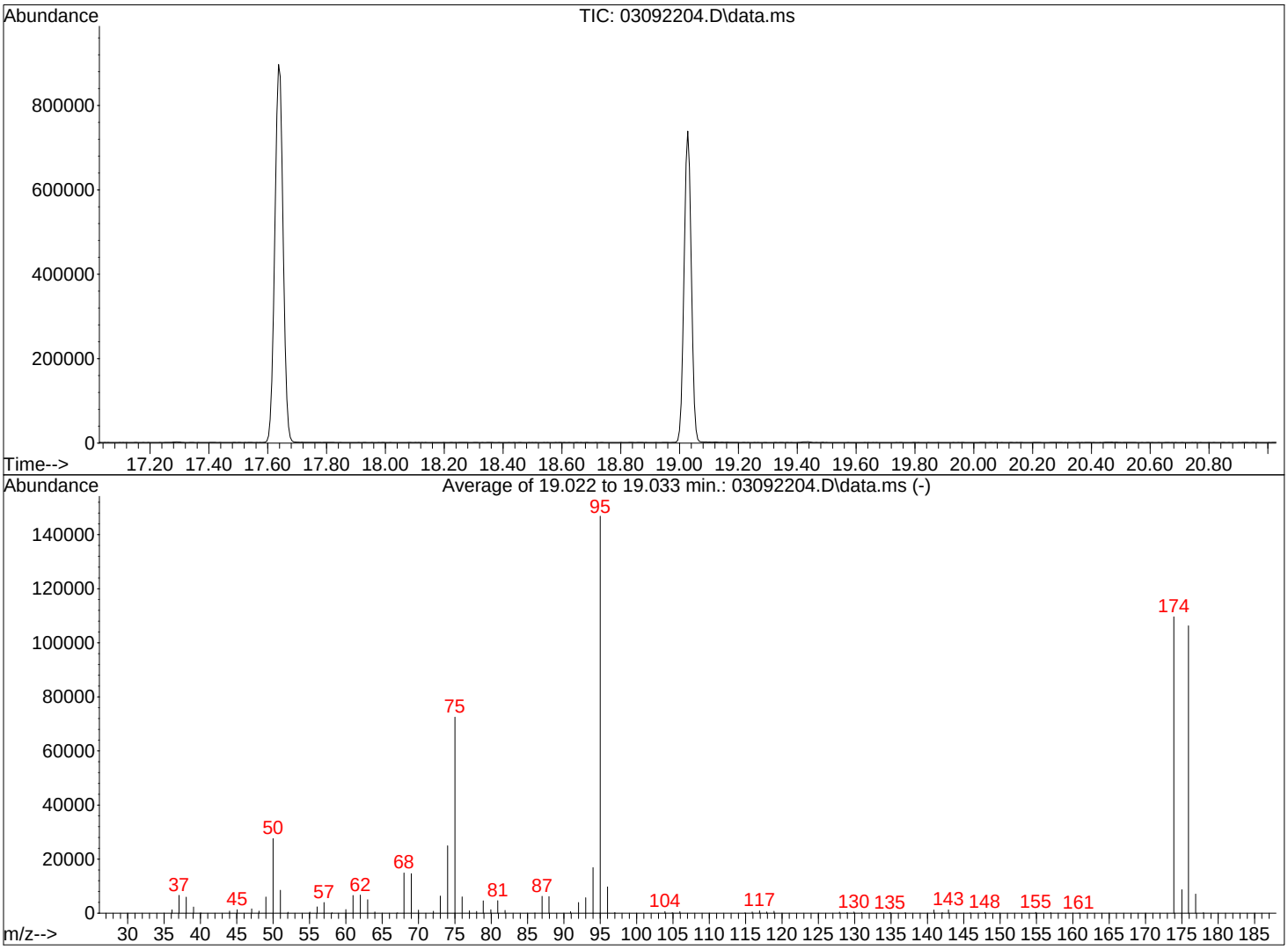


Data Path : I:\MS09\Data\2022 03\09\
Data File : 03092204.D
Acq On : 9 Mar 2022 12:06
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S35-03082201
ALS Vial : 2 Sample Multiplier: 1

3/9/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9030922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 09 10:18:59 2022



AutoFind: Scans 2684, 2685, 2686; Background Corrected with Scan 2676

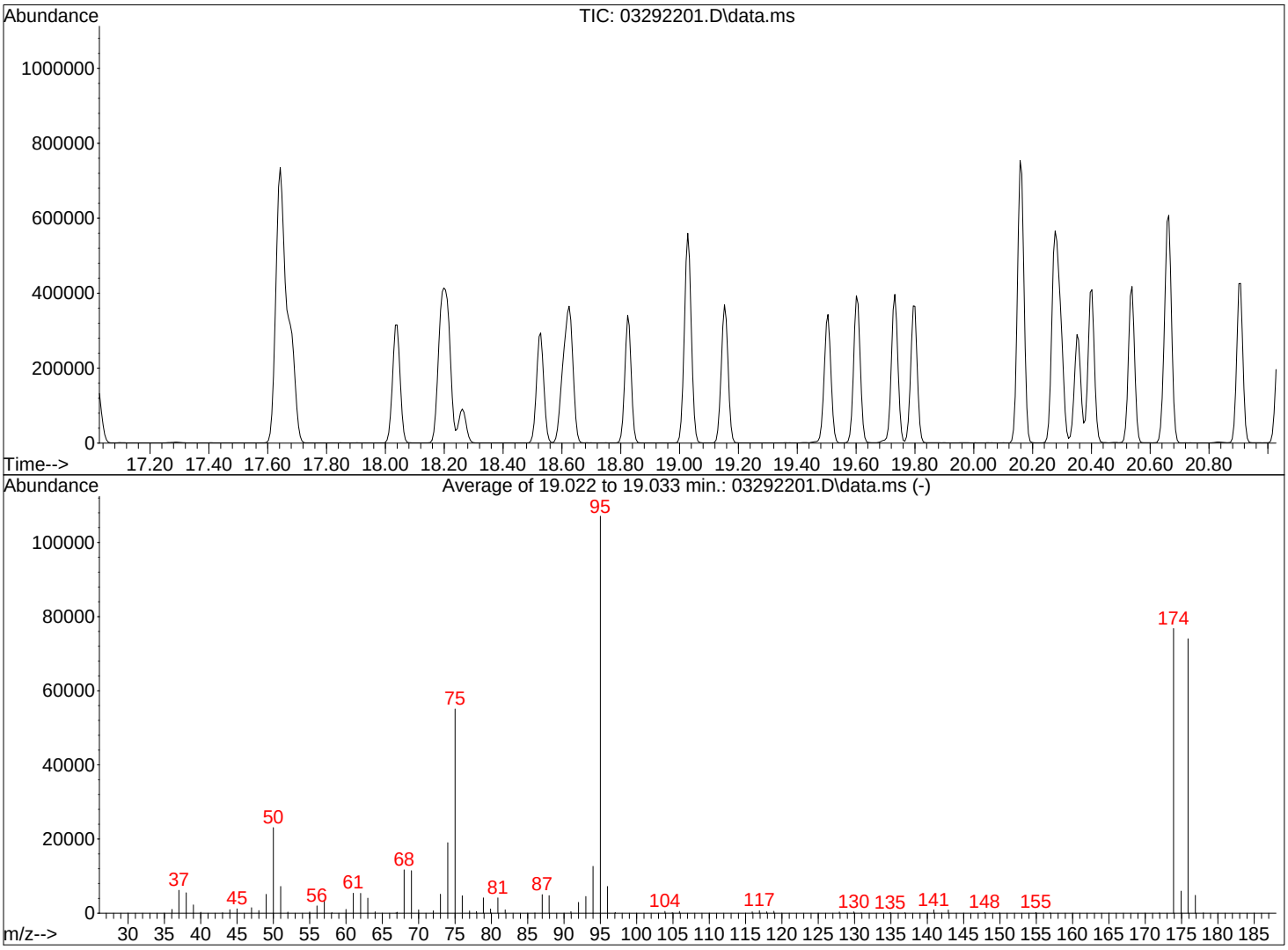
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.8	27600	PASS
75	95	30	66	49.4	72531	PASS
95	95	100	100	100.0	146837	PASS
96	95	5	9	6.6	9727	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	74.7	109627	PASS
175	174	4	9	7.9	8695	PASS
176	174	93	101	97.0	106315	PASS
177	176	5	9	6.7	7088	PASS

Data Path : I:\MS09\DATA\2022 03\29\
Data File : 03292201.D
Acq On : 29 Mar 2022 1:01
Operator : SC
Sample : CCV R9032922 5.0ng
Misc : S35-03082201/S35-03072208 (4/6)
ALS Vial : 2 Sample Multiplier: 1

3/29/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9030922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 09 16:58:43 2022



AutoFind: Scans 2684, 2685, 2686; Background Corrected with Scan 2677

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	21.6	23080	PASS
75	95	30	66	51.4	55088	PASS
95	95	100	100	100.0	107091	PASS
96	95	5	9	6.7	7228	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	71.7	76811	PASS
175	174	4	9	7.8	5953	PASS
176	174	93	101	96.4	74043	PASS
177	176	5	9	6.5	4811	PASS

Injection Log

Directory: J:\MS09\Data\2022_03\09\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/9/22 9:10	03092201.D	CCV R9030922_25ng	S35-03082201/S35-02092207 (3/11)	SC	2	
2	3/9/22 10:40	03092202.D	0.1ng TO-15 ICAL STD	S35-03082201/S35-03082207 (4/7)	SC	5	
3	3/9/22 11:33	03092203.D	Blank	S35-03082201	SC	2	
4	3/9/22 12:06	03092204.D	12.5ng TO-15 BFB STD	S35-03082201	SC	2	pass
5	3/9/22 12:39	03092205.D	0.1ng TO-15 ICAL STD	S35-03082201/S35-03082207 (4/7)	SC	5	
6	3/9/22 12:39	03092205a.D	0.1ng TO-15 ICAL STD	S35-03082201/S35-03082207 (4/7)	SC	5	
7	3/9/22 13:13	03092206.D	0.2ng TO-15 ICAL STD	S35-03082201/S35-03082207 (4/7)	SC	5	
8	3/9/22 13:46	03092207.D	0.5ng TO-15 ICAL STD	S35-03082201/S35-03082205 (4/7)	SC	6	
9	3/9/22 13:46	03092207a.D	0.5ng TO-15 ICAL STD	S35-03082201/S35-03082205 (4/7)	SC	6	
10	3/9/22 14:19	03092208.D	1.0ng TO-15 ICAL STD	S35-03082201/S35-03082205 (4/7)	SC	6	
11	3/9/22 14:52	03092209.D	5.0ng TO-15 ICAL STD	S35-03082201/S35-03082205 (4/7)	SC	6	
12	3/9/22 14:52	03092209a.D	5.0ng TO-15 ICAL STD	S35-03082201/S35-03082205 (4/7)	SC	6	
13	3/9/22 15:26	03092210.D	25ng TO-15 ICAL STD	S35-03082201/S35-03082204 (4/7)	SC	7	
14	3/9/22 15:26	03092210a.D	25ng TO-15 ICAL STD	S35-03082201/S35-03082204 (4/7)	SC	7	
15	3/9/22 15:59	03092211.D	50ng TO-15 ICAL STD	S35-03082201/S35-03082204 (4/7)	SC	7	
16	3/9/22 16:33	03092212.D	100ng TO-15 ICAL STD	S35-03082201/S35-03082204 (4/7)	SC	7	
17	3/9/22 17:13	03092213.D	Blank	S35-03082201	SC	2	
18	3/9/22 17:47	03092214.D	25ng TO-15 ICV STD	S35-03082201/S35-03072203 (4/6)	SC	16	pass
19	3/9/22 18:20	03092215.D	25ng TO-15 ICV STD	S35-03082201/S35-03072203 (4/6)	SC	16	
20	3/9/22 18:53	03092216.D	Blank	S35-03082201	SC	2	
21	3/9/22 19:27	03092217.D	12.5ng TO-15 BFB STD	S35-03082201	SC	2	pass
22	3/9/22 20:00	03092218.D	0.4ng TO-15 Custom STD	S35-03082201/S35-03032201 (3/16)	SC	10	
23	3/9/22 20:33	03092219.D	1.0ng TO-15 Custom STD	S35-03082201/S35-03032201 (3/16)	SC	10	
24	3/9/22 21:06	03092220.D	2.5ng TO-15 Custom STD	S35-03082201/S35-03032201 (3/16)	SC	10	
25	3/9/22 21:39	03092221.D	5.0ng TO-15 Custom STD	S35-03082201/S35-03032201 (3/16)	SC	10	
26	3/9/22 22:12	03092222.D	25ng TO-15 Custom STD	S35-03082201/S35-02142202 (3/16)	SC	11	
27	3/9/22 22:46	03092223.D	50ng TO-15 Custom STD	S35-03082201/S35-02142202 (3/16)	SC	11	
28	3/9/22 23:19	03092224.D	100ng TO-15 Custom STD	S35-03082201/S35-02142202 (3/16)	SC	11	
29	3/9/22 23:52	03092225.D	Blank	S35-03082201	SC	2	
30	3/10/22 0:25	03092226.D	25ng TO-15 Custom ICV	S35-03082201/S35-03032202 (4/2)	SC	12	pass
31	3/10/22 0:58	03092227.D	25ng TO-15 Custom ICV	S35-03082201/S35-03032202 (4/2)	SC	12	
32							
33							
34							3/21/22
35							
36							
37							
38							

Injection Log

Directory: I:\MS09\DATA\2022_03\29\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/29/22 1:01	03292201.D	CCV R9032922_5.0ng	S35-03082201/S35-03072208 (4/6)	SC	2	pass
2	3/29/22 1:34	03292202.D	System	S35-03082201/S35-03072208 (4/7)	SC	2	
3	3/29/22 2:07	03292203.D	Blank	S35-03082201	SC	1	
4	3/29/22 2:40	03292204.D	MB R9032922_1000mL	S35-03082201	SC	2	pass
5	3/29/22 3:13	03292205.D	RL R9032922_0.5ng	S35-03082201/S35-03112201 (4/11)	SC	16	pass
6	3/29/22 3:46	03292206.D	LCS R9032922_25ng	S35-03082201/S35-03162204 (4/15)	SC	2	pass
7	3/29/22 8:54	03292207.D	P2201270-001 (0.30mL)	S35-03082201	SC	1	not used
8	3/29/22 8:54	03292208.D	P2201270-001 (0.30mL)	S35-03082201	SC	1	not used
9	3/29/22 9:32	03292209.D	P2201271-001Dil (0.30mL)	S35-03082201	SC	1	
10	3/29/22 10:12	03292210.D	P2201271-001 (1.5mL)	S35-03082201	SC	1	
11	3/29/22 10:45	03292211.D	P2201171-001 (0.05mL)	S35-03082201	SC	1	
12	3/29/22 11:17	03292212.D	P2201171-001Dil (0.005mL)	S35-03082201/0.25mL---500mL, 10mL	SC	1	not used
13	3/29/22 11:51	03292213.D	P2201265-001Dil (300mL)	S35-03082201	SC	5	
14	3/29/22 12:24	03292214.D	P2201271-002 (1000mL)	S35-03082201	SC	6	
15	3/29/22 12:58	03292215.D	P2201271-003 (1000mL)	S35-03082201	SC	7	
16	3/29/22 13:31	03292216.D	P2201271-003dup (1000mL)	S35-03082201	SC	7	pass
17	3/29/22 14:04	03292217.D	P2201171-001Dil (0.0025mL)	S35-03082201/0.25mL---500mL, 5ml	SC	1	
18	3/29/22 14:38	03292218.D	P2201265-001 (1000mL)	S35-03082201	SC	5	
19	3/29/22 15:11	03292219.D	P2201271-003Dil (100mL)	S35-03082201	SC	7	
20	3/29/22 15:44	03292220.D	P2201271-003dupDil (100mL)	S35-03082201	SC	7	pass
21	3/29/22 16:16	03292221.D	P2201363-001Dil (1.0mL)	S35-03082201	SC	1	
22	3/29/22 16:50	03292222.D	P2201363-001 (5.0mL)	S35-03082201	SC	1	
23	3/29/22 17:50	03292223.D	P2201366-001 (5.0mL)	S35-03082201	SC	1	
24	3/29/22 18:23	03292224.D	P2201181-001 (400mL)	S35-03082201	SC	3	
25	3/29/22 18:56	03292225.D	P2201181-002 (400mL)	S35-03082201	SC	4	
26	3/29/22 19:30	03292226.D	P2201181-003 (400mL)	S35-03082201	SC	15	
27	3/29/22 20:03	03292227.D	P2201175-001 (400mL)	S35-03082201	SC	6	
28	3/29/22 20:36	03292228.D	P2201177-001 (1000mL)	S35-03082201	SC	7	
29	3/29/22 21:10	03292229.D	P2201177-002 (1000mL)	S35-03082201	SC	8	
30	3/29/22 21:43	03292230.D	P2201178-001 (1000mL)	S35-03082201	SC	9	
31	3/29/22 22:16	03292231.D	LCSD R9032922_25ng	S35-03082201/S35-03162204 (4/15)	SC	2	pass
32	3/29/22 22:50	03292232.D	P2201179-001 (1000mL)	S35-03082201	SC	10	
33	3/29/22 23:23	03292233.D	P2201179-002 (1000mL)	S35-03082201	SC	11	
34	3/29/22 23:56	03292234.D	P2201179-003 (1000mL)	S35-03082201	SC	12	
35	3/30/22 0:30	03292235.D	P2201179-004 (1000mL)	S35-03082201	SC	13	
36	3/30/22 1:04	03292236.D	P2201179-005 (1000mL)	S35-03082201	SC	14	
37	3/30/22 1:38	03292237.D	System	S35-03082201/S35-03072208 (4/7)	SC	2	
							3/30/22

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-03
Cycles: 30
Batch: 29066

Batch Started By: on 3/9/22 0417
Finished Cleaning By: on 3/11/22 1038

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC00593	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038		-14.0	3/14/22 0946		
AS01270	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038					
AC02418	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038					MS21_03/10/22
AS00550	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038		-14.0	3/14/22 0946		
AC02124	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038		-14.0	3/11/22 1141		
AS01300	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038		-14.0	3/14/22 0932		
AS00749	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038		-14.0	3/14/22 0932		
AS01264	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038					
AS01143	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038		-14.0	3/14/22 0932		
AS01109	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038		-14.0	3/14/22 0932		
AS01664	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038		-14.0	3/14/22 0932		
AS01592	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038					
AS01291	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038					
AC01934	3/9/22	3/10/22	Pass w/ Conditions	-14.3	3/11/22 1038		-14.0	3/11/22 1141		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 03\10\
Data File : 03102207.D
Acq On : 10 Mar 2022 14:02
Operator : RVT
Sample : 031022 AC02418 29066
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 203 Sample Multiplier: 1

RVT 3/16/22

Quant Time: Mar 11 07:42:09 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane (IS1)	7.492	130	48482	1000.00 pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.654	114	155395	1000.00 pg	0.00
56) Chlorobenzene-d5 (IS3)	14.678	54	7937	1000.00 pg	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4 ...	8.298	65	49591	652.65 pg	0.00
Spiked Amount 1000.000			Recovery = 65.27%		
57) Toluene-d8 (SS2)	12.569	98	48250	1198.20 pg	0.00
Spiked Amount 1000.000			Recovery = 119.82%		
74) Bromofluorobenzene (SS3)	16.111	174	14748	902.55 pg	0.00
Spiked Amount 1000.000			Recovery = 90.25%		
Target Compounds					Qvalue
2] * Propene	3.510	42	716	12.86 pg	# 47
3) * Dichlorodifluoromethane	0.000		0	N.D.	
4] * Chloromethane	3.682	50	173	1.78 pg	99
5) * 1,2-Dichloro-1,1,2,2...	0.000		0	N.D.	
6) * Vinyl Chloride	0.000		0	N.D.	
7] * 1,3-Butadiene	3.971	54	16	0.23 pg	# 12
8) * Bromomethane	0.000		0	N.D.	
9) * Chloroethane	0.000		0	N.D.	
10] * Ethanol	4.401	45	95	2.97 pg	91
11) * Acetonitrile	0.000		0	N.D.	
12] * Acrolein	4.687	56	212	6.06 pg	# 69
13] * Acetone	4.818	58	2453	45.26 pg	# 57
14] * Trichlorofluoromethane	4.919	101	227	1.42 pg	# 67
15) * 2-Propanol (Isopropa...	0.000		0	N.D.	
16) * Acrylonitrile	0.000		0	N.D.	
17] * 1,1-Dichloroethene	5.401	96	277	3.00 pg	# 25
18) tert-Butanol	0.000		0	N.D.	
19] * Methylene Chloride	5.528	84	1165	15.31 pg	97
20) * 3-Chloro-1-propene (...	0.000		0	N.D.	
21) * Trichlorotrifluoroet...	0.000		0	N.D.	
22] * Carbon Disulfide	5.790	76	8327	31.28 pg	99
23) * trans-1,2-Dichloroet...	0.000		0	N.D.	
24) * 1,1-Dichloroethane	0.000		0	N.D.	
25] * Methyl tert-Butyl Ether	6.655	73	63	0.33 pg	# 57
26) * Vinyl Acetate	0.000		0	N.D.	
27) * 2-Butanone (MEK)	0.000		0	N.D.	
28) * cis-1,2-Dichloroethene	0.000		0	N.D.	
29] DIPE	7.608	45	1239	6.39 pg	# 45
30] * Ethyl Acetate	7.608	61	1754	82.50 pg	94
31) * n-Hexane	0.000		0	N.D.	
32) * Chloroform	0.000		0	N.D.	
34) * Tetrahydrofuran	0.000		0	N.D.	
35) ETBE	0.000		0	N.D.	
36) * 1,2-Dichloroethane	0.000		0	N.D.	
38) * 1,1,1-Trichloroethane	0.000		0	N.D.	
39] * Benzene	9.232	78	603	3.10 pg	100
40) Isopropyl Acetate	9.159	61	426	No Calib	#
41) 1-Butanol	9.112	56	243	No Calib	#
42) * Carbon Tetrachloride	0.000		0	N.D.	
43) * Cyclohexane	0.000		0	N.D.	
44) TAME	0.000		0	N.D.	
45) * 1,2-Dichloropropane	0.000		0	N.D.	
46) * Bromodichloromethane	0.000		0	N.D.	
47] * Trichloroethene	10.457	130	222	3.31 pg	81

Data Path : I:\MS21\DATA\2022 03\10\
Data File : 03102207.D
Acq On : 10 Mar 2022 14:02
Operator : RVT
Sample : 031022 AC02418 29066
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 203 Sample Multiplier: 1

Quant Time: Mar 11 07:42:09 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

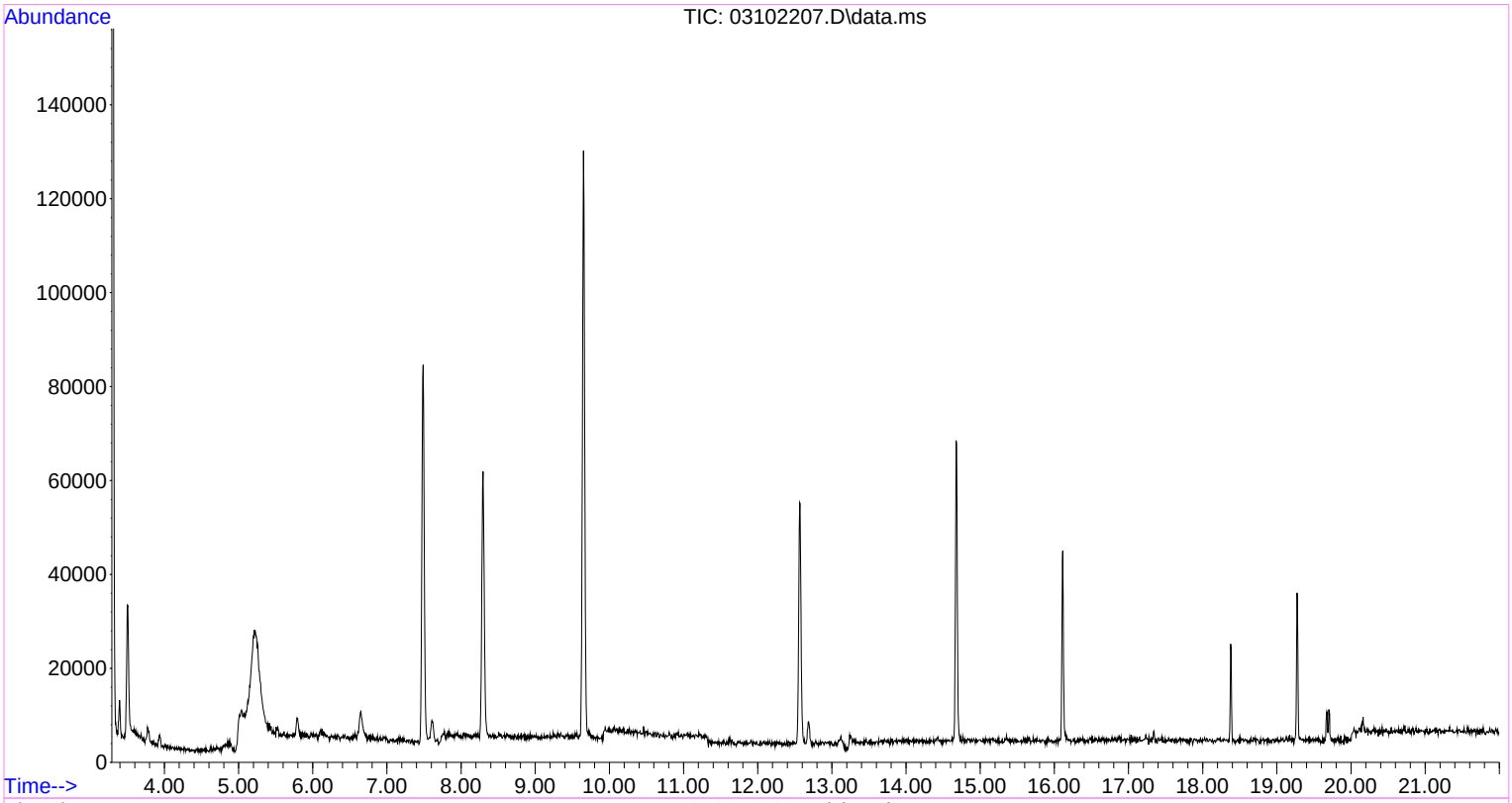
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
48)	* 1,4-Dioxane	0.000		0	N.D.			
49)	Isooctane	0.000		0	N.D.			
50)	* Methyl Methacrylate	0.000		0	N.D.			
51)	* n-Heptane	0.000		0	N.D.			
52)	* cis-1,3-Dichloropropene	0.000		0	N.D.			
53]	* 4-Methyl-2-pentanone	11.630	58	441	12.08	pg	#	86
54)	* trans-1,3-Dichloropr...	0.000		0	N.D.			
55)	* 1,1,2-Trichloroethane	0.000		0	N.D.			
58]	* Toluene	12.688	91	5650	105.71	pg		98
59)	* 2-Hexanone	0.000		0	N.D.			
60)	* Dibromochloromethane	0.000		0	N.D.			
61)	* 1,2-Dibromoethane	0.000		0	N.D.			
62)	* n-Butyl Acetate	0.000		0	N.D.			
63)	* n-Octane	0.000		0	N.D.			
64)	* Tetrachloroethene	0.000		0	N.D.			
65)	* Chlorobenzene	0.000		0	N.D.			
66)	* Ethylbenzene	0.000		0	N.D.			
67]	* m- & p-Xylenes	15.272	91	79	1.47	pg	#	29
68)	* Bromoform	0.000		0	N.D.			
69)	Cyclohexanone	0.000		0	N.D.			
70]	* Styrene	15.619	104	423	12.33	pg		96
71)	* o-Xylene	0.000		0	N.D.			
72]	* n-Nonane	15.951	57	72	3.90	pg	#	31
73)	* 1,1,2,2-Tetrachloroe...	0.000		0	N.D.			
75)	* Cumene	0.000		0	N.D.			
76]	* alpha-Pinene	16.580	93	57	1.83	pg	#	29
77]	* n-Propylbenzene	16.692	91	367	4.96	pg		94
78)	3-Ethyltoluene	16.813	105	479	No Calib			
79]	* 4-Ethyltoluene	16.813	105	472	8.71	pg		92
80]	* 1,3,5-Trimethylbenzene	16.886	105	242	4.78	pg		98
81)	alpha-Methylstyrene	17.017	118	284	No Calib			
82)	2-Ethyltoluene	17.041	105	270	No Calib		#	
83)	tert-Butylbenzene	0.000		0	N.D.			
84]	* 1,2,4-Trimethylbenzene	17.229	105	795	16.30	pg		90
85)	* Benzyl Chloride	0.000		0	N.D.			
86)	* 1,3-Dichlorobenzene	0.000		0	N.D.			
87)	* 1,4-Dichlorobenzene	0.000		0	N.D.			
88)	n-Decane	0.000		0	N.D.			
89]	sec-Butylbenzene	17.229	105	795	16.45	pg	#	51
90)	1,2,3-Trimethylbenzene	17.585	105	143	No Calib		#	
91)	p-Isopropyltoluene	0.000		0	N.D.			
92)	* 1,2-Dichlorobenzene	0.000		0	N.D.			
93)	* D-Limonene	0.000		0	N.D.			
94)	n-Butylbenzene	0.000		0	N.D.			
95)	* 1,2-Dibromo-3-chloro...	0.000		0	N.D.			
96)	n-Undecane	18.379	85	1206	No Calib		#	
97)	* 1,2,4-Trichlorobenzene	0.000		0	N.D.			
98]	* Naphthalene	19.266	128	231	7.07	pg	#	1
99)	n-Dodecane	19.275	85	2198	No Calib		#	
100)	* Hexachlorobutadiene	0.000		0	N.D.			

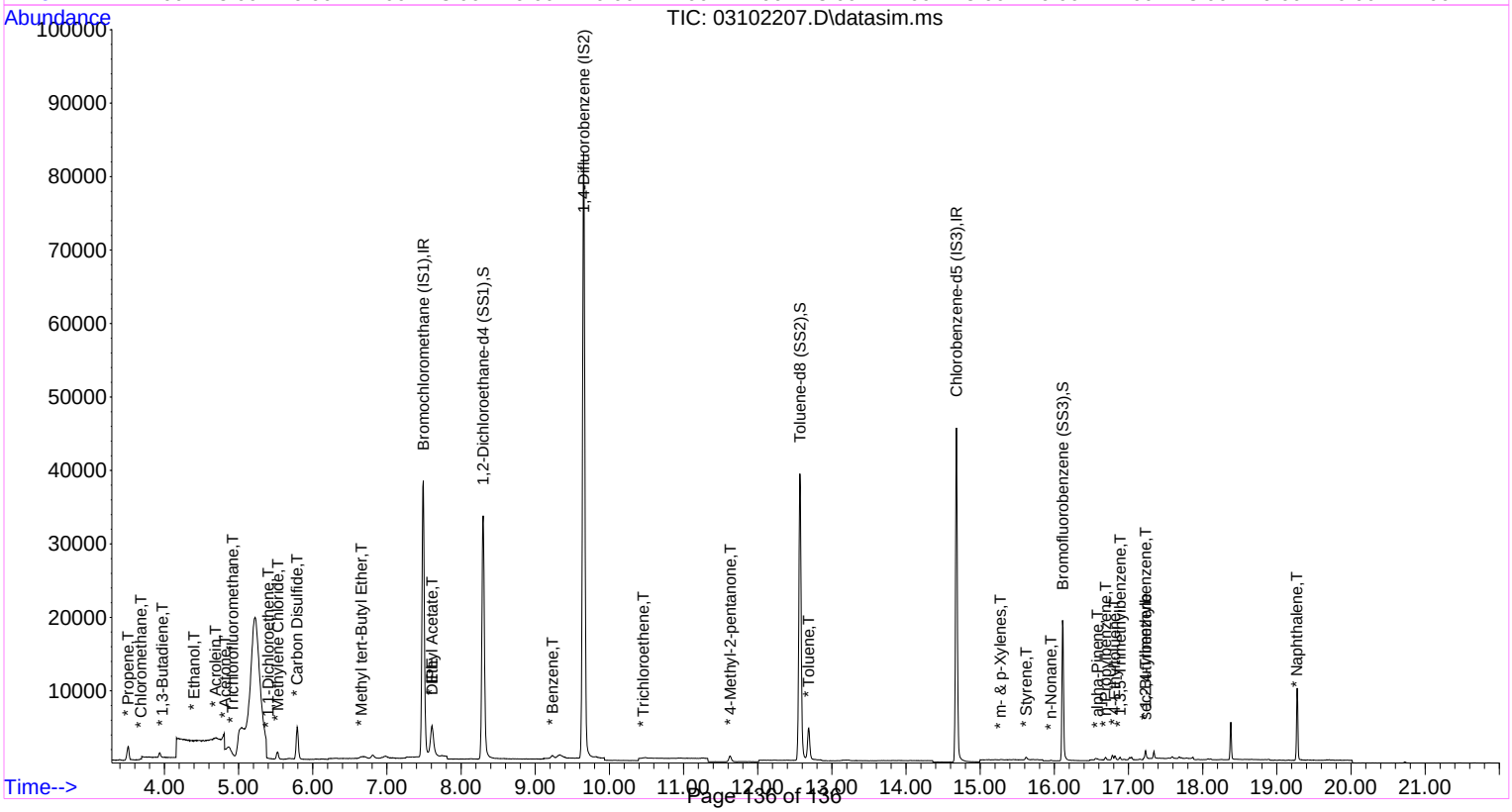
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 03\10\
Data File : 03102207.D
Acq On : 10 Mar 2022 14:02
Operator : RVT
Sample : 031022 AC02418 29066
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 203 Sample Multiplier: 1

Quant Time: Mar 11 07:42:09 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration





2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

April 19, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on March 29, 2022. For your reference, these analyses have been assigned our service request number P2201412.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 4:31 pm, Apr 19, 2022

Nicole Bryson
Laboratory Director

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: North Wind, Inc. Service Request No: P2201412
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on March 29, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2201412
Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 3/29/2022
Time Received: 14:00

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_032922_S	P2201412-001	Air	3/29/2022	11:00	AC01109	-1.86	3.68	X
DOE-2_032922_S	P2201412-002	Air	3/29/2022	11:15	AS00132	-1.07	3.98	X
DOE-3_032922_S	P2201412-003	Air	3/29/2022	11:30	AS00784	-1.06	3.84	X
DOE-4_032922_S	P2201412-004	Air	3/29/2022	11:45	AC02177	-1.38	3.89	X
DOE-3_032922_D	P2201412-005	Air	3/29/2022	11:31	AC02094	-1.49	3.80	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. R2261412

ALS Contact: Hayden Akers

Company Name & Address (Reporting Information)	Project Name	Analysis Method		Comments e.g. Actual Preservative or specific instructions
North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304	DOE Perimeter Air			
	Project Number: 080153.015.15			
Project Manager: Trina Cesnik	P.O. # / Billing Information: PO # 8-0000943			
Phone: 805-587-0691 / Fax:	Accounts Payable : accounts.payable@northwindgrp.com			
Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg	Sampler (Print & Sign): T. Stewart Williford			

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TO-15		
DOE-1_032922_S	1	3/29/2022	1100	AC01109	FCR00326	-28.0	-3.5		X		
DOE-2_032922_S	2	3/29/2022	1115	AS00132	FCR00340	-28.5	-2.0		X		
DOE-3_032922_S	3	3/29/2022	1130	AS00784	FCR00465	-29.5	-1.0		X		
DOE-4_032922_S	4	3/29/2022	1145	AC02177	FCR00462	-28.0	-2.0		X		
DOE-3_032922_D	5	3/29/2022	1131	AC02094	FCR00549	-30.0	-4.0		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) _____ Tier III (Results + QC & Calibration Summaries) _____
Tier II (Results + QC Summaries) _____ Tier IV (Data Validation Package) 10% Surcharge _____

EDD required Yes / No
Type: EQuIS Units:

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
T. Stewart Williford	3/29/22	1401			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
				3-29-22	1460

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2201412

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 3/29/22 Date opened: 3/29/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2201412-001.01	6.0 L Ambient Can					
P2201412-002.01	6.0 L Silonite Can					
P2201412-003.01	6.0 L Silonite Can					
P2201412-004.01	6.0 L Ambient Can					
P2201412-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_032922_S** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-001

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01109

Initial Pressure (psig): -1.86 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.76	**0.42**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.74	**0.18**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.2	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**3.9**	3.0	**1.1**	0.83	
110-54-3	n-Hexane	ND	0.76	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_032922_S** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-001

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01109

Initial Pressure (psig): -1.86 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	ND	0.74	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.089	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_032922_S** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-001

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01109

Initial Pressure (psig): -1.86 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	**1.2**	0.74	**0.23**	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.76	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_032922_S** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-002

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00132

Initial Pressure (psig): -1.07 Final Pressure (psig): 3.98
Initial Pressure 2 (psig): 0.04 Final Pressure 2 (psig): 2.92

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.87	**0.45**	0.18	
74-87-3	Chloromethane	ND	0.84	ND	0.41	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.89	ND	0.13	
75-01-4	Vinyl Chloride	ND	0.85	ND	0.33	
106-99-0	1,3-Butadiene	ND	0.85	ND	0.39	
74-83-9	Bromomethane	ND	0.84	ND	0.22	
75-00-3	Chloroethane	ND	0.84	ND	0.32	
107-02-8	Acrolein	ND	1.6	ND	0.72	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.85	**0.19**	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.67	
107-13-1	Acrylonitrile	ND	1.6	ND	0.76	
75-35-4	1,1-Dichloroethene	ND	0.89	ND	0.22	
75-09-2	Methylene Chloride	**1.3**	0.85	**0.38**	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.89	ND	0.12	
75-15-0	Carbon Disulfide	ND	1.8	ND	0.58	
156-60-5	trans-1,2-Dichloroethene	ND	0.87	ND	0.22	
75-34-3	1,1-Dichloroethane	ND	0.87	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.87	ND	0.24	
108-05-4	Vinyl Acetate	ND	8.2	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.56	
156-59-2	cis-1,2-Dichloroethene	ND	0.85	ND	0.22	
141-78-6	Ethyl Acetate	**17**	3.4	**4.6**	0.96	
110-54-3	n-Hexane	ND	0.87	ND	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_032922_S** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-002

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00132

Initial Pressure (psig): -1.07 Final Pressure (psig): 3.98
Initial Pressure 2 (psig): 0.04 Final Pressure 2 (psig): 2.92

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.89	ND	0.18	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.56	
107-06-2	1,2-Dichloroethane	ND	0.87	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.85	ND	0.16	
71-43-2	Benzene	ND	0.82	ND	0.26	
56-23-5	Carbon Tetrachloride	ND	0.82	ND	0.13	
110-82-7	Cyclohexane	ND	1.8	ND	0.52	
78-87-5	1,2-Dichloropropane	ND	0.82	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.87	ND	0.13	
79-01-6	Trichloroethene	ND	0.85	ND	0.16	
123-91-1	1,4-Dioxane	ND	0.85	ND	0.24	
142-82-5	n-Heptane	ND	0.87	ND	0.21	
10061-01-5	cis-1,3-Dichloropropene	ND	0.82	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	1.8	ND	0.44	
10061-02-6	trans-1,3-Dichloropropene	ND	0.84	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.85	ND	0.16	
108-88-3	Toluene	ND	0.85	ND	0.23	
591-78-6	2-Hexanone	ND	1.8	ND	0.44	
124-48-1	Dibromochloromethane	ND	0.87	ND	0.10	
106-93-4	1,2-Dibromoethane	ND	0.85	ND	0.11	
111-65-9	n-Octane	ND	0.87	ND	0.19	
127-18-4	Tetrachloroethene	ND	0.85	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_032922_S** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-002

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00132

Initial Pressure (psig): -1.07 Final Pressure (psig): 3.98
Initial Pressure 2 (psig): 0.04 Final Pressure 2 (psig): 2.92

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.85	ND	0.20	
179601-23-1	m,p-Xylenes	ND	1.8	ND	0.42	
75-25-2	Bromoform	ND	0.85	ND	0.083	
100-42-5	Styrene	ND	0.82	ND	0.19	
95-47-6	o-Xylene	ND	0.85	ND	0.20	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.85	ND	0.12	
98-82-8	Cumene	ND	0.85	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.87	ND	0.18	
622-96-8	4-Ethyltoluene	ND	0.87	ND	0.18	
108-67-8	1,3,5-Trimethylbenzene	ND	0.85	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.85	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.8	ND	0.35	
541-73-1	1,3-Dichlorobenzene	ND	0.85	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.85	ND	0.14	
135-98-8	sec-Butylbenzene	ND	0.85	ND	0.16	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.85	ND	0.16	
95-50-1	1,2-Dichlorobenzene	ND	0.87	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	ND	0.24	
91-20-3	Naphthalene	ND	0.85	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.85	ND	0.080	
104-51-8	n-Butylbenzene	ND	0.85	ND	0.16	
1330-20-7	Xylenes, Total	ND	0.87	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_032922_S** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-003

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/9/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00784

Initial Pressure (psig): -1.06 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	0.72	**0.41**	0.15	
74-87-3	Chloromethane	ND	0.69	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.73	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.71	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.71	ND	0.32	
74-83-9	Bromomethane	ND	0.69	ND	0.18	
75-00-3	Chloroethane	ND	0.69	ND	0.26	
107-02-8	Acrolein	ND	1.4	ND	0.59	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.71	**0.18**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.55	
107-13-1	Acrylonitrile	ND	1.4	ND	0.63	
75-35-4	1,1-Dichloroethene	ND	0.73	ND	0.19	
75-09-2	Methylene Chloride	ND	0.71	ND	0.20	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.73	ND	0.096	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	0.72	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.72	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.72	ND	0.20	
108-05-4	Vinyl Acetate	ND	6.8	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.46	
156-59-2	cis-1,2-Dichloroethene	ND	0.71	ND	0.18	
141-78-6	Ethyl Acetate	**3.0**	2.9	**0.84**	0.79	
110-54-3	n-Hexane	ND	0.72	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_032922_S** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-003

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/9/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00784

Initial Pressure (psig): -1.06 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.73	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.46	
107-06-2	1,2-Dichloroethane	ND	0.72	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.71	ND	0.13	
71-43-2	Benzene	ND	0.68	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.68	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.68	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.72	ND	0.11	
79-01-6	Trichloroethene	ND	0.71	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.71	ND	0.20	
142-82-5	n-Heptane	ND	0.72	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.68	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.69	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.71	ND	0.13	
108-88-3	Toluene	ND	0.71	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.72	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.71	ND	0.092	
111-65-9	n-Octane	ND	0.72	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.71	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_032922_S** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-003

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/9/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00784

Initial Pressure (psig): -1.06 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.71	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.34	
75-25-2	Bromoform	ND	0.71	ND	0.068	
100-42-5	Styrene	ND	0.68	ND	0.16	
95-47-6	o-Xylene	ND	0.71	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.71	ND	0.10	
98-82-8	Cumene	ND	0.71	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.72	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.72	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.71	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.71	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.71	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.71	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.71	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.71	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.72	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.71	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.71	ND	0.066	
104-51-8	n-Butylbenzene	ND	0.71	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.72	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_032922_S** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-004

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02177

Initial Pressure (psig): -1.38 Final Pressure (psig): 3.89

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.74	**0.46**	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.76	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.71	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.61	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.73	**0.19**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.0	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.47	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.18	
141-78-6	Ethyl Acetate	**5.3**	2.9	**1.5**	0.82	
110-54-3	n-Hexane	ND	0.74	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_032922_S** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-004

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02177

Initial Pressure (psig): -1.38 Final Pressure (psig): 3.89

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.76	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.47	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.70	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	ND	0.73	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	
142-82-5	n-Heptane	ND	0.74	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.71	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	ND	0.73	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.087	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.095	
111-65-9	n-Octane	ND	0.74	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.73	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_032922_S** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-004

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02177

Initial Pressure (psig): -1.38 Final Pressure (psig): 3.89

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.73	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.73	ND	0.070	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	o-Xylene	ND	0.73	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.74	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.74	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.73	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.73	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.21	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.068	
104-51-8	n-Butylbenzene	ND	0.73	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.74	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_032922_D** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-005

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02094

Initial Pressure (psig): -1.49 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.74	**0.46**	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.76	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.71	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.61	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.73	**0.19**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.0	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.47	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.18	
141-78-6	Ethyl Acetate	ND	2.9	ND	0.82	
110-54-3	n-Hexane	ND	0.74	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_032922_D** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-005

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02094

Initial Pressure (psig): -1.49 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.76	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.47	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.70	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	ND	0.73	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	
142-82-5	n-Heptane	ND	0.74	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.71	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	ND	0.73	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.087	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.095	
111-65-9	n-Octane	ND	0.74	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.73	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_032922_D** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201412-005

Test Code: EPA TO-15 Date Collected: 3/29/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/29/22
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02094

Initial Pressure (psig): -1.49 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.73	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.73	ND	0.070	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	o-Xylene	ND	0.73	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.74	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.74	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.73	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.73	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.21	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.068	
104-51-8	n-Butylbenzene	ND	0.73	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.74	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220409-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220409-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220409-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220411-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220411-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220411-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2201412

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 3/29/22
Analyst: Wida Ang Date(s) Received: 3/29/22
Sample Type: 6.0 L Summa Canister(s) / 6.0 L Silonite Canister(s) Date(s) Analyzed: 4/9 - 4/11/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220409-MB	**88**	**99**	**116**	70-130	
Method Blank	P220411-MB	**93**	**102**	**106**	70-130	
Lab Control Sample	P220409-LCS	**89**	**98**	**118**	70-130	
Lab Control Sample	P220411-LCS	**94**	**97**	**106**	70-130	
Duplicate Lab Control Sample	P220409-DLCS	**88**	**99**	**118**	70-130	
Duplicate Lab Control Sample	P220411-DLCS	**98**	**95**	**102**	70-130	
DOE-1_032922_S	P2201412-001	**88**	**100**	**115**	70-130	
DOE-2_032922_S	P2201412-002	**92**	**97**	**105**	70-130	
DOE-3_032922_S	P2201412-003	**89**	**99**	**113**	70-130	
DOE-4_032922_S	P2201412-004	**94**	**97**	**102**	70-130	
DOE-3_032922_D	P2201412-005	**94**	**94**	**100**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220409-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	180	178	**87**	**86**	71-112	1	25	
74-87-3	Chloromethane	206	172	168	**83**	**82**	53-126	1	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	184	180	**88**	**87**	62-121	1	25	
75-01-4	Vinyl Chloride	208	167	167	**80**	**80**	63-123	0	25	
106-99-0	1,3-Butadiene	206	180	180	**87**	**87**	63-135	0	25	
74-83-9	Bromomethane	206	192	191	**93**	**93**	71-112	0	25	
75-00-3	Chloroethane	206	192	192	**93**	**93**	66-117	0	25	
107-02-8	Acrolein	416	429	426	**103**	**102**	71-123	1	25	
75-69-4	Trichlorofluoromethane (CFC 11)	202	182	179	**90**	**89**	71-114	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	321	334	**80**	**84**	61-124	5	25	
107-13-1	Acrylonitrile	402	367	366	**91**	**91**	65-130	0	25	
75-35-4	1,1-Dichloroethene	210	201	197	**96**	**94**	74-114	2	25	
75-09-2	Methylene Chloride	208	190	187	**91**	**90**	75-112	1	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	218	214	**101**	**99**	73-114	2	25	
75-15-0	Carbon Disulfide	414	387	379	**93**	**92**	70-113	1	25	
156-60-5	trans-1,2-Dichloroethene	208	188	185	**90**	**89**	76-119	1	25	
75-34-3	1,1-Dichloroethane	214	191	190	**89**	**89**	70-114	0	25	
1634-04-4	Methyl tert-Butyl Ether	206	195	193	**95**	**94**	72-118	1	25	
108-05-4	Vinyl Acetate	942	980	967	**104**	**103**	56-137	1	25	
78-93-3	2-Butanone (MEK)	408	371	365	**91**	**89**	74-121	2	25	
156-59-2	cis-1,2-Dichloroethene	206	188	185	**91**	**90**	73-117	1	25	
141-78-6	Ethyl Acetate	580	480	470	**83**	**81**	59-161	2	25	
110-54-3	n-Hexane	208	181	176	**87**	**85**	55-130	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220409-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	210	194	191	**92**	**91**	71-114	1	25	
109-99-9	Tetrahydrofuran (THF)	404	379	372	**94**	**92**	73-114	2	25	
107-06-2	1,2-Dichloroethane	210	182	178	**87**	**85**	71-119	2	25	
71-55-6	1,1,1-Trichloroethane	208	195	193	**94**	**93**	73-119	1	25	
71-43-2	Benzene	208	202	200	**97**	**96**	72-113	1	25	
56-23-5	Carbon Tetrachloride	202	200	197	**99**	**98**	67-123	1	25	
110-82-7	Cyclohexane	412	417	412	**101**	**100**	70-119	1	25	
78-87-5	1,2-Dichloropropane	206	204	204	**99**	**99**	70-118	0	25	
75-27-4	Bromodichloromethane	208	211	209	**101**	**100**	74-119	1	25	
79-01-6	Trichloroethene	204	215	213	**105**	**104**	74-115	1	25	
123-91-1	1,4-Dioxane	206	192	191	**93**	**93**	77-124	0	25	
142-82-5	n-Heptane	206	209	206	**101**	**100**	70-119	1	25	
10061-01-5	cis-1,3-Dichloropropene	208	213	211	**102**	**101**	81-126	1	25	
108-10-1	4-Methyl-2-pentanone	412	412	407	**100**	**99**	73-129	1	25	
10061-02-6	trans-1,3-Dichloropropene	200	208	206	**104**	**103**	80-127	1	25	
79-00-5	1,1,2-Trichloroethane	208	210	208	**101**	**100**	78-117	1	25	
108-88-3	Toluene	206	202	201	**98**	**98**	70-118	0	25	
591-78-6	2-Hexanone	406	365	364	**90**	**90**	74-132	0	25	
124-48-1	Dibromochloromethane	210	223	223	**106**	**106**	69-137	0	25	
106-93-4	1,2-Dibromoethane	208	208	207	**100**	**100**	76-128	0	25	
111-65-9	n-Octane	208	213	213	**102**	**102**	68-120	0	25	
127-18-4	Tetrachloroethene	212	232	232	**109**	**109**	63-130	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220409-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	206	210	209	**102**	**101**	71-123	1	25	
179601-23-1	m,p-Xylenes	416	424	422	**102**	**101**	67-127	1	25	
75-25-2	Bromoform	210	235	233	**112**	**111**	65-149	0.9	25	
100-42-5	Styrene	202	218	216	**108**	**107**	76-132	0.9	25	
95-47-6	o-Xylene	208	217	214	**104**	**103**	69-124	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	228	227	**110**	**109**	69-128	0.9	25	
98-82-8	Cumene	206	214	211	**104**	**102**	69-125	2	25	
103-65-1	n-Propylbenzene	208	218	216	**105**	**104**	70-127	1	25	
622-96-8	4-Ethyltoluene	208	221	219	**106**	**105**	69-127	0.9	25	
108-67-8	1,3,5-Trimethylbenzene	208	222	220	**107**	**106**	66-129	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	206	224	221	**109**	**107**	63-142	2	25	
100-44-7	Benzyl Chloride	416	492	487	**118**	**117**	73-145	0.9	25	
541-73-1	1,3-Dichlorobenzene	208	249	247	**120**	**119**	67-136	0.8	25	
106-46-7	1,4-Dichlorobenzene	210	244	241	**116**	**115**	63-134	0.9	25	
135-98-8	sec-Butylbenzene	204	225	222	**110**	**109**	68-130	0.9	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	224	222	**109**	**108**	60-139	0.9	25	
95-50-1	1,2-Dichlorobenzene	210	248	246	**118**	**117**	64-139	0.9	25	
120-82-1	1,2,4-Trichlorobenzene	420	497	492	**118**	**117**	62-154	0.9	25	
91-20-3	Naphthalene	210	227	225	**108**	**107**	62-156	0.9	25	
87-68-3	Hexachlorobutadiene	212	246	242	**116**	**114**	55-142	2	25	
104-51-8	n-Butylbenzene	208	229	227	**110**	**109**	70-131	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220411-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	194	210	**93**	**101**	71-112	8	25	
74-87-3	Chloromethane	206	204	228	**99**	**111**	53-126	11	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	209	222	**100**	**107**	62-121	7	25	
75-01-4	Vinyl Chloride	208	188	214	**90**	**103**	63-123	13	25	
106-99-0	1,3-Butadiene	206	203	236	**99**	**115**	63-135	15	25	
74-83-9	Bromomethane	206	203	222	**99**	**108**	71-112	9	25	
75-00-3	Chloroethane	206	206	225	**100**	**109**	66-117	9	25	
107-02-8	Acrolein	416	459	510	**110**	**123**	71-123	11	25	
75-69-4	Trichlorofluoromethane (CFC 11)	202	181	196	**90**	**97**	71-114	7	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	362	385	**91**	**96**	61-124	5	25	
107-13-1	Acrylonitrile	402	398	419	**99**	**104**	65-130	5	25	
75-35-4	1,1-Dichloroethene	210	207	209	**99**	**100**	74-114	1	25	
75-09-2	Methylene Chloride	208	205	203	**99**	**98**	75-112	1	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	221	217	**102**	**100**	73-114	2	25	
75-15-0	Carbon Disulfide	414	425	443	**103**	**107**	70-113	4	25	
156-60-5	trans-1,2-Dichloroethene	208	203	208	**98**	**100**	76-119	2	25	
75-34-3	1,1-Dichloroethane	214	206	211	**96**	**99**	70-114	3	25	
1634-04-4	Methyl tert-Butyl Ether	206	205	211	**100**	**102**	72-118	2	25	
108-05-4	Vinyl Acetate	942	1100	1150	**117**	**122**	56-137	4	25	
78-93-3	2-Butanone (MEK)	408	407	418	**100**	**102**	74-121	2	25	
156-59-2	cis-1,2-Dichloroethene	206	203	208	**99**	**101**	73-117	2	25	
141-78-6	Ethyl Acetate	580	585	654	**101**	**113**	59-161	11	25	
110-54-3	n-Hexane	208	227	250	**109**	**120**	55-130	10	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220411-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	210	209	216	**100**	**103**	71-114	3	25	
109-99-9	Tetrahydrofuran (THF)	404	413	424	**102**	**105**	73-114	3	25	
107-06-2	1,2-Dichloroethane	210	194	201	**92**	**96**	71-119	4	25	
71-55-6	1,1,1-Trichloroethane	208	195	197	**94**	**95**	73-119	1	25	
71-43-2	Benzene	208	210	211	**101**	**101**	72-113	0	25	
56-23-5	Carbon Tetrachloride	202	197	198	**98**	**98**	67-123	0	25	
110-82-7	Cyclohexane	412	454	467	**110**	**113**	70-119	3	25	
78-87-5	1,2-Dichloropropane	206	215	218	**104**	**106**	70-118	2	25	
75-27-4	Bromodichloromethane	208	216	220	**104**	**106**	74-119	2	25	
79-01-6	Trichloroethene	204	221	216	**108**	**106**	74-115	2	25	
123-91-1	1,4-Dioxane	206	200	201	**97**	**98**	77-124	1	25	
142-82-5	n-Heptane	206	222	226	**108**	**110**	70-119	2	25	
10061-01-5	cis-1,3-Dichloropropene	208	222	228	**107**	**110**	81-126	3	25	
108-10-1	4-Methyl-2-pentanone	412	450	474	**109**	**115**	73-129	5	25	
10061-02-6	trans-1,3-Dichloropropene	200	213	218	**107**	**109**	80-127	2	25	
79-00-5	1,1,2-Trichloroethane	208	216	214	**104**	**103**	78-117	1	25	
108-88-3	Toluene	206	207	202	**100**	**98**	70-118	2	25	
591-78-6	2-Hexanone	406	395	405	**97**	**100**	74-132	3	25	
124-48-1	Dibromochloromethane	210	217	210	**103**	**100**	69-137	3	25	
106-93-4	1,2-Dibromoethane	208	208	199	**100**	**96**	76-128	4	25	
111-65-9	n-Octane	208	228	229	**110**	**110**	68-120	0	25	
127-18-4	Tetrachloroethene	212	229	220	**108**	**104**	63-130	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220411-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/11/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	206	219	214	**106**	**104**	71-123	2	25	
179601-23-1	m,p-Xylenes	416	453	447	**109**	**107**	67-127	2	25	
75-25-2	Bromoform	210	229	219	**109**	**104**	65-149	5	25	
100-42-5	Styrene	202	225	219	**111**	**108**	76-132	3	25	
95-47-6	o-Xylene	208	227	225	**109**	**108**	69-124	0.9	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	241	238	**116**	**114**	69-128	2	25	
98-82-8	Cumene	206	225	220	**109**	**107**	69-125	2	25	
103-65-1	n-Propylbenzene	208	230	226	**111**	**109**	70-127	2	25	
622-96-8	4-Ethyltoluene	208	233	228	**112**	**110**	69-127	2	25	
108-67-8	1,3,5-Trimethylbenzene	208	234	229	**113**	**110**	66-129	3	25	
95-63-6	1,2,4-Trimethylbenzene	206	249	251	**121**	**122**	63-142	0.8	25	
100-44-7	Benzyl Chloride	416	532	534	**128**	**128**	73-145	0	25	
541-73-1	1,3-Dichlorobenzene	208	271	263	**130**	**126**	67-136	3	25	
106-46-7	1,4-Dichlorobenzene	210	251	243	**120**	**116**	63-134	3	25	
135-98-8	sec-Butylbenzene	204	239	235	**117**	**115**	68-130	2	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	240	234	**117**	**114**	60-139	3	25	
95-50-1	1,2-Dichlorobenzene	210	274	268	**130**	**128**	64-139	2	25	
120-82-1	1,2,4-Trichlorobenzene	420	546	540	**130**	**129**	62-154	0.8	25	
91-20-3	Naphthalene	210	235	227	**112**	**108**	62-156	4	25	
87-68-3	Hexachlorobutadiene	212	254	245	**120**	**116**	55-142	3	25	
104-51-8	n-Butylbenzene	208	246	239	**118**	**115**	70-131	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2201412
Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 04092201.D
Analyst: Wida Ang Date Analyzed: 4/9/22
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 03:20
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	323107	11.31	1431500	13.43	257554	17.73
	Upper Limit	452350	11.64	2004100	13.76	360576	18.06
	Lower Limit	193864	10.98	858900	13.10	154532	17.40
	Client Sample ID						
01	Method Blank	288675	11.29	1271679	13.42	226456	17.73
02	Lab Control Sample	297379	11.31	1321207	13.43	240153	17.73
03	Duplicate Lab Control Sample	312934	11.31	1370494	13.43	246444	17.73
04	DOE-1_032922_S	296655	11.29	1328007	13.42	234521	17.73
05	DOE-3_032922_S	282302	11.29	1274792	13.42	227183	17.73
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Client: **North Wind, Inc.** ALS Project ID: P2201412

Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 04112202.D

Analyst: Wida Ang Date Analyzed: 4/11/22

Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 07:59

Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	249203		11.31	1138750		13.43		209617		17.73	
	Upper Limit	348884		11.64	1594250		13.76		293464		18.06	
	Lower Limit	149522		10.98	683250		13.10		125770		17.40	
	Client Sample ID											
01	Method Blank	223743		11.30	1032738		13.42		179862		17.73	
02	Lab Control Sample	238711		11.32	1096339		13.44		202377		17.73	
03	Duplicate Lab Control Sample	237130		11.32	1095343		13.43		208978		17.73	
04	DOE-2_032922_S	238252		11.30	1033213		13.43		191761		17.73	
05	DOE-4_032922_S	217787		11.30	969903		13.43		181041		17.73	
06	DOE-3_032922_D	210109		11.30	915379		13.43		172783		17.73	
07												
08												
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092206.D Vial: 11
Acq On : 9 Apr 2022 6:09 Operator: WA
Sample : P2201412-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 09 09:03:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	296655	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	1328007	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	234521	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	448985	11.018	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.16%			
57) Toluene-d8 (SS2)	15.88	98	1417523	12.508	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%			
73) Bromofluorobenzene (SS3)	19.11	174	520741	14.417	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.36%			
Target Compounds						Qvalue
2) Propene	4.19	42	9804	N.D.		
3) Dichlorodifluoromethan...	4.34	85	108314	1.451	ng	99
4) Chloromethane	4.62	50	10896	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	2942	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.77	94	941	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.43	45	50123	1.794	ng	98
11) Acetonitrile	6.71	41	16095	N.D.		
12) Acrolein	6.92	56	8632	N.D.		
13) Acetone	7.13	58	93450	3.343	ng	98
14) Trichlorofluoromethane	7.39	101	45241	0.713	ng	100
15) 2-Propanol (Isopropanol)	7.64	45	12979	N.D.		
16) Acrylonitrile	7.89	53	7424	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.56	59	2197	N.D.		
19) Methylene Chloride	8.56	84	7752	N.D.		
20) 3-Chloro-1-propene (Al...	8.74	41	273	N.D.		
21) Trichlorotrifluoroethane	9.00	151	9227	N.D.		
22) Carbon Disulfide	8.83	76	4582	N.D.		
23) trans-1,2-Dichloroethene	9.84	61	112	N.D.		
24) 1,1-Dichloroethane	10.10	63	100	N.D.		
25) Methyl tert-Butyl Ether	10.25	73	544	N.D.		
26) Vinyl Acetate	10.32	86	4274	0.605	ng #	49
27) 2-Butanone (MEK)	10.61	72	10103	N.D.		
28) cis-1,2-Dichloroethene	11.13	61	216	N.D.		
29) Diisopropyl Ether	11.43	87	847	N.D.		
30) Ethyl Acetate	11.42	61	36022	2.730	ng	84
31) n-Hexane	11.42	57	1248	N.D.		
32) Chloroform	11.46	83	2737	N.D.		
34) Tetrahydrofuran (THF)	11.90	72	1345	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.26	62	1777	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.01	56	6067	No Calib	#	
41) Benzene	13.03	78	32034	N.D.		
42) Carbon Tetrachloride	13.19	117	11880	N.D.		
43) Cyclohexane	13.30	84	1029	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	13.88	63	413	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.13	130	547	N.D.		
48) 1,4-Dioxane	14.12	88	656	N.D.		
49) 2,2,4-Trimethylpentane...	14.20	57	5811	N.D.		
50) Methyl Methacrylate	14.34	100	408	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092206.D Vial: 11
Acq On : 9 Apr 2022 6:09 Operator: WA
Sample : P2201412-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 09 09:03:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

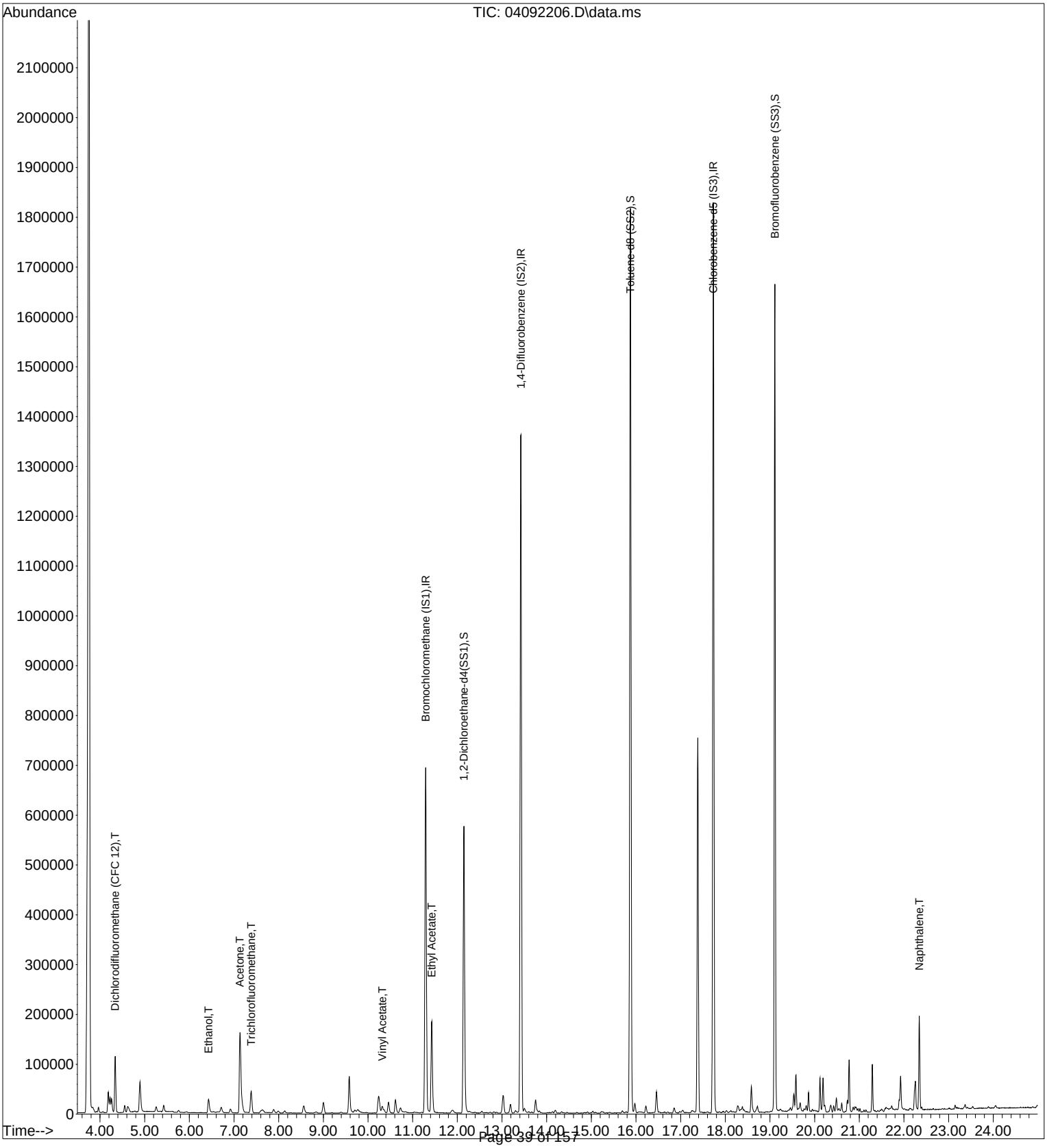
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	339	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.03	58	1055	N.D.	
54) trans-1,3-Dichloropropene	15.51	75	294	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	14744	N.D.	
59) 2-Hexanone	16.22	43	11228	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.64	107	418	N.D.	
62) n-Butyl Acetate	16.86	43	9826	N.D.	
63) n-Octane	16.99	57	425	N.D.	
64) Tetrachloroethene	17.11	166	451	N.D.	
65) Chlorobenzene	17.77	112	1813	N.D.	
66) Ethylbenzene	18.13	91	7239	N.D.	
67) m- & p-Xylenes	18.28	91	6704	N.D.	
68) Bromoform	18.35	173	283	N.D.	
69) Styrene	18.61	104	3792	N.D.	
70) o-Xylene	18.71	91	2415	N.D.	
71) n-Nonane	18.91	43	840	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.69	83	443	N.D.	
74) Cumene	19.24	105	1157	N.D.	
75) alpha-Pinene	19.58	93	28976	N.D.	
76) n-Propylbenzene	19.68	91	3525	N.D.	
77) 3-Ethyltoluene	19.81	105	2784	No Calib	
78) 4-Ethyltoluene	19.81	105	2784	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	1794	N.D.	
80) alpha-Methylstyrene	20.01	118	462	No Calib	#
81) 2-Ethyltoluene	19.87	105	1794	No Calib	
82) 1,2,4-Trimethylbenzene	20.23	105	3617	N.D.	
83) n-Decane	20.12	58	739	No Calib	#
84) Benzyl Chloride	20.35	91	5562	N.D.	
85) 1,3-Dichlorobenzene	20.37	146	3807	N.D.	
86) 1,4-Dichlorobenzene	20.42	146	5104	N.D.	
87) sec-Butylbenzene	20.47	105	1609	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	9355	N.D.	
89) 1,2,3-Trimethylbenzene	20.61	105	838	No Calib	#
90) 1,2-Dichlorobenzene	20.73	146	2854	N.D.	
91) d-Limonene	20.73	68	4356	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1000	N.D.	
93) n-Undecane	22.26	57	6833	No Calib	
94) 1,2,4-Trichlorobenzene	22.24	180	10922	N.D.	
95) Naphthalene	22.34	128	147514	0.858 ng	99
96) n-Dodecane	22.33	57	1505	No Calib	#
97) Hexachlorobutadiene	22.66	225	259	N.D.	
98) Cyclohexanone	18.28	55	1646	No Calib	#
99) tert-Butylbenzene	20.12	119	506	N.D.	
100) n-Butylbenzene	20.97	91	4445	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092206.D Vial: 11
Acq On : 9 Apr 2022 6:09 Operator: WA
Sample : P2201412-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 09 09:03:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092206.D Vial: 11
Acq On : 9 Apr 2022 6:09 Operator: WA
Sample : P2201412-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 09 09:03:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/10/22

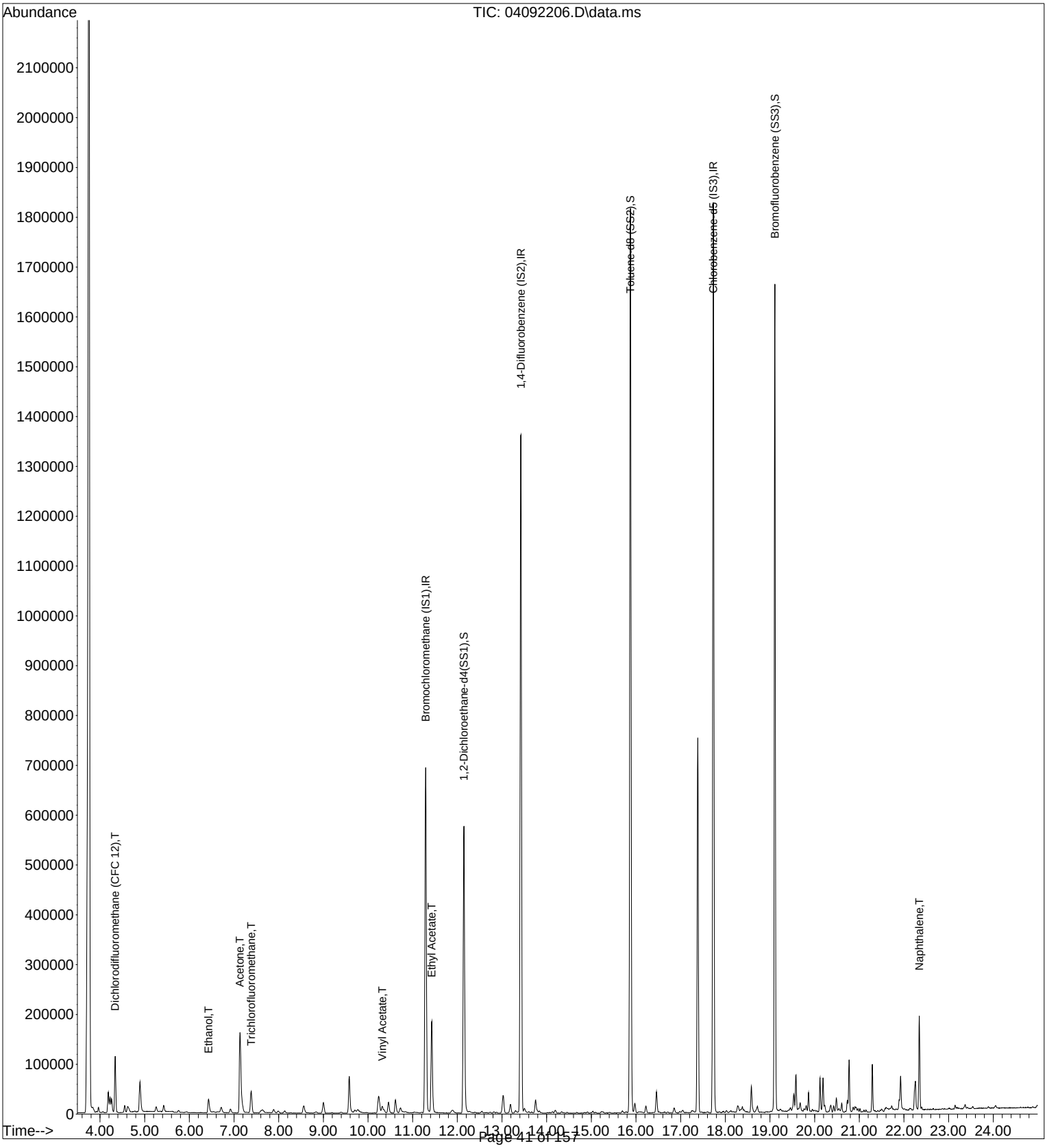
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	296655	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	1328007	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	234521	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	448985	11.018	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.16%				
57) Toluene-d8 (SS2)	15.88	98	1417523	12.508	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	19.11	174	520741	14.417	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.36%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.34	85	108314	1.451	ng		99
10) Ethanol	6.43	45	50123	1.794	ng		98
13) Acetone	7.13	58	93450	3.343	ng		98
14) Trichlorofluoromethane	7.39	101	45241	0.713	ng		100
26) Vinyl Acetate	10.32	86	4274	0.605	ng	#	49
30) Ethyl Acetate	11.42	61	36022	2.730	ng		84
95) Naphthalene	22.34	128	147514	0.858	ng		99

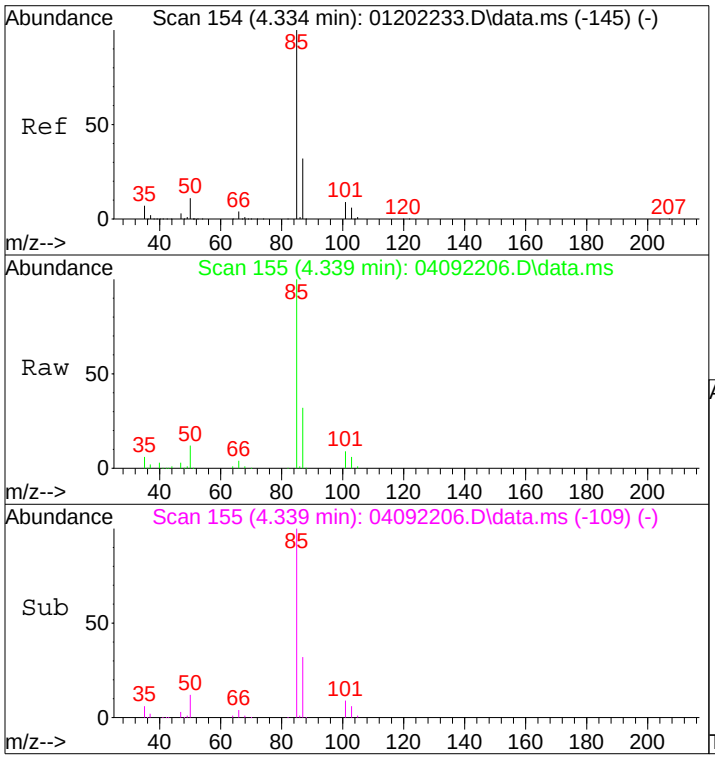
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092206.D Vial: 11
Acq On : 9 Apr 2022 6:09 Operator: WA
Sample : P2201412-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 09 09:03:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

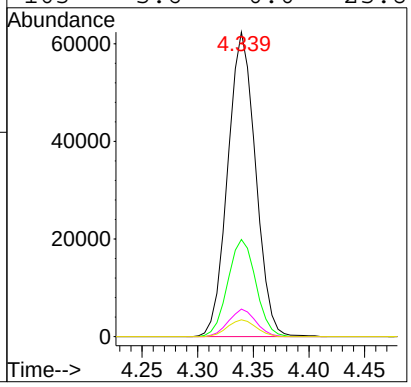


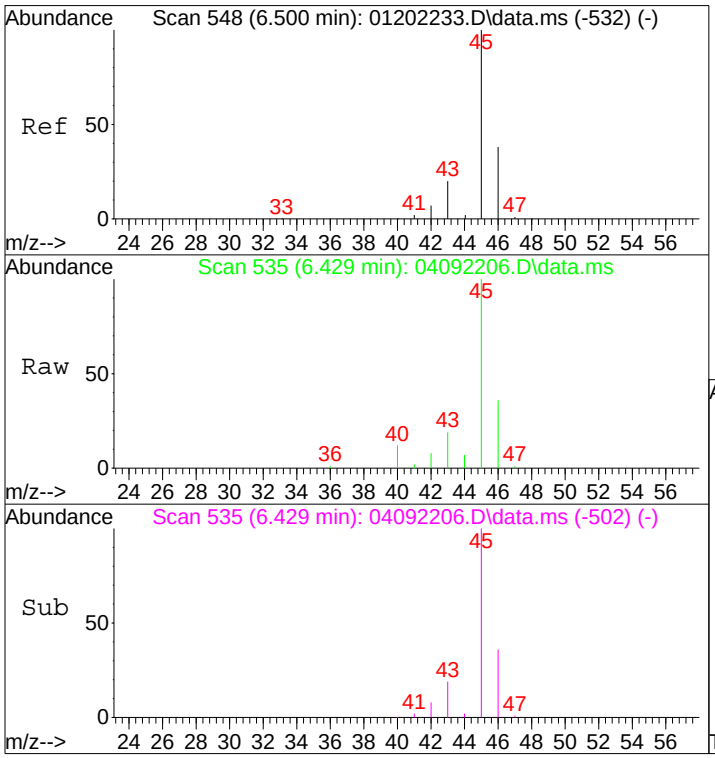


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.45 ng
RT: 4.34 min Scan# 155
Delta R.T. 0.006 min
Lab File: 04092206.D
Acq: 9 Apr 2022 6:09

Tgt Ion: 85 Resp: 108314

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.6	52.6
101	8.8	0.0	29.1
103	5.6	0.0	25.8

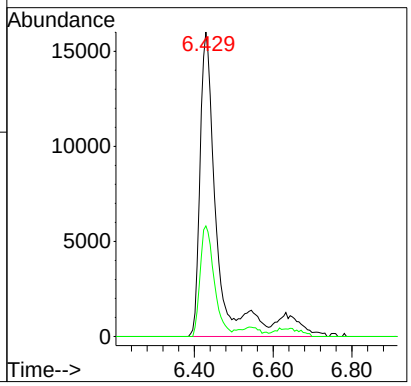


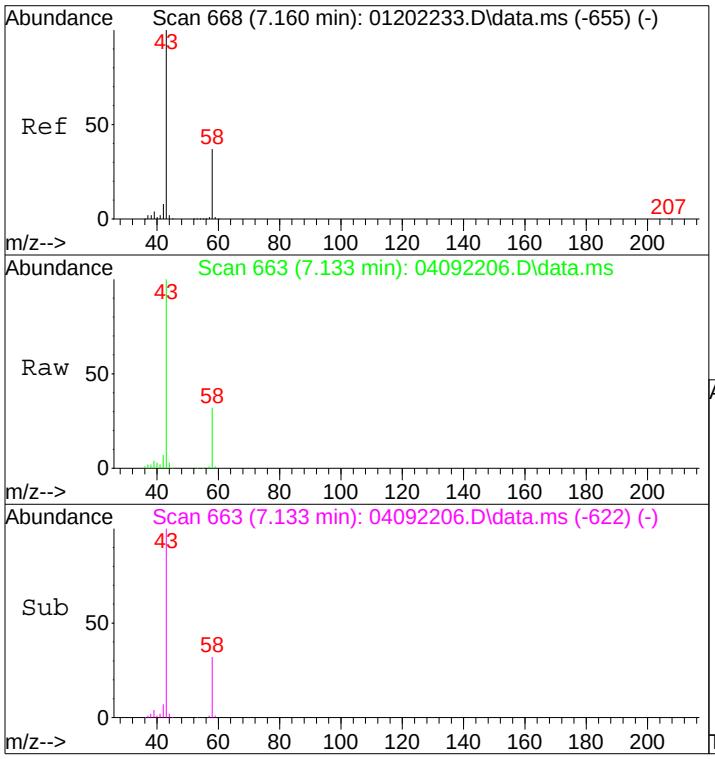


#10
Ethanol
Concen: 1.79 ng
RT: 6.43 min Scan# 535
Delta R.T. -0.066 min
Lab File: 04092206.D
Acq: 9 Apr 2022 6:09

Tgt Ion: 45 Resp: 50123

Ion	Ratio	Lower	Upper
45	100		
46	36.6	17.6	57.6

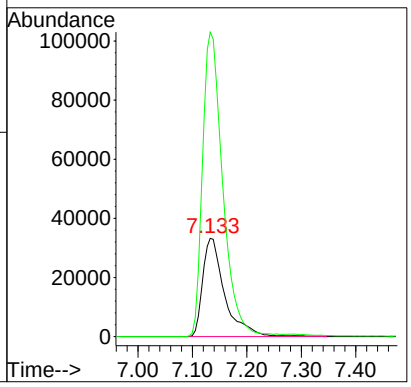


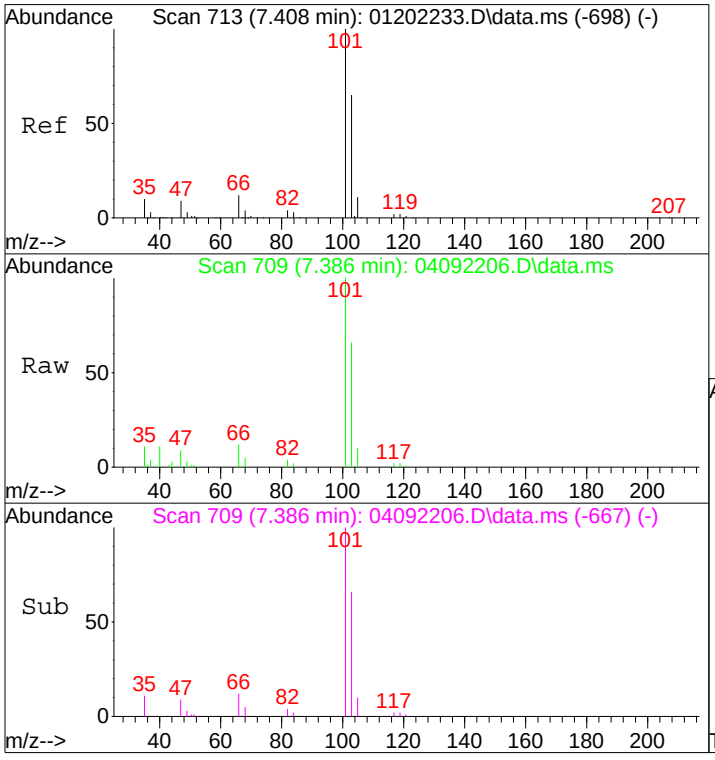


#13
Acetone
Concen: 3.34 ng
RT: 7.13 min Scan# 663
Delta R.T. -0.022 min
Lab File: 04092206.D
Acq: 9 Apr 2022 6:09

Tgt Ion: 58 Resp: 93450

Ion	Ratio	Lower	Upper
58	100		
43	288.0	253.5	313.5

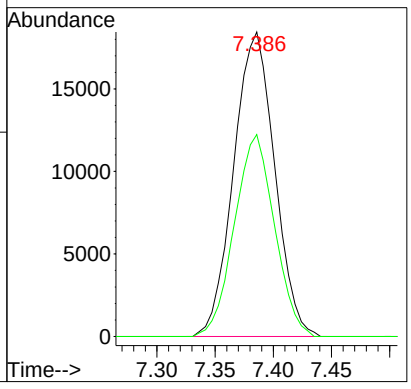


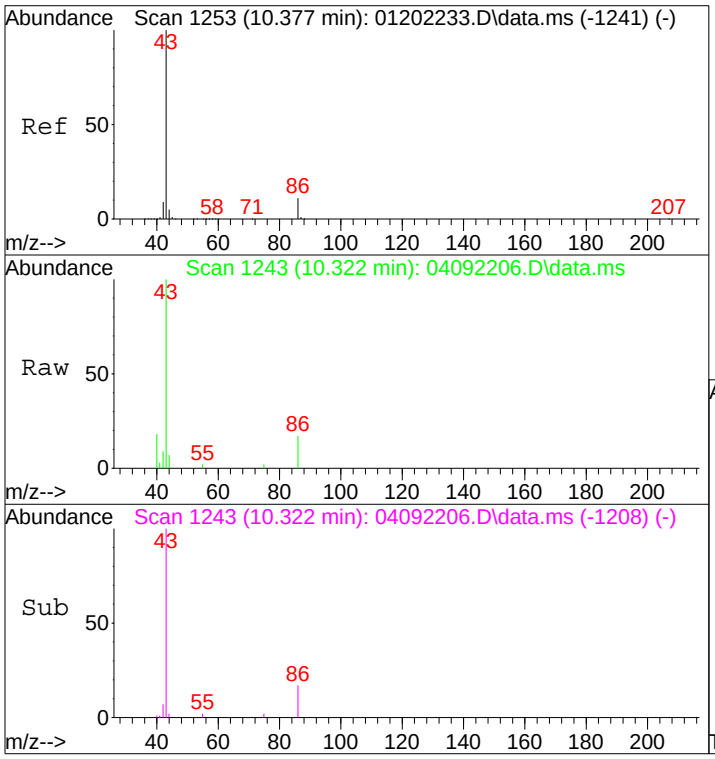


#14
Trichlorofluoromethane
Concen: 0.71 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.016 min
Lab File: 04092206.D
Acq: 9 Apr 2022 6:09

Tgt Ion:101 Resp: 45241

Ion	Ratio	Lower	Upper
101	100		
103	64.8	45.0	85.0

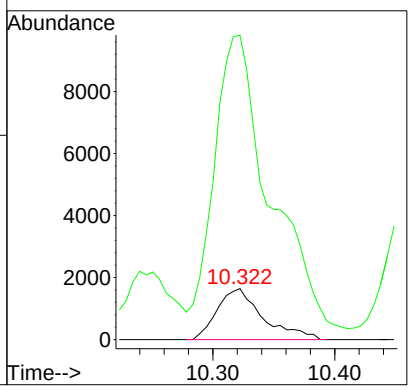


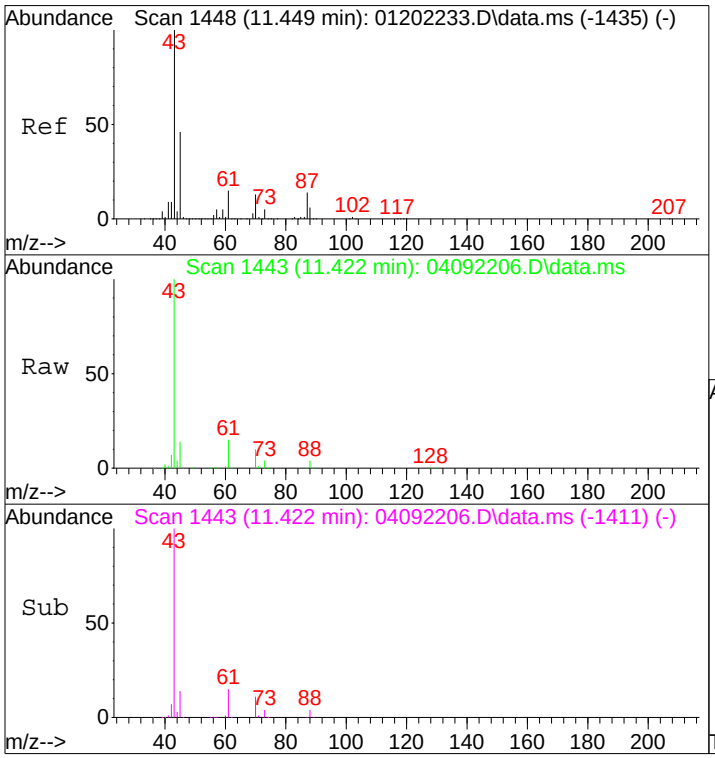


#26
Vinyl Acetate
Concen: 0.60 ng
RT: 10.32 min Scan# 1243
Delta R.T. -0.055 min
Lab File: 04092206.D
Acq: 9 Apr 2022 6:09

Tgt Ion: 86 Resp: 4274

Ion	Ratio	Lower	Upper
86	100		
43	743.4	947.5	987.5#

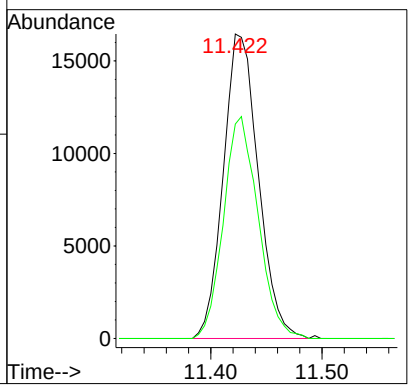


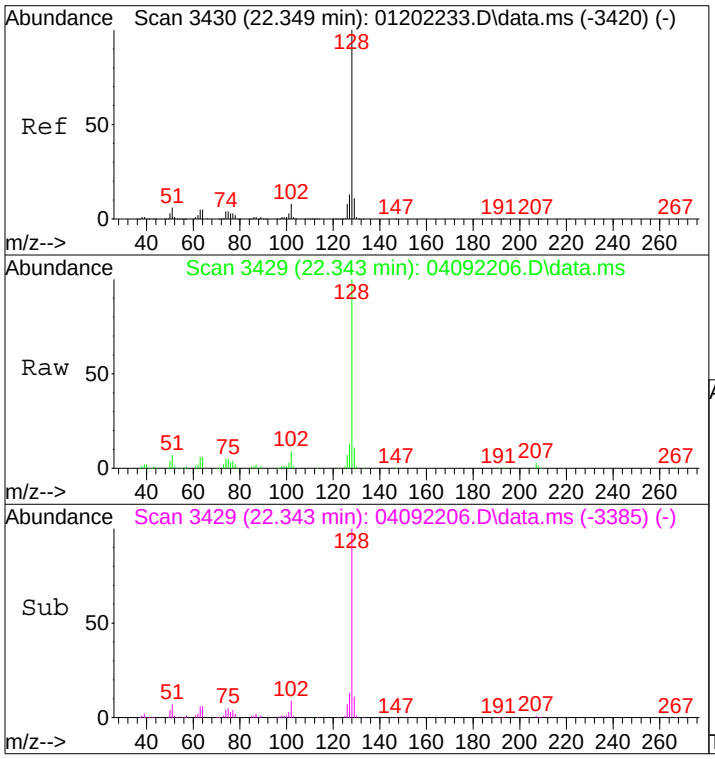


#30
Ethyl Acetate
Concen: 2.73 ng
RT: 11.42 min Scan# 1443
Delta R.T. -0.022 min
Lab File: 04092206.D
Acq: 9 Apr 2022 6:09

Tgt Ion: 61 Resp: 36022

Ion	Ratio	Lower	Upper
61	100		
70	72.1	66.4	106.4

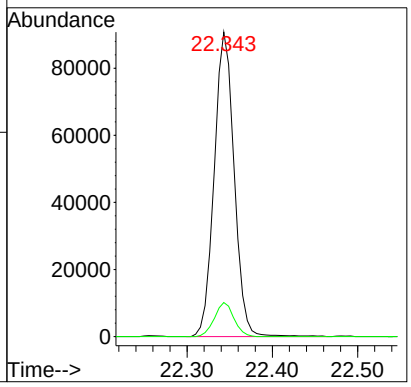




#95
Naphthalene
Concen: 0.86 ng
RT: 22.34 min Scan# 3429
Delta R.T. -0.005 min
Lab File: 04092206.D
Acq: 9 Apr 2022 6:09

Tgt Ion:128 Resp: 147514

Ion	Ratio	Lower	Upper
128	100		
129	10.9	0.0	31.2



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112210.D Vial: 1
Acq On : 11 Apr 2022 12:50 Operator: WA/CG
Sample : P2201412-002 (1000mL) pf2 Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 13:23:33 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022 4/11/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	238252	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	1033213	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	191761	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	376490	11.504	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
57) Toluene-d8 (SS2)	15.88	98	1121167	12.099	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
73) Bromofluorobenzene (SS3)	19.11	174	386540	13.088	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.72%				
Target Compounds							Qvalue
2) Propene	4.20	42	8792	N.D.			
3) Dichlorodifluoromethan...	4.36	85	82202	1.371	ng		99
4) Chloromethane	4.64	50	8384	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	2351	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.78	94	793	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.46	45	48531	2.163	ng		94
11) Acetonitrile	6.73	41	20215	N.D.			
12) Acrolein	6.94	56	3934	N.D.			
13) Acetone	7.15	58	47952	2.136	ng	#	77
14) Trichlorofluoromethane	7.40	101	33851	0.664	ng		100
15) 2-Propanol (Isopropanol)	7.61	45	1049	N.D.			
16) Acrylonitrile	7.90	53	6916	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.61	59	604	N.D.			
19) Methylene Chloride	8.57	84	23795	0.813	ng		96
20) 3-Chloro-1-propene (Al...	8.75	41	280	N.D.			
21) Trichlorotrifluoroethane	9.01	151	6824	N.D.			
22) Carbon Disulfide	8.84	76	3209	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.37	86	2310	N.D.			
27) 2-Butanone (MEK)	10.63	72	4154	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	1945	N.D.			
30) Ethyl Acetate	11.43	61	107229	10.117	ng		82
31) n-Hexane	11.42	57	5605	N.D.			
32) Chloroform	11.47	83	1971	N.D.			
34) Tetrahydrofuran (THF)	11.91	72	866	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	1306	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	13.02	56	2498	No Calib		#	
41) Benzene	13.03	78	20840	N.D.			
42) Carbon Tetrachloride	13.19	117	8472	N.D.			
43) Cyclohexane	13.32	84	2304	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.89	63	324	N.D.			
46) Bromodichloromethane	14.18	83	246	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	14.13	88	453	N.D.			
49) 2,2,4-Trimethylpentane...	14.20	57	17482	N.D.			
50) Methyl Methacrylate	14.34	100	114	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112210.D Vial: 1
Acq On : 11 Apr 2022 12:50 Operator: WA/CG
Sample : P2201412-002 (1000mL) pf2 Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 13:23:33 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

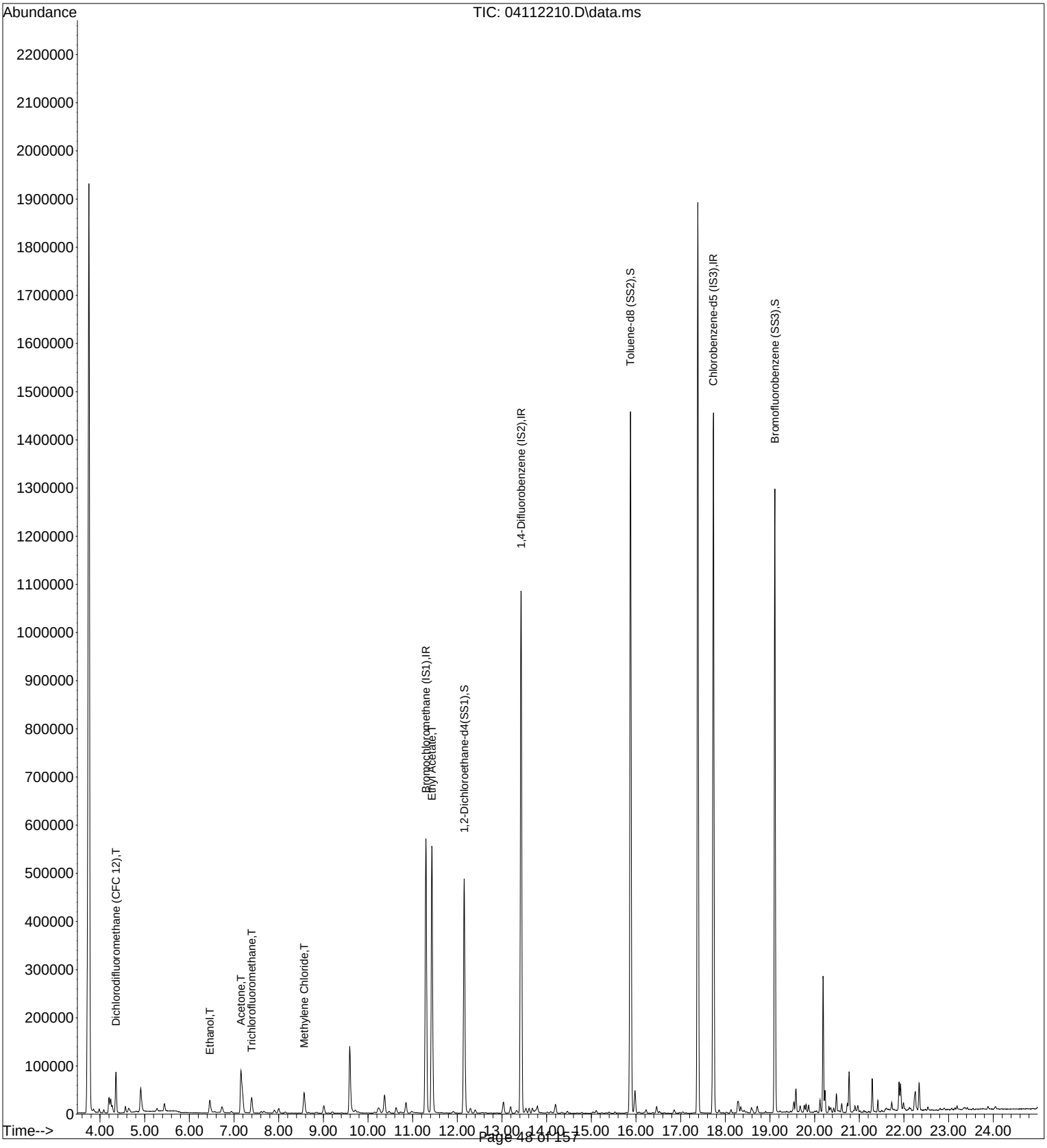
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	1004	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	15.03	58	613	N.D.		
54) trans-1,3-Dichloropropene	15.52	75	184	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.98	91	38768	N.D.		
59) 2-Hexanone	16.22	43	7645	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.65	107	231	N.D.		
62) n-Butyl Acetate	16.86	43	7107	N.D.		
63) n-Octane	16.98	57	355	N.D.		
64) Tetrachloroethene	17.12	166	409	N.D.		
65) Chlorobenzene	17.77	112	1470	N.D.		
66) Ethylbenzene	18.13	91	7829	N.D.		
67) m- & p-Xylenes	18.29	91	21424	N.D.		
68) Bromoform	18.35	173	160	N.D.		
69) Styrene	18.61	104	2918	N.D.		
70) o-Xylene	18.71	91	6686	N.D.		
71) n-Nonane	18.90	43	1415	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.69	83	283	N.D.		
74) Cumene	19.23	105	1268	N.D.		
75) alpha-Pinene	19.58	93	18672	N.D.		
76) n-Propylbenzene	19.68	91	5544	N.D.		
77) 3-Ethyltoluene	19.81	105	6533	No Calib		
78) 4-Ethyltoluene	19.81	105	6567	N.D.		
79) 1,3,5-Trimethylbenzene	19.87	105	3319	N.D.		
80) alpha-Methylstyrene	20.01	118	445	No Calib		#
81) 2-Ethyltoluene	19.87	105	3319	No Calib		
82) 1,2,4-Trimethylbenzene	20.23	105	24468	N.D.		
83) n-Decane	20.23	58	575	No Calib		#
84) Benzyl Chloride	20.35	91	4089	N.D.		
85) 1,3-Dichlorobenzene	20.37	146	2946	N.D.		
86) 1,4-Dichlorobenzene	20.43	146	3979	N.D.		
87) sec-Butylbenzene	20.47	105	1329	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	6990	N.D.		
89) 1,2,3-Trimethylbenzene	20.61	105	3875	No Calib		#
90) 1,2-Dichlorobenzene	20.72	146	2251	N.D.		
91) d-Limonene	20.73	68	3631	N.D.		
92) 1,2-Dibromo-3-Chloropr...	21.11	157	805	N.D.		
93) n-Undecane	22.26	57	4441	No Calib		
94) 1,2,4-Trichlorobenzene	22.24	180	8336	N.D.		
95) Naphthalene	22.34	128	32274	N.D.		
96) n-Dodecane	22.33	57	6115	No Calib		#
97) Hexachlorobutadiene	22.66	225	115	N.D.		
98) Cyclohexanone	18.42	55	2103	No Calib		#
99) tert-Butylbenzene	20.23	119	3582	N.D.		
100) n-Butylbenzene	20.97	91	6499	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112210.D Vial: 1
Acq On : 11 Apr 2022 12:50 Operator: WA/CG
Sample : P2201412-002 (1000mL) pf2 Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 13:23:33 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112210.D Vial: 1
Acq On : 11 Apr 2022 12:50 Operator: WA/CG
Sample : P2201412-002 (1000mL) pf2 Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 13:23:33 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 4/11/22

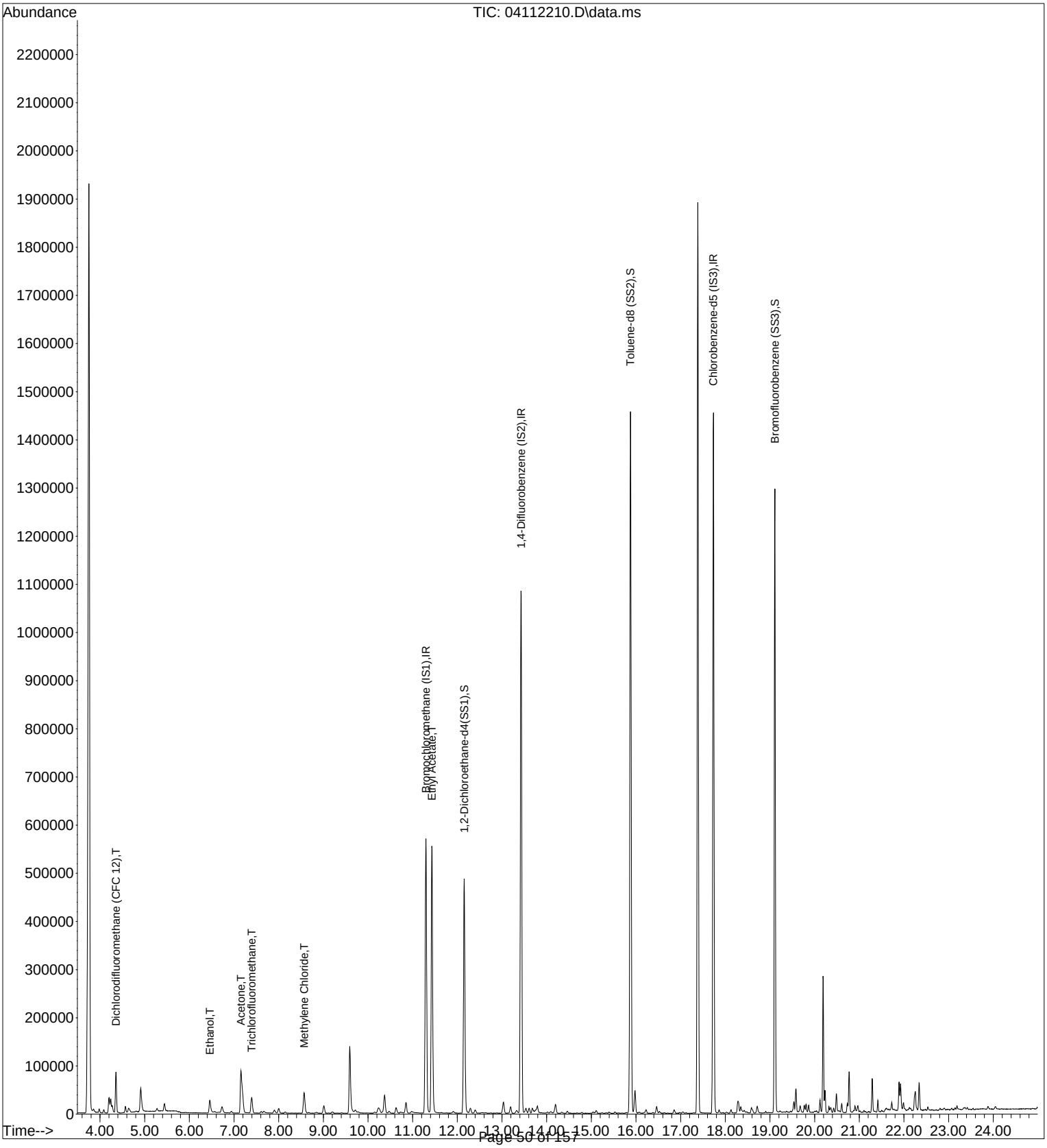
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	238252	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	1033213	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	191761	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	376490	11.504	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
57) Toluene-d8 (SS2)	15.88	98	1121167	12.099	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
73) Bromofluorobenzene (SS3)	19.11	174	386540	13.088	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.72%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.36	85	82202	1.371	ng		99
10) Ethanol	6.46	45	48531	2.163	ng		94
13) Acetone	7.15	58	47952	2.136	ng	#	77
14) Trichlorofluoromethane	7.40	101	33851	0.664	ng		100
19) Methylene Chloride	8.57	84	23795	0.813	ng		96
30) Ethyl Acetate	11.43	61	107229	10.117	ng		82

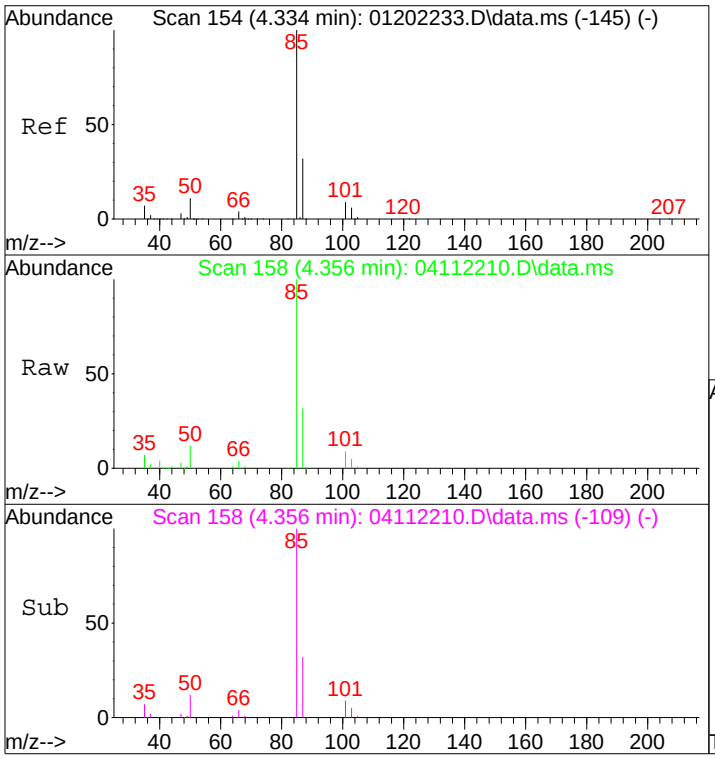
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112210.D Vial: 1
Acq On : 11 Apr 2022 12:50 Operator: WA/CG
Sample : P2201412-002 (1000mL) pf2 Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 13:23:33 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

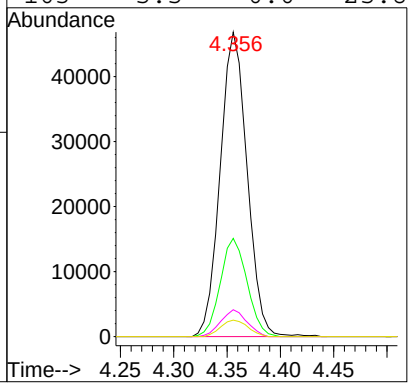


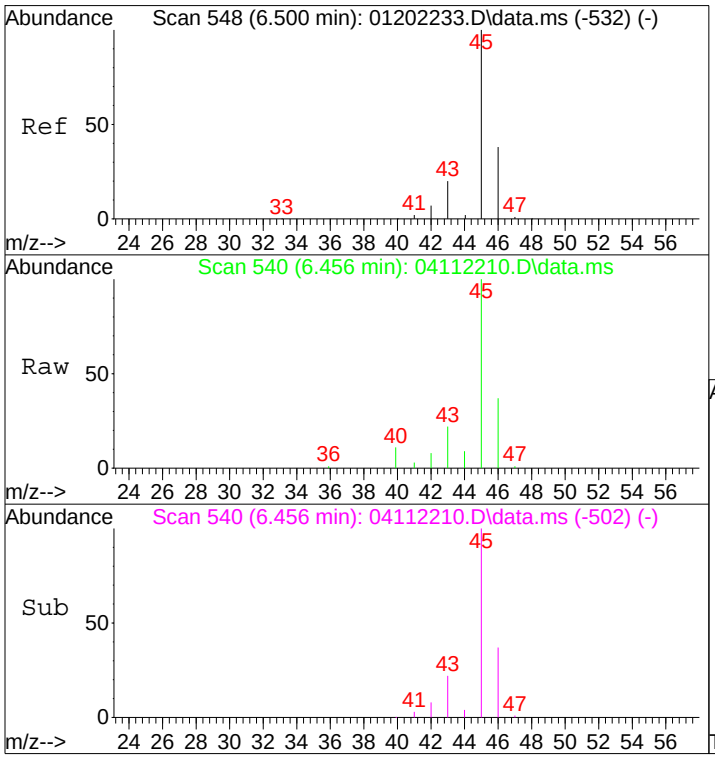


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.37 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.022 min
Lab File: 04112210.D
Acq: 11 Apr 2022 12:50

Tgt Ion: 85 Resp: 82202

Ion	Ratio	Lower	Upper
85	100		
87	32.0	12.6	52.6
101	8.6	0.0	29.1
103	5.5	0.0	25.8

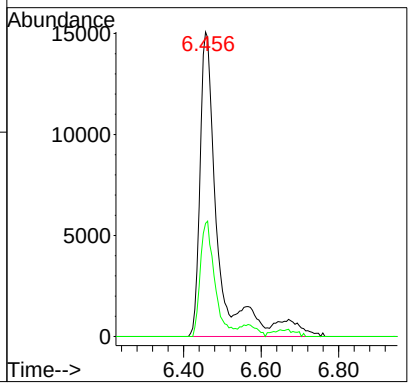


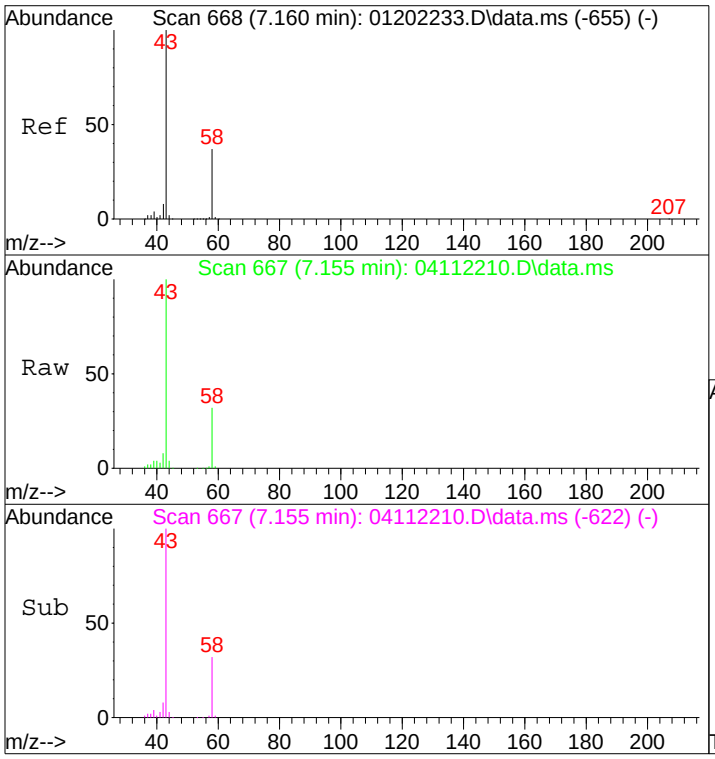


#10
Ethanol
Concen: 2.16 ng
RT: 6.46 min Scan# 540
Delta R.T. -0.039 min
Lab File: 04112210.D
Acq: 11 Apr 2022 12:50

Tgt Ion: 45 Resp: 48531

Ion	Ratio	Lower	Upper
45	100		
46	34.2	17.6	57.6

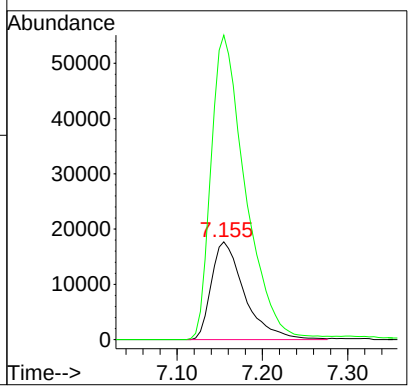


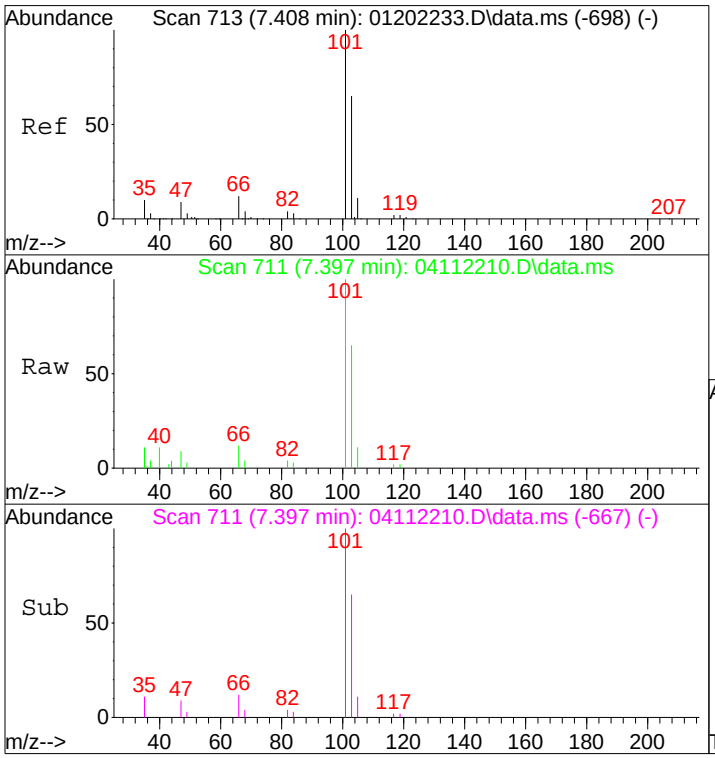


#13
Acetone
Concen: 2.14 ng
RT: 7.15 min Scan# 667
Delta R.T. -0.000 min
Lab File: 04112210.D
Acq: 11 Apr 2022 12:50

Tgt Ion: 58 Resp: 47952

Ion	Ratio	Lower	Upper
58	100		
43	327.6	253.5	313.5#

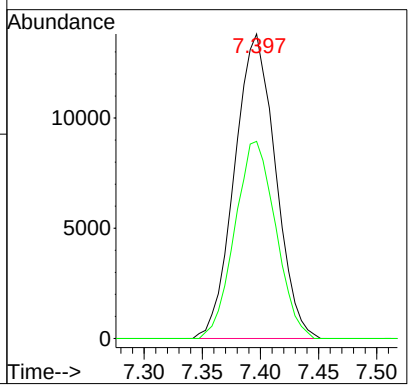


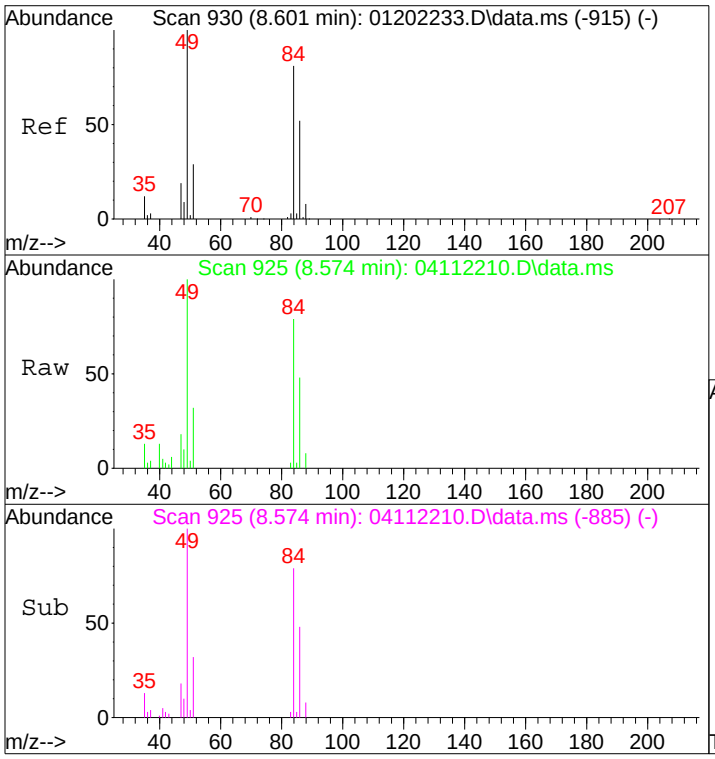


#14
Trichlorofluoromethane
Concen: 0.66 ng
RT: 7.40 min Scan# 711
Delta R.T. -0.005 min
Lab File: 04112210.D
Acq: 11 Apr 2022 12:50

Tgt Ion:101 Resp: 33851

Ion	Ratio	Lower	Upper
101	100		
103	64.7	45.0	85.0

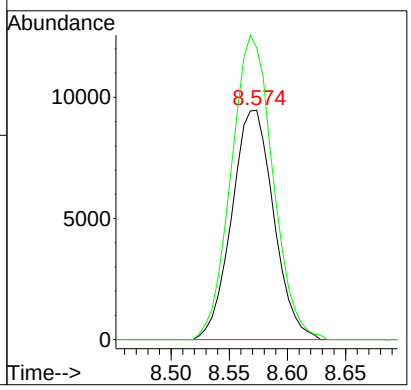


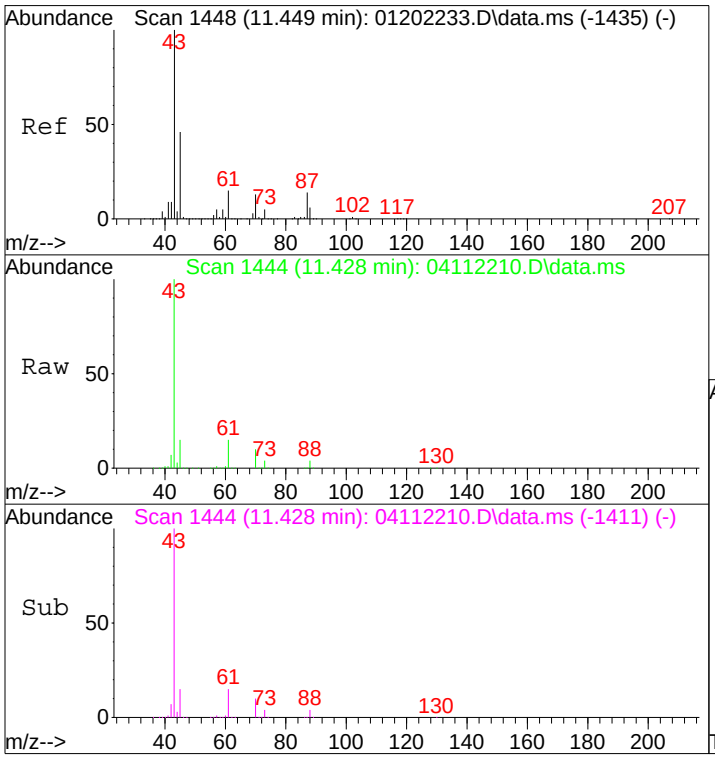


#19
Methylene Chloride
Concen: 0.81 ng
RT: 8.57 min Scan# 925
Delta R.T. -0.027 min
Lab File: 04112210.D
Acq: 11 Apr 2022 12:50

Tgt Ion: 84 Resp: 23795

Ion	Ratio	Lower	Upper
84	100		
49	132.2	102.1	152.1

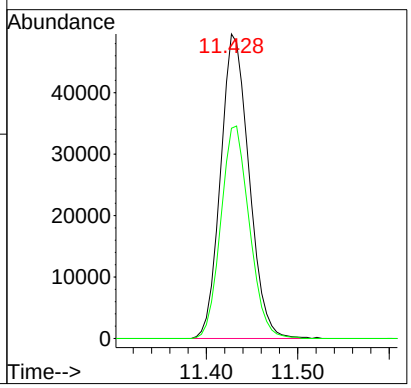




#30
Ethyl Acetate
Concen: 10.12 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.016 min
Lab File: 04112210.D
Acq: 11 Apr 2022 12:50

Tgt Ion: 61 Resp: 107229

Ion	Ratio	Lower	Upper
61	100		
70	69.9	66.4	106.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092207.D Vial: 12
Acq On : 9 Apr 2022 6:43 Operator: WA
Sample : P2201412-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 09 09:04:14 2022 4/10/22
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	282302	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	1274792	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	227183	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	432520	11.154	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.20%			
57) Toluene-d8 (SS2)	15.88	98	1359516	12.383	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%			
73) Bromofluorobenzene (SS3)	19.11	174	495531	14.162	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.28%			
Target Compounds						Qvalue
2) Propene	4.19	42	8282	N.D.		
3) Dichlorodifluoromethan...	4.34	85	106434	1.498	ng	99
4) Chloromethane	4.62	50	9951	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	2919	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.76	94	1022	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.43	45	26327	0.990	ng	93
11) Acetonitrile	6.71	41	6887	N.D.		
12) Acrolein	6.92	56	2290	N.D.		
13) Acetone	7.14	58	44957	1.690	ng	92
14) Trichlorofluoromethane	7.38	101	44763	0.741	ng	100
15) 2-Propanol (Isopropanol)	7.64	45	8822	N.D.		
16) Acrylonitrile	7.89	53	1255	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.59	59	1008	N.D.		
19) Methylene Chloride	8.56	84	7832	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.00	151	9264	N.D.		
22) Carbon Disulfide	8.84	76	4519	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.32	86	1887	N.D.		
27) 2-Butanone (MEK)	10.61	72	6557	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.42	87	710	N.D.		
30) Ethyl Acetate	11.43	61	27971	2.227	ng	84
31) n-Hexane	11.42	57	1033	N.D.		
32) Chloroform	11.46	83	2586	N.D.		
34) Tetrahydrofuran (THF)	11.91	72	260	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.26	62	1613	N.D.		
38) 1,1,1-Trichloroethane	12.55	97	111	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.01	56	2957	No Calib	#	
41) Benzene	13.03	78	30734	N.D.		
42) Carbon Tetrachloride	13.19	117	11999	N.D.		
43) Cyclohexane	13.42	84	1344	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	13.88	63	367	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.13	130	354	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.20	57	4147	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092207.D Vial: 12
Acq On : 9 Apr 2022 6:43 Operator: WA
Sample : P2201412-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 09 09:04:14 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

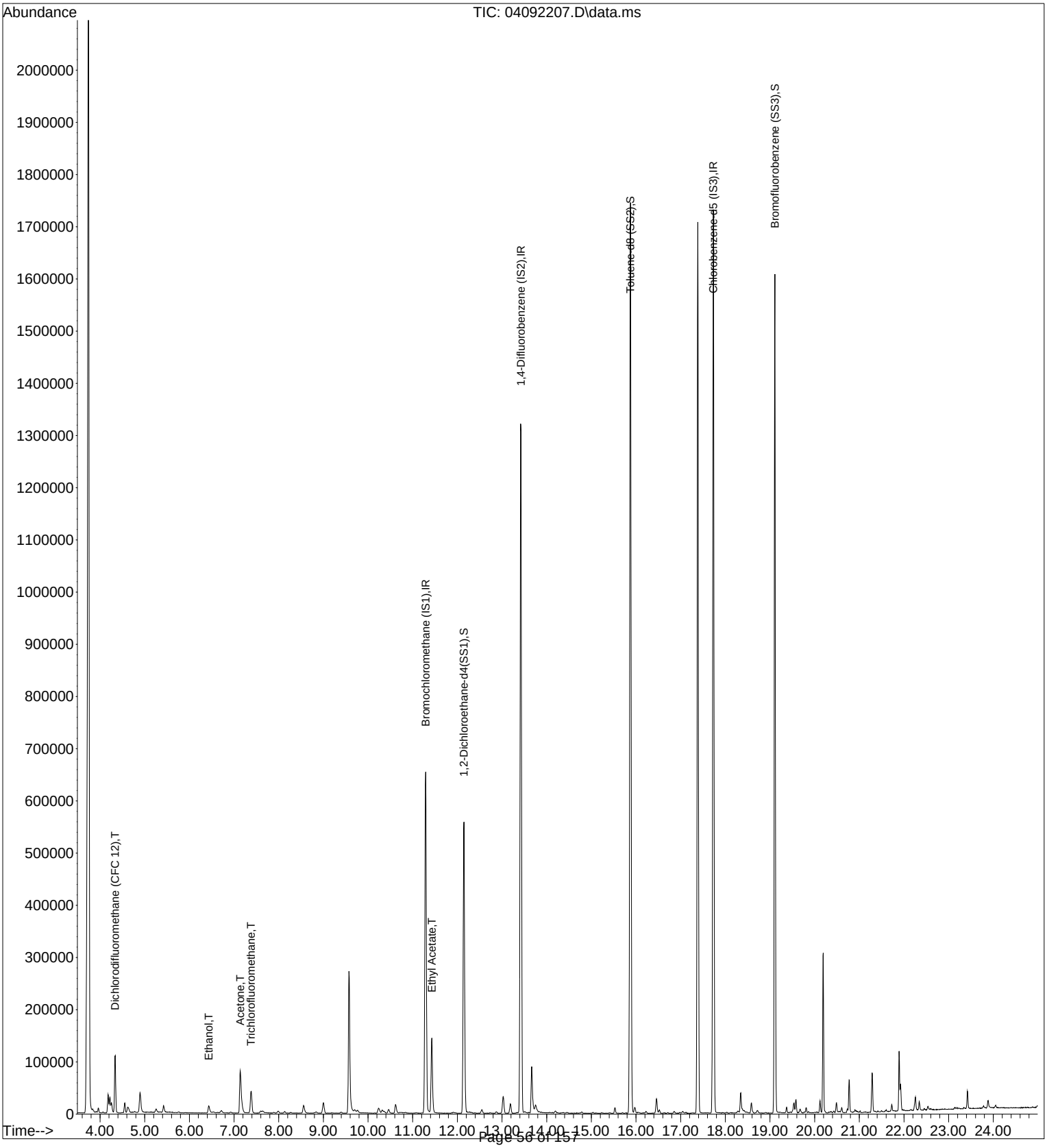
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	296		N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0		N.D.	
53) 4-Methyl-2-pentanone	15.04	58	350		N.D.	
54) trans-1,3-Dichloropropene	15.52	75	428		N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0		N.D.	
58) Toluene	15.98	91	9296		N.D.	
59) 2-Hexanone	16.22	43	3596		N.D.	
60) Dibromochloromethane	0.00	129	0		N.D.	
61) 1,2-Dibromoethane	0.00	107	0		N.D.	
62) n-Butyl Acetate	16.85	43	3505		N.D.	
63) n-Octane	16.99	57	272		N.D.	
64) Tetrachloroethene	17.12	166	591		N.D.	
65) Chlorobenzene	17.77	112	720		N.D.	
66) Ethylbenzene	18.13	91	1704		N.D.	
67) m- & p-Xylenes	18.28	91	3258		N.D.	
68) Bromoform	18.35	173	105		N.D.	
69) Styrene	18.61	104	1274		N.D.	
70) o-Xylene	18.71	91	1254		N.D.	
71) n-Nonane	18.91	43	816		N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0		N.D.	
74) Cumene	19.23	105	634		N.D.	
75) alpha-Pinene	19.58	93	9989		N.D.	
76) n-Propylbenzene	19.68	91	2083		N.D.	
77) 3-Ethyltoluene	19.81	105	1281		No Calib	
78) 4-Ethyltoluene	19.81	105	1281		N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	593		N.D.	
80) alpha-Methylstyrene	20.01	118	349		No Calib	#
81) 2-Ethyltoluene	19.87	105	593		No Calib	
82) 1,2,4-Trimethylbenzene	20.23	105	1565		N.D.	
83) n-Decane	20.12	58	119		No Calib	#
84) Benzyl Chloride	20.35	91	1532		N.D.	
85) 1,3-Dichlorobenzene	20.37	146	1156		N.D.	
86) 1,4-Dichlorobenzene	20.43	146	1640		N.D.	
87) sec-Butylbenzene	20.47	105	445		N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	5489		N.D.	
89) 1,2,3-Trimethylbenzene	20.61	105	482		No Calib	#
90) 1,2-Dichlorobenzene	20.73	146	936		N.D.	
91) d-Limonene	20.74	68	1262		N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.11	157	256		N.D.	
93) n-Undecane	22.25	57	3147		No Calib	
94) 1,2,4-Trichlorobenzene	22.24	180	3445		N.D.	
95) Naphthalene	22.34	128	10875		N.D.	
96) n-Dodecane	22.34	57	1243		No Calib	#
97) Hexachlorobutadiene	0.00	225	0		N.D.	
98) Cyclohexanone	18.38	55	122		No Calib	#
99) tert-Butylbenzene	20.19	119	6008		N.D.	
100) n-Butylbenzene	20.97	91	1654		N.D.	
101) 1,1,1,2-Tetrachloroethane	17.69	131	115		N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092207.D Vial: 12
Acq On : 9 Apr 2022 6:43 Operator: WA
Sample : P2201412-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 09 09:04:14 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092207.D Vial: 12
Acq On : 9 Apr 2022 6:43 Operator: WA
Sample : P2201412-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 09 09:04:14 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 4/10/22

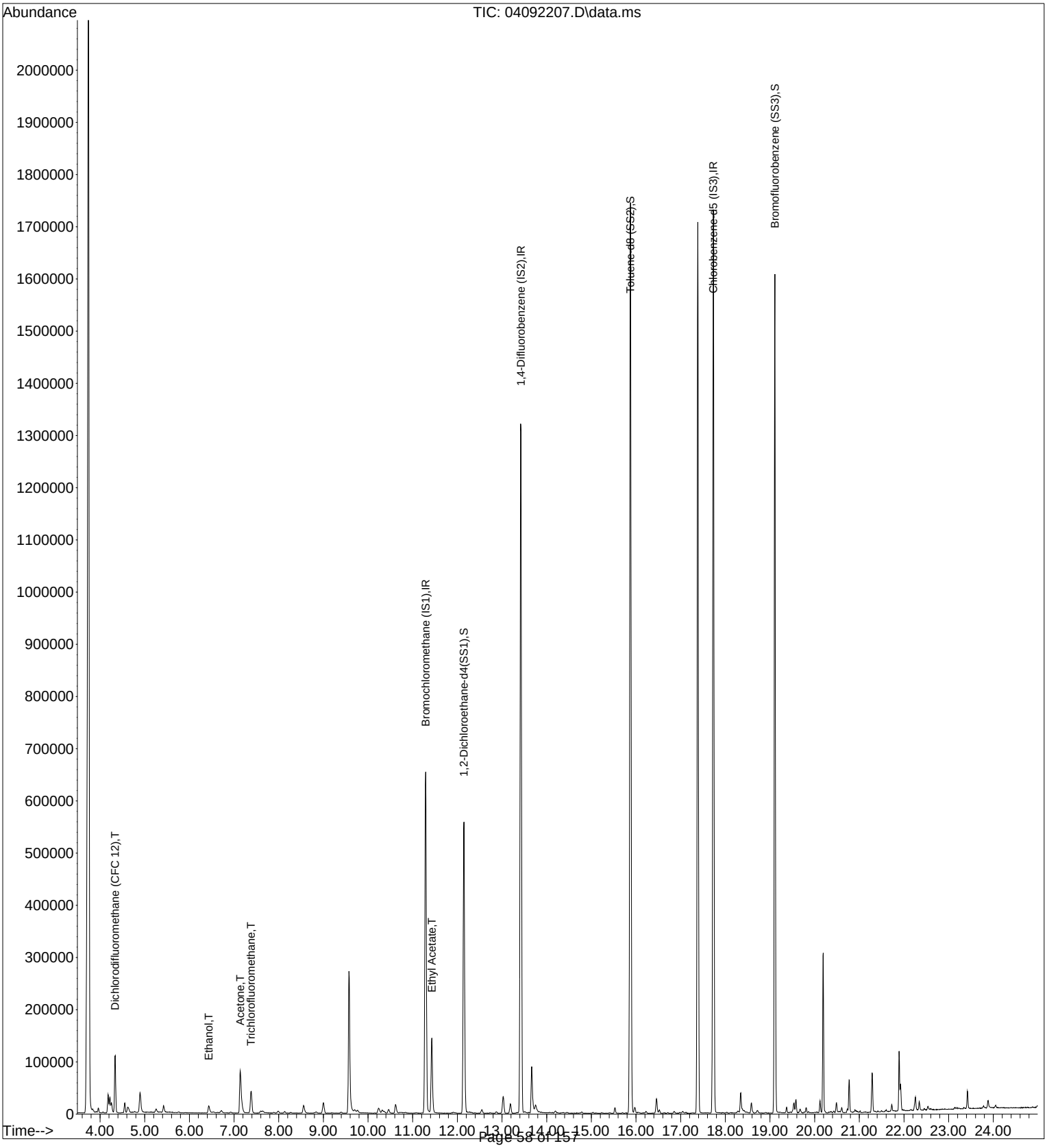
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	282302	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	1274792	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	227183	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	432520	11.154	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.20%			
57) Toluene-d8 (SS2)	15.88	98	1359516	12.383	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%			
73) Bromofluorobenzene (SS3)	19.11	174	495531	14.162	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.28%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.34	85	106434	1.498	ng	99
10) Ethanol	6.43	45	26327	0.990	ng	93
13) Acetone	7.14	58	44957	1.690	ng	92
14) Trichlorofluoromethane	7.38	101	44763	0.741	ng	100
30) Ethyl Acetate	11.43	61	27971	2.227	ng	84

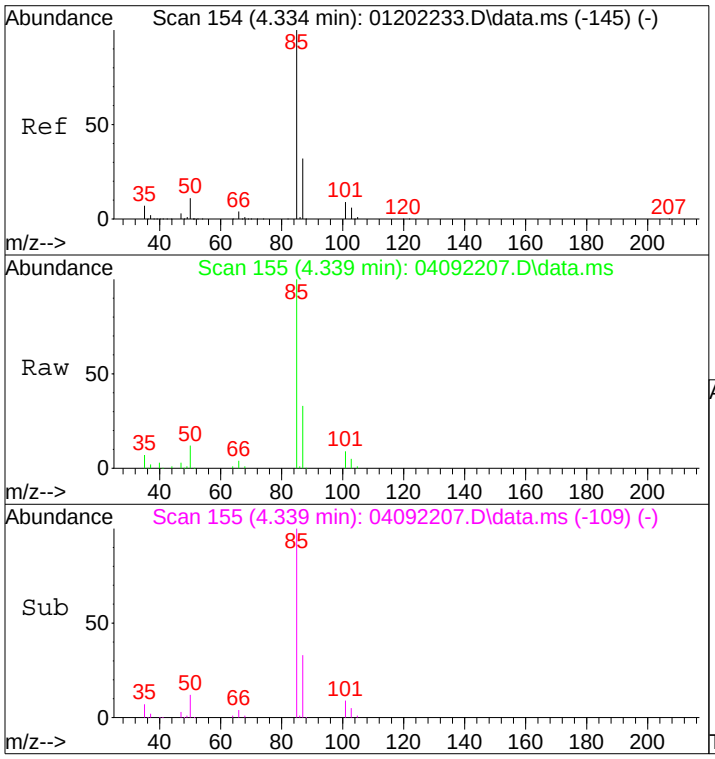
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092207.D Vial: 12
Acq On : 9 Apr 2022 6:43 Operator: WA
Sample : P2201412-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 09 09:04:14 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

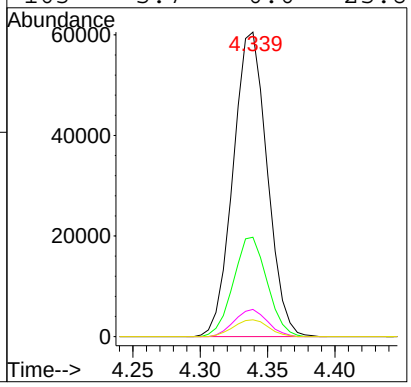


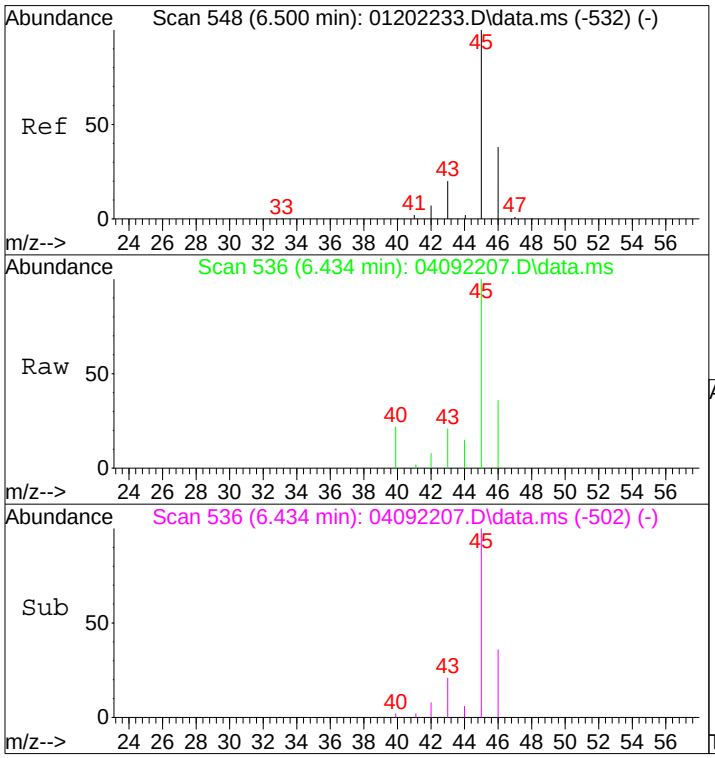


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.50 ng
RT: 4.34 min Scan# 155
Delta R.T. 0.006 min
Lab File: 04092207.D
Acq: 9 Apr 2022 6:43

Tgt Ion: 85 Resp: 106434

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.6	52.6
101	8.7	0.0	29.1
103	5.7	0.0	25.8

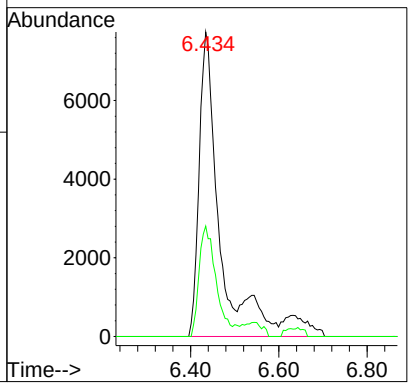


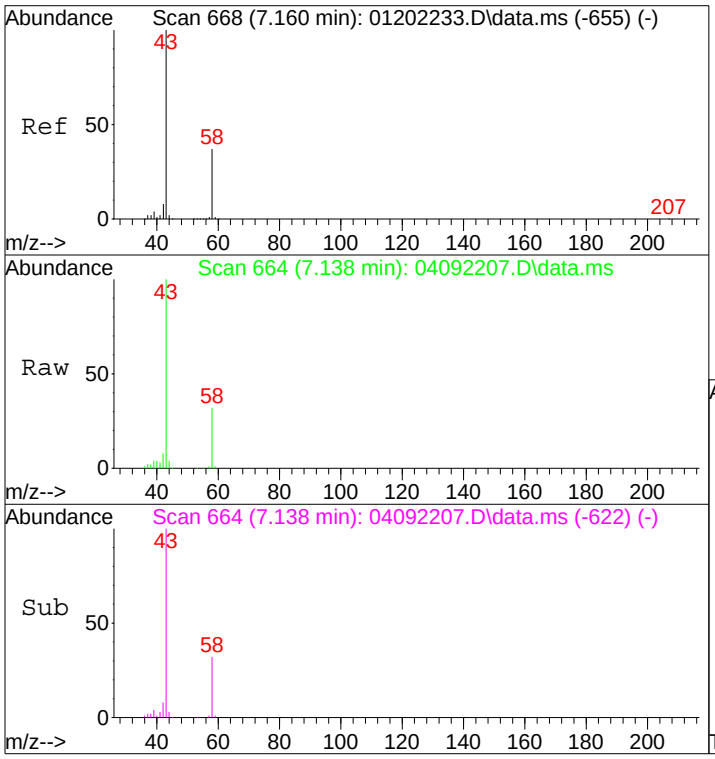


#10
Ethanol
Concen: 0.99 ng
RT: 6.43 min Scan# 536
Delta R.T. -0.061 min
Lab File: 04092207.D
Acq: 9 Apr 2022 6:43

Tgt Ion: 45 Resp: 26327

Ion	Ratio	Lower	Upper
45	100		
46	33.3	17.6	57.6

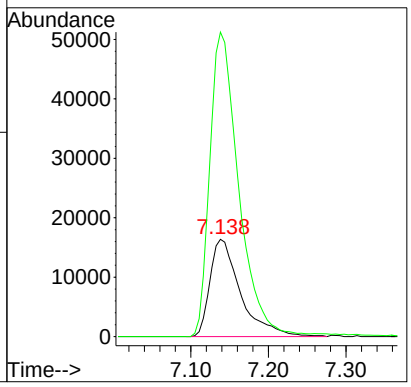


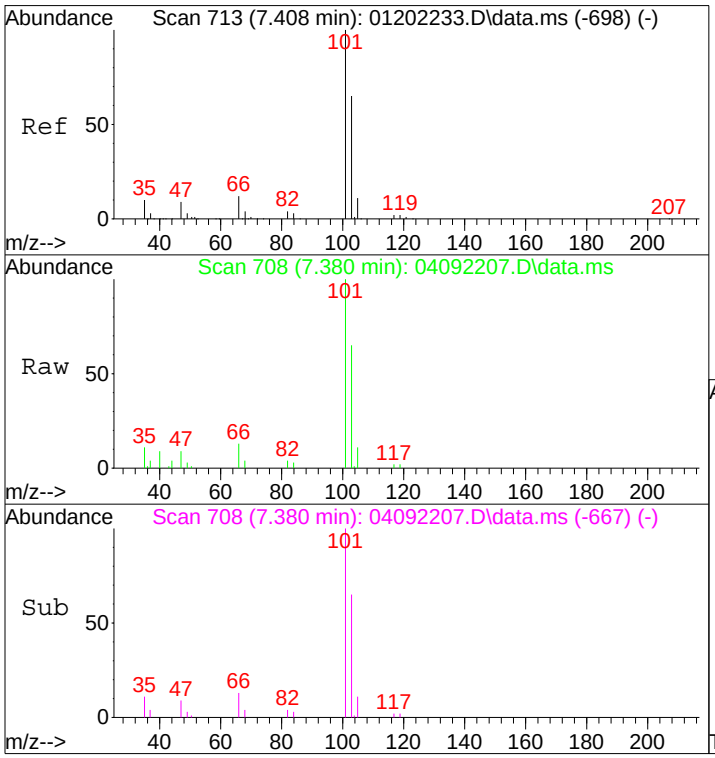


#13
Acetone
Concen: 1.69 ng
RT: 7.14 min Scan# 664
Delta R.T. -0.017 min
Lab File: 04092207.D
Acq: 9 Apr 2022 6:43

Tgt Ion: 58 Resp: 44957

Ion	Ratio	Lower	Upper
58	100		
43	299.1	253.5	313.5

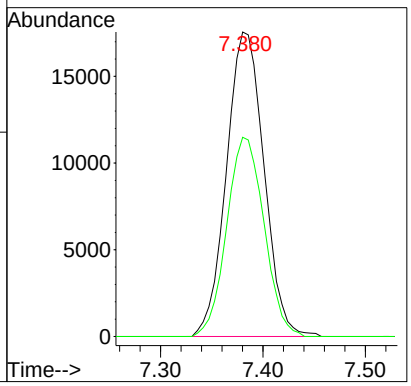


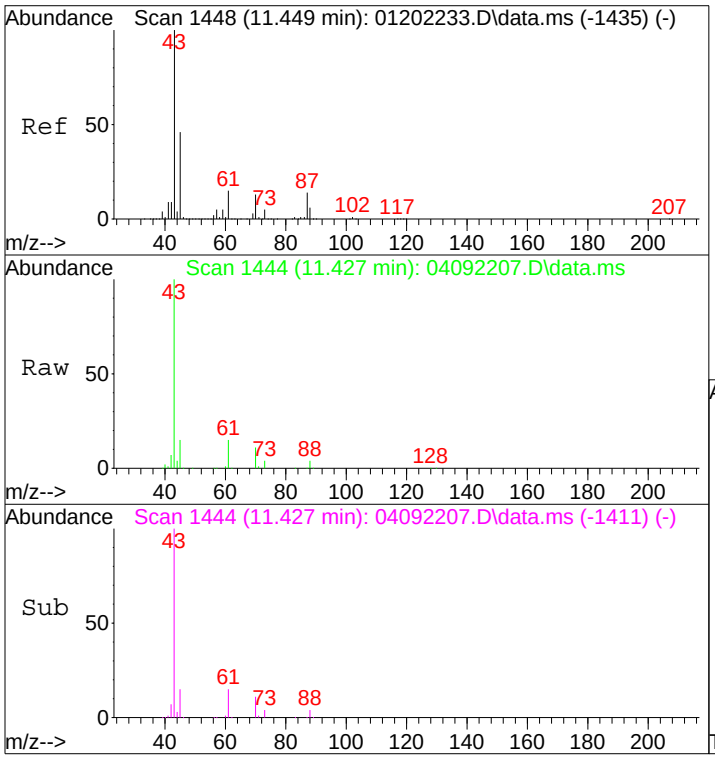


#14
Trichlorofluoromethane
Concen: 0.74 ng
RT: 7.38 min Scan# 708
Delta R.T. -0.022 min
Lab File: 04092207.D
Acq: 9 Apr 2022 6:43

Tgt Ion:101 Resp: 44763

Ion	Ratio	Lower	Upper
101	100		
103	64.9	45.0	85.0

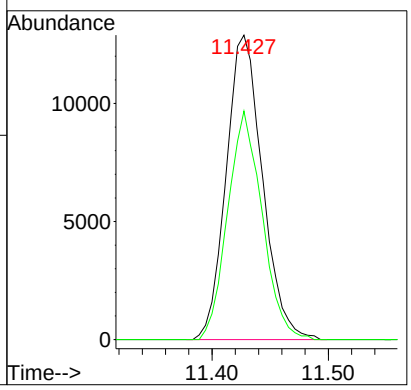




#30
Ethyl Acetate
Concen: 2.23 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.016 min
Lab File: 04092207.D
Acq: 9 Apr 2022 6:43

Tgt Ion: 61 Resp: 27971

Ion	Ratio	Lower	Upper
61	100		
70	71.3	66.4	106.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112211.D Vial: 3
Acq On : 11 Apr 2022 13:24 Operator: WA/CG
Sample : P2201412-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 14:04:44 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 4/11/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	217787	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	969903	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	181041	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	349851	11.694	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
57) Toluene-d8 (SS2)	15.88	98	1057804	12.091	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
73) Bromofluorobenzene (SS3)	19.11	174	355739	12.758	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
2) Propene	4.21	42	4294	N.D.			
3) Dichlorodifluoromethan...	4.36	85	89605	1.635	ng		100
4) Chloromethane	4.64	50	9063	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	2413	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.78	94	732	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.46	45	18479	0.901	ng		94
11) Acetonitrile	6.73	41	5628	N.D.			
12) Acrolein	6.93	56	1857	N.D.			
13) Acetone	7.15	58	59917	2.920	ng	#	81
14) Trichlorofluoromethane	7.40	101	36210	0.777	ng		99
15) 2-Propanol (Isopropanol)	7.67	45	3988	N.D.			
16) Acrylonitrile	7.90	53	1035	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.60	59	394	N.D.			
19) Methylene Chloride	8.57	84	6278	N.D.			
20) 3-Chloro-1-propene (Al...	8.58	41	316	N.D.			
21) Trichlorotrifluoroethane	9.01	151	7029	N.D.			
22) Carbon Disulfide	8.85	76	2286	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.33	86	1322	N.D.			
27) 2-Butanone (MEK)	10.62	72	3608	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	629	N.D.			
30) Ethyl Acetate	11.43	61	36478	3.765	ng		80
31) n-Hexane	11.42	57	1626	N.D.			
32) Chloroform	11.46	83	2126	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	1293	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	13.01	56	2253	No Calib		#	
41) Benzene	13.03	78	15357	N.D.			
42) Carbon Tetrachloride	13.19	117	9081	N.D.			
43) Cyclohexane	13.32	84	607	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.89	63	165	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.20	57	3899	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112211.D Vial: 3
Acq On : 11 Apr 2022 13:24 Operator: WA/CG
Sample : P2201412-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 14:04:44 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

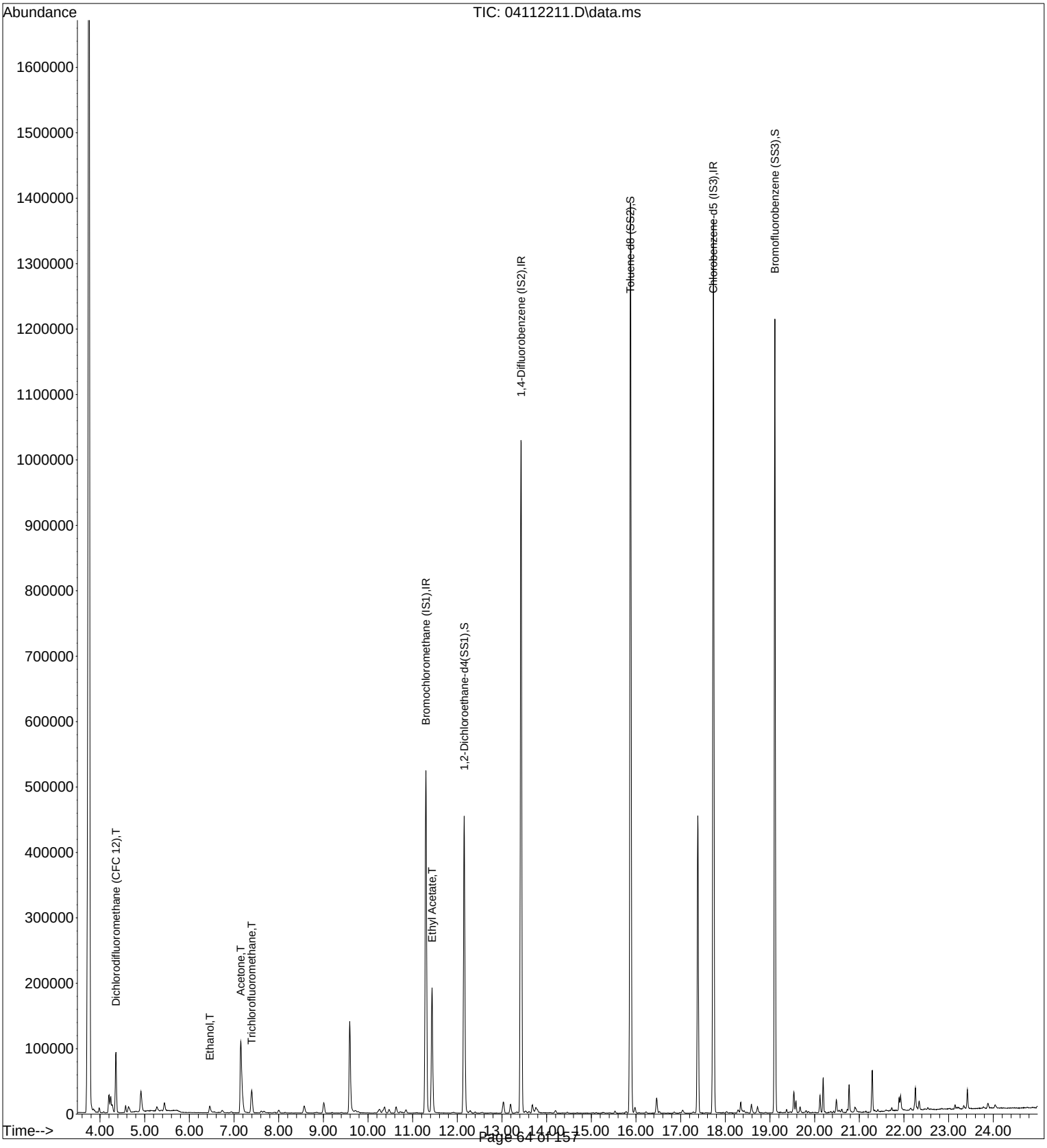
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	274	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.98	91	7907	N.D.		
59) 2-Hexanone	16.23	43	2533	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.85	43	2171	N.D.		
63) n-Octane	16.99	57	106	N.D.		
64) Tetrachloroethene	17.12	166	109	N.D.		
65) Chlorobenzene	17.77	112	487	N.D.		
66) Ethylbenzene	18.13	91	985	N.D.		
67) m- & p-Xylenes	18.28	91	1860	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.61	104	1178	N.D.		
70) o-Xylene	18.70	91	698	N.D.		
71) n-Nonane	18.91	43	798	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.23	105	317	N.D.		
75) alpha-Pinene	19.58	93	6452	N.D.		
76) n-Propylbenzene	19.68	91	1044	N.D.		
77) 3-Ethyltoluene	19.81	105	801	No Calib		#
78) 4-Ethyltoluene	19.81	105	801	N.D.		
79) 1,3,5-Trimethylbenzene	19.88	105	381	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.88	105	381	No Calib		#
82) 1,2,4-Trimethylbenzene	20.23	105	925	N.D.		
83) n-Decane	20.12	58	146	No Calib		#
84) Benzyl Chloride	20.35	91	1099	N.D.		
85) 1,3-Dichlorobenzene	20.37	146	713	N.D.		
86) 1,4-Dichlorobenzene	20.42	146	1148	N.D.		
87) sec-Butylbenzene	20.48	105	457	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	2862	N.D.		
89) 1,2,3-Trimethylbenzene	20.61	105	194	No Calib		#
90) 1,2-Dichlorobenzene	20.73	146	527	N.D.		
91) d-Limonene	20.74	68	1065	N.D.		
92) 1,2-Dibromo-3-Chloropr...	21.11	157	107	N.D.		
93) n-Undecane	22.26	57	4313	No Calib		
94) 1,2,4-Trichlorobenzene	22.24	180	2490	N.D.		
95) Naphthalene	22.34	128	7123	N.D.		
96) n-Dodecane	22.33	57	1758	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	495	No Calib		#
99) tert-Butylbenzene	20.22	119	215	N.D.		
100) n-Butylbenzene	20.97	91	1064	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112211.D Vial: 3
Acq On : 11 Apr 2022 13:24 Operator: WA/CG
Sample : P2201412-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 14:04:44 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112211.D Vial: 3
Acq On : 11 Apr 2022 13:24 Operator: WA/CG
Sample : P2201412-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 14:04:44 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/11/22

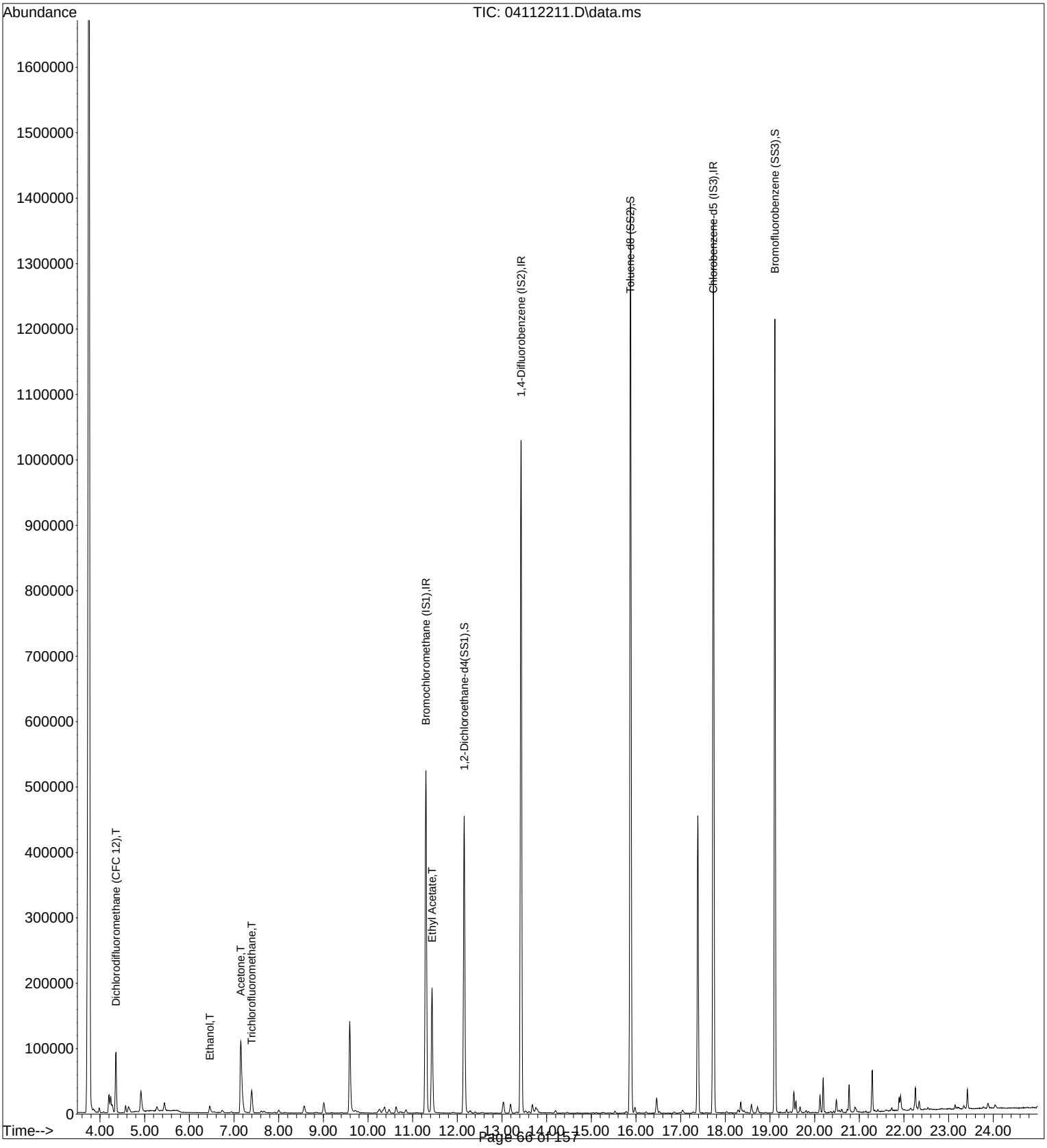
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	217787	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	969903	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	181041	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	349851	11.694	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
57) Toluene-d8 (SS2)	15.88	98	1057804	12.091	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
73) Bromofluorobenzene (SS3)	19.11	174	355739	12.758	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.36	85	89605	1.635	ng		100
10) Ethanol	6.46	45	18479	0.901	ng		94
13) Acetone	7.15	58	59917	2.920	ng	#	81
14) Trichlorofluoromethane	7.40	101	36210	0.777	ng		99
30) Ethyl Acetate	11.43	61	36478	3.765	ng		80

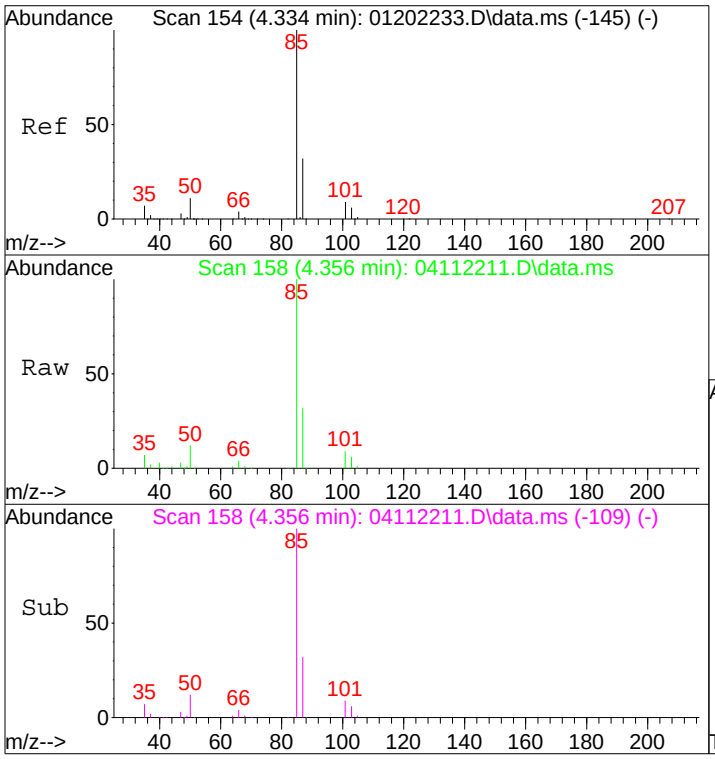
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112211.D Vial: 3
Acq On : 11 Apr 2022 13:24 Operator: WA/CG
Sample : P2201412-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 14:04:44 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

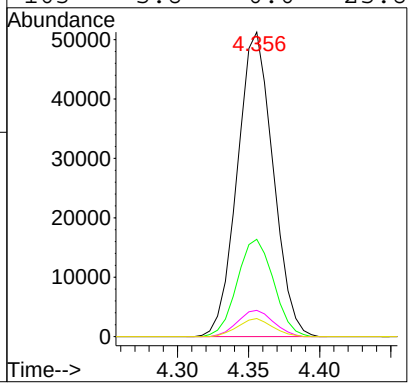


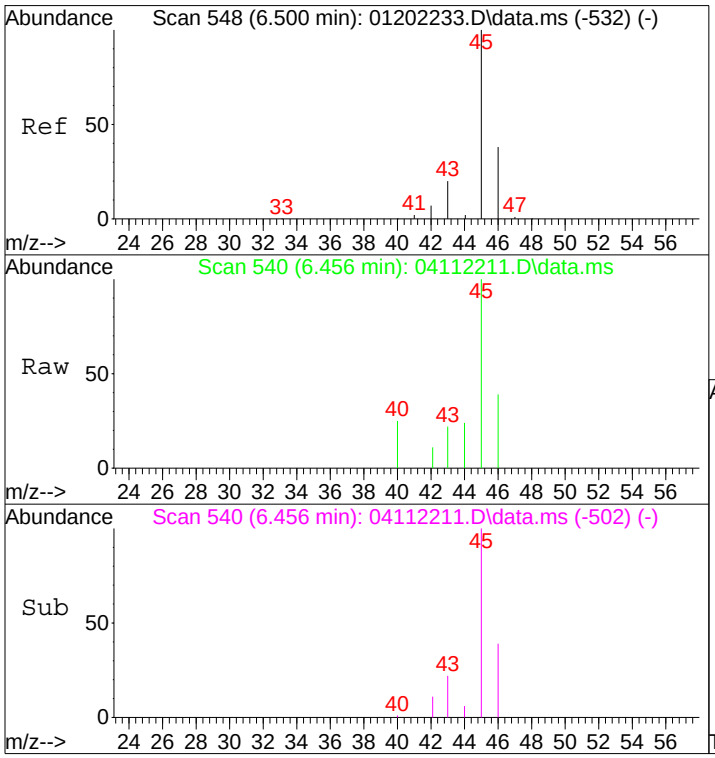


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.63 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.022 min
Lab File: 04112211.D
Acq: 11 Apr 2022 13:24

Tgt Ion: 85 Resp: 89605

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.6	52.6
101	8.7	0.0	29.1
103	5.8	0.0	25.8

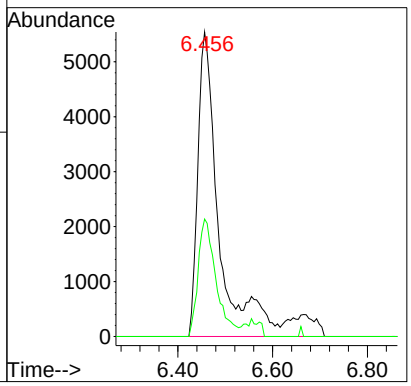


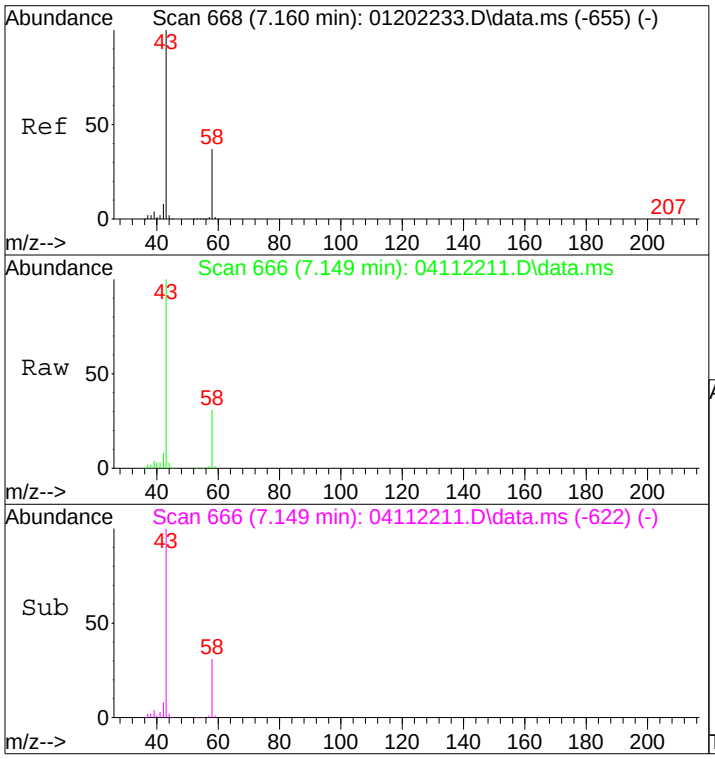


#10
Ethanol
Concen: 0.90 ng
RT: 6.46 min Scan# 540
Delta R.T. -0.039 min
Lab File: 04112211.D
Acq: 11 Apr 2022 13:24

Tgt Ion: 45 Resp: 18479

Ion	Ratio	Lower	Upper
45	100		
46	34.1	17.6	57.6

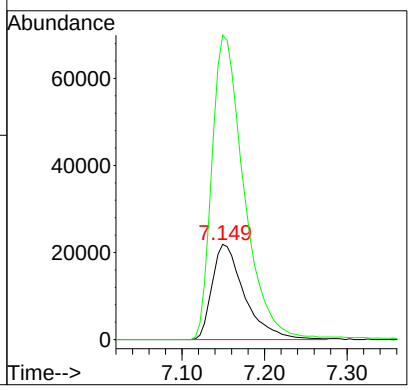


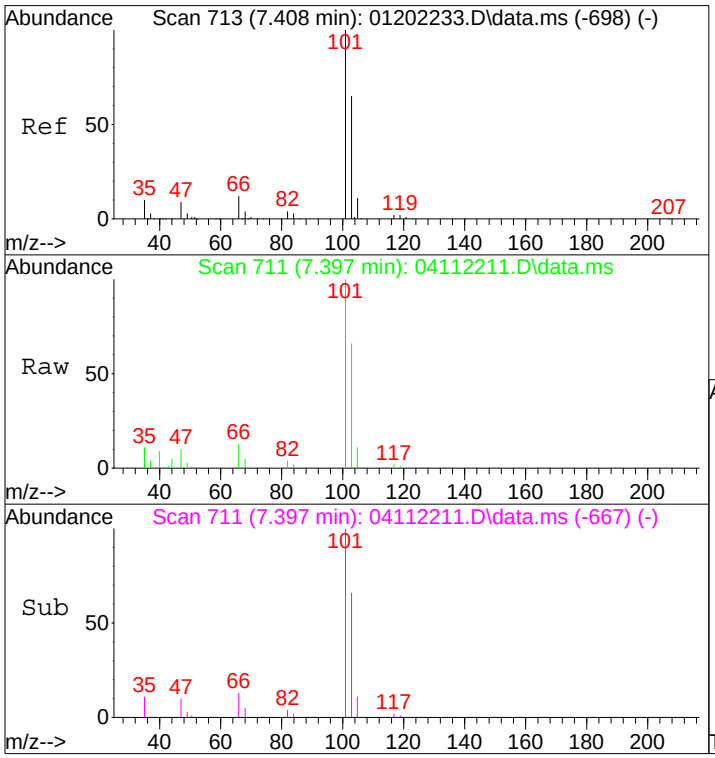


#13
Acetone
Concen: 2.92 ng
RT: 7.15 min Scan# 666
Delta R.T. -0.006 min
Lab File: 04112211.D
Acq: 11 Apr 2022 13:24

Tgt Ion: 58 Resp: 59917

Ion	Ratio	Lower	Upper
58	100		
43	319.1	253.5	313.5#

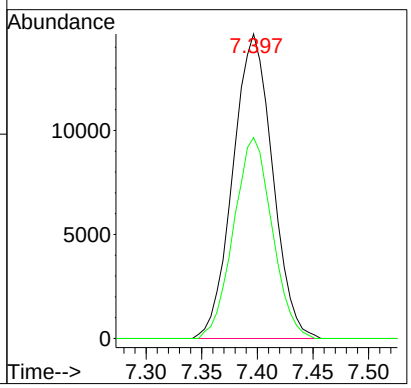


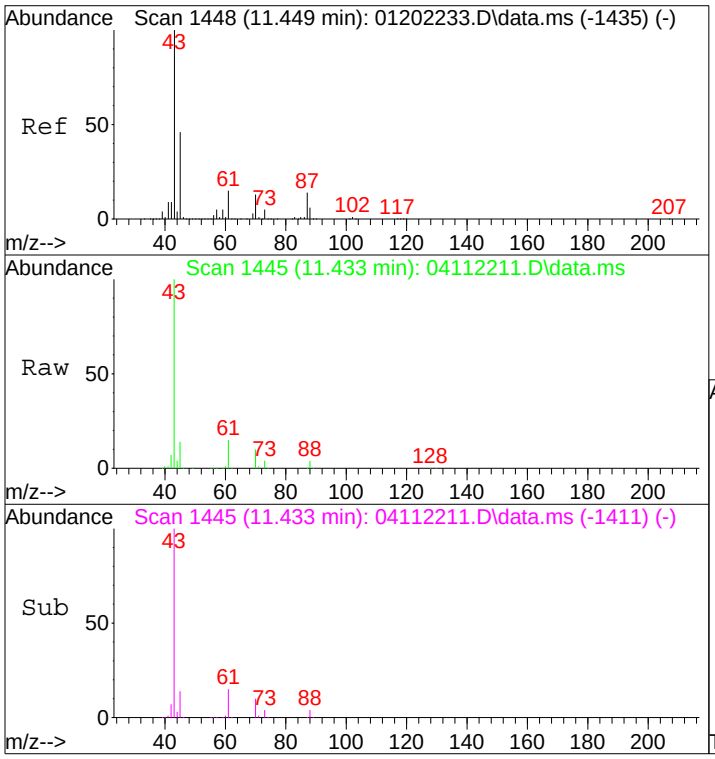


#14
Trichlorofluoromethane
Concen: 0.78 ng
RT: 7.40 min Scan# 711
Delta R.T. -0.005 min
Lab File: 04112211.D
Acq: 11 Apr 2022 13:24

Tgt Ion:101 Resp: 36210

Ion	Ratio	Lower	Upper
101	100		
103	64.2	45.0	85.0

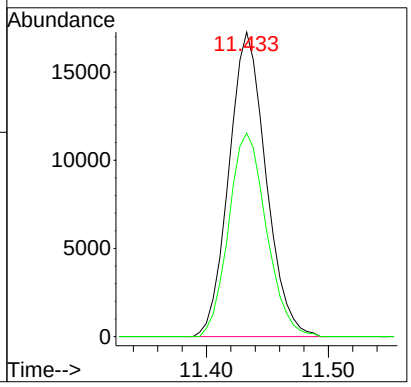




#30
Ethyl Acetate
Concen: 3.77 ng
RT: 11.43 min Scan# 1445
Delta R.T. -0.011 min
Lab File: 04112211.D
Acq: 11 Apr 2022 13:24

Tgt Ion: 61 Resp: 36478

Ion	Ratio	Lower	Upper
61	100		
70	68.0	66.4	106.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112212.D Vial: 4
Acq On : 11 Apr 2022 13:58 Operator: WA/CG
Sample : P2201412-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 14:40:57 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022 4/11/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	210109	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	915379	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	172783	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	338337	11.723	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
57) Toluene-d8 (SS2)	15.88	98	984234	11.788	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
73) Bromofluorobenzene (SS3)	19.11	174	332981	12.513	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
Target Compounds							Qvalue
2) Propene	4.20	42	12048	N.D.			
3) Dichlorodifluoromethan...	4.36	85	85413	1.615	ng		100
4) Chloromethane	4.64	50	8915	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	2354	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.78	94	496	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.47	45	41698	2.107	ng		94
11) Acetonitrile	6.74	41	5530	N.D.			
12) Acrolein	6.93	56	9795	0.671	ng		96
13) Acetone	7.15	58	81150m	4.099	ng		
14) Trichlorofluoromethane	7.40	101	33620	0.748	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	15760	N.D.			
16) Acrylonitrile	7.90	53	528	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.58	59	2054	N.D.			
19) Methylene Chloride	8.57	84	7287	N.D.			
20) 3-Chloro-1-propene (Al...	8.58	41	705	N.D.			
21) Trichlorotrifluoroethane	9.01	151	6471	N.D.			
22) Carbon Disulfide	8.85	76	6226	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.26	73	298	N.D.			
26) Vinyl Acetate	10.33	86	11490	2.296	ng	#	40
27) 2-Butanone (MEK)	10.63	72	13643	0.749	ng	#	67
28) cis-1,2-Dichloroethene	11.06	61	540	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.44	61	8136	0.870	ng		80
31) n-Hexane	11.42	57	1330	N.D.			
32) Chloroform	11.47	83	1860	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	1184	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	13.01	56	5261	No Calib		#	
41) Benzene	13.04	78	13650	N.D.			
42) Carbon Tetrachloride	13.19	117	8289	N.D.			
43) Cyclohexane	13.33	84	420	N.D.			
44) tert-Amyl Methyl Ether	13.72	73	122	N.D.			
45) 1,2-Dichloropropane	13.89	63	158	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.20	57	3838	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112212.D Vial: 4
Acq On : 11 Apr 2022 13:58 Operator: WA/CG
Sample : P2201412-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 14:40:57 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

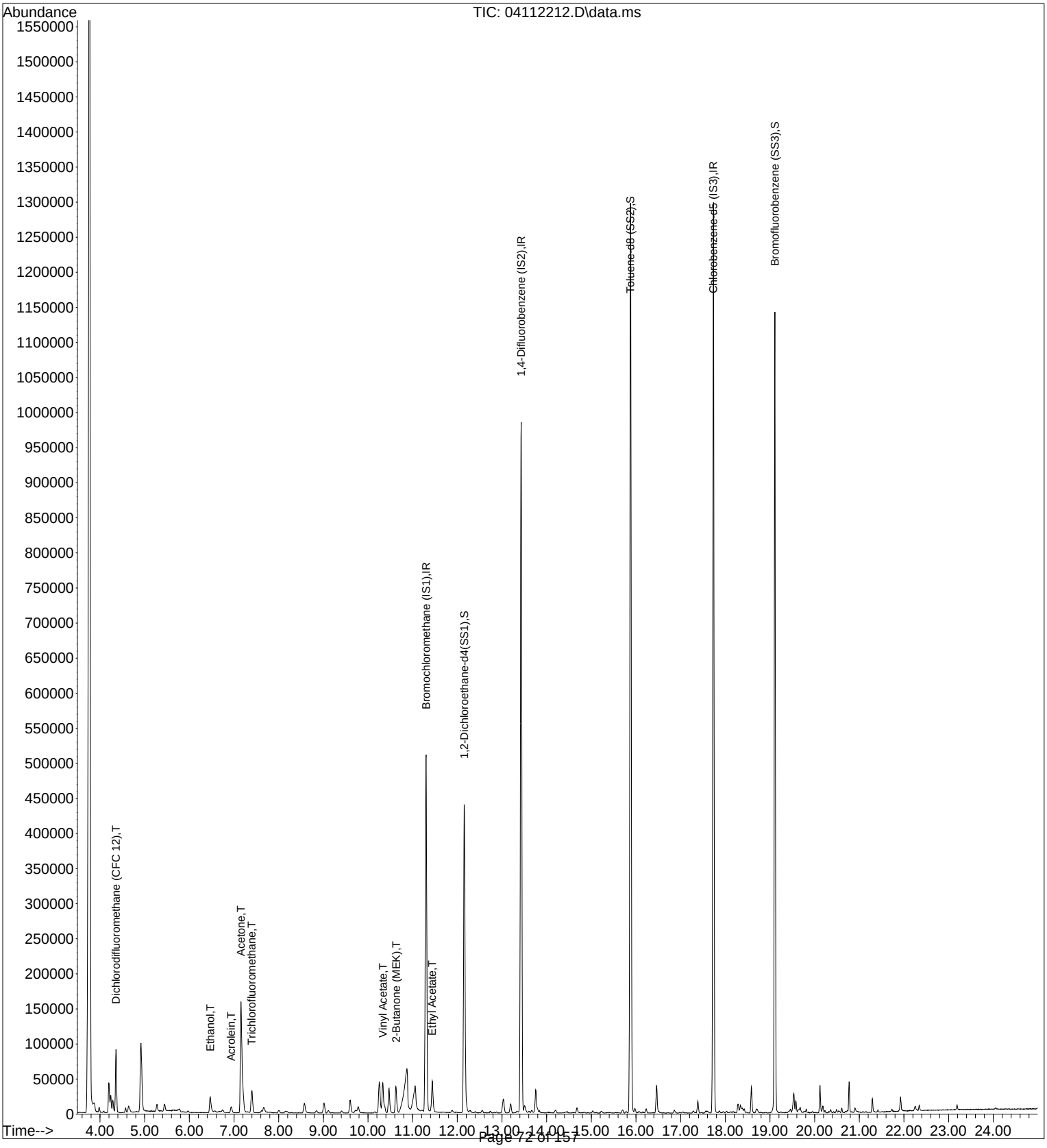
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	179	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.03	58	684	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	5279	N.D.	
59) 2-Hexanone	16.23	43	4695	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.86	43	3615	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	17.12	166	233	N.D.	
65) Chlorobenzene	17.78	112	343	N.D.	
66) Ethylbenzene	18.13	91	1706	N.D.	
67) m- & p-Xylenes	18.29	91	2691	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.60	104	837	N.D.	
70) o-Xylene	18.71	91	951	N.D.	
71) n-Nonane	18.91	43	913	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.24	105	102	N.D.	
75) alpha-Pinene	19.58	93	6323	N.D.	
76) n-Propylbenzene	19.68	91	843	N.D.	
77) 3-Ethyltoluene	19.80	105	817	No Calib	#
78) 4-Ethyltoluene	19.80	105	817	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	441	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.87	105	441	No Calib	#
82) 1,2,4-Trimethylbenzene	20.23	105	1768	N.D.	
83) n-Decane	20.12	58	388	No Calib	#
84) Benzyl Chloride	20.35	91	602	N.D.	
85) 1,3-Dichlorobenzene	20.36	146	576	N.D.	
86) 1,4-Dichlorobenzene	20.42	146	566	N.D.	
87) sec-Butylbenzene	20.61	105	499	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	3169	N.D.	
89) 1,2,3-Trimethylbenzene	20.61	105	499	No Calib	#
90) 1,2-Dichlorobenzene	20.73	146	287	N.D.	
91) d-Limonene	20.73	68	818	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	22.26	57	726	No Calib	#
94) 1,2,4-Trichlorobenzene	22.24	180	1297	N.D.	
95) Naphthalene	22.34	128	5373	N.D.	
96) n-Dodecane	22.34	57	613	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.28	55	1696	No Calib	#
99) tert-Butylbenzene	20.23	119	216	N.D.	
100) n-Butylbenzene	20.98	91	932	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112212.D Vial: 4
Acq On : 11 Apr 2022 13:58 Operator: WA/CG
Sample : P2201412-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 14:40:57 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112212.D Vial: 4
Acq On : 11 Apr 2022 13:58 Operator: WA/CG
Sample : P2201412-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 14:40:57 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/11/22

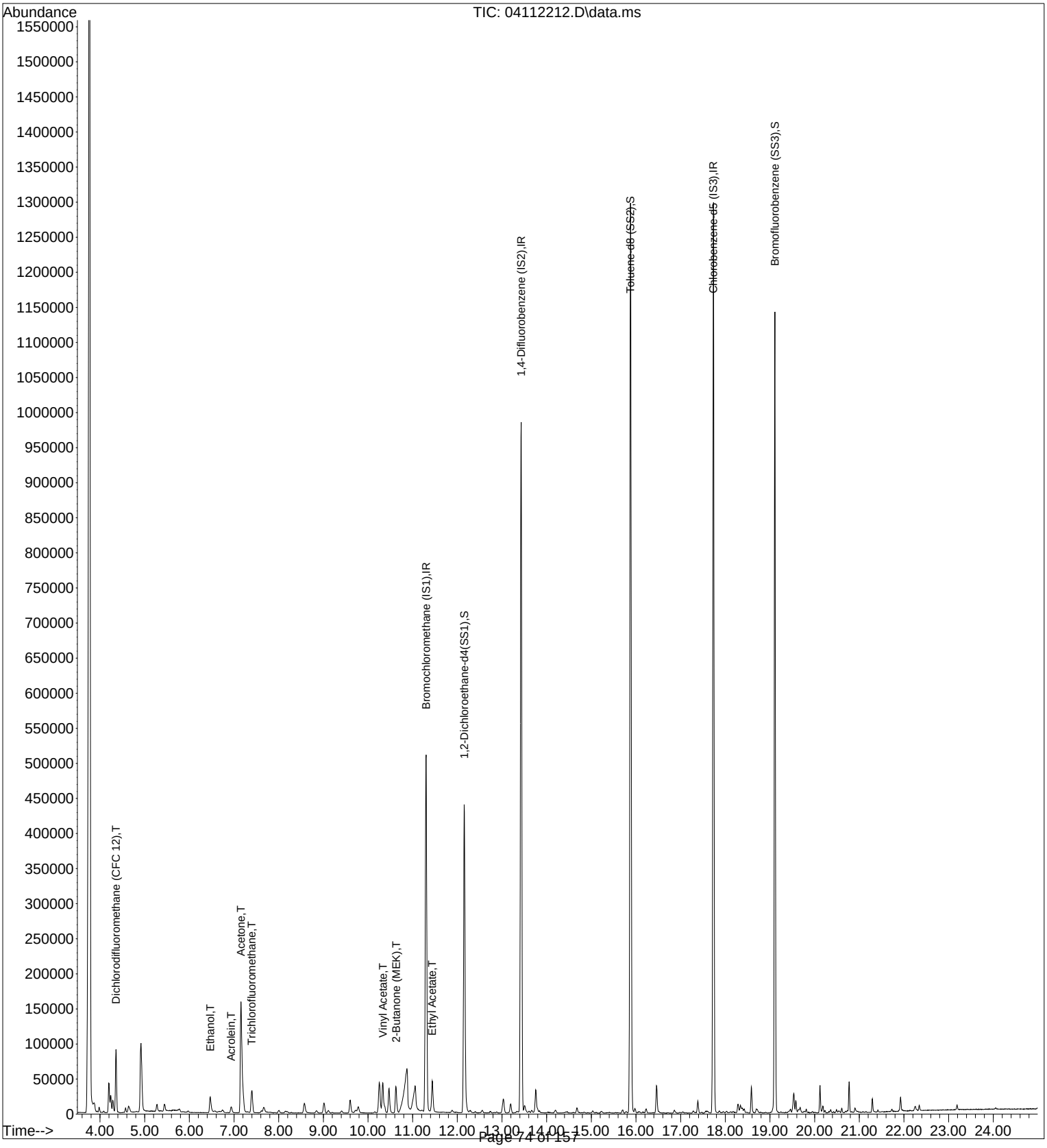
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	210109	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	915379	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	172783	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	338337	11.723	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
57) Toluene-d8 (SS2)	15.88	98	984234	11.788	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
73) Bromofluorobenzene (SS3)	19.11	174	332981	12.513	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.36	85	85413	1.615	ng		100
10) Ethanol	6.47	45	41698	2.107	ng		94
12) Acrolein	6.93	56	9795	0.671	ng		96
13) Acetone	7.15	58	81150m	4.099	ng		
14) Trichlorofluoromethane	7.40	101	33620	0.748	ng		100
26) Vinyl Acetate	10.33	86	11490	2.296	ng	#	40
27) 2-Butanone (MEK)	10.63	72	13643	0.749	ng	#	67
30) Ethyl Acetate	11.44	61	8136	0.870	ng		80

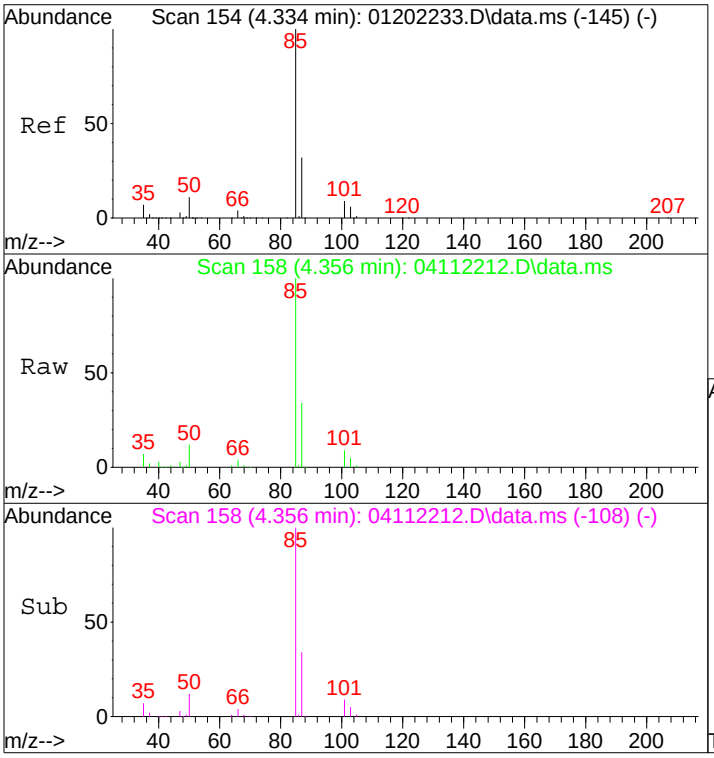
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112212.D Vial: 4
Acq On : 11 Apr 2022 13:58 Operator: WA/CG
Sample : P2201412-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 14:40:57 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

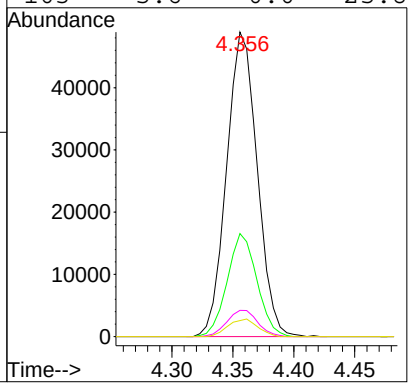


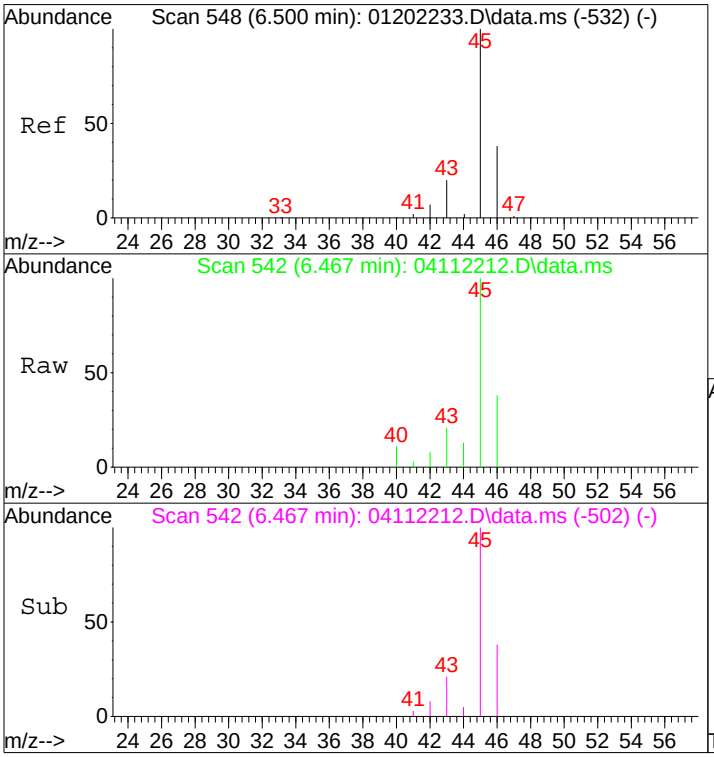


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.62 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.022 min
Lab File: 04112212.D
Acq: 11 Apr 2022 13:58

Tgt Ion: 85 Resp: 85413

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.6	52.6
101	8.7	0.0	29.1
103	5.6	0.0	25.8

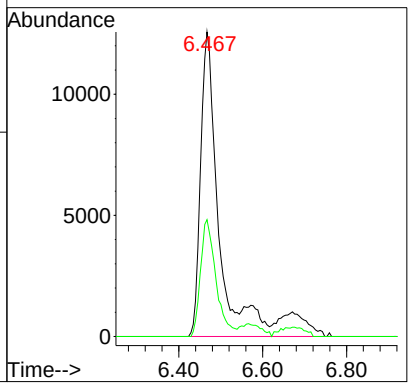


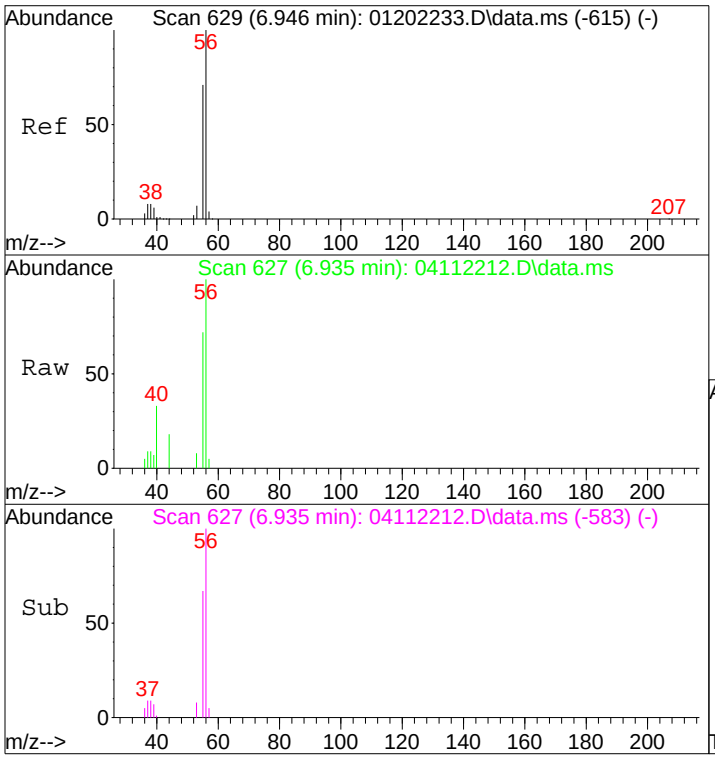


#10
Ethanol
Concen: 2.11 ng
RT: 6.47 min Scan# 542
Delta R.T. -0.028 min
Lab File: 04112212.D
Acq: 11 Apr 2022 13:58

Tgt Ion: 45 Resp: 41698

Ion	Ratio	Lower	Upper
45	100		
46	33.9	17.6	57.6

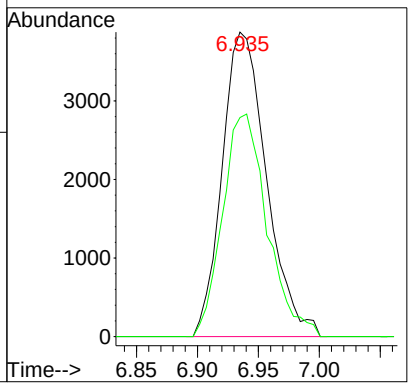


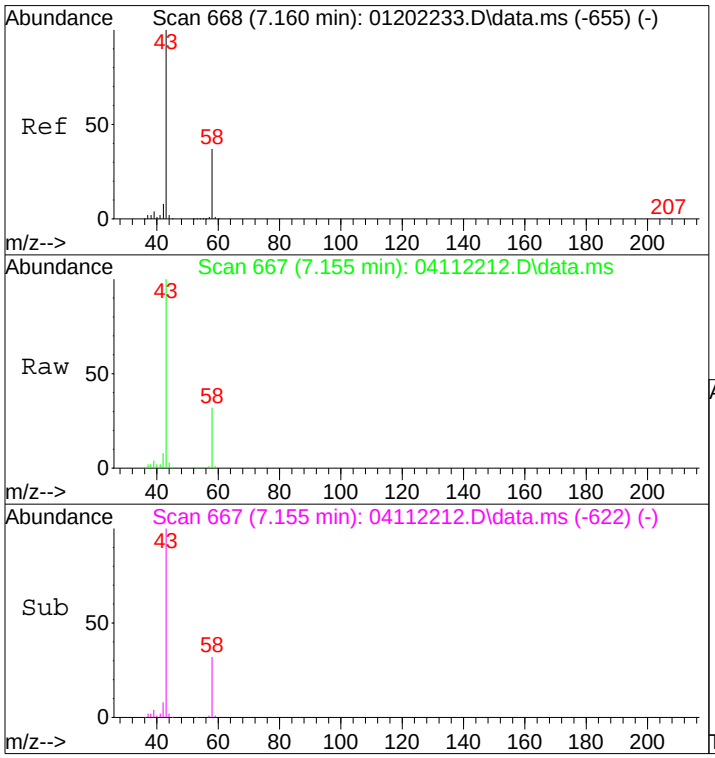


#12
Acrolein
Concen: 0.67 ng
RT: 6.93 min Scan# 627
Delta R.T. -0.005 min
Lab File: 04112212.D
Acq: 11 Apr 2022 13:58

Tgt Ion: 56 Resp: 9795

Ion	Ratio	Lower	Upper
56	100		
55	73.3	50.2	90.2

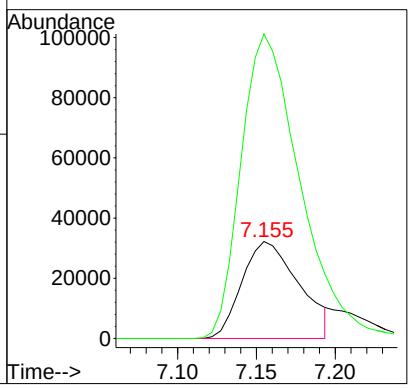


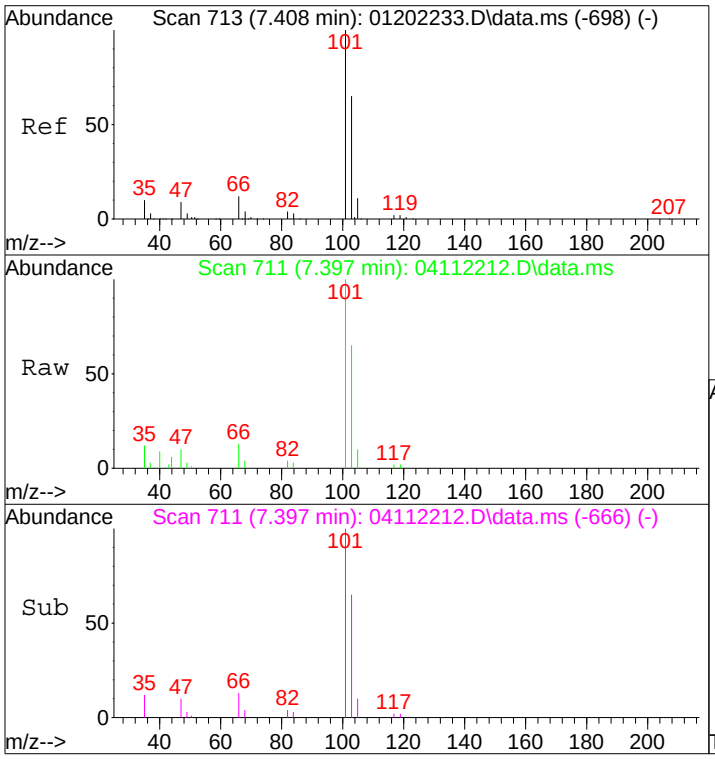


#13
Acetone
Concen: 4.10 ng m
RT: 7.15 min Scan# 667
Delta R.T. -0.000 min
Lab File: 04112212.D
Acq: 11 Apr 2022 13:58

Tgt Ion: 58 Resp: 81150

Ion	Ratio	Lower	Upper
58	100		
43	329.0	253.5	313.5#

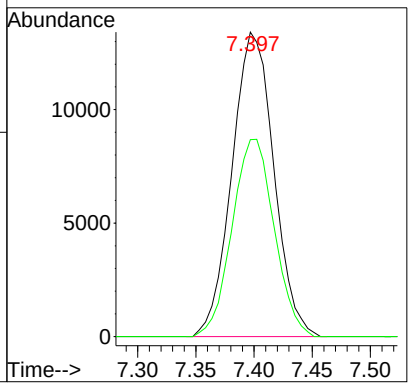


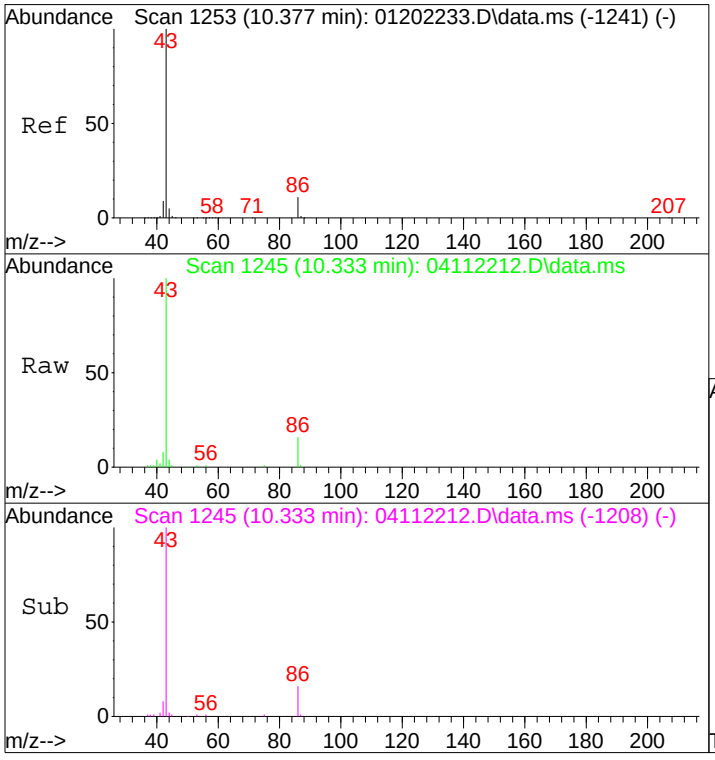


#14
Trichlorofluoromethane
Concen: 0.75 ng
RT: 7.40 min Scan# 711
Delta R.T. -0.005 min
Lab File: 04112212.D
Acq: 11 Apr 2022 13:58

Tgt Ion:101 Resp: 33620

Ion	Ratio	Lower	Upper
101	100		
103	65.1	45.0	85.0

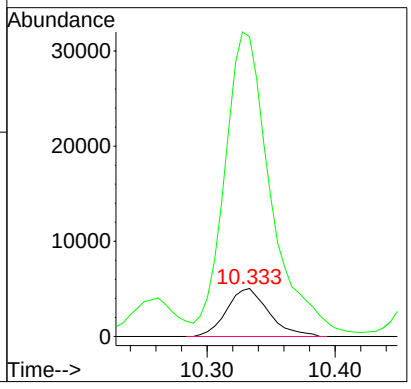


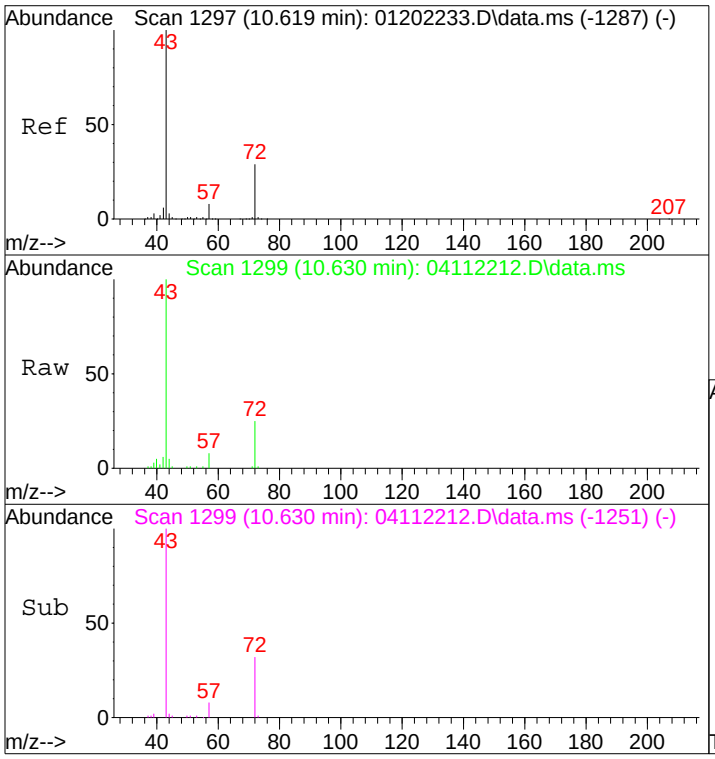


#26
Vinyl Acetate
Concen: 2.30 ng
RT: 10.33 min Scan# 1245
Delta R.T. -0.044 min
Lab File: 04112212.D
Acq: 11 Apr 2022 13:58

Tgt Ion: 86 Resp: 11490

Ion	Ratio	Lower	Upper
86	100		
43	703.9	947.5	987.5#

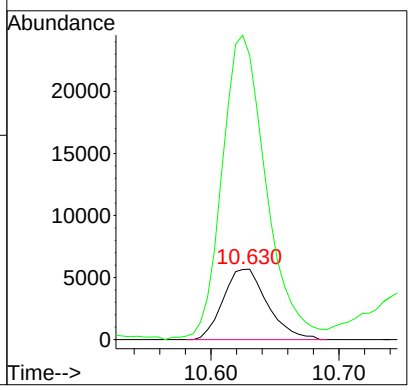


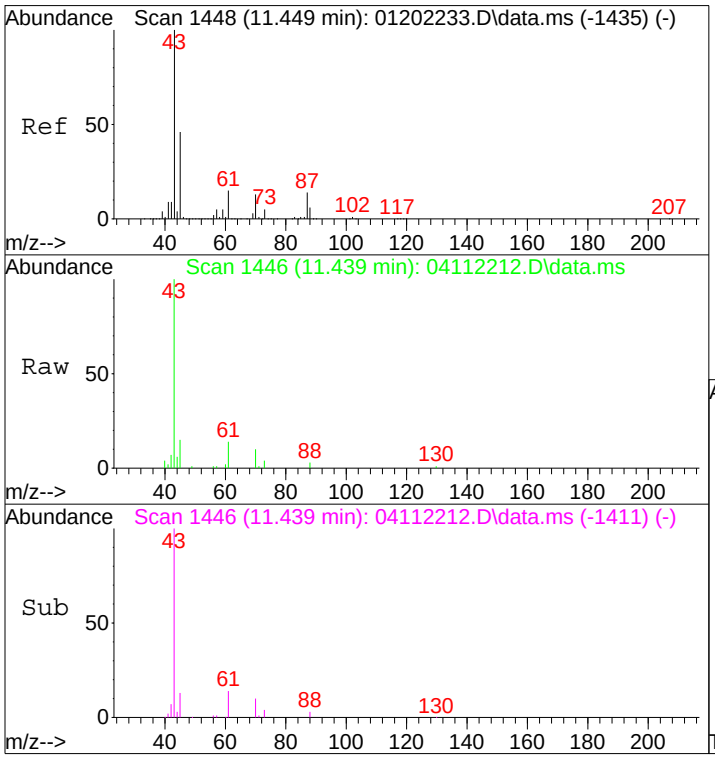


#27
2-Butanone (MEK)
Concen: 0.75 ng
RT: 10.63 min Scan# 1299
Delta R.T. 0.011 min
Lab File: 04112212.D
Acq: 11 Apr 2022 13:58

Tgt Ion: 72 Resp: 13643

Ion	Ratio	Lower	Upper
72	100		
43	431.8	339.3	379.3#

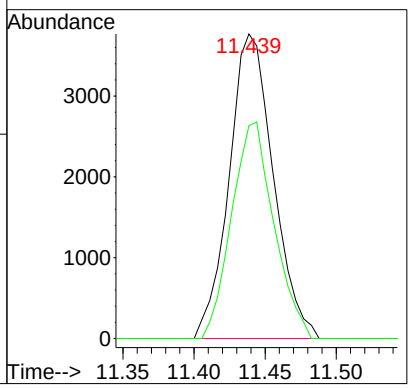




#30
Ethyl Acetate
Concen: 0.87 ng
RT: 11.44 min Scan# 1446
Delta R.T. -0.005 min
Lab File: 04112212.D
Acq: 11 Apr 2022 13:58

Tgt Ion: 61 Resp: 8136

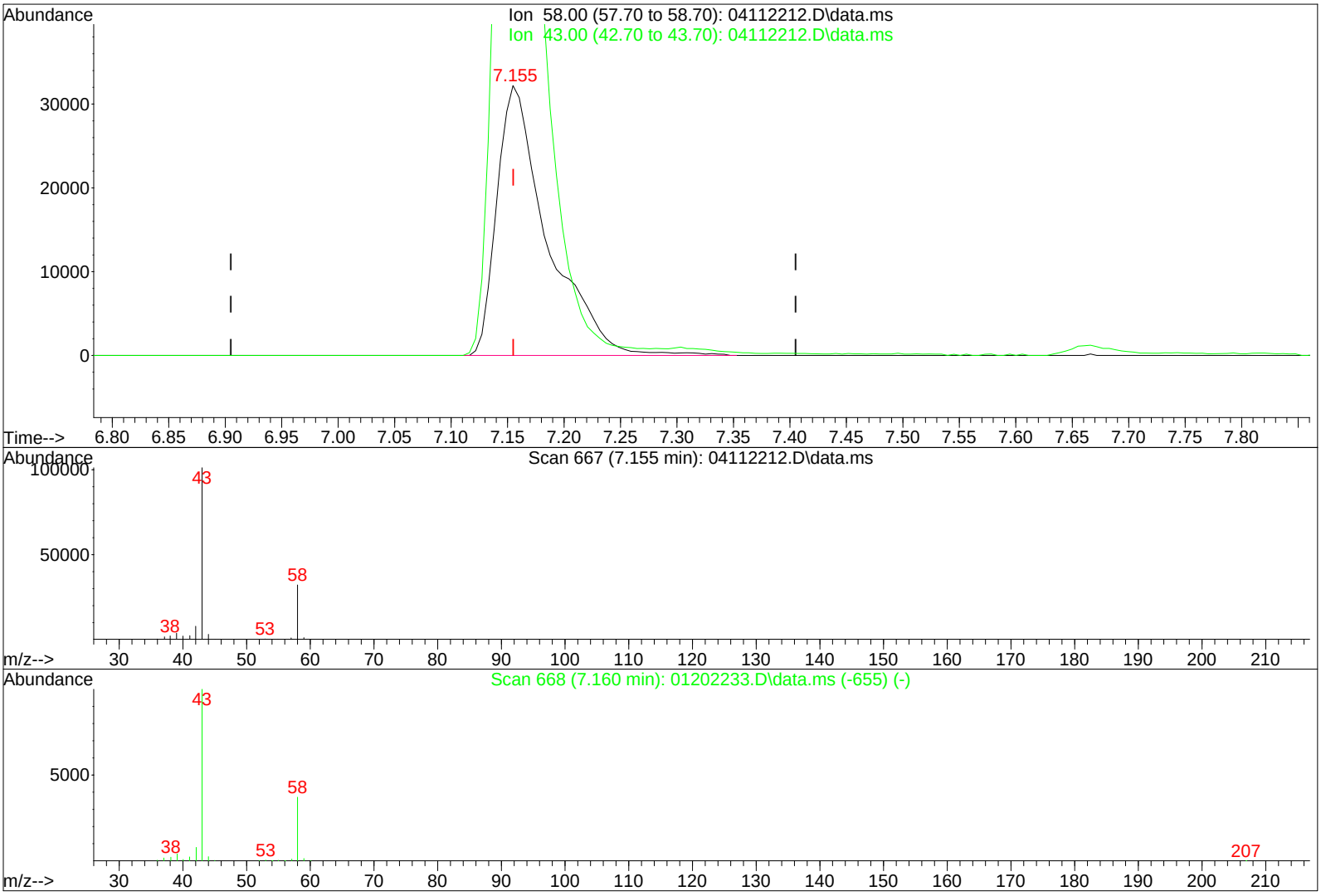
Ion	Ratio	Lower	Upper
61	100		
70	68.1	66.4	106.4



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 04\11\04112212.D Vial: 4
Acq On : 11 Apr 2022 13:58 Operator: WA/CG
Sample : P2201412-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 14:40:05 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04112212.D\data.ms

(13) Acetone (T)

7.155min (-0.000) 5.05ng

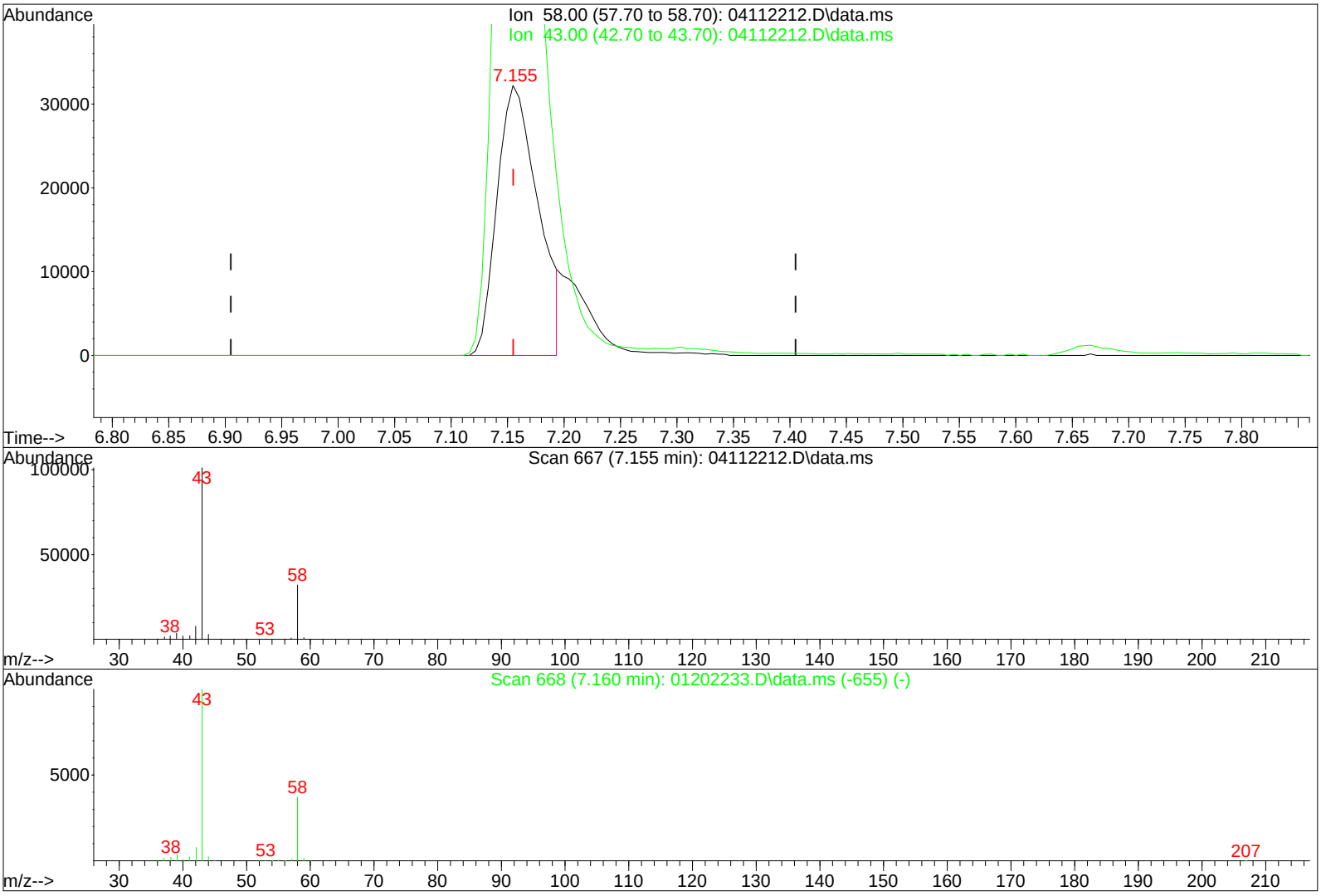
response 100047

Ion	Exp%	Act%
58.00	100	100
43.00	283.50	266.85
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 04\11\04112212.D Vial: 4
Acq On : 11 Apr 2022 13:58 Operator: WA/CG
Sample : P2201412-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 14:40:05 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04112212.D\data.ms

(13) Acetone (T)

7.155min (-0.000) 4.10ng m

response 81150

Ion	Exp%	Act%
58.00	100	100
43.00	283.50	328.99#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

4/11/22

LH 4/11/22

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092203.D Vial: 2
Acq On : 9 Apr 2022 4:27 Operator: WA
Sample : MB R16040922_1000mL Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 09 04:54:34 2022 4/9/22
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	288675	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	1271679	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	226456	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	437616	11.036	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%				
57) Toluene-d8 (SS2)	15.88	98	1356355	12.394	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	19.11	174	504178	14.455	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.68%				
Target Compounds							Qvalue
2) Propene	4.21	42	507	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.47	45	3046	0.112	ng		90
11) Acetonitrile	6.73	41	1964	N.D.			
12) Acrolein	6.94	56	375	N.D.			
13) Acetone	7.17	58	5021	0.185	ng	#	83
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.71	45	679	N.D.			
16) Acrylonitrile	7.90	53	1198	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.57	84	128	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.84	76	1246	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.64	72	226	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.46	61	115	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.92	72	108	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	5090	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.41	84	1240	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.13	130	318	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092203.D Vial: 2
Acq On : 9 Apr 2022 4:27 Operator: WA
Sample : MB R16040922_1000mL Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 09 04:54:34 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

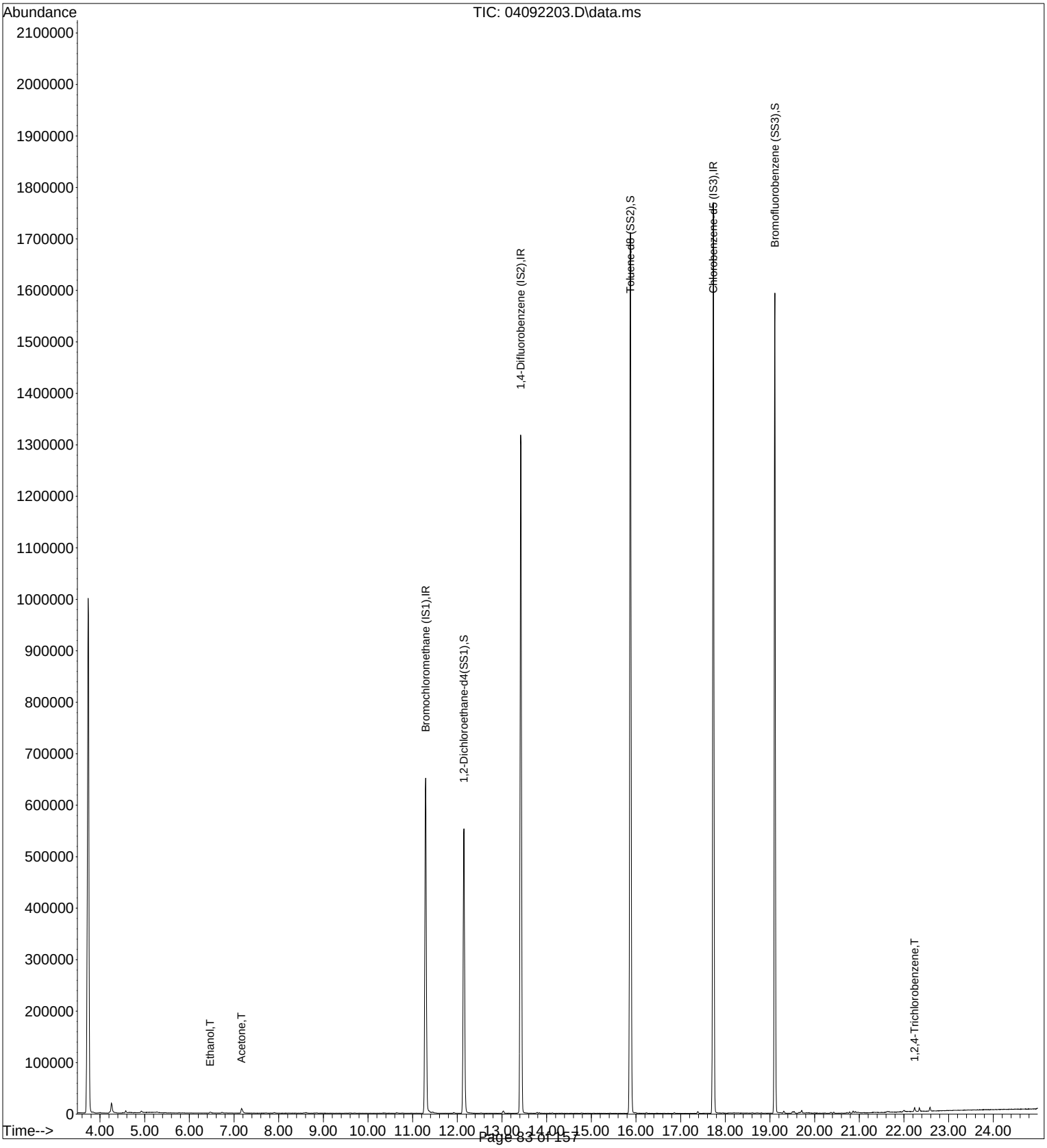
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	1177	N.D.	
59) 2-Hexanone	16.24	43	1361	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.86	43	1168	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	17.77	112	546	N.D.	
66) Ethylbenzene	18.13	91	624	N.D.	
67) m- & p-Xylenes	18.28	91	950	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.61	104	420	N.D.	
70) o-Xylene	18.71	91	469	N.D.	
71) n-Nonane	18.73	43	196	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.24	105	386	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.65	91	1861	N.D.	
77) 3-Ethyltoluene	19.80	105	534	No Calib	#
78) 4-Ethyltoluene	19.80	105	534	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	260	N.D.	
80) alpha-Methylstyrene	19.76	118	115	No Calib	#
81) 2-Ethyltoluene	19.87	105	260	No Calib	#
82) 1,2,4-Trimethylbenzene	20.23	105	335	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.35	91	877	N.D.	
85) 1,3-Dichlorobenzene	20.36	146	888	N.D.	
86) 1,4-Dichlorobenzene	20.43	146	1018	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	257	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	20.73	146	728	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.24	180	3487	0.069 ng	# 94
95) Naphthalene	22.34	128	5862	N.D.	
96) n-Dodecane	0.00	57	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	20.98	91	926	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092203.D Vial: 2
Acq On : 9 Apr 2022 4:27 Operator: WA
Sample : MB R16040922_1000mL Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 09 04:54:34 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112205.D Vial: 2
Acq On : 11 Apr 2022 9:47 Operator: WA
Sample : MB R16041122_1000mL Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 10:38:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022 4/11/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	223743	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	1032738	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	179862	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	358376	11.660	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%				
57) Toluene-d8 (SS2)	15.88	98	1107527	12.742	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
73) Bromofluorobenzene (SS3)	19.11	174	366319	13.224	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.76%				
Target Compounds							Qvalue
2) Propene	4.23	42	547	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.49	45	1322	0.063	ng		68
11) Acetonitrile	6.75	41	1151	N.D.			
12) Acrolein	6.96	56	172	N.D.			
13) Acetone	7.18	58	6543	0.310	ng	#	82
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.71	45	339	N.D.			
16) Acrylonitrile	7.92	53	574	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.57	84	592	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.86	76	1588	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	1906	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.43	84	1242	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.13	130	384	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112205.D Vial: 2
Acq On : 11 Apr 2022 9:47 Operator: WA
Sample : MB R16041122_1000mL Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 10:38:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

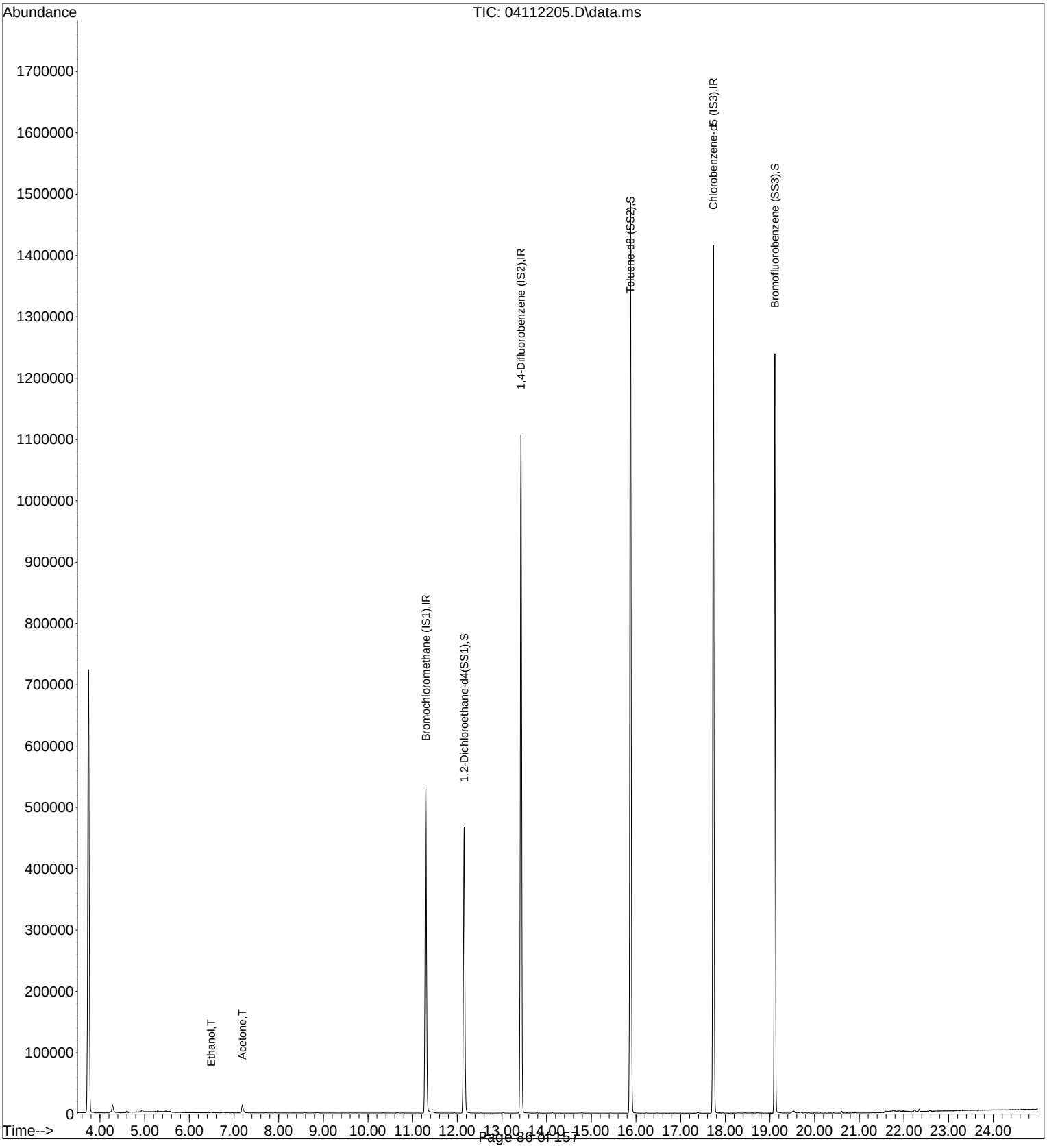
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	602	N.D.	
59) 2-Hexanone	16.24	43	657	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.87	43	421	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	17.78	112	179	N.D.	
66) Ethylbenzene	18.13	91	679	N.D.	
67) m- & p-Xylenes	18.30	91	861	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.70	91	224	N.D.	
71) n-Nonane	18.91	43	181	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.23	105	1216	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.68	91	336	N.D.	
77) 3-Ethyltoluene	19.77	105	1765	No Calib	
78) 4-Ethyltoluene	19.77	105	1765	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	1149	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.87	105	1149	No Calib	
82) 1,2,4-Trimethylbenzene	20.24	105	335	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.35	91	330	N.D.	
85) 1,3-Dichlorobenzene	20.37	146	258	N.D.	
86) 1,4-Dichlorobenzene	20.42	146	454	N.D.	
87) sec-Butylbenzene	20.61	105	891	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	961	N.D.	
89) 1,2,3-Trimethylbenzene	20.61	105	891	No Calib	#
90) 1,2-Dichlorobenzene	20.73	146	274	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	22.26	57	166	No Calib	#
94) 1,2,4-Trichlorobenzene	22.24	180	1294	N.D.	
95) Naphthalene	22.34	128	2258	N.D.	
96) n-Dodecane	22.33	57	611	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	20.97	91	249	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112205.D Vial: 2
Acq On : 11 Apr 2022 9:47 Operator: WA
Sample : MB R16041122_1000mL Inst : GCMS-16
Misc : S35-04032201

Quant Time: Apr 11 10:38:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092204.D Vial: 2
Acq On : 9 Apr 2022 5:01 Operator: WA
Sample : LCS R16040922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-04072203 (5/6)

Quant Time: Apr 09 06:54:51 2022 4/9/22
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	297379	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	1321207	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	240153	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	452236	11.071	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.56%				
57) Toluene-d8 (SS2)	15.88	98	1424137	12.271	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	19.11	174	546812	14.784	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.24%				
Target Compounds							Qvalue
2) Propene	4.16	42	1137772	25.116	ng		98
3) Dichlorodifluoromethan...	4.33	85	1684444	22.506	ng		100
4) Chloromethane	4.63	50	1168052	21.463	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.89	135	922512	23.044	ng		100
6) Vinyl Chloride	5.05	62	1162984	20.823	ng		100
7) 1,3-Butadiene	5.32	54	864416	22.440	ng		97
8) Bromomethane	5.77	94	729760	23.986	ng		100
9) Chloroethane	6.11	64	589083	23.996	ng		100
10) Ethanol	6.49	45	2687585	95.957	ng		100
11) Acetonitrile	6.74	41	1540274	20.586	ng		99
12) Acrolein	6.93	56	1108117	53.610	ng		99
13) Acetone	7.14	58	3040036	108.492	ng		99
14) Trichlorofluoromethane	7.39	101	1451591	22.809	ng		100
15) 2-Propanol (Isopropanol)	7.64	45	3837689	40.182	ng		99
16) Acrylonitrile	7.91	53	2260089	45.893	ng		99
17) 1,1-Dichloroethene	8.36	96	838488	25.070	ng		94
18) 2-Methyl-2-Propanol (t...	8.52	59	4271941	48.502	ng		99
19) Methylene Chloride	8.59	84	867118	23.737	ng		99
20) 3-Chloro-1-propene (Al...	8.75	41	1101286	21.586	ng		100
21) Trichlorotrifluoroethane	9.01	151	788250	27.283	ng		91
22) Carbon Disulfide	8.85	76	6007055	48.335	ng		100
23) trans-1,2-Dichloroethene	9.87	61	1162675	23.513	ng		97
24) 1,1-Dichloroethane	10.11	63	1448324	23.870	ng		100
25) Methyl tert-Butyl Ether	10.21	73	2467445	24.429	ng		99
26) Vinyl Acetate	10.37	86	867862	122.543	ng	#	94
27) 2-Butanone (MEK)	10.61	72	1195090	46.347	ng		94
28) cis-1,2-Dichloroethene	11.13	61	1123521	23.441	ng		96
29) Diisopropyl Ether	11.43	87	1372276	45.675	ng	#	88
30) Ethyl Acetate	11.44	61	792995	59.943	ng		95
31) n-Hexane	11.41	57	1137160	22.641	ng		99
32) Chloroform	11.48	83	1461428	24.310	ng		99
34) Tetrahydrofuran (THF)	11.88	72	1115521	47.408	ng		99
35) Ethyl tert-Butyl Ether	12.02	87	2074612	54.026	ng		94
36) 1,2-Dichloroethane	12.27	62	1063416	22.749	ng		100
38) 1,1,1-Trichloroethane	12.56	97	1308251	24.382	ng		100
39) Isopropyl Acetate	12.99	61	24557	No Calib		#	
40) 1-Butanol	13.00	56	19500	No Calib		#	
41) Benzene	13.04	78	3466954	25.252	ng		99
42) Carbon Tetrachloride	13.20	117	1088959	24.947	ng		100
43) Cyclohexane	13.33	84	2632212	52.138	ng		96
44) tert-Amyl Methyl Ether	13.67	73	4749734	52.994	ng		98
45) 1,2-Dichloropropane	13.89	63	856639	25.561	ng		100
46) Bromodichloromethane	14.08	83	1184335	26.332	ng		100
47) Trichloroethene	14.13	130	987335	26.901	ng		94
48) 1,4-Dioxane	14.10	88	732784	24.046	ng		98
49) 2,2,4-Trimethylpentane...	14.20	57	3507702	26.349	ng		98
50) Methyl Methacrylate	14.34	100	768499	53.850	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092204.D Vial: 2
Acq On : 9 Apr 2022 5:01 Operator: WA
Sample : LCS R16040922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-04072203 (5/6)

Quant Time: Apr 09 06:54:51 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

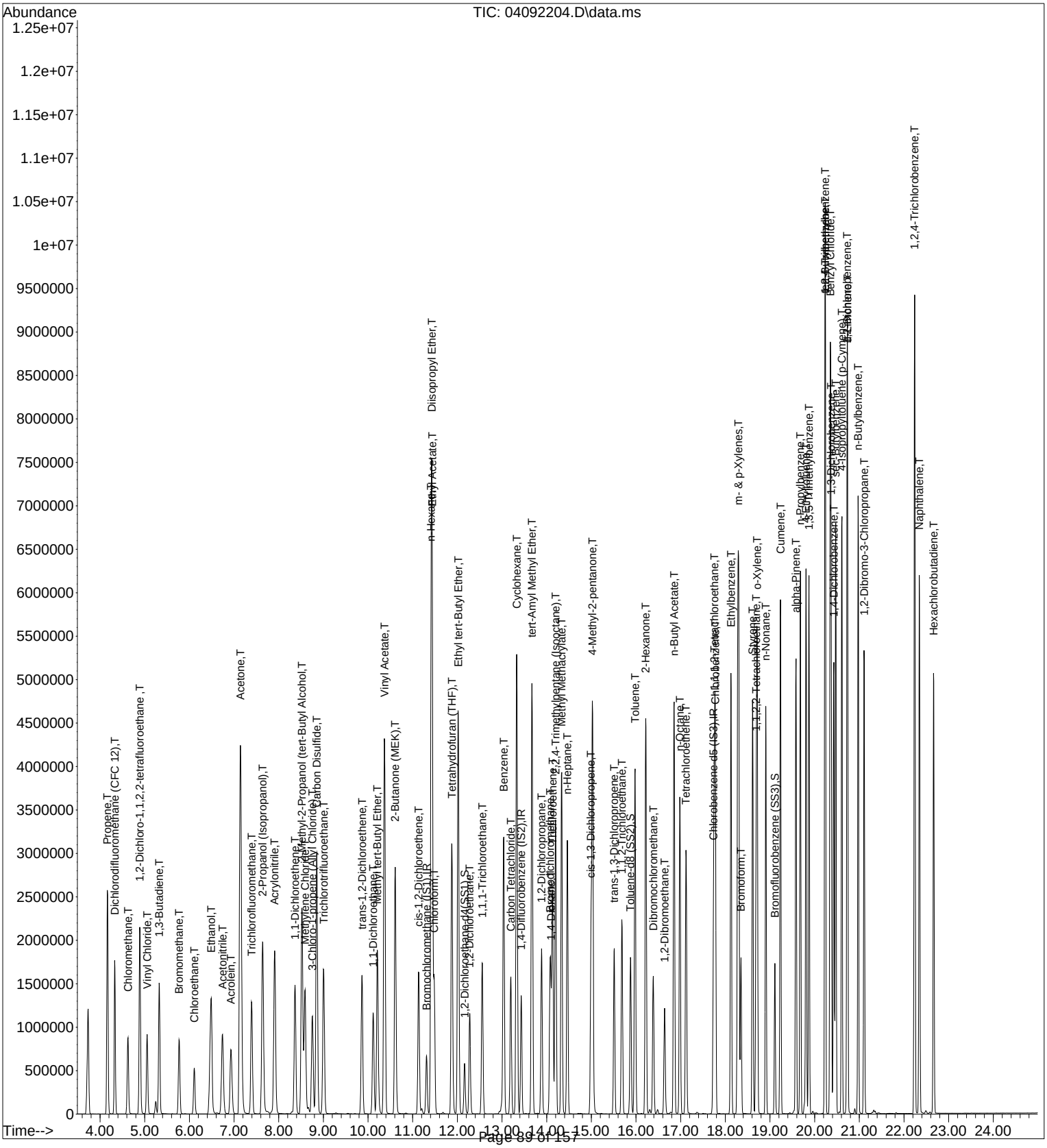
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	888697	26.069 ng		98
52) cis-1,3-Dichloropropene	14.99	75	1405508	26.656 ng		100
53) 4-Methyl-2-pentanone	15.02	58	1575921	51.462 ng		97
54) trans-1,3-Dichloropropene	15.51	75	1258527	25.980 ng		100
55) 1,1,2-Trichloroethane	15.68	97	859714	26.236 ng		100
58) Toluene	15.98	91	3536835	25.201 ng		100
59) 2-Hexanone	16.22	43	3618220	45.651 ng		99
60) Dibromochloromethane	16.39	129	1038286	27.909 ng		99
61) 1,2-Dibromoethane	16.64	107	990125	25.961 ng		100
62) n-Butyl Acetate	16.85	43	4116335	47.436 ng		97
63) n-Octane	16.98	57	745664	26.599 ng		96
64) Tetrachloroethene	17.12	166	1094979	29.057 ng		100
65) Chlorobenzene	17.78	112	2459647	26.489 ng		100
66) Ethylbenzene	18.13	91	4109556	26.301 ng		100
67) m- & p-Xylenes	18.29	91	6300010	53.011 ng		99
68) Bromoform	18.35	173	935868	29.382 ng		100
69) Styrene	18.61	104	2646501	27.255 ng		99
70) o-Xylene	18.71	91	3235683	27.064 ng		100
71) n-Nonane	18.91	43	1651968	26.390 ng		98
72) 1,1,2,2-Tetrachloroethane	18.69	83	1577234	28.479 ng		100
74) Cumene	19.24	105	4158449	26.741 ng		99
75) alpha-Pinene	19.58	93	2178984	29.719 ng		99
76) n-Propylbenzene	19.68	91	5028745	27.248 ng		99
77) 3-Ethyltoluene	19.81	105	4160550	No Calib		
78) 4-Ethyltoluene	19.81	105	4160550	27.612 ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	3434833	27.688 ng		100
80) alpha-Methylstyrene	19.87	118	26652	No Calib		
81) 2-Ethyltoluene	19.87	105	3434833	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	3314748	28.000 ng		99
83) n-Decane	20.23	58	129575	No Calib	#	
84) Benzyl Chloride	20.35	91	5839409	61.556 ng		98
85) 1,3-Dichlorobenzene	20.37	146	2221300	31.083 ng		100
86) 1,4-Dichlorobenzene	20.43	146	2261496	30.443 ng		99
87) sec-Butylbenzene	20.47	105	4651736	28.123 ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	4045333	28.027 ng		98
89) 1,2,3-Trimethylbenzene	20.61	105	150453	No Calib	#	
90) 1,2-Dichlorobenzene	20.73	146	2090766	31.029 ng		100
91) d-Limonene	20.74	68	1280315	30.212 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1666508	65.314 ng		98
93) n-Undecane	22.26	57	106	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	3315069	62.075 ng		100
95) Naphthalene	22.34	128	4993085	28.365 ng		100
96) n-Dodecane	22.33	57	4071	No Calib	#	
97) Hexachlorobutadiene	22.67	225	1003816	30.803 ng		100
98) Cyclohexanone	18.28	55	4694	No Calib		
99) tert-Butylbenzene	20.24	119	3218493	27.606 ng		98
100) n-Butylbenzene	20.97	91	3800237	28.572 ng		99
101) 1,1,1,2-Tetrachloroethane	17.76	131	908286	27.905 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092204.D Vial: 2
Acq On : 9 Apr 2022 5:01 Operator: WA
Sample : LCS R16040922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-04072203 (5/6)

Quant Time: Apr 09 06:54:51 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092205.D Vial: 2
Acq On : 9 Apr 2022 5:35 Operator: WA
Sample : LCSD R16040922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-04072203 (5/6)

Quant Time: Apr 09 06:55:03 2022 WA 4/9/22
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	312934	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	1370494	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	246444	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	471045	10.958	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.68%				
57) Toluene-d8 (SS2)	15.88	98	1469951	12.343	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	19.11	174	557806	14.696	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.60%				
Target Compounds							Qvalue
2) Propene	4.17	42	1145993	24.040	ng		99
3) Dichlorodifluoromethan...	4.33	85	1749306	22.211	ng		100
4) Chloromethane	4.63	50	1204805	21.038	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.89	135	950274	22.558	ng		100
6) Vinyl Chloride	5.06	62	1229715	20.923	ng		100
7) 1,3-Butadiene	5.33	54	910145	22.453	ng		97
8) Bromomethane	5.77	94	765083	23.897	ng		99
9) Chloroethane	6.12	64	618663	23.949	ng		100
10) Ethanol	6.49	45	2830610	96.040	ng		100
11) Acetonitrile	6.74	41	1631911	20.727	ng		98
12) Acrolein	6.93	56	1159530	53.309	ng		99
13) Acetone	7.14	58	3156862	107.062	ng		99
14) Trichlorofluoromethane	7.40	101	1494322	22.313	ng		100
15) 2-Propanol (Isopropanol)	7.64	45	4194987	41.739	ng		99
16) Acrylonitrile	7.91	53	2373678	45.804	ng		99
17) 1,1-Dichloroethene	8.37	96	866072	24.608	ng		94
18) 2-Methyl-2-Propanol (t...	8.52	59	4474289	48.274	ng		99
19) Methylene Chloride	8.59	84	900091	23.415	ng		99
20) 3-Chloro-1-propene (Al...	8.75	41	1149116	21.404	ng		100
21) Trichlorotrifluoroethane	9.01	151	811647	26.697	ng		91
22) Carbon Disulfide	8.85	76	6197796	47.391	ng		100
23) trans-1,2-Dichloroethene	9.87	61	1201583	23.092	ng		97
24) 1,1-Dichloroethane	10.12	63	1515033	23.728	ng		100
25) Methyl tert-Butyl Ether	10.21	73	2559347	24.079	ng		99
26) Vinyl Acetate	10.37	86	900662	120.853	ng	#	94
27) 2-Butanone (MEK)	10.61	72	1237798	45.617	ng		94
28) cis-1,2-Dichloroethene	11.14	61	1167805	23.154	ng		97
29) Diisopropyl Ether	11.43	87	1416539	44.804	ng	#	87
30) Ethyl Acetate	11.44	61	818564	58.800	ng		95
31) n-Hexane	11.41	57	1164888	22.040	ng		100
32) Chloroform	11.48	83	1507180	23.824	ng		99
34) Tetrahydrofuran (THF)	11.88	72	1152903	46.561	ng		99
35) Ethyl tert-Butyl Ether	12.02	87	2139971	52.958	ng		94
36) 1,2-Dichloroethane	12.28	62	1093974	22.239	ng		100
38) 1,1,1-Trichloroethane	12.56	97	1345289	24.171	ng		100
39) Isopropyl Acetate	12.99	61	25357	No Calib		#	
40) 1-Butanol	13.00	56	20656	No Calib		#	
41) Benzene	13.04	78	3567361	25.049	ng		99
42) Carbon Tetrachloride	13.20	117	1116706	24.663	ng		99
43) Cyclohexane	13.33	84	2698209	51.523	ng		96
44) tert-Amyl Methyl Ether	13.67	73	4885489	52.549	ng		98
45) 1,2-Dichloropropane	13.89	63	887372	25.526	ng		99
46) Bromodichloromethane	14.08	83	1216218	26.069	ng		100
47) Trichloroethene	14.13	130	1013271	26.614	ng		94
48) 1,4-Dioxane	14.10	88	754464	23.867	ng		97
49) 2,2,4-Trimethylpentane...	14.20	57	3592956	26.019	ng		98
50) Methyl Methacrylate	14.34	100	789232	53.314	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092205.D Vial: 2
Acq On : 9 Apr 2022 5:35 Operator: WA
Sample : LCSD R16040922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-04072203 (5/6)

Quant Time: Apr 09 06:55:03 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

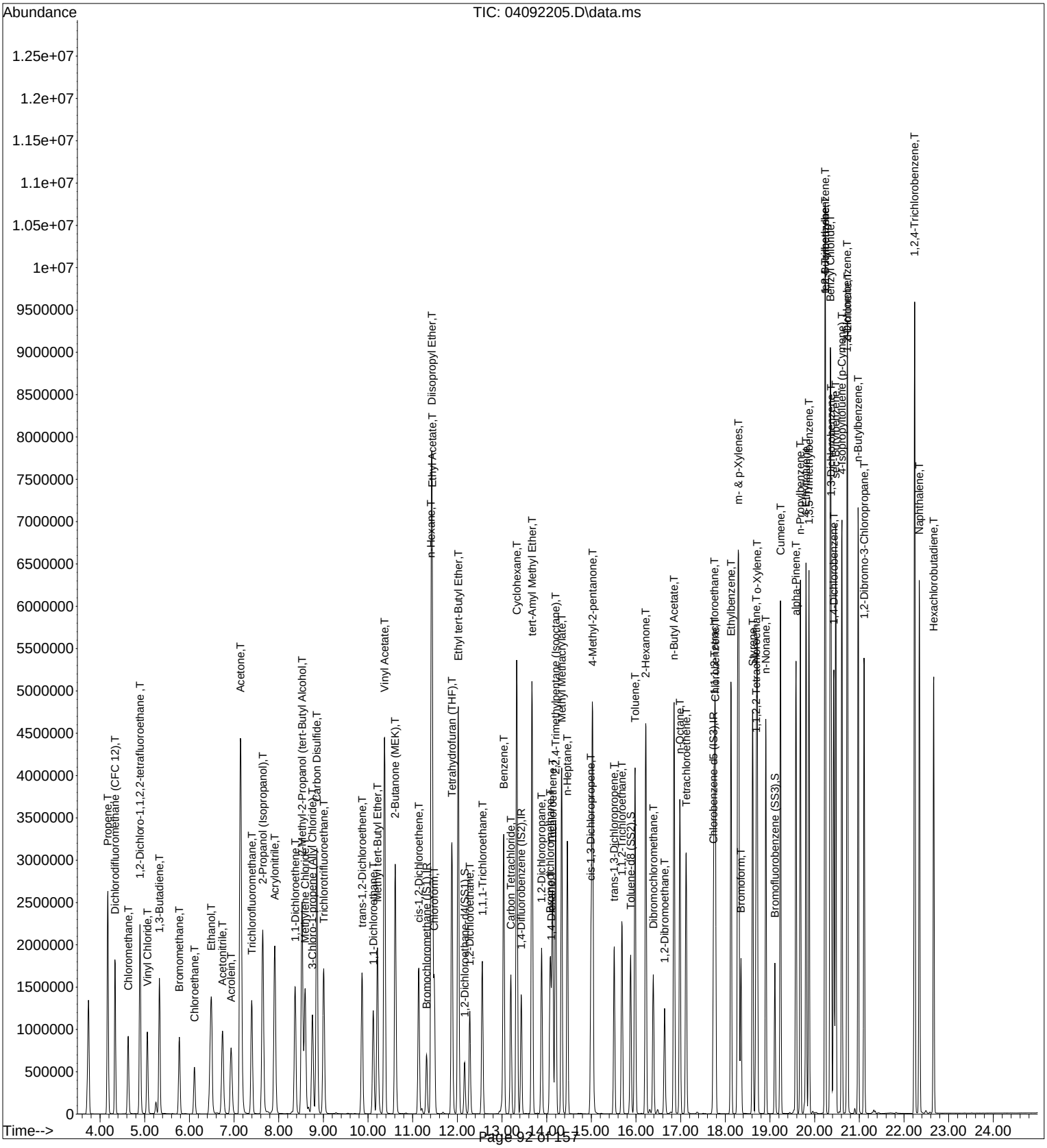
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	910163	25.738 ng		98
52) cis-1,3-Dichloropropene	14.99	75	1440394	26.335 ng		100
53) 4-Methyl-2-pentanone	15.03	58	1617631	50.925 ng		97
54) trans-1,3-Dichloropropene	15.51	75	1294535	25.762 ng		100
55) 1,1,2-Trichloroethane	15.68	97	882397	25.960 ng		100
58) Toluene	15.98	91	3611778	25.078 ng		100
59) 2-Hexanone	16.22	43	3704252	45.543 ng		99
60) Dibromochloromethane	16.39	129	1064035	27.871 ng		99
61) 1,2-Dibromoethane	16.64	107	1011580	25.847 ng		100
62) n-Butyl Acetate	16.85	43	4204502	47.215 ng		97
63) n-Octane	16.98	57	765238	26.601 ng		96
64) Tetrachloroethene	17.12	166	1119205	28.942 ng		100
65) Chlorobenzene	17.78	112	2501073	26.247 ng		100
66) Ethylbenzene	18.13	91	4188212	26.121 ng		100
67) m- & p-Xylenes	18.29	91	6436757	52.779 ng		99
68) Bromoform	18.35	173	951064	29.097 ng		100
69) Styrene	18.61	104	2688631	26.982 ng		99
70) o-Xylene	18.71	91	3287385	26.795 ng		100
71) n-Nonane	18.91	43	1682414	26.190 ng		98
72) 1,1,2,2-Tetrachloroethane	18.69	83	1610849	28.344 ng		100
74) Cumene	19.24	105	4214245	26.408 ng		100
75) alpha-Pinene	19.58	93	2218047	29.479 ng		99
76) n-Propylbenzene	19.68	91	5119191	27.030 ng		99
77) 3-Ethyltoluene	19.81	105	4235205	No Calib		
78) 4-Ethyltoluene	19.81	105	4235205	27.390 ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	3504931	27.532 ng		100
80) alpha-Methylstyrene	19.87	118	26831	No Calib		
81) 2-Ethyltoluene	19.87	105	3504931	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	3362862	27.682 ng		99
83) n-Decane	20.23	58	133025	No Calib	#	
84) Benzyl Chloride	20.35	91	5925843	60.873 ng		98
85) 1,3-Dichlorobenzene	20.37	146	2267119	30.914 ng		99
86) 1,4-Dichlorobenzene	20.43	146	2296156	30.121 ng		100
87) sec-Butylbenzene	20.47	105	4715422	27.780 ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	4101600	27.691 ng		98
89) 1,2,3-Trimethylbenzene	20.61	105	153211	No Calib	#	
90) 1,2-Dichlorobenzene	20.73	146	2123503	30.711 ng		100
91) d-Limonene	20.74	68	1307269	30.060 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1686356	64.405 ng		98
93) n-Undecane	22.34	57	4363	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	3367887	61.454 ng		100
95) Naphthalene	22.34	128	5090908	28.182 ng		100
96) n-Dodecane	22.34	57	4363	No Calib	#	
97) Hexachlorobutadiene	22.67	225	1012957	30.290 ng		100
98) Cyclohexanone	18.30	55	4887	No Calib		
99) tert-Butylbenzene	20.24	119	3234870	27.039 ng		98
100) n-Butylbenzene	20.97	91	3869306	28.348 ng		99
101) 1,1,1,2-Tetrachloroethane	17.76	131	922110	27.606 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092205.D Vial: 2
Acq On : 9 Apr 2022 5:35 Operator: WA
Sample : LCSD R16040922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-04072203 (5/6)

Quant Time: Apr 09 06:55:03 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112208.D Vial: 2
Acq On : 11 Apr 2022 11:42 Operator: WA/CG
Sample : LCS R16041122 25ng Inst : GCMS-16
Misc : S35-04032201/S35-04072203 (5/6)

Quant Time: Apr 11 13:15:26 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022 4/11/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	238711	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.44	114	1096339	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	202377	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.18	65	383496	11.695	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%				
57) Toluene-d8 (SS2)	15.88	98	1188228	12.150	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%				
73) Bromofluorobenzene (SS3)	19.11	174	411709	13.209	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%				
Target Compounds							Qvalue
2) Propene	4.19	42	1014664	27.903	ng		98
3) Dichlorodifluoromethan...	4.35	85	1454565	24.211	ng		100
4) Chloromethane	4.64	50	1113219	25.483	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	839834	26.135	ng		100
6) Vinyl Chloride	5.07	62	1052087	23.467	ng		100
7) 1,3-Butadiene	5.35	54	783489	25.338	ng		96
8) Bromomethane	5.79	94	618265	25.315	ng		100
9) Chloroethane	6.13	64	507346	25.746	ng		100
10) Ethanol	6.53	45	2502027	111.287	ng		100
11) Acetonitrile	6.78	41	1347942	22.443	ng		99
12) Acrolein	6.96	56	952922	57.432	ng		100
13) Acetone	7.18	58	2818590	125.311	ng		96
14) Trichlorofluoromethane	7.41	101	1158134	22.670	ng		100
15) 2-Propanol (Isopropanol)	7.68	45	3473637	45.309	ng		100
16) Acrylonitrile	7.94	53	1965839	49.729	ng		99
17) 1,1-Dichloroethene	8.38	96	694797	25.879	ng		100
18) 2-Methyl-2-Propanol (t...	8.56	59	3683089	52.094	ng		97
19) Methylene Chloride	8.61	84	752231	25.653	ng		97
20) 3-Chloro-1-propene (Al...	8.77	41	993641	24.263	ng		98
21) Trichlorotrifluoroethane	9.02	151	639975	27.595	ng		95
22) Carbon Disulfide	8.86	76	5297695	53.104	ng		100
23) trans-1,2-Dichloroethene	9.88	61	1008415	25.406	ng		100
24) 1,1-Dichloroethane	10.14	63	1251942	25.704	ng		100
25) Methyl tert-Butyl Ether	10.22	73	2078491	25.636	ng		97
26) Vinyl Acetate	10.39	86	780767	137.340	ng	#	89
27) 2-Butanone (MEK)	10.63	72	1052042	50.826	ng	#	90
28) cis-1,2-Dichloroethene	11.15	61	974696	25.334	ng		99
29) Diisopropyl Ether	11.44	87	1305085	54.114	ng	#	90
30) Ethyl Acetate	11.45	61	775894	73.064	ng		92
31) n-Hexane	11.42	57	1145353	28.409	ng		98
32) Chloroform	11.49	83	1260328	26.117	ng		100
34) Tetrahydrofuran (THF)	11.89	72	975765	51.660	ng		94
35) Ethyl tert-Butyl Ether	12.03	87	1830213	59.375	ng		92
36) 1,2-Dichloroethane	12.29	62	912120	24.308	ng		100
38) 1,1,1-Trichloroethane	12.57	97	1083711	24.340	ng		99
39) Isopropyl Acetate	13.00	61	18799	No Calib		#	
40) 1-Butanol	13.01	56	16584	No Calib		#	
41) Benzene	13.04	78	2997158	26.308	ng		99
42) Carbon Tetrachloride	13.20	117	890839	24.594	ng		100
43) Cyclohexane	13.34	84	2375143	56.695	ng		95
44) tert-Amyl Methyl Ether	13.68	73	4184032	56.258	ng		97
45) 1,2-Dichloropropane	13.90	63	748875	26.929	ng		100
46) Bromodichloromethane	14.08	83	1005726	26.948	ng		100
47) Trichloroethene	14.14	130	841155	27.618	ng		94
48) 1,4-Dioxane	14.11	88	631757	24.983	ng		97
49) 2,2,4-Trimethylpentane...	14.20	57	3120336	28.247	ng		99
50) Methyl Methacrylate	14.34	100	662333	55.930	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112208.D Vial: 2
Acq On : 11 Apr 2022 11:42 Operator: WA/CG
Sample : LCS R16041122 25ng Inst : GCMS-16
Misc : S35-04032201/S35-04072203 (5/6)

Quant Time: Apr 11 13:15:26 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

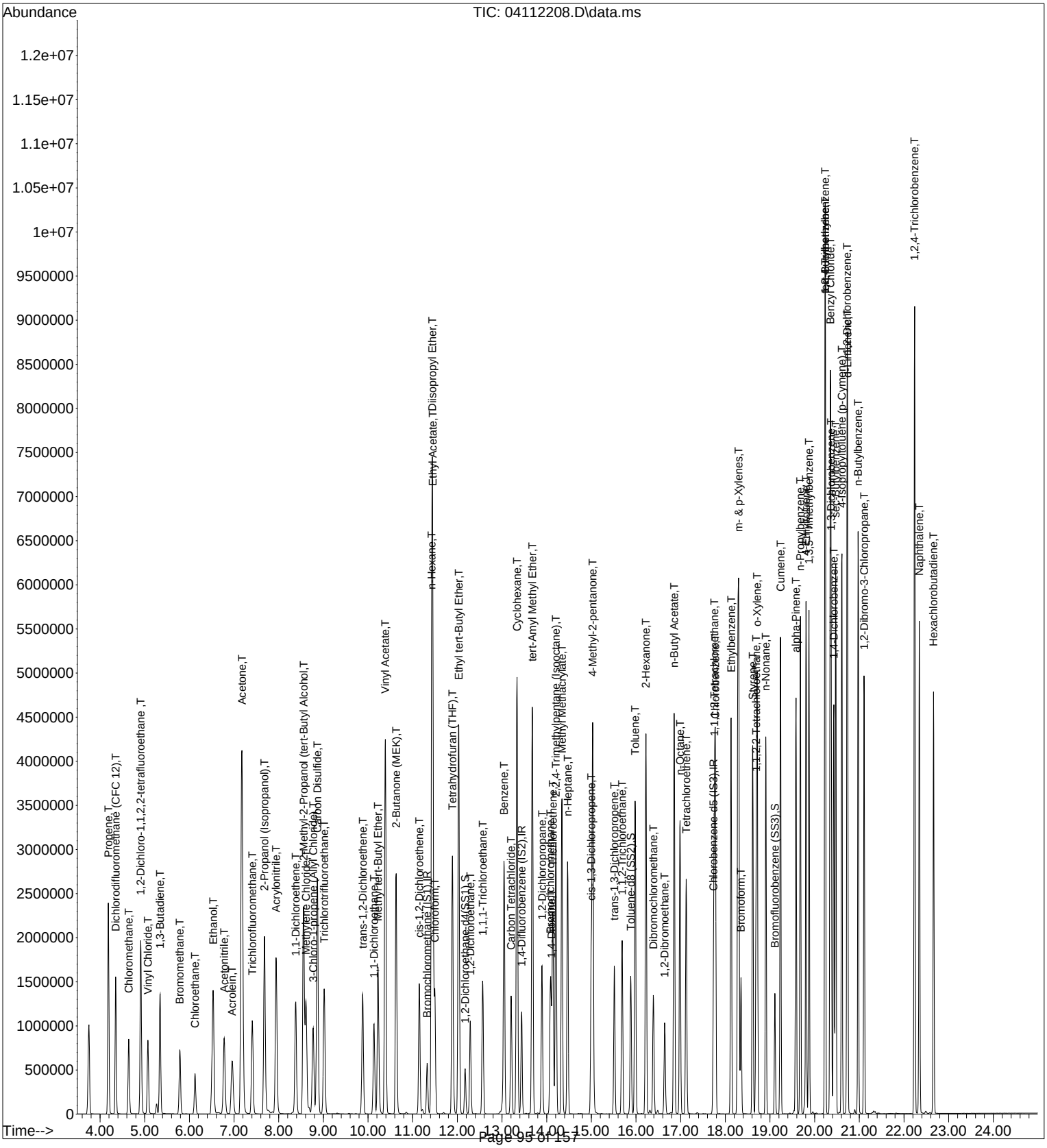
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.47	71	786253	27.794 ng		96
52) cis-1,3-Dichloropropene	15.00	75	1212029	27.701 ng		100
53) 4-Methyl-2-pentanone	15.03	58	1427849	56.190 ng		96
54) trans-1,3-Dichloropropene	15.51	75	1070596	26.633 ng		100
55) 1,1,2-Trichloroethane	15.69	97	734926	27.028 ng		99
58) Toluene	15.98	91	3054348	25.826 ng		100
59) 2-Hexanone	16.22	43	3293978	49.318 ng		98
60) Dibromochloromethane	16.39	129	852209	27.183 ng		100
61) 1,2-Dibromoethane	16.64	107	835352	25.991 ng		100
62) n-Butyl Acetate	16.85	43	3775650	51.632 ng		97
63) n-Octane	16.99	57	672272	28.458 ng		94
64) Tetrachloroethene	17.12	166	909139	28.629 ng		100
65) Chlorobenzene	17.78	112	2181968	27.885 ng		100
66) Ethylbenzene	18.13	91	3600542	27.345 ng		100
67) m- & p-Xylenes	18.30	91	5669100	56.607 ng		99
68) Bromoform	18.35	173	769922	28.684 ng		100
69) Styrene	18.61	104	2306423	28.187 ng		98
70) o-Xylene	18.71	91	2864673	28.434 ng		100
71) n-Nonane	18.91	43	1533553	29.071 ng		96
72) 1,1,2,2-Tetrachloroethane	18.69	83	1406644	30.140 ng		100
74) Cumene	19.24	105	3685939	28.127 ng		100
75) alpha-Pinene	19.58	93	1900709	30.762 ng		99
76) n-Propylbenzene	19.68	91	4476557	28.783 ng		99
77) 3-Ethyltoluene	19.81	105	3693311	No Calib		
78) 4-Ethyltoluene	19.81	105	3693311	29.086 ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	3053350	29.207 ng		100
80) alpha-Methylstyrene	19.87	118	23872	No Calib	#	
81) 2-Ethyltoluene	19.87	105	3053350	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	3109134	31.166 ng		99
83) n-Decane	20.24	58	123230	No Calib	#	
84) Benzyl Chloride	20.35	91	5320036	66.550 ng		98
85) 1,3-Dichlorobenzene	20.37	146	2043201	33.928 ng		99
86) 1,4-Dichlorobenzene	20.43	146	1965951	31.405 ng		100
87) sec-Butylbenzene	20.47	105	4172701	29.936 ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	3645579	29.972 ng		98
89) 1,2,3-Trimethylbenzene	20.61	105	135095	No Calib	#	
90) 1,2-Dichlorobenzene	20.73	146	1944677	34.249 ng		99
91) d-Limonene	20.74	68	1184190	33.159 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1488350	69.220 ng		97
93) n-Undecane	22.33	57	3873	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	3073812	68.302 ng		100
95) Naphthalene	22.34	128	4355888	29.364 ng		100
96) n-Dodecane	22.33	57	3747	No Calib	#	
97) Hexachlorobutadiene	22.66	225	872566	31.774 ng		100
98) Cyclohexanone	18.28	55	4412	No Calib		
99) tert-Butylbenzene	20.24	119	3023555	30.775 ng		98
100) n-Butylbenzene	20.97	91	3440913	30.699 ng		99
101) 1,1,1,2-Tetrachloroethane	17.76	131	800994	29.202 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112208.D Vial: 2
Acq On : 11 Apr 2022 11:42 Operator: WA/CG
Sample : LCS R16041122 25ng Inst : GCMS-16
Misc : S35-04032201/S35-04072203 (5/6)

Quant Time: Apr 11 13:15:26 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112209.D Vial: 2
Acq On : 11 Apr 2022 12:16 Operator: WA/CG
Sample : LCSD R16041122 25ng Inst : GCMS-16
Misc : S35-04032201/S35-04072203 (5/6)

Quant Time: Apr 11 13:17:55 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/11/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	237130	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	1095343	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	208978	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	397765	12.211	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
57) Toluene-d8 (SS2)	15.88	98	1196158	11.845	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
73) Bromofluorobenzene (SS3)	19.11	174	410297	12.748	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
Target Compounds							Qvalue
2) Propene	4.17	42	1079374	29.880	ng		98
3) Dichlorodifluoromethan...	4.34	85	1568334	26.279	ng		100
4) Chloromethane	4.63	50	1239035	28.552	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	886296	27.764	ng		100
6) Vinyl Chloride	5.06	62	1188650	26.689	ng		100
7) 1,3-Butadiene	5.33	54	905863	29.491	ng		97
8) Bromomethane	5.78	94	672520	27.721	ng		100
9) Chloroethane	6.12	64	550366	28.115	ng		100
10) Ethanol	6.53	45	2549020	114.133	ng		100
11) Acetonitrile	6.77	41	1445220	24.223	ng		98
12) Acrolein	6.95	56	1050839	63.756	ng		100
13) Acetone	7.17	58	2967041	132.791	ng		98
14) Trichlorofluoromethane	7.40	101	1244874	24.531	ng		99
15) 2-Propanol (Isopropanol)	7.68	45	3665396	48.129	ng		99
16) Acrylonitrile	7.94	53	2057248	52.388	ng		100
17) 1,1-Dichloroethene	8.38	96	697698	26.161	ng		97
18) 2-Methyl-2-Propanol (t...	8.55	59	3879580	55.239	ng		98
19) Methylene Chloride	8.61	84	738450	25.351	ng		94
20) 3-Chloro-1-propene (Al...	8.77	41	1017668	25.015	ng		96
21) Trichlorotrifluoroethane	9.01	151	624058	27.088	ng		96
22) Carbon Disulfide	8.86	76	5491113	55.410	ng		99
23) trans-1,2-Dichloroethene	9.88	61	1027480	26.058	ng		98
24) 1,1-Dichloroethane	10.13	63	1273708	26.325	ng		100
25) Methyl tert-Butyl Ether	10.22	73	2122721	26.356	ng		97
26) Vinyl Acetate	10.38	86	808587	143.182	ng	#	81
27) 2-Butanone (MEK)	10.62	72	1074689	52.267	ng	#	85
28) cis-1,2-Dichloroethene	11.15	61	991453	25.941	ng		98
29) Diisopropyl Ether	11.43	87	1403762	58.594	ng	#	89
30) Ethyl Acetate	11.45	61	861899	81.704	ng		91
31) n-Hexane	11.42	57	1250181	31.215	ng		98
32) Chloroform	11.49	83	1296271	27.041	ng		100
34) Tetrahydrofuran (THF)	11.89	72	994612	53.009	ng	#	91
35) Ethyl tert-Butyl Ether	12.03	87	1882097	61.465	ng		89
36) 1,2-Dichloroethane	12.29	62	938139	25.168	ng		100
38) 1,1,1-Trichloroethane	12.57	97	1097911	24.681	ng		99
39) Isopropyl Acetate	13.00	61	19657	No Calib		#	
40) 1-Butanol	13.01	56	16822	No Calib		#	
41) Benzene	13.04	78	2999871	26.356	ng		99
42) Carbon Tetrachloride	13.20	117	897243	24.793	ng		100
43) Cyclohexane	13.34	84	2441833	58.340	ng		93
44) tert-Amyl Methyl Ether	13.68	73	4388946	59.067	ng		97
45) 1,2-Dichloropropane	13.89	63	755832	27.204	ng		100
46) Bromodichloromethane	14.08	83	1023512	27.449	ng		100
47) Trichloroethene	14.14	130	821813	27.008	ng		94
48) 1,4-Dioxane	14.11	88	636311	25.186	ng		94
49) 2,2,4-Trimethylpentane...	14.20	57	3204544	29.035	ng		99
50) Methyl Methacrylate	14.34	100	678304	57.331	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112209.D Vial: 2
Acq On : 11 Apr 2022 12:16 Operator: WA/CG
Sample : LCSD R16041122 25ng Inst : GCMS-16
Misc : S35-04032201/S35-04072203 (5/6)

Quant Time: Apr 11 13:17:55 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

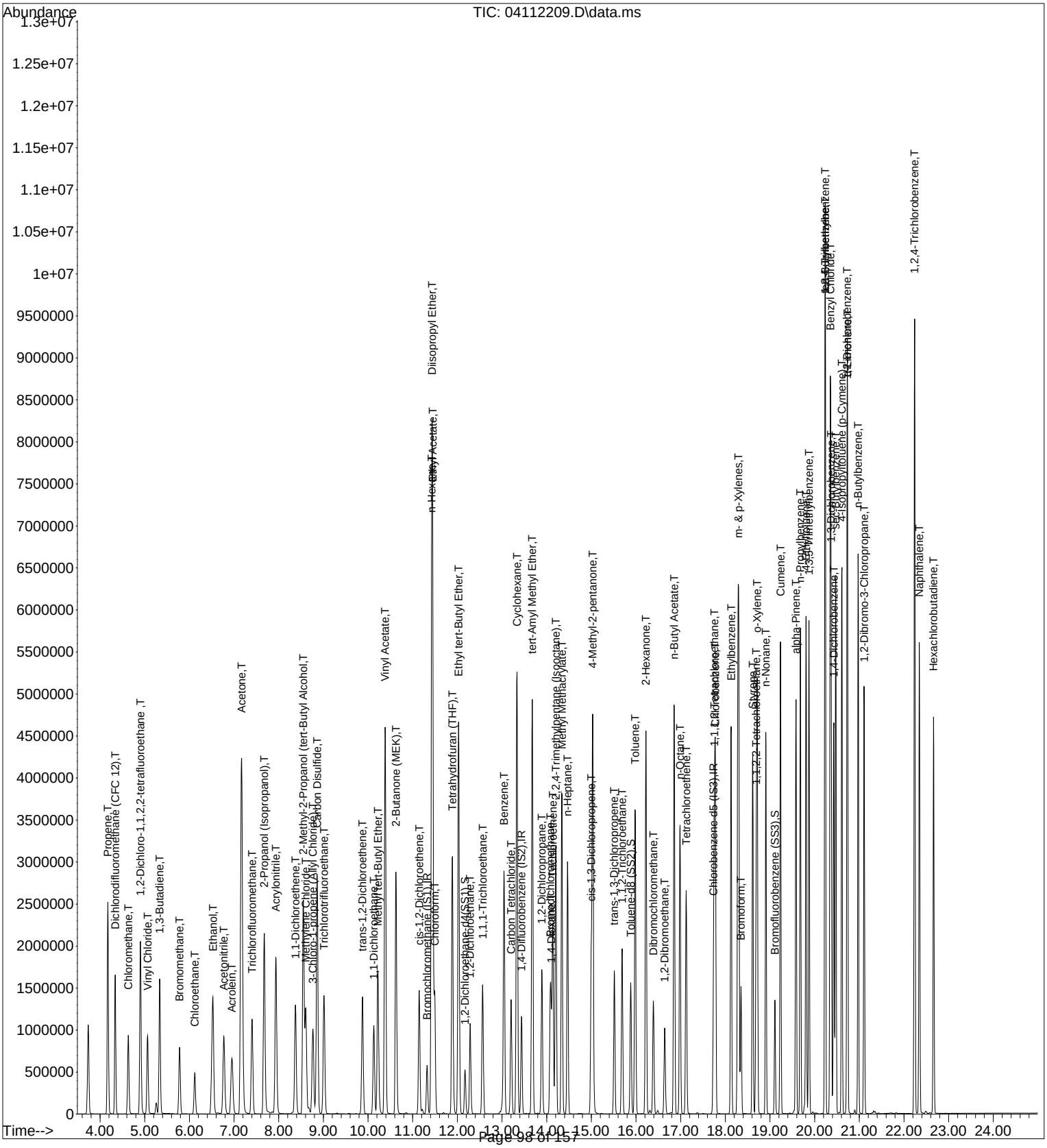
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.47	71	798429	28.250 ng		95
52) cis-1,3-Dichloropropene	15.00	75	1245220	28.485 ng		99
53) 4-Methyl-2-pentanone	15.03	58	1505434	59.297 ng		93
54) trans-1,3-Dichloropropene	15.51	75	1092221	27.196 ng		100
55) 1,1,2-Trichloroethane	15.69	97	725479	26.705 ng		99
58) Toluene	15.98	91	3082843	25.243 ng		100
59) 2-Hexanone	16.22	43	3490101	50.604 ng		97
60) Dibromochloromethane	16.39	129	849741	26.248 ng		100
61) 1,2-Dibromoethane	16.64	107	824681	24.849 ng		100
62) n-Butyl Acetate	16.85	43	3970202	52.577 ng		97
63) n-Octane	16.99	57	698753	28.644 ng		92
64) Tetrachloroethene	17.12	166	902636	27.526 ng		100
65) Chlorobenzene	17.78	112	2200561	27.234 ng		100
66) Ethylbenzene	18.13	91	3637164	26.751 ng		100
67) m- & p-Xylenes	18.29	91	5781856	55.909 ng		100
68) Bromoform	18.35	173	757126	27.317 ng		100
69) Styrene	18.61	104	2312770	27.371 ng		99
70) o-Xylene	18.71	91	2924957	28.115 ng		100
71) n-Nonane	18.91	43	1607007	29.501 ng		94
72) 1,1,2,2-Tetrachloroethane	18.69	83	1432740	29.730 ng		100
74) Cumene	19.24	105	3719024	27.483 ng		99
75) alpha-Pinene	19.58	93	1941288	30.427 ng		99
76) n-Propylbenzene	19.68	91	4537495	28.254 ng		99
77) 3-Ethyltoluene	19.81	105	3733534	No Calib		
78) 4-Ethyltoluene	19.81	105	3733534	28.474 ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	3084729	28.575 ng		100
80) alpha-Methylstyrene	19.87	118	23924	No Calib		
81) 2-Ethyltoluene	19.87	105	3084729	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	3233613	31.390 ng		100
83) n-Decane	20.23	58	135742	No Calib	#	
84) Benzyl Chloride	20.35	91	5513221	66.788 ng		98
85) 1,3-Dichlorobenzene	20.37	146	2046625	32.911 ng		99
86) 1,4-Dichlorobenzene	20.43	146	1959610	30.315 ng		100
87) sec-Butylbenzene	20.47	105	4227747	29.372 ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	3675389	29.262 ng		98
89) 1,2,3-Trimethylbenzene	20.61	105	133637	No Calib	#	
90) 1,2-Dichlorobenzene	20.73	146	1961363	33.451 ng		100
91) d-Limonene	20.74	68	1243700	33.726 ng		94
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1498558	67.494 ng		98
93) n-Undecane	22.34	57	3929	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	3134219	67.444 ng		99
95) Naphthalene	22.34	128	4345756	28.370 ng		100
96) n-Dodecane	22.34	57	3876	No Calib	#	
97) Hexachlorobutadiene	22.66	225	870106	30.683 ng		100
98) Cyclohexanone	18.29	55	4501	No Calib		
99) tert-Butylbenzene	20.24	119	3136696	30.918 ng		98
100) n-Butylbenzene	20.97	91	3461510	29.907 ng		99
101) 1,1,1,2-Tetrachloroethane	17.76	131	805737	28.447 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112209.D Vial: 2
Acq On : 11 Apr 2022 12:16 Operator: WA/CG
Sample : LCSD R16041122 25ng Inst : GCMS-16
Misc : S35-04032201/S35-04072203 (5/6)

Quant Time: Apr 11 13:17:55 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16012022B.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jan 21 09:34:58 2022
Response Via : Initial Calibration

Calibration Files
0.1 =01202228.D 0.2 =01202229.D 0.5 =01202230.D 1.0 =01202231.D 5.0 =01202232.D 25 =01202233.D 50 =01202234.D
100 =01202235.D

WDH 1/21/22

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	----------	----------	ISTD	----------	----------	----------	----------		
2)	T	Propene	1.942	1.872	2.173	1.657	2.346	1.885	1.726	1.632	1.904	13.13
3)	T	Dichlorodifluo...	3.254	3.121	3.220	3.015	3.012	3.462	3.191	2.892	3.146	5.62
4)	T	Chloromethane	2.609	2.434	2.341	2.416	1.795	2.555	2.243	1.907	2.288	12.85
5)	T	1,2-Dichloro-1...	1.717	1.751	1.809	1.738	1.687	1.834	1.594	1.332	1.683	9.50
6)	T	Vinyl Chloride	2.396	2.310	2.453	2.395	2.321	2.458	2.286	2.164	2.348	4.19
7)	T	1,3-Butadiene	1.527	1.439	1.560	1.537	1.566	1.894	1.788	1.643	1.619	9.28
8)	T	Bromomethane	1.292	1.209	1.276	1.161	1.140	1.410	1.375	1.369	1.279	7.98
9)	T	Chloroethane	0.989	1.010	1.031	0.975	0.963	1.127	1.096	1.065	1.032	5.75
10)	T	Ethanol		1.435	1.352	1.119	1.121	1.209	1.089	0.915	1.177	14.75
11)	T	Acetonitrile		3.725	3.412	2.940	2.939	3.126	2.967	2.906	3.145	9.89
12)	T	Acrolein	0.795	0.663	0.589	0.890	0.896	1.087	1.040	0.993	0.869	20.37
13)	T	Acetone	1.550	1.396	1.315	1.074	1.084	1.247	1.012	0.745	1.178	21.40
14)	T	Trichlorofluor...	2.666	2.647	2.677	2.473	2.478	2.949	2.834	2.676	2.675	6.00
15)	T	2-Propanol (Is...	4.791	4.271	4.843	3.886	2.863	4.457	3.977	3.029	4.015	18.51
16)	T	Acrylonitrile	2.483	2.085	1.962	1.881	1.917	2.258	2.099	1.876	2.070	10.26
17)	T	1,1-Dichloroet...	1.450	1.333	1.321	1.234	1.254	1.583	1.551	1.522	1.406	9.80
18)	T	2-Methyl-2-Pro...	3.692	3.693	3.769	3.294	3.468	4.195	3.805		3.702	7.64
19)	T	Methylene Chlo...	1.643	1.526	1.474	1.376	1.406	1.683	1.633	1.542	1.535	7.34
20)	T	3-Chloro-1-pro...	2.173	2.162	2.047	1.964	2.000	2.478	2.260	2.073	2.145	7.77
21)	T	Trichlorotrifl...	1.138	1.127	1.146	1.061	1.093	1.380	1.384	1.385	1.214	11.72
22)	T	Carbon Disulfide	5.554	5.319	5.322	4.816	4.939	6.115	5.473	4.253	5.224	10.67
23)	T	trans-1,2-Dich...	2.099	2.039	2.017	1.929	1.971	2.343	2.203	2.027	2.078	6.50
24)	T	1,1-Dichloroet...	2.529	2.523	2.491	2.399	2.409	2.850	2.679	2.523	2.550	5.83
25)	T	Methyl tert-Bu...	4.062	3.999	4.022	3.815	3.954	5.002	4.756	4.355	4.246	10.00
26)	T	Vinyl Acetate			0.231	0.218	0.255	0.407	0.375	0.299	0.298	26.21
27)	T	2-Butanone (MEK)	1.176	1.067	1.092	0.967	1.011	1.257	1.156	0.945	1.084	10.01
28)	T	cis-1,2-Dichlo...	2.042	1.965	1.951	1.900	1.907	2.275	2.127	1.950	2.015	6.41
29)	T	Diisopropyl Ether	1.280	1.279	1.288	1.256	1.412	1.374	0.951		1.263	11.80
30)	T	Ethyl Acetate	0.618	0.599	0.611	0.583	0.649	0.510	0.323		0.556	20.05
31)	T	n-Hexane	2.479	2.388	2.405	2.353	2.542	2.175	1.498	1.050	2.111	25.62
32)	T	Chloroform	2.514	2.481	2.491	2.385	2.436	2.873	2.639	2.396	2.527	6.37
33)	S	1,2-Dichloroet...	1.700	1.734	1.768	1.748	1.759	1.710	1.686	1.631	1.717	2.63
34)	T	Tetrahydrofura...	1.078	0.971	0.970	0.905	0.933	1.148	1.059	0.849	0.989	10.00
35)	T	Ethyl tert-But...	1.458	1.540	1.564	1.490	1.594	2.105	1.830	1.332	1.614	15.10
36)	T	1,2-Dichloroet...	1.995	1.980	1.986	1.895	1.894	2.185	2.000	1.784	1.965	5.90
37)	IR	1,4-Difluorobenzen...	----------	----------	----------	ISTD	----------	----------	----------	----------		
38)	T	1,1,1-Trichlor...	0.507	0.487	0.482	0.471	0.472	0.581	0.547	0.514	0.508	7.71
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.433	1.315	1.237	1.172	1.175	1.485	1.376	1.198	1.299	9.42
42)	T	Carbon Tetrach...	0.374	0.379	0.378	0.368	0.384	0.489	0.475	0.456	0.413	12.40

Page 99 of 157

Method Path : I:\MS16\METHODS\
Method File : R16012022B.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

43)	T	Cyclohexane	0.481	0.467	0.461	0.450	0.479	0.620	0.511	0.353	0.478		15.44
44)	T	tert-Amyl Meth...	0.874	0.852	0.840	0.817	0.849	1.068	0.872	0.613	0.848		14.54
45)	T	1,2-Dichloropr...	0.313	0.306	0.309	0.291	0.297	0.365	0.345	0.310	0.317		7.92
46)	T	Bromodichlorom...	0.406	0.385	0.394	0.384	0.407	0.517	0.486	0.424	0.426		11.61
47)	T	Trichloroethene	0.328	0.317	0.313	0.303	0.314	0.426	0.417	0.361	0.347		14.08
48)	T	1,4-Dioxane	0.310	0.285	0.281	0.260	0.273	0.333	0.316	0.248	0.288		10.19
49)	T	2,2,4-Trimethy...	1.270	1.256	1.247	1.214	1.245	1.519	1.323	1.002	1.260		11.24
50)	T	Methyl Methacr...	0.125	0.120	0.123	0.118	0.131	0.178	0.162	0.123	0.135		16.64
51)	T	n-Heptane	0.320	0.298	0.305	0.298	0.311	0.401	0.363	0.285	0.323		12.20
52)	T	cis-1,3-Dichlo...	0.446	0.450	0.453	0.446	0.477	0.624	0.587	0.507	0.499		13.97
53)	T	4-Methyl-2-pen...	0.322	0.306	0.310	0.275	0.295	0.348	0.276	0.187	0.290		16.56
54)	T	trans-1,3-Dich...	0.380	0.380	0.400	0.404	0.448	0.579	0.560	0.516	0.458		17.86
55)	T	1,1,2-Trichlor...	0.294	0.292	0.287	0.276	0.284	0.368	0.356	0.324	0.310		11.37
56)	IR	Chlorobenzene-d5 (...	----------	----------	----------	ISTD	----------	----------	----------	----------	----------		
57)	S	Toluene-d8 (SS2)	5.988	5.886	5.873	5.849	5.922	5.958	6.243	6.605	6.041		4.30
58)	T	Toluene	7.854	6.961	6.629	6.404	6.629	8.576	8.318	7.069	7.305		11.39
59)	T	2-Hexanone	5.267	4.660	4.551	4.002	4.241	4.346	3.447	2.489	4.125		20.45
60)	T	Dibromochlorom...	1.619	1.548	1.582	1.544	1.746	2.406	2.508	2.538	1.936		23.71
61)	T	1,2-Dibromoethane	1.848	1.693	1.690	1.703	1.785	2.326	2.408	2.429	1.985		17.06
62)	T	n-Butyl Acetate	5.745	5.051	5.000	4.358	4.612	4.831	3.835	2.702	4.517		20.36
63)	T	n-Octane	1.486	1.361	1.388	1.337	1.423	1.789	1.619	1.270	1.459		11.64
64)	T	Tetrachloroethene	1.759	1.727	1.713	1.656	1.708	2.392	2.464	2.273	1.961		17.75
65)	T	Chlorobenzene	5.084	4.480	4.247	4.253	4.490	6.154	5.681	4.276	4.833		15.16
66)	T	Ethylbenzene	0.844	0.760	0.728	0.726	0.768	1.010	0.929	0.741	0.813	E1	12.97
67)	T	m- & p-Xylenes	6.785	5.958	5.623	5.651	6.083	7.895	6.642	4.850	6.186		14.89
68)	T	Bromoform			1.123	1.114	1.348	2.043	2.188	2.131	1.658		31.13
69)	T	Styrene	5.046	4.342	4.269	4.210	4.772	6.575	6.211	5.008	5.054		17.65
70)	T	o-Xylene	6.496	5.855	5.662	5.703	6.088	7.976	6.967	5.036	6.223		14.69
71)	T	n-Nonane	3.582	3.352	3.307	3.262	3.450	3.927	3.083	2.103	3.258		16.26
72)	T	1,1,2,2-Tetrac...	2.668	2.659	2.627	2.636	2.857	3.754	3.382	2.478	2.883		15.49
73)	S	Bromofluoroben...	1.933	1.877	1.840	1.844	1.868	1.908	1.996	2.135	1.925		5.15
74)	T	Cumene	0.865	0.757	0.729	0.717	0.766	1.031	0.919	0.691	0.809	E1	14.59
75)	T	alpha-Pinene	3.547	3.504	3.575	3.516	3.867	4.689	4.399	3.432	3.816		12.41
76)	T	n-Propylbenzene	1.025	0.904	0.869	0.870	0.939	1.227	1.068	0.783	0.961	E1	14.63
77)	T	3-Ethyltoluene									0.000		-1.00
78)	T	4-Ethyltoluene	0.849	0.717	0.686	0.691	0.750	1.029	0.894	0.658	0.784	E1	16.44
79)	T	1,3,5-Trimethy...	6.520	5.849	5.690	5.699	6.248	8.450	7.527	5.673	6.457		15.83
80)	T	alpha-Methylst...									0.000		-1.00
81)	T	2-Ethyltoluene									0.000		-1.00
82)	T	1,2,4-Trimethy...	6.617	5.912	5.711	5.883	6.840	8.254	5.940	4.137	6.162		18.94
83)	T	n-Decane									0.000		-1.00
84)	T	Benzyl Chloride			3.148	3.984	5.405	6.979	5.173		4.938		29.61
85)	T	1,3-Dichlorobe...	4.195	3.221	2.965	3.301	3.663	5.161	4.233	3.019	3.720		20.45
86)	T	1,4-Dichlorobe...	4.258	3.267	2.900	3.220	3.483	5.067	4.850	3.886	3.867		20.55
87)	T	sec-Butylbenzene	0.854	0.790	0.777	0.776	0.852	1.154	0.984	0.702	0.861	E1	16.74
88)	T	4-Isopropyltol...	0.764	0.688	0.658	0.658	0.729	1.024	0.865	0.623	0.751	E1	17.87
89)	T	1,2,3-Trimethy...									0.000		-1.00
90)	T	1,2-Dichlorobe...	3.842	3.085	2.894	3.128	3.507	4.914	3.897	2.791	3.507		20.03
91)	T	d-Limonene	2.162	2.132	2.286	2.081	2.534	3.000	2.099	1.353	2.206		21.03
92)	T	1,2-Dibromo-3-...	1.106	1.016	1.030	1.071	1.321	1.962	1.771	1.348	1.328		27.00
93)	T	n-Undecane									0.000		-1.00
94)	T	1,2,4-Trichlor...	3.191	2.067	1.760	2.355	2.756	4.085	3.244		2.780		28.69

Method Path : I:\MS16\METHODS\
Method File : R16012022B.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95)	T	Naphthalene	1.166	0.660	0.511	0.778	0.878	1.257	1.179	0.901	0.916	E1 29.11
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.510	1.425	1.357	1.329	1.475	2.279	2.249	1.945	1.696	23.50
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	6.548	5.897	5.758	5.724	6.607	8.037	5.823	4.152	6.068	18.02
100)	T	n-Butylbenzene	6.972	6.257	6.114	6.393	6.987	9.248	7.847	5.567	6.923	16.81
101)	T	1,1,1,2-Tetrac...	1.554	1.487	1.490	1.475	1.622	2.225	2.065	1.638	1.694	16.99

(#) = Out of Range

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-01172211 | 200ng/L Std. ID:
20ng/L Std. ID: S35-01172210 | 1000ng/L Std. ID: S35-12292101

1/27/22

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	20	1000	1000	1000
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.1250	0.050	0.25	0.025	0.05	0.10
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

S1-01172211 S1-01172210 S1-12292101

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S35-01172211**	**200ng/L Std. ID:**	
20ng/L Std. ID:	**S35-01172210**	**1000ng/L Std. ID:**	**S35-12292101**

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**4**	**20**	**20**	**1000**	**1000**	**1000**
	Source Std.			**Primary Working Standards**				**Injection (L):**	**0.025**	**0.050**	**0.1250**	**0.050**	**0.25**	**0.025**	**0.05**	**0.10**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Uncontrolled Copy

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16012022B.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jan 21 09:34:58 2022
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2022_01\20\01202228.D
2	0.2	0	13	I:\MS16\DATA\2022_01\20\01202229.D
3	0.5	1	13	I:\MS16\DATA\2022_01\20\01202230.D
4	1.0	1	13	I:\MS16\DATA\2022_01\20\01202231.D
5	5.0	5	13	I:\MS16\DATA\2022_01\20\01202232.D
6	25	26	13	I:\MS16\DATA\2022_01\20\01202233.D
7	50	52	13	I:\MS16\DATA\2022_01\20\01202234.D
8	100	104	13	I:\MS16\DATA\2022_01\20\01202235.D

VOA 1/21/22

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Jan 21 06:15 2022	Jan 21 06:07 2022	20 Jan 2022 22:56
2	0.2	Jan 21 06:21 2022	Jan 21 06:09 2022	20 Jan 2022 23:30
3	0.5	Jan 21 06:22 2022	Jan 21 06:10 2022	21 Jan 2022 00:04
4	1.0	Jan 21 06:22 2022	Jan 21 06:10 2022	21 Jan 2022 00:38
5	5.0	Jan 21 06:22 2022	Jan 21 06:11 2022	21 Jan 2022 1:11
6	25	Jan 21 06:22 2022	Jan 21 06:12 2022	21 Jan 2022 1:45
7	50	Jan 21 06:22 2022	Jan 21 06:13 2022	21 Jan 2022 2:19
8	100	Jan 21 06:22 2022	Jan 21 06:14 2022	21 Jan 2022 2:53

R16012022B.M Fri Jan 21 14:14:23 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202228.D Vial: 12
Acq On : 20 Jan 2022 22:56 Operator: WA
Sample : 0.1ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:07:08 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 1/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	177131	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.43	114	807052	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	145679	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	301095	12.766	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
57) Toluene-d8 (SS2)	15.88	98	872384	12.505	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	19.12	174	281525	11.869	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
Target Compounds							Qvalue
2) Propene	4.21	42	2862	0.087	ng		97
3) Dichlorodifluoromethan...	4.36	85	4841	0.112	ng		96
4) Chloromethane	4.64	50	3771	0.136	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	2627	0.111	ng		92
6) Vinyl Chloride	5.07	62	3531	0.100	ng		94
7) 1,3-Butadiene	5.35	54	2251	0.104	ng		89
8) Bromomethane	5.77	94	1868	0.094	ng		95
9) Chloroethane	6.12	64	1429	0.092	ng		87
10) Ethanol	6.45	45	11165	0.651	ng		93
11) Acetonitrile	6.73	41	6845	0.140	ng		92
12) Acrolein	6.94	56	2253	0.161	ng		99
13) Acetone	7.17	58	11402	0.692	ng	#	77
14) Trichlorofluoromethane	7.41	101	3891	0.098	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	13713	0.283	ng		95
16) Acrylonitrile	7.89	53	7143	0.236	ng		100
17) 1,1-Dichloroethene	8.36	96	2198	0.092	ng		98
18) 2-Methyl-2-Propanol (t...	8.59	59	10987	0.216	ng		84
19) Methylene Chloride	8.57	84	2422	0.105	ng		93
20) 3-Chloro-1-propene (Al...	8.74	41	3233	0.104	ng		85
21) Trichlorotrifluoroethane	9.01	151	1741	0.097	ng		96
22) Carbon Disulfide	8.85	76	16528	0.212	ng		99
23) trans-1,2-Dichloroethene	9.85	61	3153	0.095	ng		99
24) 1,1-Dichloroethane	10.11	63	3763	0.092	ng		100
25) Methyl tert-Butyl Ether	10.25	73	6044	0.104	ng		98
26) Vinyl Acetate	10.37	86	984	0.255	ng	#	8
27) 2-Butanone (MEK)	10.64	72	3434	0.232	ng	#	69
28) cis-1,2-Dichloroethene	11.12	61	3010	0.093	ng		96
29) Diisopropyl Ether	11.44	87	3846	0.200	ng	#	1
30) Ethyl Acetate	11.44	61	3574	0.423	ng		89
31) n-Hexane	11.42	57	3689	0.113	ng	#	95
32) Chloroform	11.46	83	3812	0.095	ng		98
34) Tetrahydrofuran (THF)	11.91	72	3008	0.209	ng	#	87
35) Ethyl tert-Butyl Ether	12.04	87	4339	0.195	ng	#	83
36) 1,2-Dichloroethane	12.27	62	2997	0.098	ng		96
38) 1,1,1-Trichloroethane	12.55	97	3405	0.098	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	9625	0.103	ng		99
42) Carbon Tetrachloride	13.20	117	2538	0.090	ng		97
43) Cyclohexane	13.33	84	6434	0.199	ng		90
44) tert-Amyl Methyl Ether	13.69	73	11795	0.208	ng		89
45) 1,2-Dichloropropane	13.89	63	2081	0.097	ng		91
46) Bromodichloromethane	14.07	83	2752	0.095	ng		97
47) Trichloroethene	14.13	130	2179	0.087	ng		99
48) 1,4-Dioxane	14.12	88	2084	0.100	ng		92
49) 2,2,4-Trimethylpentane...	14.20	57	8691	0.098	ng		87
50) Methyl Methacrylate	14.34	100	1680	0.176	ng	#	75

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202228.D Vial: 12
Acq On : 20 Jan 2022 22:56 Operator: WA
Sample : 0.1ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:07:08 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

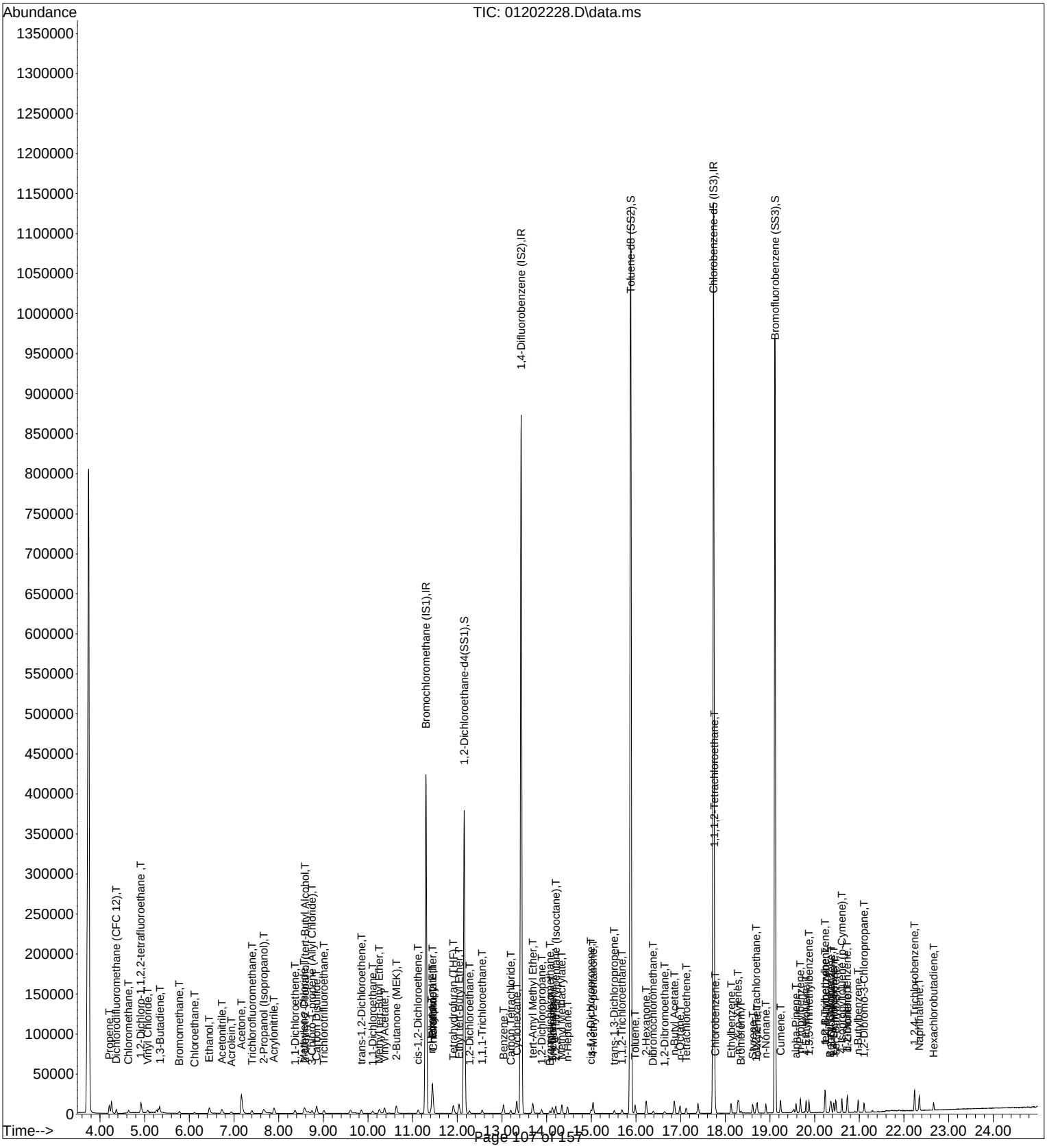
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.47	71	2171	0.095	ng		94
52) cis-1,3-Dichloropropene	14.99	75	3024	0.092	ng		99
53) 4-Methyl-2-pentanone	15.04	58	4319	0.216	ng		76
54) trans-1,3-Dichloropropene	15.51	75	2480	0.083	ng		97
55) 1,1,2-Trichloroethane	15.68	97	1974	0.094	ng		98
58) Toluene	15.98	91	9428	0.105	ng		97
59) 2-Hexanone	16.23	43	12583	0.257	ng		88
60) Dibromochloromethane	16.38	129	1981	0.086	ng		99
61) 1,2-Dibromoethane	16.64	107	2240	0.090	ng		98
62) n-Butyl Acetate	16.86	43	13658	0.253	ng		91
63) n-Octane	16.99	57	1818	0.099	ng		89
64) Tetrachloroethene	17.12	166	2132	0.083	ng		98
65) Chlorobenzene	17.78	112	6162	0.104	ng		99
66) Ethylbenzene	18.13	91	10136	0.095	ng		96
67) m- & p-Xylenes	18.28	91	16290	0.199	ng		91
68) Bromoform	18.35	173	1418	0.078	ng		92
69) Styrene	18.61	104	6057	0.097	ng		97
70) o-Xylene	18.71	91	7873	0.102	ng		92
71) n-Nonane	18.91	43	4341	0.105	ng		85
72) 1,1,2,2-Tetrachloroethane	18.69	83	3234	0.089	ng		97
74) Cumene	19.24	105	10490	0.106	ng		96
75) alpha-Pinene	19.58	93	4465	0.095	ng		91
76) n-Propylbenzene	19.68	91	12545	0.105	ng		93
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.81	105	10489	0.103	ng		94
79) 1,3,5-Trimethylbenzene	19.87	105	7903	0.094	ng		93
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.24	105	7943	0.104	ng		93
83) n-Decane	0.00	58	0	N.D.	d		
84) Benzyl Chloride	20.35	91	8312	0.151	ng		88
85) 1,3-Dichlorobenzene	20.37	146	5084	0.113	ng		100
86) 1,4-Dichlorobenzene	20.43	146	5161	0.110	ng		97
87) sec-Butylbenzene	20.47	105	10346	0.096	ng		94
88) 4-Isopropyltoluene (p-...	20.61	119	9264	0.096	ng		92
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.73	146	4702	0.110	ng		100
91) d-Limonene	20.74	68	2646	0.089	ng		90
92) 1,2-Dibromo-3-Chloropr...	21.11	157	2578	0.152	ng	#	40
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.24	180	7586	0.211	ng		100
95) Naphthalene	22.34	128	14134	0.125	ng		99
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	22.67	225	1813	0.082	ng		98
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.24	119	7936	0.105	ng		97
100) n-Butylbenzene	20.97	91	8451	0.098	ng		94
101) 1,1,1,2-Tetrachloroethane	17.76	131	1883	0.090	ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202228.D Vial: 12
Acq On : 20 Jan 2022 22:56 Operator: WA
Sample : 0.1ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:07:08 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202229.D Vial: 12
Acq On : 20 Jan 2022 23:30 Operator: WA
Sample : 0.2ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:09:10 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022 1/21/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	164864	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.43	114	756154	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	139104	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	285834	13.021	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
57) Toluene-d8 (SS2)	15.88	98	818757	12.292	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	19.11	174	261159	11.531	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
Target Compounds							Qvalue
2) Propene	4.20	42	5136	0.167	ng		99
3) Dichlorodifluoromethan...	4.36	85	8644	0.215	ng		98
4) Chloromethane	4.64	50	6550	0.254	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	4988	0.226	ng		98
6) Vinyl Chloride	5.07	62	6336	0.192	ng		98
7) 1,3-Butadiene	5.34	54	3949	0.196	ng		92
8) Bromomethane	5.77	94	3252	0.176	ng		97
9) Chloroethane	6.11	64	2718	0.187	ng		97
10) Ethanol	6.45	45	13702	0.859	ng		92
11) Acetonitrile	6.73	41	9137	0.201	ng		96
12) Acrolein	6.93	56	3497	0.268	ng		98
13) Acetone	7.16	58	19111	1.247	ng	#	77
14) Trichlorofluoromethane	7.40	101	7193	0.194	ng		100
15) 2-Propanol (Isopropanol)	7.65	45	22759	0.504	ng		89
16) Acrylonitrile	7.89	53	11165	0.396	ng		99
17) 1,1-Dichloroethene	8.36	96	3761	0.168	ng		94
18) 2-Methyl-2-Propanol (t...	8.58	59	20458	0.432	ng		89
19) Methylene Chloride	8.57	84	4186	0.196	ng		95
20) 3-Chloro-1-propene (Al...	8.74	41	5987	0.208	ng		91
21) Trichlorotrifluoroethane	9.01	151	3212	0.192	ng		97
22) Carbon Disulfide	8.85	76	29467	0.405	ng		100
23) trans-1,2-Dichloroethene	9.85	61	5700	0.184	ng		100
24) 1,1-Dichloroethane	10.10	63	6988	0.184	ng		99
25) Methyl tert-Butyl Ether	10.25	73	11075	0.204	ng		98
26) Vinyl Acetate	10.37	86	1819	0.507	ng	#	29
27) 2-Butanone (MEK)	10.63	72	5798	0.420	ng	#	68
28) cis-1,2-Dichloroethene	11.13	61	5391	0.179	ng		98
29) Diisopropyl Ether	11.44	87	7154	0.400	ng	#	7
30) Ethyl Acetate	11.44	61	6451	0.820	ng		89
31) n-Hexane	11.42	57	6613	0.219	ng	#	97
32) Chloroform	11.47	83	7002	0.187	ng		98
34) Tetrahydrofuran (THF)	11.91	72	5047	0.377	ng	#	87
35) Ethyl tert-Butyl Ether	12.03	87	8530	0.412	ng	#	87
36) 1,2-Dichloroethane	12.27	62	5535	0.194	ng		99
38) 1,1,1-Trichloroethane	12.55	97	6127	0.188	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	16544	0.189	ng		100
42) Carbon Tetrachloride	13.19	117	4812	0.183	ng		98
43) Cyclohexane	13.33	84	11692	0.386	ng		91
44) tert-Amyl Methyl Ether	13.69	73	21535	0.405	ng		93
45) 1,2-Dichloropropane	13.89	63	3817	0.190	ng		99
46) Bromodichloromethane	14.07	83	4892	0.180	ng		99
47) Trichloroethene	14.13	130	3948	0.168	ng		98
48) 1,4-Dioxane	14.12	88	3591	0.183	ng		90
49) 2,2,4-Trimethylpentane...	14.20	57	16112	0.193	ng		90
50) Methyl Methacrylate	14.34	100	3013	0.337	ng	#	81

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202229.D Vial: 12
Acq On : 20 Jan 2022 23:30 Operator: WA
Sample : 0.2ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:09:10 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

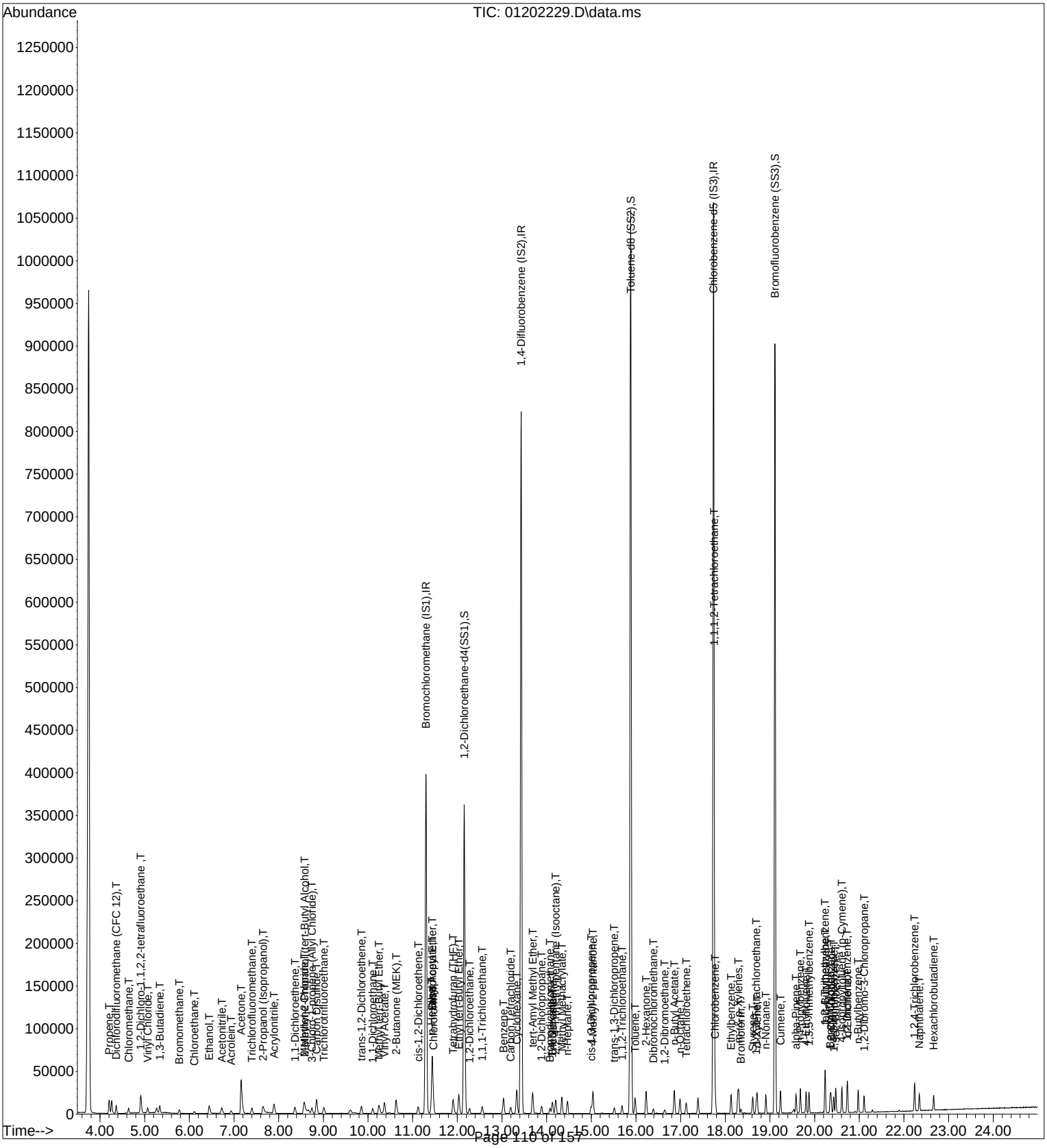
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	3782	0.177 ng		92
52) cis-1,3-Dichloropropene	15.00	75	5717	0.187 ng		99
53) 4-Methyl-2-pentanone	15.03	58	7700	0.410 ng		79
54) trans-1,3-Dichloropropene	15.51	75	4647	0.165 ng		99
55) 1,1,2-Trichloroethane	15.69	97	3673	0.187 ng		99
58) Toluene	15.98	91	15958	0.187 ng		98
59) 2-Hexanone	16.23	43	21262	0.454 ng		88
60) Dibromochloromethane	16.39	129	3618	0.165 ng		98
61) 1,2-Dibromoethane	16.64	107	3918	0.165 ng		100
62) n-Butyl Acetate	16.86	43	22935	0.445 ng		92
63) n-Octane	16.99	57	3181	0.182 ng		95
64) Tetrachloroethene	17.12	166	3998	0.162 ng		100
65) Chlorobenzene	17.77	112	10369	0.183 ng		99
66) Ethylbenzene	18.13	91	17430	0.170 ng		96
67) m- & p-Xylenes	18.29	91	27317	0.349 ng		93
68) Bromoform	18.35	173	2477	0.143 ng		94
69) Styrene	18.61	104	9953	0.168 ng		97
70) o-Xylene	18.71	91	13553	0.183 ng		96
71) n-Nonane	18.91	43	7759	0.196 ng		87
72) 1,1,2,2-Tetrachloroethane	18.69	83	6154	0.178 ng		98
74) Cumene	19.24	105	17520	0.185 ng		96
75) alpha-Pinene	19.58	93	8423	0.187 ng		95
76) n-Propylbenzene	19.68	91	21125	0.185 ng		94
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.81	105	16927	0.174 ng		97
79) 1,3,5-Trimethylbenzene	19.87	105	13538	0.168 ng		94
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.23	105	13554	0.185 ng		96
83) n-Decane	0.00	58	0	N.D. d		
84) Benzyl Chloride	20.35	91	13684	0.261 ng		90
85) 1,3-Dichlorobenzene	20.37	146	7456	0.174 ng		98
86) 1,4-Dichlorobenzene	20.43	146	7563	0.170 ng		99
87) sec-Butylbenzene	20.47	105	18295	0.178 ng		96
88) 4-Isopropyltoluene (p-...	20.61	119	15935	0.172 ng		94
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.73	146	7209	0.176 ng		97
91) d-Limonene	20.74	68	4982	0.175 ng		95
92) 1,2-Dibromo-3-Chloropr...	21.11	157	4522	0.279 ng	#	48
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	9384	0.274 ng		98
95) Naphthalene	22.34	128	15288	0.141 ng		98
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.67	225	3267	0.155 ng		95
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.24	119	13650	0.189 ng		99
100) n-Butylbenzene	20.97	91	14483	0.176 ng		95
101) 1,1,1,2-Tetrachloroethane	17.75	131	3441	0.172 ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202229.D Vial: 12
Acq On : 20 Jan 2022 23:30 Operator: WA
Sample : 0.2ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:09:10 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202230.D Vial: 12
Acq On : 21 Jan 2022 00:04 Operator: WA
Sample : 0.5ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:10:10 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 1/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	157739	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	736604	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	136638	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	278939	13.281	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%				
57) Toluene-d8 (SS2)	15.88	98	802410	12.264	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
73) Bromofluorobenzene (SS3)	19.11	174	251400	11.301	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.40%				
Target Compounds							Qvalue
2) Propene	4.19	42	14258	0.486	ng		98
3) Dichlorodifluoromethan...	4.35	85	21331	0.555	ng		99
4) Chloromethane	4.63	50	15065	0.611	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	12329	0.583	ng		98
6) Vinyl Chloride	5.06	62	16095	0.511	ng		100
7) 1,3-Butadiene	5.33	54	10234	0.530	ng		99
8) Bromomethane	5.76	94	8210	0.464	ng		99
9) Chloroethane	6.10	64	6637	0.478	ng		100
10) Ethanol	6.44	45	30890	2.023	ng		88
11) Acetonitrile	6.72	41	20024	0.461	ng		99
12) Acrolein	6.93	56	7432	0.596	ng		98
13) Acetone	7.15	58	43049	2.935	ng	#	75
14) Trichlorofluoromethane	7.39	101	17399	0.490	ng		99
15) 2-Propanol (Isopropanol)	7.62	45	61720	1.429	ng		92
16) Acrylonitrile	7.89	53	25136	0.932	ng		98
17) 1,1-Dichloroethene	8.36	96	8915	0.417	ng		95
18) 2-Methyl-2-Propanol (t...	8.58	59	49938	1.103	ng		92
19) Methylene Chloride	8.57	84	9674	0.473	ng		94
20) 3-Chloro-1-propene (Al...	8.74	41	13559	0.491	ng		93
21) Trichlorotrifluoroethane	9.01	151	7812	0.487	ng		98
22) Carbon Disulfide	8.84	76	70521	1.014	ng		99
23) trans-1,2-Dichloroethene	9.85	61	13489	0.456	ng		97
24) 1,1-Dichloroethane	10.11	63	16506	0.455	ng		100
25) Methyl tert-Butyl Ether	10.23	73	26648	0.514	ng		98
26) Vinyl Acetate	10.37	86	4964	1.445	ng	#	55
27) 2-Butanone (MEK)	10.62	72	14198	1.075	ng	#	75
28) cis-1,2-Dichloroethene	11.12	61	12805	0.445	ng		96
29) Diisopropyl Ether	11.43	87	17233	1.007	ng	#	6
30) Ethyl Acetate	11.44	61	15720	2.090	ng		91
31) n-Hexane	11.42	57	15935	0.550	ng	#	97
32) Chloroform	11.47	83	16820	0.469	ng		99
34) Tetrahydrofuran (THF)	11.89	72	12063	0.943	ng	#	89
35) Ethyl tert-Butyl Ether	12.03	87	20721	1.045	ng	#	85
36) 1,2-Dichloroethane	12.27	62	13282	0.486	ng		99
38) 1,1,1-Trichloroethane	12.56	97	14757	0.466	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	37898	0.444	ng		100
42) Carbon Tetrachloride	13.20	117	11680	0.456	ng		100
43) Cyclohexane	13.33	84	28102	0.952	ng		90
44) tert-Amyl Methyl Ether	13.68	73	51705	0.998	ng		93
45) 1,2-Dichloropropane	13.89	63	9374	0.478	ng		99
46) Bromodichloromethane	14.07	83	12200	0.462	ng		100
47) Trichloroethene	14.13	130	9499	0.416	ng		99
48) 1,4-Dioxane	14.12	88	8605	0.450	ng		93
49) 2,2,4-Trimethylpentane...	14.20	57	38951	0.479	ng		91
50) Methyl Methacrylate	14.34	100	7556	0.868	ng	#	85

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202230.D Vial: 12
Acq On : 21 Jan 2022 00:04 Operator: WA
Sample : 0.5ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:10:10 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

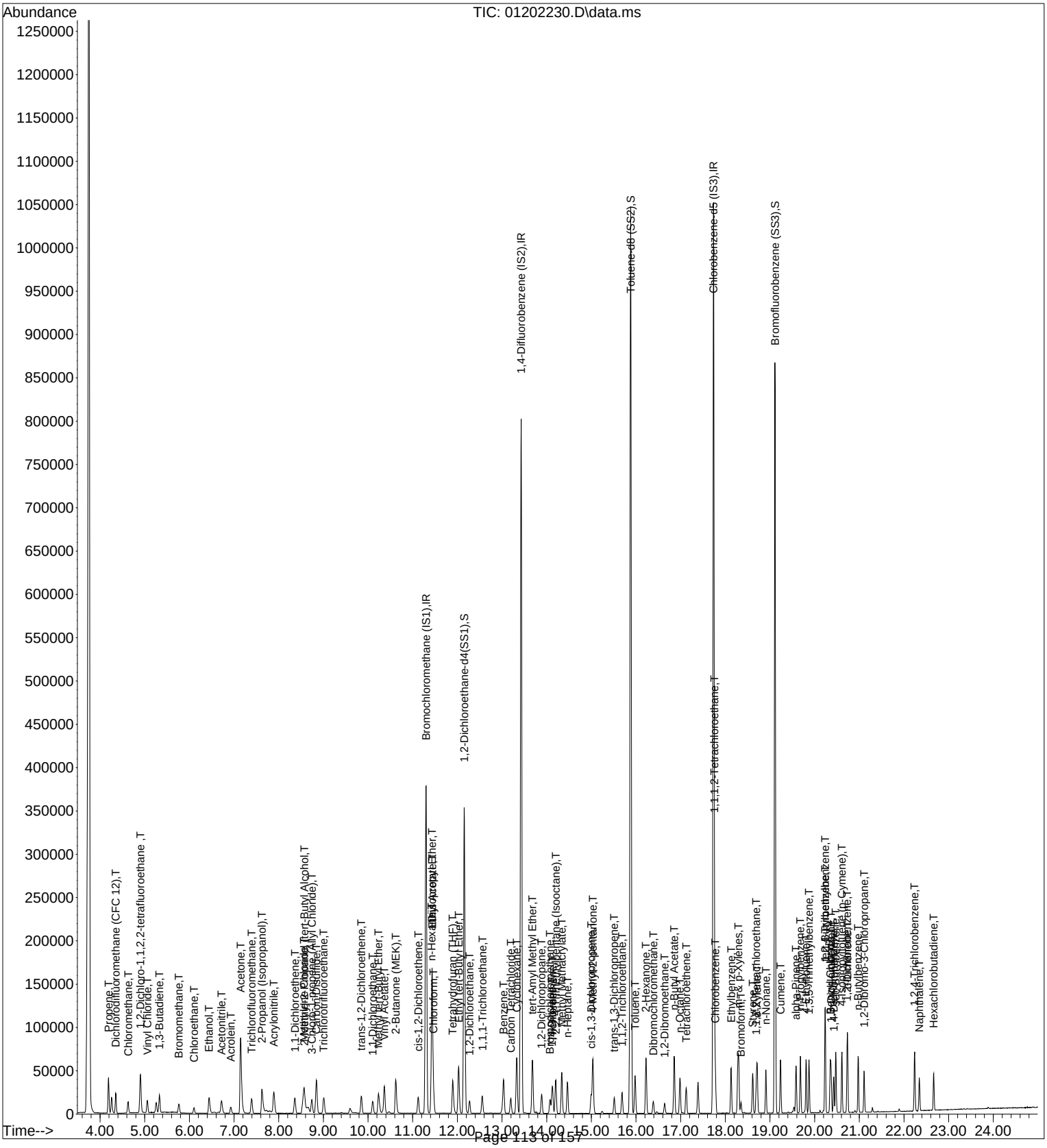
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.47	71	9422	0.452 ng		96
52) cis-1,3-Dichloropropene	15.00	75	14024	0.470 ng		99
53) 4-Methyl-2-pentanone	15.03	58	19003	1.040 ng		81
54) trans-1,3-Dichloropropene	15.51	75	11893	0.434 ng		99
55) 1,1,2-Trichloroethane	15.69	97	8784	0.460 ng		99
58) Toluene	15.98	91	37317	0.445 ng		99
59) 2-Hexanone	16.22	43	50995	1.109 ng		89
60) Dibromochloromethane	16.39	129	9081	0.421 ng		99
61) 1,2-Dibromoethane	16.64	107	9609	0.411 ng		99
62) n-Butyl Acetate	16.85	43	55752	1.102 ng		92
63) n-Octane	16.98	57	7967	0.463 ng		91
64) Tetrachloroethene	17.12	166	9736	0.402 ng		100
65) Chlorobenzene	17.78	112	24140	0.434 ng		99
66) Ethylbenzene	18.13	91	40965	0.407 ng		98
67) m- & p-Xylenes	18.29	91	63306	0.823 ng		95
68) Bromoform	18.35	173	6382	0.374 ng		100
69) Styrene	18.61	104	24030	0.412 ng		97
70) o-Xylene	18.71	91	32185	0.443 ng		95
71) n-Nonane	18.91	43	18800	0.484 ng		88
72) 1,1,2,2-Tetrachloroethane	18.69	83	14931	0.440 ng		98
74) Cumene	19.24	105	41455	0.445 ng		96
75) alpha-Pinene	19.58	93	21105	0.477 ng		95
76) n-Propylbenzene	19.68	91	49856	0.444 ng		94
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.81	105	39763	0.417 ng		96
79) 1,3,5-Trimethylbenzene	19.87	105	32341	0.410 ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.24	105	32152	0.447 ng		98
83) n-Decane	0.00	58	0	N.D. d		
84) Benzyl Chloride	20.35	91	35448	0.688 ng		91
85) 1,3-Dichlorobenzene	20.37	146	16856	0.401 ng		99
86) 1,4-Dichlorobenzene	20.43	146	16483	0.376 ng		99
87) sec-Butylbenzene	20.47	105	44143	0.438 ng		96
88) 4-Isopropyltoluene (p-...	20.61	119	37403	0.411 ng		95
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.73	146	16608	0.414 ng		99
91) d-Limonene	20.74	68	13117	0.469 ng		92
92) 1,2-Dibromo-3-Chloropr...	21.11	157	11261	0.707 ng	#	55
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.24	180	19624	0.582 ng		100
95) Naphthalene	22.34	128	29060	0.273 ng		98
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.67	225	7641	0.370 ng		99
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.24	119	32728	0.462 ng		99
100) n-Butylbenzene	20.97	91	34750	0.429 ng		96
101) 1,1,1,2-Tetrachloroethane	17.76	131	8470	0.430 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202230.D Vial: 12
Acq On : 21 Jan 2022 00:04 Operator: WA
Sample : 0.5ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172211 (2/16)

Quant Time: Jan 21 06:10:10 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202231.D Vial: 15
Acq On : 21 Jan 2022 00:38 Operator: WA
Sample : 1.0ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172210 (2/16)

Quant Time: Jan 21 06:10:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	157109	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	722531	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	133393	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	274625	13.128	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%				
57) Toluene-d8 (SS2)	15.88	98	780241	12.215	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
73) Bromofluorobenzene (SS3)	19.12	174	246012	11.328	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%				
Target Compounds							Qvalue
2) Propene	4.19	42	21664	0.741	ng		97
3) Dichlorodifluoromethan...	4.35	85	39792	1.039	ng		100
4) Chloromethane	4.63	50	30975	1.262	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	23591	1.121	ng		100
6) Vinyl Chloride	5.05	62	31308	0.998	ng		100
7) 1,3-Butadiene	5.33	54	20092	1.044	ng		98
8) Bromomethane	5.76	94	14878	0.844	ng		99
9) Chloroethane	6.10	64	12498	0.903	ng		100
10) Ethanol	6.44	45	50925	3.349	ng		97
11) Acetonitrile	6.72	41	34364	0.794	ng		99
12) Acrolein	6.92	56	22362	1.800	ng		99
13) Acetone	7.14	58	70055	4.795	ng	#	71
14) Trichlorofluoromethane	7.40	101	32021	0.905	ng		99
15) 2-Propanol (Isopropanol)	7.62	45	98666	2.293	ng		93
16) Acrylonitrile	7.89	53	47985	1.787	ng		100
17) 1,1-Dichloroethene	8.36	96	16602	0.780	ng		92
18) 2-Methyl-2-Propanol (t...	8.52	59	86936	1.928	ng		93
19) Methylene Chloride	8.57	84	17985	0.882	ng		93
20) 3-Chloro-1-propene (Al...	8.74	41	25915	0.943	ng		96
21) Trichlorotrifluoroethane	9.01	151	14402	0.902	ng		96
22) Carbon Disulfide	8.85	76	127108	1.835	ng		99
23) trans-1,2-Dichloroethene	9.85	61	25699	0.873	ng		98
24) 1,1-Dichloroethane	10.11	63	31658	0.877	ng		100
25) Methyl tert-Butyl Ether	10.23	73	50341	0.975	ng		99
26) Vinyl Acetate	10.37	86	9335	2.729	ng	#	42
27) 2-Butanone (MEK)	10.62	72	25037	1.903	ng	#	74
28) cis-1,2-Dichloroethene	11.12	61	24830	0.866	ng		96
29) Diisopropyl Ether	11.43	87	33467	1.964	ng	#	12
30) Ethyl Acetate	11.43	61	29874	3.987	ng		89
31) n-Hexane	11.42	57	31051	1.077	ng		98
32) Chloroform	11.47	83	32072	0.898	ng		100
34) Tetrahydrofuran (THF)	11.89	72	22399	1.757	ng	#	90
35) Ethyl tert-Butyl Ether	12.03	87	39335	1.992	ng	#	84
36) 1,2-Dichloroethane	12.27	62	25248	0.928	ng		100
38) 1,1,1-Trichloroethane	12.55	97	28293	0.910	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	70442	0.842	ng		99
42) Carbon Tetrachloride	13.20	117	22363	0.890	ng		99
43) Cyclohexane	13.33	84	53834	1.860	ng		90
44) tert-Amyl Methyl Ether	13.68	73	98652	1.941	ng		94
45) 1,2-Dichloropropane	13.89	63	17354	0.902	ng		100
46) Bromodichloromethane	14.08	83	23336	0.900	ng		99
47) Trichloroethene	14.13	130	18059	0.806	ng		99
48) 1,4-Dioxane	14.12	88	15654	0.835	ng		90
49) 2,2,4-Trimethylpentane...	14.20	57	74397	0.932	ng		93
50) Methyl Methacrylate	14.34	100	14170	1.660	ng	#	86

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202231.D Vial: 15
Acq On : 21 Jan 2022 00:38 Operator: WA
Sample : 1.0ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172210 (2/16)

Quant Time: Jan 21 06:10:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

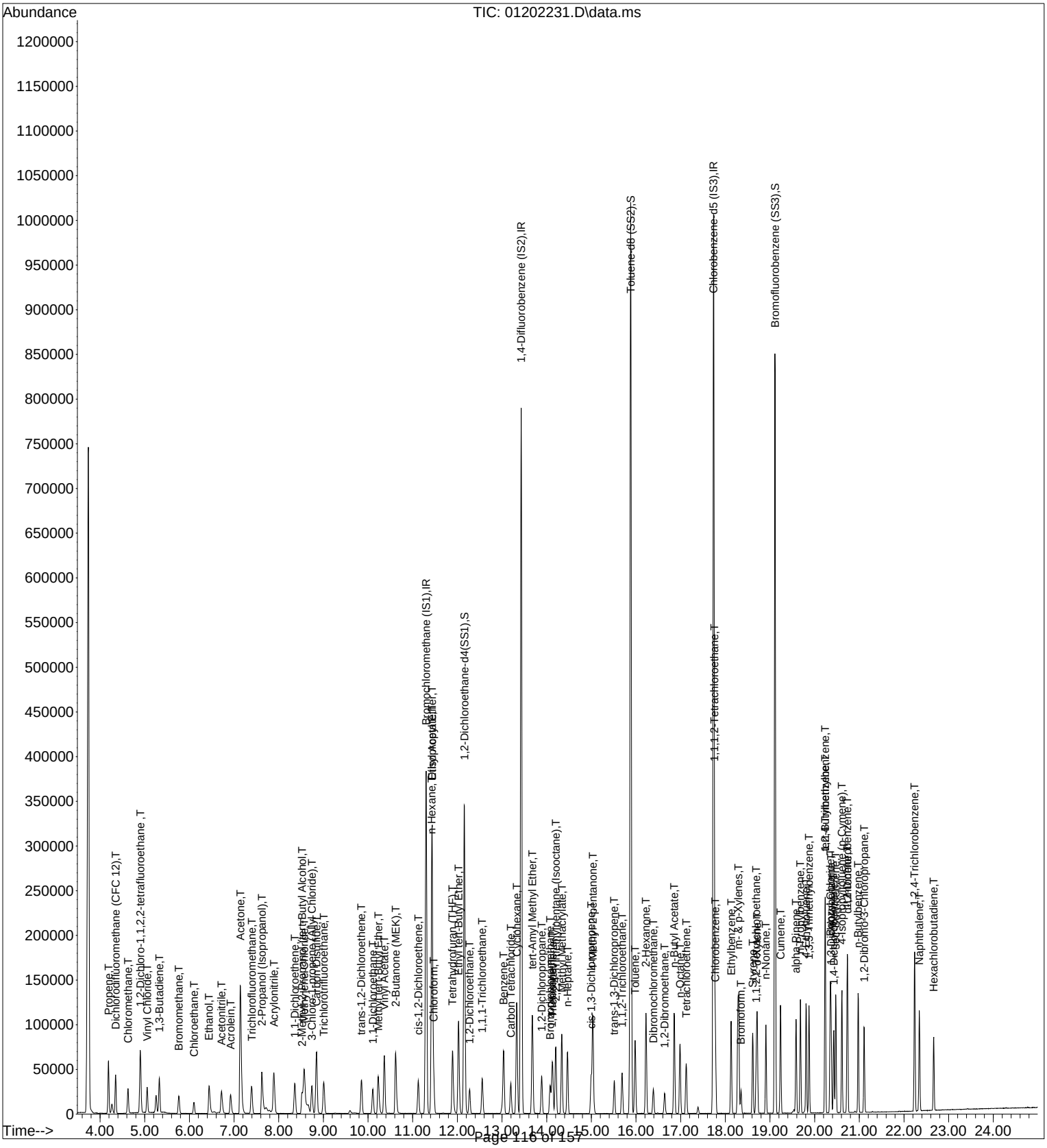
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.47	71	18101	0.885 ng		95
52) cis-1,3-Dichloropropene	15.00	75	27078	0.925 ng		99
53) 4-Methyl-2-pentanone	15.03	58	33107	1.847 ng		81
54) trans-1,3-Dichloropropene	15.51	75	23576	0.877 ng		100
55) 1,1,2-Trichloroethane	15.69	97	16570	0.884 ng		99
58) Toluene	15.98	91	70385	0.860 ng		99
59) 2-Hexanone	16.22	43	87548	1.950 ng		90
60) Dibromochloromethane	16.39	129	17306	0.822 ng		100
61) 1,2-Dibromoethane	16.64	107	18896	0.828 ng		99
62) n-Butyl Acetate	16.85	43	94873	1.920 ng		92
63) n-Octane	16.99	57	14982	0.892 ng		92
64) Tetrachloroethene	17.12	166	18382	0.778 ng		99
65) Chlorobenzene	17.78	112	47203	0.870 ng		100
66) Ethylbenzene	18.13	91	79820	0.813 ng		97
67) m- & p-Xylenes	18.29	91	124228	1.654 ng		95
68) Bromoform	18.35	173	12362	0.743 ng		100
69) Styrene	18.61	104	46278	0.813 ng		98
70) o-Xylene	18.71	91	63295	0.892 ng		95
71) n-Nonane	18.91	43	36206	0.954 ng		88
72) 1,1,2,2-Tetrachloroethane	18.69	83	29258	0.883 ng		99
74) Cumene	19.24	105	79588	0.875 ng		96
75) alpha-Pinene	19.58	93	40519	0.938 ng		97
76) n-Propylbenzene	19.68	91	97467	0.889 ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.81	105	78126	0.838 ng		96
79) 1,3,5-Trimethylbenzene	19.87	105	63252	0.820 ng		95
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.24	105	64664	0.922 ng		97
83) n-Decane	0.00	58	0	N.D. d		
84) Benzyl Chloride	20.35	91	87574	1.740 ng		92
85) 1,3-Dichlorobenzene	20.37	146	36632	0.892 ng		100
86) 1,4-Dichlorobenzene	20.43	146	35740	0.835 ng		99
87) sec-Butylbenzene	20.47	105	86133	0.876 ng		96
88) 4-Isopropyltoluene (p-...	20.61	119	73045	0.823 ng		96
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.73	146	35045	0.894 ng		100
91) d-Limonene	20.74	68	23320	0.855 ng		91
92) 1,2-Dibromo-3-Chloropr...	21.11	157	22852	1.470 ng	#	59
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	51277	1.559 ng		99
95) Naphthalene	22.34	128	86305	0.831 ng		99
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.67	225	14613	0.725 ng		99
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.24	119	63527	0.918 ng		98
100) n-Butylbenzene	20.97	91	70950	0.898 ng		96
101) 1,1,1,2-Tetrachloroethane	17.76	131	16365	0.851 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202231.D Vial: 15
Acq On : 21 Jan 2022 00:38 Operator: WA
Sample : 1.0ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172210 (2/16)

Quant Time: Jan 21 06:10:58 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202232.D Vial: 15
Acq On : 21 Jan 2022 1:11 Operator: WA
Sample : 5.0ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172210 (2/16)

Quant Time: Jan 21 06:11:54 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022 1/21/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	158024	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	734829	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	135428	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	277963	13.210	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%				
57) Toluene-d8 (SS2)	15.88	98	802019	12.367	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
73) Bromofluorobenzene (SS3)	19.12	174	253002	11.474	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%				
Target Compounds							Qvalue
2) Propene	4.17	42	154241	5.248	ng		98
3) Dichlorodifluoromethan...	4.34	85	199937	5.188	ng		100
4) Chloromethane	4.62	50	115746	4.689	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	115157	5.439	ng		100
6) Vinyl Chloride	5.05	62	152545	4.835	ng		100
7) 1,3-Butadiene	5.32	54	102922	5.319	ng		95
8) Bromomethane	5.76	94	73503	4.144	ng		100
9) Chloroethane	6.11	64	62057	4.460	ng		100
10) Ethanol	6.46	45	256530	16.774	ng		100
11) Acetonitrile	6.73	41	172773	3.967	ng		100
12) Acrolein	6.93	56	113221	9.061	ng		99
13) Acetone	7.14	58	355665	24.203	ng	#	78
14) Trichlorofluoromethane	7.40	101	161351	4.534	ng		100
15) 2-Propanol (Isopropanol)	7.63	45	365581	8.448	ng		96
16) Acrylonitrile	7.90	53	245923	9.104	ng		99
17) 1,1-Dichloroethene	8.36	96	84798	3.960	ng		93
18) 2-Methyl-2-Propanol (t...	8.51	59	460293	10.150	ng		95
19) Methylene Chloride	8.58	84	92454	4.510	ng		94
20) 3-Chloro-1-propene (Al...	8.75	41	132718	4.801	ng		96
21) Trichlorotrifluoroethane	9.01	151	74642	4.647	ng		97
22) Carbon Disulfide	8.85	76	655570	9.411	ng		99
23) trans-1,2-Dichloroethene	9.86	61	132076	4.460	ng		96
24) 1,1-Dichloroethane	10.11	63	159895	4.401	ng		100
25) Methyl tert-Butyl Ether	10.22	73	262425	5.051	ng		100
26) Vinyl Acetate	10.37	86	54828	15.937	ng	#	55
27) 2-Butanone (MEK)	10.61	72	131640	9.948	ng	#	79
28) cis-1,2-Dichloroethene	11.13	61	125351	4.344	ng		96
29) Diisopropyl Ether	11.43	87	189214	11.038	ng	#	35
30) Ethyl Acetate	11.43	61	167290	22.198	ng		91
31) n-Hexane	11.42	57	168689	5.815	ng		98
32) Chloroform	11.48	83	164741	4.588	ng		99
34) Tetrahydrofuran (THF)	11.88	72	116168	9.060	ng	#	91
35) Ethyl tert-Butyl Ether	12.03	87	211623	10.657	ng	#	87
36) 1,2-Dichloroethane	12.28	62	126897	4.637	ng		99
38) 1,1,1-Trichloroethane	12.56	97	144388	4.568	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.04	78	359258	4.223	ng		100
42) Carbon Tetrachloride	13.20	117	118400	4.635	ng		100
43) Cyclohexane	13.33	84	291262	9.895	ng		93
44) tert-Amyl Methyl Ether	13.68	73	521463	10.086	ng		95
45) 1,2-Dichloropropane	13.89	63	89898	4.595	ng		100
46) Bromodichloromethane	14.08	83	125613	4.763	ng		99
47) Trichloroethene	14.13	130	95005	4.170	ng		100
48) 1,4-Dioxane	14.11	88	83301	4.368	ng		94
49) 2,2,4-Trimethylpentane...	14.20	57	387747	4.778	ng		94
50) Methyl Methacrylate	14.34	100	79956	9.207	ng		88

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202232.D Vial: 15
Acq On : 21 Jan 2022 1:11 Operator: WA
Sample : 5.0ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172210 (2/16)

Quant Time: Jan 21 06:11:54 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

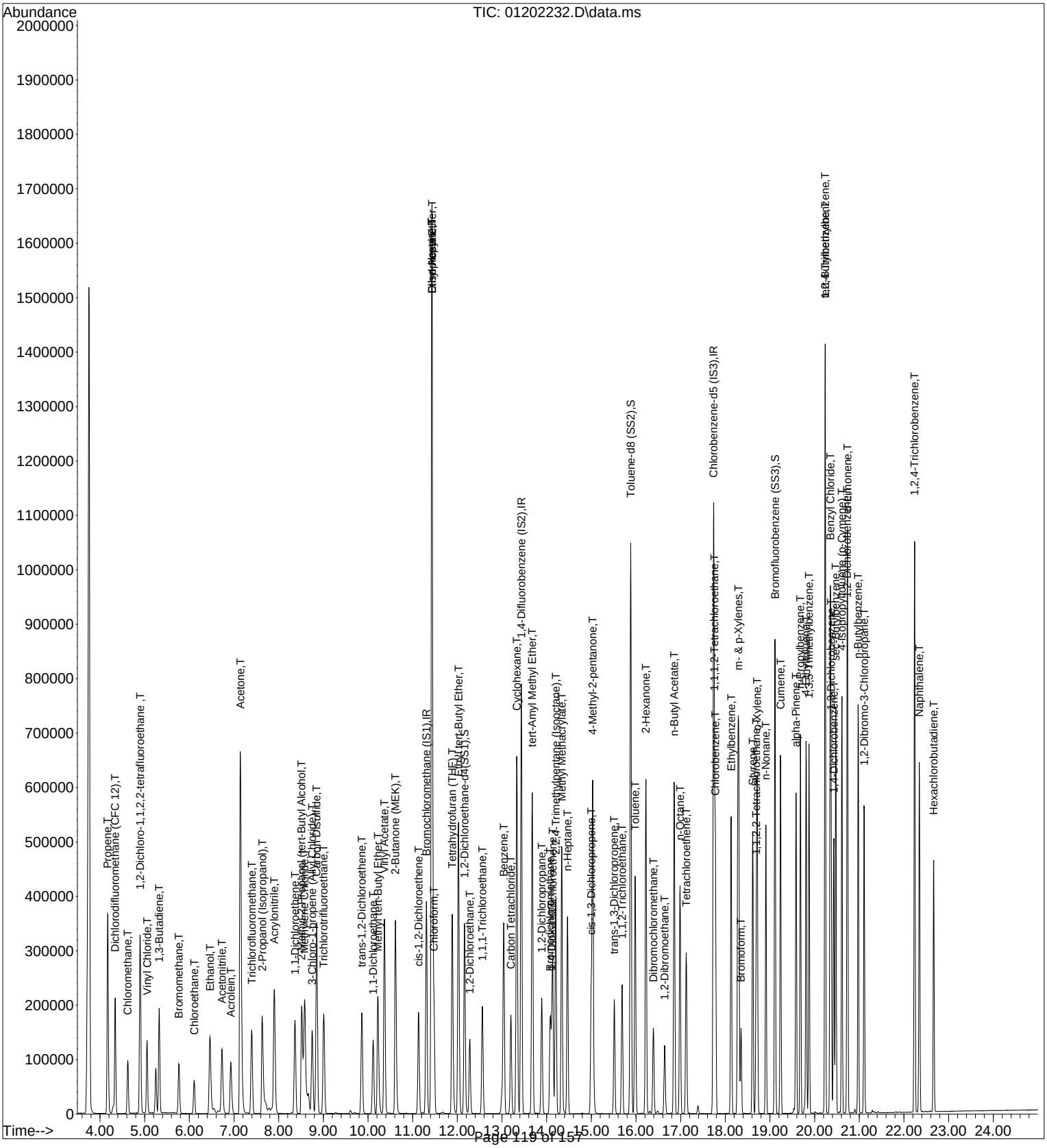
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.47	71	95911	4.611	ng		97
52) cis-1,3-Dichloropropene	15.00	75	147235	4.945	ng		100
53) 4-Methyl-2-pentanone	15.03	58	180136	9.880	ng		85
54) trans-1,3-Dichloropropene	15.51	75	132963	4.862	ng		100
55) 1,1,2-Trichloroethane	15.69	97	86716	4.550	ng		99
58) Toluene	15.98	91	369849	4.450	ng		99
59) 2-Hexanone	16.22	43	470967	10.333	ng		91
60) Dibromochloromethane	16.39	129	99299	4.648	ng		100
61) 1,2-Dibromoethane	16.64	107	100545	4.341	ng		100
62) n-Butyl Acetate	16.85	43	509669	10.162	ng		94
63) n-Octane	16.99	57	80952	4.745	ng		93
64) Tetrachloroethene	17.12	166	96247	4.013	ng		100
65) Chlorobenzene	17.78	112	252940	4.592	ng		100
66) Ethylbenzene	18.13	91	428719	4.303	ng		97
67) m- & p-Xylenes	18.29	91	678804	8.901	ng		96
68) Bromoform	18.35	173	75958	4.496	ng		100
69) Styrene	18.61	104	266261	4.607	ng		98
70) o-Xylene	18.71	91	342985	4.764	ng		96
71) n-Nonane	18.91	43	194356	5.044	ng		90
72) 1,1,2,2-Tetrachloroethane	18.69	83	160934	4.786	ng		100
74) Cumene	19.24	105	431414	4.670	ng		97
75) alpha-Pinene	19.58	93	226243	5.160	ng		97
76) n-Propylbenzene	19.68	91	534208	4.802	ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.81	105	430662	4.552	ng		97
79) 1,3,5-Trimethylbenzene	19.87	105	352003	4.497	ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.24	105	381665	5.359	ng		98
83) n-Decane	0.00	58	0	N.D.	d		
84) Benzyl Chloride	20.35	91	603125	11.803	ng		93
85) 1,3-Dichlorobenzene	20.37	146	206351	4.951	ng		100
86) 1,4-Dichlorobenzene	20.43	146	196239	4.518	ng		100
87) sec-Butylbenzene	20.47	105	479790	4.804	ng		97
88) 4-Isopropyltoluene (p-...	20.61	119	410764	4.559	ng		97
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.73	146	199464	5.014	ng		100
91) d-Limonene	20.74	68	144109	5.202	ng		93
92) 1,2-Dibromo-3-Chloropr...	21.11	157	143109	9.067	ng	#	73
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.24	180	304521	9.117	ng		99
95) Naphthalene	22.34	128	494408	4.688	ng		99
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	22.67	225	82315	4.024	ng		100
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.24	119	372202	5.297	ng		98
100) n-Butylbenzene	20.97	91	393619	4.908	ng		97
101) 1,1,1,2-Tetrachloroethane	17.76	131	91381	4.682	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202232.D Vial: 15
Acq On : 21 Jan 2022 1:11 Operator: WA
Sample : 5.0ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-01172210 (2/16)

Quant Time: Jan 21 06:11:54 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202233.D Vial: 13
Acq On : 21 Jan 2022 1:45 Operator: WA
Sample : 25ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:12:45 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	165518	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.44	114	761136	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.74	54	139337	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	283017	12.842	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%			
57) Toluene-d8 (SS2)	15.89	98	830173	12.442	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%			
73) Bromofluorobenzene (SS3)	19.12	174	265904	11.721	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%			
Target Compounds						Qvalue
2) Propene	4.17	42	649115	21.085	ng	100
3) Dichlorodifluoromethan...	4.33	85	1203479	29.817	ng	100
4) Chloromethane	4.63	50	862651	33.364	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	655836	29.576	ng	100
6) Vinyl Chloride	5.06	62	846290	25.607	ng	100
7) 1,3-Butadiene	5.33	54	651932	32.166	ng	100
8) Bromomethane	5.78	94	475939	25.617	ng	100
9) Chloroethane	6.12	64	380548	26.109	ng	100
10) Ethanol	6.50	45	1448544	90.429	ng	100
11) Acetonitrile	6.75	41	962388	21.097	ng	100
12) Acrolein	6.95	56	719392	54.966	ng	100
13) Acetone	7.16	58	2142116	139.172	ng	100
14) Trichlorofluoromethane	7.41	101	1005464	26.977	ng	100
15) 2-Propanol (Isopropanol)	7.66	45	2980166	65.748	ng	100
16) Acrylonitrile	7.92	53	1517266	53.625	ng	100
17) 1,1-Dichloroethene	8.38	96	560644	24.996	ng	100
18) 2-Methyl-2-Propanol (t...	8.53	59	2916330	61.396	ng	100
19) Methylene Chloride	8.60	84	579420	26.983	ng	100
20) 3-Chloro-1-propene (Al...	8.77	41	861494	29.755	ng	100
21) Trichlorotrifluoroethane	9.02	151	493462	29.329	ng	100
22) Carbon Disulfide	8.86	76	4251164	58.263	ng	100
23) trans-1,2-Dichloroethene	9.88	61	822110	26.504	ng	100
24) 1,1-Dichloroethane	10.12	63	990772	26.039	ng	100
25) Methyl tert-Butyl Ether	10.22	73	1738726	31.952	ng	100
26) Vinyl Acetate	10.38	86	458358	127.199	ng	100
27) 2-Butanone (MEK)	10.62	72	857361	61.858	ng	100
28) cis-1,2-Dichloroethene	11.14	61	783190	25.915	ng	100
29) Diisopropyl Ether	11.43	87	964044	53.693	ng	100
30) Ethyl Acetate	11.45	61	689355	87.331	ng	100
31) n-Hexane	11.42	57	755959	24.881	ng	100
32) Chloroform	11.49	83	1017687	27.060	ng	100
34) Tetrahydrofuran (THF)	11.89	72	748592	55.740	ng	100
35) Ethyl tert-Butyl Ether	12.03	87	1463573	70.363	ng	100
36) 1,2-Dichloroethane	12.29	62	766853	26.753	ng	100
38) 1,1,1-Trichloroethane	12.57	97	919870	28.094	ng	100
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	13.04	78	2351495	26.688	ng	100
42) Carbon Tetrachloride	13.20	117	782331	29.564	ng	100
43) Cyclohexane	13.34	84	1953371	64.067	ng	100
44) tert-Amyl Methyl Ether	13.68	73	3399477	63.480	ng	100
45) 1,2-Dichloropropane	13.90	63	572791	28.266	ng	100
46) Bromodichloromethane	14.08	83	826955	30.275	ng	100
47) Trichloroethene	14.14	130	668139	28.313	ng	100
48) 1,4-Dioxane	14.11	88	527500	26.706	ng	100
49) 2,2,4-Trimethylpentane...	14.21	57	2451310	29.165	ng	100
50) Methyl Methacrylate	14.34	100	564430	62.751	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202233.D Vial: 13
Acq On : 21 Jan 2022 1:45 Operator: WA
Sample : 25ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:12:45 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

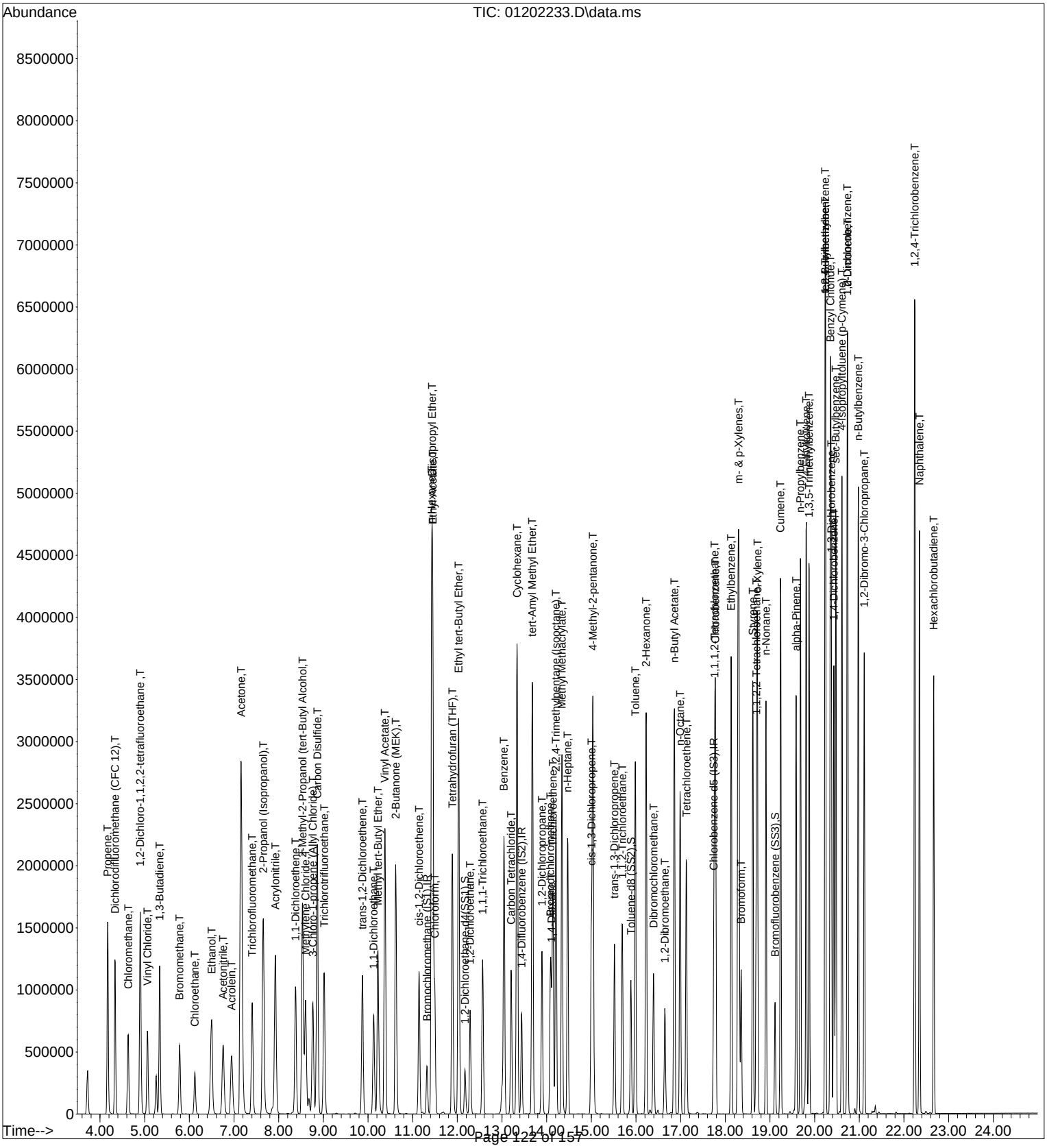
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	640531	29.732	ng	100
52) cis-1,3-Dichloropropene	15.00	75	997798	32.355	ng	100
53) 4-Methyl-2-pentanone	15.03	58	1101045	58.303	ng	100
54) trans-1,3-Dichloropropene	15.52	75	890810	31.448	ng	100
55) 1,1,2-Trichloroethane	15.69	97	583204	29.540	ng	100
58) Toluene	15.99	91	2461558	28.787	ng	100
59) 2-Hexanone	16.23	43	2482716	52.940	ng	100
60) Dibromochloromethane	16.39	129	703923	32.025	ng	100
61) 1,2-Dibromoethane	16.65	107	674053	28.286	ng	100
62) n-Butyl Acetate	16.86	43	2746265	53.221	ng	100
63) n-Octane	16.99	57	523543	29.826	ng	100
64) Tetrachloroethene	17.13	166	693134	28.087	ng	100
65) Chlorobenzene	17.78	112	1783614	31.474	ng	100
66) Ethylbenzene	18.13	91	2897820	28.267	ng	100
67) m- & p-Xylenes	18.30	91	4532083	57.762	ng	100
68) Bromoform	18.36	173	592179	34.067	ng	100
69) Styrene	18.61	104	1887298	31.739	ng	100
70) o-Xylene	18.72	91	2311656	31.205	ng	100
71) n-Nonane	18.91	43	1138241	28.711	ng	100
72) 1,1,2,2-Tetrachloroethane	18.70	83	1088113	31.454	ng	100
74) Cumene	19.24	105	2986862	31.422	ng	100
75) alpha-Pinene	19.59	93	1411258	31.286	ng	100
76) n-Propylbenzene	19.68	91	3589845	31.364	ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	3041047	31.240	ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	2449046	30.410	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	2369052	32.328	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	4006206	76.200	ng	100
85) 1,3-Dichlorobenzene	20.37	146	1495673	34.881	ng	100
86) 1,4-Dichlorobenzene	20.43	146	1468615	32.862	ng	100
87) sec-Butylbenzene	20.47	105	3343720	32.541	ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	2968848	32.029	ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	1437730	35.129	ng	100
91) d-Limonene	20.74	68	877784	30.796	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1093542	67.338	ng	100
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.24	180	2322353	67.577	ng	100
95) Naphthalene	22.35	128	3642811	33.574	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.67	225	654150	31.081	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	2329398	32.220	ng	100
100) n-Butylbenzene	20.98	91	2680155	32.484	ng	100
101) 1,1,1,2-Tetrachloroethane	17.76	131	644751	32.107	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202233.D Vial: 13
Acq On : 21 Jan 2022 1:45 Operator: WA
Sample : 25ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:12:45 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202234.D Vial: 13
Acq On : 21 Jan 2022 2:19 Operator: WA
Sample : 50ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:13:32 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 1/21/22
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.33	130	175140	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.44	114	808697	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.74	54	141175	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.18	65	295357	12.665	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	15.89	98	881347	13.037	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
73) Bromofluorobenzene (SS3)	19.12	174	281775	12.259	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
Target Compounds							Qvalue
2) Propene	4.17	42	1257485	38.603	ng		98
3) Dichlorodifluoromethan...	4.34	85	2347360	54.962	ng		99
4) Chloromethane	4.63	50	1602868	58.586	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	1206168	51.406	ng		100
6) Vinyl Chloride	5.07	62	1665326	47.621	ng		100
7) 1,3-Butadiene	5.34	54	1302567	60.738	ng		97
8) Bromomethane	5.79	94	982271	49.965	ng		100
9) Chloroethane	6.13	64	782846	50.759	ng		100
10) Ethanol	6.52	45	2762728	162.994	ng		100
11) Acetonitrile	6.77	41	1933119	40.048	ng		100
12) Acrolein	6.96	56	1456659	105.183	ng		100
13) Acetone	7.17	58	3680348	225.974	ng		96
14) Trichlorofluoromethane	7.41	101	2044843	51.850	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	5627765	117.337	ng		99
16) Acrylonitrile	7.94	53	2985134	99.708	ng		100
17) 1,1-Dichloroethene	8.38	96	1162743	48.992	ng		94
18) 2-Methyl-2-Propanol (t...	8.55	59	5597965	111.376	ng		98
19) Methylene Chloride	8.61	84	1189667	52.358	ng		94
20) 3-Chloro-1-propene (Al...	8.77	41	1662538	54.267	ng		96
21) Trichlorotrifluoroethane	9.02	151	1047029	58.811	ng		96
22) Carbon Disulfide	8.86	76	8051663	104.286	ng		100
23) trans-1,2-Dichloroethene	9.88	61	1636257	49.854	ng		96
24) 1,1-Dichloroethane	10.13	63	1970284	48.936	ng		99
25) Methyl tert-Butyl Ether	10.22	73	3498560	60.761	ng		99
26) Vinyl Acetate	10.39	86	892937	234.186	ng	#	76
27) 2-Butanone (MEK)	10.63	72	1667565	113.703	ng	#	86
28) cis-1,2-Dichloroethene	11.15	61	1549810	48.464	ng		96
29) Diisopropyl Ether	11.43	87	1412031	74.324	ng	#	84
30) Ethyl Acetate	11.46	61	922279	110.420	ng		96
31) n-Hexane	11.42	57	1101774	34.270	ng		98
32) Chloroform	11.50	83	1978444	49.716	ng		100
34) Tetrahydrofuran (THF)	11.89	72	1461524	102.846	ng		92
35) Ethyl tert-Butyl Ether	12.03	87	2691675	122.296	ng		93
36) 1,2-Dichloroethane	12.29	62	1485554	48.978	ng		99
38) 1,1,1-Trichloroethane	12.57	97	1841091	52.923	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.05	78	4630541	49.463	ng		100
42) Carbon Tetrachloride	13.21	117	1614161	57.412	ng		100
43) Cyclohexane	13.34	84	3420166	105.578	ng		95
44) tert-Amyl Methyl Ether	13.68	73	5894454	103.596	ng		98
45) 1,2-Dichloropropane	13.90	63	1149366	53.382	ng		100
46) Bromodichloromethane	14.09	83	1649731	56.844	ng		100
47) Trichloroethene	14.14	130	1387863	55.353	ng		100
48) 1,4-Dioxane	14.11	88	1064123	50.706	ng		96
49) 2,2,4-Trimethylpentane...	14.21	57	4535699	50.791	ng		98
50) Methyl Methacrylate	14.35	100	1090993	114.158	ng		91

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202234.D Vial: 13
Acq On : 21 Jan 2022 2:19 Operator: WA
Sample : 50ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:13:32 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

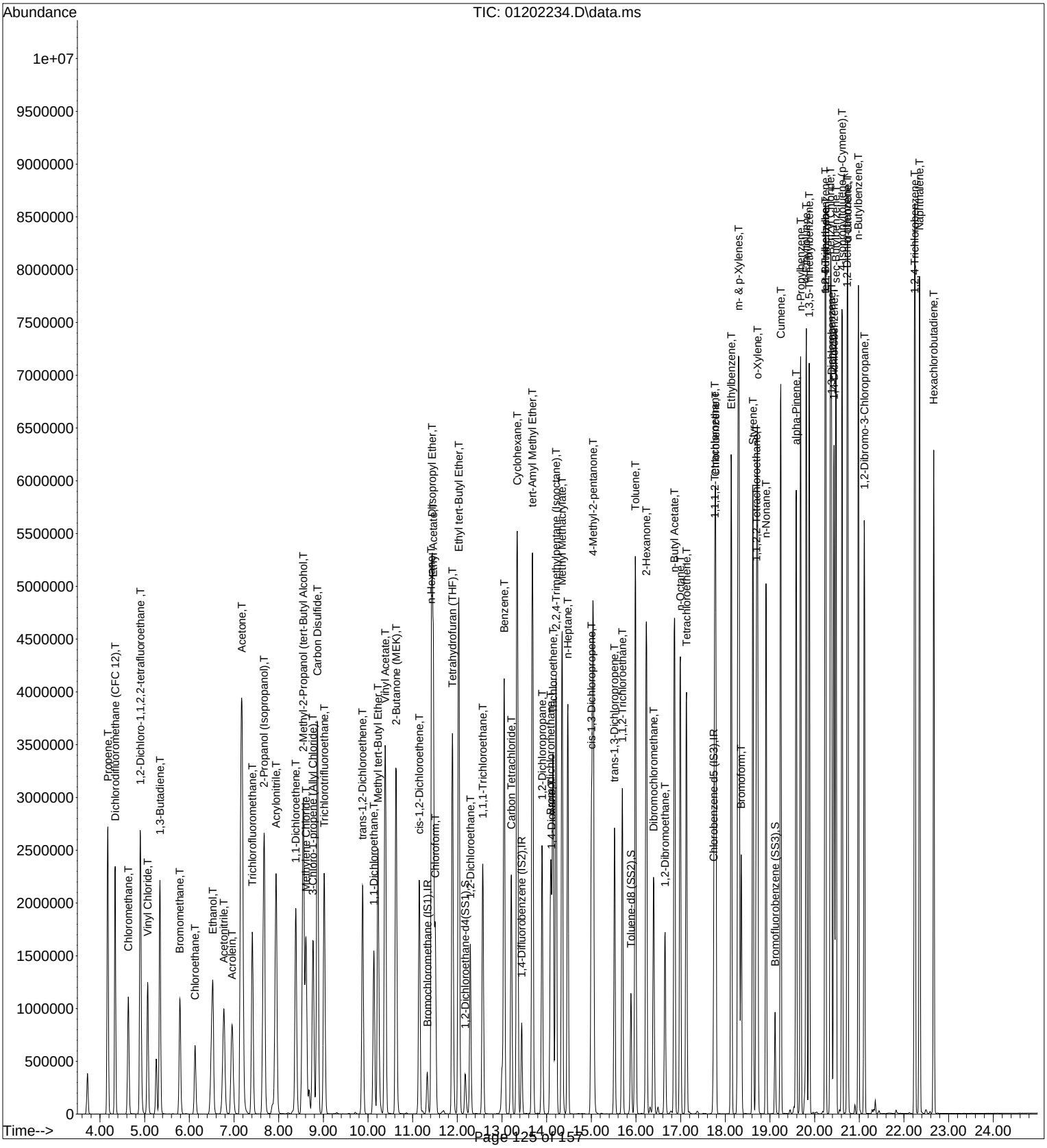
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.47	71	1233061	53.871 ng	97
52) cis-1,3-Dichloropropene	15.00	75	1992661	60.814 ng	100
53) 4-Methyl-2-pentanone	15.04	58	1855324	92.467 ng	92
54) trans-1,3-Dichloropropene	15.52	75	1828541	60.756 ng	99
55) 1,1,2-Trichloroethane	15.69	97	1196130	57.023 ng	99
58) Toluene	15.99	91	4838156	55.844 ng	99
59) 2-Hexanone	16.23	43	3990189	83.978 ng	96
60) Dibromochloromethane	16.39	129	1486946	66.769 ng	100
61) 1,2-Dibromoethane	16.65	107	1414055	58.567 ng	100
62) n-Butyl Acetate	16.86	43	4417948	84.502 ng	96
63) n-Octane	16.99	57	959768	53.966 ng	95
64) Tetrachloroethene	17.13	166	1446931	57.870 ng	99
65) Chlorobenzene	17.78	112	3336582	58.112 ng	100
66) Ethylbenzene	18.13	91	5403991	52.027 ng	98
67) m- & p-Xylenes	18.30	91	7726456	97.193 ng	99
68) Bromoform	18.36	173	1285102	72.968 ng	100
69) Styrene	18.62	104	3612663	59.964 ng	100
70) o-Xylene	18.72	91	4091411	54.510 ng	99
71) n-Nonane	18.91	43	1810689	45.078 ng	93
72) 1,1,2,2-Tetrachloroethane	18.70	83	1985985	56.661 ng	99
74) Cumene	19.24	105	5396815	56.037 ng	99
75) alpha-Pinene	19.59	93	2683134	58.707 ng	99
76) n-Propylbenzene	19.69	91	6331589	54.597 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.81	105	5349686	54.240 ng	99
79) 1,3,5-Trimethylbenzene	19.88	105	4420694	54.177 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.24	105	3455162	46.536 ng	99
83) n-Decane	0.00	58	0	N.D. d	
84) Benzyl Chloride	20.35	91	6017284	112.962 ng	99
85) 1,3-Dichlorobenzene	20.38	146	2485772	57.216 ng	100
86) 1,4-Dichlorobenzene	20.43	146	2848592	62.910 ng	100
87) sec-Butylbenzene	20.48	105	5776648	55.487 ng	98
88) 4-Isopropyltoluene (p-...	20.62	119	5081474	54.107 ng	99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.73	146	2310504	55.718 ng	100
91) d-Limonene	20.74	68	1244333	43.087 ng	93
92) 1,2-Dibromo-3-Chloropr...	21.12	157	1999934	121.549 ng	94
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.24	180	3737105	107.329 ng	100
95) Naphthalene	22.35	128	6926045	63.003 ng	100
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	22.67	225	1307897	61.334 ng	100
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.24	119	3419985	46.689 ng	100
100) n-Butylbenzene	20.98	91	4608267	55.126 ng	99
101) 1,1,1,2-Tetrachloroethane	17.76	131	1212569	59.597 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202234.D Vial: 13
Acq On : 21 Jan 2022 2:19 Operator: WA
Sample : 50ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:13:32 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202235.D Vial: 13
Acq On : 21 Jan 2022 2:53 Operator: WA
Sample : 100ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:14:40 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022 WA 1/21/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	186684	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.45	114	842354	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.74	54	138632	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.19	65	304540	12.252	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
57) Toluene-d8 (SS2)	15.89	98	915732	13.794	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.32%				
73) Bromofluorobenzene (SS3)	19.12	174	296005	13.114	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.88%				
Target Compounds							Qvalue
2) Propene	4.19	42	2534146	72.984	ng		98
3) Dichlorodifluoromethan...	4.36	85	4535582	99.630	ng		99
4) Chloromethane	4.65	50	2904328	99.591	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	2148073	85.887	ng		100
6) Vinyl Chloride	5.08	62	3360562	90.155	ng		99
7) 1,3-Butadiene	5.36	54	2551934	111.637	ng		94
8) Bromomethane	5.80	94	2086188	99.555	ng		100
9) Chloroethane	6.14	64	1622388	98.689	ng		99
10) Ethanol	6.57	45	4947730	273.853	ng		100
11) Acetonitrile	6.81	41	4036375	78.451	ng		99
12) Acrolein	6.98	56	2964718	200.839	ng		100
13) Acetone	7.20	58	5770942	332.425	ng		97
14) Trichlorofluoromethane	7.42	101	4115907	97.912	ng		99
15) 2-Propanol (Isopropanol)	7.70	45	9138869	178.760	ng		99
16) Acrylonitrile	7.97	53	5686207	178.183	ng		99
17) 1,1-Dichloroethene	8.40	96	2432093	96.140	ng		89
18) 2-Methyl-2-Propanol (t...	8.58	59	9875238	184.327	ng		98
19) Methylene Chloride	8.63	84	2395364	98.903	ng		85
20) 3-Chloro-1-propene (Al...	8.78	41	3250880	99.551	ng		92
21) Trichlorotrifluoroethane	9.03	151	2234620	117.756	ng		91
22) Carbon Disulfide	8.88	76	13338007	162.073	ng		99
23) trans-1,2-Dichloroethene	9.89	61	3208850	91.722	ng		92
24) 1,1-Dichloroethane	10.14	63	3956927	92.202	ng		99
25) Methyl tert-Butyl Ether	10.23	73	6829453	111.275	ng		99
26) Vinyl Acetate	10.40	86	1518491	373.620	ng	#	57
27) 2-Butanone (MEK)	10.65	72	2906130	185.902	ng	#	74
28) cis-1,2-Dichloroethene	11.16	61	3028897	88.860	ng		91
29) Diisopropyl Ether	11.45	87	1784244	88.108	ng		98
30) Ethyl Acetate	11.47	61	1294848	145.439	ng		92
31) n-Hexane	11.42	57	1646783	48.055	ng	#	96
32) Chloroform	11.53	83	3829507	90.280	ng		100
34) Tetrahydrofuran (THF)	11.90	72	2497502	164.879	ng	#	82
35) Ethyl tert-Butyl Ether	12.04	87	4176505	178.025	ng	#	87
36) 1,2-Dichloroethane	12.30	62	2823816	87.343	ng		99
38) 1,1,1-Trichloroethane	12.58	97	3603985	99.459	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.06	78	8392897	86.070	ng		99
42) Carbon Tetrachloride	13.21	117	3229142	110.264	ng		100
43) Cyclohexane	13.35	84	4921858	145.863	ng		93
44) tert-Amyl Methyl Ether	13.69	73	8626558	145.556	ng		97
45) 1,2-Dichloropropane	13.90	63	2149891	95.862	ng		100
46) Bromodichloromethane	14.09	83	3001677	99.295	ng		100
47) Trichloroethene	14.15	130	2503683	95.866	ng		100
48) 1,4-Dioxane	14.12	88	1734975	79.369	ng		92
49) 2,2,4-Trimethylpentane...	14.22	57	7157041	76.943	ng		98
50) Methyl Methacrylate	14.35	100	1723847	173.171	ng	#	84

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202235.D Vial: 13
Acq On : 21 Jan 2022 2:53 Operator: WA
Sample : 100ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:14:40 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

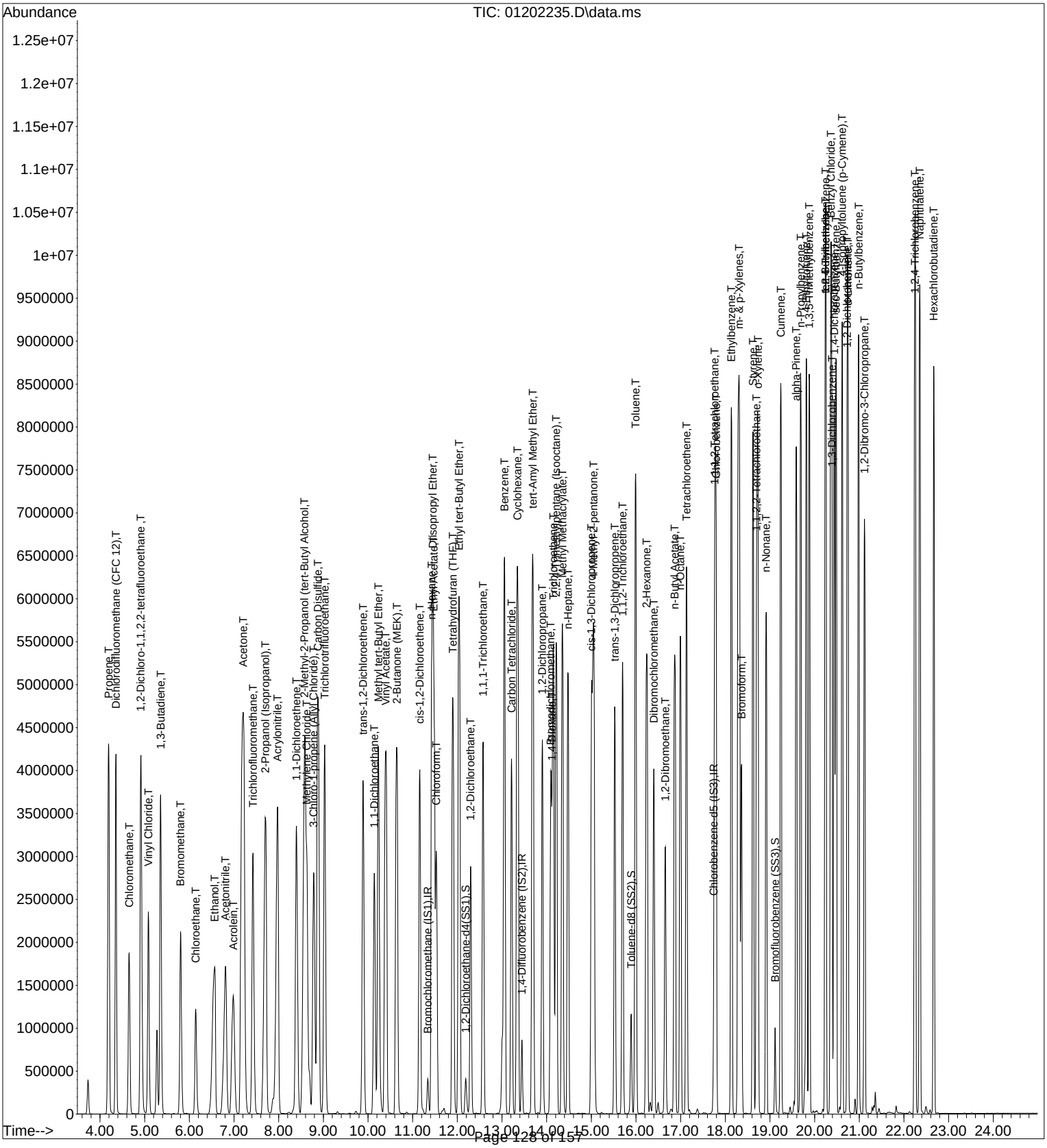
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.48	71	2016385	84.573	ng	95
52) cis-1,3-Dichloropropene	15.00	75	3590171	105.190	ng	99
53) 4-Methyl-2-pentanone	15.05	58	2616128	125.174	ng	86
54) trans-1,3-Dichloropropene	15.52	75	3508799	111.927	ng	99
55) 1,1,2-Trichloroethane	15.70	97	2273231	104.042	ng	98
58) Toluene	15.99	91	8075180	94.918	ng	99
59) 2-Hexanone	16.24	43	5659812	121.301	ng	94
60) Dibromochloromethane	16.40	129	2955664	135.153	ng	99
61) 1,2-Dibromoethane	16.66	107	2801588	118.163	ng	100
62) n-Butyl Acetate	16.87	43	6112236	119.053	ng	95
63) n-Octane	16.99	57	1478657	84.667	ng	90
64) Tetrachloroethene	17.13	166	2621263	106.760	ng	99
65) Chlorobenzene	17.80	112	4932500	87.483	ng	99
66) Ethylbenzene	18.14	91	8459655	82.939	ng	97
67) m- & p-Xylenes	18.31	91	11080149	141.937	ng	96
68) Bromoform	18.36	173	2457776	142.111	ng	100
69) Styrene	18.62	104	5721077	96.702	ng	99
70) o-Xylene	18.73	91	5808539	78.807	ng	100
71) n-Nonane	18.91	43	2425384	61.489	ng	86
72) 1,1,2,2-Tetrachloroethane	18.70	83	2858578	83.053	ng	100
74) Cumene	19.24	105	7972363	84.298	ng	99
75) alpha-Pinene	19.59	93	4111244	91.604	ng	99
76) n-Propylbenzene	19.69	91	9122524	80.107	ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	7730850	79.820	ng	98
79) 1,3,5-Trimethylbenzene	19.88	105	6543877	81.668	ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.25	105	4725331	64.810	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.36	91	7811181	149.328	ng	98
85) 1,3-Dichlorobenzene	20.39	146	3482737	81.634	ng	100
86) 1,4-Dichlorobenzene	20.44	146	4482046	100.800	ng	99
87) sec-Butylbenzene	20.48	105	8096661	79.198	ng	96
88) 4-Isopropyltoluene (p-...	20.62	119	7181399	77.870	ng	98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	3250514	79.825	ng	100
91) d-Limonene	20.75	68	1575854	55.568	ng	88
92) 1,2-Dibromo-3-Chloropr...	21.12	157	2990027	185.057	ng	93
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.25	180	5475964	160.153	ng	99
95) Naphthalene	22.35	128	10388287	96.230	ng	99
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.67	225	2221301	106.079	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	4789225	66.580	ng	100
100) n-Butylbenzene	20.98	91	6421503	78.226	ng	97
101) 1,1,1,2-Tetrachloroethane	17.76	131	1888810	94.536	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202235.D Vial: 13
Acq On : 21 Jan 2022 2:53 Operator: WA
Sample : 100ng R16012022 ICAL Std Inst : GCMS-16
Misc : S35-01102201/S35-12292101 (1/28)

Quant Time: Jan 21 06:14:40 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 06:02:16 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202237.D Vial: 16
Acq On : 21 Jan 2022 4:01 Operator: WA
Sample : 25ng R16012022 ICV Std Inst : GCMS-16
Misc : S35-01102201/S35-12272103 (1/26)

Quant Time: Jan 21 14:55:05 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 09:34:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

1/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	180934	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	831947	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.74	54	145900	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.18	65	304651	12.258	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
57) Toluene-d8 (SS2)	15.89	98	895914	12.707	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
73) Bromofluorobenzene (SS3)	19.11	174	281957	12.548	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	4.18	42	729437	26.465	ng		99
3) Dichlorodifluoromethan...	4.34	85	1116474	24.518	ng		100
4) Chloromethane	4.64	50	717879	21.681	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	612874	25.162	ng		100
6) Vinyl Chloride	5.07	62	806286	23.727	ng		100
7) 1,3-Butadiene	5.34	54	588004	25.088	ng		94
8) Bromomethane	5.79	94	466470	25.199	ng		100
9) Chloroethane	6.13	64	371665	24.883	ng		100
10) Ethanol	6.51	45	1714794	100.628	ng		100
11) Acetonitrile	6.76	41	918303	20.172	ng		100
12) Acrolein	6.95	56	641980	51.047	ng		100
13) Acetone	7.17	58	1994191	116.971	ng		100
14) Trichlorofluoromethane	7.41	101	967652	24.990	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	2473531	42.566	ng		100
16) Acrylonitrile	7.93	53	1382859	46.152	ng		100
17) 1,1-Dichloroethene	8.38	96	526204	25.859	ng		99
18) 2-Methyl-2-Propanol (t...	8.54	59	2678526	49.983	ng		99
19) Methylene Chloride	8.61	84	544026	24.477	ng		98
20) 3-Chloro-1-propene (Al...	8.77	41	723188	23.298	ng		99
21) Trichlorotrifluoroethane	9.02	151	467601	26.601	ng		98
22) Carbon Disulfide	8.86	76	3837533	50.751	ng		100
23) trans-1,2-Dichloroethene	9.88	61	755822	25.122	ng		99
24) 1,1-Dichloroethane	10.13	63	942481	25.529	ng		100
25) Methyl tert-Butyl Ether	10.22	73	1522507	24.775	ng		100
26) Vinyl Acetate	10.38	86	598756	138.956	ng	#	88
27) 2-Butanone (MEK)	10.62	72	782345	49.866	ng		99
28) cis-1,2-Dichloroethene	11.15	61	719976	24.689	ng		99
29) Diisopropyl Ether	11.44	87	967845	52.945	ng	#	79
30) Ethyl Acetate	11.45	61	520299	64.641	ng		100
31) n-Hexane	11.42	57	769934	25.195	ng		100
32) Chloroform	11.49	83	954116	26.085	ng		100
34) Tetrahydrofuran (THF)	11.89	72	723732	50.552	ng		98
35) Ethyl tert-Butyl Ether	12.03	87	1295624	55.454	ng		99
36) 1,2-Dichloroethane	12.29	62	709526	24.947	ng		100
38) 1,1,1-Trichloroethane	12.57	97	872266	25.817	ng		99
39) Isopropyl Acetate	13.00	61	14057	No Calib		#	
40) 1-Butanol	13.01	56	13816	No Calib		#	
41) Benzene	13.04	78	2202273	25.474	ng		100
42) Carbon Tetrachloride	13.20	117	720305	26.206	ng		100
43) Cyclohexane	13.34	84	1788209	56.250	ng		100
44) tert-Amyl Methyl Ether	13.68	73	3060636	54.231	ng		100
45) 1,2-Dichloropropane	13.90	63	535825	25.391	ng		100
46) Bromodichloromethane	14.08	83	776164	27.406	ng		100
47) Trichloroethene	14.14	130	628393	27.190	ng		100
48) 1,4-Dioxane	14.11	88	492932	25.688	ng		100
49) 2,2,4-Trimethylpentane...	14.21	57	2191668	26.145	ng		100
50) Methyl Methacrylate	14.34	100	519686	57.831	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202237.D Vial: 16
Acq On : 21 Jan 2022 4:01 Operator: WA
Sample : 25ng R16012022 ICV Std Inst : GCMS-16
Misc : S35-01102201/S35-12272103 (1/26)

Quant Time: Jan 21 14:55:05 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 09:34:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

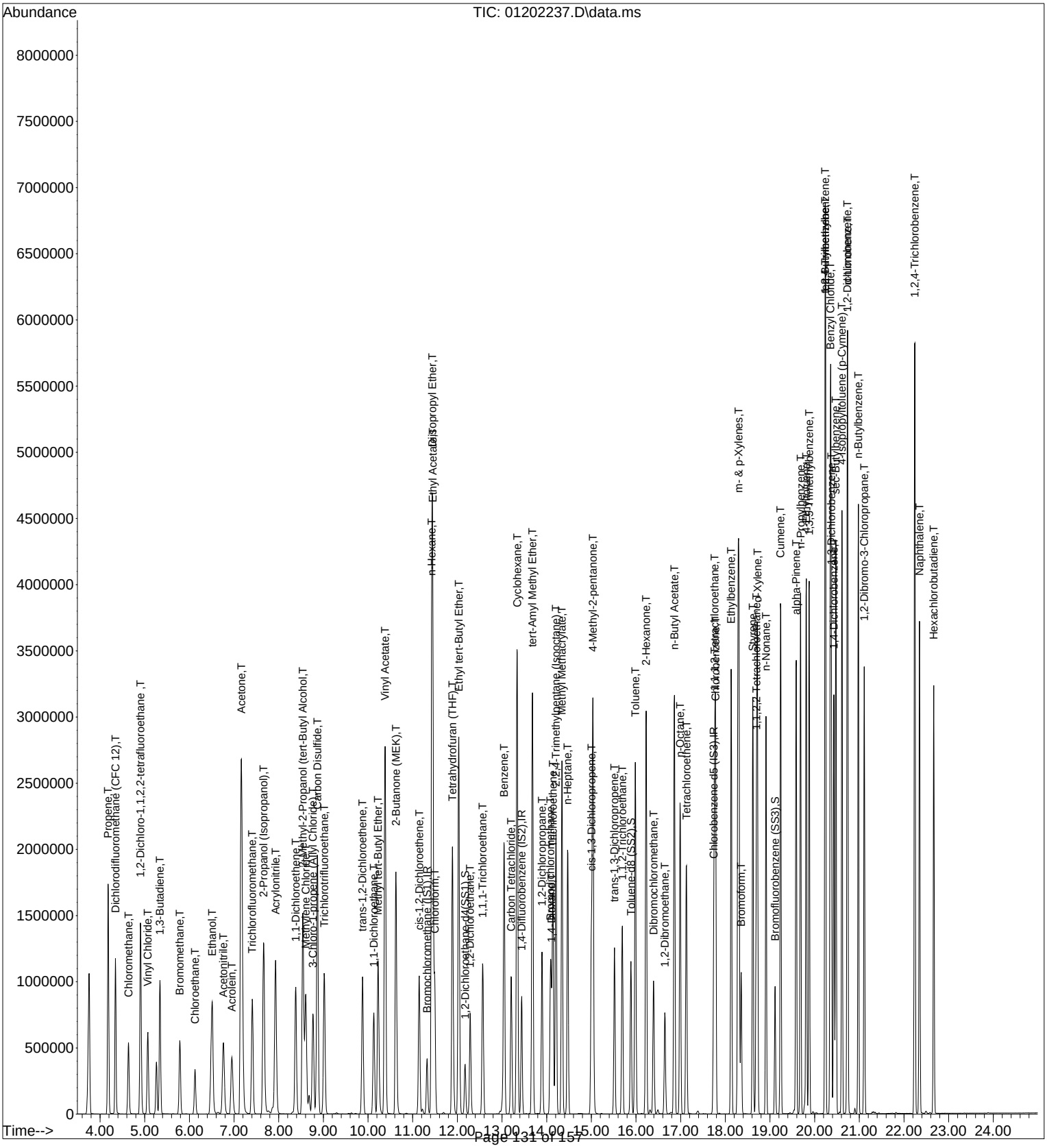
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.47	71	579447	26.993 ng		100
52) cis-1,3-Dichloropropene	15.00	75	919759	27.701 ng		100
53) 4-Methyl-2-pentanone	15.03	58	1025350	53.174 ng		100
54) trans-1,3-Dichloropropene	15.52	75	823152	26.985 ng		100
55) 1,1,2-Trichloroethane	15.69	97	542159	26.276 ng		100
58) Toluene	15.99	91	2290888	26.869 ng		100
59) 2-Hexanone	16.23	43	2311412	48.003 ng		100
60) Dibromochloromethane	16.39	129	644762	28.527 ng		100
61) 1,2-Dibromoethane	16.65	107	618717	26.703 ng		100
62) n-Butyl Acetate	16.86	43	2608705	49.483 ng		100
63) n-Octane	16.99	57	471385	27.678 ng		100
64) Tetrachloroethene	17.13	166	648168	28.311 ng		100
65) Chlorobenzene	17.78	112	1613933	28.609 ng		100
66) Ethylbenzene	18.13	91	2675449	28.185 ng		100
67) m- & p-Xylenes	18.30	91	4182772	57.933 ng		100
68) Bromoform	18.36	173	543798	28.102 ng		100
69) Styrene	18.61	104	1694543	28.725 ng		100
70) o-Xylene	18.72	91	2125399	29.262 ng		99
71) n-Nonane	18.91	43	1034743	27.208 ng		100
72) 1,1,2,2-Tetrachloroethane	18.70	83	996064	29.604 ng		100
74) Cumene	19.24	105	2701172	28.592 ng		99
75) alpha-Pinene	19.59	93	1435746	32.232 ng		100
76) n-Propylbenzene	19.69	91	3214002	28.665 ng		100
77) 3-Ethyltoluene	19.81	105	2692792	No Calib		
78) 4-Ethyltoluene	19.81	105	2692792	29.416 ng		100
79) 1,3,5-Trimethylbenzene	19.88	105	2255544	29.927 ng		99
80) alpha-Methylstyrene	19.88	118	17239	No Calib		
81) 2-Ethyltoluene	19.88	105	2255553	No Calib		
82) 1,2,4-Trimethylbenzene	20.24	105	2225697	30.946 ng		100
83) n-Decane	20.24	58	79159	No Calib	#	
84) Benzyl Chloride	20.35	91	3737955	64.859 ng		100
85) 1,3-Dichlorobenzene	20.37	146	1351385	31.126 ng		100
86) 1,4-Dichlorobenzene	20.43	146	1296181	28.721 ng		100
87) sec-Butylbenzene	20.47	105	3008151	29.935 ng		100
88) 4-Isopropyltoluene (p-...	20.61	119	2640655	30.114 ng		100
89) 1,2,3-Trimethylbenzene	20.61	105	98545	No Calib	#	
90) 1,2-Dichlorobenzene	20.73	146	1292812	31.582 ng		100
91) d-Limonene	20.74	68	836357	32.485 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	992596	64.033 ng		99
93) n-Undecane	22.25	57	454	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	2032336	62.640 ng		100
95) Naphthalene	22.35	128	2879308	26.923 ng		100
96) n-Dodecane	22.34	57	1496	No Calib	#	
97) Hexachlorobutadiene	22.67	225	593693	29.987 ng		100
98) Cyclohexanone	18.30	55	3109	No Calib		
99) tert-Butylbenzene	20.24	119	2183765	30.832 ng		100
100) n-Butylbenzene	20.98	91	2409625	29.820 ng		100
101) 1,1,1,2-Tetrachloroethane	17.76	131	584411	29.553 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 01\20\01202237.D Vial: 16
Acq On : 21 Jan 2022 4:01 Operator: WA
Sample : 25ng R16012022 ICV Std Inst : GCMS-16
Misc : S35-01102201/S35-12272103 (1/26)

Quant Time: Jan 21 14:55:05 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 21 09:34:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

WA 1/21/22

Data File Name: **01202237.D** Acq. Method File: **TO15.M**

Data File Path: **I:\MS16\DATA\2022_01\20** Sample Name: **25ng R16012022 ICV Std**

Operator: **WA** Misc Info: **S35-01102201/S35-12272103 (**

Date Acquired: **1/21/2022 4:01** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.18**	**26.5**	**25.75**	103	**56**	**128**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.34**	**24.5**	**26.00**	94	**71**	**112**	*	*
4)	**Chloromethane**	**4.64**	**21.7**	**25.75**	84	**53**	**126**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.91**	**25.2**	**26.00**	97	**62**	**121**	*	*
6)	**Vinyl Chloride**	**5.07**	**23.7**	**26.00**	91	**63**	**123**	*	*
7)	**1,3-Butadiene**	**5.34**	**25.1**	**25.75**	97	**63**	**135**	*	*
8)	**Bromomethane**	**5.79**	**25.2**	**25.75**	98	**71**	**112**	*	*
9)	**Chloroethane**	**6.13**	**24.9**	**25.75**	97	**66**	**117**	*	*
10)	**Ethanol**	**6.51**	**101**	**104.00**	97	**57**	**117**	*	*
11)	**Acetonitrile**	**6.76**	**20.2**	**25.25**	80	**59**	**131**	*	*
12)	**Acrolein**	**6.95**	**51.0**	**52.00**	98	**71**	**123**	*	*
13)	**Acetone**	**7.17**	**117**	**128.00**	91	**60**	**117**	*	*
14)	**Trichlorofluoromethane**	**7.41**	**25.0**	**25.25**	99	**71**	**114**	*	*
15)	**2-Propanol (Isopropanol)**	**7.66**	**42.6**	**50.00**	85	**61**	**124**	*	*
16)	**Acrylonitrile**	**7.93**	**46.2**	**50.25**	92	**65**	**130**	*	*
17)	**1,1-Dichloroethene**	**8.38**	**25.9**	**26.25**	99	**74**	**114**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.54	50.0	51.00	98	56	135	*	*
19)	**Methylene Chloride**	**8.61**	**24.5**	**26.00**	94	**75**	**112**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.77**	**23.3**	**25.50**	91	**57**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**9.02**	**26.6**	**27.00**	99	**73**	**114**	*	*
22)	**Carbon Disulfide**	**8.86**	**50.8**	**51.75**	98	**70**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.88**	**25.1**	**26.00**	97	**76**	**119**	*	*
24)	**1,1-Dichloroethane**	**10.13**	**25.5**	**26.75**	95	**70**	**114**	*	*
25)	**Methyl tert-Butyl Ether**	**10.22**	**24.8**	**25.75**	96	**72**	**118**	*	*
26)	**Vinyl Acetate**	**10.38**	**139**	**117.75**	118	**56**	**137**	*	*
27)	**2-Butanone (MEK)**	**10.62**	**49.9**	**51.00**	98	**74**	**121**	*	*
28)	**cis-1,2-Dichloroethene**	**11.15**	**24.7**	**25.75**	96	**73**	**117**	*	*
29)	Diisopropyl Ether	11.44	52.9	52.25	101	58	124	*	*
30)	**Ethyl Acetate**	**11.45**	**64.6**	**72.50**	89	**59**	**161**	*	*
31)	**n-Hexane**	**11.42**	**25.2**	**26.00**	97	**55**	**130**	*	*
32)	**Chloroform**	**11.49**	**26.1**	**26.25**	99	**71**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.89**	**50.6**	**50.50**	100	**73**	**114**	*	*
35)	Ethyl tert-Butyl Ether	12.03	55.5	51.75	107	76	119	*	*
36)	**1,2-Dichloroethane**	**12.29**	**24.9**	**26.25**	95	**71**	**119**	*	*
38)	**1,1,1-Trichloroethane**	**12.57**	**25.8**	**26.00**	99	**73**	**119**	*	*
41)	**Benzene**	**13.04**	**25.5**	**26.00**	98	**72**	**113**	*	*
42)	**Carbon Tetrachloride**	**13.20**	**26.2**	**25.25**	104	**67**	**123**	*	*
43)	**Cyclohexane**	**13.34**	**56.3**	**51.50**	109	**70**	**119**	*	*
44)	tert-Amyl Methyl Ether	13.68	54.2	**51.50**	105	74	120	*	*
45)	**1,2-Dichloropropane**	**13.90**	**25.4**	**25.75**	99	**70**	**118**	*	*
46)	**Bromodichloromethane**	**14.08**	**27.4**	**26.00**	105	**74**	**119**	*	*
47)	**Trichloroethene**	**14.14**	**27.2**	**25.50**	107	**74**	**115**	*	*
48)	**1,4-Dioxane**	**14.11**	**25.7**	**25.75**	100	**77**	**124**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.21	26.1	26.25	99	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **01202237.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2022_01\20** Sample Name: **25ng R16012022 ICV Std**
Operator: **WA** Misc Info: **S35-01102201/S35-12272103 (**
Date Acquired: **1/21/2022 4:01** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.34**	**57.8**	**51.25**	113	**78**	**126**	*	*
51)	**n-Heptane**	**14.47**	**27.0**	**25.75**	105	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**15.00**	**27.7**	**26.00**	107	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**15.03**	**53.2**	**51.50**	103	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**15.52**	**27.0**	**25.00**	108	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**15.69**	**26.3**	**26.00**	101	**78**	**117**	*	*
58)	**Toluene**	**15.99**	**26.9**	**25.75**	104	**70**	**118**	*	*
59)	**2-Hexanone**	**16.23**	**48.0**	**50.75**	95	**74**	**132**	*	*
60)	**Dibromochloromethane**	**16.39**	**28.5**	**26.25**	109	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**16.65**	**26.7**	**26.00**	103	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**16.86**	**49.5**	**50.75**	98	**75**	**134**	*	*
63)	**n-Octane**	**16.99**	**27.7**	**26.00**	107	**68**	**120**	*	*
64)	**Tetrachloroethene**	**17.13**	**28.3**	**26.50**	107	**63**	**130**	*	*
65)	**Chlorobenzene**	**17.78**	**28.6**	**25.75**	111	**70**	**118**	*	*
66)	**Ethylbenzene**	**18.13**	**28.2**	**25.75**	110	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**18.30**	**57.9**	**52.00**	111	**67**	**127**	*	*
68)	**Bromoform**	**18.36**	**28.1**	**26.25**	107	**65**	**149**	*	*
69)	**Styrene**	**18.61**	**28.7**	**25.25**	114	**76**	**132**	*	*
70)	**o-Xylene**	**18.72**	**29.3**	**26.00**	113	**69**	**124**	*	*
71)	**n-Nonane**	**18.91**	**27.2**	**26.00**	105	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.70**	**29.6**	**26.00**	114	**69**	**128**	*	*
74)	**Cumene**	**19.24**	**28.6**	**25.75**	111	**69**	**125**	*	*
75)	**alpha-Pinene**	**19.59**	**32.2**	**26.25**	123	**68**	**129**	*	*
76)	**n-Propylbenzene**	**19.69**	**28.7**	**26.00**	110	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**19.81**	**29.4**	**26.00**	**113**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.88**	**29.9**	**26.00**	**115**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**20.24**	**30.9**	**25.75**	**120**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**20.35**	**64.9**	**52.00**	**125**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**20.37**	**31.1**	**26.00**	**120**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**20.43**	**28.7**	**26.25**	**109**	**63**	**134**	*	*
87)	sec-Butylbenzene	20.47	29.9	25.50	**117**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.61	30.1	25.75	**117**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**20.73**	**31.6**	**26.25**	**120**	**64**	**139**	*	*
91)	**d-Limonene**	**20.74**	**32.5**	**25.75**	**126**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.11**	**64.0**	**50.50**	**127**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**22.24**	**62.6**	**52.50**	**119**	**62**	**154**	*	*
95)	**Naphthalene**	**22.35**	**26.9**	**26.25**	**102**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**22.67**	**30.0**	**26.50**	**113**	55	142	*	*
99)	tert-Butylbenzene	20.24	30.8	25.75	120	61	140	*	*
100)	n-Butylbenzene	20.98	29.8	26.00	115	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	17.76	29.6	25.75	115	70	130	*	*

Bold = 75 Compound List
*** = Pass**

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 04\09\04092201.D Vial: 2
Acq On : 9 Apr 2022 3:20 Operator: WA
Sample : CCV R16040922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-03212204 (4/20) 4/9/22

Quant Time: Apr 09 04:53:06 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	195	0.00
2	T	Propene	1.904	1.726	9.3	179	0.00
3	T	Dichlorodifluoromethane (CF	3.146	2.577	18.1	145	0.00
4	T	Chloromethane	2.288	1.752	23.4	134	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.683	1.331	20.9	142	0.00
6	T	Vinyl Chloride	2.348	1.755	25.3	139	-0.01
7	T	1,3-Butadiene	1.619	1.309	19.1	135	0.00
8	T	Bromomethane	1.279	1.141	10.8	158	0.00
9	T	Chloroethane	1.032	0.925	10.4	160	0.00
10	T	Ethanol	1.177	0.997	15.3	161	-0.01
11	T	Acetonitrile	3.145	2.661	15.4	166	-0.01
12	T	Acrolein	0.869	0.849	2.3	152	-0.01
13	T	Acetone	1.178	0.938	20.4	147	-0.01
14	T	Trichlorofluoromethane	2.675	2.273	15.0	150	0.00
15	T	2-Propanol (Isopropanol)	4.015	2.916	27.4	128	-0.01
16	T	Acrylonitrile	2.070	1.800	13.0	156	-0.01
17	T	1,1-Dichloroethene	1.406	1.262	10.2	156	-0.01
18	T	2-Methyl-2-Propanol (tert-B	3.702	3.258	12.0	152	-0.01
19	T	Methylene Chloride	1.535	1.343	12.5	156	-0.01
20	T	3-Chloro-1-propene (Allyl C	2.145	1.804	15.9	142	0.00
21	T	Trichlorotrifluoroethane	1.214	1.193	1.7	169	0.00
22	T	Carbon Disulfide	5.224	4.667	10.7	149	-0.01
23	T	trans-1,2-Dichloroethene	2.078	1.790	13.9	149	0.00
24	T	1,1-Dichloroethane	2.550	2.175	14.7	149	-0.01
25	T	Methyl tert-Butyl Ether	4.246	3.871	8.8	151	-0.01
26	T	Vinyl Acetate	0.298	0.273	8.4	131	-0.01
27	T	2-Butanone (MEK)	1.084	0.933	13.9	145	-0.01
28	T	cis-1,2-Dichloroethene	2.015	1.725	14.4	148	-0.01
29	T	Diisopropyl Ether	1.263	0.994	21.3	141	-0.01
30	T	Ethyl Acetate	0.556	0.409	26.4	156	0.00
31	T	n-Hexane	2.111	1.659	21.4	149	-0.01
32	T	Chloroform	2.527	2.154	14.8	146	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.717	1.507	12.2	172	-0.01
34	T	Tetrahydrofuran (THF)	0.989	0.865	12.5	147	0.00
35	T	Ethyl tert-Butyl Ether	1.614	1.580	2.1	146	0.00
36	T	1,2-Dichloroethane	1.965	1.593	18.9	142	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	188	0.00
38	T	1,1,1-Trichloroethane	0.508	0.450	11.4	146	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	0#	-0.01
40	T	1-Butanol	0.000	0.000	0.0	0#	0.00
41	T	Benzene	1.299	1.174	9.6	149	0.00
42	T	Carbon Tetrachloride	0.413	0.389	5.8	150	0.00
43	T	Cyclohexane	0.478	0.457	4.4	139	0.00
44	T	tert-Amyl Methyl Ether	0.848	0.824	2.8	145	0.00
45	T	1,2-Dichloropropane	0.317	0.295	6.9	152	0.00
46	T	Bromodichloromethane	0.426	0.401	5.9	146	0.00
47	T	Trichloroethene	0.347	0.336	3.2	148	0.00
48	T	1,4-Dioxane	0.288	0.259	10.1	146	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.260	1.205	4.4	149	0.00
50	T	Methyl Methacrylate	0.135	0.133	1.5	140	0.00
51	T	n-Heptane	0.323	0.305	5.6	143	0.00
52	T	cis-1,3-Dichloropropene	0.499	0.477	4.4	144	-0.01
53	T	4-Methyl-2-pentanone	0.290	0.275	5.2	149	-0.01
54	T	trans-1,3-Dichloropropene	0.458	0.445	2.8	144	0.00
55	T	1,1,2-Trichloroethane	0.310	0.294	5.2	150	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 04\09\04092201.D Vial: 2
Acq On : 9 Apr 2022 3:20 Operator: WA
Sample : CCV R16040922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-03212204 (4/20)

Quant Time: Apr 09 04:53:06 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	185	0.00
57	S	Toluene-d8 (SS2)	6.041	5.970	1.2	185	0.00
58	T	Toluene	7.305	6.763	7.4	146	0.00
59	T	2-Hexanone	4.125	3.603	12.7	153	0.00
60	T	Dibromochloromethane	1.936	2.023	-4.5	155	0.00
61	T	1,2-Dibromoethane	1.985	1.901	4.2	151	0.00
62	T	n-Butyl Acetate	4.517	4.016	11.1	154	0.00
63	T	n-Octane	1.459	1.440	1.3	149	0.00
64	T	Tetrachloroethene	1.961	2.063	-5.2	159	0.00
65	T	Chlorobenzene	4.833	4.662	3.5	140	0.00
66	T	Ethylbenzene	8.133	7.842	3.6	144	0.00
67	T	m- & p-Xylenes	6.186	5.971	3.5	140	0.00
68	T	Bromoform	1.658	1.798	-8.4	163	0.00
69	T	Styrene	5.054	5.076	-0.4	143	0.00
70	T	o-Xylene	6.223	6.071	2.4	141	0.00
71	T	n-Nonane	3.258	3.132	3.9	147	0.00
72	T	1,1,2,2-Tetrachloroethane	2.883	2.957	-2.6	146	0.00
73	S	Bromofluorobenzene (SS3)	1.925	2.293	-19.1	222#	0.00
74	T	Cumene	8.094	7.951	1.8	143	0.00
75	T	alpha-Pinene	3.816	4.100	-7.4	162	0.00
76	T	n-Propylbenzene	9.606	9.522	0.9	143	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	0#	0.00
78	T	4-Ethyltoluene	7.843	7.801	0.5	140	0.00
79	T	1,3,5-Trimethylbenzene	6.457	6.446	0.2	141	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	0#	0.00
82	T	1,2,4-Trimethylbenzene	6.162	6.270	-1.8	140	0.00
83	T	n-Decane	0.000	0.000	0.0	0#	0.00
84	T	Benzyl Chloride	4.938	5.370	-8.7	142	0.00
85	T	1,3-Dichlorobenzene	3.720	4.068	-9.4	146	0.00
86	T	1,4-Dichlorobenzene	3.867	4.146	-7.2	151	0.00
87	T	sec-Butylbenzene	8.610	8.882	-3.2	142	0.00
88	T	4-Isopropyltoluene (p-Cymen	7.513	7.709	-2.6	139	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	0#	0.06
90	T	1,2-Dichlorobenzene	3.507	3.882	-10.7	146	0.00
91	T	d-Limonene	2.206	2.446	-10.9	151	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.328	1.594	-20.0	150	0.00
93	T	n-Undecane	0.000	0.000	0.0	0#	0.00
94	T	1,2,4-Trichlorobenzene	2.780	3.044	-9.5	138	0.00
95	T	Naphthalene	9.162	8.876	3.1	131	0.00
96	T	n-Dodecane	0.000	0.000	0.0	0#	0.00
97	T	Hexachlorobutadiene	1.696	1.894	-11.7	154	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	0.00
99	T	tert-Butylbenzene	6.068	6.107	-0.6	140	0.00
100	T	n-Butylbenzene	6.923	7.149	-3.3	143	0.00
101	T	1,1,1,2-Tetrachloroethane	1.694	1.742	-2.8	145	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092201.D Vial: 2
Acq On : 9 Apr 2022 3:20 Operator: WA
Sample : CCV R16040922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-03212204 (4/20)

Quant Time: Apr 09 04:53:06 2022 WA 4/9/22
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	323107	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	1431500	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	257554	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	486910	10.970	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.76%				
57) Toluene-d8 (SS2)	15.88	98	1537647	12.354	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	19.11	174	590627	14.889	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 119.12%				
Target Compounds							Qvalue
2) Propene	4.16	42	1159977	23.567	ng		98
3) Dichlorodifluoromethan...	4.33	85	1748271	21.499	ng		100
4) Chloromethane	4.62	50	1154975	19.533	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.89	135	929051	21.359	ng		100
6) Vinyl Chloride	5.05	62	1179472	19.436	ng		100
7) 1,3-Butadiene	5.32	54	879703	21.018	ng		96
8) Bromomethane	5.77	94	752271	22.757	ng		100
9) Chloroethane	6.11	64	609861	22.865	ng		100
10) Ethanol	6.48	45	2332815	76.658	ng		100
11) Acetonitrile	6.74	41	1599218	19.672	ng		99
12) Acrolein	6.93	56	1096852	48.839	ng		100
13) Acetone	7.14	58	3144956	103.300	ng		99
14) Trichlorofluoromethane	7.40	101	1513044	21.882	ng		100
15) 2-Propanol (Isopropanol)	7.64	45	3806035	36.677	ng		99
16) Acrylonitrile	7.91	53	2360829	44.121	ng		99
17) 1,1-Dichloroethene	8.36	96	872448	24.008	ng		94
18) 2-Methyl-2-Propanol (t...	8.52	59	4421735	46.205	ng		99
19) Methylene Chloride	8.59	84	902471	22.738	ng		98
20) 3-Chloro-1-propene (Al...	8.75	41	1224199	22.084	ng		99
21) Trichlorotrifluoroethane	9.01	151	832785	26.529	ng		90
22) Carbon Disulfide	8.85	76	6332735	46.898	ng		100
23) trans-1,2-Dichloroethene	9.87	61	1225810	22.816	ng		97
24) 1,1-Dichloroethane	10.11	63	1476098	22.390	ng		99
25) Methyl tert-Butyl Ether	10.21	73	2626300	23.931	ng		99
26) Vinyl Acetate	10.37	86	599575	77.919	ng	#	86
27) 2-Butanone (MEK)	10.61	72	1241997	44.330	ng		95
28) cis-1,2-Dichloroethene	11.13	61	1159237	22.260	ng		96
29) Diisopropyl Ether	11.42	87	1362096	41.726	ng	#	72
30) Ethyl Acetate	11.44	61	1077555	74.967	ng		95
31) n-Hexane	11.41	57	1125471	20.624	ng		99
32) Chloroform	11.48	83	1489370	22.802	ng		99
34) Tetrahydrofuran (THF)	11.88	72	1101335	43.078	ng		99
35) Ethyl tert-Butyl Ether	12.02	87	2143852	51.383	ng		94
36) 1,2-Dichloroethane	12.27	62	1090993	21.480	ng		100
38) 1,1,1-Trichloroethane	12.56	97	1341228	23.071	ng		100
41) Benzene	13.04	78	3494279	23.491	ng		99
42) Carbon Tetrachloride	13.20	117	1170420	24.747	ng		99
43) Cyclohexane	13.33	84	2708341	49.512	ng		96
44) tert-Amyl Methyl Ether	13.67	73	4931771	50.786	ng		98
45) 1,2-Dichloropropane	13.89	63	870725	23.980	ng		100
46) Bromodichloromethane	14.08	83	1206031	24.749	ng		100
47) Trichloroethene	14.13	130	990581	24.910	ng		94
48) 1,4-Dioxane	14.10	88	770051	23.322	ng		97
49) 2,2,4-Trimethylpentane...	14.20	57	3656611	25.351	ng		98
50) Methyl Methacrylate	14.34	100	792487	51.253	ng		98
51) n-Heptane	14.46	71	917580	24.842	ng		97
52) cis-1,3-Dichloropropene	14.99	75	1434056	25.101	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092201.D Vial: 2
Acq On : 9 Apr 2022 3:20 Operator: WA
Sample : CCV R16040922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-03212204 (4/20)

Quant Time: Apr 09 04:53:06 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

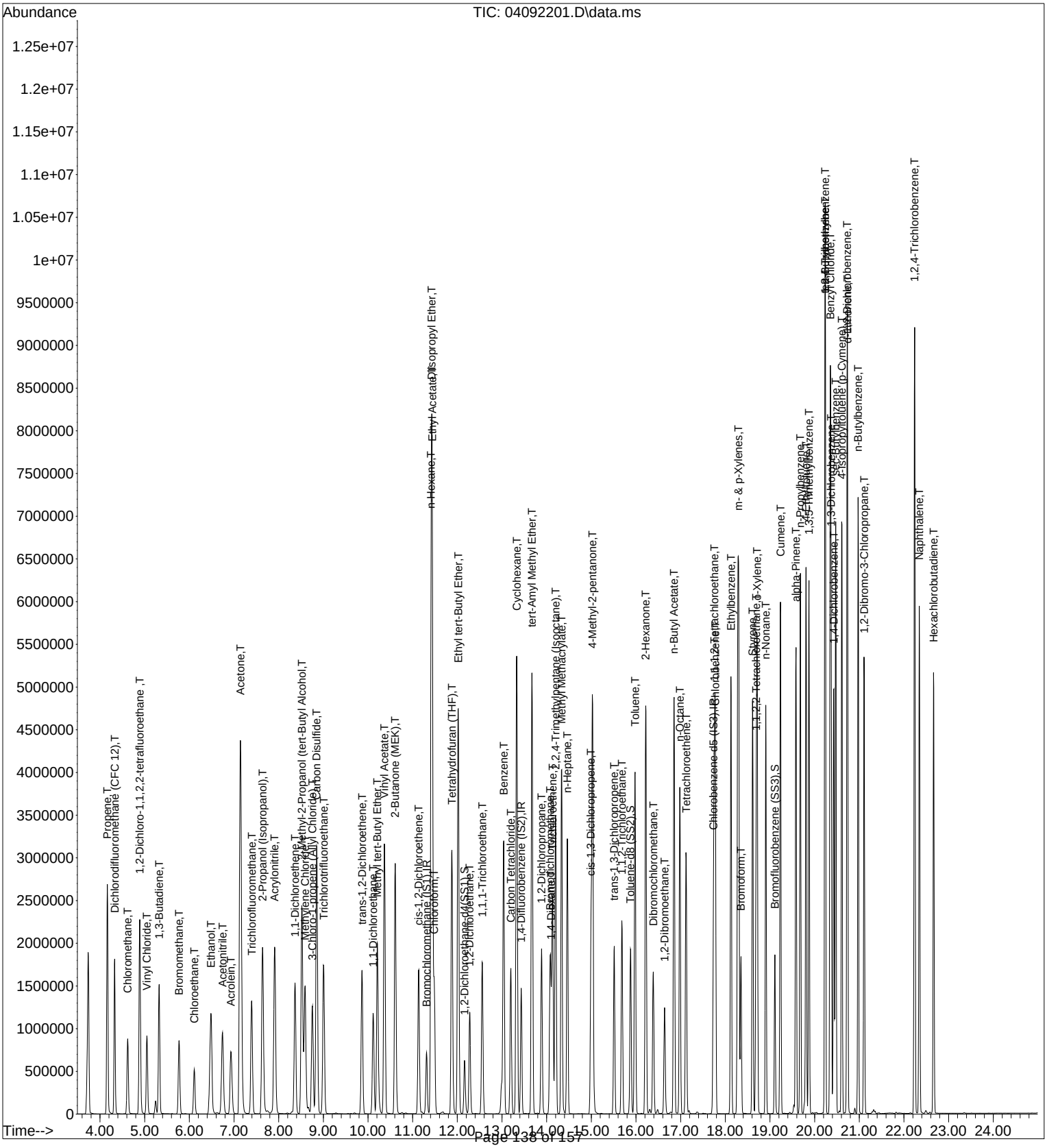
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
53) 4-Methyl-2-pentanone	15.02	58	1639144	49.403	ng	98
54) trans-1,3-Dichloropropene	15.51	75	1287052	24.521	ng	100
55) 1,1,2-Trichloroethane	15.68	97	876283	24.682	ng	100
58) Toluene	15.98	91	3588179	23.840	ng	100
59) 2-Hexanone	16.22	43	3804338	44.756	ng	99
60) Dibromochloromethane	16.39	129	1093978	27.419	ng	99
61) 1,2-Dibromoethane	16.64	107	1018529	24.902	ng	100
62) n-Butyl Acetate	16.85	43	4219961	45.345	ng	97
63) n-Octane	16.98	57	778629	25.899	ng	96
64) Tetrachloroethene	17.12	166	1104938	27.340	ng	100
65) Chlorobenzene	17.78	112	2497523	25.080	ng	100
66) Ethylbenzene	18.13	91	4160449	24.828	ng	100
67) m- & p-Xylenes	18.29	91	6336481	49.716	ng	99
68) Bromoform	18.35	173	963378	28.203	ng	100
69) Styrene	18.61	104	2693369	25.864	ng	99
70) o-Xylene	18.71	91	3252102	25.364	ng	100
71) n-Nonane	18.91	43	1677888	24.993	ng	98
72) 1,1,2,2-Tetrachloroethane	18.69	83	1584097	26.671	ng	100
74) Cumene	19.24	105	4259619	25.541	ng	100
75) alpha-Pinene	19.58	93	2280768	29.005	ng	99
76) n-Propylbenzene	19.68	91	5150288	26.021	ng	100
78) 4-Ethyltoluene	19.81	105	4259240	26.357	ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	3453346	25.956	ng	100
82) 1,2,4-Trimethylbenzene	20.24	105	3326527	26.201	ng	99
84) Benzyl Chloride	20.35	91	5697808	56.006	ng	98
85) 1,3-Dichlorobenzene	20.37	146	2179292	28.435	ng	100
86) 1,4-Dichlorobenzene	20.43	146	2221130	27.880	ng	99
87) sec-Butylbenzene	20.47	105	4758224	26.823	ng	99
88) 4-Isopropyltoluene (p-...	20.61	119	4129974	26.680	ng	98
90) 1,2-Dichlorobenzene	20.73	146	2099882	29.059	ng	100
91) d-Limonene	20.74	68	1323038	29.111	ng	97
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1642542	60.026	ng	98
94) 1,2,4-Trichlorobenzene	22.24	180	3199079	55.856	ng	100
95) Naphthalene	22.34	128	4755145	25.188	ng	100
97) Hexachlorobutadiene	22.67	225	1004772	28.749	ng	100
99) tert-Butylbenzene	20.24	119	3271589	26.166	ng	98
100) n-Butylbenzene	20.97	91	3829870	26.849	ng	99
101) 1,1,1,2-Tetrachloroethane	17.76	131	933167	26.732	ng	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\09\04092201.D Vial: 2
Acq On : 9 Apr 2022 3:20 Operator: WA
Sample : CCV R16040922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-03212204 (4/20)

Quant Time: Apr 09 04:53:06 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 04\11\04112202.D Vial: 2
Acq On : 11 Apr 2022 7:59 Operator: WA
Sample : CCV R16041122 25ng Inst : GCMS-16
Misc : S35-04032201/S35-03142202 (5/13)

Quant Time: Apr 11 08:26:12 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 4/11/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	151	0.00
2	T	Propene	1.904	1.990	-4.5	159	0.00
3	T	Dichlorodifluoromethane (CF	3.146	2.665	15.3	116	0.00
4	T	Chloromethane	2.288	1.962	14.2	116	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.683	1.465	13.0	120	0.00
6	T	Vinyl Chloride	2.348	1.886	19.7	115	0.00
7	T	1,3-Butadiene	1.619	1.430	11.7	114	0.00
8	T	Bromomethane	1.279	1.192	6.8	127	0.00
9	T	Chloroethane	1.032	0.962	6.8	129	0.00
10	T	Ethanol	1.177	1.083	8.0	135	0.00
11	T	Acetonitrile	3.145	2.820	10.3	136	0.00
12	T	Acrolein	0.869	0.904	-4.0	125	0.00
13	T	Acetone	1.178	1.036	12.1	125	0.00
14	T	Trichlorofluoromethane	2.675	2.314	13.5	118	0.00
15	T	2-Propanol (Isopropanol)	4.015	3.014	24.9	102	0.00
16	T	Acrylonitrile	2.070	1.945	6.0	130	0.00
17	T	1,1-Dichloroethene	1.406	1.288	8.4	123	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.702	3.376	8.8	121	0.00
19	T	Methylene Chloride	1.535	1.400	8.8	125	0.00
20	T	3-Chloro-1-propene (Allyl C	2.145	1.967	8.3	119	0.00
21	T	Trichlorotrifluoroethane	1.214	1.174	3.3	128	0.00
22	T	Carbon Disulfide	5.224	5.056	3.2	124	0.00
23	T	trans-1,2-Dichloroethene	2.078	1.878	9.6	121	0.00
24	T	1,1-Dichloroethane	2.550	2.286	10.4	121	0.00
25	T	Methyl tert-Butyl Ether	4.246	3.985	6.1	120	0.00
26	T	Vinyl Acetate	0.298	0.290	2.7	107	0.00
27	T	2-Butanone (MEK)	1.084	1.000	7.7	120	0.00
28	T	cis-1,2-Dichloroethene	2.015	1.833	9.0	121	0.00
29	T	Diisopropyl Ether	1.263	1.148	9.1	126	0.00
30	T	Ethyl Acetate	0.556	0.482	13.3	142	0.00
31	T	n-Hexane	2.111	1.936	8.3	134	0.00
32	T	Chloroform	2.527	2.285	9.6	120	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.717	1.587	7.6	140	0.00
34	T	Tetrahydrofuran (THF)	0.989	0.936	5.4	123	0.00
35	T	Ethyl tert-Butyl Ether	1.614	1.715	-6.3	123	0.00
36	T	1,2-Dichloroethane	1.965	1.678	14.6	116	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	150	0.00
38	T	1,1,1-Trichloroethane	0.508	0.449	11.6	116	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	0#	0.00
40	T	1-Butanol	0.000	0.000	0.0	0#	0.00
41	T	Benzene	1.299	1.210	6.9	122	0.00
42	T	Carbon Tetrachloride	0.413	0.382	7.5	117	0.00
43	T	Cyclohexane	0.478	0.490	-2.5	118	0.00
44	T	tert-Amyl Methyl Ether	0.848	0.864	-1.9	121	0.00
45	T	1,2-Dichloropropane	0.317	0.310	2.2	127	0.00
46	T	Bromodichloromethane	0.426	0.414	2.8	120	0.00
47	T	Trichloroethene	0.347	0.341	1.7	120	0.00
48	T	1,4-Dioxane	0.288	0.269	6.6	121	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.260	1.289	-2.3	127	0.00
50	T	Methyl Methacrylate	0.135	0.139	-3.0	117	0.00
51	T	n-Heptane	0.323	0.322	0.3	120	0.00
52	T	cis-1,3-Dichloropropene	0.499	0.500	-0.2	120	0.00
53	T	4-Methyl-2-pentanone	0.290	0.301	-3.8	129	0.00
54	T	trans-1,3-Dichloropropene	0.458	0.458	0.0	118	0.00
55	T	1,1,2-Trichloroethane	0.310	0.303	2.3	123	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 04\11\04112202.D Vial: 2
Acq On : 11 Apr 2022 7:59 Operator: WA
Sample : CCV R16041122 25ng Inst : GCMS-16
Misc : S35-04032201/S35-03142202 (5/13)

Quant Time: Apr 11 08:26:12 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	150	0.00
57	S	Toluene-d8 (SS2)	6.041	5.959	1.4	150	0.00
58	T	Toluene	7.305	6.872	5.9	121	0.00
59	T	2-Hexanone	4.125	3.780	8.4	131	0.00
60	T	Dibromochloromethane	1.936	1.974	-2.0	123	0.00
61	T	1,2-Dibromoethane	1.985	1.897	4.4	123	0.00
62	T	n-Butyl Acetate	4.517	4.240	6.1	132	0.00
63	T	n-Octane	1.459	1.511	-3.6	127	0.00
64	T	Tetrachloroethene	1.961	2.030	-3.5	128	0.00
65	T	Chlorobenzene	4.833	4.864	-0.6	119	0.00
66	T	Ethylbenzene	8.133	8.065	0.8	120	0.00
67	T	m- & p-Xylenes	6.186	6.261	-1.2	119	0.00
68	T	Bromoform	1.658	1.765	-6.5	130	0.00
69	T	Styrene	5.054	5.212	-3.1	119	0.00
70	T	o-Xylene	6.223	6.301	-1.3	119	0.00
71	T	n-Nonane	3.258	3.366	-3.3	129	0.00
72	T	1,1,2,2-Tetrachloroethane	2.883	3.095	-7.4	124	0.00
73	S	Bromofluorobenzene (SS3)	1.925	2.143	-11.3	169	0.00
74	T	Cumene	8.094	8.237	-1.8	120	0.00
75	T	alpha-Pinene	3.816	4.258	-11.6	137	0.00
76	T	n-Propylbenzene	9.606	9.960	-3.7	122	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	0#	0.00
78	T	4-Ethyltoluene	7.843	8.183	-4.3	120	0.00
79	T	1,3,5-Trimethylbenzene	6.457	6.661	-3.2	119	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	0#	0.00
82	T	1,2,4-Trimethylbenzene	6.162	6.905	-12.1	126	0.00
83	T	n-Decane	0.000	0.000	0.0	0#	0.00
84	T	Benzyl Chloride	4.938	5.724	-15.9	123	0.00
85	T	1,3-Dichlorobenzene	3.720	4.314	-16.0	126	0.00
86	T	1,4-Dichlorobenzene	3.867	4.255	-10.0	126	0.00
87	T	sec-Butylbenzene	8.610	9.397	-9.1	123	0.00
88	T	4-Isopropyltoluene (p-Cymen	7.513	8.171	-8.8	120	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	0#	0.05
90	T	1,2-Dichlorobenzene	3.507	4.182	-19.2	128	0.00
91	T	d-Limonene	2.206	2.630	-19.2	132	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.328	1.697	-27.8	130	0.00
93	T	n-Undecane	0.000	0.000	0.0	0#	-0.02
94	T	1,2,4-Trichlorobenzene	2.780	3.297	-18.6	121	0.00
95	T	Naphthalene	9.162	9.228	-0.7	110	0.00
96	T	n-Dodecane	0.000	0.000	0.0	0#	0.00
97	T	Hexachlorobutadiene	1.696	1.964	-15.8	130	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	0.00
99	T	tert-Butylbenzene	6.068	6.800	-12.1	127	0.00
100	T	n-Butylbenzene	6.923	7.557	-9.2	123	0.00
101	T	1,1,1,2-Tetrachloroethane	1.694	1.823	-7.6	123	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112202.D Vial: 2
Acq On : 11 Apr 2022 7:59 Operator: WA
Sample : CCV R16041122 25ng Inst : GCMS-16
Misc : S35-04032201/S35-03142202 (5/13)

Quant Time: Apr 11 08:26:12 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022 4/11/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	249203	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	1138750	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	209617	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	395448	11.552	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
57) Toluene-d8 (SS2)	15.88	98	1249082	12.331	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
73) Bromofluorobenzene (SS3)	19.11	174	449277	13.916	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.36%				
Target Compounds							Qvalue
2) Propene	4.17	42	1031290	27.166	ng		97
3) Dichlorodifluoromethan...	4.34	85	1394817	22.239	ng		100
4) Chloromethane	4.63	50	997508	21.873	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	788519	23.505	ng		100
6) Vinyl Chloride	5.06	62	977405	20.883	ng		100
7) 1,3-Butadiene	5.33	54	741158	22.960	ng		96
8) Bromomethane	5.78	94	605922	23.766	ng		100
9) Chloroethane	6.12	64	489305	23.785	ng		100
10) Ethanol	6.49	45	1953759	83.242	ng		100
11) Acetonitrile	6.75	41	1307298	20.850	ng		99
12) Acrolein	6.94	56	900705	51.999	ng		100
13) Acetone	7.15	58	2681073	114.179	ng		98
14) Trichlorofluoromethane	7.40	101	1187924	22.274	ng		100
15) 2-Propanol (Isopropanol)	7.65	45	3034626	37.916	ng		100
16) Acrylonitrile	7.92	53	1967758	47.681	ng		99
17) 1,1-Dichloroethene	8.37	96	686868	24.507	ng		98
18) 2-Methyl-2-Propanol (t...	8.53	59	3533684	47.876	ng		97
19) Methylene Chloride	8.60	84	725664	23.705	ng		97
20) 3-Chloro-1-propene (Al...	8.75	41	1029387	24.077	ng		99
21) Trichlorotrifluoroethane	9.01	151	631673	26.090	ng		94
22) Carbon Disulfide	8.85	76	5292060	50.814	ng		100
23) trans-1,2-Dichloroethene	9.87	61	992032	23.941	ng		99
24) 1,1-Dichloroethane	10.12	63	1196128	23.524	ng		99
25) Methyl tert-Butyl Ether	10.21	73	2085247	24.636	ng		97
26) Vinyl Acetate	10.37	86	492157	82.928	ng	#	79
27) 2-Butanone (MEK)	10.61	72	1026684	47.513	ng	#	90
28) cis-1,2-Dichloroethene	11.14	61	950246	23.658	ng		99
29) Diisopropyl Ether	11.43	87	1213341	48.192	ng	#	69
30) Ethyl Acetate	11.44	61	979466	88.351	ng		93
31) n-Hexane	11.42	57	1013033	24.069	ng		99
32) Chloroform	11.48	83	1218511	24.187	ng		99
34) Tetrahydrofuran (THF)	11.88	72	918607	46.587	ng		96
35) Ethyl tert-Butyl Ether	12.02	87	1795011	55.781	ng		93
36) 1,2-Dichloroethane	12.28	62	886587	22.633	ng		99
38) 1,1,1-Trichloroethane	12.56	97	1062705	22.979	ng		99
39) Isopropyl Acetate	12.99	61	58933	No Calib			
40) 1-Butanol	13.00	56	35315	No Calib		#	
41) Benzene	13.04	78	2867099	24.229	ng		99
42) Carbon Tetrachloride	13.20	117	914375	24.304	ng		100
43) Cyclohexane	13.33	84	2310235	53.092	ng		95
44) tert-Amyl Methyl Ether	13.67	73	4112328	53.234	ng		97
45) 1,2-Dichloropropane	13.89	63	727626	25.190	ng		100
46) Bromodichloromethane	14.08	83	991080	25.566	ng		100
47) Trichloroethene	14.13	130	800012	25.289	ng		94
48) 1,4-Dioxane	14.10	88	637506	24.271	ng		96
49) 2,2,4-Trimethylpentane...	14.20	57	3111919	27.121	ng		98
50) Methyl Methacrylate	14.34	100	660207	53.674	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112202.D Vial: 2
Acq On : 11 Apr 2022 7:59 Operator: WA
Sample : CCV R16041122 25ng Inst : GCMS-16
Misc : S35-04032201/S35-03142202 (5/13)

Quant Time: Apr 11 08:26:12 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

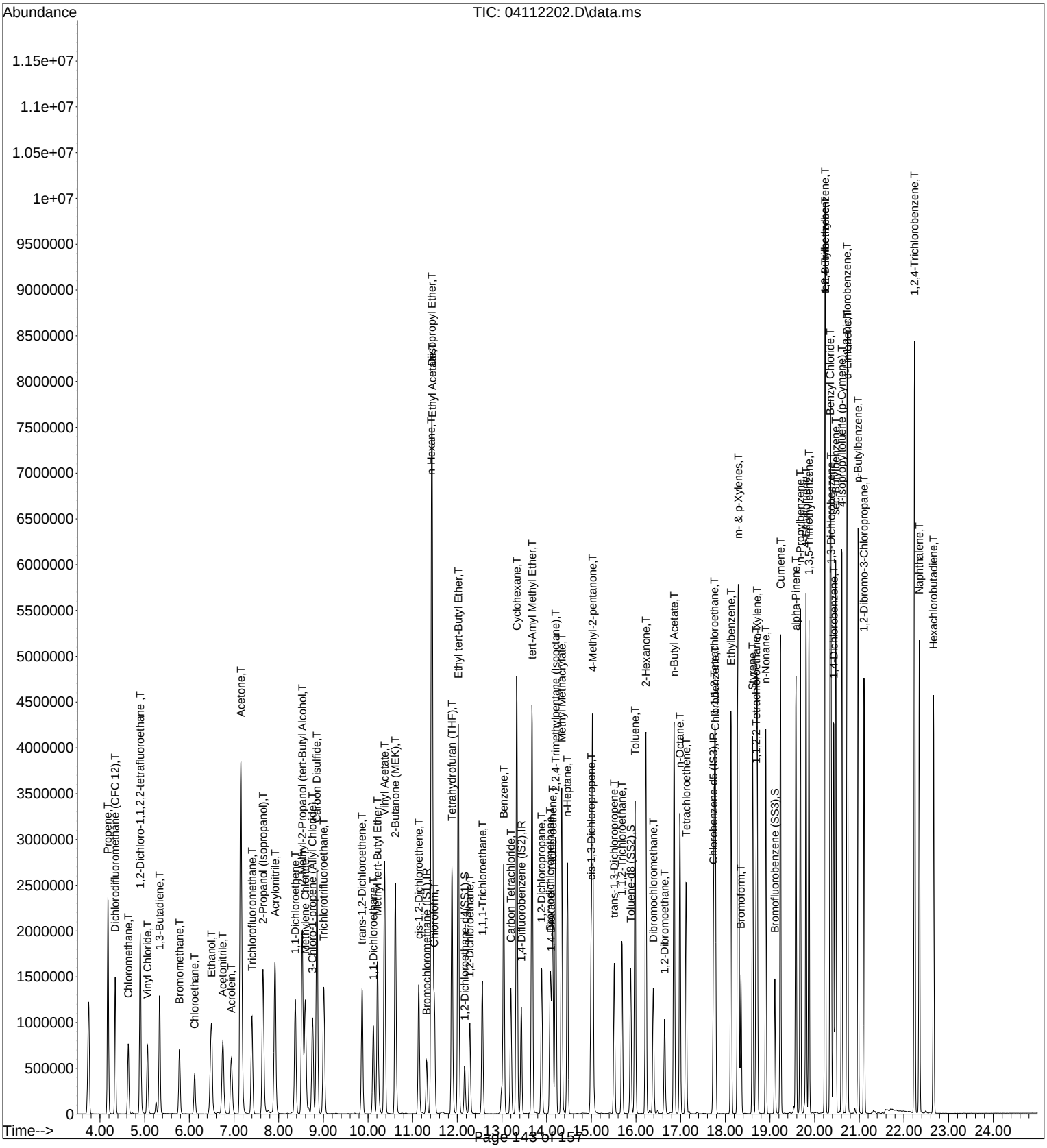
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	771158	26.245	ng		97
52) cis-1,3-Dichloropropene	15.00	75	1195891	26.314	ng		100
53) 4-Methyl-2-pentanone	15.03	58	1423546	53.935	ng		96
54) trans-1,3-Dichloropropene	15.51	75	1054262	25.250	ng		100
55) 1,1,2-Trichloroethane	15.68	97	717804	25.415	ng		99
58) Toluene	15.98	91	2967348	24.224	ng		100
59) 2-Hexanone	16.22	43	3248568	46.958	ng		98
60) Dibromochloromethane	16.39	129	868804	26.755	ng		100
61) 1,2-Dibromoethane	16.64	107	827071	24.845	ng		100
62) n-Butyl Acetate	16.86	43	3626573	47.880	ng		97
63) n-Octane	16.98	57	665353	27.192	ng		94
64) Tetrachloroethene	17.12	166	885291	26.915	ng		100
65) Chlorobenzene	17.78	112	2120762	26.166	ng		100
66) Ethylbenzene	18.13	91	3482738	25.537	ng		100
67) m- & p-Xylenes	18.29	91	5406840	52.123	ng		100
68) Bromoform	18.35	173	769731	27.687	ng		100
69) Styrene	18.61	104	2250615	26.555	ng		99
70) o-Xylene	18.71	91	2747391	26.328	ng		100
71) n-Nonane	18.91	43	1467459	26.857	ng		96
72) 1,1,2,2-Tetrachloroethane	18.69	83	1349342	27.914	ng		100
74) Cumene	19.24	105	3591559	26.460	ng		100
75) alpha-Pinene	19.58	93	1927744	30.122	ng		99
76) n-Propylbenzene	19.68	91	4384315	27.217	ng		99
77) 3-Ethyltoluene	19.81	105	3636218	No Calib			
78) 4-Ethyltoluene	19.81	105	3636218	27.647	ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	2904205	26.821	ng		99
80) alpha-Methylstyrene	19.87	118	22857	No Calib		#	
81) 2-Ethyltoluene	19.87	105	2904205	No Calib			
82) 1,2,4-Trimethylbenzene	20.24	105	2981509	28.854	ng		100
83) n-Decane	20.23	58	119634	No Calib		#	
84) Benzyl Chloride	20.35	91	4943489	59.703	ng		98
85) 1,3-Dichlorobenzene	20.37	146	1880765	30.152	ng		100
86) 1,4-Dichlorobenzene	20.43	146	1855393	28.615	ng		100
87) sec-Butylbenzene	20.47	105	4097325	28.380	ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	3562685	28.278	ng		98
89) 1,2,3-Trimethylbenzene	20.61	105	131557	No Calib		#	
90) 1,2-Dichlorobenzene	20.73	146	1840915	31.301	ng		100
91) d-Limonene	20.74	68	1157876	31.303	ng		97
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1423272	63.907	ng		98
93) n-Undecane	22.24	57	641	No Calib		#	
94) 1,2,4-Trichlorobenzene	22.24	180	2819673	60.490	ng		100
95) Naphthalene	22.34	128	4023526	26.187	ng		99
96) n-Dodecane	22.33	57	6790	No Calib		#	
97) Hexachlorobutadiene	22.66	225	848184	29.819	ng		100
98) Cyclohexanone	18.28	55	4812	No Calib			
99) tert-Butylbenzene	20.24	119	2964658	29.134	ng		98
100) n-Butylbenzene	20.97	91	3294801	28.380	ng		99
101) 1,1,1,2-Tetrachloroethane	17.76	131	795047	27.984	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 04\11\04112202.D Vial: 2
Acq On : 11 Apr 2022 7:59 Operator: WA
Sample : CCV R16041122 25ng Inst : GCMS-16
Misc : S35-04032201/S35-03142202 (5/13)

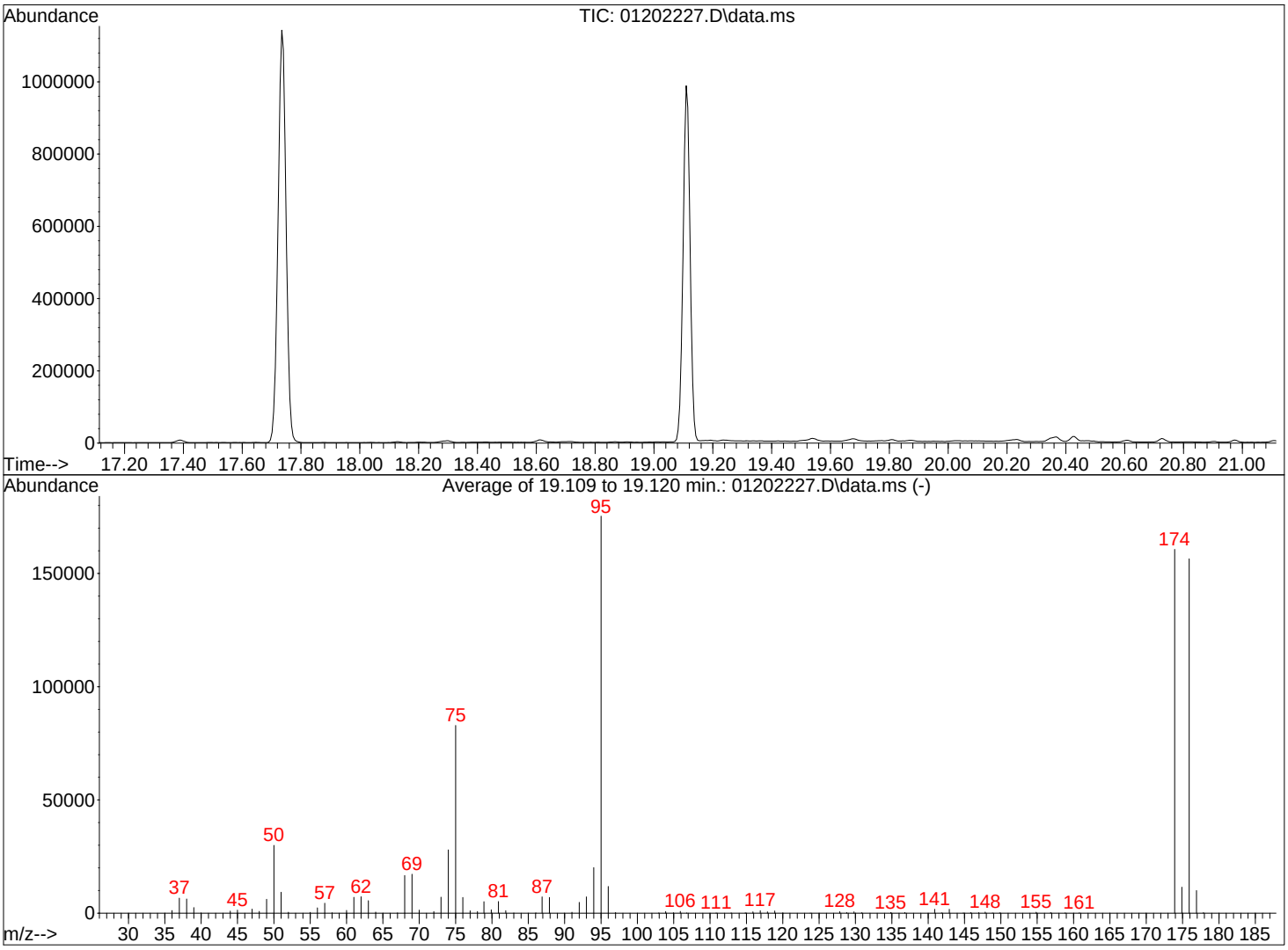
Quant Time: Apr 11 08:26:12 2022
Quant Method : I:\MS16\METHODS\R16012022B.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jan 27 06:34:43 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS16\DATA\2022 01\20\
Data File : 01202227.D
Acq On : 20 Jan 2022 22:22
Operator : WA
Sample : R16012022 BFB Std
Misc : S35-01102201
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16012022B.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jan 21 09:34:58 2022



AutoFind: Scans 2841, 2842, 2843; Background Corrected with Scan 2832

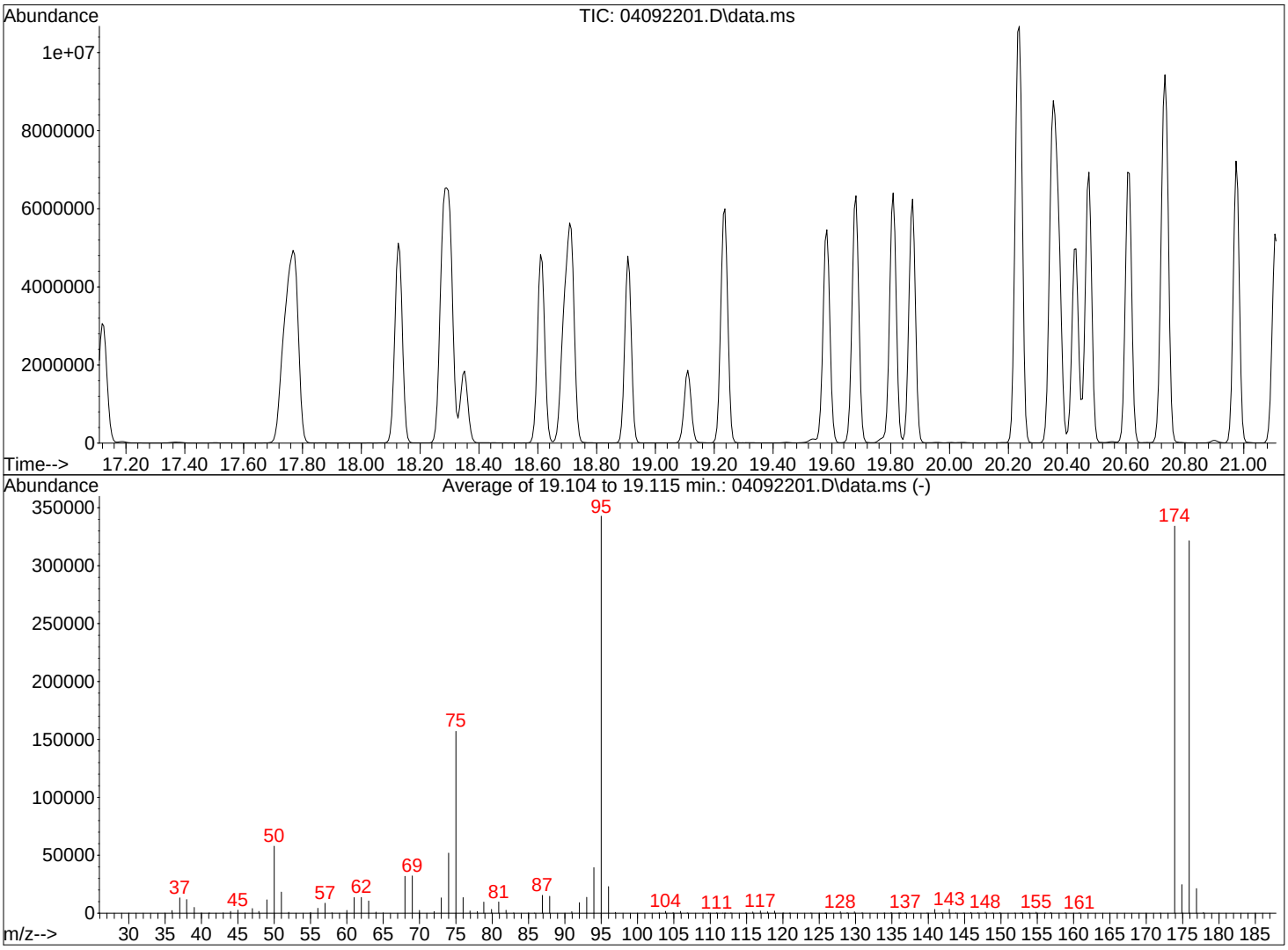
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.1	29944	PASS
75	95	30	66	47.3	82880	PASS
95	95	100	100	100.0	175296	PASS
96	95	5	9	6.7	11808	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	91.6	160619	PASS
175	174	4	9	7.2	11495	PASS
176	174	93	101	97.4	156456	PASS
177	176	5	9	6.4	10001	PASS

1/21/22

Data Path : I:\MS16\DATA\2022 04\09\
Data File : 04092201.D
Acq On : 9 Apr 2022 3:20
Operator : WA
Sample : CCV R16040922 25ng
Misc : S35-04032201/S35-03212204 (4/20)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16012022B.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Jan 27 06:34:43 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2832

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.9	57844	PASS
75	95	30	66	45.8	156992	PASS
95	95	100	100	100.0	342741	PASS
96	95	5	9	6.7	22955	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	97.5	334144	PASS
175	174	4	9	7.4	24621	PASS
176	174	93	101	96.2	321472	PASS
177	176	5	9	6.6	21315	PASS

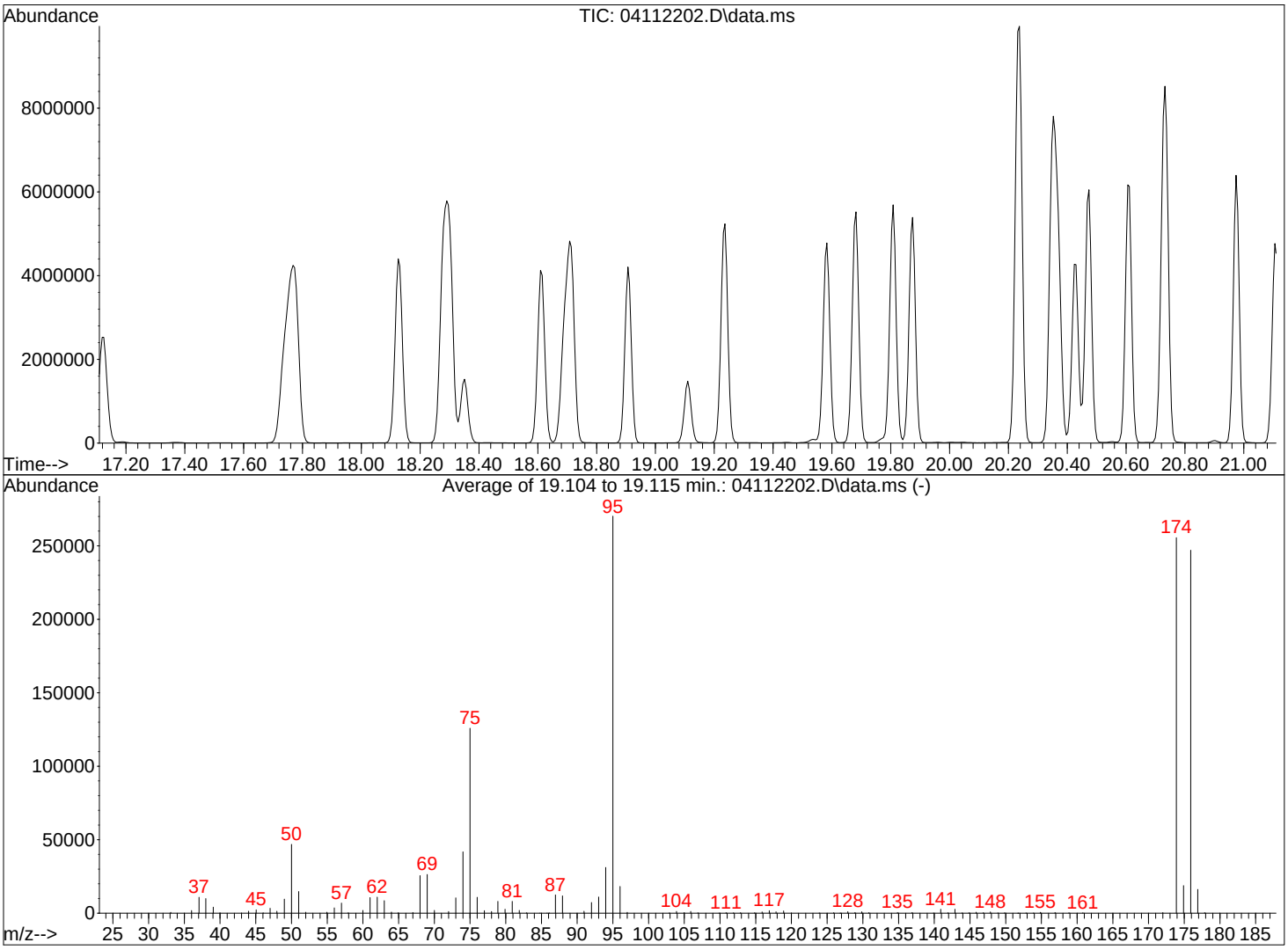
4/9/22

BFB

Data Path : I:\MS16\DATA\2022 04\11\
Data File : 04112202.D
Acq On : 11 Apr 2022 7:59
Operator : WA
Sample : CCV R16041122 25ng
Misc : S35-04032201/S35-03142202 (5/13)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16012022B.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Jan 27 06:34:43 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2832

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.3	46840	PASS
75	95	30	66	46.6	125875	PASS
95	95	100	100	100.0	270187	PASS
96	95	5	9	6.7	18208	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	94.6	255552	PASS
175	174	4	9	7.3	18739	PASS
176	174	93	101	96.7	246997	PASS
177	176	5	9	6.5	16160	PASS

4/11/22

Injection Log

Directory: J:\MS16\DATA\2022_01\20\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
27	1/20/22 22:22	01202227.D	R16012022_BFB Std	S35-01102201	WA	2	*Pass*
28	1/20/22 22:56	01202228.D	0.1ng R16012022 ICAL Std	S35-01102201/S35-01172211 (2/16)	WA	12	*R16012022B.M*
30	1/20/22 23:30	01202229.D	0.2ng R16012022 ICAL Std	S35-01102201/S35-01172211 (2/16)	WA	12	
32	1/21/22 0:04	01202230.D	0.5ng R16012022 ICAL Std	S35-01102201/S35-01172211 (2/16)	WA	12	
34	1/21/22 0:38	01202231.D	1.0ng R16012022 ICAL Std	S35-01102201/S35-01172210 (2/16)	WA	15	
35	1/21/22 1:11	01202232.D	5.0ng R16012022 ICAL Std	S35-01102201/S35-01172210 (2/16)	WA	15	
36	1/21/22 1:45	01202233.D	25ng R16012022 ICAL Std	S35-01102201/S35-12292101 (1/28)	WA	13	
38	1/21/22 2:19	01202234.D	50ng R16012022 ICAL Std	S35-01102201/S35-12292101 (1/28)	WA	13	
39	1/21/22 2:53	01202235.D	100ng R16012022 ICAL Std	S35-01102201/S35-12292101 (1/28)	WA	13	
40	1/21/22 3:27	01202236.D	Blank	S35-01102201	WA	2	
41	1/21/22 4:01	01202237.D	25ng R16012022 ICV Std	S35-01102201/S35-12272103 (1/26)	WA	16	*Pass*
42	1/21/22 4:34	01202238.D	25ng R16012022_ICV Std	S35-01102201/S35-12292101 (1/28)	WA	2	*Pass*
	R16012022B.M : good for low level compounds, ranges from 0.1ng --> 100ng; except: EtOH from 1ng -->362ng, Acetonitrile, tBA, DIPE, 1,2,4-TCB						
	from 0.2ng --> 100ng; Vinyl Ac from 2.5ng --> 340ng; Ethyl Ac from 0.4ng --> 200ng; Bromoform from 1.0ng --> 200ng and Benzyl-Cl: 1ng --> 100ng						

1/21/22

Injection Log

Directory: I:\MS16\DATA\2022_04\09\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	*Comment*
1	4/9/22 3:20	04092201.D	CCV R16040922_25ng	S35-04032201/S35-03212204 (4/20)	WA	2	*Passed*
2	4/9/22 3:54	04092202.D	CCV C16040922_25ng	S35-04032201/S35-03142204 (4/13)	WA	16	*Passed*
3	4/9/22 4:27	04092203.D	MB R16040922_1000mL	S35-04032201	WA	2	*Passed*
4	4/9/22 5:01	04092204.D	LCS R16040922_25ng	S35-04032201/S35-04072203 (5/6)	WA	2	*Passed*
5	4/9/22 5:35	04092205.D	LCSD R16040922_25ng	S35-04032201/S35-04072203 (5/6)	WA	2	*Passed*
6	4/9/22 6:09	04092206.D	P2201412-001 (1000mL)	S35-04032201	WA	11	
7	4/9/22 6:43	04092207.D	P2201412-003 (1000mL)	S35-04032201	WA	12	
8	4/9/22 8:54	04092208.D	Blank	S35-04032201	SC/MT	15	
9	4/9/22 10:04	04092209.D	P2201396-001 (1000mL)	S35-04032201	SC/MT	1	
10	4/9/22 10:38	04092210.D	P2201396-002 (1000mL)	S35-04032201	SC/MT	3	
11	4/9/22 11:12	04092211.D	P2201396-002dil (100mL)	S35-04032201	SC/MT	3	*not needed*
12	4/9/22 11:45	04092212.D	P2201396-003 (1000mL)	S35-04032201	SC/MT	4	
13	4/9/22 12:19	04092213.D	P2201396-003dil (100mL)	S35-04032201	SC/MT	4	
14	4/9/22 12:53	04092214.D	P2201396-004 (1000mL)	S35-04032201	SC/MT	5	
15	4/9/22 13:26	04092215.D	P2201396-005 (1000mL)	S35-04032201	SC/MT	6	
16	4/9/22 14:00	04092216.D	P2201396-005dil (100mL)	S35-04032201	SC/MT	6	*not needed*
17	4/9/22 14:34	04092217.D	P2201396-006 (1000mL)	S35-04032201	SC/MT	7	
18	4/9/22 15:08	04092218.D	P2201396-006dil (100mL)	S35-04032201	SC/MT	7	*not needed*
19	4/9/22 15:43	04092219.D	P2201396-007 (1000mL)	S35-04032201	SC/MT	8	
20	4/9/22 16:17	04092220.D	P2201574-001 (1000mL)	S35-04032201	SC/MT	9	
21	4/9/22 16:51	04092221.D	P2201574-001dup (1000mL)	S35-04032201	SC/MT	9	*Passed*
22	4/9/22 17:25	04092222.D	P2201574-002 (1000mL)	S35-04032201	SC/MT	10	
23	4/9/22 17:59	04092223.D	P2201574-003 (1000mL)	S35-04032201	SC/MT	11	
24	4/9/22 18:34	04092224.D	P2201574-004 (1000mL)	S35-04032201	SC/MT	12	
25	4/9/22 19:08	04092225.D	P2201574-005 (1000mL)	S35-04032201	SC/MT	13	
26	4/9/22 19:43	04092226.D	P2201574-006 (1000mL)	S35-04032201	SC/MT	14	
						WA 4/10/22	

Injection Log

Directory: I:\MS16\DATA\2022_04\11\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/11/22 7:23	04112201.D	xCCV M16041122_25ngx --> cryo off	S35-04032201/S35-03142202 (5/13)	WA	15	not used
2	4/11/22 7:59	04112202.D	CCV R16041122_25ng	S35-04032201/S35-03142202 (5/13)	WA	2	passed
3	4/11/22 8:33	04112203.D	CCV C16041122_25ng	S35-04032201/S35-03142204 (4/13)	WA	16	passed
4	4/11/22 9:11	04112204.D	CCV M16041122_25ng	S35-04032201/S35-03142202 (5/13)	WA	15	passed
5	4/11/22 9:47	04112205.D	MB R16041122_1000mL	S35-04032201	WA	2	passed
6	4/11/22 10:23	04112206.D	P2201372-001 (1.5mL)	S35-04032201	WA	5	
7	4/11/22 11:08	04112207.D	P2201458-002dil (15mL)	S35-04032201	WA/CG	7	
8	4/11/22 11:42	04112208.D	LCS R16041122_25ng	S35-04032201/S35-04072203 (5/6)	WA/CG	2	passed
9	4/11/22 12:16	04112209.D	LCSD R16041122_25ng	S35-04032201/S35-04072203 (5/6)	WA/CG	2	passed
10	4/11/22 12:50	04112210.D	P2201412-002 (1000mL) pf2	S35-04032201	WA/CG	1	
11	4/11/22 13:24	04112211.D	P2201412-004 (1000mL)	S35-04032201	WA/CG	3	
12	4/11/22 13:58	04112212.D	P2201412-005 (1000mL)	S35-04032201	WA/CG	4	
13	4/11/22 14:32	04112213.D	P2201458-001 (400mL)	S35-04032201	WA/CG	6	
14	4/11/22 15:06	04112214.D	P2201458-002 (30mL)	S35-04032201	WA/CG	7	
15	4/11/22 15:40	04112215.D	P2201458-003 (40mL)	S35-04032201	WA/CG	8	
16	4/11/22 16:46	04112216.D	P2201477-001 (100mL)	S35-04032201	WA/CG	1	not used
17	4/11/22 17:20	04112217.D	P2201423-001 (15mL)	S35-04032201	WA/CG	10	
18	4/11/22 17:54	04112218.D	P2201458-004 (15mL)	S35-04032201	WA/CG	9	
19	4/11/22 18:28	04112219.D	P2201458-004dup (15mL)	S35-04032201	WA/CG	9	passed
20	4/11/22 19:02	04112220.D	P2201404-001 (1000mL)	S35-04032201	WA/CG	16	
21	4/11/22 19:36	04112221.D	P2201590-001 (1000mL)	S35-04032201	WA/CG	3	
22	4/11/22 20:10	04112222.D	P2201590-002 (1000mL)	S35-04032201	WA/CG	4	
23	4/11/22 20:44	04112223.D	P2201590-003 (1000mL)	S35-04032201	WA/CG	5	
24	4/11/22 21:18	04112224.D	P2201590-004 (1000mL)	S35-04032201	WA/CG	6	
25	4/11/22 21:52	04112225.D	P2201590-005 (1000mL)	S35-04032201	WA/CG	13	
26	4/11/22 22:26	04112226.D	P2201590-006 (1000mL)	S35-04032201	WA/CG	14	
27	4/11/22 23:00	04112227.D	P2201477-001 (1000mL)	S35-04032201	WA/CG	1	
28	4/11/22 23:34	04112228.D	P2201423-002 (40mL)	S35-04032201	WA/CG	11	
29	4/12/22 0:09	04112229.D	P2201423-003 (1000mL)	S35-04032201	WA/CG	12	
30	4/12/22 0:43	04112230.D	P2201423-003dil (100mL)	S35-04032201/S35-03142202 (5/13)	WA/CG	12	

WA 4/12/22

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 29100

Batch Started By: on 3/16/22 0427
Finished Cleaning By: on 3/18/22 1233

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02150	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233		-14.0	3/30/22 1137		MS21_03/17/22
AS00132	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233		-14.0	3/28/22 0915		
AS00036	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233		-14.0	3/25/22 0923		
AC01786	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233		-14.0	3/18/22 1247		
AS00903	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233		-14.0	3/22/22 0930		
AS01089	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233					
AS00260	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233		-14.0	3/22/22 0930		
AC02409	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233		-14.0	3/24/22 1001		
AS01434	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233		-14.0	3/25/22 0923		
AC01909	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233		-14.0	3/22/22 0930		
AS00411	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233		-14.0	3/22/22 1020		
AC02177	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233		-14.0	3/28/22 0915		
AS00956	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233		-14.0	3/25/22 0923		
AS01333	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233		-14.0	3/18/22 1247		
AS01683	3/16/22	3/17/22	Pass w/ Conditions	-14.3	3/18/22 1233					

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 03\17\
Data File : 03172208.D
Acq On : 17 Mar 2022 14:35
Operator : RVT
Sample : 031722 AC02150 29100
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 204 Sample Multiplier: 1

RVT 3/23/22

Quant Time: Mar 18 06:47:19 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.492	130	29091	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.654	114	93985	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.678	54	7393	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.298	65	40104	879.60	pg		0.00
Spiked Amount 1000.000			Recovery = 87.96%				
57) Toluene-d8 (SS2)	12.569	98	98861	2635.68	pg		0.00
Spiked Amount 1000.000			Recovery = 263.57%				
74) Bromofluorobenzene (SS3)	16.111	174	10195	669.82	pg		0.00
Spiked Amount 1000.000			Recovery = 66.98%				
Target Compounds							Qvalue
2] * Propene	3.523	42	710	21.24	pg	#	36
3) * Dichlorodifluoromethane	0.000		0	N.D.			
4] * Chloromethane	3.686	50	363	6.22	pg		99
5) * 1,2-Dichloro-1,1,2,2...	0.000		0	N.D.			
6) * Vinyl Chloride	0.000		0	N.D.			
7] * 1,3-Butadiene	3.961	54	17	0.41	pg	#	12
8) * Bromomethane	0.000		0	N.D.			
9) * Chloroethane	0.000		0	N.D.			
10] * Ethanol	4.438	45	579	30.13	pg		91
11] * Acetonitrile	4.599	41	157	4.43	pg		86
12] * Acrolein	4.698	56	451	21.50	pg		92
13] * Acetone	4.818	58	4800	147.60	pg	#	64
14] * Trichlorofluoromethane	4.830	101	175	1.82	pg	#	1
15] * 2-Propanol (Isopropa...	5.027	45	211	2.48	pg	#	60
16) * Acrylonitrile	0.000		0	N.D.			
17] * 1,1-Dichloroethene	5.416	96	418	7.55	pg	#	80
18) tert-Butanol	0.000		0	N.D.			
19] * Methylene Chloride	5.528	84	269	5.89	pg		89
20) * 3-Chloro-1-propene (...	0.000		0	N.D.			
21) * Trichlorotrifluoroet...	0.000		0	N.D.			
22] * Carbon Disulfide	5.790	76	3537	22.14	pg		100
23) * trans-1,2-Dichloroet...	0.000		0	N.D.			
24) * 1,1-Dichloroethane	0.000		0	N.D.			
25) * Methyl tert-Butyl Ether	0.000		0	N.D.			
26) * Vinyl Acetate	0.000		0	N.D.			
27] * 2-Butanone (MEK)	6.947	72	206	8.11	pg		88
28) * cis-1,2-Dichloroethene	0.000		0	N.D.			
29] DIPE	7.602	45	128	1.10	pg	#	45
30] * Ethyl Acetate	7.602	61	122	9.56	pg	#	72
31] * n-Hexane	7.576	57	214	3.77	pg	#	55
32) * Chloroform	0.000		0	N.D.			
34) * Tetrahydrofuran	0.000		0	N.D.			
35) ETBE	0.000		0	N.D.			
36) * 1,2-Dichloroethane	0.000		0	N.D.			
38) * 1,1,1-Trichloroethane	0.000		0	N.D.			
39] * Benzene	9.232	78	933	7.92	pg		97
40) Isopropyl Acetate	0.000		0	N.D.			
41) 1-Butanol	9.154	56	247	No Calib			
42) * Carbon Tetrachloride	0.000		0	N.D.			
43) * Cyclohexane	0.000		0	N.D.			
44) TAME	0.000		0	N.D.			
45) * 1,2-Dichloropropane	0.000		0	N.D.			
46) * Bromodichloromethane	0.000		0	N.D.			
47) * Trichloroethene	0.000		0	N.D.			

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 03\17\
Data File : 03172208.D
Acq On : 17 Mar 2022 14:35
Operator : RVT
Sample : 031722 AC02150 29100
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 204 Sample Multiplier: 1

Quant Time: Mar 18 06:47:19 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

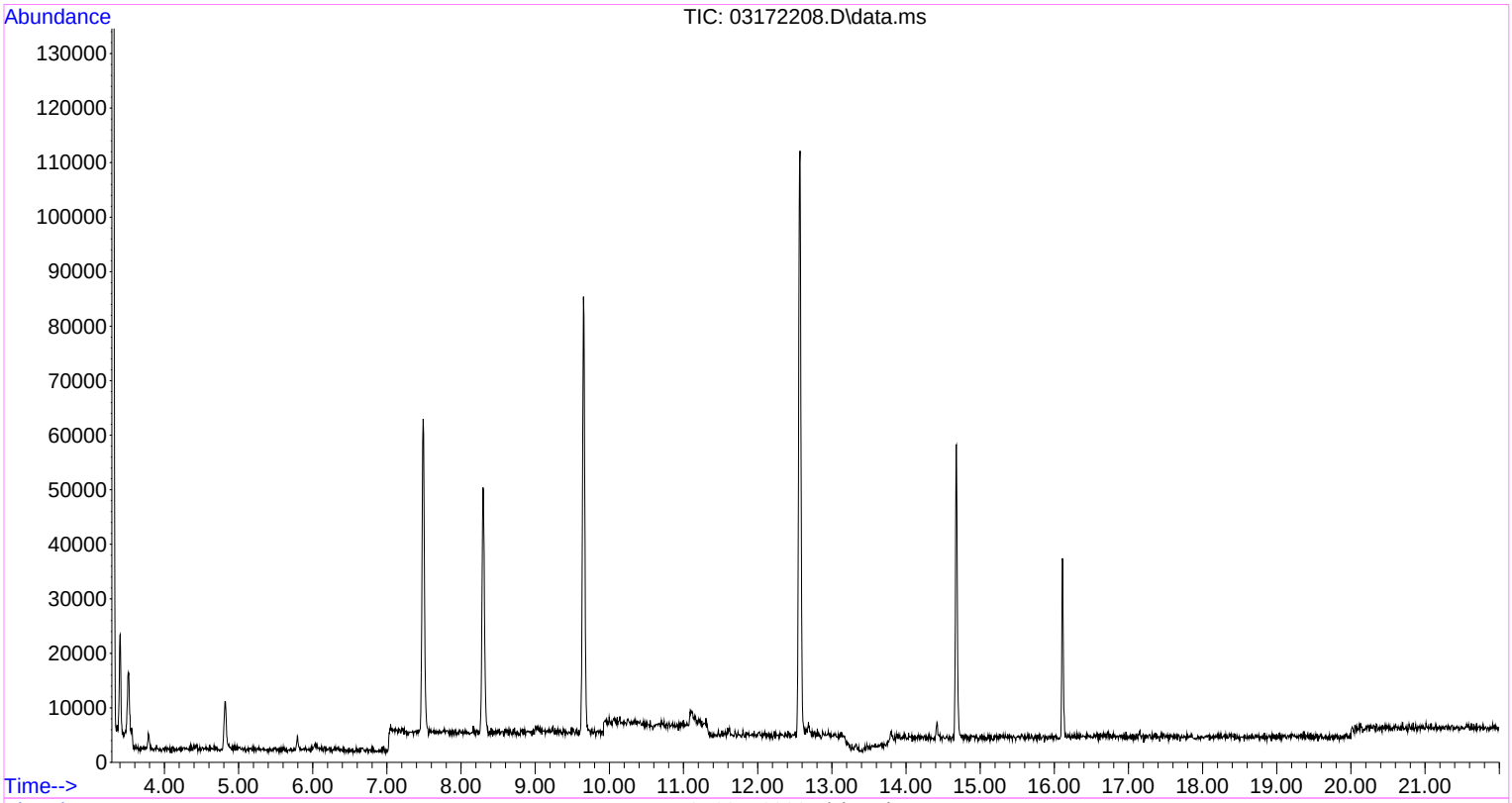
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
48)	* 1,4-Dioxane	0.000		0	N.D.			
49)	Isooctane	0.000		0	N.D.			
50)	* Methyl Methacrylate	0.000		0	N.D.			
51]	* n-Heptane	10.864	71	125	3.87	pg	#	41
52)	* cis-1,3-Dichloropropene	0.000		0	N.D.			
53]	* 4-Methyl-2-pentanone	11.607	58	574	25.99	pg	#	80
54)	* trans-1,3-Dichloropr...	0.000		0	N.D.			
55)	* 1,1,2-Trichloroethane	0.000		0	N.D.			
58]	* Toluene	12.688	91	1929	38.75	pg		100
59)	* 2-Hexanone	0.000		0	N.D.			
60)	* Dibromochloromethane	0.000		0	N.D.			
61)	* 1,2-Dibromoethane	0.000		0	N.D.			
62)	* n-Butyl Acetate	0.000		0	N.D.			
63)	* n-Octane	0.000		0	N.D.			
64)	* Tetrachloroethene	0.000		0	N.D.			
65)	* Chlorobenzene	0.000		0	N.D.			
66]	* Ethylbenzene	15.112	91	171	2.66	pg	#	43
67]	* m- & p-Xylenes	15.295	91	109	2.18	pg	#	29
68)	* Bromoform	0.000		0	N.D.			
69)	Cyclohexanone	0.000		0	N.D.			
70)	* Styrene	0.000		0	N.D.			
71]	* o-Xylene	15.711	91	122	2.43	pg		88
72]	* n-Nonane	15.951	57	85	4.94	pg	#	31
73)	* 1,1,2,2-Tetrachloroe...	0.000		0	N.D.			
75)	* Cumene	0.000		0	N.D.			
76)	* alpha-Pinene	0.000		0	N.D.			
77]	* n-Propylbenzene	16.692	91	101	1.47	pg	#	52
78)	3-Ethyltoluene	16.818	105	83	No Calib		#	
79]	* 4-Ethyltoluene	16.818	105	83	1.64	pg	#	45
80]	* 1,3,5-Trimethylbenzene	16.881	105	73	1.55	pg	#	28
81)	alpha-Methylstyrene	0.000		0	N.D.			
82)	2-Ethyltoluene	17.041	105	50	No Calib		#	
83)	tert-Butylbenzene	0.000		0	N.D.			
84]	* 1,2,4-Trimethylbenzene	17.229	105	341	7.50	pg		95
85)	* Benzyl Chloride	0.000		0	N.D.			
86)	* 1,3-Dichlorobenzene	0.000		0	N.D.			
87)	* 1,4-Dichlorobenzene	0.000		0	N.D.			
88)	n-Decane	0.000		0	N.D.			
89]	sec-Butylbenzene	17.229	105	341	7.58	pg	#	51
90)	1,2,3-Trimethylbenzene	17.580	105	95	No Calib		#	
91)	p-Isopropyltoluene	0.000		0	N.D.			
92)	* 1,2-Dichlorobenzene	0.000		0	N.D.			
93)	* D-Limonene	0.000		0	N.D.			
94)	n-Butylbenzene	0.000		0	N.D.			
95)	* 1,2-Dibromo-3-chloro...	0.000		0	N.D.			
96)	n-Undecane	0.000		0	N.D.			
97)	* 1,2,4-Trichlorobenzene	0.000		0	N.D.			
98]	* Naphthalene	19.257	128	300	9.86	pg	#	69
99)	n-Dodecane	19.280	85	51	No Calib		#	
100)	* Hexachlorobutadiene	0.000		0	N.D.			

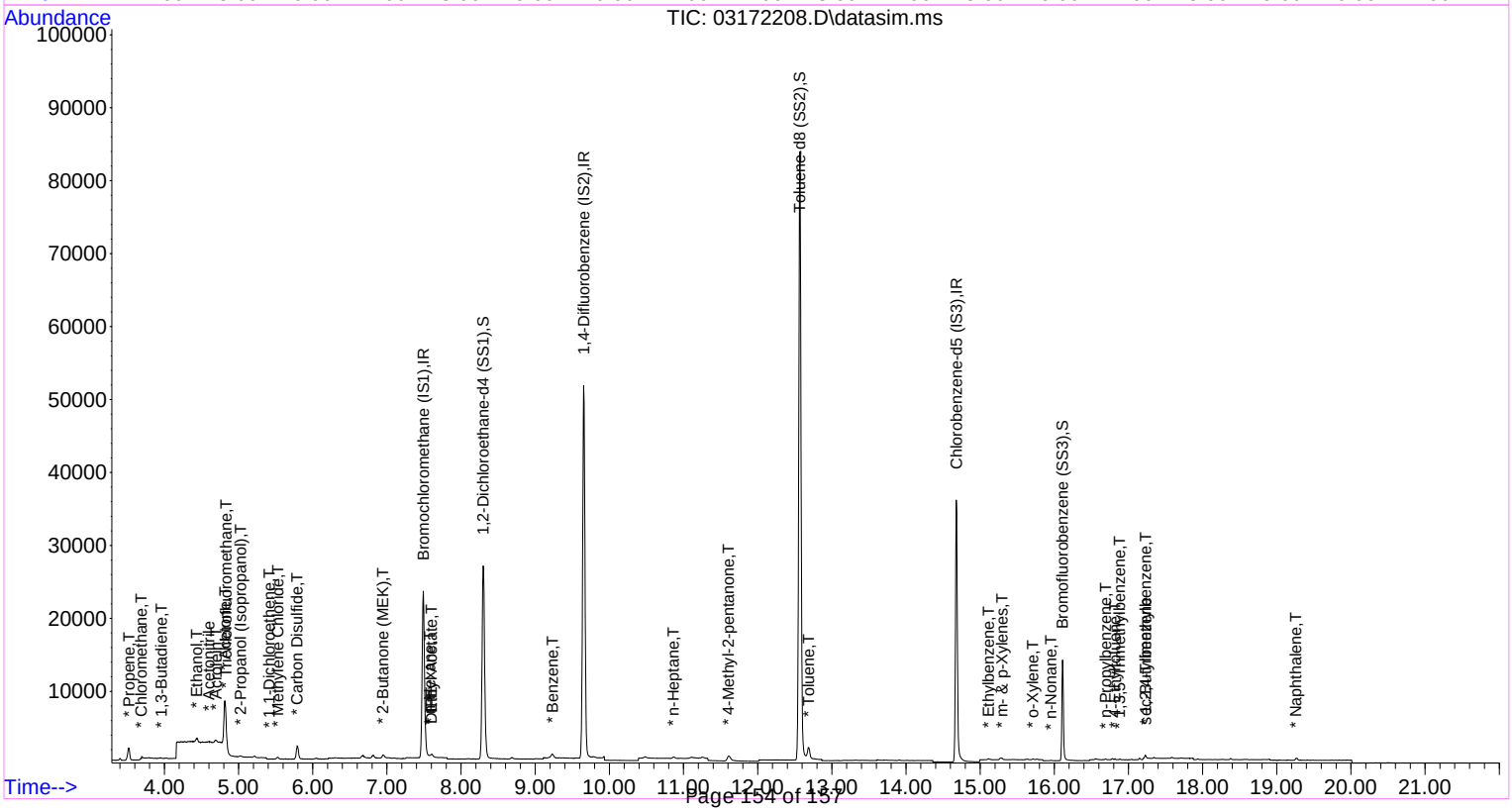
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 03\17\
Data File : 03172208.D
Acq On : 17 Mar 2022 14:35
Operator : RVT
Sample : 031722 AC02150 29100
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 204 Sample Multiplier: 1

Quant Time: Mar 18 06:47:19 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-03
Cycles: 30
Batch: 29133

Batch Started By: on 3/22/22 0407
Finished Cleaning By: on 3/25/22 0143

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02404	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143					03/23/22
AC02238	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143		-14.0	3/28/22 0955		
AC02420	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143		-14.0	3/25/22 0143		
AC01784	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143		-14.0	3/28/22 0955		
AS01562	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143		-14.0	3/31/22 0952		
AC02380	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143		-14.0	3/25/22 0143		
AS01001	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143		-14.0	3/28/22 0955		
AC02304	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143		-14.0	3/28/22 0955		
AC02094	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143		-14.0	3/28/22 0915		
AS00784	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143		-14.0	3/28/22 0915		
AS00947	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143		-14.0	3/31/22 0952		
AC01109	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143		-14.0	3/28/22 0915		
AC02328	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143		-14.0	3/31/22 0952		
AS01660	3/22/22	3/23/22	Pass w/ Conditions	-14.3	3/25/22 0143		-14.0	3/31/22 0952		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 03\23\
Data File : 03232212.D
Acq On : 23 Mar 2022 19:53
Operator : RVT
Sample : 032322 AC02404 29133
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 8 Sample Multiplier: 1

RVT 3/24/22

Quant Time: Mar 24 06:52:48 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane (IS1)	7.492	130	58355	1000.00	pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.654	114	165096	1000.00	pg	0.00
56) Chlorobenzene-d5 (IS3)	14.678	54	11072	1000.00	pg	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4 ...	8.298	65	72627	794.10	pg	0.00
Spiked Amount 1000.000			Recovery = 79.41%			
57) Toluene-d8 (SS2)	12.569	98	186968	3328.36	pg	0.00
Spiked Amount 1000.000			Recovery = 332.84%			
74) Bromofluorobenzene (SS3)	16.111	174	14445	633.70	pg	0.00
Spiked Amount 1000.000			Recovery = 63.37%			

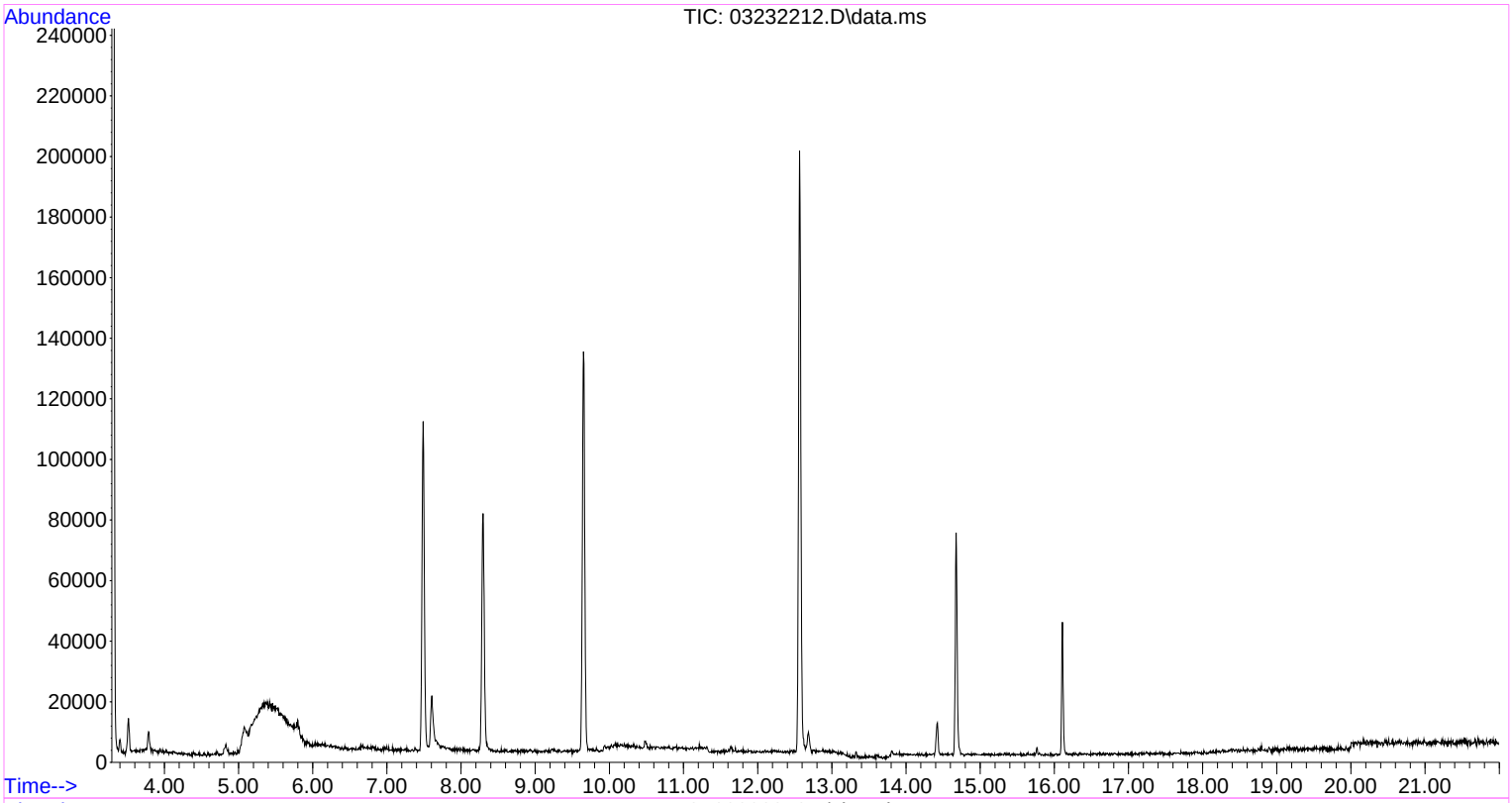
Target Compounds Qvalue

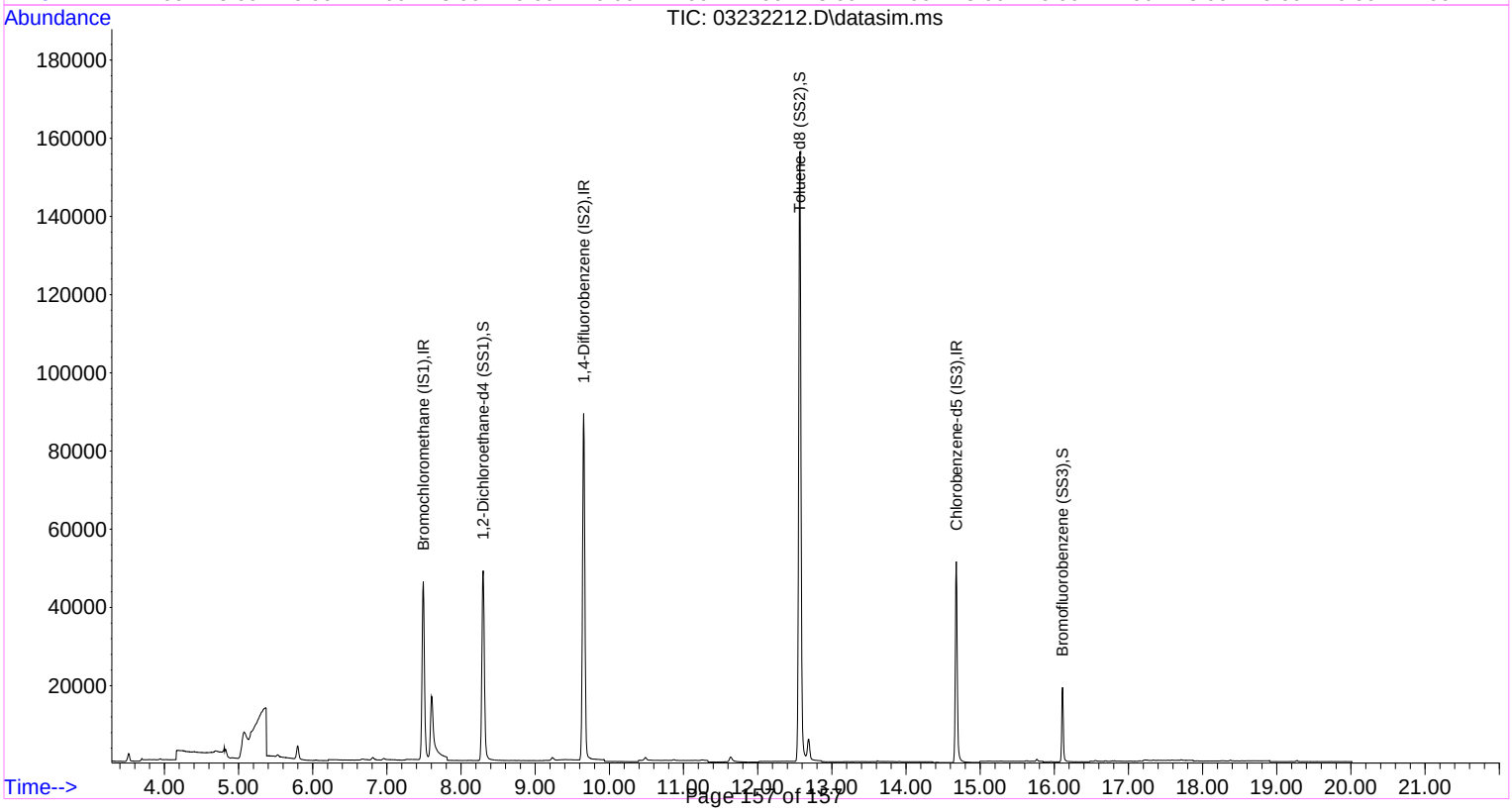
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 03\23\
Data File : 03232212.D
Acq On : 23 Mar 2022 19:53
Operator : RVT
Sample : 032322 AC02404 29133
Misc : LL+TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 24 06:52:48 2022
Quant Method : I:\MS21\Methods\F21120721.M
Quant Title : EPA TO-15
QLast Update : Wed Dec 08 08:58:32 2021
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

May 3, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on April 13, 2022. For your reference, these analyses have been assigned our service request number P2201682.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 2:29 pm, May 03, 2022

Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2201682
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on April 13, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2201682
Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 4/13/2022
Time Received: 14:37

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_041322_S	P2201682-001	Air	4/13/2022	11:00	AC02403	-0.80	4.22	X
DOE-2_041322_S	P2201682-002	Air	4/13/2022	11:15	AC02151	-0.84	4.13	X
DOE-3_041322_S	P2201682-003	Air	4/13/2022	11:30	AC00416	-1.02	4.04	X
DOE-4_041322_S	P2201682-004	Air	4/13/2022	11:45	AC02213	-1.55	4.17	X
DOE-4_041322_D	P2201682-005	Air	4/13/2022	11:46	AC02261	-1.16	3.96	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. R2201C82

Company Name & Address (Reporting Information)	Project Name	ALS Contact: Hayden Akers	
North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304	DOE Perimeter Air	**Analysis Method**	
	Project Number: 080153.015.15		
Project Manager: Trina Cesnik	P.O. # / Billing Information: PO # 8-0000943		
Phone: 805-587-0691 / Fax:	Accounts Payable : accounts.payable@northwindgrp.com		
Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg	Sampler (Print & Sign): T. Stewart Williford		

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_041322_S	1	4/13/2022	1100	AC02403	SFC00667	-28.5	-1.5		X		
DOE-2_041322_S	2	4/13/2022	1115	AC02151	SFC00647	-28.0	-1.5		X		
DOE-3_041322_S	3	4/13/2022	1130	AC00416	SFC00636	-28.5	-1.5		X		
DOE-4_041322_S	4	4/13/2022	1145	AC02213	SFC00626	-28.0	-1.5		X		
DOE-4_041322_D	X	4/13/2022	1146	AC02261	SFC00666	-28.0	-1.0		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) 10% Surcharge X

EDD required Yes / No
Type: EQuIS Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
T. Stewart Williford	4/13/22	1437		4.13.22	1437
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2201682

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 4/13/22 Date opened: 4/13/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2201682-001.01	6.0 L Ambient Can					
P2201682-002.01	6.0 L Ambient Can					
P2201682-003.01	6.0 L Ambient Can					
P2201682-004.01	6.0 L Ambient Can					
P2201682-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_041322_S** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-001

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02403

Initial Pressure (psig): -0.80 Final Pressure (psig): 4.22

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.72	**0.45**	0.15	
74-87-3	Chloromethane	ND	0.69	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.73	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.71	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.71	ND	0.32	
74-83-9	Bromomethane	ND	0.69	ND	0.18	
75-00-3	Chloroethane	ND	0.69	ND	0.26	
107-02-8	Acrolein	ND	1.4	ND	0.59	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.71	**0.19**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.55	
107-13-1	Acrylonitrile	ND	1.4	ND	0.63	
75-35-4	1,1-Dichloroethene	ND	0.73	ND	0.19	
75-09-2	Methylene Chloride	ND	0.71	ND	0.20	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.73	ND	0.096	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	0.72	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.72	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.72	ND	0.20	
108-05-4	Vinyl Acetate	ND	6.8	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.46	
156-59-2	cis-1,2-Dichloroethene	ND	0.71	ND	0.18	
141-78-6	Ethyl Acetate	ND	2.9	ND	0.79	
110-54-3	n-Hexane	ND	0.72	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_041322_S** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-001

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02403

Initial Pressure (psig): -0.80 Final Pressure (psig): 4.22

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.73	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.46	
107-06-2	1,2-Dichloroethane	ND	0.72	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.71	ND	0.13	
71-43-2	Benzene	ND	0.68	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.68	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.68	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.72	ND	0.11	
79-01-6	Trichloroethene	ND	0.71	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.71	ND	0.20	
142-82-5	n-Heptane	ND	0.72	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.68	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.69	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.71	ND	0.13	
108-88-3	Toluene	ND	0.71	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.72	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.71	ND	0.092	
111-65-9	n-Octane	ND	0.72	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.71	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_041322_S** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-001

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02403

Initial Pressure (psig): -0.80 Final Pressure (psig): 4.22

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.71	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.34	
75-25-2	Bromoform	ND	0.71	ND	0.068	
100-42-5	Styrene	ND	0.68	ND	0.16	
95-47-6	o-Xylene	ND	0.71	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.71	ND	0.10	
98-82-8	Cumene	ND	0.71	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.72	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.72	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.71	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.71	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.71	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.71	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.71	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.71	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.72	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.71	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.71	ND	0.066	
104-51-8	n-Butylbenzene	ND	0.71	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.72	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_041322_S** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-002

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02151

Initial Pressure (psig): -0.84 Final Pressure (psig): 4.13

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.72	**0.46**	0.15	
74-87-3	Chloromethane	ND	0.69	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.73	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.71	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.71	ND	0.32	
74-83-9	Bromomethane	ND	0.69	ND	0.18	
75-00-3	Chloroethane	ND	0.69	ND	0.26	
107-02-8	Acrolein	ND	1.4	ND	0.59	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.71	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.55	
107-13-1	Acrylonitrile	ND	1.4	ND	0.63	
75-35-4	1,1-Dichloroethene	ND	0.73	ND	0.19	
75-09-2	Methylene Chloride	ND	0.71	ND	0.20	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.73	ND	0.096	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	0.72	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.72	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.72	ND	0.20	
108-05-4	Vinyl Acetate	ND	6.8	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.46	
156-59-2	cis-1,2-Dichloroethene	ND	0.71	ND	0.18	
141-78-6	Ethyl Acetate	ND	2.9	ND	0.79	
110-54-3	n-Hexane	ND	0.72	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_041322_S** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-002

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02151

Initial Pressure (psig): -0.84 Final Pressure (psig): 4.13

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.73	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.46	
107-06-2	1,2-Dichloroethane	ND	0.72	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.71	ND	0.13	
71-43-2	Benzene	ND	0.68	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.68	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.68	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.72	ND	0.11	
79-01-6	Trichloroethene	ND	0.71	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.71	ND	0.20	
142-82-5	n-Heptane	ND	0.72	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.68	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.69	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.71	ND	0.13	
108-88-3	Toluene	ND	0.71	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.72	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.71	ND	0.092	
111-65-9	n-Octane	ND	0.72	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.71	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_041322_S** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-002

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02151

Initial Pressure (psig): -0.84 Final Pressure (psig): 4.13

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.71	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.34	
75-25-2	Bromoform	ND	0.71	ND	0.068	
100-42-5	Styrene	ND	0.68	ND	0.16	
95-47-6	o-Xylene	ND	0.71	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.71	ND	0.10	
98-82-8	Cumene	ND	0.71	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.72	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.72	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.71	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.71	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.71	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.71	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.71	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.71	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.72	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.71	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.71	ND	0.066	
104-51-8	n-Butylbenzene	ND	0.71	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.72	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_041322_S** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-003

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00416

Initial Pressure (psig): -1.02 Final Pressure (psig): 4.04

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.73	**0.46**	0.15	
74-87-3	Chloromethane	ND	0.70	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.74	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.71	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.71	ND	0.32	
74-83-9	Bromomethane	ND	0.70	ND	0.18	
75-00-3	Chloroethane	ND	0.70	ND	0.26	
107-02-8	Acrolein	ND	1.4	ND	0.60	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.71	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.56	
107-13-1	Acrylonitrile	ND	1.4	ND	0.63	
75-35-4	1,1-Dichloroethene	ND	0.74	ND	0.19	
75-09-2	Methylene Chloride	ND	0.71	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.74	ND	0.097	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	0.73	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.73	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.73	ND	0.20	
108-05-4	Vinyl Acetate	ND	6.9	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.46	
156-59-2	cis-1,2-Dichloroethene	ND	0.71	ND	0.18	
141-78-6	Ethyl Acetate	**20**	2.9	**5.5**	0.80	
110-54-3	n-Hexane	ND	0.73	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_041322_S** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-003

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00416

Initial Pressure (psig): -1.02 Final Pressure (psig): 4.04

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.74	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.46	
107-06-2	1,2-Dichloroethane	ND	0.73	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.71	ND	0.13	
71-43-2	Benzene	ND	0.69	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.69	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.69	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.73	ND	0.11	
79-01-6	Trichloroethene	ND	0.71	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.71	ND	0.20	
142-82-5	n-Heptane	ND	0.73	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.69	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.70	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.71	ND	0.13	
108-88-3	Toluene	ND	0.71	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.73	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.71	ND	0.093	
111-65-9	n-Octane	ND	0.73	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.71	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_041322_S** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-003

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00416

Initial Pressure (psig): -1.02 Final Pressure (psig): 4.04

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.71	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.71	ND	0.069	
100-42-5	Styrene	ND	0.69	ND	0.16	
95-47-6	o-Xylene	ND	0.71	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.71	ND	0.10	
98-82-8	Cumene	ND	0.71	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.73	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.73	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.71	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.71	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.71	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.71	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.71	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.71	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.73	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.71	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.71	ND	0.067	
104-51-8	n-Butylbenzene	ND	0.71	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.73	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_041322_S** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-004

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02213

Initial Pressure (psig): -1.55 Final Pressure (psig): 4.17

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.76	**0.46**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.74	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.2	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**5.0**	3.0	**1.4**	0.83	
110-54-3	n-Hexane	ND	0.76	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_041322_S** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-004

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02213

Initial Pressure (psig): -1.55 Final Pressure (psig): 4.17

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	ND	0.74	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.089	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_041322_S** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-004

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02213

Initial Pressure (psig): -1.55 Final Pressure (psig): 4.17

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.76	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_041322_D** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-005

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02261

Initial Pressure (psig): -1.16 Final Pressure (psig): 3.96

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.73	**0.45**	0.15	
74-87-3	Chloromethane	ND	0.70	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.75	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.72	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.72	ND	0.32	
74-83-9	Bromomethane	ND	0.70	ND	0.18	
75-00-3	Chloroethane	ND	0.70	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.60	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.72	**0.19**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.56	
107-13-1	Acrylonitrile	ND	1.4	ND	0.64	
75-35-4	1,1-Dichloroethene	ND	0.75	ND	0.19	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.75	ND	0.097	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.73	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.73	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.73	ND	0.20	
108-05-4	Vinyl Acetate	ND	6.9	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.47	
156-59-2	cis-1,2-Dichloroethene	ND	0.72	ND	0.18	
141-78-6	Ethyl Acetate	**14**	2.9	**4.0**	0.80	
110-54-3	n-Hexane	ND	0.73	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_041322_D** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-005

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02261

Initial Pressure (psig): -1.16 Final Pressure (psig): 3.96

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.75	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.47	
107-06-2	1,2-Dichloroethane	ND	0.73	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.72	ND	0.13	
71-43-2	Benzene	ND	0.69	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.69	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.69	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.73	ND	0.11	
79-01-6	Trichloroethene	ND	0.72	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.72	ND	0.20	
142-82-5	n-Heptane	ND	0.73	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.69	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.70	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.72	ND	0.13	
108-88-3	Toluene	ND	0.72	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.73	ND	0.086	
106-93-4	1,2-Dibromoethane	ND	0.72	ND	0.093	
111-65-9	n-Octane	ND	0.73	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.72	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_041322_D** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-005

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02261

Initial Pressure (psig): -1.16 Final Pressure (psig): 3.96

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.72	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.72	ND	0.069	
100-42-5	Styrene	ND	0.69	ND	0.16	
95-47-6	o-Xylene	ND	0.72	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.72	ND	0.10	
98-82-8	Cumene	ND	0.72	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.73	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.73	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.72	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.72	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.72	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.72	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.72	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.72	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.73	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.72	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.72	ND	0.067	
104-51-8	n-Butylbenzene	ND	0.72	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.73	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220425-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220425-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220425-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2201682

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 4/13/22
Analyst: Simon Cao Date(s) Received: 4/13/22
Sample Type: 6.0 L Summa Canister(s) Date(s) Analyzed: 4/25/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220425-MB	**113**	**93**	**71**	70-130	
Lab Control Sample	P220425-LCS	**111**	**91**	**78**	70-130	
Duplicate Lab Control Sample	P220425-DLCS	**110**	**91**	**77**	70-130	
DOE-1_041322_S	P2201682-001	**103**	**102**	**94**	70-130	
DOE-2_041322_S	P2201682-002	**103**	**101**	**94**	70-130	
DOE-3_041322_S	P2201682-003	**104**	**101**	**94**	70-130	
DOE-4_041322_S	P2201682-004	**103**	**101**	**93**	70-130	
DOE-4_041322_D	P2201682-005	**104**	**100**	**93**	70-130	
DOE-4_041322_D	P2201682-005DUP	**103**	**101**	**92**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220425-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	197	205	**95**	**99**	71-112	4	25	
74-87-3	Chloromethane	206	225	227	**109**	**110**	53-126	0.9	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	185	194	**89**	**93**	62-121	4	25	
75-01-4	Vinyl Chloride	208	220	225	**106**	**108**	63-123	2	25	
106-99-0	1,3-Butadiene	206	233	229	**113**	**111**	63-135	2	25	
74-83-9	Bromomethane	206	203	212	**99**	**103**	71-112	4	25	
75-00-3	Chloroethane	206	209	215	**101**	**104**	66-117	3	25	
107-02-8	Acrolein	416	427	423	**103**	**102**	71-123	1	25	
75-69-4	Trichlorofluoromethane (CFC 11)	202	190	196	**94**	**97**	71-114	3	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	451	448	**113**	**112**	61-124	0.9	25	
107-13-1	Acrylonitrile	402	419	423	**104**	**105**	65-130	1	25	
75-35-4	1,1-Dichloroethene	210	203	208	**97**	**99**	74-114	2	25	
75-09-2	Methylene Chloride	208	201	204	**97**	**98**	75-112	1	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	180	188	**83**	**87**	73-114	5	25	
75-15-0	Carbon Disulfide	414	441	441	**107**	**107**	70-113	0	25	
156-60-5	trans-1,2-Dichloroethene	208	220	224	**106**	**108**	76-119	2	25	
75-34-3	1,1-Dichloroethane	214	215	218	**100**	**102**	70-114	2	25	
1634-04-4	Methyl tert-Butyl Ether	206	181	170	**88**	**83**	72-118	6	25	
108-05-4	Vinyl Acetate	942	1180	1210	**125**	**128**	56-137	2	25	
78-93-3	2-Butanone (MEK)	408	420	433	**103**	**106**	74-121	3	25	
156-59-2	cis-1,2-Dichloroethene	206	211	215	**102**	**104**	73-117	2	25	
141-78-6	Ethyl Acetate	580	634	639	**109**	**110**	59-161	0.9	25	
110-54-3	n-Hexane	208	230	230	**111**	**111**	55-130	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220425-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	210	207	213	**99**	**101**	71-114	2	25	
109-99-9	Tetrahydrofuran (THF)	404	415	419	**103**	**104**	73-114	1	25	
107-06-2	1,2-Dichloroethane	210	213	218	**101**	**104**	71-119	3	25	
71-55-6	1,1,1-Trichloroethane	208	195	201	**94**	**97**	73-119	3	25	
71-43-2	Benzene	208	196	199	**94**	**96**	72-113	2	25	
56-23-5	Carbon Tetrachloride	202	188	194	**93**	**96**	67-123	3	25	
110-82-7	Cyclohexane	412	397	401	**96**	**97**	70-119	1	25	
78-87-5	1,2-Dichloropropane	206	202	204	**98**	**99**	70-118	1	25	
75-27-4	Bromodichloromethane	208	209	215	**100**	**103**	74-119	3	25	
79-01-6	Trichloroethene	204	179	184	**88**	**90**	74-115	2	25	
123-91-1	1,4-Dioxane	206	201	208	**98**	**101**	77-124	3	25	
142-82-5	n-Heptane	206	201	206	**98**	**100**	70-119	2	25	
10061-01-5	cis-1,3-Dichloropropene	208	218	222	**105**	**107**	81-126	2	25	
108-10-1	4-Methyl-2-pentanone	412	426	434	**103**	**105**	73-129	2	25	
10061-02-6	trans-1,3-Dichloropropene	200	211	217	**106**	**109**	80-127	3	25	
79-00-5	1,1,2-Trichloroethane	208	192	195	**92**	**94**	78-117	2	25	
108-88-3	Toluene	206	167	173	**81**	**84**	70-118	4	25	
591-78-6	2-Hexanone	406	395	409	**97**	**101**	74-132	4	25	
124-48-1	Dibromochloromethane	210	176	183	**84**	**87**	69-137	4	25	
106-93-4	1,2-Dibromoethane	208	172	179	**83**	**86**	76-128	4	25	
111-65-9	n-Octane	208	180	187	**87**	**90**	68-120	3	25	
127-18-4	Tetrachloroethene	212	152	159	**72**	**75**	63-130	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220425-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	206	175	181	**85**	**88**	71-123	3	25	
179601-23-1	m,p-Xylenes	416	356	368	**86**	**88**	67-127	2	25	
75-25-2	Bromoform	210	168	175	**80**	**83**	65-149	4	25	
100-42-5	Styrene	202	167	173	**83**	**86**	76-132	4	25	
95-47-6	o-Xylene	208	178	184	**86**	**88**	69-124	2	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	181	188	**87**	**90**	69-128	3	25	
98-82-8	Cumene	206	171	176	**83**	**85**	69-125	2	25	
103-65-1	n-Propylbenzene	208	180	184	**87**	**88**	70-127	1	25	
622-96-8	4-Ethyltoluene	208	178	183	**86**	**88**	69-127	2	25	
108-67-8	1,3,5-Trimethylbenzene	208	177	183	**85**	**88**	66-129	3	25	
95-63-6	1,2,4-Trimethylbenzene	206	188	194	**91**	**94**	63-142	3	25	
100-44-7	Benzyl Chloride	416	378	396	**91**	**95**	73-145	4	25	
541-73-1	1,3-Dichlorobenzene	208	168	171	**81**	**82**	67-136	1	25	
106-46-7	1,4-Dichlorobenzene	210	161	166	**77**	**79**	63-134	3	25	
135-98-8	sec-Butylbenzene	204	176	179	**86**	**88**	68-130	2	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	172	177	**83**	**86**	60-139	4	25	
95-50-1	1,2-Dichlorobenzene	210	165	170	**79**	**81**	64-139	3	25	
120-82-1	1,2,4-Trichlorobenzene	420	286	300	**68**	**71**	62-154	4	25	
91-20-3	Naphthalene	210	152	161	**72**	**77**	62-156	7	25	
87-68-3	Hexachlorobutadiene	212	136	141	**64**	**67**	55-142	5	25	
104-51-8	n-Butylbenzene	208	180	184	**87**	**88**	70-131	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_041322_D** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-005DUP

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02261

Initial Pressure (psig): -1.16 Final Pressure (psig): 3.96

Canister Dilution Factor: 1.38

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Dichlorodifluoromethane (CFC 12)	2.22	0.449	2.30	0.466	2.26	**4**	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Trichlorofluoromethane	1.08	0.192	1.10	0.196	1.09	**2**	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	ND	ND	-	-	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Vinyl Acetate	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Ethyl Acetate	14.3	3.97	15.0	4.17	14.65	**5**	25	
n-Hexane	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_041322_D** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-005DUP

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02261

Initial Pressure (psig): -1.16 Final Pressure (psig): 3.96

Canister Dilution Factor: 1.38

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Chloroform	ND	ND	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Trichloroethene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	ND	ND	ND	ND	-	-	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Octane	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_041322_D** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2201682-005DUP

Test Code: EPA TO-15 Date Collected: 4/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/13/22
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02261

Initial Pressure (psig): -1.16 Final Pressure (psig): 3.96

Canister Dilution Factor: 1.38

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
sec-Butylbenzene	ND	ND	ND	ND	-	-	25	
4-Isopropyltoluene (p-Cymene)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	
n-Butylbenzene	ND	ND	ND	ND	-	-	25	
Xylenes, Total	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **North Wind, Inc.** ALS Project ID: P2201682
Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04252201.D
Analyst: Simon Cao Date Analyzed: 4/25/22
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 06:18
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	129786		11.19	578774		13.32		168614		17.64	
	Upper Limit	181700		11.52	810284		13.65		236060		17.97	
	Lower Limit	77872		10.86	347264		12.99		101168		17.31	
	Client Sample ID											
01	Method Blank	108967		11.17	498712		13.31		140679		17.64	
02	Lab Control Sample	127553		11.19	563642		13.32		163028		17.64	
03	Duplicate Lab Control Sample	129106		11.19	569029		13.32		162018		17.64	
04	DOE-1_041322_S	166761		11.17	741647		13.31		185954		17.64	
05	DOE-2_041322_S	156803		11.17	698921		13.31		175778		17.64	
06	DOE-3_041322_S	155217		11.17	694545		13.31		174349		17.64	
07	DOE-4_041322_S	153655		11.17	686069		13.31		172304		17.64	
08	DOE-4_041322_D	156913		11.17	696984		13.31		177579		17.64	
09	DOE-4_041322_D (Lab Duplicate)	151263		11.17	672618		13.31		168159		17.64	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252219.D Vial: 7
Acq On : 25 Apr 2022 17:28 Operator: SC
Sample : P2201682-001 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:16:33 2022 4/26/22
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	166761	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	741647	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	185954	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	329523	12.918	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%			
57) Toluene-d8 (SS2)	15.77	98	860407	12.698	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%			
73) Bromofluorobenzene (SS3)	19.03	174	280421	11.751	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%			
Target Compounds						Qvalue
2) Propene	4.12	42	3099	N.D.		
3) Dichlorodifluoromethan...	4.23	85	51992	1.651	ng	99
4) Chloromethane	4.53	50	9281	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	994	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.33	45	19235	1.146	ng	100
11) Acetonitrile	6.60	41	3274	N.D.		
12) Acrolein	6.81	56	730	N.D.		
13) Acetone	7.01	58	33568	2.540	ng	98
14) Trichlorofluoromethane	7.25	101	23233	0.792	ng	97
15) 2-Propanol (Isopropanol)	7.55	45	10038	N.D.		
16) Acrylonitrile	8.00	53	1564	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.47	59	55	N.D.		
19) Methylene Chloride	8.43	84	3481	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	8.86	151	4184	N.D.		
22) Carbon Disulfide	8.72	76	3719	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.21	86	192	N.D.		
27) 2-Butanone (MEK)	10.52	72	3899	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.31	61	8630	1.309	ng	98
31) n-Hexane	11.28	57	928	N.D.		
32) Chloroform	11.33	83	1241	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.15	62	902	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	13.31	61	25101	No Calib		
40) 1-Butanol	12.92	56	19973	No Calib	#	
41) Benzene	12.91	78	8726	N.D.		
42) Carbon Tetrachloride	13.08	117	6353	N.D.		
43) Cyclohexane	13.30	84	499	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.08	57	1361	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252219.D Vial: 7
Acq On : 25 Apr 2022 17:28 Operator: SC
Sample : P2201682-001 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:16:33 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

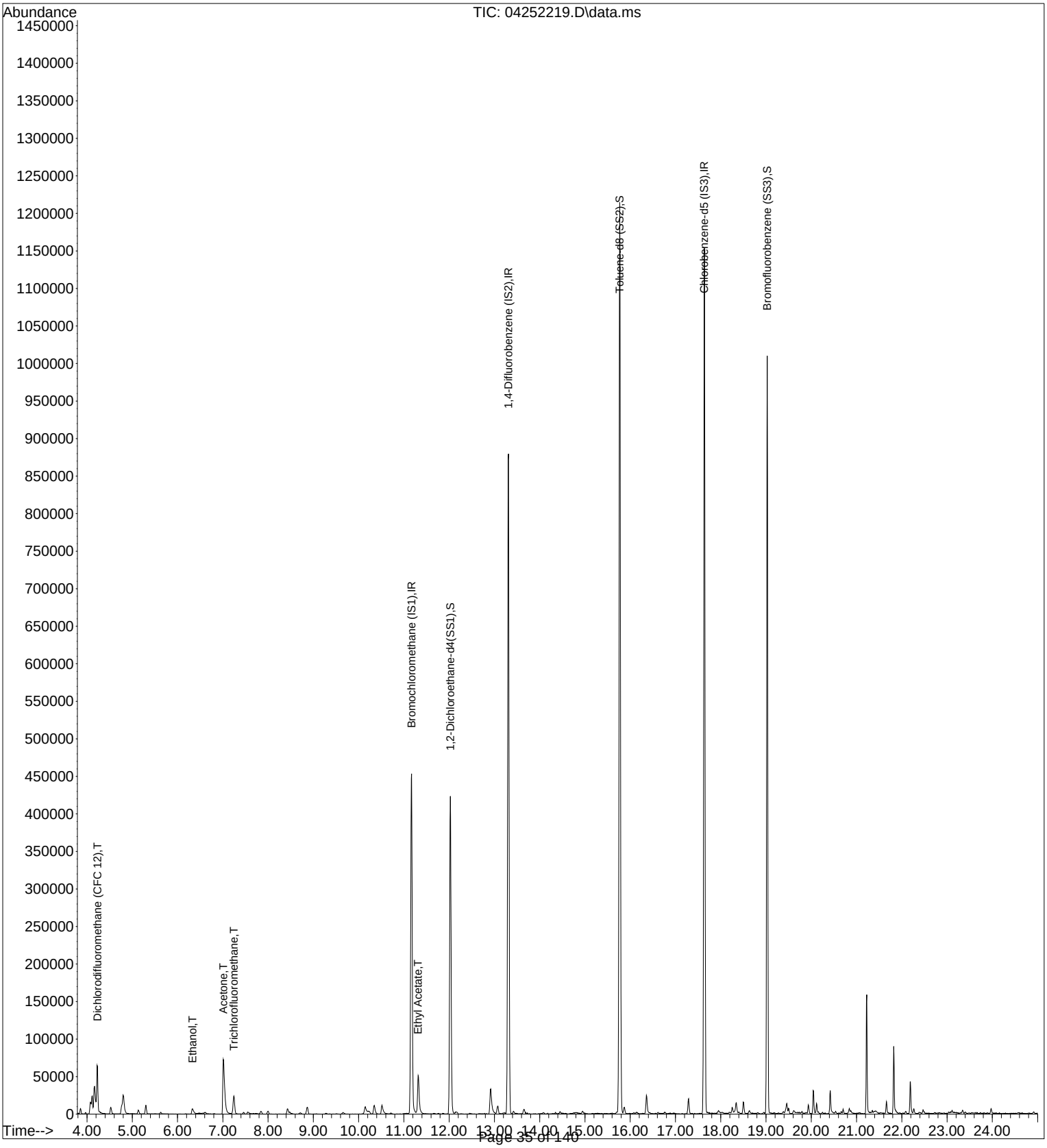
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.94	58	683	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.86	91	5981	N.D.		
59) 2-Hexanone	16.14	43	3148	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.77	43	2654	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.03	91	796	N.D.		
67) m- & p-Xylenes	18.19	91	2140	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.53	104	258	N.D.		
70) o-Xylene	18.62	91	788	N.D.		
71) n-Nonane	18.83	43	1847	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.16	105	158	N.D.		
75) alpha-Pinene	19.50	93	2496	N.D.		
76) n-Propylbenzene	19.60	91	744	N.D.		
77) 3-Ethyltoluene	19.73	105	265	No Calib		#
78) 4-Ethyltoluene	19.73	105	265	N.D.		
79) 1,3,5-Trimethylbenzene	19.79	105	205	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.54	105	246	No Calib		#
82) 1,2,4-Trimethylbenzene	20.16	105	902	N.D.		
83) n-Decane	20.42	58	510	No Calib		#
84) Benzyl Chloride	20.16	91	123	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.54	105	246	N.D.		
88) 4-Isopropyltoluene (p-...	20.54	119	1279	N.D.		
89) 1,2,3-Trimethylbenzene	20.54	105	246	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.66	68	603	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.23	58	1590	No Calib		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.28	128	1466	N.D.		
96) n-Dodecane	22.18	58	349	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.64	55	413	No Calib		#
99) tert-Butylbenzene	20.16	119	135	N.D.		
100) n-Butylbenzene	20.91	91	121	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252219.D Vial: 7
Acq On : 25 Apr 2022 17:28 Operator: SC
Sample : P2201682-001 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:16:33 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252219.D Vial: 7
Acq On : 25 Apr 2022 17:28 Operator: SC
Sample : P2201682-001 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:16:33 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/26/22

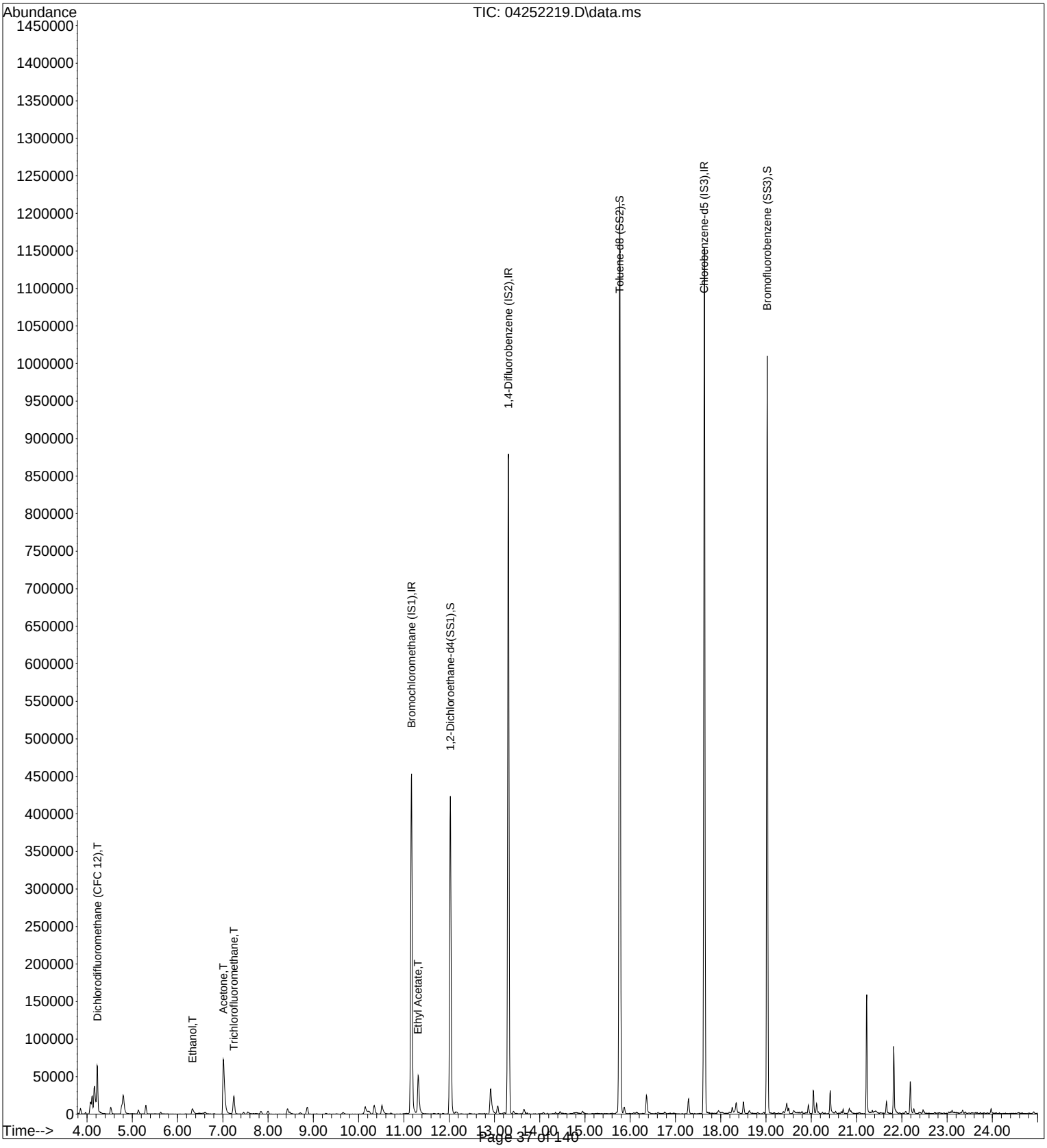
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	166761	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	741647	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	185954	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	329523	12.918	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%			
57) Toluene-d8 (SS2)	15.77	98	860407	12.698	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%			
73) Bromofluorobenzene (SS3)	19.03	174	280421	11.751	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.23	85	51992	1.651	ng	99
10) Ethanol	6.33	45	19235	1.146	ng	100
13) Acetone	7.01	58	33568	2.540	ng	98
14) Trichlorofluoromethane	7.25	101	23233	0.792	ng	97
30) Ethyl Acetate	11.31	61	8630	1.309	ng	98

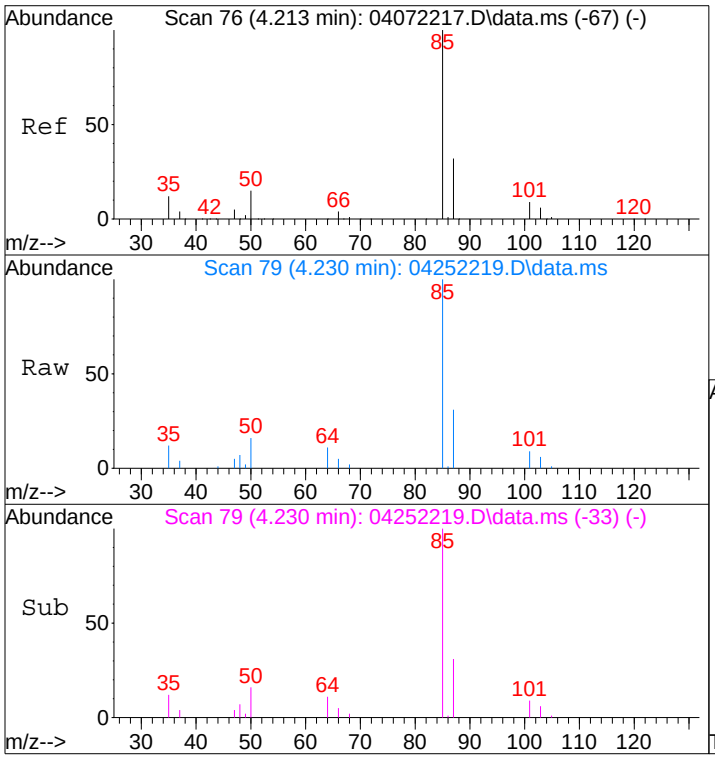
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252219.D Vial: 7
Acq On : 25 Apr 2022 17:28 Operator: SC
Sample : P2201682-001 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:16:33 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

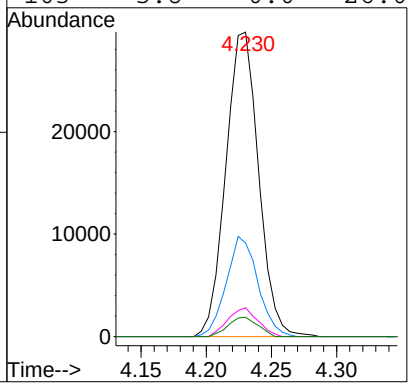


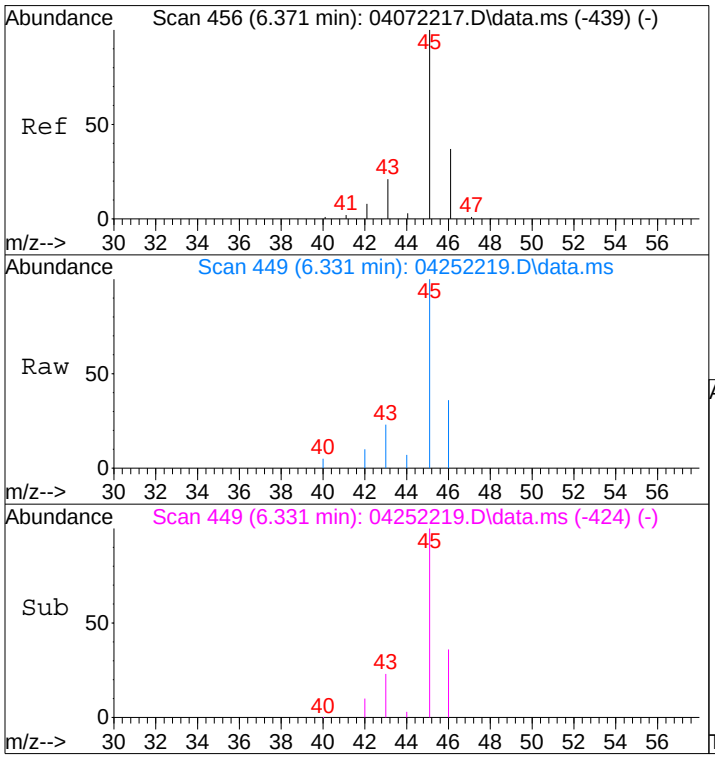


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.65 ng
RT: 4.23 min Scan# 79
Delta R.T. 0.011 min
Lab File: 04252219.D
Acq: 25 Apr 2022 17:28

Tgt Ion: 85 Resp: 51992

Ion	Ratio	Lower	Upper
85	100		
87	31.6	12.2	52.2
101	8.6	0.0	29.3
103	5.8	0.0	26.0

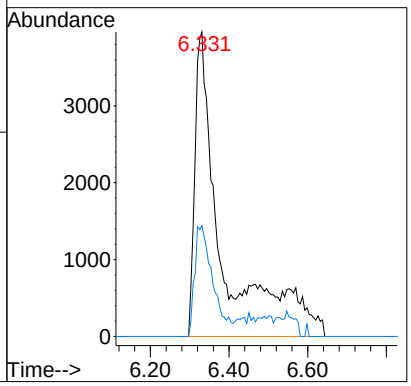


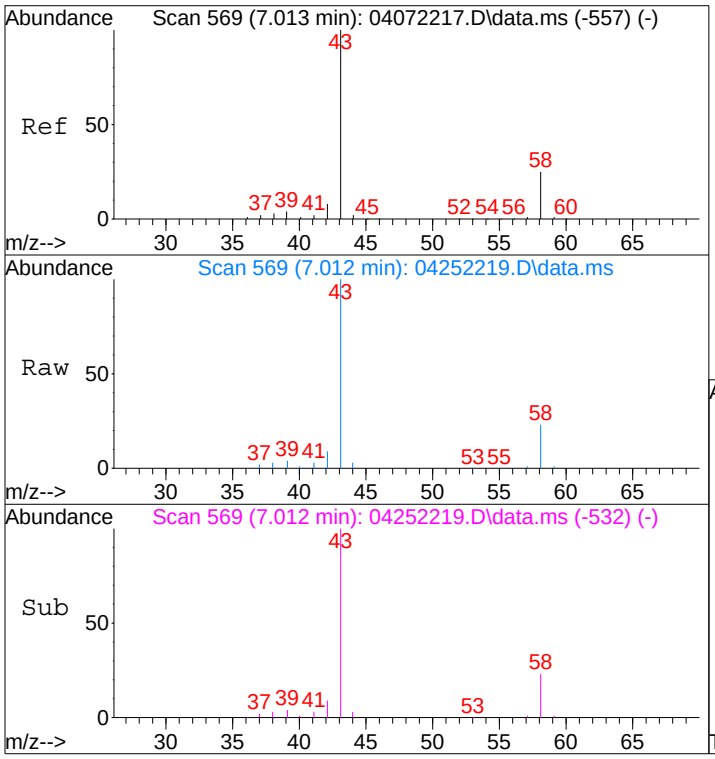


#10
Ethanol
Concen: 1.15 ng
RT: 6.33 min Scan# 449
Delta R.T. -0.108 min
Lab File: 04252219.D
Acq: 25 Apr 2022 17:28

Tgt Ion: 45 Resp: 19235

Ion	Ratio	Lower	Upper
45	100		
46	36.5	16.7	56.7

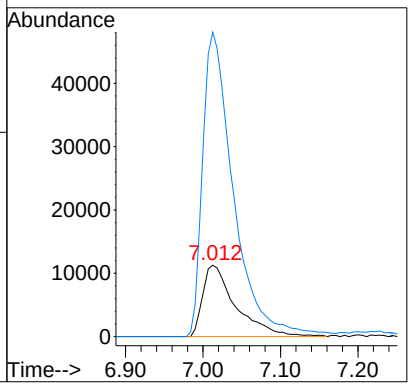


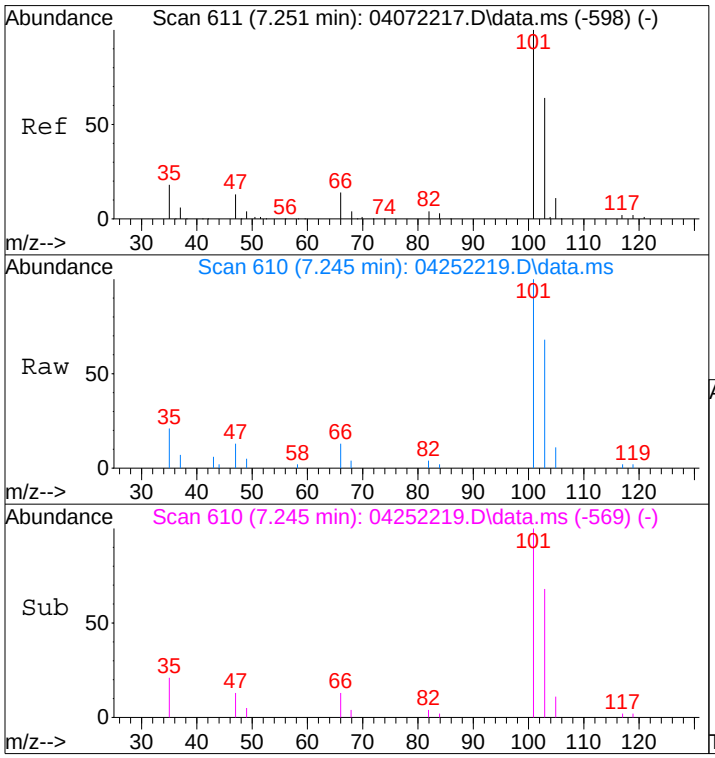


#13
Acetone
Concen: 2.54 ng
RT: 7.01 min Scan# 569
Delta R.T. -0.040 min
Lab File: 04252219.D
Acq: 25 Apr 2022 17:28

Tgt Ion: 58 Resp: 33568

Ion	Ratio	Lower	Upper
58	100		
43	396.9	370.7	430.7

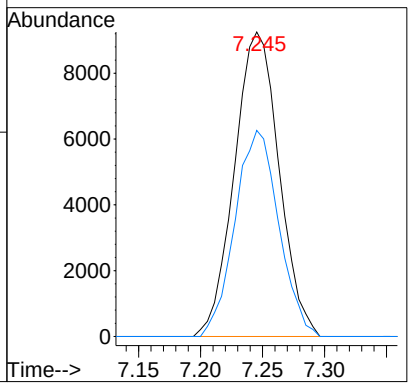


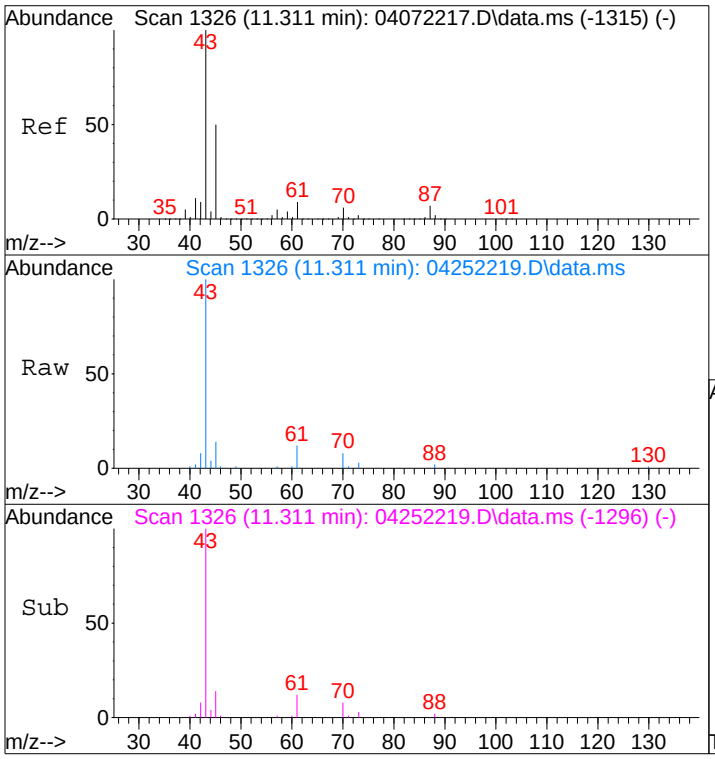


#14
Trichlorofluoromethane
Concen: 0.79 ng
RT: 7.25 min Scan# 610
Delta R.T. -0.017 min
Lab File: 04252219.D
Acq: 25 Apr 2022 17:28

Tgt Ion:101 Resp: 23233

Ion	Ratio	Lower	Upper
101	100		
103	66.3	43.8	83.8

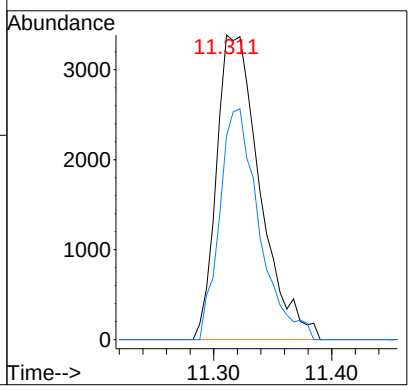




#30
Ethyl Acetate
Concen: 1.31 ng
RT: 11.31 min Scan# 1326
Delta R.T. -0.028 min
Lab File: 04252219.D
Acq: 25 Apr 2022 17:28

Tgt Ion: 61 Resp: 8630

Ion	Ratio	Lower	Upper
61	100		
70	69.2	50.8	90.8



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252220.D Vial: 8
Acq On : 25 Apr 2022 18:01 Operator: SC
Sample : P2201682-002 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 10:11:46 2022 4/26/22
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	156803	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	698921	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	175778	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	309538	12.905	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%				
57) Toluene-d8 (SS2)	15.77	98	810573	12.655	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
73) Bromofluorobenzene (SS3)	19.03	174	264981	11.747	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
Target Compounds							Qvalue
2) Propene	4.08	42	2020	N.D.			
3) Dichlorodifluoromethan...	4.22	85	49522	1.672	ng		99
4) Chloromethane	4.51	50	9449	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	936	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.64	94	115	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	22494	1.425	ng		97
11) Acetonitrile	6.60	41	2859	N.D.			
12) Acrolein	6.80	56	2779	N.D.			
13) Acetone	7.01	58	36490m	2.937	ng		
14) Trichlorofluoromethane	7.24	101	22257	0.806	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	14519	N.D.			
16) Acrylonitrile	7.99	53	1176	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.63	59	52	N.D.			
19) Methylene Chloride	8.43	84	3026	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.86	151	3990	N.D.			
22) Carbon Disulfide	8.70	76	4622	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.20	86	2553	1.142	ng	#	21
27) 2-Butanone (MEK)	10.51	72	5180	0.597	ng	#	84
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.32	61	8012	1.292	ng		97
31) n-Hexane	11.29	57	856	N.D.			
32) Chloroform	11.33	83	1112	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	841	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.30	61	23605	No Calib			
40) 1-Butanol	12.93	56	7145	No Calib		#	
41) Benzene	12.91	78	8718	N.D.			
42) Carbon Tetrachloride	13.07	117	5992	N.D.			
43) Cyclohexane	13.30	84	451	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.08	57	1284	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252220.D Vial: 8
Acq On : 25 Apr 2022 18:01 Operator: SC
Sample : P2201682-002 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 10:11:46 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

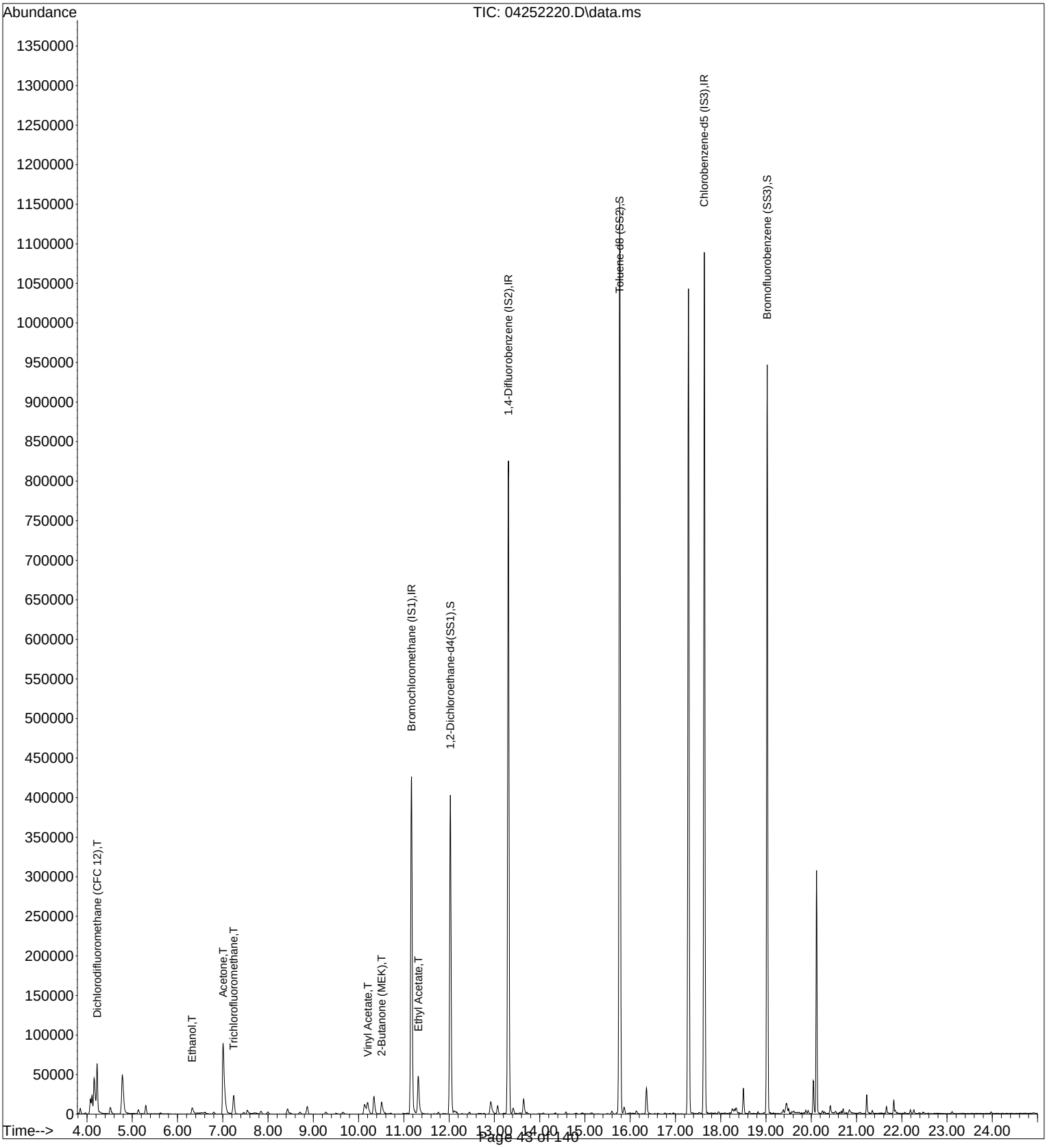
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.35	71	123	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.95	58	115	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.87	91	6317	N.D.		
59) 2-Hexanone	16.14	43	4827	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.76	43	1867	N.D.		
63) n-Octane	16.87	57	232	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.04	91	894	N.D.		
67) m- & p-Xylenes	18.19	91	1747	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.52	104	375	N.D.		
70) o-Xylene	18.63	91	805	N.D.		
71) n-Nonane	18.82	43	1694	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.02	105	403	N.D.		
75) alpha-Pinene	19.50	93	2037	N.D.		
76) n-Propylbenzene	19.60	91	481	N.D.		
77) 3-Ethyltoluene	19.73	105	253	No Calib		#
78) 4-Ethyltoluene	19.73	105	253	N.D.		
79) 1,3,5-Trimethylbenzene	19.73	105	253	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.54	105	240	No Calib		#
82) 1,2,4-Trimethylbenzene	20.16	105	968	N.D.		
83) n-Decane	20.70	58	312	No Calib		#
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.54	105	240	N.D.		
88) 4-Isopropyltoluene (p-...	20.54	119	1300	N.D.		
89) 1,2,3-Trimethylbenzene	20.54	105	240	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.66	68	696	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.23	58	145	No Calib		#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.28	128	1307	N.D.		
96) n-Dodecane	22.07	58	438	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.63	55	382	No Calib		#
99) tert-Butylbenzene	20.11	119	5577	N.D.		
100) n-Butylbenzene	20.90	91	454	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252220.D Vial: 8
Acq On : 25 Apr 2022 18:01 Operator: SC
Sample : P2201682-002 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 10:11:46 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252220.D Vial: 8
Acq On : 25 Apr 2022 18:01 Operator: SC
Sample : P2201682-002 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 10:11:46 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/26/22

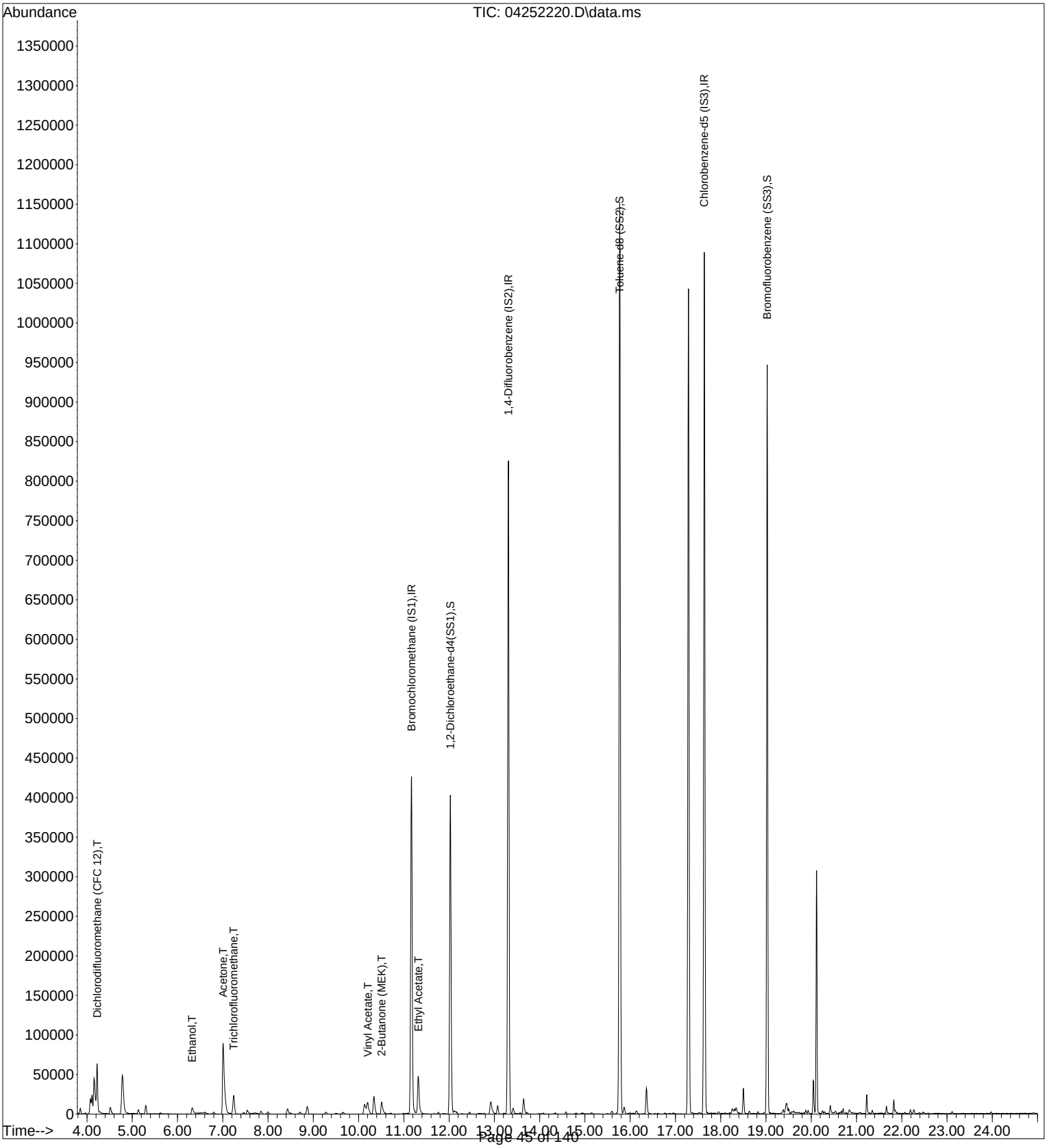
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	156803	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	698921	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	175778	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	309538	12.905	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%				
57) Toluene-d8 (SS2)	15.77	98	810573	12.655	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
73) Bromofluorobenzene (SS3)	19.03	174	264981	11.747	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.22	85	49522	1.672	ng		99
10) Ethanol	6.32	45	22494	1.425	ng		97
13) Acetone	7.01	58	36490m	2.937	ng		
14) Trichlorofluoromethane	7.24	101	22257	0.806	ng		99
26) Vinyl Acetate	10.20	86	2553	1.142	ng	#	21
27) 2-Butanone (MEK)	10.51	72	5180	0.597	ng	#	84
30) Ethyl Acetate	11.32	61	8012	1.292	ng		97

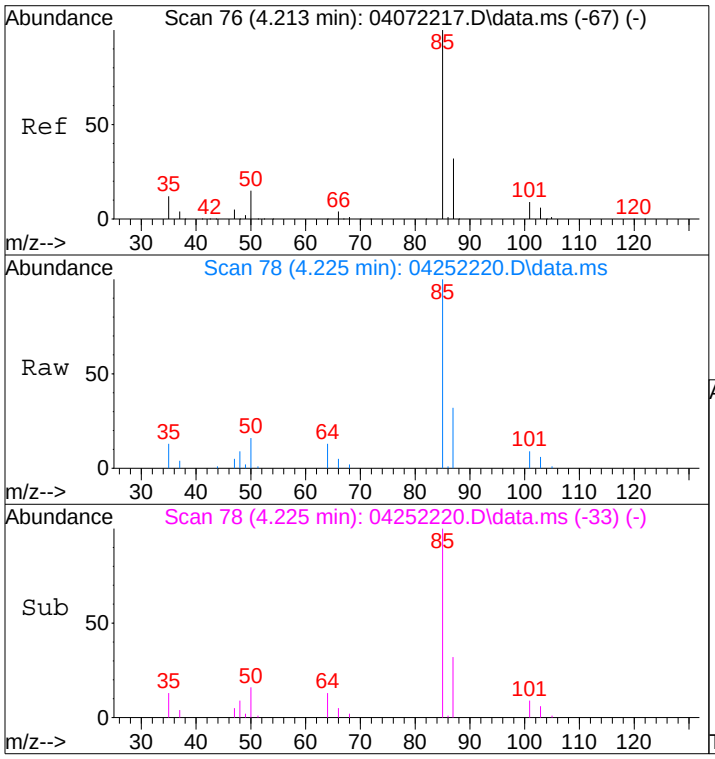
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252220.D Vial: 8
Acq On : 25 Apr 2022 18:01 Operator: SC
Sample : P2201682-002 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 10:11:46 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

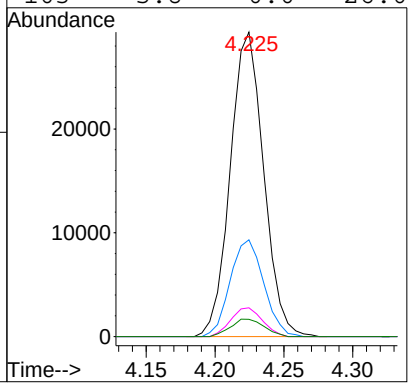


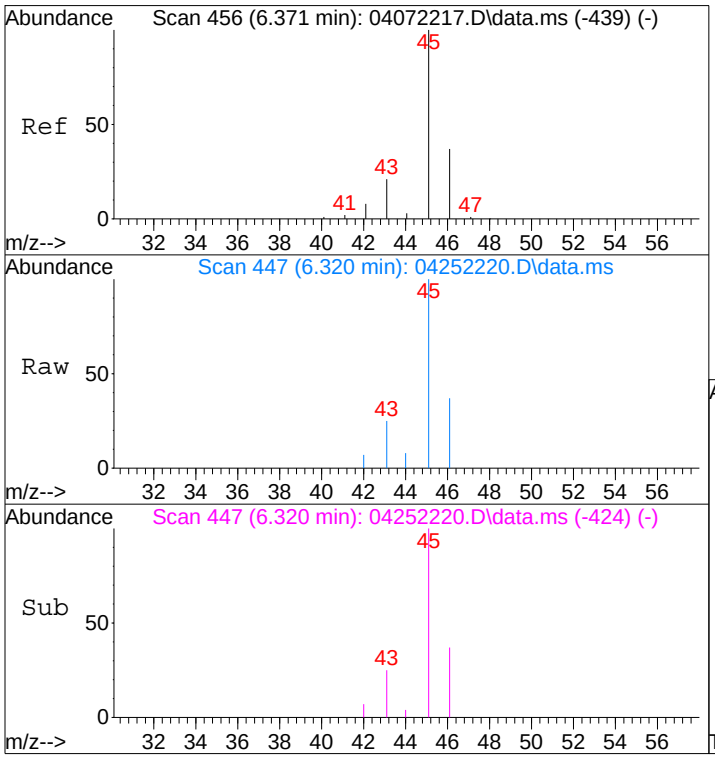


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.67 ng
RT: 4.22 min Scan# 78
Delta R.T. 0.006 min
Lab File: 04252220.D
Acq: 25 Apr 2022 18:01

Tgt Ion: 85 Resp: 49522

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.2	52.2
101	9.0	0.0	29.3
103	5.8	0.0	26.0

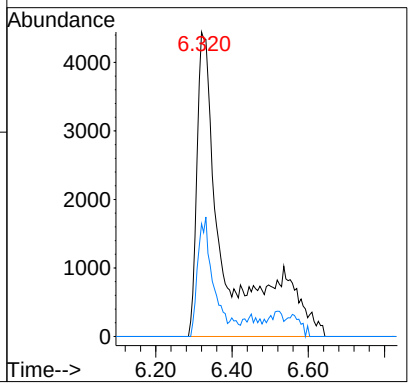


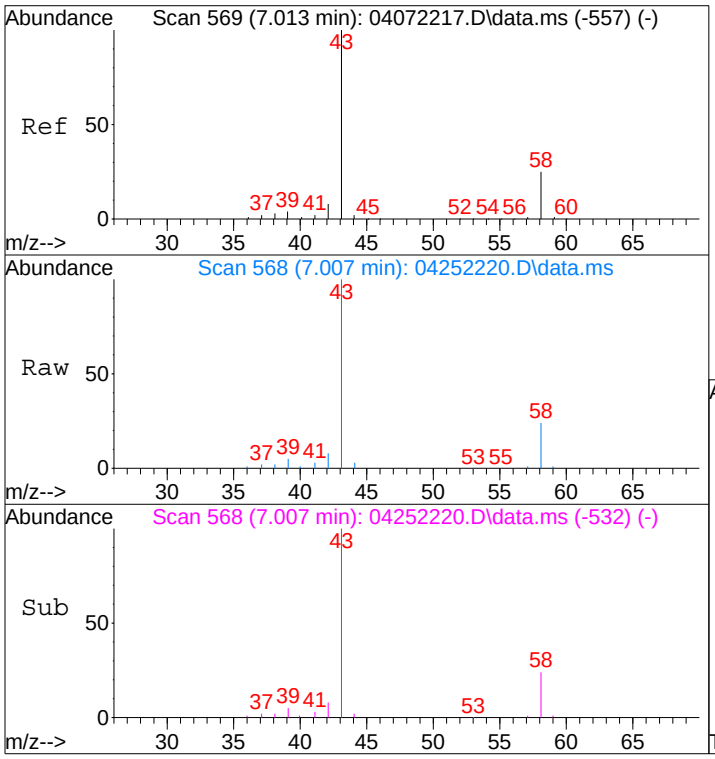


#10
Ethanol
Concen: 1.43 ng
RT: 6.32 min Scan# 447
Delta R.T. -0.119 min
Lab File: 04252220.D
Acq: 25 Apr 2022 18:01

Tgt Ion: 45 Resp: 22494

Ion	Ratio	Lower	Upper
45	100		
46	35.0	16.7	56.7

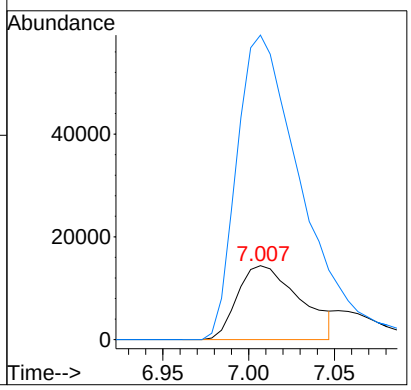


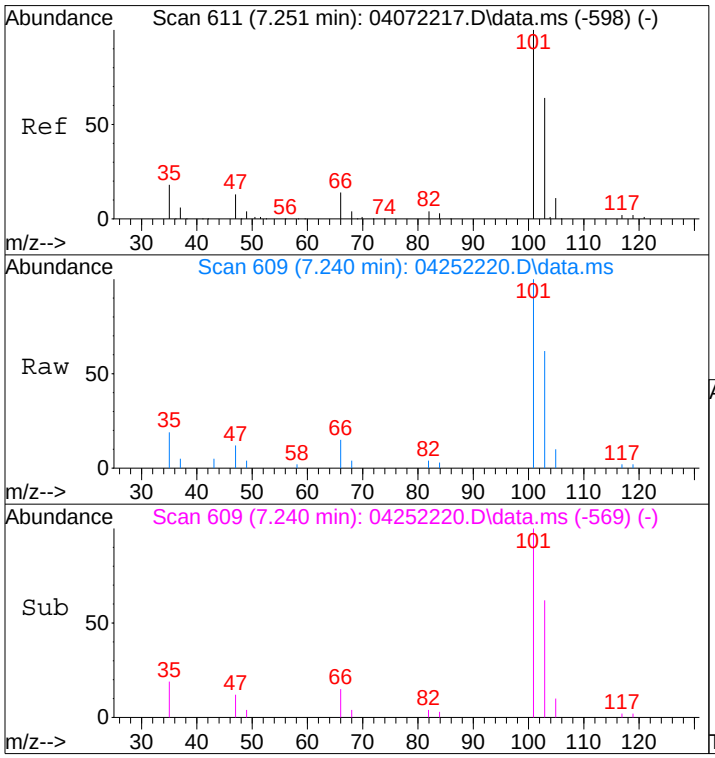


#13
Acetone
Concen: 2.94 ng m
RT: 7.01 min Scan# 568
Delta R.T. -0.045 min
Lab File: 04252220.D
Acq: 25 Apr 2022 18:01

Tgt Ion: 58 Resp: 36490

Ion	Ratio	Lower	Upper
58	100		
43	443.7	370.7	430.7#

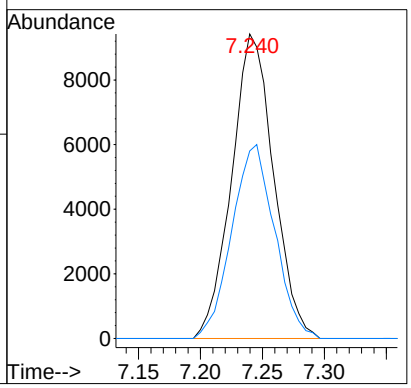


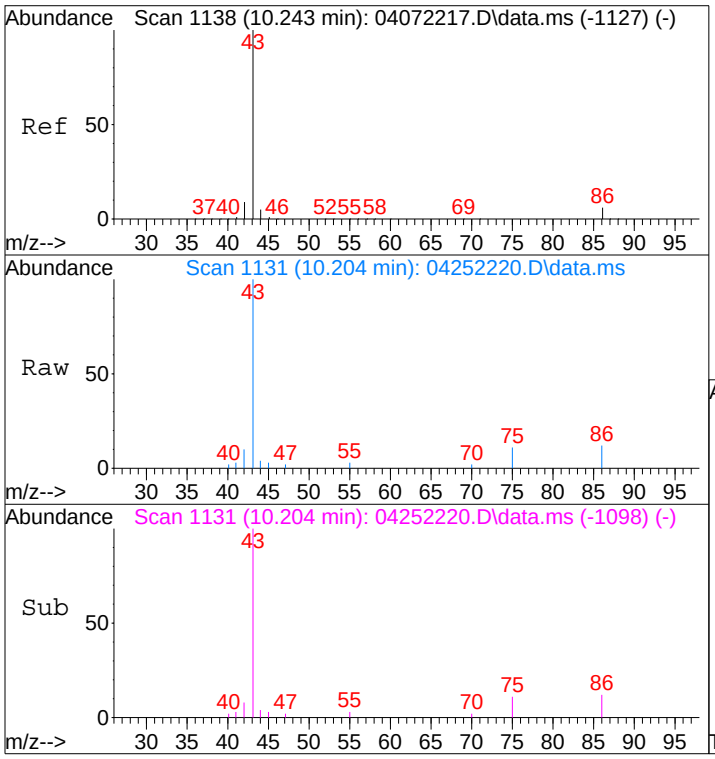


#14
Trichlorofluoromethane
Concen: 0.81 ng
RT: 7.24 min Scan# 609
Delta R.T. -0.023 min
Lab File: 04252220.D
Acq: 25 Apr 2022 18:01

Tgt Ion:101 Resp: 22257

Ion	Ratio	Lower	Upper
101	100		
103	65.0	43.8	83.8

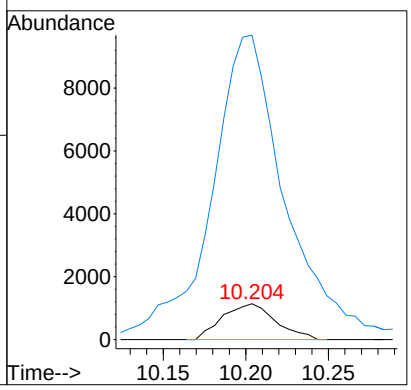


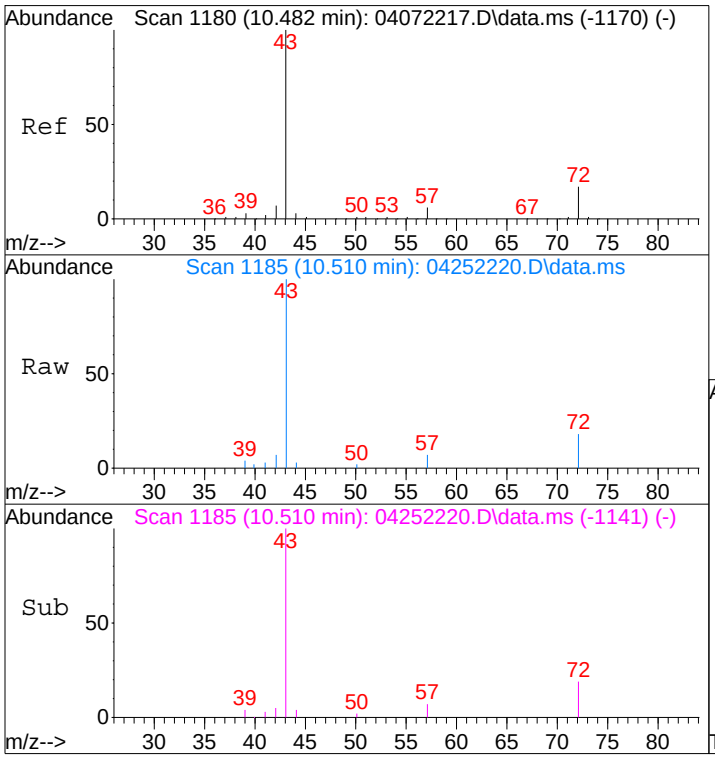


#26
Vinyl Acetate
Concen: 1.14 ng
RT: 10.20 min Scan# 1131
Delta R.T. -0.062 min
Lab File: 04252220.D
Acq: 25 Apr 2022 18:01

Tgt Ion: 86 Resp: 2553

Ion	Ratio	Lower	Upper
86	100		
43	1191.0	1690.9	1730.9#

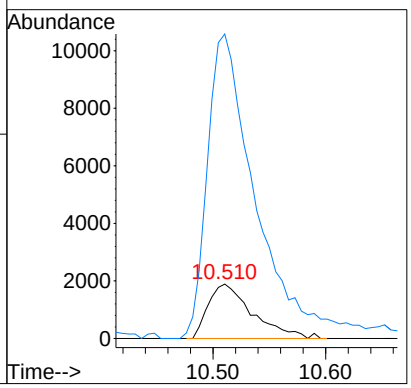


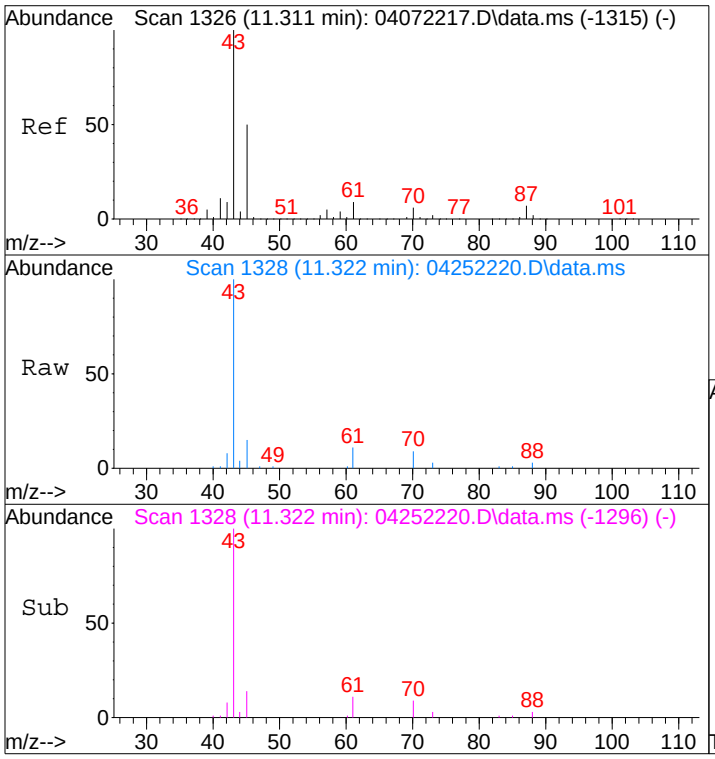


#27
2-Butanone (MEK)
Concen: 0.60 ng
RT: 10.51 min Scan# 1185
Delta R.T. 0.000 min
Lab File: 04252220.D
Acq: 25 Apr 2022 18:01

Tgt Ion: 72 Resp: 5180

Ion	Ratio	Lower	Upper
72	100		
43	633.3	565.1	605.1#

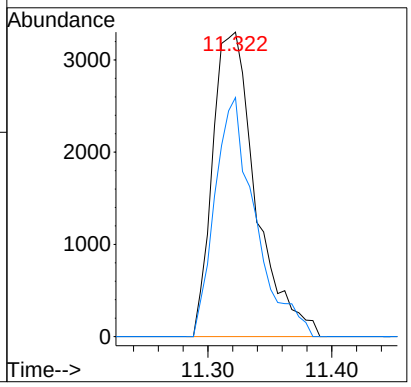




#30
Ethyl Acetate
Concen: 1.29 ng
RT: 11.32 min Scan# 1328
Delta R.T. -0.017 min
Lab File: 04252220.D
Acq: 25 Apr 2022 18:01

Tgt Ion: 61 Resp: 8012

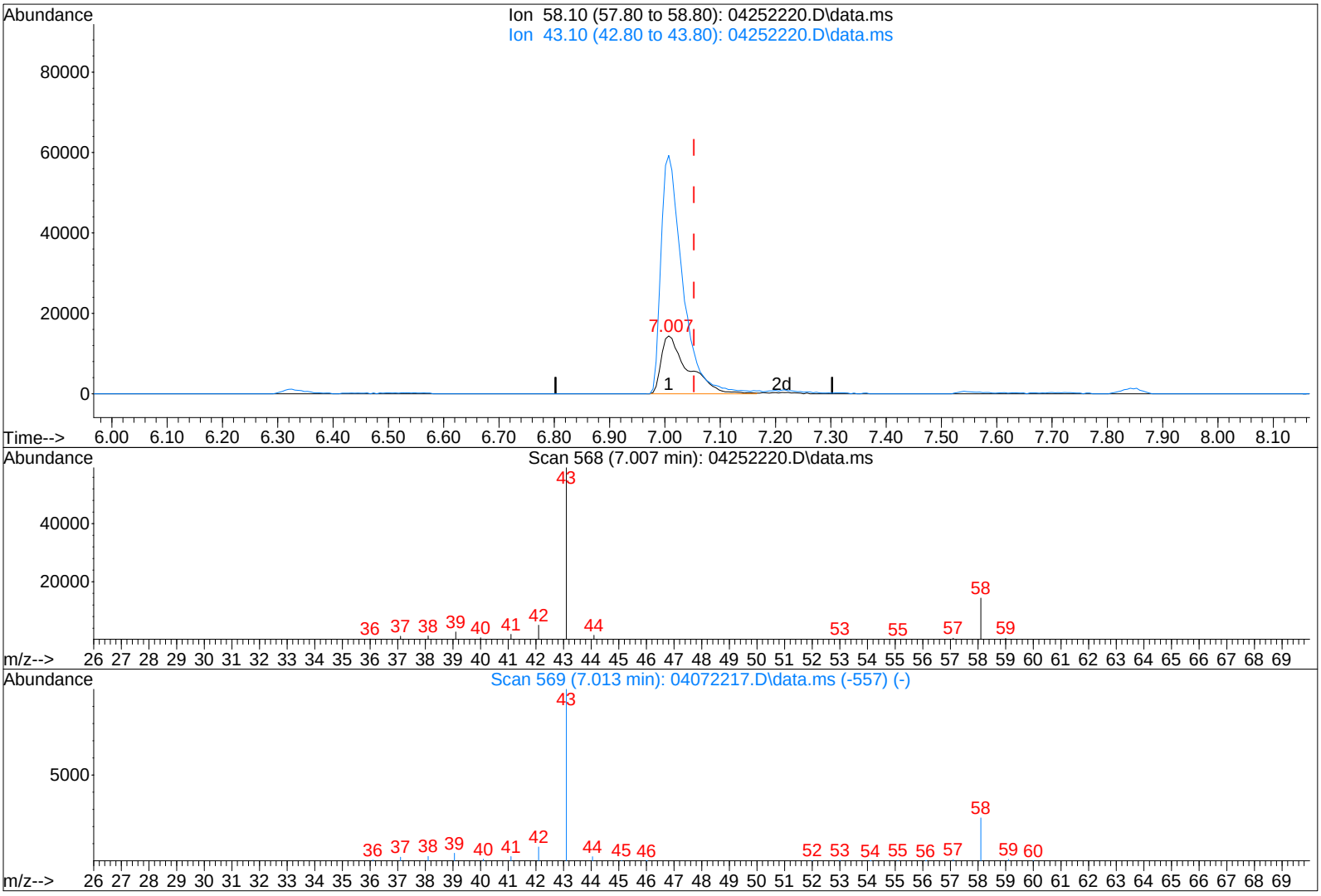
Ion	Ratio	Lower	Upper
61	100		
70	73.4	50.8	90.8



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 04\25\04252220.D Vial: 8
Acq On : 25 Apr 2022 18:01 Operator: SC
Sample : P2201682-002 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:10 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04252220.D\data.ms

(13) Acetone (T)

7.007min (-0.045) 3.89ng

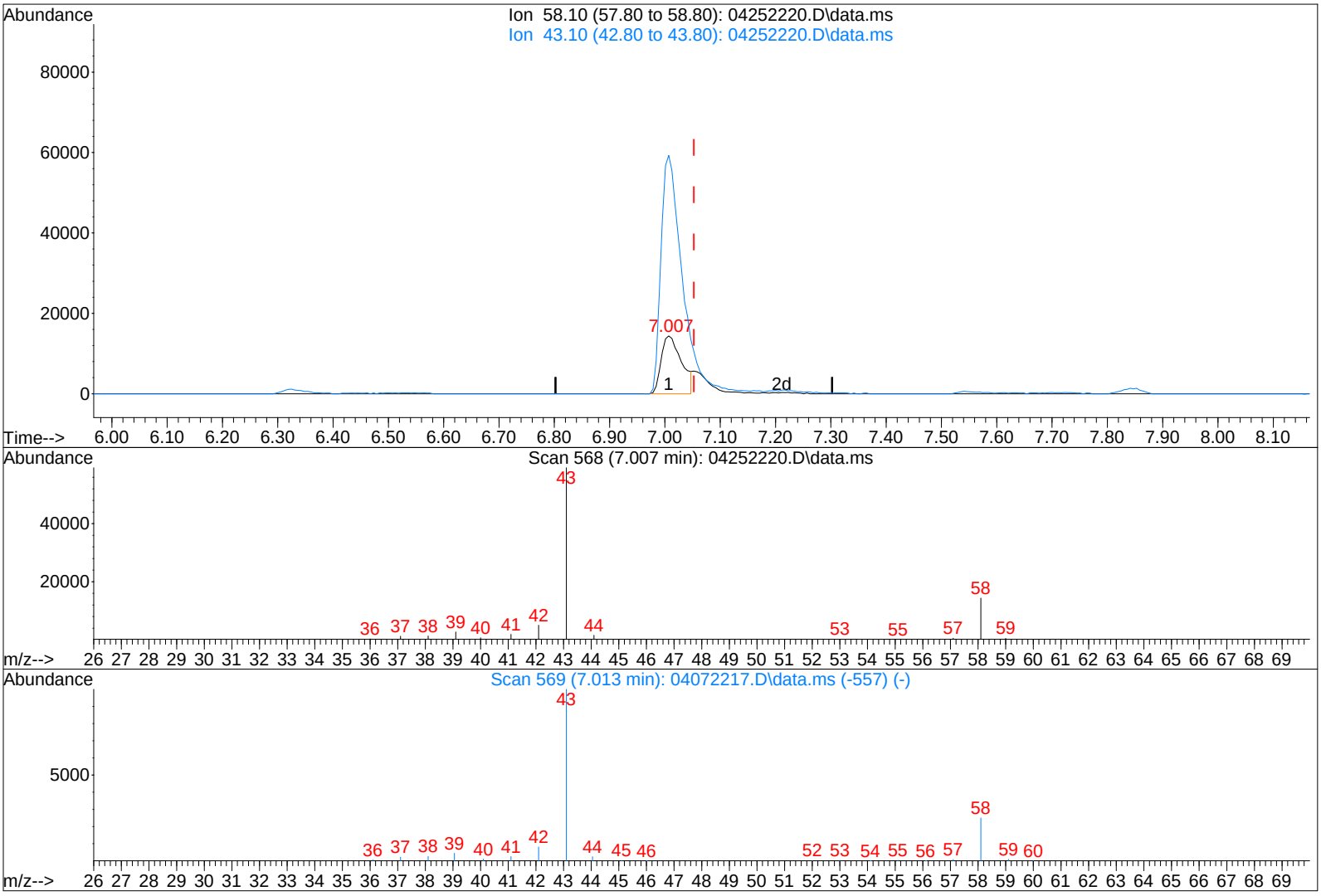
response 48339

Ion	Exp%	Act%
58.10	100	100
43.10	400.70	334.97#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 04\25\04252220.D Vial: 8
Acq On : 25 Apr 2022 18:01 Operator: SC
Sample : P2201682-002 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:10 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04252220.D\data.ms

(13) Acetone (T)

7.007min (-0.045) 2.94ng m

response 36490

Ion	Exp%	Act%
58.10	100	100
43.10	400.70	443.74#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

4/26/22

LH 4/27/22

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252221.D Vial: 9
Acq On : 25 Apr 2022 18:34 Operator: SC
Sample : P2201682-003 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 10:13:43 2022 4/26/22
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	155217	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	694545	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	174349	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	308206	12.981	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
57) Toluene-d8 (SS2)	15.77	98	805178	12.674	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
73) Bromofluorobenzene (SS3)	19.03	174	263575	11.780	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
Target Compounds							Qvalue
2) Propene	4.09	42	1795	N.D.			
3) Dichlorodifluoromethan...	4.22	85	48845	1.666	ng		99
4) Chloromethane	4.52	50	8733	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	963	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	19238	1.231	ng		71
11) Acetonitrile	6.60	41	3396	N.D.			
12) Acrolein	6.80	56	1770	N.D.			
13) Acetone	7.00	58	65608	5.334	ng		94
14) Trichlorofluoromethane	7.25	101	22148	0.811	ng		100
15) 2-Propanol (Isopropanol)	7.54	45	19103	N.D.			
16) Acrylonitrile	7.99	53	1151	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.47	59	90	N.D.			
19) Methylene Chloride	8.43	84	2986	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.87	151	4037	N.D.			
22) Carbon Disulfide	8.72	76	1429	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.51	72	4384	0.510	ng	#	79
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.31	87	1304	N.D.			
30) Ethyl Acetate	11.30	61	88045	14.347	ng		97
31) n-Hexane	11.29	57	981	N.D.			
32) Chloroform	11.34	83	1189	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	852	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.31	61	23738	No Calib			
40) 1-Butanol	12.93	56	3853	No Calib		#	
41) Benzene	12.91	78	11427	N.D.			
42) Carbon Tetrachloride	13.07	117	5372	N.D.			
43) Cyclohexane	13.31	84	541	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.77	63	118	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.08	57	1203	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252221.D Vial: 9
Acq On : 25 Apr 2022 18:34 Operator: SC
Sample : P2201682-003 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 10:13:43 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

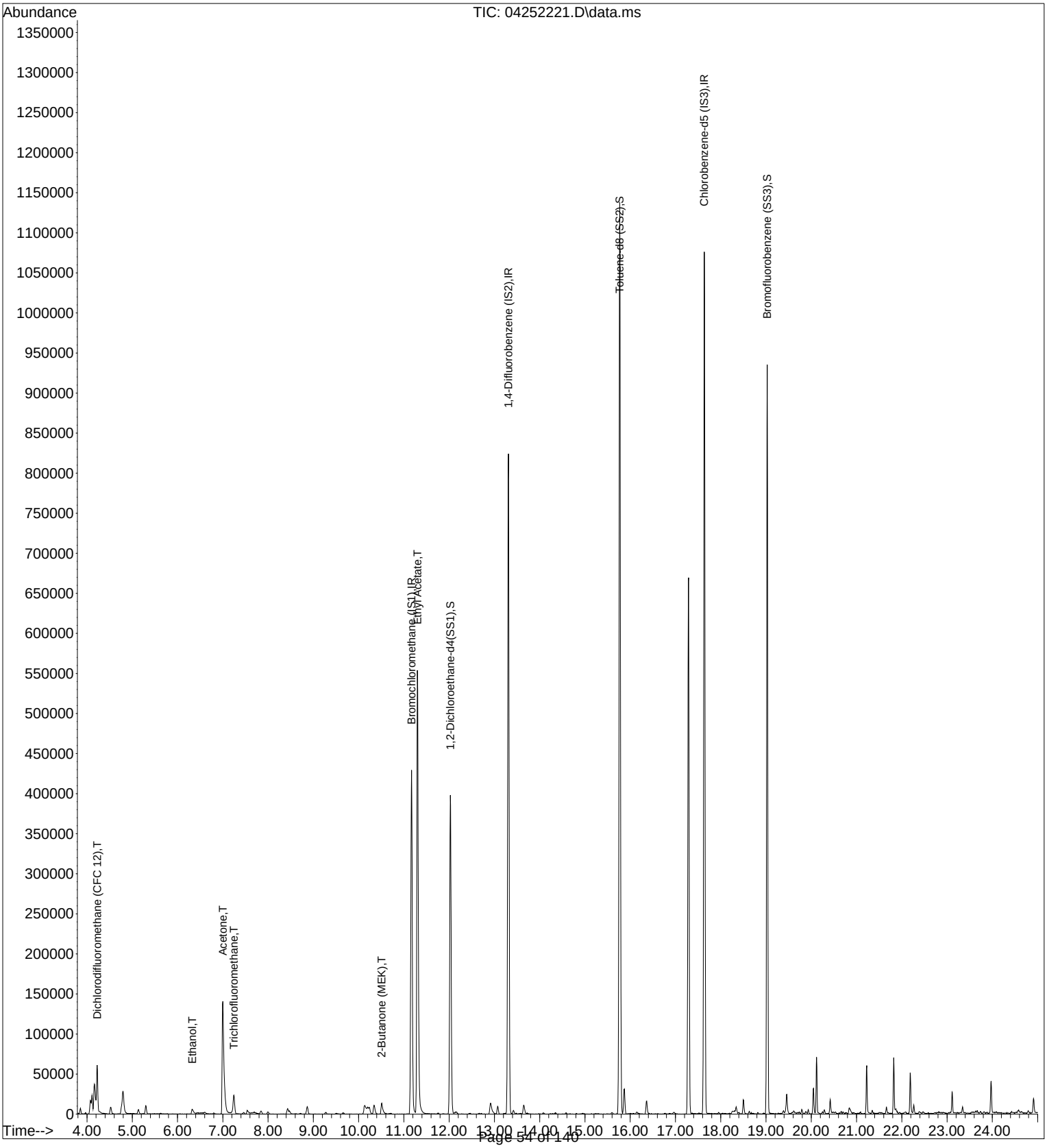
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	115	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.87	91	24702	N.D.	
59) 2-Hexanone	16.14	43	3020	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.77	43	1390	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	17.03	166	111	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.03	91	603	N.D.	
67) m- & p-Xylenes	18.19	91	1357	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.53	104	398	N.D.	
70) o-Xylene	18.62	91	517	N.D.	
71) n-Nonane	18.82	43	1336	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.02	105	318	N.D.	
75) alpha-Pinene	19.50	93	314	N.D.	
76) n-Propylbenzene	19.60	91	577	N.D.	
77) 3-Ethyltoluene	19.73	105	307	No Calib	#
78) 4-Ethyltoluene	19.73	105	307	N.D.	
79) 1,3,5-Trimethylbenzene	19.79	105	121	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.53	105	305	No Calib	#
82) 1,2,4-Trimethylbenzene	20.16	105	824	N.D.	
83) n-Decane	20.41	58	352	No Calib	#
84) Benzyl Chloride	20.28	91	160	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.53	105	305	N.D.	
88) 4-Isopropyltoluene (p-...	20.54	119	778	N.D.	
89) 1,2,3-Trimethylbenzene	20.53	105	305	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.66	68	707	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.22	58	708	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.28	128	1492	N.D.	
96) n-Dodecane	22.19	58	429	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.65	55	432	No Calib	#
99) tert-Butylbenzene	20.12	119	1323	N.D.	
100) n-Butylbenzene	20.91	91	348	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252221.D Vial: 9
Acq On : 25 Apr 2022 18:34 Operator: SC
Sample : P2201682-003 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 10:13:43 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252221.D Vial: 9
Acq On : 25 Apr 2022 18:34 Operator: SC
Sample : P2201682-003 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 10:13:43 2022 4/26/22
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

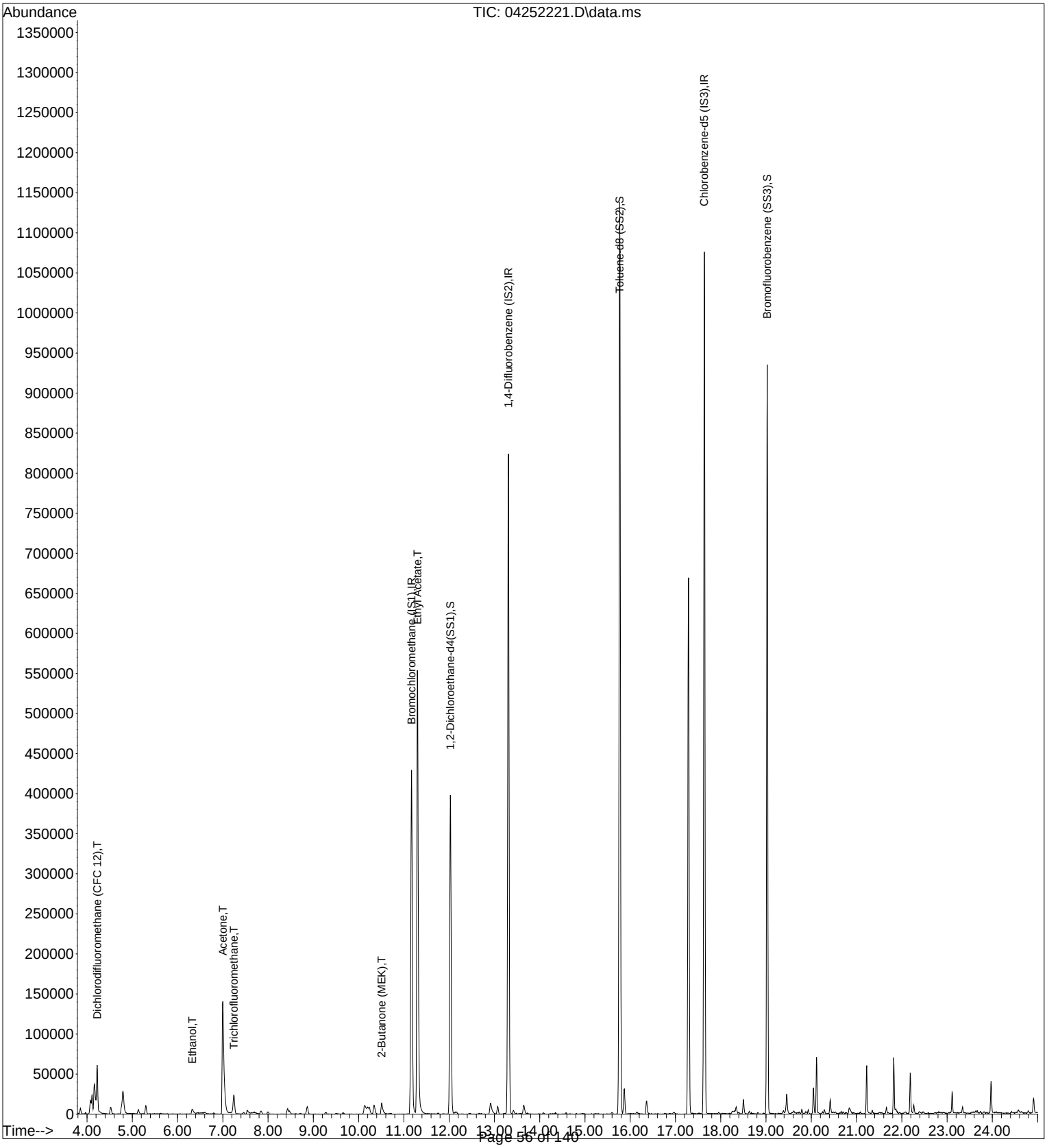
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	155217	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	694545	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	174349	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	308206	12.981	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
57) Toluene-d8 (SS2)	15.77	98	805178	12.674	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
73) Bromofluorobenzene (SS3)	19.03	174	263575	11.780	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.22	85	48845	1.666	ng		99
10) Ethanol	6.33	45	19238	1.231	ng		71
13) Acetone	7.00	58	65608	5.334	ng		94
14) Trichlorofluoromethane	7.25	101	22148	0.811	ng		100
27) 2-Butanone (MEK)	10.51	72	4384	0.510	ng	#	79
30) Ethyl Acetate	11.30	61	88045	14.347	ng		97

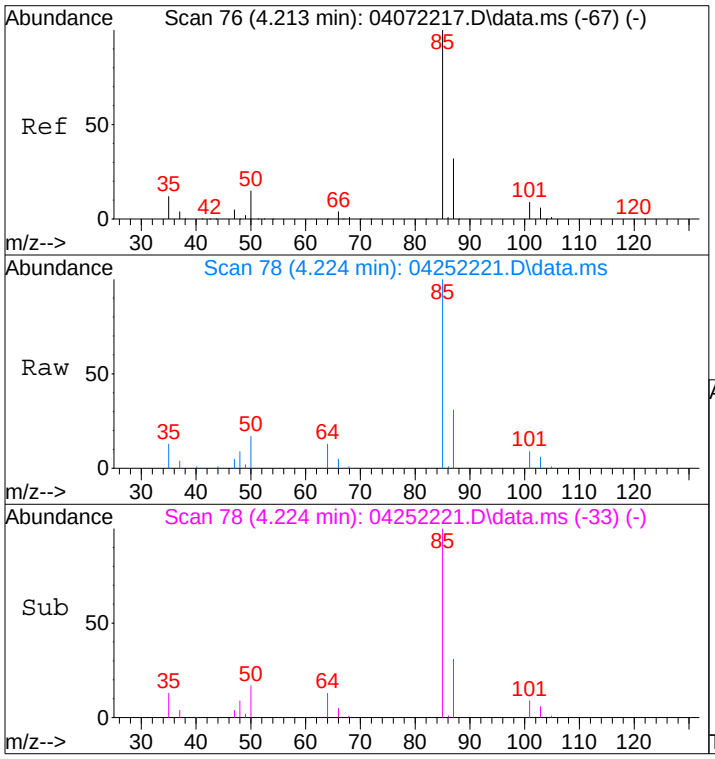
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252221.D Vial: 9
Acq On : 25 Apr 2022 18:34 Operator: SC
Sample : P2201682-003 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 10:13:43 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

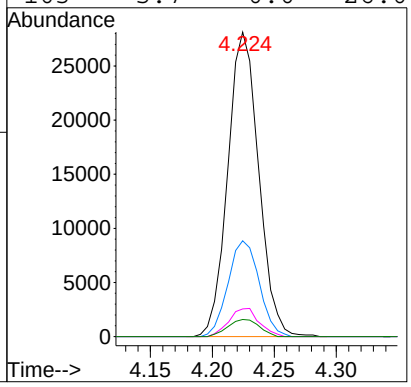


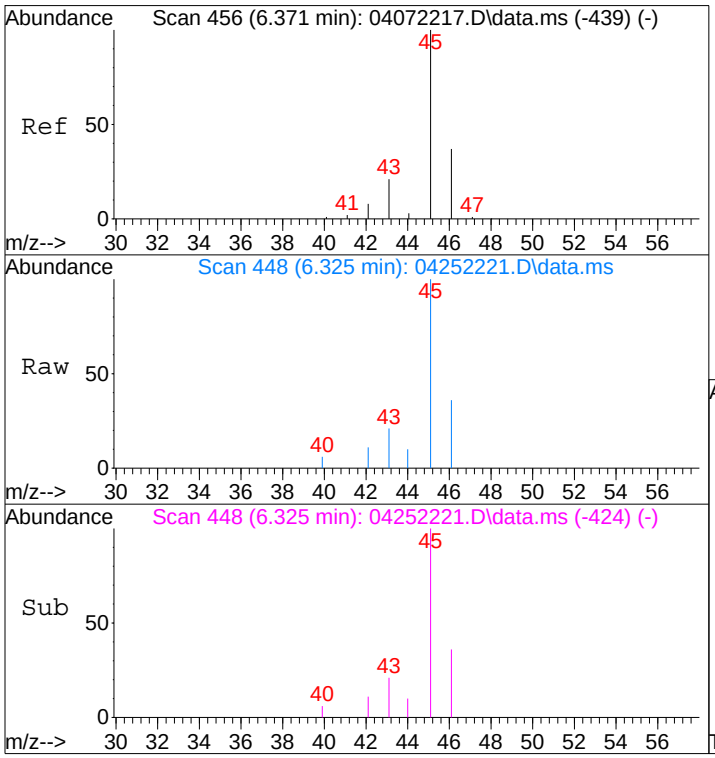


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.67 ng
RT: 4.22 min Scan# 78
Delta R.T. 0.006 min
Lab File: 04252221.D
Acq: 25 Apr 2022 18:34

Tgt Ion: 85 Resp: 48845

Ion	Ratio	Lower	Upper
85	100		
87	31.7	12.2	52.2
101	9.1	0.0	29.3
103	5.7	0.0	26.0

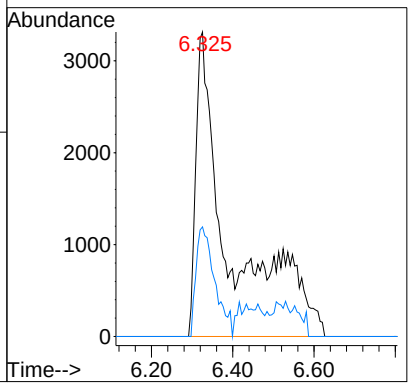


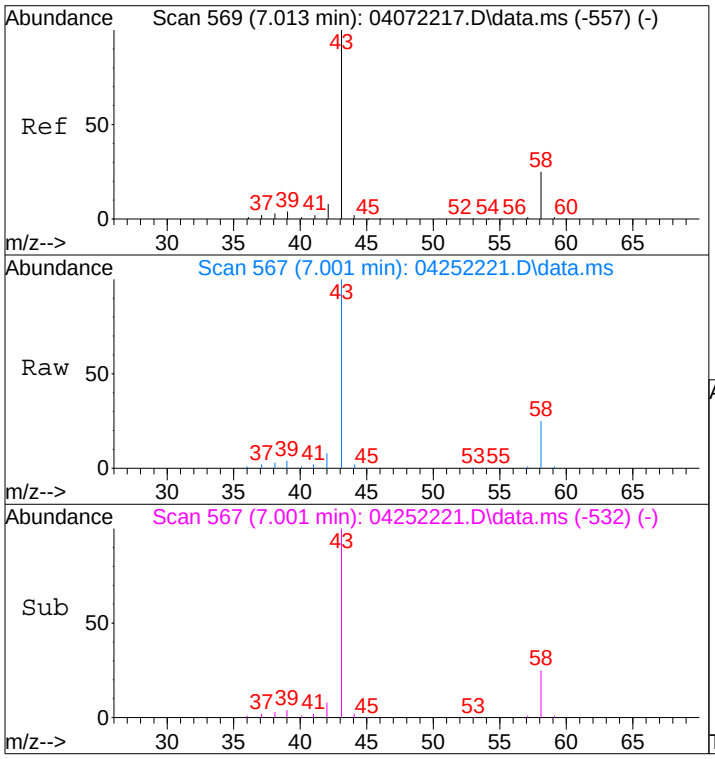


#10
Ethanol
Concen: 1.23 ng
RT: 6.33 min Scan# 448
Delta R.T. -0.114 min
Lab File: 04252221.D
Acq: 25 Apr 2022 18:34

Tgt Ion: 45 Resp: 19238

Ion	Ratio	Lower	Upper
45	100		
46	19.8	16.7	56.7

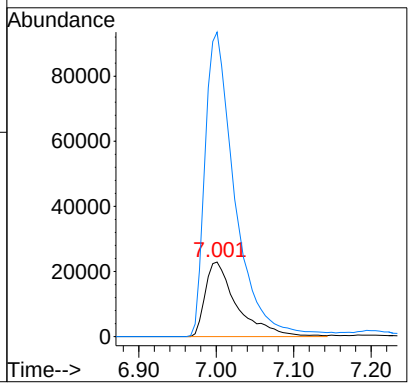


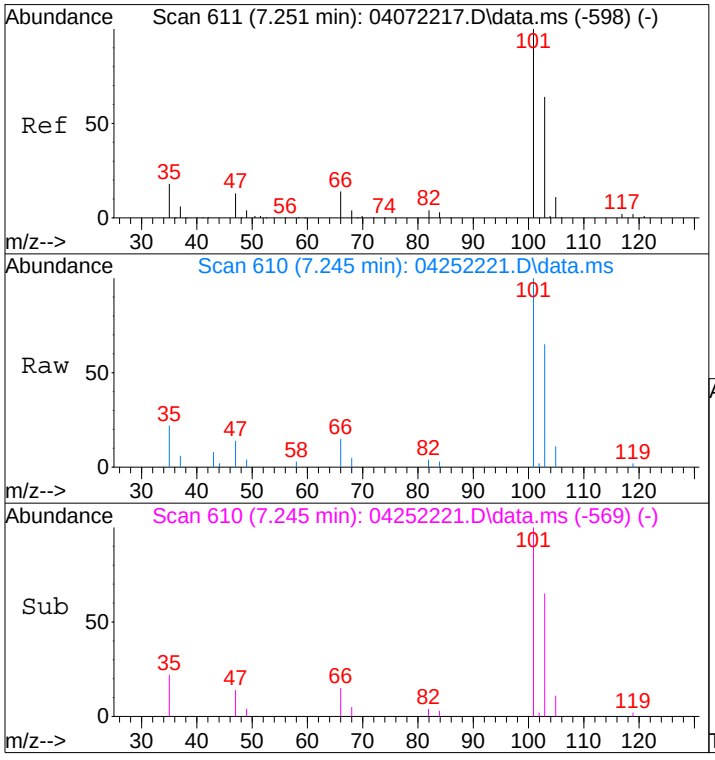


#13
Acetone
Concen: 5.33 ng
RT: 7.00 min Scan# 567
Delta R.T. -0.051 min
Lab File: 04252221.D
Acq: 25 Apr 2022 18:34

Tgt Ion: 58 Resp: 65608

Ion	Ratio	Lower	Upper
58	100		
43	385.6	370.7	430.7

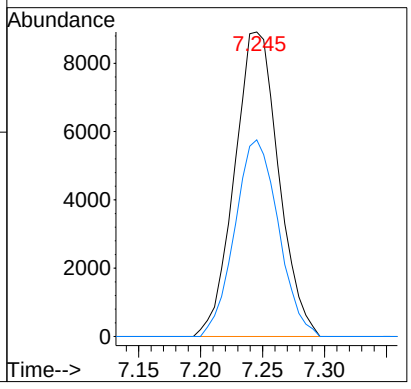


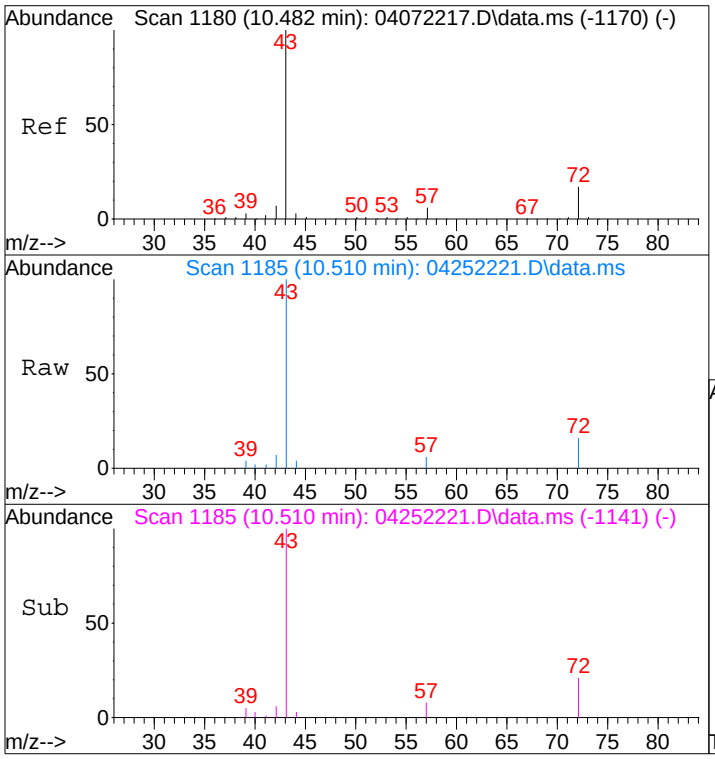


#14
Trichlorofluoromethane
Concen: 0.81 ng
RT: 7.25 min Scan# 610
Delta R.T. -0.017 min
Lab File: 04252221.D
Acq: 25 Apr 2022 18:34

Tgt Ion:101 Resp: 22148

Ion	Ratio	Lower	Upper
101	100		
103	63.7	43.8	83.8

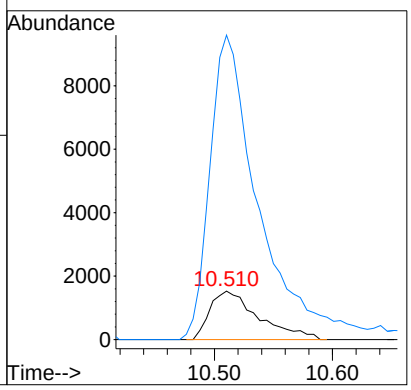


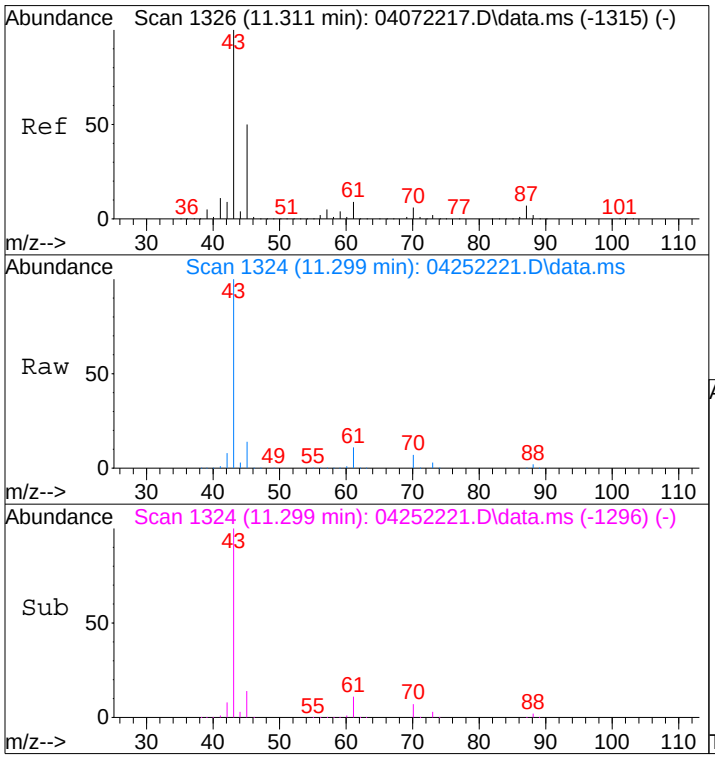


#27
2-Butanone (MEK)
Concen: 0.51 ng
RT: 10.51 min Scan# 1185
Delta R.T. 0.000 min
Lab File: 04252221.D
Acq: 25 Apr 2022 18:34

Tgt Ion: 72 Resp: 4384

Ion	Ratio	Lower	Upper
72	100		
43	650.9	565.1	605.1#

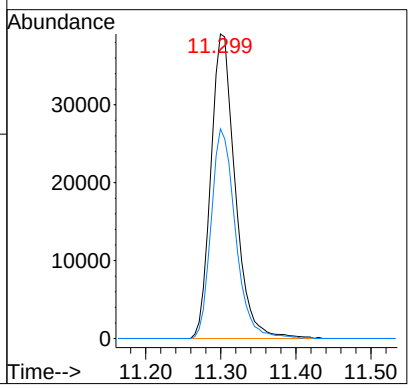




#30
Ethyl Acetate
Concen: 14.35 ng
RT: 11.30 min Scan# 1324
Delta R.T. -0.040 min
Lab File: 04252221.D
Acq: 25 Apr 2022 18:34

Tgt Ion: 61 Resp: 88045

Ion	Ratio	Lower	Upper
61	100		
70	68.7	50.8	90.8



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252222.D Vial: 10
Acq On : 25 Apr 2022 19:07 Operator: SC
Sample : P2201682-004 (1000mL) Inst : MS09
Misc : S35-04132201

4/26/22

Quant Time: Apr 26 08:17:36 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	153655	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	686069	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	172304	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	303523	12.914	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%			
57) Toluene-d8 (SS2)	15.77	98	789823	12.580	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%			
73) Bromofluorobenzene (SS3)	19.03	174	256028	11.579	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%			
Target Compounds						Qvalue
2) Propene	4.11	42	2469	N.D.		
3) Dichlorodifluoromethan...	4.22	85	46427	1.600	ng	99
4) Chloromethane	4.52	50	8197	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	949	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.34	45	18050	1.167	ng	99
11) Acetonitrile	6.60	41	4069	N.D.		
12) Acrolein	6.81	56	360	N.D.		
13) Acetone	7.02	58	22680	1.863	ng	97
14) Trichlorofluoromethane	7.25	101	21051	0.778	ng	99
15) 2-Propanol (Isopropanol)	7.56	45	9734	N.D.		
16) Acrylonitrile	8.00	53	168	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	8.43	84	3204	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	8.87	151	3773	N.D.		
22) Carbon Disulfide	8.72	76	1951	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.52	72	2658	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.32	87	114	N.D.		
30) Ethyl Acetate	11.31	61	21289	3.504	ng	97
31) n-Hexane	11.29	57	736	N.D.		
32) Chloroform	11.34	83	1011	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.14	62	903	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	13.31	61	23796	No Calib		
40) 1-Butanol	12.94	56	4217	No Calib	#	
41) Benzene	12.92	78	8592	N.D.		
42) Carbon Tetrachloride	13.07	117	5738	N.D.		
43) Cyclohexane	13.30	84	560	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.08	57	1031	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252222.D Vial: 10
Acq On : 25 Apr 2022 19:07 Operator: SC
Sample : P2201682-004 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:36 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

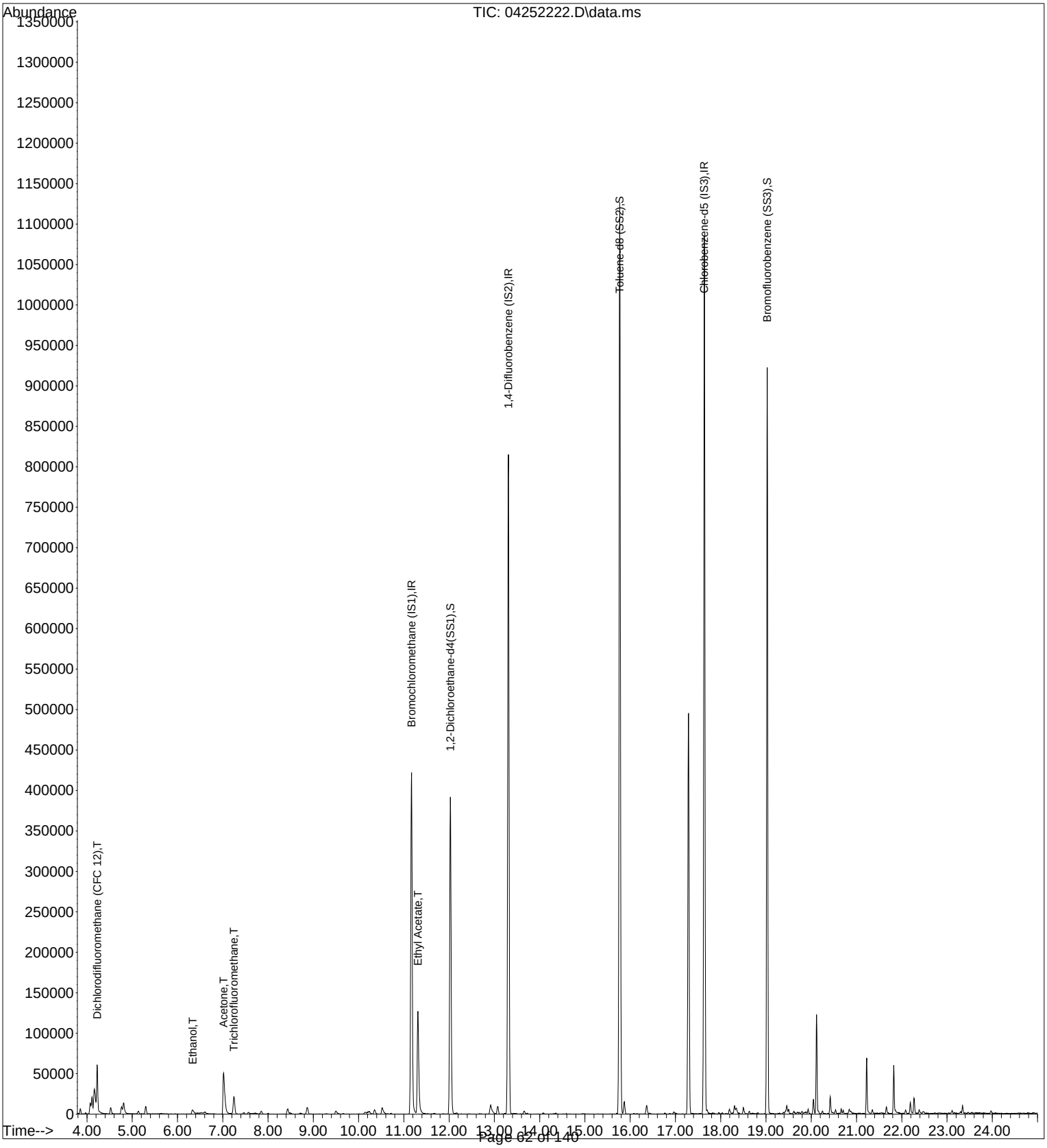
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.87	91	11723	N.D.	
59) 2-Hexanone	16.15	43	867	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.76	43	1459	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.03	91	1568	N.D.	
67) m- & p-Xylenes	18.19	91	5150	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.53	104	548	N.D.	
70) o-Xylene	18.62	91	1746	N.D.	
71) n-Nonane	18.82	43	1215	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.03	105	408	N.D.	
75) alpha-Pinene	19.50	93	1906	N.D.	
76) n-Propylbenzene	19.61	91	775	N.D.	
77) 3-Ethyltoluene	19.73	105	602	No Calib	#
78) 4-Ethyltoluene	19.73	105	602	N.D.	
79) 1,3,5-Trimethylbenzene	19.80	105	486	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.53	105	551	No Calib	#
82) 1,2,4-Trimethylbenzene	20.16	105	2021	N.D.	
83) n-Decane	20.42	58	340	No Calib	#
84) Benzyl Chloride	20.16	91	121	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.53	105	551	N.D.	
88) 4-Isopropyltoluene (p-...	20.54	119	2070	N.D.	
89) 1,2,3-Trimethylbenzene	20.53	105	551	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.66	68	1312	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.23	58	690	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.28	128	12331	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.63	55	183	No Calib	#
99) tert-Butylbenzene	20.16	119	279	N.D.	
100) n-Butylbenzene	20.89	91	732	N.D.	
101) 1,1,1,2-Tetrachloroethane	17.61	131	245	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252222.D Vial: 10
Acq On : 25 Apr 2022 19:07 Operator: SC
Sample : P2201682-004 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:36 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252222.D Vial: 10
Acq On : 25 Apr 2022 19:07 Operator: SC
Sample : P2201682-004 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:36 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/26/22

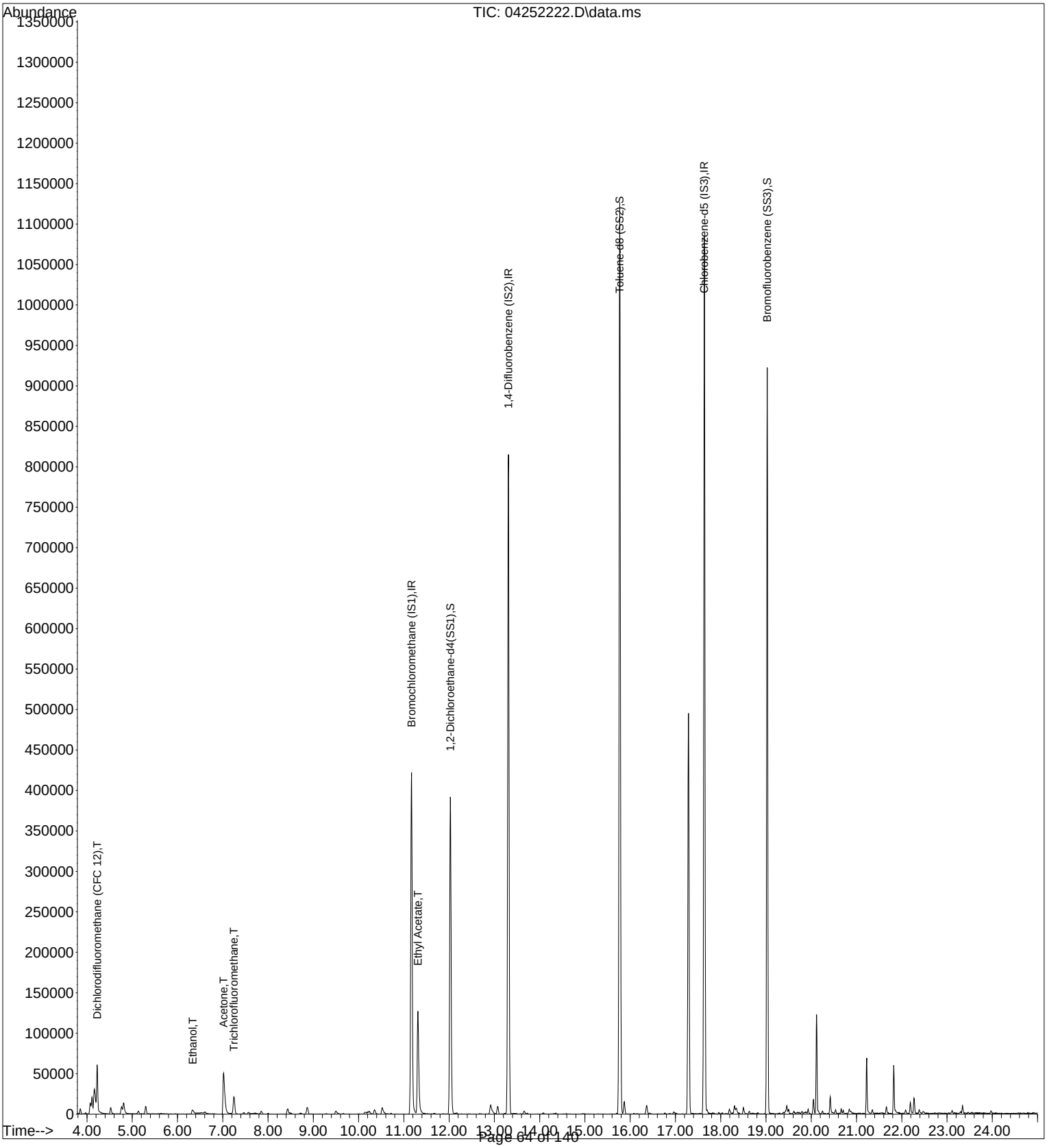
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	153655	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	686069	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	172304	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	303523	12.914	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%			
57) Toluene-d8 (SS2)	15.77	98	789823	12.580	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%			
73) Bromofluorobenzene (SS3)	19.03	174	256028	11.579	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.22	85	46427	1.600	ng	99
10) Ethanol	6.34	45	18050	1.167	ng	99
13) Acetone	7.02	58	22680	1.863	ng	97
14) Trichlorofluoromethane	7.25	101	21051	0.778	ng	99
30) Ethyl Acetate	11.31	61	21289	3.504	ng	97

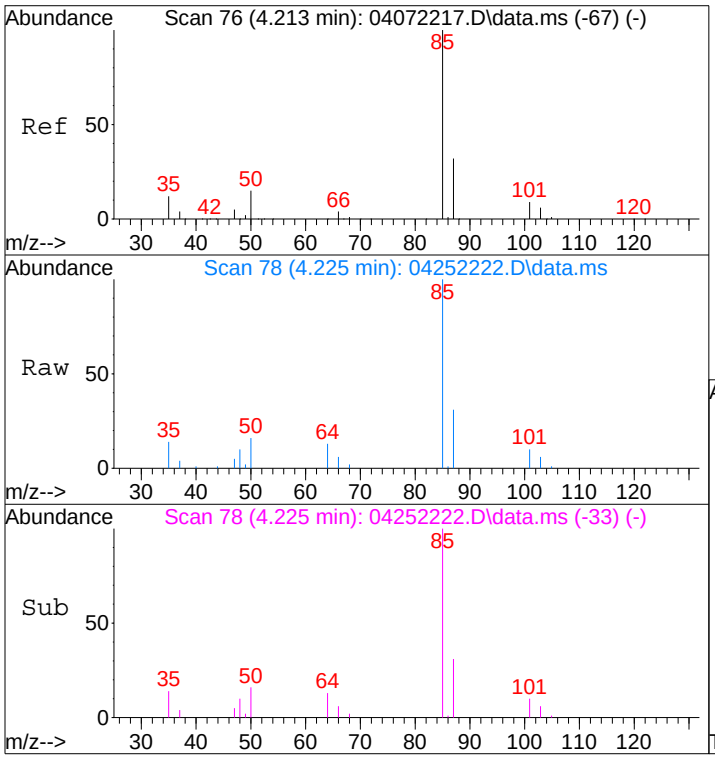
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252222.D Vial: 10
Acq On : 25 Apr 2022 19:07 Operator: SC
Sample : P2201682-004 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:36 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

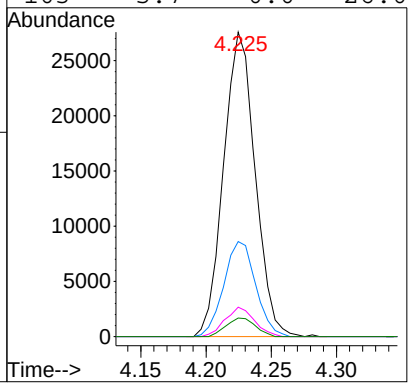


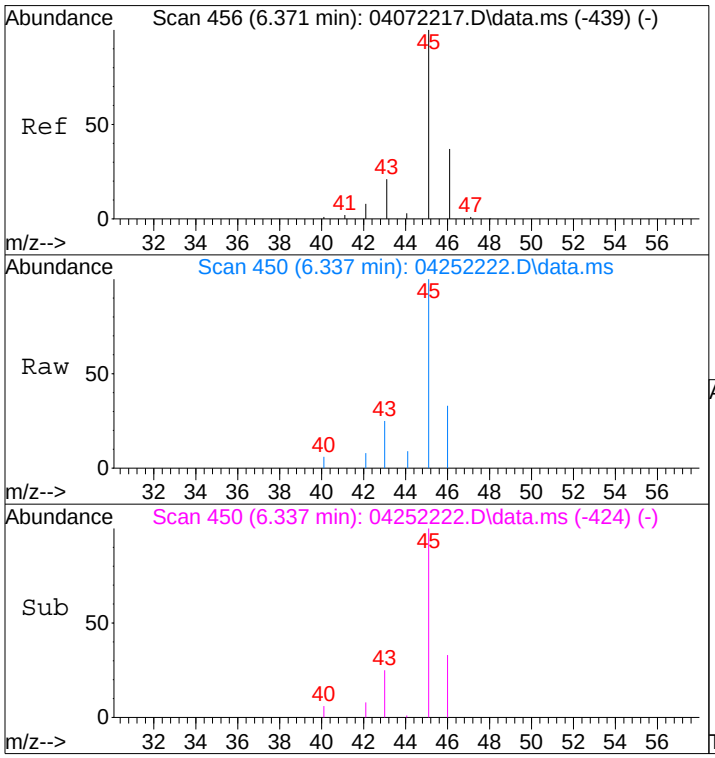


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.60 ng
RT: 4.22 min Scan# 78
Delta R.T. 0.006 min
Lab File: 04252222.D
Acq: 25 Apr 2022 19:07

Tgt Ion: 85 Resp: 46427

Ion	Ratio	Lower	Upper
85	100		
87	31.6	12.2	52.2
101	9.0	0.0	29.3
103	5.7	0.0	26.0

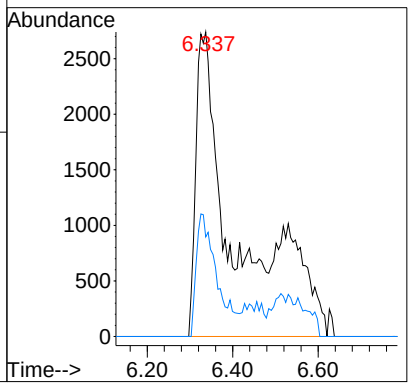


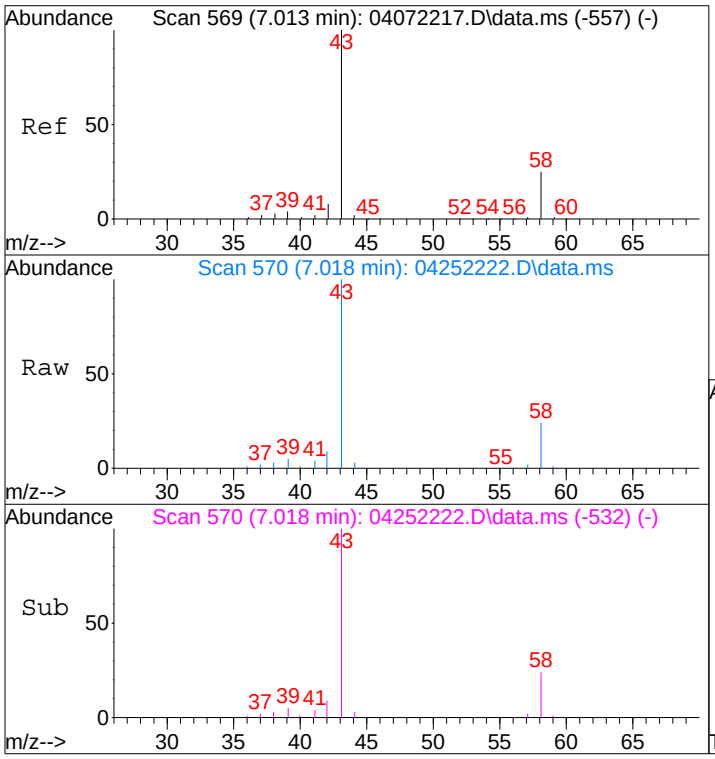


#10
Ethanol
Concen: 1.17 ng
RT: 6.34 min Scan# 450
Delta R.T. -0.102 min
Lab File: 04252222.D
Acq: 25 Apr 2022 19:07

Tgt Ion: 45 Resp: 18050

Ion	Ratio	Lower	Upper
45	100		
46	37.1	16.7	56.7

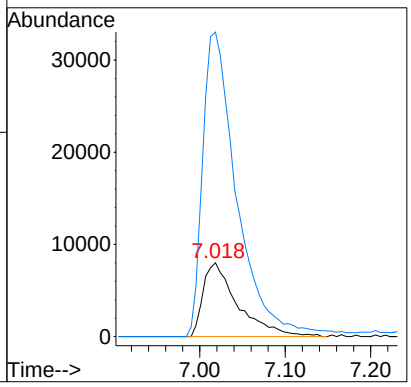


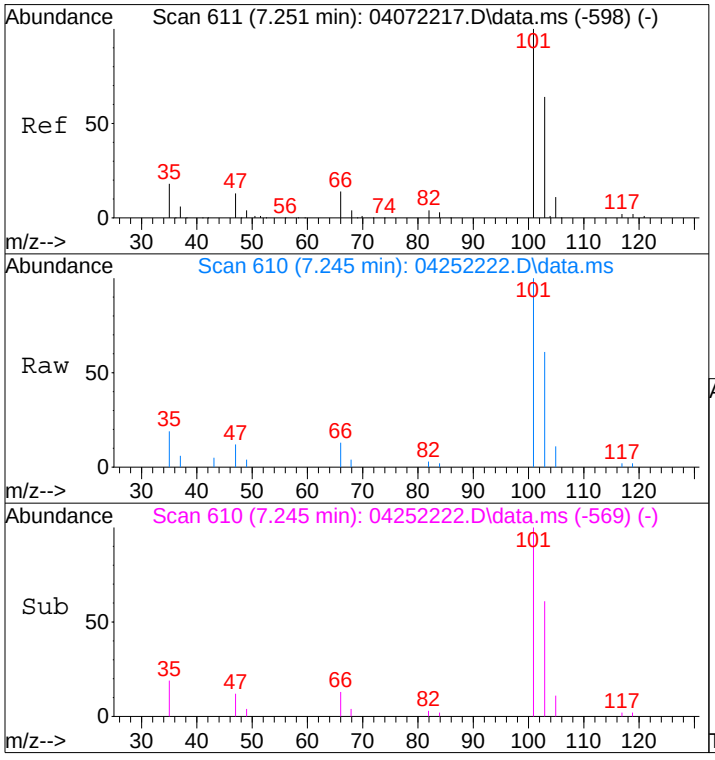


#13
Acetone
Concen: 1.86 ng
RT: 7.02 min Scan# 570
Delta R.T. -0.034 min
Lab File: 04252222.D
Acq: 25 Apr 2022 19:07

Tgt Ion: 58 Resp: 22680

Ion	Ratio	Lower	Upper
58	100		
43	408.7	370.7	430.7

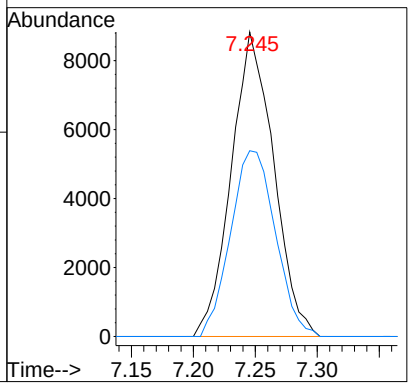


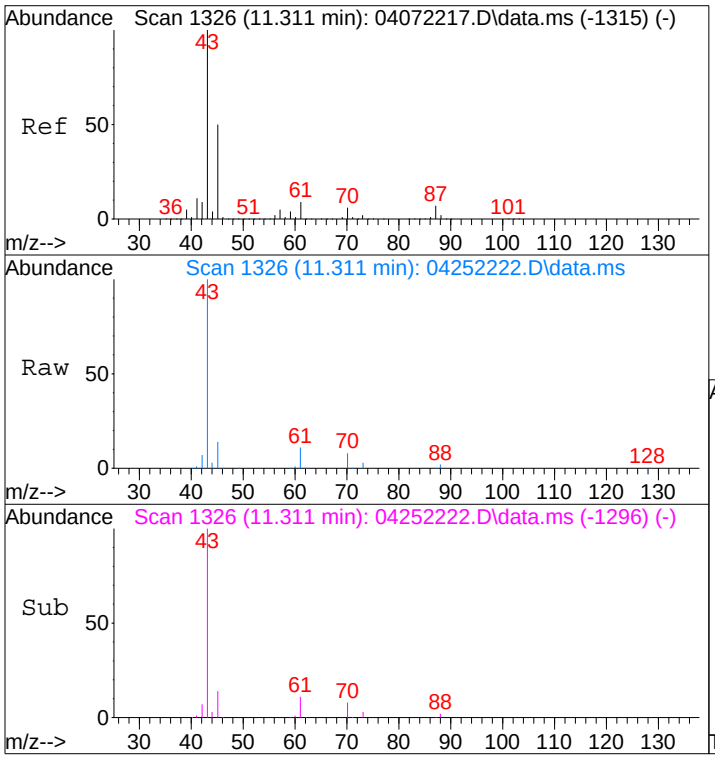


#14
Trichlorofluoromethane
Concen: 0.78 ng
RT: 7.25 min Scan# 610
Delta R.T. -0.017 min
Lab File: 04252222.D
Acq: 25 Apr 2022 19:07

Tgt Ion:101 Resp: 21051

Ion	Ratio	Lower	Upper
101	100		
103	64.5	43.8	83.8

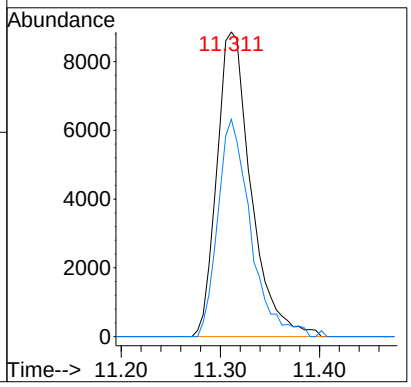




#30
Ethyl Acetate
Concen: 3.50 ng
RT: 11.31 min Scan# 1326
Delta R.T. -0.028 min
Lab File: 04252222.D
Acq: 25 Apr 2022 19:07

Tgt Ion: 61 Resp: 21289

Ion	Ratio	Lower	Upper
61	100		
70	68.0	50.8	90.8



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252223.D Vial: 11
Acq On : 25 Apr 2022 19:40 Operator: SC
Sample : P2201682-005 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:47 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/26/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	156913	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	696984	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	177579	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	310843	12.951	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%			
57) Toluene-d8 (SS2)	15.77	98	812122	12.551	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%			
73) Bromofluorobenzene (SS3)	19.03	174	264560	11.609	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%			
Target Compounds						Qvalue
2) Propene	4.11	42	2623	N.D.		
3) Dichlorodifluoromethan...	4.22	85	47688	1.609	ng	99
4) Chloromethane	4.52	50	8159	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	943	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.31	45	24664	1.561	ng	92
11) Acetonitrile	6.68	41	142	N.D.		
12) Acrolein	6.80	56	1150	N.D.		
13) Acetone	7.00	58	33845	2.722	ng	99
14) Trichlorofluoromethane	7.24	101	21535	0.780	ng	99
15) 2-Propanol (Isopropanol)	7.55	45	8237	N.D.		
16) Acrylonitrile	8.01	53	217	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.61	59	51	N.D.		
19) Methylene Chloride	8.43	84	3100	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	8.86	151	3800	N.D.		
22) Carbon Disulfide	8.71	76	1917	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.24	86	582	N.D.		
27) 2-Butanone (MEK)	10.52	72	2970	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.30	87	865	N.D.		
30) Ethyl Acetate	11.30	61	64273	10.360	ng	98
31) n-Hexane	11.29	57	897	N.D.		
32) Chloroform	11.34	83	1074	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.14	62	834	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	13.31	61	23903	No Calib		
40) 1-Butanol	12.94	56	3384	No Calib	#	
41) Benzene	12.91	78	10711	N.D.		
42) Carbon Tetrachloride	13.08	117	5809	N.D.		
43) Cyclohexane	13.30	84	514	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.09	57	1177	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252223.D Vial: 11
Acq On : 25 Apr 2022 19:40 Operator: SC
Sample : P2201682-005 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:47 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

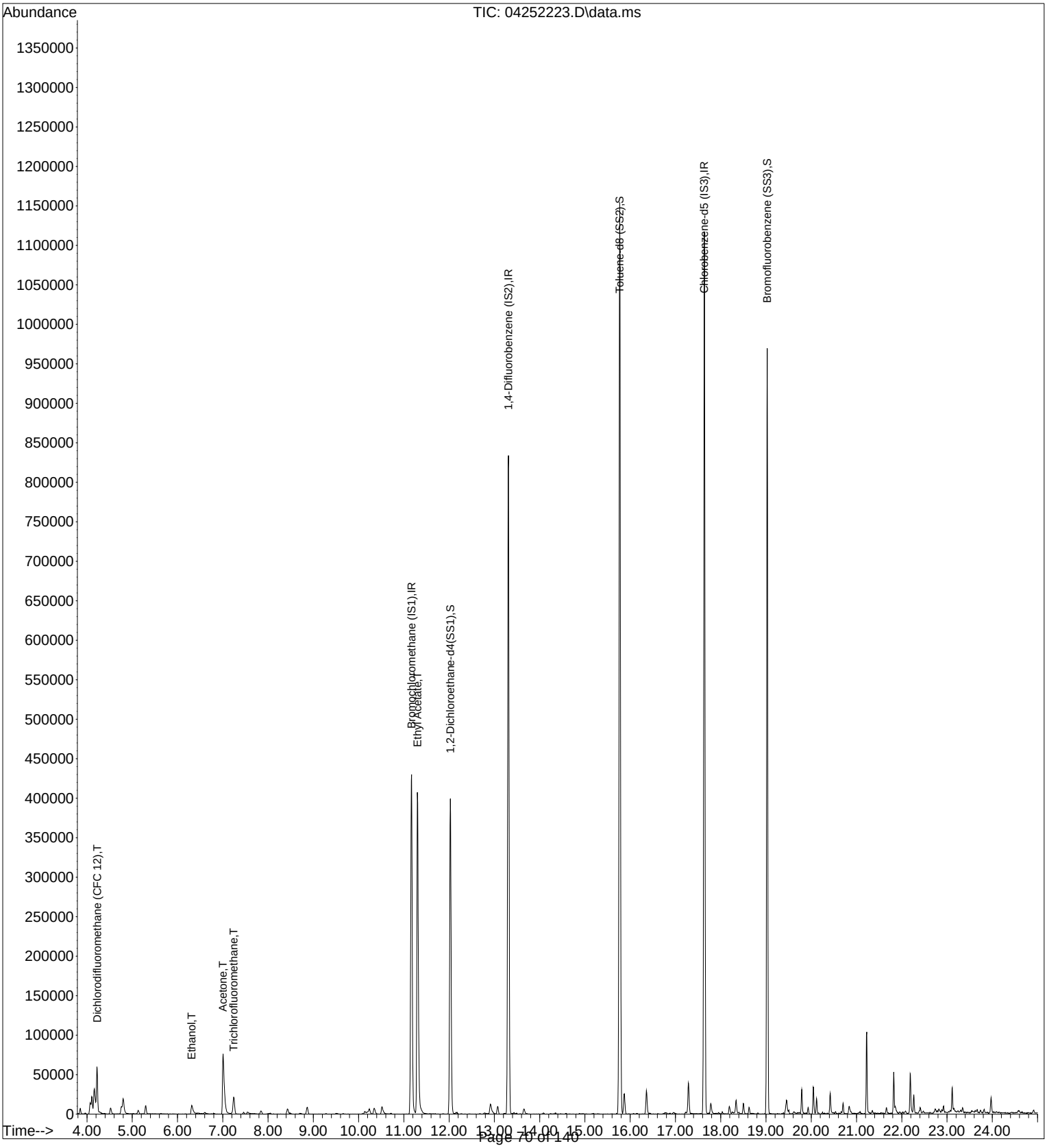
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.35	71	126	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.86	91	20694	N.D.		
59) 2-Hexanone	16.15	43	1232	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.77	43	2454	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	17.02	166	118	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.04	91	1877	N.D.		
67) m- & p-Xylenes	18.19	91	7685	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.54	104	271	N.D.		
70) o-Xylene	18.62	91	4446	N.D.		
71) n-Nonane	18.82	43	1255	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.02	105	408	N.D.		
75) alpha-Pinene	19.50	93	1643	N.D.		
76) n-Propylbenzene	19.61	91	355	N.D.		
77) 3-Ethyltoluene	19.73	105	313	No Calib		#
78) 4-Ethyltoluene	19.73	105	313	N.D.		
79) 1,3,5-Trimethylbenzene	19.79	105	128	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.53	105	228	No Calib		#
82) 1,2,4-Trimethylbenzene	20.16	105	873	N.D.		
83) n-Decane	20.41	58	487	No Calib		#
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	20.35	146	609	N.D.		
86) 1,4-Dichlorobenzene	20.35	146	609	N.D.		
87) sec-Butylbenzene	20.53	105	228	N.D.		
88) 4-Isopropyltoluene (p-...	20.54	119	1026	N.D.		
89) 1,2,3-Trimethylbenzene	20.53	105	228	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.66	68	764	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.23	58	1100	No Calib		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.28	128	1367	N.D.		
96) n-Dodecane	22.26	58	269	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.64	55	187	No Calib		#
99) tert-Butylbenzene	20.12	119	226	N.D.		
100) n-Butylbenzene	20.88	91	324	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252223.D Vial: 11
Acq On : 25 Apr 2022 19:40 Operator: SC
Sample : P2201682-005 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:47 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252223.D Vial: 11
Acq On : 25 Apr 2022 19:40 Operator: SC
Sample : P2201682-005 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:47 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/26/22

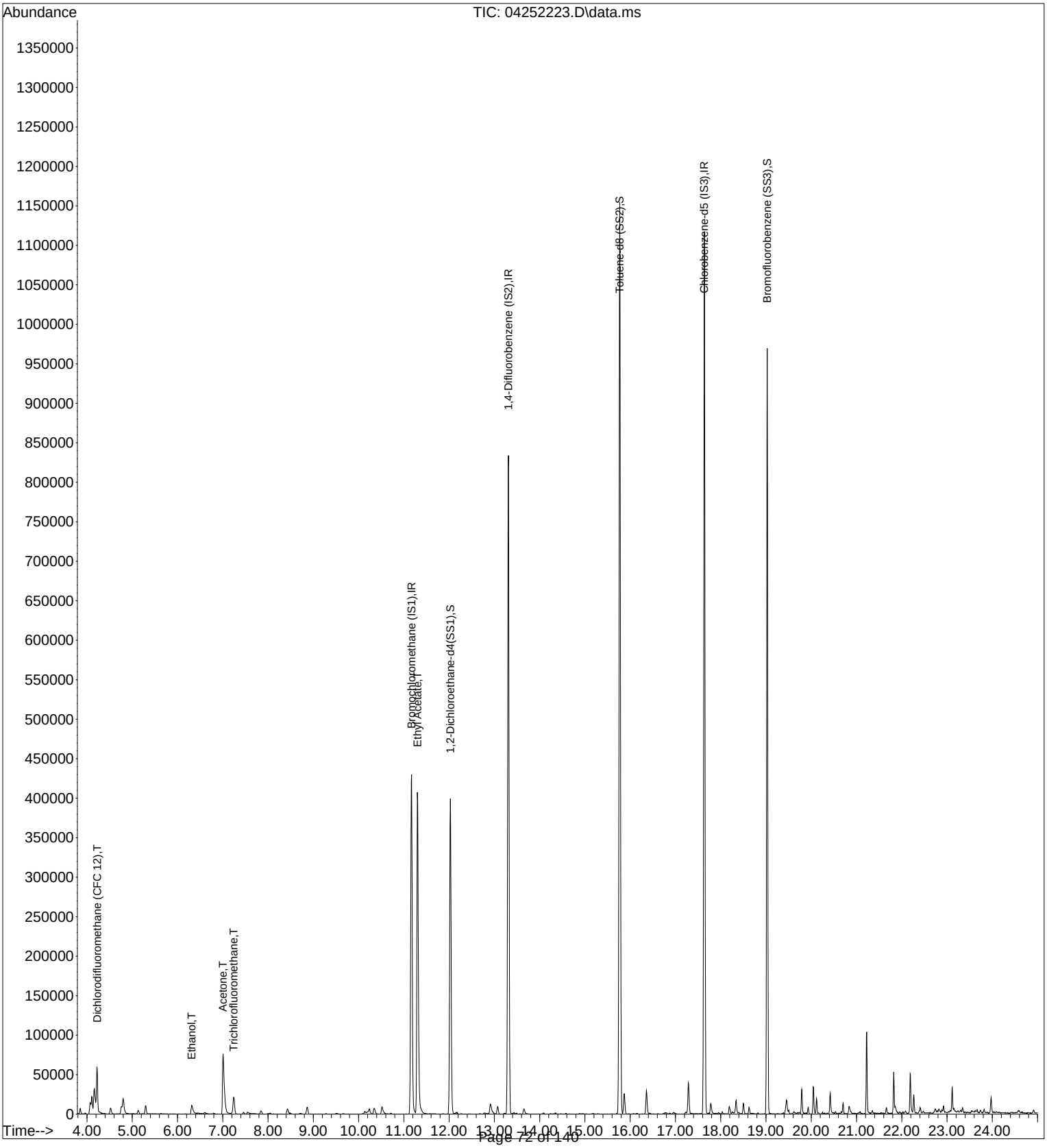
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	156913	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	696984	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	177579	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	310843	12.951	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%			
57) Toluene-d8 (SS2)	15.77	98	812122	12.551	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%			
73) Bromofluorobenzene (SS3)	19.03	174	264560	11.609	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.22	85	47688	1.609	ng	99
10) Ethanol	6.31	45	24664	1.561	ng	92
13) Acetone	7.00	58	33845	2.722	ng	99
14) Trichlorofluoromethane	7.24	101	21535	0.780	ng	99
30) Ethyl Acetate	11.30	61	64273	10.360	ng	98

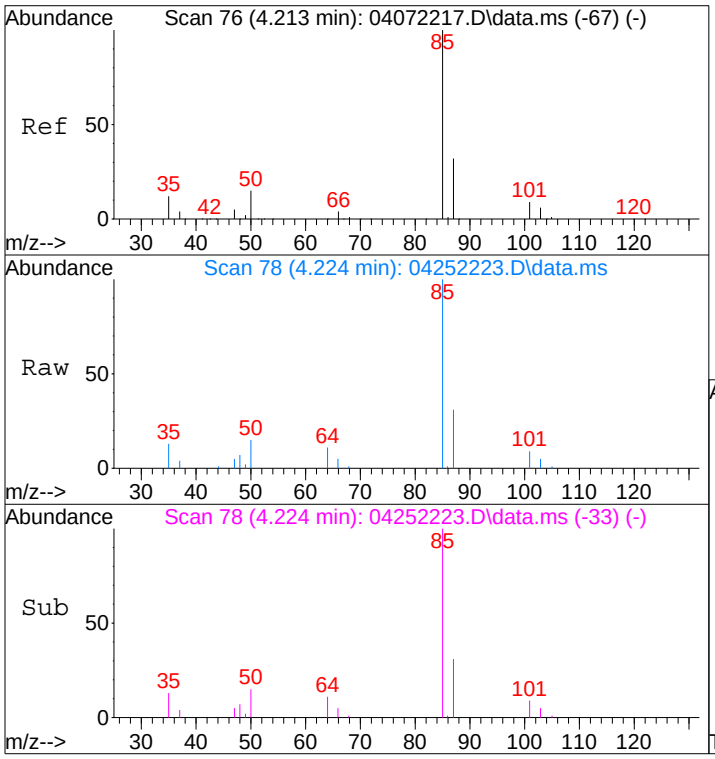
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252223.D Vial: 11
Acq On : 25 Apr 2022 19:40 Operator: SC
Sample : P2201682-005 (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:47 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

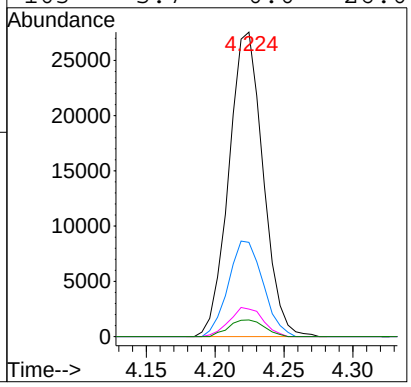


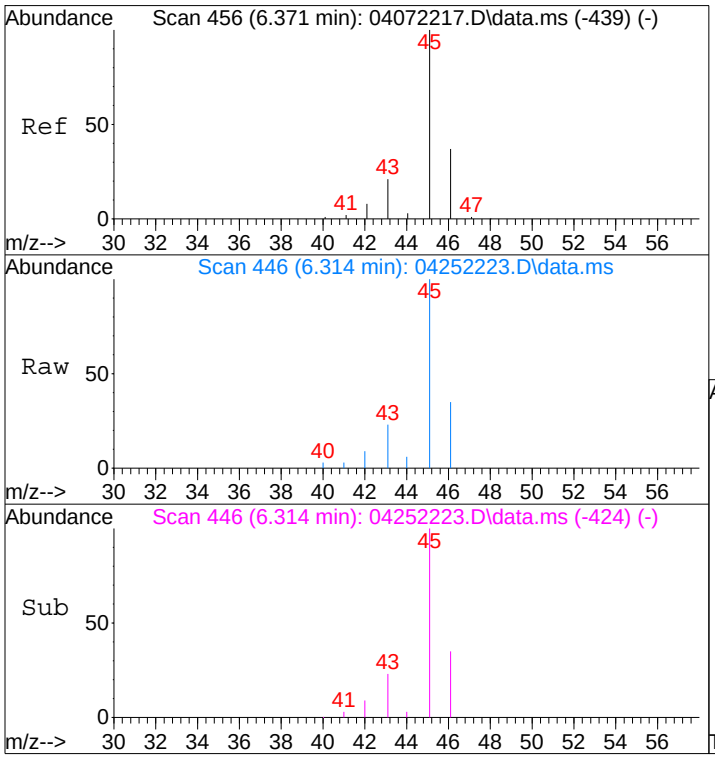


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.61 ng
RT: 4.22 min Scan# 78
Delta R.T. 0.006 min
Lab File: 04252223.D
Acq: 25 Apr 2022 19:40

Tgt Ion: 85 Resp: 47688

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.2	52.2
101	9.4	0.0	29.3
103	5.7	0.0	26.0

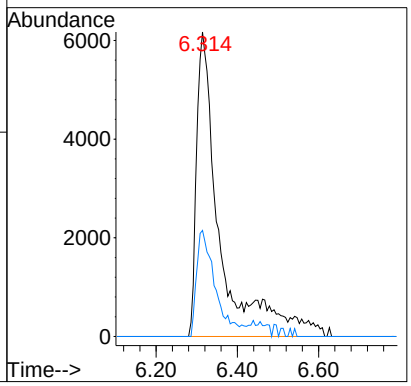


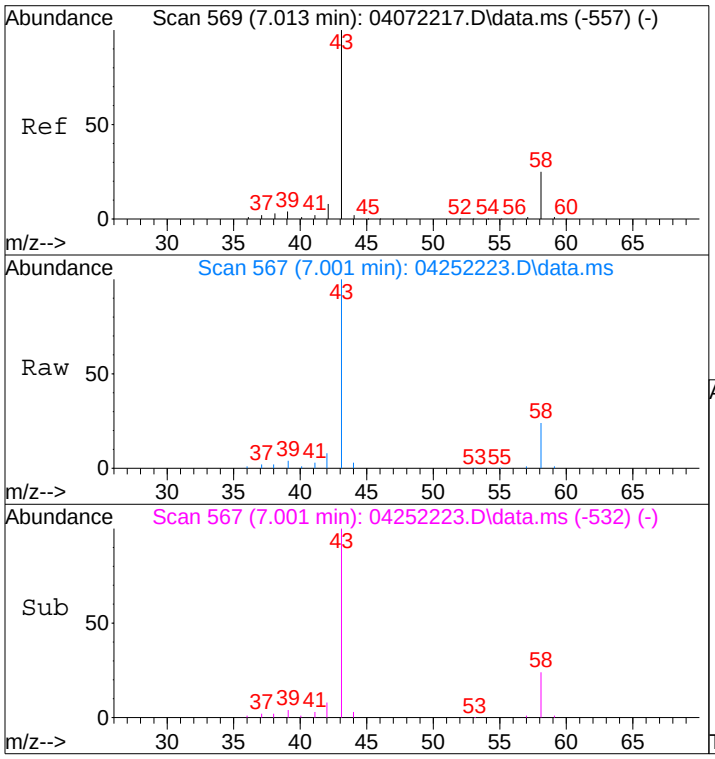


#10
Ethanol
Concen: 1.56 ng
RT: 6.31 min Scan# 446
Delta R.T. -0.125 min
Lab File: 04252223.D
Acq: 25 Apr 2022 19:40

Tgt Ion: 45 Resp: 24664

Ion	Ratio	Lower	Upper
45	100		
46	31.7	16.7	56.7

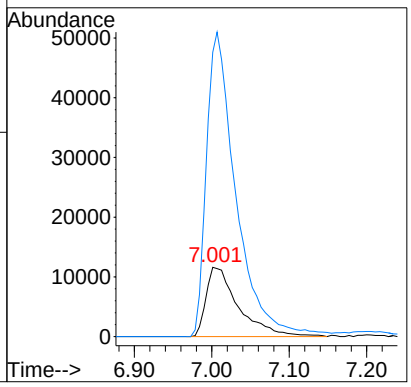


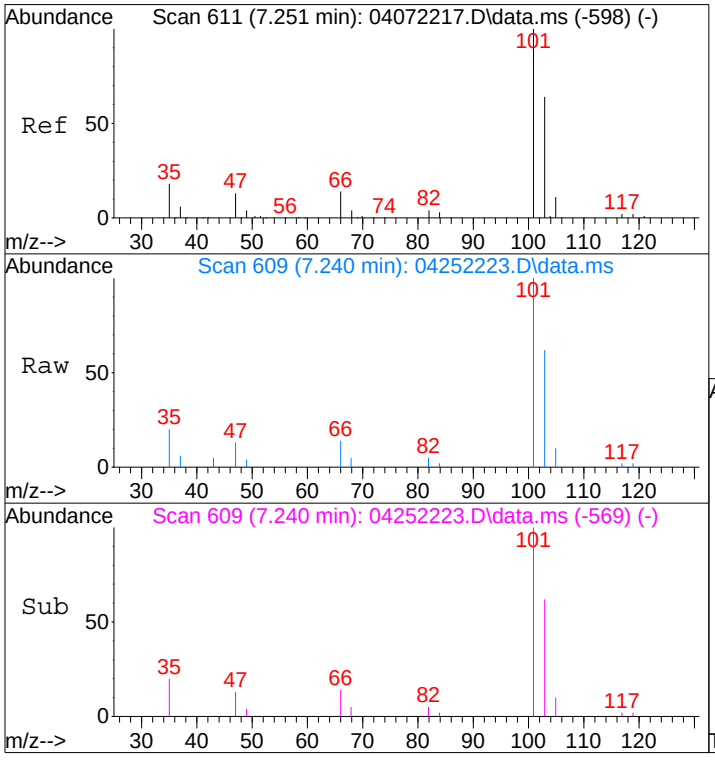


#13
Acetone
Concen: 2.72 ng
RT: 7.00 min Scan# 567
Delta R.T. -0.051 min
Lab File: 04252223.D
Acq: 25 Apr 2022 19:40

Tgt Ion: 58 Resp: 33845

Ion	Ratio	Lower	Upper
58	100		
43	402.5	370.7	430.7

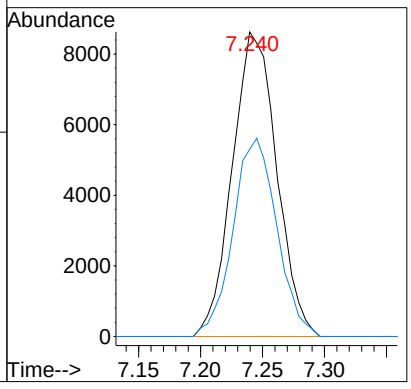


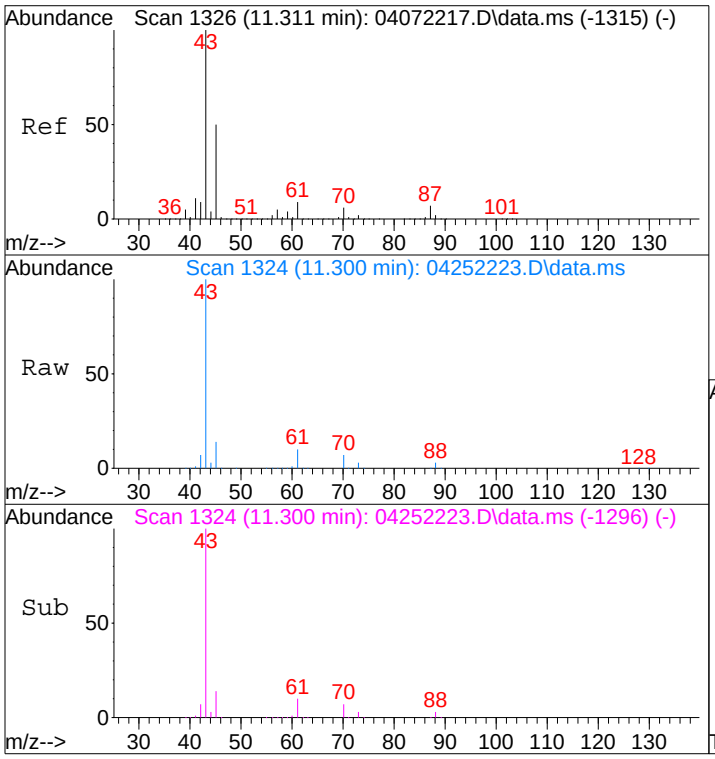


#14
Trichlorofluoromethane
Concen: 0.78 ng
RT: 7.24 min Scan# 609
Delta R.T. -0.023 min
Lab File: 04252223.D
Acq: 25 Apr 2022 19:40

Tgt Ion:101 Resp: 21535

Ion	Ratio	Lower	Upper
101	100		
103	64.2	43.8	83.8

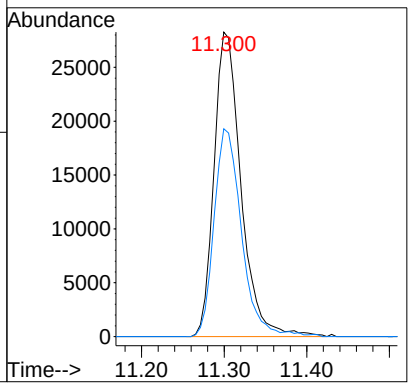




#30
Ethyl Acetate
Concen: 10.36 ng
RT: 11.30 min Scan# 1324
Delta R.T. -0.040 min
Lab File: 04252223.D
Acq: 25 Apr 2022 19:40

Tgt Ion: 61 Resp: 64273

Ion	Ratio	Lower	Upper
61	100		
70	69.4	50.8	90.8



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252203.D Vial: 2
Acq On : 25 Apr 2022 7:24 Operator: SC
Sample : MB R9042422 1000mL Inst : MS09
Misc : S35-04132201

Quant Time: Apr 25 08:27:29 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/25/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	108967	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	498712	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	140679	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	235217	14.112	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.88%				
57) Toluene-d8 (SS2)	15.77	98	597389	11.654	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%				
73) Bromofluorobenzene (SS3)	19.03	174	159753	8.849	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 70.80%				
Target Compounds							Qvalue
2) Propene	4.10	42	834	0.055	ng	#	77
3) Dichlorodifluoromethan...	4.24	85	643	N.D.			
4) Chloromethane	4.53	50	113	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.95	62	116	N.D.			
7) 1,3-Butadiene	5.22	54	168	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.41	45	189	N.D.			
11) Acetonitrile	6.62	41	1273	N.D.			
12) Acrolein	6.81	56	1516	0.225	ng		97
13) Acetone	7.03	58	12787	1.481	ng	#	60
14) Trichlorofluoromethane	7.25	101	286	N.D.			
15) 2-Propanol (Isopropanol)	7.58	45	1931	0.057	ng		81
16) Acrylonitrile	7.77	53	538	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.55	59	400	N.D.			
19) Methylene Chloride	8.44	84	286	N.D.			
20) 3-Chloro-1-propene (Al...	8.61	41	383	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.97	63	190	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.53	72	1217	0.202	ng	#	17
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.34	87	121	N.D.			
30) Ethyl Acetate	11.35	61	171	N.D.			
31) n-Hexane	11.29	57	359	N.D.			
32) Chloroform	11.33	83	133	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	178	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.31	61	18993	No Calib			
40) 1-Butanol	12.95	56	1216	No Calib		#	
41) Benzene	12.91	78	1913	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.21	84	616	N.D.			
44) tert-Amyl Methyl Ether	13.59	73	572	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.08	57	1183	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252203.D Vial: 2
Acq On : 25 Apr 2022 7:24 Operator: SC
Sample : MB R9042422 1000mL Inst : MS09
Misc : S35-04132201

Quant Time: Apr 25 08:27:29 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

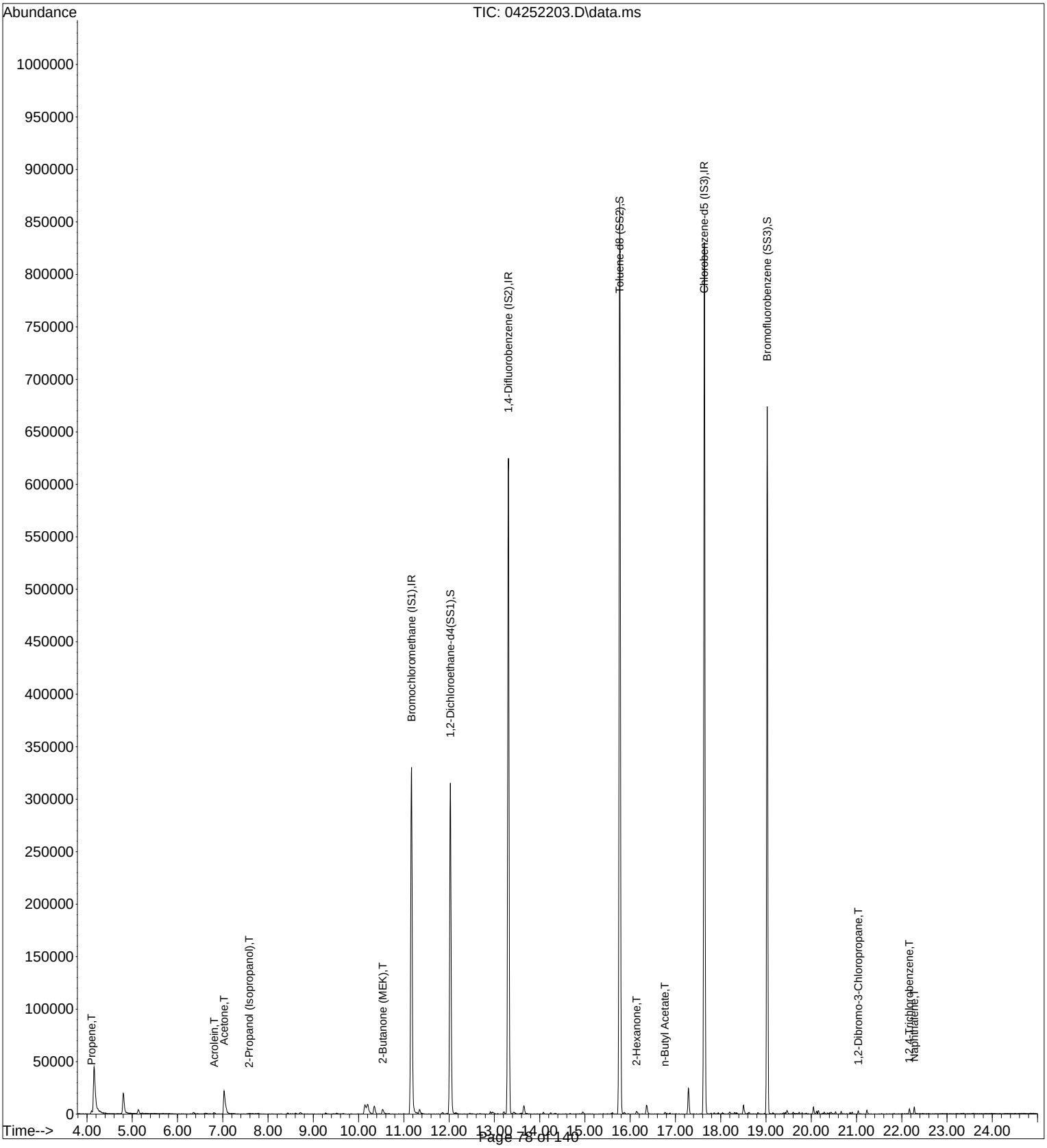
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.95	58	532	N.D.		
54) trans-1,3-Dichloropropene	15.41	75	109	N.D.		
55) 1,1,2-Trichloroethane	15.58	97	126	N.D.		
58) Toluene	15.88	91	1307	N.D.		
59) 2-Hexanone	16.14	43	3287	0.091 ng		87
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.77	43	1986	0.050 ng	#	75
63) n-Octane	16.89	57	132	N.D.		
64) Tetrachloroethene	17.02	166	121	N.D.		
65) Chlorobenzene	17.69	112	818	N.D.		
66) Ethylbenzene	18.04	91	1361	N.D.		
67) m- & p-Xylenes	18.20	91	1979	N.D.		
68) Bromoform	18.27	173	179	N.D.		
69) Styrene	18.53	104	713	N.D.		
70) o-Xylene	18.63	91	1192	N.D.		
71) n-Nonane	18.82	43	787	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.61	83	700	N.D.		
74) Cumene	19.15	105	1138	N.D.		
75) alpha-Pinene	19.50	93	174	N.D.		
76) n-Propylbenzene	19.60	91	1928	N.D.		
77) 3-Ethyltoluene	19.73	105	1102	No Calib		
78) 4-Ethyltoluene	19.73	105	1102	N.D.		
79) 1,3,5-Trimethylbenzene	19.80	105	874	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.86	105	747	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.16	105	1100	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	20.27	91	1087	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	646	N.D.		
86) 1,4-Dichlorobenzene	20.36	146	527	N.D.		
87) sec-Butylbenzene	20.40	105	1142	N.D.		
88) 4-Isopropyltoluene (p-...	20.54	119	1385	N.D.		
89) 1,2,3-Trimethylbenzene	20.40	105	1142	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	685	N.D.		
91) d-Limonene	20.66	68	359	N.D.		
92) 1,2-Dibromo-3-Chloropr...	21.04	157	638	0.065 ng	#	40
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	1823	0.084 ng		98
95) Naphthalene	22.28	128	5614	0.096 ng		92
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	271	N.D.		
98) Cyclohexanone	18.51	55	1249	No Calib	#	
99) tert-Butylbenzene	20.16	119	940	N.D.		
100) n-Butylbenzene	20.91	91	1088	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252203.D Vial: 2
Acq On : 25 Apr 2022 7:24 Operator: SC
Sample : MB R9042422 1000mL Inst : MS09
Misc : S35-04132201

Quant Time: Apr 25 08:27:29 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252204.D Vial: 2
Acq On : 25 Apr 2022 8:26 Operator: SC
Sample : LCS R9042522 25ng Inst : MS09
Misc : S35-04132201/S35-04082209 (5/8)

Quant Time: Apr 25 09:29:28 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/25/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	127553	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.32	114	563642	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	163028	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	270386	13.858	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.88%				
57) Toluene-d8 (SS2)	15.77	98	676098	11.381	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.04%				
73) Bromofluorobenzene (SS3)	19.03	174	203936	9.748	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.00%				
Target Compounds							Qvalue
2) Propene	4.05	42	479504	27.238	ng		100
3) Dichlorodifluoromethan...	4.21	85	593927	24.650	ng		99
4) Chloromethane	4.50	50	561936	28.096	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	249958	23.083	ng		99
6) Vinyl Chloride	4.92	62	460795	27.541	ng		99
7) 1,3-Butadiene	5.19	54	436319	29.180	ng		96
8) Bromomethane	5.63	94	217342	25.432	ng		100
9) Chloroethane	5.97	64	199504	26.074	ng		100
10) Ethanol	6.37	45	1410931	109.883	ng		100
11) Acetonitrile	6.61	41	796147	24.720	ng		100
12) Acrolein	6.79	56	419589	53.315	ng		100
13) Acetone	7.01	58	1292802	127.900	ng		91
14) Trichlorofluoromethane	7.25	101	533451	23.760	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	2251376	56.350	ng		99
16) Acrylonitrile	7.77	53	919910	52.364	ng		99
17) 1,1-Dichloroethene	8.22	96	256114	25.429	ng		90
18) 2-Methyl-2-Propanol (t...	8.39	59	1495962	58.509	ng		97
19) Methylene Chloride	8.45	84	264907	25.175	ng		88
20) 3-Chloro-1-propene (Al...	8.61	41	614158	25.984	ng		97
21) Trichlorotrifluoroethane	8.86	151	215963	22.485	ng		86
22) Carbon Disulfide	8.70	76	1949865	55.095	ng		99
23) trans-1,2-Dichloroethene	9.73	61	460892	27.542	ng		94
24) 1,1-Dichloroethane	9.98	63	550408	26.825	ng		100
25) Methyl tert-Butyl Ether	10.08	73	631803	22.587	ng		98
26) Vinyl Acetate	10.24	86	267570	147.199	ng	#	71
27) 2-Butanone (MEK)	10.48	72	370904	52.528	ng	#	83
28) cis-1,2-Dichloroethene	11.01	61	442403	26.341	ng		94
29) Diisopropyl Ether	11.30	87	534576	54.834	ng	#	82
30) Ethyl Acetate	11.31	61	399576	79.233	ng		98
31) n-Hexane	11.29	57	652643	28.715	ng		100
32) Chloroform	11.36	83	510211	25.871	ng		100
34) Tetrahydrofuran (THF)	11.75	72	351279	51.836	ng	#	89
35) Ethyl tert-Butyl Ether	11.90	87	680438	52.239	ng		92
36) 1,2-Dichloroethane	12.16	62	464488	26.679	ng		99
38) 1,1,1-Trichloroethane	12.44	97	469957	24.353	ng		97
39) Isopropyl Acetate	13.32	61	21390	No Calib			
40) 1-Butanol	12.91	56	10698	No Calib		#	
41) Benzene	12.92	78	1066660	24.446	ng		99
42) Carbon Tetrachloride	13.08	117	394841	23.531	ng		99
43) Cyclohexane	13.21	84	830416	49.647	ng		94
44) tert-Amyl Methyl Ether	13.56	73	1631329	53.002	ng		96
45) 1,2-Dichloropropane	13.77	63	308699	25.252	ng		99
46) Bromodichloromethane	13.96	83	415252	26.120	ng		99
47) Trichloroethene	14.02	130	278866	22.423	ng		99
48) 1,4-Dioxane	13.99	88	221405	25.168	ng		94
49) 2,2,4-Trimethylpentane...	14.09	57	1454817	25.230	ng		95
50) Methyl Methacrylate	14.22	100	217794	49.808	ng	#	87

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252204.D Vial: 2
Acq On : 25 Apr 2022 8:26 Operator: SC
Sample : LCS R9042522 25ng Inst : MS09
Misc : S35-04132201/S35-04082209 (5/8)

Quant Time: Apr 25 09:29:28 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

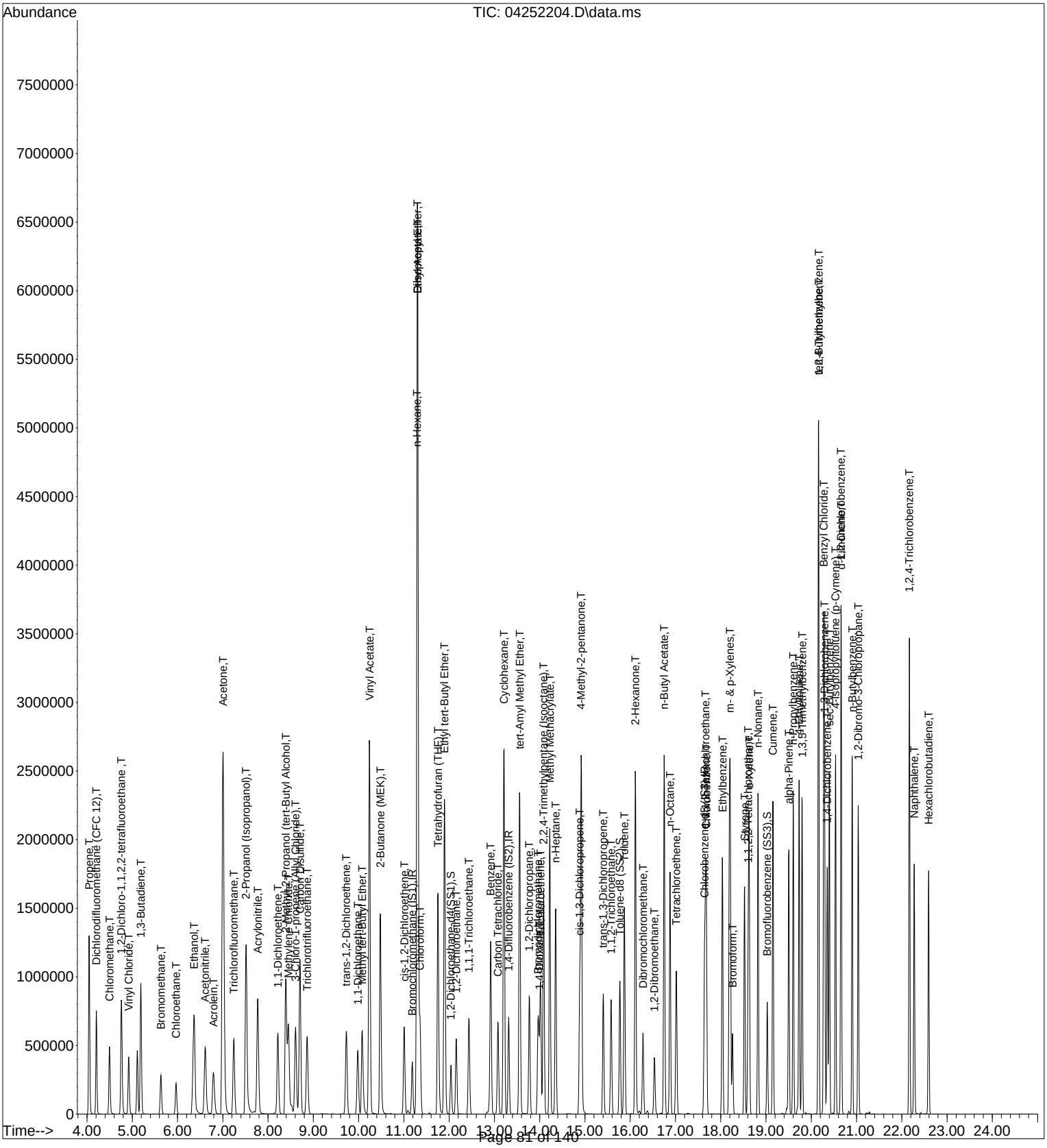
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	286729	25.171 ng		98
52) cis-1,3-Dichloropropene	14.88	75	478642	27.309 ng		100
53) 4-Methyl-2-pentanone	14.92	58	657815	53.264 ng		91
54) trans-1,3-Dichloropropene	15.40	75	444989	26.409 ng		100
55) 1,1,2-Trichloroethane	15.58	97	269346	24.052 ng		97
58) Toluene	15.87	91	1139350	20.858 ng		99
59) 2-Hexanone	16.11	43	2077630	49.371 ng		96
60) Dibromochloromethane	16.28	129	335759	21.973 ng		100
61) 1,2-Dibromoethane	16.53	107	312677	21.449 ng		100
62) n-Butyl Acetate	16.75	43	2304181	50.232 ng		97
63) n-Octane	16.88	57	308652	22.554 ng		96
64) Tetrachloroethene	17.02	166	296539	19.061 ng		100
65) Chlorobenzene	17.68	112	748552	20.363 ng		99
66) Ethylbenzene	18.04	91	1362275	21.912 ng		98
67) m- & p-Xylenes	18.20	91	2220429	44.446 ng		99
68) Bromoform	18.26	173	277364	20.985 ng		100
69) Styrene	18.53	104	741997	20.818 ng		98
70) o-Xylene	18.63	91	1121189	22.244 ng		98
71) n-Nonane	18.82	43	940367	24.306 ng		95
72) 1,1,2,2-Tetrachloroethane	18.61	83	506503	22.571 ng		99
74) Cumene	19.15	105	1356268	21.343 ng		99
75) alpha-Pinene	19.50	93	655754	21.761 ng		99
76) n-Propylbenzene	19.60	91	1717417	22.480 ng		98
77) 3-Ethyltoluene	19.73	105	1371244	No Calib		
78) 4-Ethyltoluene	19.73	105	1371244	22.273 ng		98
79) 1,3,5-Trimethylbenzene	19.80	105	1158245	22.150 ng		99
80) alpha-Methylstyrene	19.60	118	2880	No Calib	#	
81) 2-Ethyltoluene	20.66	105	27886	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	1269150	23.551 ng		99
83) n-Decane	20.51	58	235	No Calib	#	
84) Benzyl Chloride	20.28	91	1979399	47.209 ng		98
85) 1,3-Dichlorobenzene	20.29	146	651811	21.014 ng		99
86) 1,4-Dichlorobenzene	20.36	146	631833	20.122 ng		100
87) sec-Butylbenzene	20.40	105	1547235	21.950 ng		98
88) 4-Isopropyltoluene (p-...	20.54	119	1288741	21.548 ng		98
89) 1,2,3-Trimethylbenzene	20.40	105	1547235	No Calib		
90) 1,2-Dichlorobenzene	20.66	146	620383	20.673 ng		99
91) d-Limonene	20.66	68	455647	22.724 ng		96
92) 1,2-Dibromo-3-Chloropr...	21.04	157	459322	40.500 ng	#	79
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	895606	35.792 ng		99
95) Naphthalene	22.28	128	1284614	18.939 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	283656	17.059 ng		100
98) Cyclohexanone	18.63	55	1130	No Calib		
99) tert-Butylbenzene	20.16	119	1158293	22.355 ng		98
100) n-Butylbenzene	20.91	91	1323050	22.488 ng		98
101) 1,1,1,2-Tetrachloroethane	17.66	131	279540	20.828 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252204.D Vial: 2
Acq On : 25 Apr 2022 8:26 Operator: SC
Sample : LCS R9042522 25ng Inst : MS09
Misc : S35-04132201/S35-04082209 (5/8)

Quant Time: Apr 25 09:29:28 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252205.D Vial: 2
Acq On : 25 Apr 2022 8:59 Operator: SC
Sample : LCSD R9042422 25ng Inst : MS09
Misc : S35-04132201/S35-04082209 (5/8)

Quant Time: Apr 25 09:31:41 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/25/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	129106	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.32	114	569029	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	162018	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	271198	13.733	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%				
57) Toluene-d8 (SS2)	15.77	98	673460	11.408	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
73) Bromofluorobenzene (SS3)	19.03	174	200208	9.629	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 77.04%				
Target Compounds							Qvalue
2) Propene	4.05	42	484000	27.163	ng		99
3) Dichlorodifluoromethan...	4.21	85	625928	25.666	ng		100
4) Chloromethane	4.50	50	575670	28.437	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	266430	24.308	ng		99
6) Vinyl Chloride	4.92	62	477241	28.181	ng		100
7) 1,3-Butadiene	5.19	54	433238	28.626	ng		95
8) Bromomethane	5.63	94	228826	26.454	ng		100
9) Chloroethane	5.97	64	208342	26.902	ng		100
10) Ethanol	6.37	45	1427364	109.826	ng		100
11) Acetonitrile	6.62	41	797025	24.450	ng		99
12) Acrolein	6.80	56	421586	52.924	ng		100
13) Acetone	7.01	58	1296489	126.722	ng		90
14) Trichlorofluoromethane	7.25	101	557198	24.519	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	2267153	56.062	ng		99
16) Acrylonitrile	7.77	53	939259	52.822	ng		100
17) 1,1-Dichloroethene	8.22	96	264975	25.992	ng		91
18) 2-Methyl-2-Propanol (t...	8.39	59	1448358	55.965	ng		98
19) Methylene Chloride	8.45	84	271345	25.476	ng		91
20) 3-Chloro-1-propene (Al...	8.61	41	621175	25.965	ng		96
21) Trichlorotrifluoroethane	8.86	151	228433	23.497	ng		89
22) Carbon Disulfide	8.70	76	1975507	55.148	ng		100
23) trans-1,2-Dichloroethene	9.73	61	474565	28.018	ng		95
24) 1,1-Dichloroethane	9.98	63	566289	27.267	ng		100
25) Methyl tert-Butyl Ether	10.08	73	601612	21.249	ng		99
26) Vinyl Acetate	10.24	86	278018	151.107	ng	#	73
27) 2-Butanone (MEK)	10.48	72	387125	54.165	ng	#	86
28) cis-1,2-Dichloroethene	11.01	61	456423	26.849	ng		94
29) Diisopropyl Ether	11.31	87	550103	55.748	ng	#	81
30) Ethyl Acetate	11.31	61	407727	79.877	ng		99
31) n-Hexane	11.29	57	661507	28.755	ng		100
32) Chloroform	11.36	83	530272	26.565	ng		99
34) Tetrahydrofuran (THF)	11.75	72	359187	52.365	ng	#	91
35) Ethyl tert-Butyl Ether	11.90	87	709618	53.824	ng		93
36) 1,2-Dichloroethane	12.16	62	481018	27.296	ng		99
38) 1,1,1-Trichloroethane	12.44	97	489418	25.121	ng		97
39) Isopropyl Acetate	13.32	61	21467	No Calib			
40) 1-Butanol	12.91	56	9664	No Calib		#	
41) Benzene	12.92	78	1093295	24.820	ng		100
42) Carbon Tetrachloride	13.08	117	411805	24.309	ng		100
43) Cyclohexane	13.21	84	846358	50.121	ng		95
44) tert-Amyl Methyl Ether	13.56	73	1693568	54.504	ng		97
45) 1,2-Dichloropropane	13.78	63	314725	25.502	ng		99
46) Bromodichloromethane	13.96	83	430988	26.853	ng		99
47) Trichloroethene	14.02	130	288559	22.982	ng		100
48) 1,4-Dioxane	13.99	88	230956	26.005	ng		95
49) 2,2,4-Trimethylpentane...	14.09	57	1486076	25.529	ng		96
50) Methyl Methacrylate	14.22	100	227580	51.553	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252205.D Vial: 2
Acq On : 25 Apr 2022 8:59 Operator: SC
Sample : LCSD R9042422 25ng Inst : MS09
Misc : S35-04132201/S35-04082209 (5/8)

Quant Time: Apr 25 09:31:41 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

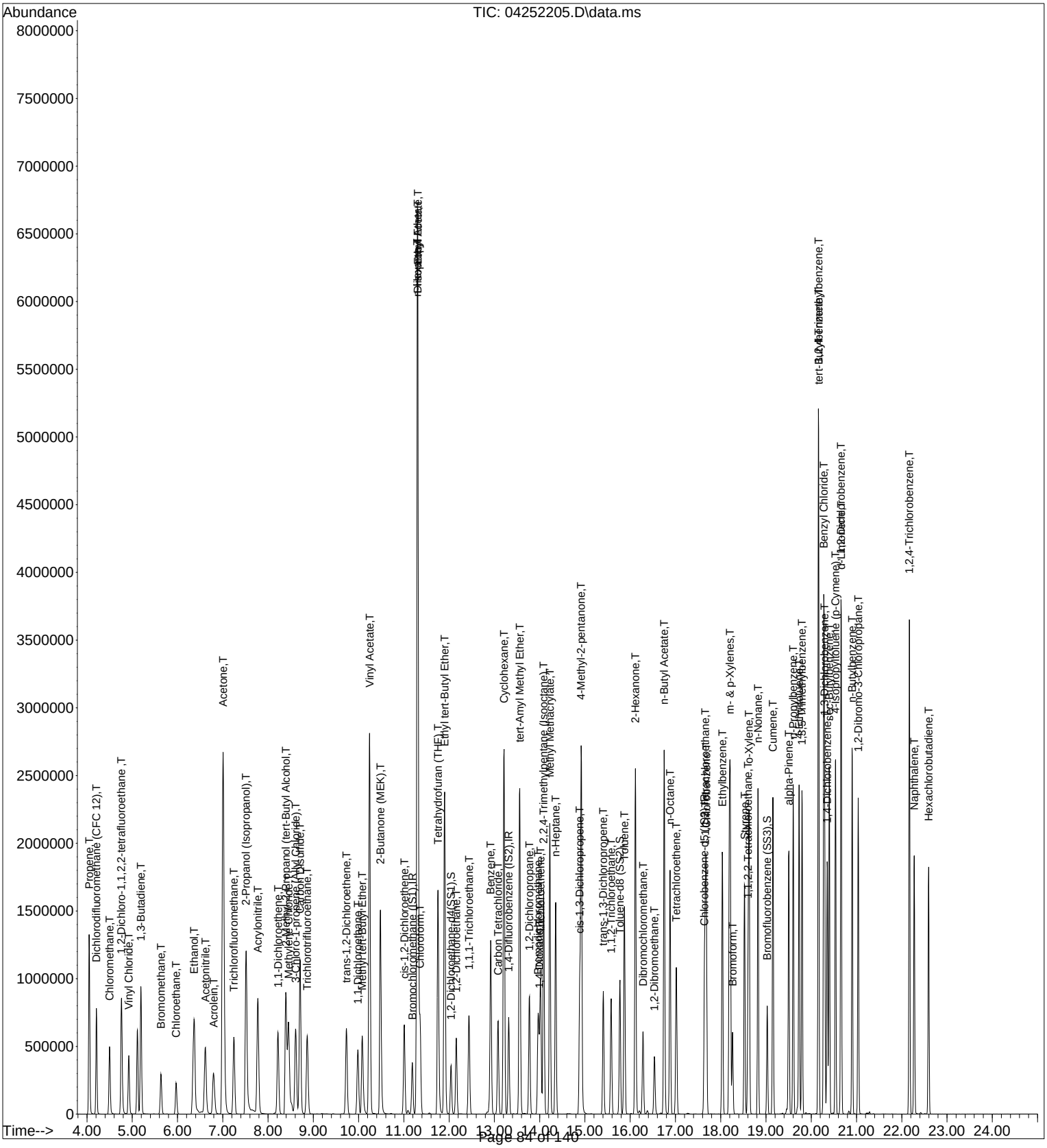
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	296381	25.772 ng		99
52) cis-1,3-Dichloropropene	14.88	75	491643	27.785 ng		100
53) 4-Methyl-2-pentanone	14.92	58	675636	54.189 ng		91
54) trans-1,3-Dichloropropene	15.40	75	462099	27.165 ng		100
55) 1,1,2-Trichloroethane	15.58	97	275927	24.407 ng		97
58) Toluene	15.87	91	1176425	21.671 ng		99
59) 2-Hexanone	16.11	43	2135655	51.066 ng		96
60) Dibromochloromethane	16.29	129	346698	22.830 ng		100
61) 1,2-Dibromoethane	16.53	107	323679	22.342 ng		100
62) n-Butyl Acetate	16.75	43	2374869	52.096 ng		97
63) n-Octane	16.88	57	318722	23.435 ng		95
64) Tetrachloroethene	17.02	166	308055	19.925 ng		100
65) Chlorobenzene	17.68	112	777386	21.279 ng		99
66) Ethylbenzene	18.03	91	1398904	22.641 ng		98
67) m- & p-Xylenes	18.20	91	2285060	46.024 ng		98
68) Bromoform	18.26	173	287674	21.901 ng		100
69) Styrene	18.53	104	764968	21.597 ng		98
70) o-Xylene	18.62	91	1150772	22.973 ng		98
71) n-Nonane	18.82	43	957270	24.897 ng		96
72) 1,1,2,2-Tetrachloroethane	18.60	83	523885	23.491 ng		99
74) Cumene	19.15	105	1389497	22.002 ng		99
75) alpha-Pinene	19.50	93	671384	22.418 ng		99
76) n-Propylbenzene	19.60	91	1748857	23.034 ng		98
77) 3-Ethyltoluene	19.73	105	1399012	No Calib		
78) 4-Ethyltoluene	19.73	105	1399012	22.866 ng		99
79) 1,3,5-Trimethylbenzene	19.79	105	1188674	22.874 ng		98
80) alpha-Methylstyrene	19.60	118	2790	No Calib		
81) 2-Ethyltoluene	20.66	105	28803	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	1295405	24.188 ng		98
83) n-Decane	20.52	58	1141	No Calib	#	
84) Benzyl Chloride	20.28	91	2061574	49.475 ng		98
85) 1,3-Dichlorobenzene	20.29	146	657051	21.315 ng		99
86) 1,4-Dichlorobenzene	20.36	146	648855	20.793 ng		99
87) sec-Butylbenzene	20.40	105	1571174	22.428 ng		98
88) 4-Isopropyltoluene (p-...	20.54	119	1318371	22.181 ng		98
89) 1,2,3-Trimethylbenzene	20.40	105	1571174	No Calib		
90) 1,2-Dichlorobenzene	20.66	146	633097	21.229 ng		99
91) d-Limonene	20.66	68	461369	23.153 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.04	157	476649	42.290 ng	#	79
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	932223	37.488 ng		100
95) Naphthalene	22.28	128	1354370	20.092 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	291814	17.659 ng		99
98) Cyclohexanone	18.63	55	1279	No Calib		
99) tert-Butylbenzene	20.16	119	1176179	22.842 ng		99
100) n-Butylbenzene	20.90	91	1347463	23.046 ng		98
101) 1,1,1,2-Tetrachloroethane	17.66	131	289567	21.710 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252205.D Vial: 2
Acq On : 25 Apr 2022 8:59 Operator: SC
Sample : LCSD R9042422 25ng Inst : MS09
Misc : S35-04132201/S35-04082209 (5/8)

Quant Time: Apr 25 09:31:41 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252224.D Vial: 11
Acq On : 25 Apr 2022 20:13 Operator: SC
Sample : P2201682-005dup (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:57 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/26/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	151263	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	672618	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	168159	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	297022	12.837	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%			
57) Toluene-d8 (SS2)	15.77	98	776999	12.681	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%			
73) Bromofluorobenzene (SS3)	19.03	174	248440	11.512	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%			
Target Compounds						Qvalue
2) Propene	4.11	42	2632	N.D.		
3) Dichlorodifluoromethan...	4.22	85	47706	1.670	ng	99
4) Chloromethane	4.53	50	7257	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	988	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.31	45	24742	1.625	ng	99
11) Acetonitrile	6.60	41	2851	N.D.		
12) Acrolein	6.81	56	1041	N.D.		
13) Acetone	7.01	58	33383	2.785	ng	98
14) Trichlorofluoromethane	7.25	101	21245	0.798	ng	99
15) 2-Propanol (Isopropanol)	7.55	45	8396	N.D.		
16) Acrylonitrile	7.99	53	136	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	8.43	84	3061	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	8.87	151	3984	N.D.		
22) Carbon Disulfide	8.72	76	1856	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.23	86	629	N.D.		
27) 2-Butanone (MEK)	10.52	72	3239	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.31	87	953	N.D.		
30) Ethyl Acetate	11.30	61	65110	10.887	ng	98
31) n-Hexane	11.29	57	882	N.D.		
32) Chloroform	11.35	83	1069	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.16	62	905	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	13.30	61	23468	No Calib		
40) 1-Butanol	12.95	56	3482	No Calib	#	
41) Benzene	12.91	78	10586	N.D.		
42) Carbon Tetrachloride	13.07	117	5668	N.D.		
43) Cyclohexane	13.32	84	501	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.09	57	1256	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252224.D Vial: 11
Acq On : 25 Apr 2022 20:13 Operator: SC
Sample : P2201682-005dup (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:57 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

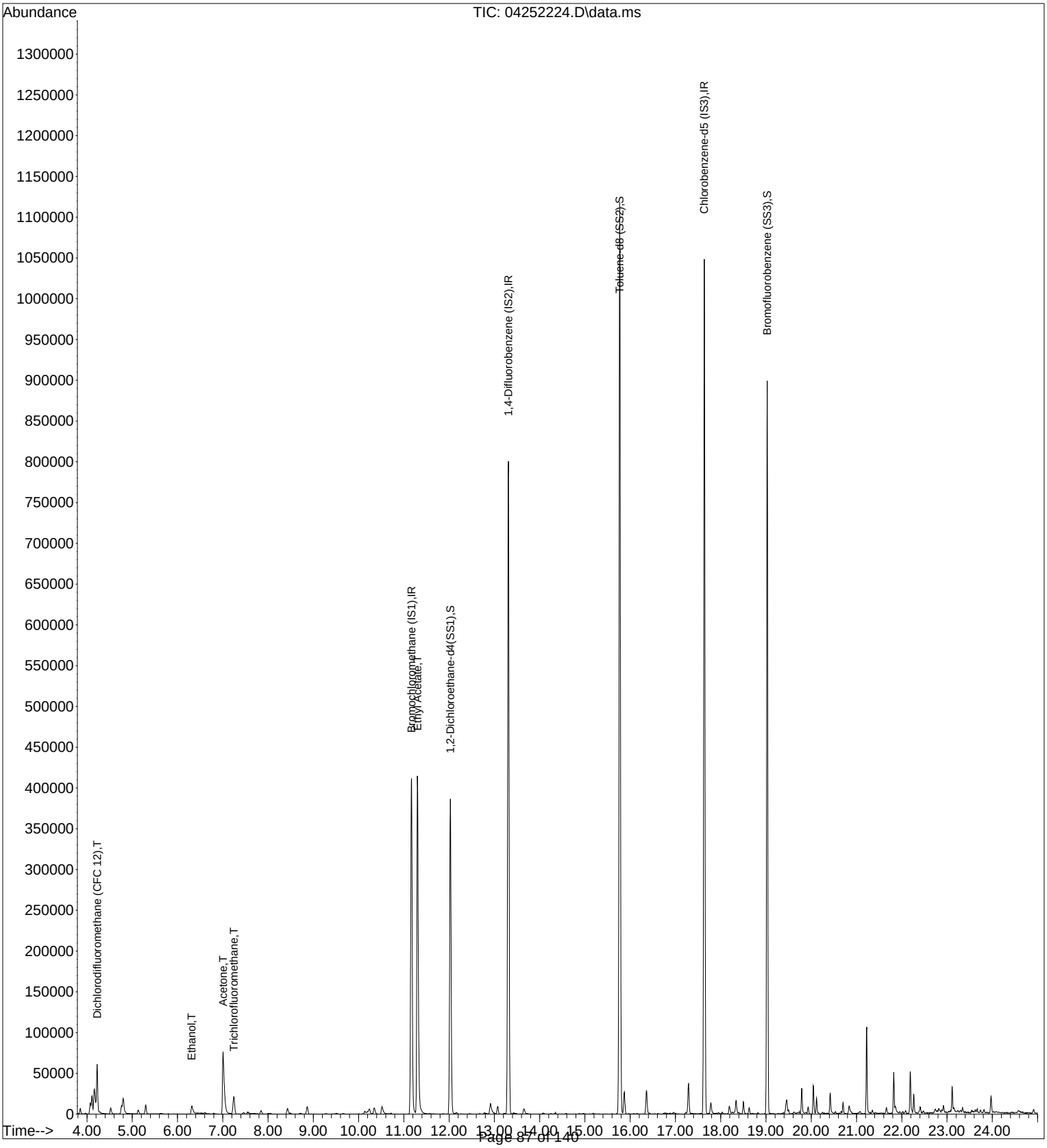
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	104	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.87	91	20687	N.D.		
59) 2-Hexanone	16.15	43	1214	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.76	43	2306	N.D.		
63) n-Octane	16.88	57	107	N.D.		
64) Tetrachloroethene	17.02	166	261	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.03	91	2094	N.D.		
67) m- & p-Xylenes	18.19	91	7636	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.53	104	301	N.D.		
70) o-Xylene	18.62	91	4170	N.D.		
71) n-Nonane	18.82	43	1251	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.03	105	323	N.D.		
75) alpha-Pinene	19.50	93	1790	N.D.		
76) n-Propylbenzene	19.60	91	412	N.D.		
77) 3-Ethyltoluene	19.73	105	209	No Calib		#
78) 4-Ethyltoluene	19.73	105	209	N.D.		
79) 1,3,5-Trimethylbenzene	19.73	105	209	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.53	105	207	No Calib		#
82) 1,2,4-Trimethylbenzene	20.16	105	927	N.D.		
83) n-Decane	20.42	58	510	No Calib		#
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	20.35	146	654	N.D.		
86) 1,4-Dichlorobenzene	20.35	146	654	N.D.		
87) sec-Butylbenzene	20.53	105	207	N.D.		
88) 4-Isopropyltoluene (p-...	20.53	119	1072	N.D.		
89) 1,2,3-Trimethylbenzene	20.53	105	207	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.66	68	727	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.23	58	1191	No Calib		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.28	128	1135	N.D.		
96) n-Dodecane	22.27	58	214	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.63	55	426	No Calib		#
99) tert-Butylbenzene	20.12	119	237	N.D.		
100) n-Butylbenzene	20.90	91	371	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252224.D Vial: 11
Acq On : 25 Apr 2022 20:13 Operator: SC
Sample : P2201682-005dup (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:57 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252224.D Vial: 11
Acq On : 25 Apr 2022 20:13 Operator: SC
Sample : P2201682-005dup (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:57 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/26/22

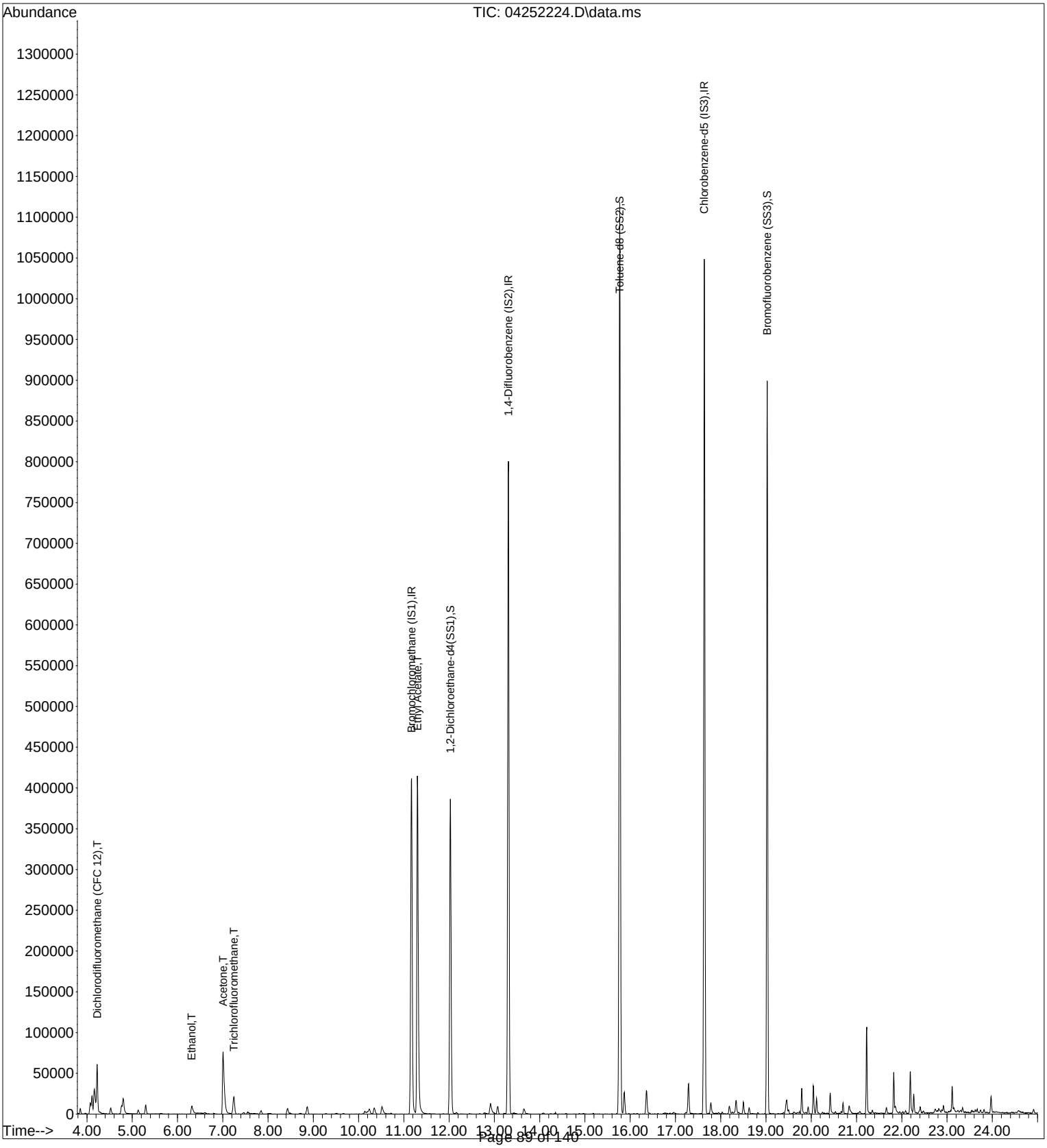
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	151263	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	672618	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	168159	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	297022	12.837	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%			
57) Toluene-d8 (SS2)	15.77	98	776999	12.681	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%			
73) Bromofluorobenzene (SS3)	19.03	174	248440	11.512	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.22	85	47706	1.670	ng	99
10) Ethanol	6.31	45	24742	1.625	ng	99
13) Acetone	7.01	58	33383	2.785	ng	98
14) Trichlorofluoromethane	7.25	101	21245	0.798	ng	99
30) Ethyl Acetate	11.30	61	65110	10.887	ng	98

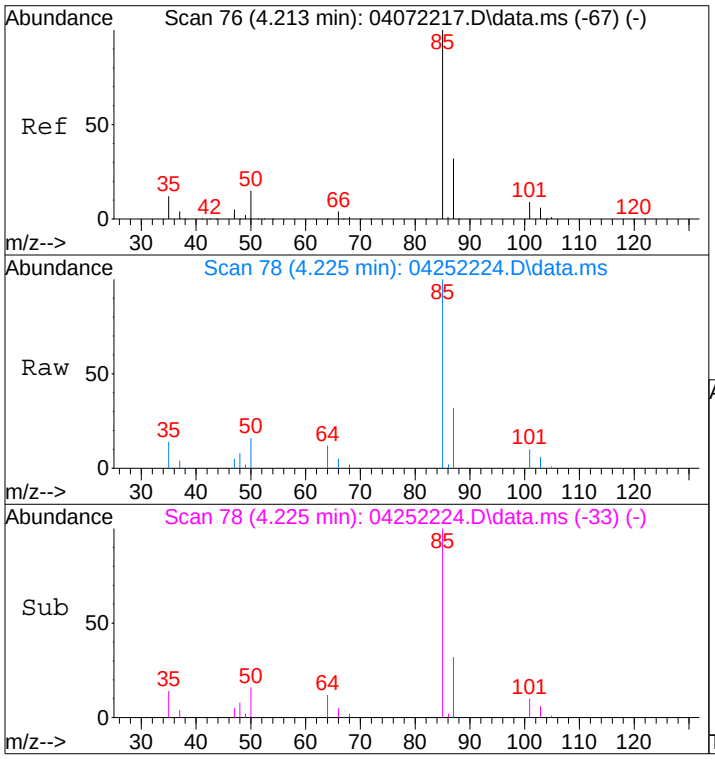
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252224.D Vial: 11
Acq On : 25 Apr 2022 20:13 Operator: SC
Sample : P2201682-005dup (1000mL) Inst : MS09
Misc : S35-04132201

Quant Time: Apr 26 08:17:57 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

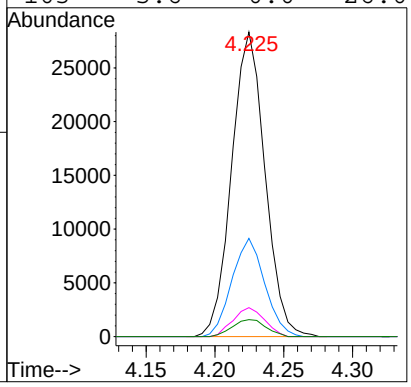


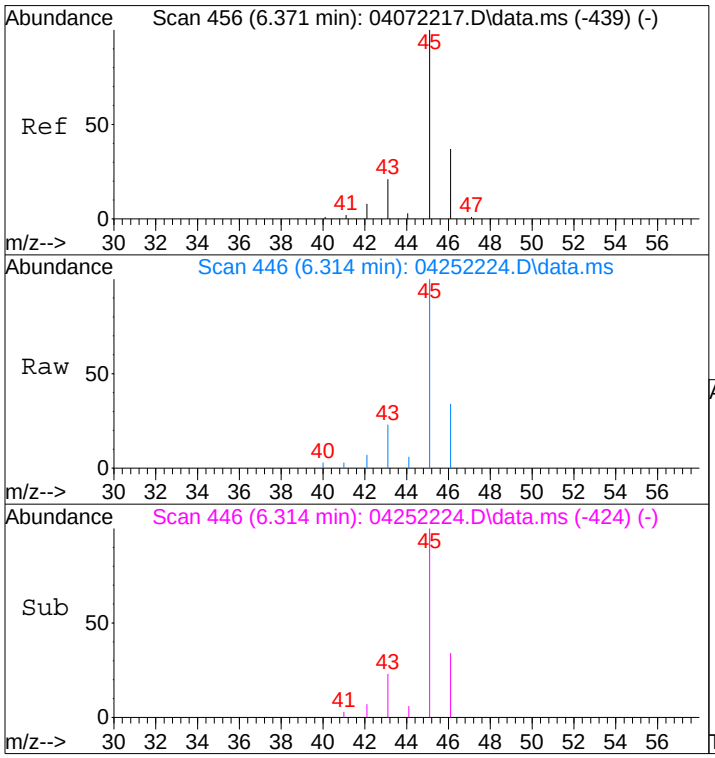


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.67 ng
RT: 4.22 min Scan# 78
Delta R.T. 0.006 min
Lab File: 04252224.D
Acq: 25 Apr 2022 20:13

Tgt Ion: 85 Resp: 47706

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.2	52.2
101	9.0	0.0	29.3
103	5.6	0.0	26.0

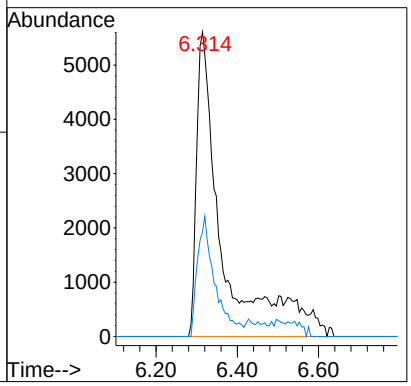


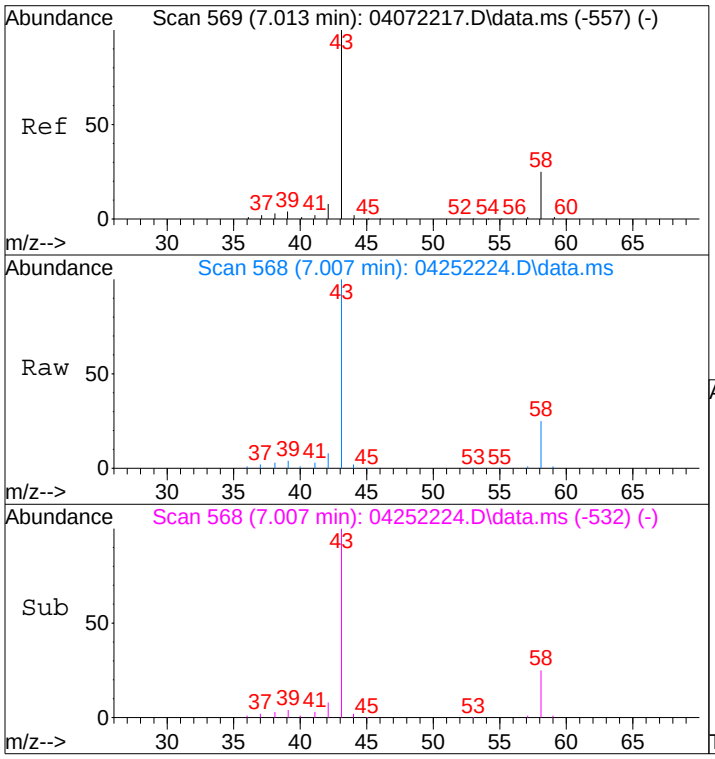


#10
Ethanol
Concen: 1.62 ng
RT: 6.31 min Scan# 446
Delta R.T. -0.125 min
Lab File: 04252224.D
Acq: 25 Apr 2022 20:13

Tgt Ion: 45 Resp: 24742

Ion	Ratio	Lower	Upper
45	100		
46	36.1	16.7	56.7

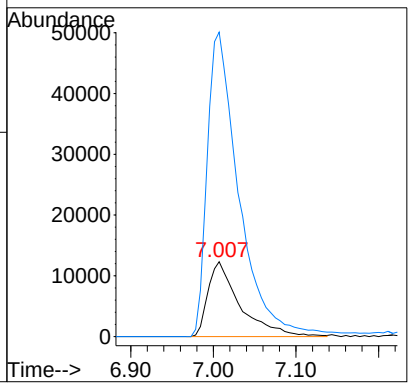


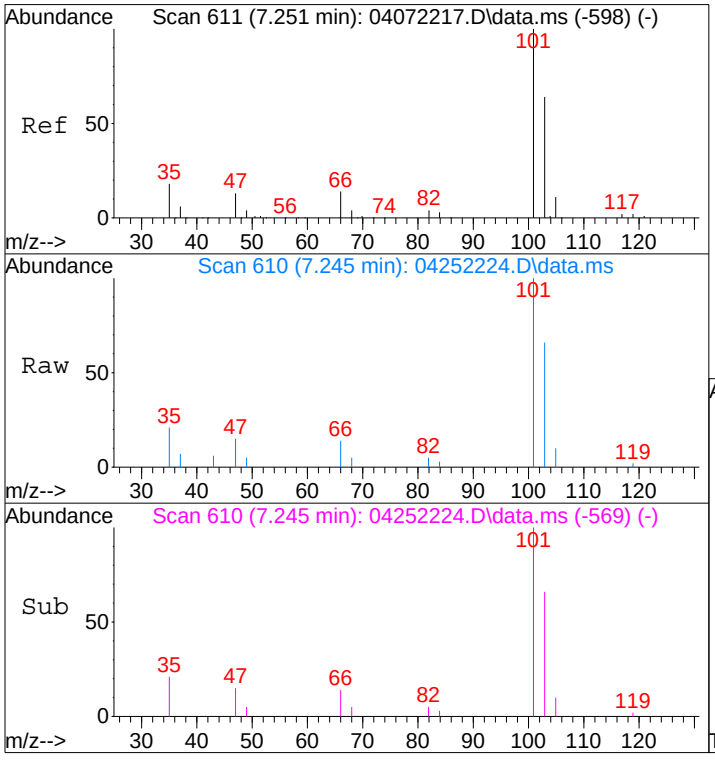


#13
Acetone
Concen: 2.78 ng
RT: 7.01 min Scan# 568
Delta R.T. -0.045 min
Lab File: 04252224.D
Acq: 25 Apr 2022 20:13

Tgt Ion: 58 Resp: 33383

Ion	Ratio	Lower	Upper
58	100		
43	405.3	370.7	430.7

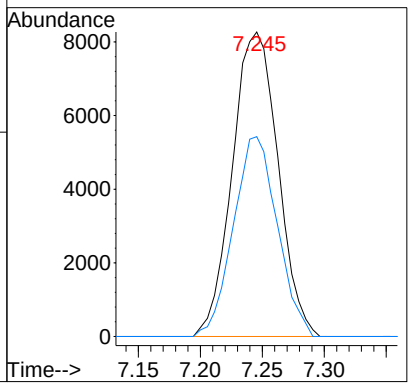


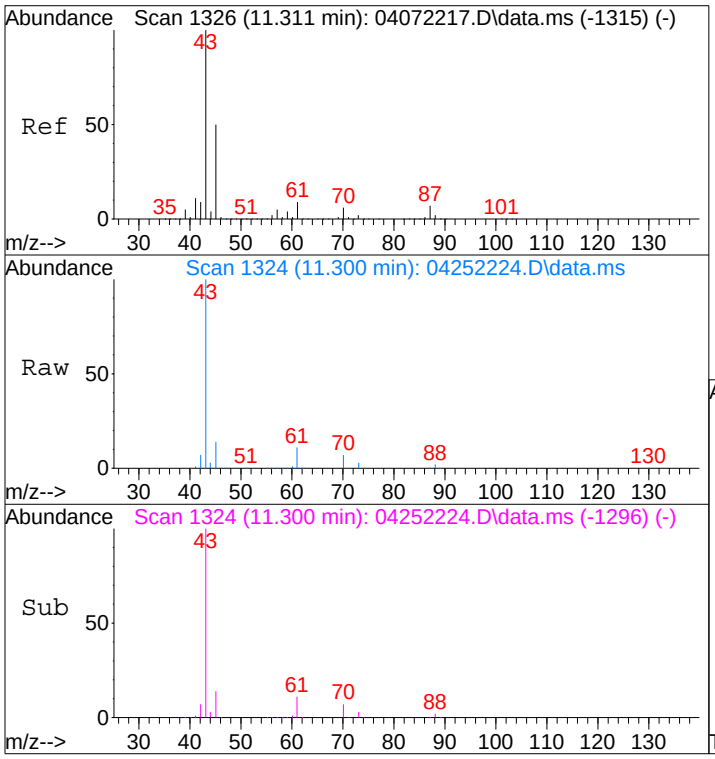


#14
Trichlorofluoromethane
Concen: 0.80 ng
RT: 7.25 min Scan# 610
Delta R.T. -0.017 min
Lab File: 04252224.D
Acq: 25 Apr 2022 20:13

Tgt Ion:101 Resp: 21245

Ion	Ratio	Lower	Upper
101	100		
103	63.1	43.8	83.8

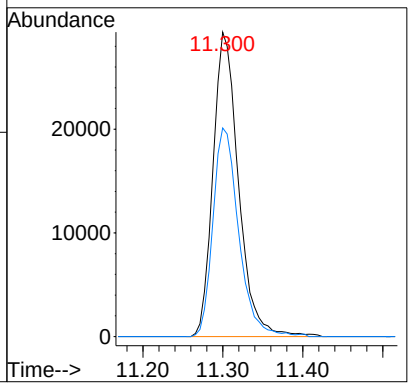




#30
Ethyl Acetate
Concen: 10.89 ng
RT: 11.30 min Scan# 1324
Delta R.T. -0.040 min
Lab File: 04252224.D
Acq: 25 Apr 2022 20:13

Tgt Ion: 61 Resp: 65110

Ion	Ratio	Lower	Upper
61	100		
70	69.3	50.8	90.8



Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9040722.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 07 16:31:14 2022
Response Via : Initial Calibration

4/7/22

Calibration Files
0.1 =04072212.D 0.2 =04072213.D 0.5 =04072214.D 1.0 =04072215.D 5.0 =04072216.D 25 =04072
100 =04072219.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene	1.980	1.683	1.746	1.660	1.634	1.638	1.633	1.827	1.725	7.14
3)	T	Dichlorodifluo...	2.833	2.364	2.564	2.404	2.174	2.269	2.170	2.111	2.361	10.23
4)	T	Chloromethane	2.457	2.091	2.210	2.091	1.655	1.993	1.837	1.347	1.960	17.55
5)	T	1,2-Dichloro-1...	1.217	1.090	1.171	1.069	0.978	1.025	0.987	0.954	1.061	8.91
6)	T	Vinyl Chloride	1.858	1.625	1.726	1.639	1.531	1.627	1.569	1.543	1.640	6.59
7)	T	1,3-Butadiene	1.511	1.362	1.508	1.425	1.378	1.531	1.506	1.501	1.465	4.53
8)	T	Bromomethane	0.938	0.785	0.890	0.848	0.782	0.849	0.809	0.799	0.837	6.60
9)	T	Chloroethane	0.878	0.684	0.783	0.778	0.698	0.737	0.722	0.718	0.750	8.35
10)	T	Ethanol	1.685	1.396	1.243	1.193	1.093	1.161	1.142	1.154	1.258	15.50
11)	T	Acetonitrile	3.350	3.405	3.413	3.183	2.958	3.047	2.960	2.934	3.156	6.62
12)	T	Acrolein	0.804	0.737	0.776	0.754	0.752	0.800	0.777	0.771	0.771	3.00
13)	T	Acetone	1.349	1.082	0.971	0.916	0.861	0.931	0.916	0.898	0.991	16.06
14)	T	Trichlorofluor...	2.633	2.296	2.316	2.206	1.996	2.119	2.034	2.001	2.200	9.81
15)	T	2-Propanol (Is...	4.639	4.151	3.988	3.881	3.435	3.988	3.826	3.416	3.915	10.03
16)	T	Acrylonitrile	1.795	1.726	1.746	1.716	1.628	1.745	1.715	1.702	1.722	2.76
17)	T	1,1-Dichloroet...	1.036	0.949	1.088	1.005	0.919	0.989	0.958	0.952	0.987	5.55
18)	T	2-Methyl-2-Pro...			2.977	2.853	1.957	2.985	2.514	1.749	2.506	21.46
19)	T	Methylene Chlo...	1.174	1.033	1.081	1.037	0.939	1.017	0.989	0.980	1.031	6.95
20)	T	3-Chloro-1-pro...	2.682	2.269	2.376	2.259	2.070	2.333	2.285	2.258	2.316	7.44
21)	T	Trichlorotrifl...	1.048	0.977	1.016	0.953	0.854	0.930	0.885	0.867	0.941	7.48
22)	T	Carbon Disulfide	3.654	3.243	3.482	3.381	3.276	3.642	3.560	3.508	3.468	4.50
23)	T	trans-1,2-Dich...	1.670	1.597	1.648	1.636	1.559	1.694	1.659	1.656	1.640	2.63
24)	T	1,1-Dichloroet...	2.240	2.023	2.121	2.059	1.852	1.982	1.918	1.891	2.011	6.41
25)	T	Methyl tert-Bu...	3.477	3.050	3.232	3.072	2.428	2.733	2.276	1.663	2.741	21.64
26)	T	Vinyl Acetate	0.129	0.140	0.172	0.172	0.183	0.213	0.209	0.208	0.178	17.77
27)	T	2-Butanone (MEK)	0.644	0.696	0.703	0.672	0.666	0.734	0.713	0.708	0.692	4.23
28)	T	cis-1,2-Dichlo...	1.805	1.596	1.727	1.626	1.530	1.649	1.619	1.614	1.646	5.14
29)	T	Diisopropyl Ether	1.053	0.936	1.004	0.980	0.914	1.030	0.901	0.825	0.955	7.92
30)	T	Ethyl Acetate	0.529	0.459	0.486	0.473	0.458	0.542	0.528	0.479	0.494	6.82
31)	T	n-Hexane	2.384	2.126	2.276	2.185	2.031	2.372	2.307	2.139	2.227	5.70
32)	T	Chloroform	2.214	1.947	2.010	1.950	1.778	1.907	1.845	1.811	1.933	7.13
33)	S	1,2-Dichloroet...	1.912	1.914	1.915	1.931	1.936	1.899	1.894	1.896	1.912	0.80
34)	T	Tetrahydrofura...	0.700	0.664	0.670	0.651	0.623	0.678	0.663	0.663	0.664	3.32
35)	T	Ethyl tert-But...	1.314	1.236	1.281	1.246	1.184	1.336	1.321	1.292	1.276	4.01
36)	T	1,2-Dichloroet...	1.909	1.631	1.800	1.744	1.594	1.698	1.645	1.629	1.706	6.24
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.450	0.436	0.447	0.423	0.391	0.437	0.425	0.415	0.428	4.48
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.180	0.982	1.002	0.934	0.870	0.951	0.923	0.898	0.968	9.89
42)	T	Carbon Tetrach...	0.400	0.336	0.387	0.364	0.345	0.392	0.381	0.371	0.372	6.05
43)	T	Cyclohexane	0.411	0.363	0.385	0.367	0.339	0.379	0.369	0.354	0.371	5.81
44)	T	tert-Amyl Meth...	0.723	0.668	0.661	0.634	0.612	0.732	0.728	0.701	0.683	6.67
45)	T	1,2-Dichloropr...	0.304	0.272	0.284	0.272	0.242	0.270	0.263	0.261	0.271	6.66
46)	T	Bromodichlorom...	0.381	0.322	0.356	0.335	0.327	0.372	0.365	0.363	0.353	6.23
47)	T	Trichloroethene	0.338	0.264	0.284	0.274	0.250	0.276	0.265	0.256	0.276	9.95
48)	T	1,4-Dioxane			0.189	0.194	0.181	0.205	0.201	0.200	0.195	4.52
49)	T	2,2,4-Trimethy...	1.500	1.305	1.330	1.248	1.150	1.263	1.232	1.202	1.279	8.27
50)	T	Methyl Methacr...	0.091	0.086	0.097	0.095	0.093	0.108	0.104	0.101	0.097	7.44
51)	T	n-Heptane	0.261	0.242	0.266	0.253	0.234	0.259	0.254	0.253	0.253	4.17
52)	T	cis-1,3-Dichlo...	0.370	0.354	0.378	0.376	0.368	0.430	0.421	0.418	0.389	7.59
53)	T	4-Methyl-2-pen...			0.264	0.255	0.248	0.293	0.294	0.290	0.274	7.53
54)	T	trans-1,3-Dich...	0.339	0.334	0.349	0.351	0.363	0.424	0.417	0.414	0.374	10.13

55)	T	1,1,2-Trichlor...	0.271	0.257	0.250	0.247	0.228	0.252	0.243	0.239	0.248	5.21
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	4.633	4.625	4.622	4.623	4.644	4.542	4.445	4.303	4.555	2.68
58)	T	Toluene	5.027	4.351	4.464	4.180	3.831	4.113	3.911	3.628	4.188	10.41
59)	T	2-Hexanone			3.282	3.165	3.068	3.473	3.332	3.040	3.227	5.17
60)	T	Dibromochlorom...	1.228	1.026	1.170	1.138	1.142	1.288	1.223	1.158	1.172	6.67
61)	T	1,2-Dibromoethane	1.147	1.135	1.173	1.103	1.061	1.165	1.108	1.049	1.118	4.09
62)	T	n-Butyl Acetate			3.476	3.389	3.358	3.842	3.695	3.343	3.517	5.85
63)	T	n-Octane	1.154	1.012	1.125	1.028	0.959	1.062	1.038	1.016	1.049	6.03
64)	T	Tetrachloroethene	1.368	1.148	1.274	1.198	1.126	1.210	1.142	1.077	1.193	7.77
65)	T	Chlorobenzene	3.417	2.929	2.905	2.834	2.578	2.789	2.650	2.446	2.819	10.42
66)	T	Ethylbenzene	5.429	4.731	4.910	4.737	4.463	4.910	4.662	4.293	4.767	7.14
67)	T	m- & p-Xylenes	4.322	3.702	4.064	3.822	3.544	3.987	3.796	3.409	3.831	7.63
68)	T	Bromoform	1.072	0.867	0.941	0.925	0.995	1.151	1.106	1.049	1.013	9.67
69)	T	Styrene	2.911	2.506	2.643	2.642	2.674	3.013	2.847	2.627	2.733	6.27
70)	T	o-Xylene	4.429	3.743	4.051	3.777	3.616	3.980	3.815	3.507	3.865	7.46
71)	T	n-Nonane	3.287	2.812	3.037	2.918	2.753	3.108	3.009	2.808	2.966	6.07
72)	T	1,1,2,2-Tetrac...	1.980	1.706	1.741	1.648	1.590	1.753	1.723	1.623	1.721	6.99
73)	S	Bromofluoroben...	1.620	1.610	1.588	1.611	1.659	1.633	1.583	1.529	1.604	2.43
74)	T	Cumene	5.574	4.888	5.100	4.919	4.613	5.004	4.701	4.180	4.872	8.28
75)	T	alpha-Pinene	2.473	2.221	2.229	2.222	2.143	2.527	2.427	2.243	2.311	6.15
76)	T	n-Propylbenzene	6.746	5.669	6.024	5.829	5.576	6.142	5.764	5.112	5.858	8.11
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	5.090	4.658	4.834	4.709	4.570	5.013	4.715	4.173	4.720	6.00
79)	T	1,3,5-Trimethy...	4.396	3.902	4.086	3.962	3.834	4.257	4.020	3.618	4.009	6.07
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	4.454	3.882	4.206	4.019	4.039	4.597	4.285	3.572	4.132	7.90
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride			2.463	2.640	3.178	4.000	3.838	3.169	3.215	19.20
85)	T	1,3-Dichlorobe...	2.567	2.370	2.458	2.359	2.317	2.543	2.346	2.066	2.378	6.59
86)	T	1,4-Dichlorobe...	2.762	2.370	2.467	2.388	2.318	2.493	2.360	2.103	2.408	7.72
87)	T	sec-Butylbenzene	6.000	5.280	5.607	5.389	5.259	5.760	5.343	4.600	5.405	7.69
88)	T	4-Isopropyltol...	4.751	4.440	4.782	4.698	4.564	4.955	4.566	3.930	4.586	6.73
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.614	2.343	2.348	2.276	2.216	2.421	2.233	1.957	2.301	8.16
91)	T	d-Limonene	1.338	1.262	1.455	1.453	1.503	1.846	1.814	1.628	1.537	13.70
92)	T	1,2-Dibromo-3-...	0.859	0.815	0.833	0.829	0.882	0.984	0.925	0.829	0.870	6.74
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.368	1.874	1.810	1.786	1.849	2.038	1.928	1.696	1.919	10.83
95)	T	Naphthalene			4.898	4.991	5.300	5.782	5.441	4.793	5.201	7.23
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.549	1.272	1.237	1.182	1.186	1.316	1.269	1.190	1.275	9.46
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	4.548	3.922	4.188	3.959	3.848	4.238	3.851	3.227	3.973	9.68
100)	T	n-Butylbenzene	4.970	4.446	4.489	4.411	4.370	4.832	4.540	4.030	4.511	6.39
101)	T	1,1,1,2-Tetrac...	1.229	0.969	1.057	1.006	0.965	1.063	1.015	0.929	1.029	9.02

(#) = Out of Range

R9040722.M Thu Apr 07 16:39:20 2022

Primary Source Standards Concentrations (Working & Initial Calibration)

4/13/22

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-04052208 | 200ng/L Std. ID: S35-04052201
20ng/L Std. ID: S35-04052202 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Replaces S35-04052201

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		40ng/L Std. ID:	
4ng/L Std. ID:	S35-04052208	200ng/L Std. ID:	S35-04052201
20ng/L Std. ID:	S35-04052202	1000ng/L Std. ID:	

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Q:\TO15 Std. Concentrations\MS09 Std. Conc\2022\R9040722.M\ICAL Conc. (Primary Source)

Date Updated: 09/19/20
Version: 0

Calibration Status Report MS09

Method   : I:\MS09\Methods\R9040722.M (RTE Integrator)
Title   : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration

4/7/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\DATA\2022_04\07\04072212.D
2	0.2	0	13	I:\MS09\DATA\2022_04\07\04072213.D
3	0.5	1	13	I:\MS09\DATA\2022_04\07\04072214.D
4	1.0	1	13	I:\MS09\DATA\2022_04\07\04072215.D
5	5.0	5	13	I:\MS09\DATA\2022_04\07\04072216.D
6	25	26	13	I:\MS09\DATA\2022_04\07\04072217.D
7	50	52	13	I:\MS09\DATA\2022_04\07\04072218.D
8	100	104	13	I:\MS09\DATA\2022_04\07\04072219.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Apr 07 16:29 2022	Apr 07 15:34 2022	7 Apr 2022 12:10
2	0.2	Apr 07 16:29 2022	Apr 07 15:33 2022	7 Apr 2022 12:44
3	0.5	Apr 07 16:29 2022	Apr 07 15:31 2022	7 Apr 2022 13:17
4	1.0	Apr 07 16:30 2022	Apr 07 15:30 2022	7 Apr 2022 13:50
5	5.0	Apr 07 16:30 2022	Apr 07 15:29 2022	7 Apr 2022 14:24
6	25	Apr 07 16:30 2022	Apr 07 15:25 2022	7 Apr 2022 14:57
7	50	Apr 07 16:30 2022	Apr 07 15:58 2022	7 Apr 2022 15:31
8	100	Apr 07 16:31 2022	Apr 07 16:28 2022	7 Apr 2022 16:04

R9040722.M Thu Apr 07 16:40:05 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072212.D Vial: 5
Acq On : 7 Apr 2022 12:10 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052208 (5/5)

Quant Time: Apr 07 15:34:23 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	151253	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.31	114	654030	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	164343	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	289141	14.136	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.12%				
57) Toluene-d8 (SS2)	15.77	98	761466	10.494	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.92%				
73) Bromofluorobenzene (SS3)	19.03	174	266274	10.348	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.80%				
Target Compounds							Qvalue
2) Propene	4.11	42	2492	0.152	ng		95
3) Dichlorodifluoromethan...	4.26	85	3600	0.127	ng	#	94
4) Chloromethane	4.55	50	3032	0.153	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	1590	0.109	ng		98
6) Vinyl Chloride	4.97	62	2338	0.132	ng		91
7) 1,3-Butadiene	5.24	54	1901	0.127	ng		90
8) Bromomethane	5.67	94	1158	0.108	ng		93
9) Chloroethane	6.01	64	1084	0.129	ng	#	43
10) Ethanol	6.34	45	7379	0.694	ng		78
11) Acetonitrile	6.61	41	3770	0.128	ng	#	22
12) Acrolein	6.81	56	1945	0.263	ng		97
13) Acetone	7.04	58	8471	0.841	ng		93
14) Trichlorofluoromethane	7.26	101	3282	0.127	ng		97
15) 2-Propanol (Isopropanol)	7.54	45	11338	0.307	ng		82
16) Acrylonitrile	7.78	53	4409	0.267	ng		91
17) 1,1-Dichloroethene	8.23	96	1341	0.119	ng	#	86
18) 2-Methyl-2-Propanol (t...	8.51	59	9700	0.359	ng	#	55
19) Methylene Chloride	8.44	84	1477	0.114	ng		92
20) 3-Chloro-1-propene (Al...	8.61	41	3407	0.155	ng		81
21) Trichlorotrifluoroethane	8.88	151	1369	0.111	ng		99
22) Carbon Disulfide	8.73	76	9286	0.213	ng		93
23) trans-1,2-Dichloroethene	9.73	61	2142	0.124	ng		100
24) 1,1-Dichloroethane	9.97	63	2846	0.124	ng		96
25) Methyl tert-Butyl Ether	10.12	73	4417	0.139	ng		94
26) Vinyl Acetate	10.25	86	529	0.225	ng	#	1
27) 2-Butanone (MEK)	10.52	72	1605	0.200	ng	#	25
28) cis-1,2-Dichloroethene	11.00	61	2272	0.128	ng		98
29) Diisopropyl Ether	11.32	87	2701	0.226	ng	#	92
30) Ethyl Acetate	11.32	61	2611	0.472	ng		84
31) n-Hexane	11.29	57	3029	0.127	ng		98
32) Chloroform	11.34	83	2867	0.126	ng		94
34) Tetrahydrofuran (THF)	11.79	72	1669	0.222	ng	#	85
35) Ethyl tert-Butyl Ether	11.92	87	3340	0.214	ng		92
36) 1,2-Dichloroethane	12.15	62	2449	0.129	ng		94
38) 1,1,1-Trichloroethane	12.44	97	2446	0.112	ng		96
39) Isopropyl Acetate	13.31	61	22009	No Calib			
40) 1-Butanol	12.95	56	1968	No Calib		#	
41) Benzene	12.92	78	6420	0.126	ng		99
42) Carbon Tetrachloride	13.07	117	2198	0.106	ng		94
43) Cyclohexane	13.21	84	4455	0.216	ng		98
44) tert-Amyl Methyl Ether	13.58	73	7907	0.220	ng		97
45) 1,2-Dichloropropane	13.77	63	1641	0.125	ng		93
46) Bromodichloromethane	13.96	83	2095	0.114	ng		100
47) Trichloroethene	14.01	130	1822	0.119	ng		89
48) 1,4-Dioxane	14.00	88	11410	1.096	ng		94
49) 2,2,4-Trimethylpentane...	14.08	57	8321	0.146	ng		97
50) Methyl Methacrylate	14.24	100	989	0.191	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072212.D Vial: 5
Acq On : 7 Apr 2022 12:10 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052208 (5/5)

Quant Time: Apr 07 15:34:23 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

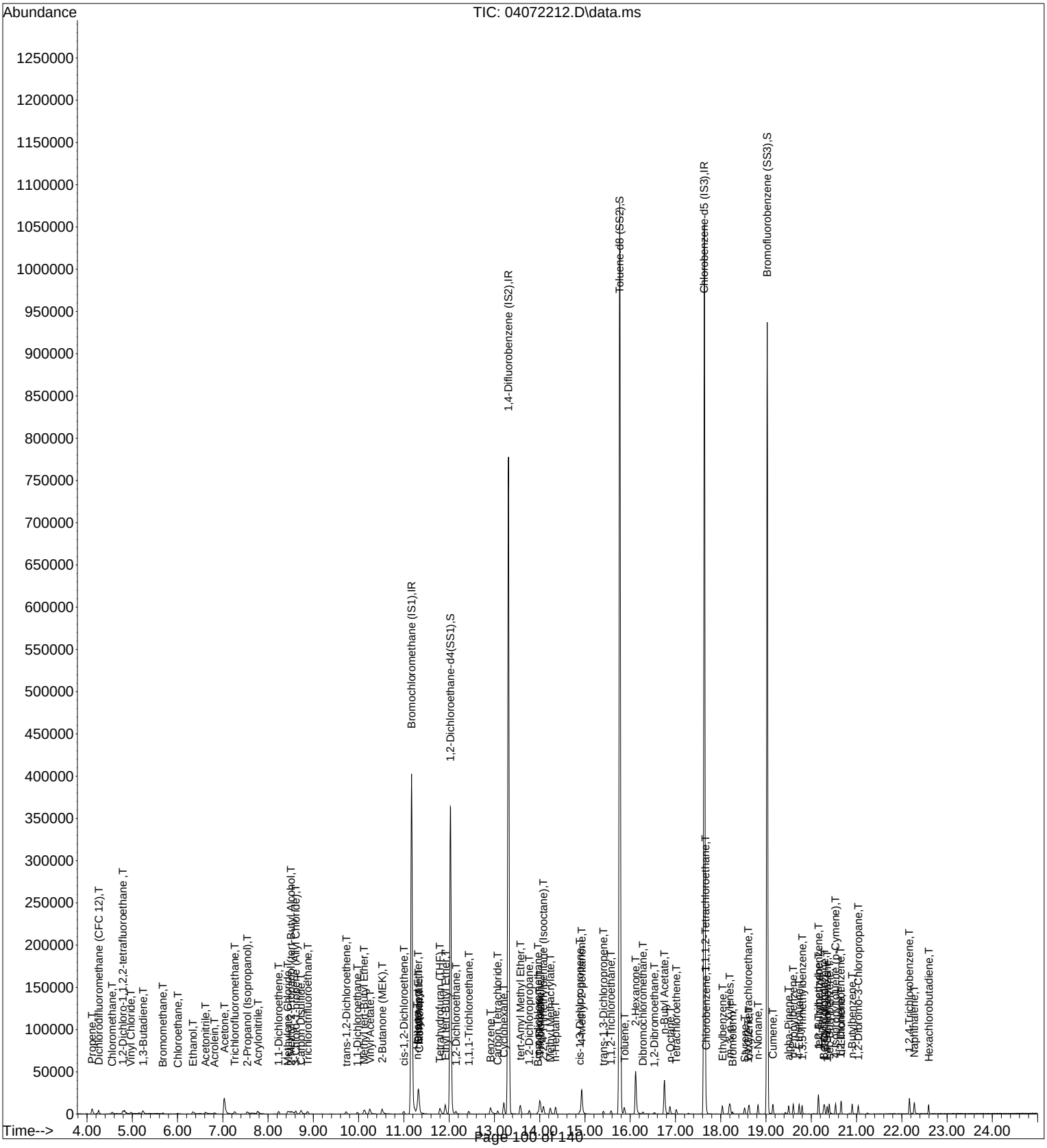
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	1433	0.111 ng		90
52) cis-1,3-Dichloropropene	14.89	75	2032	0.099 ng		97
53) 4-Methyl-2-pentanone	14.93	58	8743	0.698 ng		94
54) trans-1,3-Dichloropropene	15.41	75	1789	0.093 ng		98
55) 1,1,2-Trichloroethane	15.58	97	1476	0.115 ng		95
58) Toluene	15.88	91	6808	0.100 ng		98
59) 2-Hexanone	16.12	43	48941	1.130 ng		97
60) Dibromochloromethane	16.28	129	1695	0.085 ng		96
61) 1,2-Dibromoethane	16.53	107	1568	0.087 ng		92
62) n-Butyl Acetate	16.76	43	39756	0.835 ng		99
63) n-Octane	16.89	57	1593	0.114 ng		96
64) Tetrachloroethene	17.02	166	1870	0.088 ng		99
65) Chlorobenzene	17.68	112	4672	0.094 ng		95
66) Ethylbenzene	18.04	91	7352	0.095 ng		99
67) m- & p-Xylenes	18.20	91	11705	0.188 ng		99
68) Bromoform	18.26	173	1466	0.085 ng		90
69) Styrene	18.53	104	3942	0.084 ng		96
70) o-Xylene	18.62	91	6056	0.099 ng		100
71) n-Nonane	18.82	43	4495	0.118 ng		95
72) 1,1,2,2-Tetrachloroethane	18.61	83	2708	0.097 ng		96
74) Cumene	19.15	105	7621	0.094 ng		99
75) alpha-Pinene	19.50	93	3511	0.091 ng		74
76) n-Propylbenzene	19.60	91	9313	0.097 ng		99
77) 3-Ethyltoluene	19.73	105	7094	No Calib		
78) 4-Ethyltoluene	19.73	105	7094	0.090 ng		98
79) 1,3,5-Trimethylbenzene	19.80	105	6011	0.091 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.54	105	220	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.16	105	6032	0.086 ng		98
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	20.28	91	6381	0.113 ng		96
85) 1,3-Dichlorobenzene	20.29	146	3510	0.082 ng		96
86) 1,4-Dichlorobenzene	20.36	146	3777	0.088 ng		100
87) sec-Butylbenzene	20.40	105	8204	0.091 ng		96
88) 4-Isopropyltoluene (p-...	20.54	119	6496	0.082 ng		95
89) 1,2,3-Trimethylbenzene	20.40	105	8204	No Calib	#	
90) 1,2-Dichlorobenzene	20.65	146	3608	0.087 ng		99
91) d-Limonene	20.66	68	1847	0.077 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.04	157	2259	0.148 ng	#	82
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	6351	0.179 ng		97
95) Naphthalene	22.28	128	12997	0.142 ng		94
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.60	225	2097	0.098 ng		97
98) Cyclohexanone	18.82	55	748	No Calib	#	
99) tert-Butylbenzene	20.16	119	6218	0.090 ng		100
100) n-Butylbenzene	20.90	91	6796	0.093 ng		97
101) 1,1,1,2-Tetrachloroethane	17.66	131	1680	0.095 ng		89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072212.D Vial: 5
Acq On : 7 Apr 2022 12:10 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052208 (5/5)

Quant Time: Apr 07 15:34:23 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072213.D Vial: 5
Acq On : 7 Apr 2022 12:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052208 (5/5)

Quant Time: Apr 07 15:33:06 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	150274	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.31	114	646674	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	163616	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	287568	14.151	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.20%				
57) Toluene-d8 (SS2)	15.77	98	756729	10.475	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.84%				
73) Bromofluorobenzene (SS3)	19.03	174	263447	10.284	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.24%				
Target Compounds							Qvalue
2) Propene	4.09	42	4208	0.259	ng		92
3) Dichlorodifluoromethan...	4.25	85	5967	0.212	ng		97
4) Chloromethane	4.54	50	5127	0.260	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	2830	0.195	ng		99
6) Vinyl Chloride	4.96	62	4063	0.230	ng		88
7) 1,3-Butadiene	5.22	54	3407	0.230	ng		97
8) Bromomethane	5.66	94	1925	0.180	ng		96
9) Chloroethane	5.98	64	1678	0.200	ng		94
10) Ethanol	6.33	45	12149	1.149	ng		73
11) Acetonitrile	6.60	41	7614	0.261	ng	#	67
12) Acrolein	6.80	56	3545	0.483	ng		95
13) Acetone	7.02	58	13502	1.349	ng		98
14) Trichlorofluoromethane	7.26	101	5685	0.221	ng		96
15) 2-Propanol (Isopropanol)	7.51	45	20163	0.550	ng		92
16) Acrylonitrile	7.76	53	8425	0.513	ng		97
17) 1,1-Dichloroethene	8.23	96	2442	0.218	ng		99
18) 2-Methyl-2-Propanol (t...	8.47	59	16706	0.622	ng	#	55
19) Methylene Chloride	8.43	84	2582	0.201	ng		97
20) 3-Chloro-1-propene (Al...	8.61	41	5728	0.262	ng		87
21) Trichlorotrifluoroethane	8.87	151	2536	0.208	ng		99
22) Carbon Disulfide	8.72	76	16375	0.377	ng		97
23) trans-1,2-Dichloroethene	9.72	61	4070	0.237	ng		93
24) 1,1-Dichloroethane	9.97	63	5108	0.225	ng		97
25) Methyl tert-Butyl Ether	10.11	73	7700	0.244	ng		97
26) Vinyl Acetate	10.24	86	1147	0.490	ng	#	59
27) 2-Butanone (MEK)	10.51	72	3446	0.432	ng	#	77
28) cis-1,2-Dichloroethene	10.99	61	3992	0.226	ng		97
29) Diisopropyl Ether	11.31	87	4772	0.402	ng	#	92
30) Ethyl Acetate	11.32	61	4507	0.819	ng		98
31) n-Hexane	11.29	57	5367	0.226	ng		98
32) Chloroform	11.33	83	5009	0.222	ng		98
34) Tetrahydrofuran (THF)	11.78	72	3144	0.422	ng		97
35) Ethyl tert-Butyl Ether	11.91	87	6240	0.403	ng		96
36) 1,2-Dichloroethane	12.15	62	4156	0.220	ng		98
38) 1,1,1-Trichloroethane	12.44	97	4691	0.217	ng		97
39) Isopropyl Acetate	13.31	61	21406	No Calib			
40) 1-Butanol	12.94	56	3434	No Calib		#	
41) Benzene	12.91	78	10570	0.210	ng		98
42) Carbon Tetrachloride	13.08	117	3655	0.179	ng		96
43) Cyclohexane	13.21	84	7781	0.381	ng		97
44) tert-Amyl Methyl Ether	13.57	73	14448	0.406	ng		97
45) 1,2-Dichloropropane	13.77	63	2901	0.223	ng		95
46) Bromodichloromethane	13.96	83	3499	0.192	ng		98
47) Trichloroethene	14.01	130	2811	0.186	ng		97
48) 1,4-Dioxane	14.00	88	20807	2.021	ng		99
49) 2,2,4-Trimethylpentane...	14.08	57	14314	0.254	ng		98
50) Methyl Methacrylate	14.22	100	1848	0.361	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072213.D Vial: 5
Acq On : 7 Apr 2022 12:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052208 (5/5)

Quant Time: Apr 07 15:33:06 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

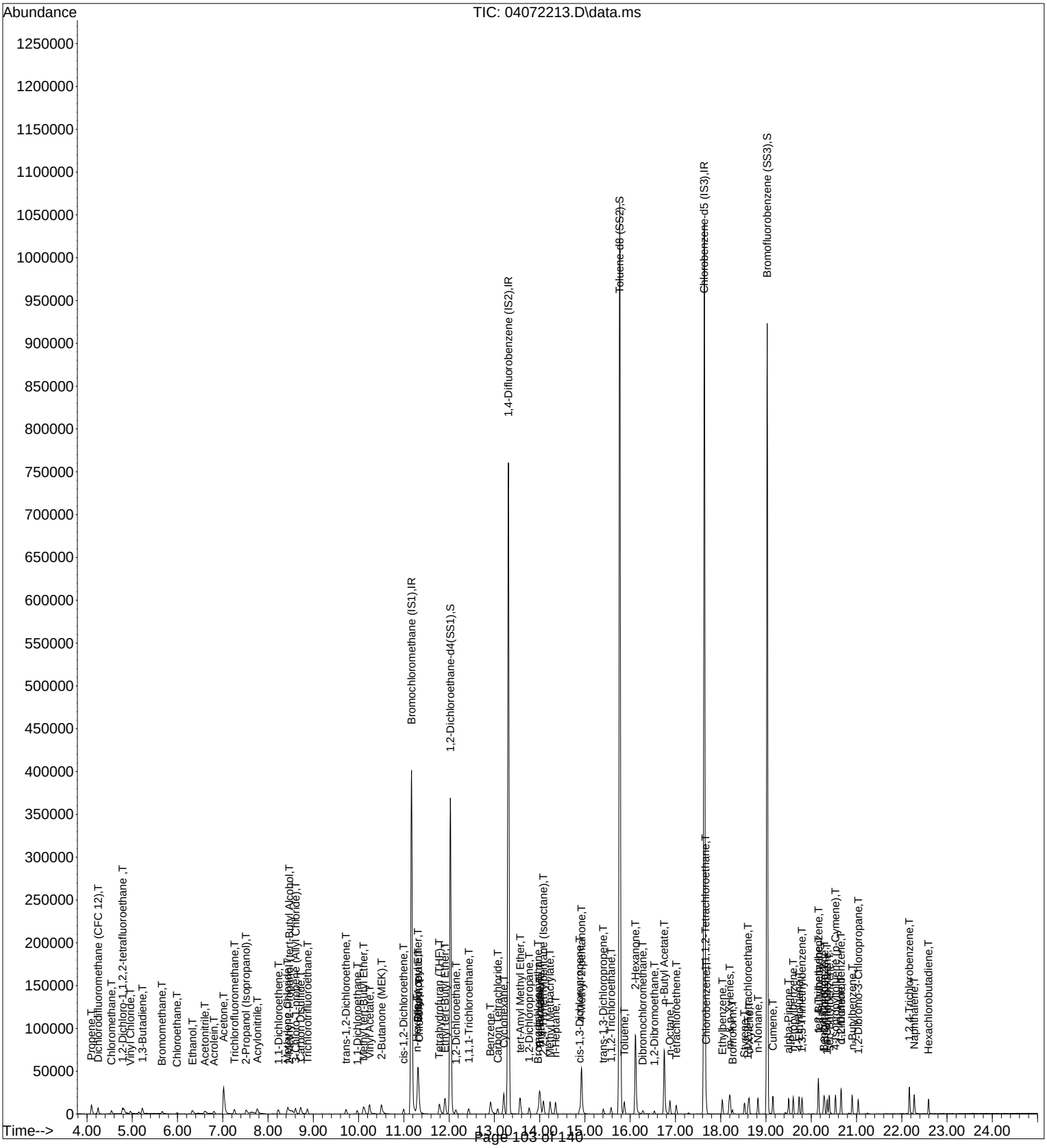
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	2626	0.205 ng		92
52) cis-1,3-Dichloropropene	14.88	75	3849	0.189 ng		99
53) 4-Methyl-2-pentanone	14.92	58	15615	1.262 ng		94
54) trans-1,3-Dichloropropene	15.40	75	3493	0.184 ng		96
55) 1,1,2-Trichloroethane	15.58	97	2767	0.219 ng		96
58) Toluene	15.87	91	11733	0.174 ng		95
59) 2-Hexanone	16.11	43	87721	2.035 ng		98
60) Dibromochloromethane	16.27	129	2820	0.142 ng		100
61) 1,2-Dibromoethane	16.53	107	3090	0.172 ng		98
62) n-Butyl Acetate	16.75	43	73198	1.544 ng		99
63) n-Octane	16.88	57	2782	0.200 ng		98
64) Tetrachloroethene	17.02	166	3126	0.148 ng		98
65) Chlorobenzene	17.68	112	7975	0.161 ng		100
66) Ethylbenzene	18.03	91	12757	0.166 ng		99
67) m- & p-Xylenes	18.20	91	19962	0.322 ng		98
68) Bromoform	18.26	173	2360	0.137 ng		98
69) Styrene	18.52	104	6756	0.145 ng		97
70) o-Xylene	18.63	91	10190	0.167 ng		99
71) n-Nonane	18.82	43	7655	0.201 ng		97
72) 1,1,2,2-Tetrachloroethane	18.60	83	4646	0.167 ng		96
74) Cumene	19.15	105	13309	0.164 ng		98
75) alpha-Pinene	19.50	93	6279	0.164 ng		81
76) n-Propylbenzene	19.60	91	15582	0.162 ng		99
77) 3-Ethyltoluene	19.73	105	12926	No Calib		
78) 4-Ethyltoluene	19.73	105	12926	0.165 ng		98
79) 1,3,5-Trimethylbenzene	19.79	105	10624	0.161 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.66	105	160	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.16	105	10468	0.149 ng		98
83) n-Decane	20.53	58	124	No Calib	#	
84) Benzyl Chloride	20.28	91	10871	0.194 ng		99
85) 1,3-Dichlorobenzene	20.29	146	6452	0.151 ng		98
86) 1,4-Dichlorobenzene	20.35	146	6452	0.151 ng		95
87) sec-Butylbenzene	20.40	105	14374	0.159 ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	12087	0.154 ng		98
89) 1,2,3-Trimethylbenzene	20.40	105	14374	No Calib	#	
90) 1,2-Dichlorobenzene	20.66	146	6439	0.156 ng		98
91) d-Limonene	20.66	68	3470	0.145 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.04	157	4268	0.281 ng		93
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	10008	0.283 ng		99
95) Naphthalene	22.28	128	18749	0.206 ng		98
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	3429	0.160 ng		98
98) Cyclohexanone	18.83	55	1218	No Calib	#	
99) tert-Butylbenzene	20.16	119	10678	0.155 ng		99
100) n-Butylbenzene	20.91	91	12105	0.166 ng		96
101) 1,1,1,2-Tetrachloroethane	17.66	131	2637	0.149 ng		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072213.D Vial: 5
Acq On : 7 Apr 2022 12:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052208 (5/5)

Quant Time: Apr 07 15:33:06 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072214.D Vial: 6
Acq On : 7 Apr 2022 13:17 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052202 (5/5)

Quant Time: Apr 07 15:31:44 2022 4/7/22
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	145966	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.31	114	629675	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	159312	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	279498	14.160	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.28%				
57) Toluene-d8 (SS2)	15.77	98	736378	10.469	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.76%				
73) Bromofluorobenzene (SS3)	19.03	174	252960	10.141	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.12%				
Target Compounds							Qvalue
2) Propene	4.09	42	10601	0.672	ng		96
3) Dichlorodifluoromethan...	4.24	85	15719	0.576	ng		100
4) Chloromethane	4.53	50	13162	0.687	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	7387	0.523	ng		99
6) Vinyl Chloride	4.95	62	10482	0.611	ng		98
7) 1,3-Butadiene	5.21	54	9159	0.636	ng		96
8) Bromomethane	5.65	94	5303	0.512	ng		94
9) Chloroethane	5.98	64	4665	0.573	ng		97
10) Ethanol	6.31	45	26270	2.558	ng		100
11) Acetonitrile	6.59	41	18530	0.654	ng		89
12) Acrolein	6.79	56	9056	1.271	ng		99
13) Acetone	7.00	58	29438	3.027	ng		94
14) Trichlorofluoromethane	7.25	101	13930	0.557	ng		99
15) 2-Propanol (Isopropanol)	7.49	45	47038	1.321	ng		92
16) Acrylonitrile	7.76	53	20691	1.297	ng		99
17) 1,1-Dichloroethene	8.22	96	6797	0.623	ng		93
18) 2-Methyl-2-Propanol (t...	8.45	59	36496	1.399	ng		94
19) Methylene Chloride	8.43	84	6566	0.527	ng		98
20) 3-Chloro-1-propene (Al...	8.60	41	14566	0.687	ng		95
21) Trichlorotrifluoroethane	8.87	151	6409	0.540	ng		99
22) Carbon Disulfide	8.71	76	42695	1.013	ng		100
23) trans-1,2-Dichloroethene	9.72	61	10201	0.610	ng		99
24) 1,1-Dichloroethane	9.97	63	13006	0.589	ng		99
25) Methyl tert-Butyl Ether	10.10	73	19812	0.646	ng		100
26) Vinyl Acetate	10.24	86	3422	1.505	ng	#	81
27) 2-Butanone (MEK)	10.49	72	8458	1.092	ng	#	85
28) cis-1,2-Dichloroethene	10.99	61	10488	0.612	ng		99
29) Diisopropyl Ether	11.31	87	12430	1.077	ng	#	96
30) Ethyl Acetate	11.31	61	11574	2.166	ng		98
31) n-Hexane	11.29	57	13951	0.605	ng		99
32) Chloroform	11.34	83	12557	0.572	ng		99
34) Tetrahydrofuran (THF)	11.78	72	7710	1.065	ng		97
35) Ethyl tert-Butyl Ether	11.90	87	15705	1.045	ng		98
36) 1,2-Dichloroethane	12.15	62	11138	0.607	ng		100
38) 1,1,1-Trichloroethane	12.43	97	11716	0.556	ng		100
39) Isopropyl Acetate	13.31	61	21421	No Calib			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	12.91	78	26250	0.537	ng		99
42) Carbon Tetrachloride	13.07	117	10240	0.514	ng		97
43) Cyclohexane	13.21	84	20085	1.009	ng		98
44) tert-Amyl Methyl Ether	13.56	73	34805	1.005	ng		97
45) 1,2-Dichloropropane	13.77	63	7361	0.581	ng		100
46) Bromodichloromethane	13.96	83	9426	0.532	ng		100
47) Trichloroethene	14.01	130	7362	0.500	ng		99
48) 1,4-Dioxane	14.00	88	4958	0.495	ng		95
49) 2,2,4-Trimethylpentane...	14.08	57	35499	0.647	ng		99
50) Methyl Methacrylate	14.22	100	5081	1.020	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072214.D Vial: 6
Acq On : 7 Apr 2022 13:17 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052202 (5/5)

Quant Time: Apr 07 15:31:44 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

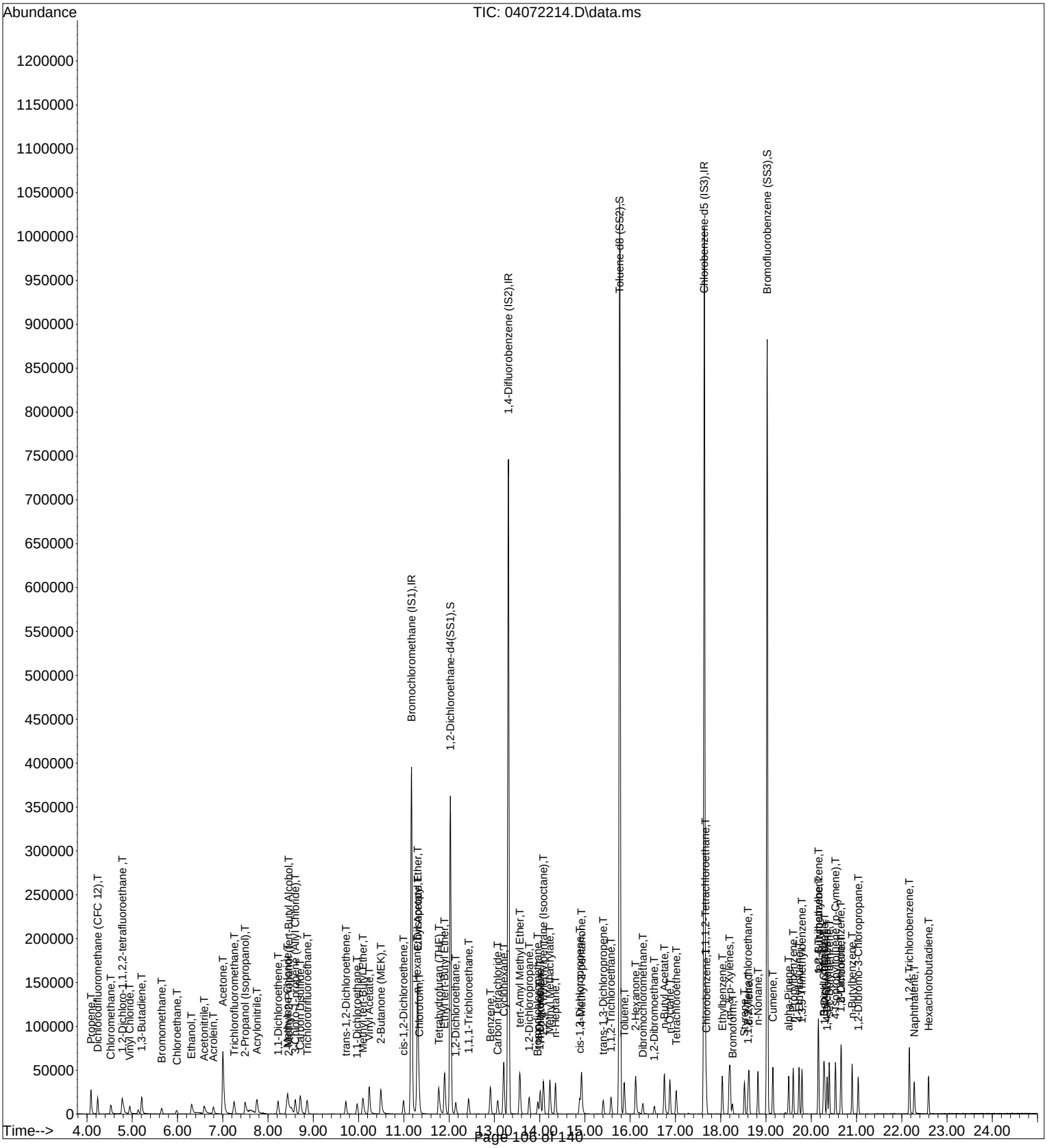
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	7043	0.566 ng		99
52) cis-1,3-Dichloropropene	14.89	75	9996	0.504 ng		95
53) 4-Methyl-2-pentanone	14.92	58	13838	1.148 ng		96
54) trans-1,3-Dichloropropene	15.41	75	8874	0.481 ng		98
55) 1,1,2-Trichloroethane	15.58	97	6544	0.531 ng		96
58) Toluene	15.87	91	29302	0.445 ng		98
59) 2-Hexanone	16.12	43	42875	1.022 ng		95
60) Dibromochloromethane	16.28	129	7826	0.405 ng		100
61) 1,2-Dibromoethane	16.53	107	7775	0.445 ng		98
62) n-Butyl Acetate	16.76	43	45183	0.979 ng		99
63) n-Octane	16.88	57	7526	0.555 ng		98
64) Tetrachloroethene	17.02	166	8444	0.411 ng		97
65) Chlorobenzene	17.68	112	19255	0.400 ng		96
66) Ethylbenzene	18.03	91	32230	0.431 ng		99
67) m- & p-Xylenes	18.19	91	53347	0.885 ng		99
68) Bromoform	18.26	173	6236	0.373 ng		100
69) Styrene	18.52	104	17345	0.382 ng		98
70) o-Xylene	18.62	91	26846	0.453 ng		99
71) n-Nonane	18.82	43	20125	0.543 ng		98
72) 1,1,2,2-Tetrachloroethane	18.60	83	11541	0.427 ng		97
74) Cumene	19.15	105	33798	0.429 ng		100
75) alpha-Pinene	19.50	93	15338	0.411 ng		97
76) n-Propylbenzene	19.60	91	40308	0.432 ng		100
77) 3-Ethyltoluene	19.73	105	32653	No Calib		
78) 4-Ethyltoluene	19.73	105	32653	0.429 ng		100
79) 1,3,5-Trimethylbenzene	19.79	105	27079	0.421 ng		100
80) alpha-Methylstyrene	19.73	118	316	No Calib	#	
81) 2-Ethyltoluene	20.66	105	622	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.16	105	27609	0.404 ng		97
83) n-Decane	20.53	58	558	No Calib	#	
84) Benzyl Chloride	20.28	91	32335	0.593 ng		100
85) 1,3-Dichlorobenzene	20.29	146	16293	0.392 ng		99
86) 1,4-Dichlorobenzene	20.35	146	16352	0.393 ng		100
87) sec-Butylbenzene	20.40	105	37159	0.423 ng		100
88) 4-Isopropyltoluene (p-...	20.54	119	31691	0.414 ng		99
89) 1,2,3-Trimethylbenzene	20.40	105	37159	No Calib		
90) 1,2-Dichlorobenzene	20.65	146	15711	0.392 ng		99
91) d-Limonene	20.66	68	9737	0.419 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.04	157	10621	0.718 ng		94
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	23532	0.685 ng		98
95) Naphthalene	22.28	128	32461	0.366 ng		98
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	8119	0.390 ng		99
98) Cyclohexanone	18.82	55	3202	No Calib	#	
99) tert-Butylbenzene	20.16	119	27758	0.413 ng		99
100) n-Butylbenzene	20.90	91	29747	0.418 ng		98
101) 1,1,1,2-Tetrachloroethane	17.66	131	7006	0.408 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072214.D Vial: 6
Acq On : 7 Apr 2022 13:17 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052202 (5/5)

Quant Time: Apr 07 15:31:44 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072215.D Vial: 6
Acq On : 7 Apr 2022 13:50 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052202 (5/5)

Quant Time: Apr 07 15:30:18 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	145725	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.31	114	632939	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	160844	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	281365	14.278	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.24%				
57) Toluene-d8 (SS2)	15.77	98	743662	10.472	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.76%				
73) Bromofluorobenzene (SS3)	19.03	174	259100	10.288	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.32%				
Target Compounds							Qvalue
2) Propene	4.08	42	20131	1.278	ng		97
3) Dichlorodifluoromethan...	4.23	85	29432	1.080	ng		99
4) Chloromethane	4.52	50	24868	1.300	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	13456	0.954	ng		99
6) Vinyl Chloride	4.94	62	19873	1.160	ng		100
7) 1,3-Butadiene	5.20	54	17280	1.203	ng		96
8) Bromomethane	5.65	94	10083	0.975	ng		99
9) Chloroethane	5.97	64	9257	1.139	ng		97
10) Ethanol	6.31	45	50358	4.912	ng		99
11) Acetonitrile	6.59	41	34510	1.220	ng		91
12) Acrolein	6.79	56	17575	2.471	ng		100
13) Acetone	7.00	58	55452	5.712	ng		94
14) Trichlorofluoromethane	7.25	101	26492	1.061	ng		98
15) 2-Propanol (Isopropanol)	7.48	45	91384	2.571	ng		93
16) Acrylonitrile	7.75	53	40616	2.550	ng		98
17) 1,1-Dichloroethene	8.22	96	12542	1.152	ng		99
18) 2-Methyl-2-Propanol (t...	8.46	59	69842	2.682	ng		97
19) Methylene Chloride	8.43	84	12568	1.011	ng		99
20) 3-Chloro-1-propene (Al...	8.60	41	27650	1.306	ng		98
21) Trichlorotrifluoroethane	8.86	151	12003	1.014	ng		98
22) Carbon Disulfide	8.71	76	82765	1.967	ng		99
23) trans-1,2-Dichloroethene	9.72	61	20212	1.212	ng		99
24) 1,1-Dichloroethane	9.97	63	25198	1.143	ng		99
25) Methyl tert-Butyl Ether	10.09	73	37599	1.229	ng		99
26) Vinyl Acetate	10.24	86	6802	2.997	ng	#	78
27) 2-Butanone (MEK)	10.49	72	16137	2.087	ng	#	88
28) cis-1,2-Dichloroethene	10.99	61	19718	1.153	ng		100
29) Diisopropyl Ether	11.30	87	24211	2.102	ng	#	93
30) Ethyl Acetate	11.31	61	22505	4.219	ng		100
31) n-Hexane	11.29	57	26743	1.163	ng		99
32) Chloroform	11.34	83	24321	1.109	ng		98
34) Tetrahydrofuran (THF)	11.77	72	14947	2.067	ng		97
35) Ethyl tert-Butyl Ether	11.90	87	30515	2.034	ng		97
36) 1,2-Dichloroethane	12.15	62	21546	1.176	ng		99
38) 1,1,1-Trichloroethane	12.43	97	22301	1.052	ng		99
39) Isopropyl Acetate	13.31	61	21402	No Calib			
40) 1-Butanol	12.96	56	114	No Calib		#	
41) Benzene	12.91	78	49211	1.001	ng		99
42) Carbon Tetrachloride	13.08	117	19368	0.967	ng		99
43) Cyclohexane	13.21	84	38416	1.920	ng		98
44) tert-Amyl Methyl Ether	13.56	73	67079	1.927	ng		98
45) 1,2-Dichloropropane	13.78	63	14167	1.113	ng		98
46) Bromodichloromethane	13.96	83	17796	0.999	ng		100
47) Trichloroethene	14.02	130	14298	0.966	ng		99
48) 1,4-Dioxane	14.00	88	10221	1.014	ng		96
49) 2,2,4-Trimethylpentane...	14.08	57	66962	1.214	ng		100
50) Methyl Methacrylate	14.23	100	10036	2.004	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072215.D Vial: 6
Acq On : 7 Apr 2022 13:50 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052202 (5/5)

Quant Time: Apr 07 15:30:18 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

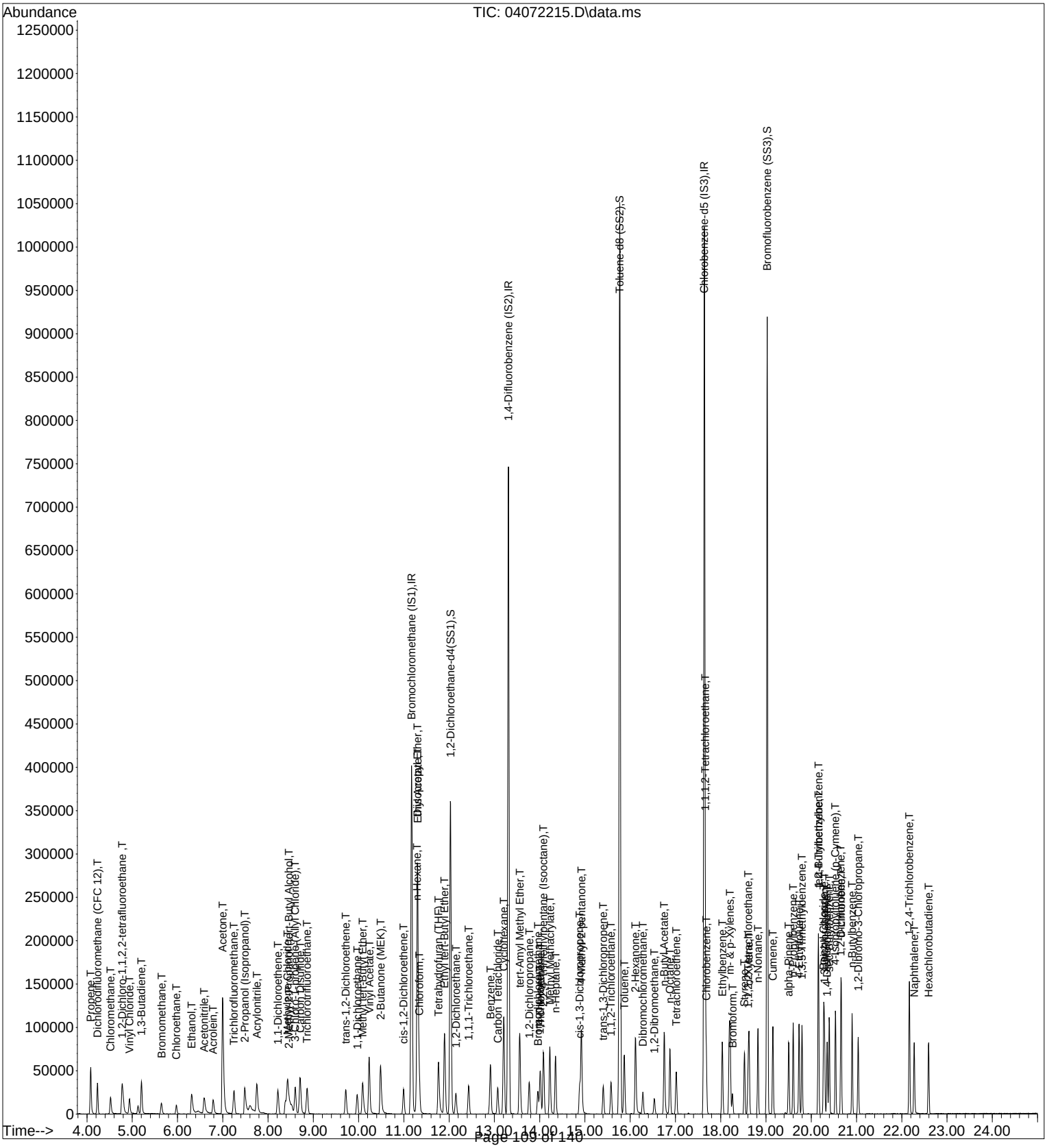
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	13439	1.074 ng		99
52) cis-1,3-Dichloropropene	14.88	75	19665	0.987 ng		99
53) 4-Methyl-2-pentanone	14.92	58	26838	2.216 ng		95
54) trans-1,3-Dichloropropene	15.40	75	17932	0.967 ng		100
55) 1,1,2-Trichloroethane	15.58	97	13027	1.052 ng		99
58) Toluene	15.87	91	55395	0.834 ng		99
59) 2-Hexanone	16.11	43	83481	1.970 ng		98
60) Dibromochloromethane	16.28	129	15375	0.789 ng		100
61) 1,2-Dibromoethane	16.53	107	14764	0.837 ng		100
62) n-Butyl Acetate	16.75	43	88948	1.908 ng		100
63) n-Octane	16.88	57	13893	1.015 ng		99
64) Tetrachloroethene	17.02	166	16034	0.774 ng		98
65) Chlorobenzene	17.68	112	37923	0.780 ng		100
66) Ethylbenzene	18.03	91	62785	0.832 ng		100
67) m- & p-Xylenes	18.20	91	101299	1.664 ng		100
68) Bromoform	18.26	173	12384	0.734 ng		99
69) Styrene	18.52	104	35021	0.764 ng		99
70) o-Xylene	18.62	91	50550	0.844 ng		99
71) n-Nonane	18.82	43	39056	1.044 ng		99
72) 1,1,2,2-Tetrachloroethane	18.61	83	22051	0.808 ng		99
74) Cumene	19.15	105	65831	0.827 ng		99
75) alpha-Pinene	19.50	93	30875	0.820 ng		98
76) n-Propylbenzene	19.60	91	78750	0.835 ng		99
77) 3-Ethyltoluene	19.73	105	64230	No Calib		
78) 4-Ethyltoluene	19.73	105	64230	0.836 ng		100
79) 1,3,5-Trimethylbenzene	19.79	105	53023	0.817 ng		100
80) alpha-Methylstyrene	19.60	118	179	No Calib	#	
81) 2-Ethyltoluene	20.66	105	1347	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	53269	0.772 ng		96
83) n-Decane	20.53	58	980	No Calib	#	
84) Benzyl Chloride	20.27	91	69975	1.271 ng		100
85) 1,3-Dichlorobenzene	20.29	146	31573	0.752 ng		100
86) 1,4-Dichlorobenzene	20.35	146	31956	0.761 ng		100
87) sec-Butylbenzene	20.40	105	72115	0.813 ng		99
88) 4-Isopropyltoluene (p-...	20.53	119	62865	0.813 ng		99
89) 1,2,3-Trimethylbenzene	20.40	105	72115	No Calib		
90) 1,2-Dichlorobenzene	20.65	146	30753	0.760 ng		100
91) d-Limonene	20.66	68	19631	0.837 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.04	157	21331	1.428 ng		96
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	46876	1.351 ng		99
95) Naphthalene	22.28	128	66791	0.746 ng		98
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	15668	0.745 ng		100
98) Cyclohexanone	18.82	55	5831	No Calib	#	
99) tert-Butylbenzene	20.16	119	52978	0.781 ng		99
100) n-Butylbenzene	20.90	91	59025	0.822 ng		98
101) 1,1,1,2-Tetrachloroethane	17.66	131	13463	0.776 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072215.D Vial: 6
Acq On : 7 Apr 2022 13:50 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052202 (5/5)

Quant Time: Apr 07 15:30:18 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072216.D Vial: 6
Acq On : 7 Apr 2022 14:24 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052202 (5/5)

Quant Time: Apr 07 15:29:00 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	146607	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.31	114	638311	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	161409	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	283791	14.314	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.48%				
57) Toluene-d8 (SS2)	15.77	98	749637	10.519	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.16%				
73) Bromofluorobenzene (SS3)	19.03	174	267853	10.599	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.80%				
Target Compounds							Qvalue
2) Propene	4.06	42	99681	6.288	ng		99
3) Dichlorodifluoromethan...	4.22	85	133861	4.883	ng		100
4) Chloromethane	4.50	50	98981	5.144	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	61917	4.364	ng		99
6) Vinyl Chloride	4.92	62	93345	5.417	ng		100
7) 1,3-Butadiene	5.19	54	84065	5.816	ng		99
8) Bromomethane	5.63	94	46756	4.493	ng		100
9) Chloroethane	5.97	64	41751	5.108	ng		99
10) Ethanol	6.32	45	231952	22.491	ng		100
11) Acetonitrile	6.59	41	161296	5.667	ng		97
12) Acrolein	6.78	56	88228	12.329	ng		99
13) Acetone	6.99	58	261907	26.817	ng		97
14) Trichlorofluoromethane	7.24	101	120558	4.798	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	406854	11.380	ng		98
16) Acrylonitrile	7.75	53	193782	12.092	ng		99
17) 1,1-Dichloroethene	8.22	96	57656	5.264	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	241024	9.201	ng		96
19) Methylene Chloride	8.44	84	57259	4.579	ng		99
20) 3-Chloro-1-propene (Al...	8.60	41	127439	5.984	ng		100
21) Trichlorotrifluoroethane	8.86	151	54071	4.539	ng		97
22) Carbon Disulfide	8.70	76	403493	9.532	ng		100
23) trans-1,2-Dichloroethene	9.72	61	96881	5.772	ng		99
24) 1,1-Dichloroethane	9.98	63	114055	5.141	ng		99
25) Methyl tert-Butyl Ether	10.08	73	149481	4.856	ng		99
26) Vinyl Acetate	10.23	86	36420	15.949	ng	#	95
27) 2-Butanone (MEK)	10.48	72	80443	10.341	ng		97
28) cis-1,2-Dichloroethene	11.00	61	93333	5.425	ng		99
29) Diisopropyl Ether	11.30	87	113691	9.810	ng	#	96
30) Ethyl Acetate	11.31	61	109473	20.398	ng		99
31) n-Hexane	11.29	57	125054	5.404	ng		99
32) Chloroform	11.34	83	111572	5.057	ng		100
34) Tetrahydrofuran (THF)	11.75	72	71973	9.894	ng		100
35) Ethyl tert-Butyl Ether	11.90	87	145857	9.662	ng		97
36) 1,2-Dichloroethane	12.15	62	99110	5.377	ng		100
38) 1,1,1-Trichloroethane	12.44	97	103719	4.852	ng		100
39) Isopropyl Acetate	13.32	61	21767	No Calib			
40) 1-Butanol	12.92	56	3775	No Calib		#	
41) Benzene	12.91	78	230982	4.660	ng		99
42) Carbon Tetrachloride	13.08	117	92509	4.578	ng		100
43) Cyclohexane	13.21	84	179354	8.890	ng		97
44) tert-Amyl Methyl Ether	13.55	73	326840	9.311	ng		99
45) 1,2-Dichloropropane	13.77	63	63660	4.958	ng		99
46) Bromodichloromethane	13.96	83	87634	4.878	ng		99
47) Trichloroethene	14.01	130	65774	4.409	ng		100
48) 1,4-Dioxane	13.99	88	48084	4.732	ng		98
49) 2,2,4-Trimethylpentane...	14.09	57	311221	5.593	ng		100
50) Methyl Methacrylate	14.22	100	49620	9.823	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072216.D Vial: 6
Acq On : 7 Apr 2022 14:24 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052202 (5/5)

Quant Time: Apr 07 15:29:00 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

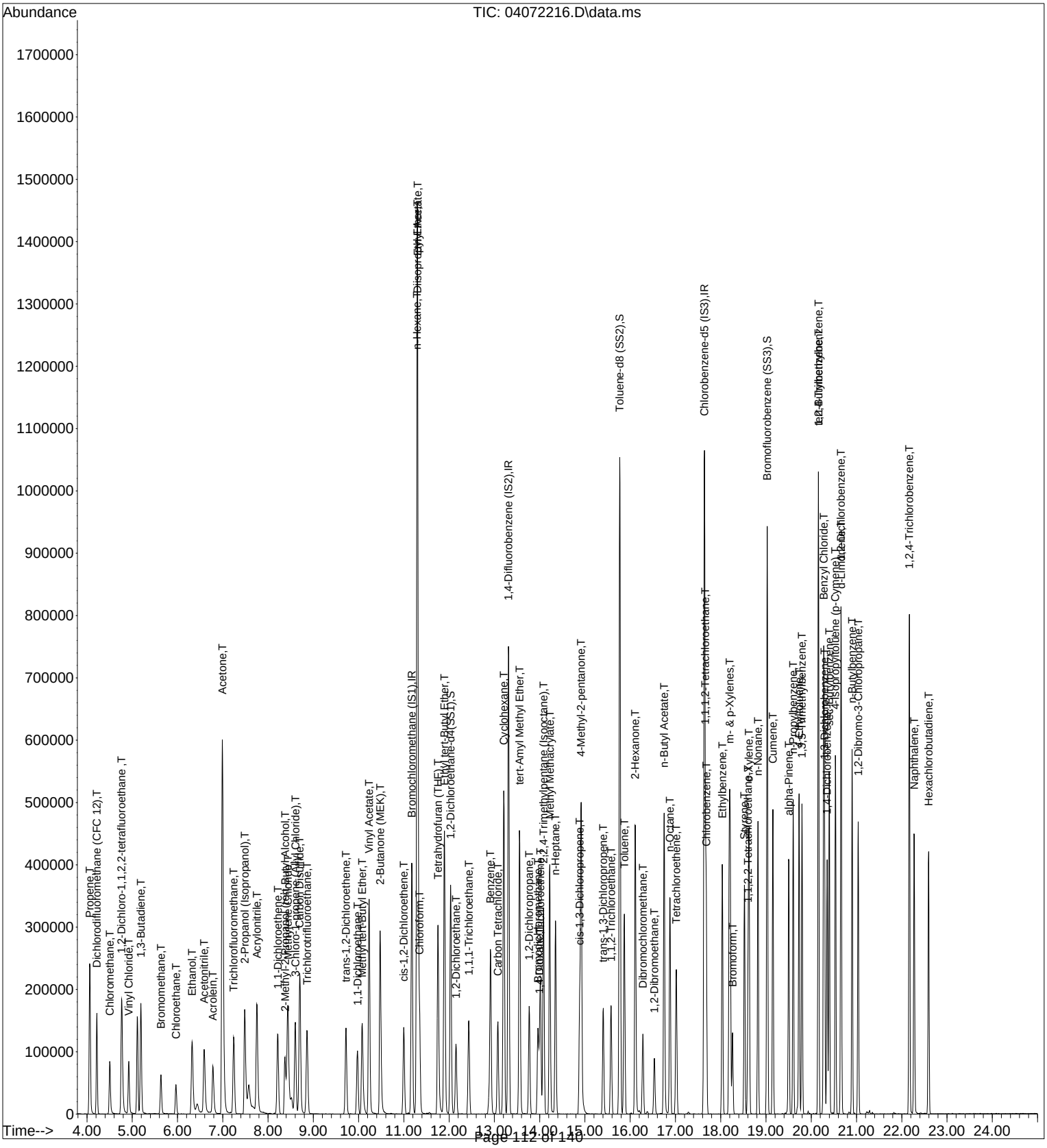
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	62663	4.967 ng		100
52) cis-1,3-Dichloropropene	14.88	75	98638	4.907 ng		100
53) 4-Methyl-2-pentanone	14.92	58	131768	10.786 ng		97
54) trans-1,3-Dichloropropene	15.40	75	93594	5.003 ng		99
55) 1,1,2-Trichloroethane	15.58	97	60437	4.841 ng		99
58) Toluene	15.87	91	254767	3.823 ng		100
59) 2-Hexanone	16.11	43	406025	9.549 ng		99
60) Dibromochloromethane	16.28	129	77413	3.958 ng		99
61) 1,2-Dibromoethane	16.53	107	71235	4.024 ng		100
62) n-Butyl Acetate	16.75	43	442239	9.455 ng		99
63) n-Octane	16.88	57	65016	4.732 ng		99
64) Tetrachloroethene	17.02	166	75616	3.637 ng		100
65) Chlorobenzene	17.68	112	173091	3.546 ng		100
66) Ethylbenzene	18.03	91	296772	3.917 ng		100
67) m- & p-Xylenes	18.20	91	471394	7.718 ng		99
68) Bromoform	18.26	173	66830	3.947 ng		99
69) Styrene	18.52	104	177831	3.864 ng		99
70) o-Xylene	18.62	91	242832	4.042 ng		100
71) n-Nonane	18.82	43	184825	4.923 ng		100
72) 1,1,2,2-Tetrachloroethane	18.60	83	106731	3.899 ng		100
74) Cumene	19.15	105	309734	3.878 ng		100
75) alpha-Pinene	19.50	93	149461	3.956 ng		99
76) n-Propylbenzene	19.60	91	378014	3.995 ng		99
77) 3-Ethyltoluene	19.73	105	312782	No Calib		
78) 4-Ethyltoluene	19.73	105	312782	4.054 ng		100
79) 1,3,5-Trimethylbenzene	19.79	105	257442	3.951 ng		98
80) alpha-Methylstyrene	19.60	118	765	No Calib	#	
81) 2-Ethyltoluene	20.66	105	6901	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	268571	3.881 ng		98
83) n-Decane	20.53	58	1435	No Calib	#	
84) Benzyl Chloride	20.28	91	422719	7.652 ng		99
85) 1,3-Dichlorobenzene	20.29	146	155545	3.692 ng		99
86) 1,4-Dichlorobenzene	20.35	146	155636	3.692 ng		100
87) sec-Butylbenzene	20.40	105	353136	3.968 ng		100
88) 4-Isopropyltoluene (p-...	20.53	119	306463	3.950 ng		99
89) 1,2,3-Trimethylbenzene	20.40	105	353136	No Calib		
90) 1,2-Dichlorobenzene	20.66	146	150194	3.700 ng		99
91) d-Limonene	20.66	68	101896	4.327 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.04	157	113933	7.600 ng		97
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	243483	6.991 ng		99
95) Naphthalene	22.28	128	355857	3.963 ng		99
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	78850	3.738 ng		100
98) Cyclohexanone	18.62	55	122	No Calib	#	
99) tert-Butylbenzene	20.16	119	258383	3.796 ng		99
100) n-Butylbenzene	20.90	91	293446	4.073 ng		99
101) 1,1,1,2-Tetrachloroethane	17.66	131	64825	3.725 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072216.D Vial: 6
Acq On : 7 Apr 2022 14:24 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052202 (5/5)

Quant Time: Apr 07 15:29:00 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072217.D Vial: 7
Acq On : 7 Apr 2022 14:57 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052201 (5/5)

Quant Time: Apr 07 15:25:08 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	156031	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.32	114	663728	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	172348	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.04	65	296365	14.046	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.40%			
57) Toluene-d8 (SS2)	15.77	98	782801	10.287	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.32%			
73) Bromofluorobenzene (SS3)	19.03	174	281370	10.427	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.44%			
Target Compounds						Qvalue
2) Propene	4.05	42	531609	31.511	ng	100
3) Dichlorodifluoromethan...	4.21	85	743382	25.479	ng	100
4) Chloromethane	4.50	50	634252	30.972	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	345360	22.870	ng	100
6) Vinyl Chloride	4.93	62	527894	28.785	ng	100
7) 1,3-Butadiene	5.20	54	496747	32.294	ng	100
8) Bromomethane	5.64	94	270286	24.403	ng	100
9) Chloroethane	5.97	64	234550	26.965	ng	100
10) Ethanol	6.37	45	1311847	119.519	ng	100
11) Acetonitrile	6.62	41	884371	29.192	ng	100
12) Acrolein	6.80	56	499214	65.549	ng	100
13) Acetone	7.01	58	1508094	145.087	ng	100
14) Trichlorofluoromethane	7.25	101	681242	25.473	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	2513699	66.061	ng	100
16) Acrylonitrile	7.78	53	1105521	64.820	ng	100
17) 1,1-Dichloroethene	8.22	96	330089	28.317	ng	100
18) 2-Methyl-2-Propanol (t...	8.40	59	1956004	70.161	ng	100
19) Methylene Chloride	8.45	84	330130	24.804	ng	100
20) 3-Chloro-1-propene (Al...	8.61	41	764386	33.724	ng	100
21) Trichlorotrifluoroethane	8.87	151	313280	24.710	ng	100
22) Carbon Disulfide	8.71	76	2386714	52.980	ng	100
23) trans-1,2-Dichloroethene	9.73	61	560410	31.373	ng	100
24) 1,1-Dichloroethane	9.99	63	649436	27.503	ng	100
25) Methyl tert-Butyl Ether	10.08	73	895538	27.338	ng	100
26) Vinyl Acetate	10.24	86	225516	92.793	ng	100
27) 2-Butanone (MEK)	10.48	72	471672	56.974	ng	100
28) cis-1,2-Dichloroethene	11.01	61	535138	29.224	ng	100
29) Diisopropyl Ether	11.31	87	681260	55.231	ng	100
30) Ethyl Acetate	11.31	61	689795	120.763	ng	100
31) n-Hexane	11.29	57	777263	31.557	ng	100
32) Chloroform	11.36	83	636618	27.113	ng	100
34) Tetrahydrofuran (THF)	11.75	72	416999	53.860	ng	100
35) Ethyl tert-Butyl Ether	11.90	87	875744	54.506	ng	100
36) 1,2-Dichloroethane	12.16	62	561796	28.636	ng	100
38) 1,1,1-Trichloroethane	12.44	97	603526	27.151	ng	100
39) Isopropyl Acetate	13.32	61	21908	No Calib		
40) 1-Butanol	12.90	56	19128	No Calib		
41) Benzene	12.92	78	1313463	25.484	ng	100
42) Carbon Tetrachloride	13.08	117	545983	25.987	ng	100
43) Cyclohexane	13.21	84	1040798	49.615	ng	100
44) tert-Amyl Methyl Ether	13.56	73	2030972	55.640	ng	100
45) 1,2-Dichloropropane	13.78	63	369436	27.671	ng	100
46) Bromodichloromethane	13.97	83	518477	27.755	ng	100
47) Trichloroethene	14.02	130	377623	24.342	ng	100
48) 1,4-Dioxane	13.99	88	282878	26.770	ng	100
49) 2,2,4-Trimethylpentane...	14.09	57	1777262	30.717	ng	100
50) Methyl Methacrylate	14.22	100	297789	56.695	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072217.D Vial: 7
Acq On : 7 Apr 2022 14:57 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052201 (5/5)

Quant Time: Apr 07 15:25:08 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

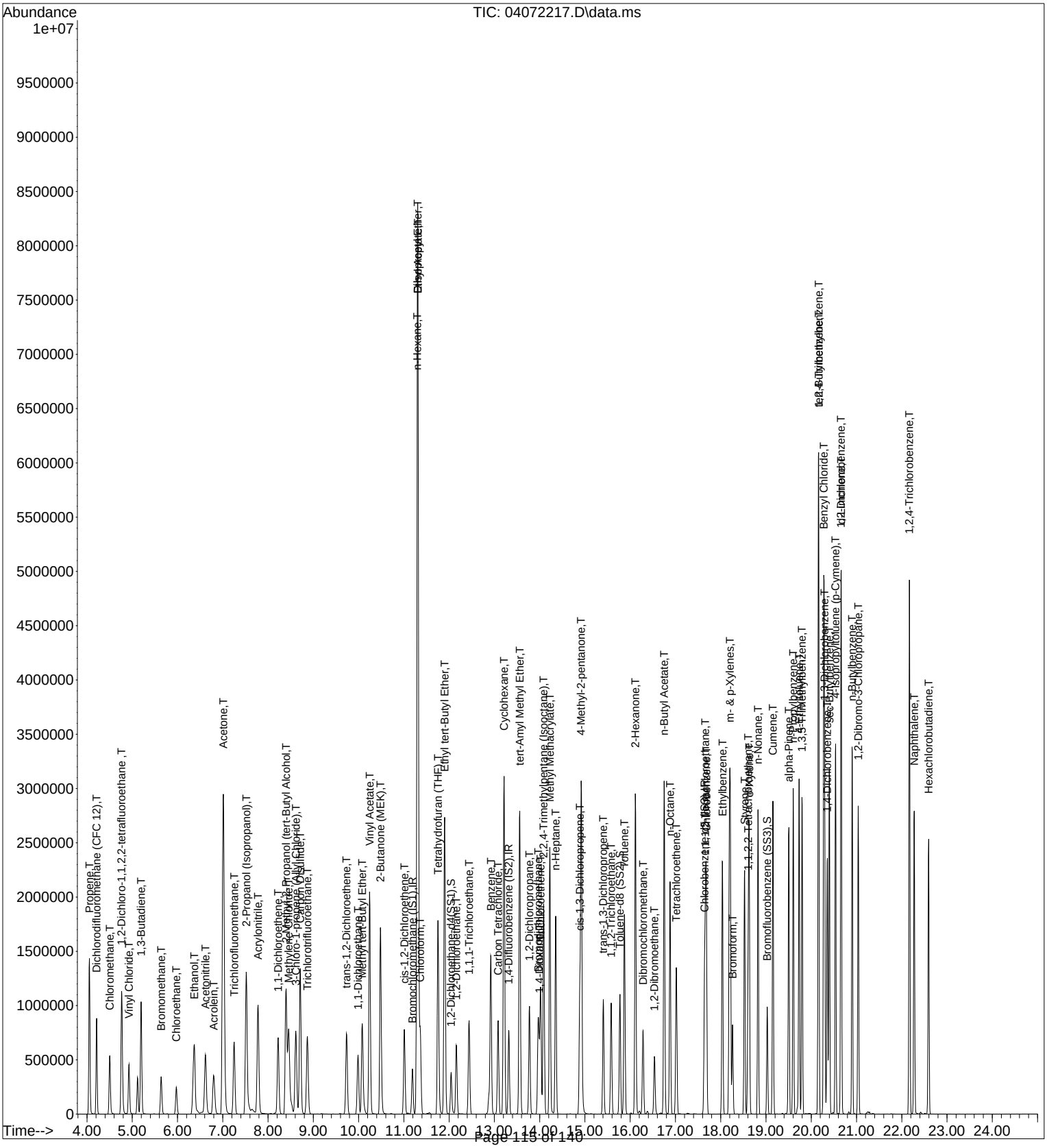
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	361337	27.547 ng		100
52) cis-1,3-Dichloropropene	14.89	75	599929	28.701 ng		100
53) 4-Methyl-2-pentanone	14.92	58	807860	63.596 ng		100
54) trans-1,3-Dichloropropene	15.40	75	568292	29.215 ng		100
55) 1,1,2-Trichloroethane	15.58	97	347981	26.803 ng		100
58) Toluene	15.87	91	1460201	20.519 ng		100
59) 2-Hexanone	16.11	43	2454302	54.056 ng		100
60) Dibromochloromethane	16.29	129	466081	22.319 ng		100
61) 1,2-Dibromoethane	16.53	107	417592	22.095 ng		100
62) n-Butyl Acetate	16.75	43	2701918	54.100 ng		100
63) n-Octane	16.88	57	384472	26.204 ng		100
64) Tetrachloroethene	17.02	166	433885	19.545 ng		100
65) Chlorobenzene	17.68	112	999900	19.182 ng		100
66) Ethylbenzene	18.04	91	1743273	21.549 ng		100
67) m- & p-Xylenes	18.20	91	2830885	43.406 ng		100
68) Bromoform	18.26	173	412778	22.830 ng		100
69) Styrene	18.53	104	1069586	21.763 ng		100
70) o-Xylene	18.63	91	1426637	22.238 ng		100
71) n-Nonane	18.82	43	1114282	27.798 ng		100
72) 1,1,2,2-Tetrachloroethane	18.61	83	628374	21.498 ng		100
74) Cumene	19.15	105	1793737	21.035 ng		100
75) alpha-Pinene	19.50	93	940579	23.314 ng		100
76) n-Propylbenzene	19.60	91	2223017	22.002 ng		100
77) 3-Ethyltoluene	19.73	105	1831703	No Calib		
78) 4-Ethyltoluene	19.73	105	1831703	22.236 ng		100
79) 1,3,5-Trimethylbenzene	19.79	105	1525897	21.932 ng		100
80) alpha-Methylstyrene	19.60	118	3484	No Calib		
81) 2-Ethyltoluene	20.66	105	42947	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	1632215	22.088 ng		100
83) n-Decane	20.51	58	349	No Calib	#	
84) Benzyl Chloride	20.28	91	2840497	48.158 ng		100
85) 1,3-Dichlorobenzene	20.29	146	911566	20.265 ng		100
86) 1,4-Dichlorobenzene	20.36	146	893590	19.852 ng		100
87) sec-Butylbenzene	20.40	105	2065002	21.731 ng		100
88) 4-Isopropyltoluene (p-...	20.54	119	1776436	21.442 ng		100
89) 1,2,3-Trimethylbenzene	20.40	105	2065002	No Calib		
90) 1,2-Dichlorobenzene	20.66	146	876331	20.220 ng		100
91) d-Limonene	20.66	68	668066	26.570 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.04	157	678519	42.386 ng		100
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	1433249	38.542 ng		100
95) Naphthalene	22.28	128	2072741	21.617 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	467114	20.736 ng		100
98) Cyclohexanone	18.62	55	1387	No Calib		
99) tert-Butylbenzene	20.16	119	1519380	20.904 ng		100
100) n-Butylbenzene	20.90	91	1732185	22.516 ng		100
101) 1,1,1,2-Tetrachloroethane	17.66	131	381076	20.507 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072217.D Vial: 7
Acq On : 7 Apr 2022 14:57 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052201 (5/5)

Quant Time: Apr 07 15:25:08 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072218.D Vial: 7
Acq On : 7 Apr 2022 15:31 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052201 (5/5)

Quant Time: Apr 07 15:58:02 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.20	130	164624	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.32	114	697846	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.64	54	183769	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.05	65	311817	14.007	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.08%				
57) Toluene-d8 (SS2)	15.77	98	816813	10.067	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.56%				
73) Bromofluorobenzene (SS3)	19.03	174	290991	10.113	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.88%				
Target Compounds							Qvalue
2) Propene	4.05	42	1118111	62.817	ng		100
3) Dichlorodifluoromethan...	4.21	85	1500589	48.747	ng		100
4) Chloromethane	4.51	50	1233915	57.109	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.77	135	701829	44.050	ng		100
6) Vinyl Chloride	4.93	62	1074805	55.548	ng		100
7) 1,3-Butadiene	5.20	54	1031640	63.566	ng		99
8) Bromomethane	5.64	94	543182	46.481	ng		100
9) Chloroethane	5.98	64	484629	52.807	ng		100
10) Ethanol	6.40	45	2722382	235.083	ng		100
11) Acetonitrile	6.63	41	1812605	56.710	ng		100
12) Acrolein	6.81	56	1023067	127.321	ng		100
13) Acetone	7.03	58	3129405	285.352	ng		96
14) Trichlorofluoromethane	7.26	101	1379701	48.897	ng		100
15) 2-Propanol (Isopropanol)	7.55	45	5088848	126.756	ng		100
16) Acrylonitrile	7.80	53	2292515	127.400	ng		100
17) 1,1-Dichloroethene	8.23	96	675308	54.908	ng		99
18) 2-Methyl-2-Propanol (t...	8.42	59	3476178	118.180	ng		99
19) Methylene Chloride	8.47	84	677339	48.235	ng		100
20) 3-Chloro-1-propene (Al...	8.62	41	1580062	66.071	ng		100
21) Trichlorotrifluoroethane	8.88	151	629696	47.074	ng		98
22) Carbon Disulfide	8.72	76	4922839	103.572	ng		100
23) trans-1,2-Dichloroethene	9.74	61	1158169	61.452	ng		99
24) 1,1-Dichloroethane	9.99	63	1325990	53.224	ng		100
25) Methyl tert-Butyl Ether	10.08	73	1573794	45.535	ng		99
26) Vinyl Acetate	10.25	86	468478	182.703	ng		98
27) 2-Butanone (MEK)	10.49	72	967196	110.731	ng		100
28) cis-1,2-Dichloroethene	11.02	61	1108543	57.379	ng		99
29) Diisopropyl Ether	11.31	87	1258069	96.670	ng	#	90
30) Ethyl Acetate	11.32	61	1419844	235.599	ng		99
31) n-Hexane	11.29	57	1594964	61.375	ng		100
32) Chloroform	11.37	83	1299991	52.476	ng		99
34) Tetrahydrofuran (THF)	11.76	72	860675	105.364	ng		100
35) Ethyl tert-Butyl Ether	11.91	87	1826787	107.763	ng		100
36) 1,2-Dichloroethane	12.16	62	1148107	55.467	ng		100
38) 1,1,1-Trichloroethane	12.44	97	1232638	52.742	ng		100
39) Isopropyl Acetate	13.32	61	23443	No Calib			
40) 1-Butanol	12.90	56	41678	No Calib			
41) Benzene	12.92	78	2679520	49.446	ng		100
42) Carbon Tetrachloride	13.08	117	1117600	50.594	ng		100
43) Cyclohexane	13.22	84	2129562	96.554	ng		97
44) tert-Amyl Methyl Ether	13.56	73	4249736	110.733	ng		99
45) 1,2-Dichloropropane	13.78	63	757297	53.948	ng		99
46) Bromodichloromethane	13.97	83	1068571	54.407	ng		100
47) Trichloroethene	14.03	130	760914	46.651	ng		100
48) 1,4-Dioxane	13.99	88	583783	52.546	ng		98
49) 2,2,4-Trimethylpentane...	14.09	57	3646321	59.939	ng		100
50) Methyl Methacrylate	14.23	100	604027	109.376	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072218.D Vial: 7
Acq On : 7 Apr 2022 15:31 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052201 (5/5)

Quant Time: Apr 07 15:58:02 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

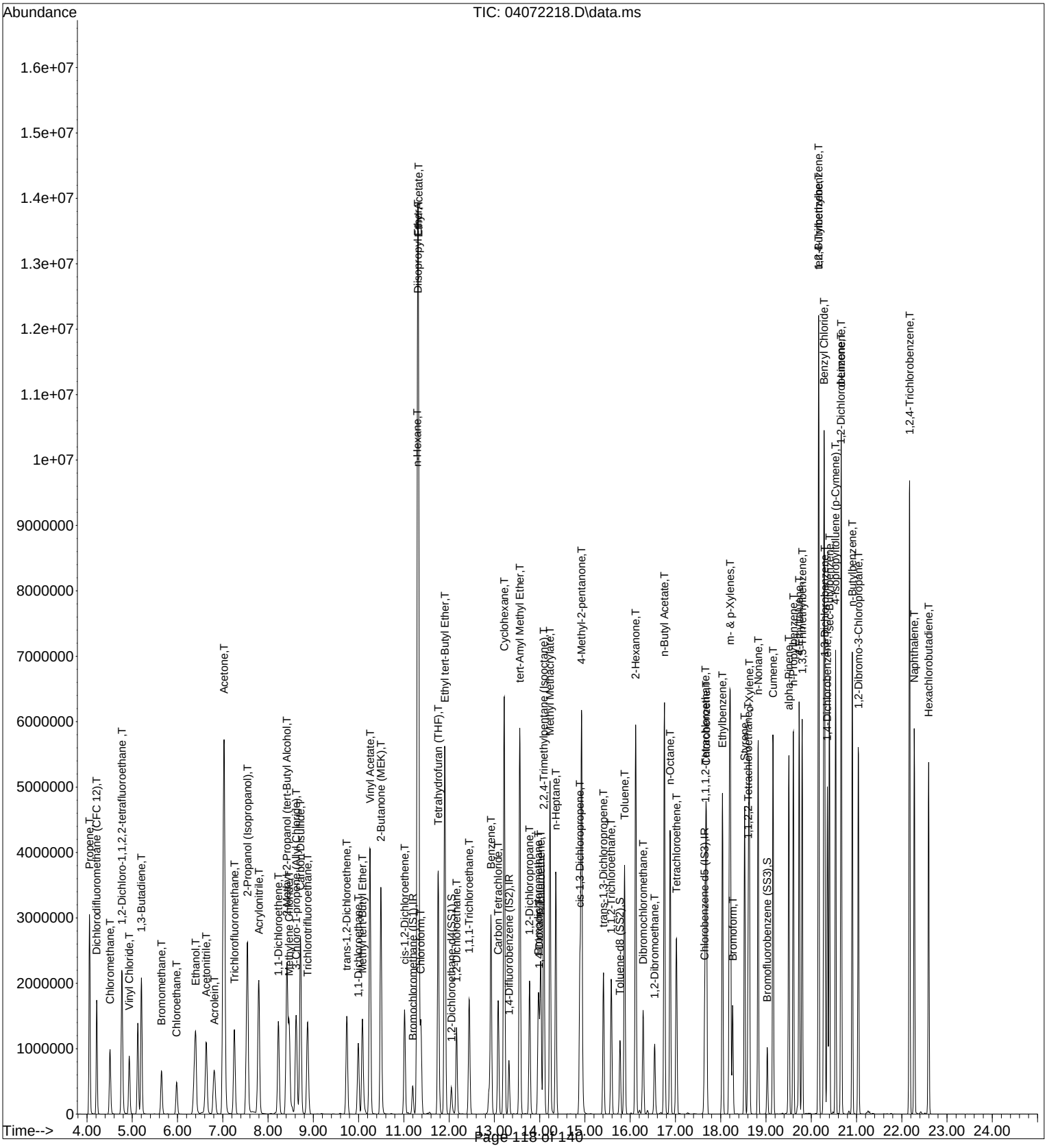
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.36	71	743801	53.931	ng		99
52) cis-1,3-Dichloropropene	14.89	75	1234012	56.150	ng		99
53) 4-Methyl-2-pentanone	14.92	58	1706285	127.755	ng		97
54) trans-1,3-Dichloropropene	15.41	75	1174987	57.450	ng		100
55) 1,1,2-Trichloroethane	15.58	97	705515	51.686	ng		99
58) Toluene	15.88	91	2961243	39.027	ng		100
59) 2-Hexanone	16.12	43	5021275	103.720	ng		99
60) Dibromochloromethane	16.29	129	944320	42.410	ng		99
61) 1,2-Dibromoethane	16.54	107	847353	42.047	ng		100
62) n-Butyl Acetate	16.76	43	5540869	104.049	ng		99
63) n-Octane	16.88	57	801315	51.220	ng		98
64) Tetrachloroethene	17.02	166	872854	36.875	ng		100
65) Chlorobenzene	17.68	112	2026117	36.454	ng		100
66) Ethylbenzene	18.04	91	3529561	40.917	ng		100
67) m- & p-Xylenes	18.21	91	5747411	82.649	ng		100
68) Bromoform	18.27	173	845734	43.870	ng		100
69) Styrene	18.53	104	2155441	41.131	ng		98
70) o-Xylene	18.63	91	2916175	42.632	ng		99
71) n-Nonane	18.83	43	2299976	53.811	ng		99
72) 1,1,2,2-Tetrachloroethane	18.61	83	1316874	42.252	ng		99
74) Cumene	19.16	105	3593595	39.522	ng		100
75) alpha-Pinene	19.50	93	1926652	44.789	ng		99
76) n-Propylbenzene	19.61	91	4448513	41.292	ng		99
77) 3-Ethyltoluene	19.73	105	3673862	No Calib			
78) 4-Ethyltoluene	19.73	105	3673862	41.828	ng		100
79) 1,3,5-Trimethylbenzene	19.80	105	3073556	41.431	ng		100
80) alpha-Methylstyrene	19.60	118	6579	No Calib		#	
81) 2-Ethyltoluene	20.67	105	88313	No Calib			
82) 1,2,4-Trimethylbenzene	20.16	105	3244395	41.175	ng		99
83) n-Decane	20.51	58	456	No Calib		#	
84) Benzyl Chloride	20.28	91	5811737	92.408	ng		100
85) 1,3-Dichlorobenzene	20.30	146	1793455	37.393	ng		100
86) 1,4-Dichlorobenzene	20.36	146	1804297	37.593	ng		100
87) sec-Butylbenzene	20.40	105	4084493	40.312	ng		99
88) 4-Isopropyltoluene (p-...	20.54	119	3490431	39.512	ng		99
89) 1,2,3-Trimethylbenzene	20.40	105	4084493	No Calib			
90) 1,2-Dichlorobenzene	20.66	146	1723513	37.296	ng		100
91) d-Limonene	20.66	68	1400246	52.229	ng		98
92) 1,2-Dibromo-3-Chloropr...	21.04	157	1359485	79.648	ng		97
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.17	180	2890652	72.902	ng		100
95) Naphthalene	22.28	128	4159529	40.684	ng		99
96) n-Dodecane	22.27	58	215	No Calib		#	
97) Hexachlorobutadiene	22.59	225	960536	39.990	ng		100
98) Cyclohexanone	18.63	55	2675	No Calib			
99) tert-Butylbenzene	20.16	119	2944388	37.993	ng		100
100) n-Butylbenzene	20.91	91	3471007	42.314	ng		99
101) 1,1,1,2-Tetrachloroethane	17.67	131	775788	39.154	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072218.D Vial: 7
Acq On : 7 Apr 2022 15:31 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052201 (5/5)

Quant Time: Apr 07 15:58:02 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072219.D Vial: 7
Acq On : 7 Apr 2022 16:04 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052201 (5/5)

Quant Time: Apr 07 16:28:00 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.21	130	173135	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.33	114	741107	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	201468	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.05	65	328303	14.022	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.16%				
57) Toluene-d8 (SS2)	15.78	98	866844	9.745	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 77.92%				
73) Bromofluorobenzene (SS3)	19.03	174	307962	9.763	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.08%				
Target Compounds							Qvalue
2) Propene	4.06	42	2631679	140.584	ng		99
3) Dichlorodifluoromethan...	4.22	85	3070555	94.844	ng		99
4) Chloromethane	4.51	50	1903035	83.748	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	1426541	85.135	ng		100
6) Vinyl Chloride	4.94	62	2222058	109.196	ng		99
7) 1,3-Butadiene	5.21	54	2161489	126.637	ng		98
8) Bromomethane	5.66	94	1128554	91.825	ng		100
9) Chloroethane	5.99	64	1014224	105.081	ng		100
10) Ethanol	6.44	45	5786591	475.121	ng		99
11) Acetonitrile	6.67	41	3779567	112.436	ng		100
12) Acrolein	6.83	56	2135469	252.696	ng		100
13) Acetone	7.05	58	6457377	559.864	ng	#	86
14) Trichlorofluoromethane	7.26	101	2854242	96.182	ng		100
15) 2-Propanol (Isopropanol)	7.58	45	9558217	226.378	ng		100
16) Acrylonitrile	7.82	53	4785263	252.855	ng		100
17) 1,1-Dichloroethene	8.24	96	1410677	109.061	ng		99
18) 2-Methyl-2-Propanol (t...	8.44	59	5086638	164.430	ng		99
19) Methylene Chloride	8.48	84	1412323	95.630	ng		99
20) 3-Chloro-1-propene (Al...	8.63	41	3283192	130.540	ng		99
21) Trichlorotrifluoroethane	8.88	151	1297456	92.226	ng		97
22) Carbon Disulfide	8.72	76	10202599	204.101	ng		99
23) trans-1,2-Dichloroethene	9.74	61	2431961	122.695	ng		98
24) 1,1-Dichloroethane	10.00	63	2749482	104.936	ng		99
25) Methyl tert-Butyl Ether	10.09	73	2418799	66.543	ng		99
26) Vinyl Acetate	10.27	86	978374	362.802	ng	#	88
27) 2-Butanone (MEK)	10.51	72	2021324	220.038	ng		95
28) cis-1,2-Dichloroethene	11.02	61	2324938	114.424	ng		98
29) Diisopropyl Ether	11.32	87	2421598	176.928	ng	#	86
30) Ethyl Acetate	11.34	61	2704468	426.700	ng		97
31) n-Hexane	11.30	57	3110238	113.800	ng		99
32) Chloroform	11.40	83	2683415	102.996	ng		99
34) Tetrahydrofuran (THF)	11.77	72	1809293	210.605	ng		99
35) Ethyl tert-Butyl Ether	11.91	87	3759371	210.866	ng		98
36) 1,2-Dichloroethane	12.17	62	2391197	109.843	ng		100
38) 1,1,1-Trichloroethane	12.45	97	2560344	103.158	ng		99
39) Isopropyl Acetate	13.32	61	25231	No Calib			
40) 1-Butanol	12.90	56	89482	No Calib		#	
41) Benzene	12.93	78	5538333	96.235	ng		99
42) Carbon Tetrachloride	13.09	117	2309399	98.443	ng		100
43) Cyclohexane	13.22	84	4350657	185.743	ng		95
44) tert-Amyl Methyl Ether	13.57	73	8691719	213.255	ng		99
45) 1,2-Dichloropropane	13.78	63	1594415	106.952	ng		99
46) Bromodichloromethane	13.97	83	2257196	108.217	ng		100
47) Trichloroethene	14.03	130	1561990	90.174	ng		99
48) 1,4-Dioxane	14.00	88	1234061	104.593	ng		95
49) 2,2,4-Trimethylpentane...	14.10	57	7554766	116.937	ng		99
50) Methyl Methacrylate	14.24	100	1251064	213.316	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072219.D Vial: 7
Acq On : 7 Apr 2022 16:04 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052201 (5/5)

Quant Time: Apr 07 16:28:00 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

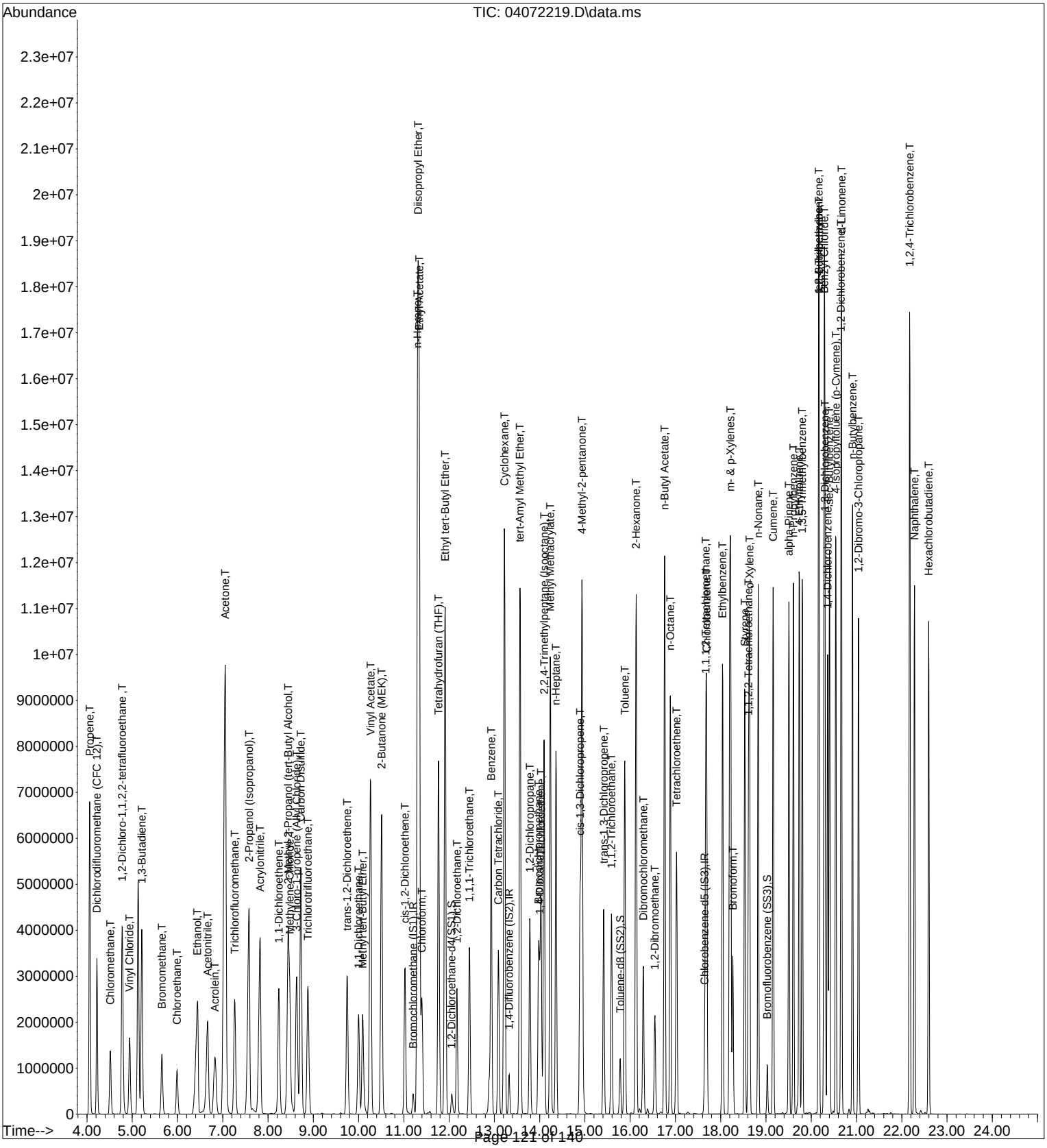
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.36	71	1572464	107.361 ng		99
52) cis-1,3-Dichloropropene	14.89	75	2603461	111.548 ng		99
53) 4-Methyl-2-pentanone	14.93	58	3573985	251.976 ng		91
54) trans-1,3-Dichloropropene	15.42	75	2476967	114.040 ng		99
55) 1,1,2-Trichloroethane	15.59	97	1470709	101.455 ng		98
58) Toluene	15.88	91	6023271	72.408 ng		99
59) 2-Hexanone	16.13	43	10043788	189.240 ng		96
60) Dibromochloromethane	16.29	129	1960532	80.313 ng		99
61) 1,2-Dibromoethane	16.55	107	1758980	79.615 ng		99
62) n-Butyl Acetate	16.76	43	10992106	188.280 ng		96
63) n-Octane	16.89	57	1718875	100.218 ng		96
64) Tetrachloroethene	17.02	166	1804445	69.535 ng		100
65) Chlorobenzene	17.69	112	4099710	67.282 ng		99
66) Ethylbenzene	18.04	91	7127000	75.363 ng		100
67) m- & p-Xylenes	18.22	91	11317649	148.452 ng		99
68) Bromoform	18.27	173	1758049	83.182 ng		99
69) Styrene	18.53	104	4361369	75.915 ng		96
70) o-Xylene	18.64	91	5877785	78.379 ng		98
71) n-Nonane	18.83	43	4706830	100.448 ng		98
72) 1,1,2,2-Tetrachloroethane	18.61	83	2721230	79.641 ng		100
74) Cumene	19.16	105	7006836	70.291 ng		99
75) alpha-Pinene	19.50	93	3905167	82.808 ng		97
76) n-Propylbenzene	19.61	91	8651022	73.247 ng		98
77) 3-Ethyltoluene	19.73	105	7129136	No Calib		
78) 4-Ethyltoluene	19.73	105	7129136	74.037 ng		99
79) 1,3,5-Trimethylbenzene	19.80	105	6063704	74.557 ng		99
80) alpha-Methylstyrene	19.61	118	13135	No Calib	#	
81) 2-Ethyltoluene	20.67	105	169898	No Calib		
82) 1,2,4-Trimethylbenzene	20.17	105	5930585	68.654 ng		100
83) n-Decane	20.51	58	975	No Calib	#	
84) Benzyl Chloride	20.29	91	10523171	152.622 ng		97
85) 1,3-Dichlorobenzene	20.31	146	3463561	65.869 ng		99
86) 1,4-Dichlorobenzene	20.36	146	3524534	66.984 ng		99
87) sec-Butylbenzene	20.40	105	7711093	69.418 ng		97
88) 4-Isopropyltoluene (p-...	20.54	119	6587843	68.024 ng		96
89) 1,2,3-Trimethylbenzene	20.40	105	7711093	No Calib		
90) 1,2-Dichlorobenzene	20.66	146	3311882	65.371 ng		99
91) d-Limonene	20.67	68	2754648	93.721 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.04	157	2671622	142.771 ng		94
93) n-Undecane	21.34	58	124	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.17	180	5576275	128.279 ng		99
95) Naphthalene	22.28	128	8033641	71.674 ng		98
96) n-Dodecane	22.26	58	491	No Calib	#	
97) Hexachlorobutadiene	22.59	225	1975256	75.011 ng		100
98) Cyclohexanone	18.63	55	5151	No Calib		
99) tert-Butylbenzene	20.17	119	5409844	63.673 ng		98
100) n-Butylbenzene	20.91	91	6754632	75.110 ng		98
101) 1,1,1,2-Tetrachloroethane	17.67	131	1556905	71.673 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072219.D Vial: 7
Acq On : 7 Apr 2022 16:04 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-03082201/S35-04052201 (5/5)

Quant Time: Apr 07 16:28:00 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 15:24:56 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072221.D Vial: 2
Acq On : 7 Apr 2022 17:10 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-03082201/S35-03162202 (4/15)

Quant Time: Apr 07 17:32:06 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	182968	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.32	114	774372	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	196449	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	338919	12.110	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.77	98	901928	12.600	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
73) Bromofluorobenzene (SS3)	19.03	174	321985	12.772	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
Target Compounds							Qvalue
2) Propene	4.05	42	553681	21.926	ng		100
3) Dichlorodifluoromethan...	4.21	85	780545	22.584	ng		100
4) Chloromethane	4.50	50	686292	23.921	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	377189	24.283	ng		100
6) Vinyl Chloride	4.92	62	584643	24.360	ng		100
7) 1,3-Butadiene	5.19	54	541134	25.229	ng		99
8) Bromomethane	5.63	94	303506	24.758	ng		100
9) Chloroethane	5.97	64	261396	23.816	ng		100
10) Ethanol	6.37	45	1724347	93.619	ng		100
11) Acetonitrile	6.62	41	943953	20.432	ng		100
12) Acrolein	6.80	56	539484	47.788	ng		99
13) Acetone	7.01	58	1629451	112.382	ng		96
14) Trichlorofluoromethane	7.25	101	727579	22.592	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	2790429	48.689	ng		99
16) Acrylonitrile	7.77	53	1179499	46.806	ng		100
17) 1,1-Dichloroethene	8.22	96	359508	24.884	ng		98
18) 2-Methyl-2-Propanol (t...	8.39	59	2025075	55.215	ng		99
19) Methylene Chloride	8.45	84	359486	23.816	ng		97
20) 3-Chloro-1-propene (Al...	8.61	41	763334	22.514	ng		99
21) Trichlorotrifluoroethane	8.86	151	340654	24.726	ng		99
22) Carbon Disulfide	8.71	76	2500647	49.257	ng		100
23) trans-1,2-Dichloroethene	9.73	61	597457	24.890	ng		100
24) 1,1-Dichloroethane	9.99	63	715373	24.306	ng		100
25) Methyl tert-Butyl Ether	10.08	73	916076	22.831	ng		100
26) Vinyl Acetate	10.24	86	371137	142.337	ng	#	95
27) 2-Butanone (MEK)	10.48	72	499276	49.293	ng		98
28) cis-1,2-Dichloroethene	11.01	61	573090	23.788	ng		99
29) Diisopropyl Ether	11.31	87	719228	51.431	ng	#	57
30) Ethyl Acetate	11.31	61	497561	68.781	ng		96
31) n-Hexane	11.29	57	809428	24.827	ng		100
32) Chloroform	11.36	83	681780	24.100	ng		100
34) Tetrahydrofuran (THF)	11.75	72	464662	47.800	ng		98
35) Ethyl tert-Butyl Ether	11.90	87	944446	50.547	ng		98
36) 1,2-Dichloroethane	12.16	62	596881	23.900	ng		100
38) 1,1,1-Trichloroethane	12.44	97	646964	24.402	ng		100
39) Isopropyl Acetate	13.32	61	25311	No Calib			
40) 1-Butanol	12.91	56	11863	No Calib		#	
41) Benzene	12.92	78	1432436	23.896	ng		100
42) Carbon Tetrachloride	13.08	117	560367	24.307	ng		100
43) Cyclohexane	13.21	84	1116896	48.603	ng		99
44) tert-Amyl Methyl Ether	13.56	73	2171106	51.344	ng		99
45) 1,2-Dichloropropane	13.78	63	395106	23.525	ng		99
46) Bromodichloromethane	13.96	83	553476	25.340	ng		100
47) Trichloroethene	14.02	130	410088	24.001	ng		100
48) 1,4-Dioxane	13.99	88	309846	25.636	ng		100
49) 2,2,4-Trimethylpentane...	14.09	57	1844814	23.288	ng		99
50) Methyl Methacrylate	14.22	100	315779	52.564	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072221.D Vial: 2
Acq On : 7 Apr 2022 17:10 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-03082201/S35-03162202 (4/15)

Quant Time: Apr 07 17:32:06 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

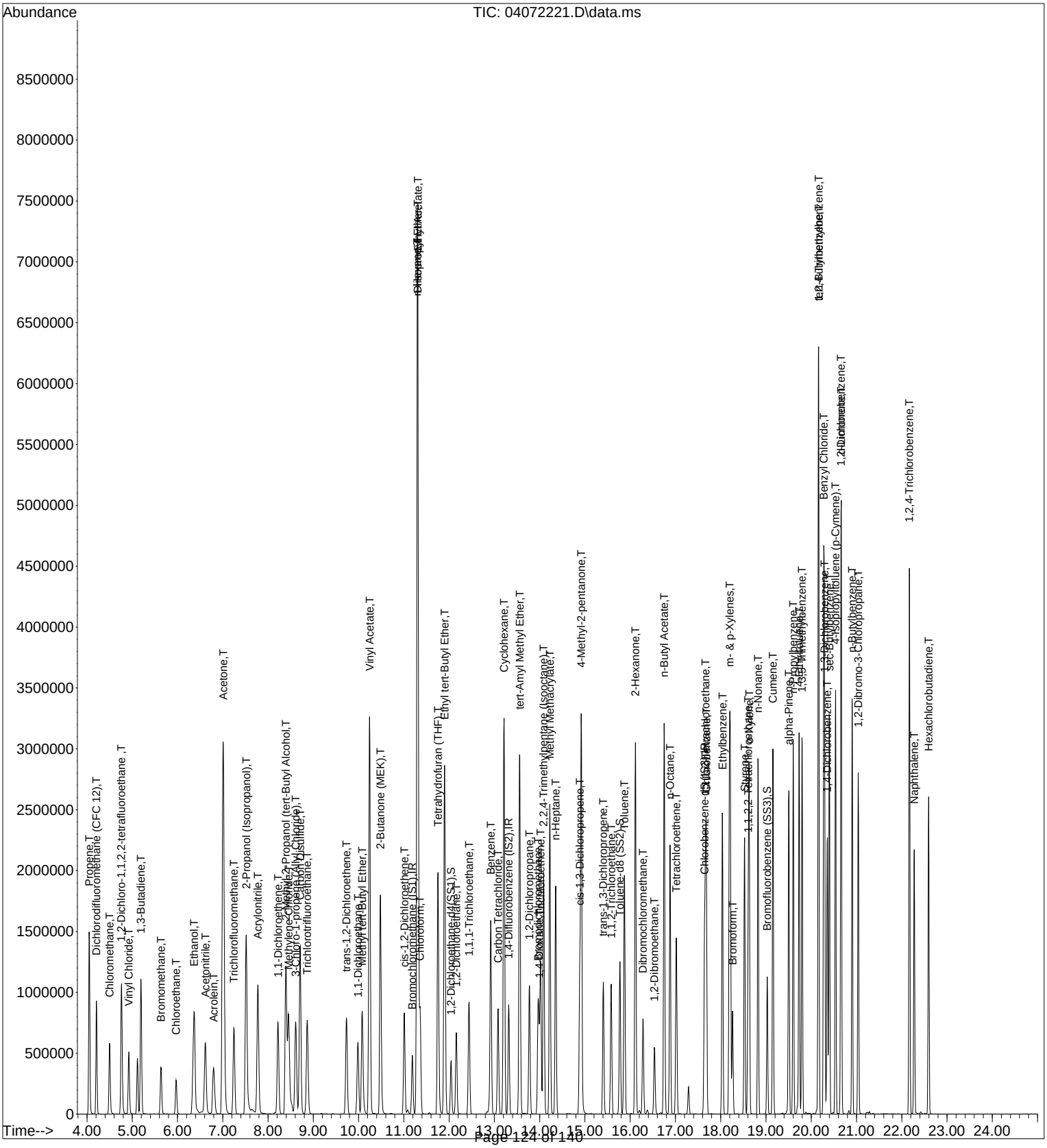
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	381352	24.368 ng		99
52) cis-1,3-Dichloropropene	14.89	75	632287	26.258 ng		100
53) 4-Methyl-2-pentanone	14.92	58	861512	50.774 ng		97
54) trans-1,3-Dichloropropene	15.40	75	589396	25.460 ng		100
55) 1,1,2-Trichloroethane	15.58	97	369094	23.990 ng		100
58) Toluene	15.87	91	1559759	23.697 ng		100
59) 2-Hexanone	16.11	43	2532014	49.932 ng		99
60) Dibromochloromethane	16.28	129	476620	25.885 ng		100
61) 1,2-Dibromoethane	16.53	107	433571	24.683 ng		100
62) n-Butyl Acetate	16.75	43	2830352	51.206 ng		99
63) n-Octane	16.88	57	402741	24.423 ng		100
64) Tetrachloroethene	17.02	166	467604	24.943 ng		99
65) Chlorobenzene	17.68	112	1044910	23.589 ng		100
66) Ethylbenzene	18.04	91	1845868	24.639 ng		100
67) m- & p-Xylenes	18.20	91	2978946	49.484 ng		99
68) Bromoform	18.26	173	430074	27.004 ng		100
69) Styrene	18.53	104	1079356	25.132 ng		100
70) o-Xylene	18.63	91	1515627	24.954 ng		100
71) n-Nonane	18.82	43	1148102	24.626 ng		99
72) 1,1,2,2-Tetrachloroethane	18.61	83	674271	24.936 ng		100
74) Cumene	19.15	105	1871191	24.437 ng		100
75) alpha-Pinene	19.50	93	966739	26.623 ng		100
76) n-Propylbenzene	19.60	91	2282500	24.794 ng		100
77) 3-Ethyltoluene	19.73	105	1869715	No Calib		
78) 4-Ethyltoluene	19.73	105	1869715	25.203 ng		100
79) 1,3,5-Trimethylbenzene	19.79	105	1611363	25.573 ng		100
80) alpha-Methylstyrene	19.60	118	3637	No Calib		
81) 2-Ethyltoluene	20.66	105	44127	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	1706534	26.280 ng		100
83) n-Decane	20.51	58	347	No Calib	#	
84) Benzyl Chloride	20.28	91	2654482	52.539 ng		99
85) 1,3-Dichlorobenzene	20.29	146	911553	24.388 ng		100
86) 1,4-Dichlorobenzene	20.36	146	871052	23.021 ng		99
87) sec-Butylbenzene	20.40	105	2118792	24.944 ng		100
88) 4-Isopropyltoluene (p-...	20.54	119	1815112	25.186 ng		100
89) 1,2,3-Trimethylbenzene	20.40	105	2118792	No Calib		
90) 1,2-Dichlorobenzene	20.66	146	879067	24.310 ng		99
91) d-Limonene	20.66	68	684060	28.311 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.04	157	682143	49.915 ng		99
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	1293359	42.895 ng		99
95) Naphthalene	22.28	128	1629345	19.935 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	478290	23.871 ng		99
98) Cyclohexanone	18.63	55	1462	No Calib		
99) tert-Butylbenzene	20.16	119	1591622	25.492 ng		100
100) n-Butylbenzene	20.90	91	1754890	24.754 ng		100
101) 1,1,1,2-Tetrachloroethane	17.66	131	399604	24.709 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072221.D Vial: 2
Acq On : 7 Apr 2022 17:10 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-03082201/S35-03162202 (4/15)

Quant Time: Apr 07 17:32:06 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **04072221.D** Acq. Method File: **TO15.M** 4/7/22

Data File Path: **I:\MS09\DATA\2022_04\07** Sample Name: **25ng TO-15 ICV STD**

Operator: **SC** Misc Info: **S35-03082201/S35-03162202 (**

Date Acquired: **4/7/2022** **17:10** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.05**	**21.9**	**25.75**	85	**56**	**128**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.21**	**22.6**	**26.00**	87	**71**	**112**	*	*
4)	**Chloromethane**	**4.50**	**23.9**	**25.75**	93	**53**	**126**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.76**	**24.3**	**26.00**	93	**62**	**121**	*	*
6)	**Vinyl Chloride**	**4.92**	**24.4**	**26.00**	94	**63**	**123**	*	*
7)	**1,3-Butadiene**	**5.19**	**25.2**	**25.75**	98	**63**	**135**	*	*
8)	**Bromomethane**	**5.63**	**24.8**	**25.75**	96	**71**	**112**	*	*
9)	**Chloroethane**	**5.97**	**23.8**	**25.75**	92	**66**	**117**	*	*
10)	**Ethanol**	**6.37**	**94**	**104.00**	90	**57**	**117**	*	*
11)	**Acetonitrile**	**6.62**	**20.4**	**25.25**	81	**59**	**131**	*	*
12)	**Acrolein**	**6.80**	**47.8**	**52.00**	92	**71**	**123**	*	*
13)	**Acetone**	**7.01**	**112**	**128.00**	88	**60**	**117**	*	*
14)	**Trichlorofluoromethane**	**7.25**	**22.6**	**25.25**	90	**71**	**114**	*	*
15)	**2-Propanol (Isopropanol)**	**7.52**	**48.7**	**50.00**	97	**61**	**124**	*	*
16)	**Acrylonitrile**	**7.77**	**46.8**	**50.25**	93	**65**	**130**	*	*
17)	**1,1-Dichloroethene**	**8.22**	**24.9**	**26.25**	95	**74**	**114**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.39	55.2	51.00	108	56	135	*	*
19)	**Methylene Chloride**	**8.45**	**23.8**	**26.00**	92	**75**	**112**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.61**	**22.5**	**25.50**	88	**57**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**8.86**	**24.7**	**27.00**	91	**73**	**114**	*	*
22)	**Carbon Disulfide**	**8.71**	**49.3**	**51.75**	95	**70**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.73**	**24.9**	**26.00**	96	**76**	**119**	*	*
24)	**1,1-Dichloroethane**	**9.99**	**24.3**	**26.75**	91	**70**	**114**	*	*
25)	**Methyl tert-Butyl Ether**	**10.08**	**22.8**	**25.75**	89	**72**	**118**	*	*
26)	**Vinyl Acetate**	**10.24**	**142**	**117.75**	121	**56**	**137**	*	*
27)	**2-Butanone (MEK)**	**10.48**	**49.3**	**51.00**	97	**74**	**121**	*	*
28)	**cis-1,2-Dichloroethene**	**11.01**	**23.8**	**25.75**	92	**73**	**117**	*	*
29)	Diisopropyl Ether	11.31	51.4	52.25	98	58	124	*	*
30)	**Ethyl Acetate**	**11.31**	**68.8**	**72.50**	95	**59**	**161**	*	*
31)	**n-Hexane**	**11.29**	**24.8**	**26.00**	95	**55**	**130**	*	*
32)	**Chloroform**	**11.36**	**24.1**	**26.25**	92	**71**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.75**	**47.8**	**50.50**	95	**73**	**114**	*	*
35)	Ethyl tert-Butyl Ether	11.90	50.5	51.75	98	76	119	*	*
36)	**1,2-Dichloroethane**	**12.16**	**23.9**	**26.25**	91	**71**	**119**	*	*
38)	**1,1,1-Trichloroethane**	**12.44**	**24.4**	**26.00**	94	**73**	**119**	*	*
41)	**Benzene**	**12.92**	**23.9**	**26.00**	92	**72**	**113**	*	*
42)	**Carbon Tetrachloride**	**13.08**	**24.3**	**25.25**	96	**67**	**123**	*	*
43)	**Cyclohexane**	**13.21**	**48.6**	**51.50**	94	**70**	**119**	*	*
44)	tert-Amyl Methyl Ether	13.56	51.3	**51.50**	100	74	120	*	*
45)	**1,2-Dichloropropane**	**13.78**	**23.5**	**25.75**	91	**70**	**118**	*	*
46)	**Bromodichloromethane**	**13.96**	**25.3**	**26.00**	97	**74**	**119**	*	*
47)	**Trichloroethene**	**14.02**	**24.0**	**25.50**	94	**74**	**115**	*	*
48)	**1,4-Dioxane**	**13.99**	**25.6**	**25.75**	99	**77**	**124**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.09	23.3	26.25	89	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **04072221.D** **TO15.M**
Data File Path: **I:\MS09\DATA\2022_04\07** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S35-03082201/S35-03162202 (**
Date Acquired: **4/7/2022** **17:10** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.22**	**52.6**	**51.25**	103	**78**	**126**	*	*
51)	**n-Heptane**	**14.35**	**24.4**	**25.75**	95	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**14.89**	**26.3**	**26.00**	101	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**14.92**	**50.8**	**51.50**	99	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**15.41**	**25.5**	**25.00**	102	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**15.58**	**24.0**	**26.00**	92	**78**	**117**	*	*
58)	**Toluene**	**15.87**	**23.7**	**25.75**	92	**70**	**118**	*	*
59)	**2-Hexanone**	**16.11**	**49.9**	**50.75**	98	**74**	**132**	*	*
60)	**Dibromochloromethane**	**16.28**	**25.9**	**26.25**	99	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**16.53**	**24.7**	**26.00**	95	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**16.75**	**51.2**	**50.75**	101	**75**	**134**	*	*
63)	**n-Octane**	**16.88**	**24.4**	**26.00**	94	**68**	**120**	*	*
64)	**Tetrachloroethene**	**17.02**	**24.9**	**26.50**	94	**63**	**130**	*	*
65)	**Chlorobenzene**	**17.68**	**23.6**	**25.75**	92	**70**	**118**	*	*
66)	**Ethylbenzene**	**18.04**	**24.6**	**25.75**	96	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**18.20**	**49.5**	**52.00**	95	**67**	**127**	*	*
68)	**Bromoform**	**18.26**	**27.0**	**26.25**	103	**65**	**149**	*	*
69)	**Styrene**	**18.53**	**25.1**	**25.25**	99	**76**	**132**	*	*
70)	**o-Xylene**	**18.63**	**25.0**	**26.00**	96	**69**	**124**	*	*
71)	**n-Nonane**	**18.82**	**24.6**	**26.00**	95	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.61**	**24.9**	**26.00**	96	**69**	**128**	*	*
74)	**Cumene**	**19.15**	**24.4**	**25.75**	95	**69**	**125**	*	*
75)	**alpha-Pinene**	**19.50**	**26.6**	**26.25**	101	**68**	**129**	*	*
76)	**n-Propylbenzene**	**19.60**	**24.8**	**26.00**	95	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**19.73**	**25.2**	**26.00**	**97**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.79**	**25.6**	**26.00**	**98**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**20.16**	**26.3**	**25.75**	**102**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**20.28**	**52.5**	**52.00**	**101**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**20.29**	**24.4**	**26.00**	**94**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**20.36**	**23.0**	**26.25**	**88**	**63**	**134**	*	*
87)	sec-Butylbenzene	20.40	24.9	25.50	**98**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.54	25.2	25.75	**98**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**20.66**	**24.3**	**26.25**	**93**	**64**	**139**	*	*
91)	**d-Limonene**	**20.66**	**28.3**	**25.75**	**110**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.04**	**49.9**	**50.50**	**99**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**22.17**	**42.9**	**52.50**	**82**	**62**	**154**	*	*
95)	**Naphthalene**	**22.28**	**19.9**	**26.25**	**76**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**22.59**	**23.9**	**26.50**	**90**	55	142	*	*
99)	tert-Butylbenzene	20.16	25.5	25.75	99	61	140	*	*
100)	n-Butylbenzene	20.90	24.8	26.00	95	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	17.66	24.7	25.75	96	70	130	*	*

Bold = 75 Compound List
*** = Pass**

ICV/LCS Standard Concentrations (Secondary Source)

4/13/22

4ng/L Working Std. ID:	
20ng/L Working Std. ID:	
200ng/L Working Std. ID:	S35-03162202
1000ng/L Working Std. ID:	

Dilution Factor:	1	5	50	250
Working Std. Conc. Utilized:	200			

Working Std. Injection Amounts (L):						0.125
		Secondary Working Std. Conc.				ICV / LCS
Compounds	mg/m^3	1000ng/L	200ng/L	20ng/L	4ng/L	Actual Conc.(ng)
Propene	1.03	1030	206	20.6	4.12	25.75
Dichlorodifluoromethane(12)	1.04	1040	208	20.8	4.16	26.00
Chloromethane	1.03	1030	206	20.6	4.12	25.75
Freon-114	1.04	1040	208	20.8	4.16	26.00
Vinyl Chloride	1.04	1040	208	20.8	4.16	26.00
1,3-Butadiene	1.03	1030	206	20.6	4.12	25.75
Bromomethane	1.03	1030	206	20.6	4.12	25.75
Chloroethane	1.03	1030	206	20.6	4.12	25.75
Ethanol	4.16	4160	832	83.2	16.64	104.00
Acetonitrile	1.01	1010	202	20.2	4.04	25.25
Acrolein	2.08	2080	416	41.6	8.32	52.00
Acetone	5.12	5120	1024	102.4	20.48	128.00
Trichlorofluoromethane(11)	1.01	1010	202	20.2	4.04	25.25
Isopropanol	2.00	2000	400	40.0	8.00	50.00
Acrylonitrile	2.01	2010	402	40.2	8.04	50.25
1,1-Dichloroethene	1.05	1050	210	21.0	4.20	26.25
tert-Butanol	2.04	2040	408	40.8	8.16	51.00
Methylene Chloride	1.04	1040	208	20.8	4.16	26.00
Allyl Chloride	1.02	1020	204	20.4	4.08	25.50
Trichlorotrifluoroethane(113)	1.08	1080	216	21.6	4.32	27.00
Carbon Disulfide	2.07	2070	414	41.4	8.28	51.75
trans-1,2-Dichloroethene	1.04	1040	208	20.8	4.16	26.00
1,1-Dichloroethane	1.07	1070	214	21.4	4.28	26.75
Methyl tert-Butyl Ether	1.03	1030	206	20.6	4.12	25.75
Vinyl Acetate	4.71	4710	942	94.2	18.84	117.75
2-Butanone	2.04	2040	408	40.8	8.16	51.00
cis-1,2-Dichloroethene	1.03	1030	206	20.6	4.12	25.75
Diisopropyl Ether	2.09	2090	418	41.8	8.36	52.25
Ethyl Acetate	2.90	2900	580	58.0	11.60	72.50
n-Hexane	1.04	1040	208	20.8	4.16	26.00
Chloroform	1.05	1050	210	21.0	4.20	26.25
Tetrahydrofuran	2.02	2020	404	40.4	8.08	50.50
Ethyl tert-Butyl Ether	2.07	2070	414	41.4	8.28	51.75
1,2-Dichloroethane	1.05	1050	210	21.0	4.20	26.25
1,1,1-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Benzene	1.04	1040	208	20.8	4.16	26.00
Carbon Tetrachloride	1.01	1010	202	20.2	4.04	25.25
Cyclohexane	2.06	2060	412	41.2	8.24	51.50
tert-Amyl Methyl Ether	2.06	2060	412	41.2	8.24	51.50
1,2-Dichloropropane	1.03	1030	206	20.6	4.12	25.75
Bromodichloromethane	1.04	1040	208	20.8	4.16	26.00
Trichloroethene	1.02	1020	204	20.4	4.08	25.50
1,4-Dioxane	1.03	1030	206	20.6	4.12	25.75
Isooctane	1.05	1050	210	21.0	4.20	26.25

						0.125
		Secondary Working Std. Conc.				ICV / LCS
Compounds	mg/m^3	1000ng/L	200ng/L	20ng/L	4ng/L	Actual Conc.(ng)
Methyl Methacrylate	2.05	2050	410	41.0	8.20	51.25
n-Heptane	1.03	1030	206	20.6	4.12	25.75
cis-1,3-Dichloropropene	1.04	1040	208	20.8	4.16	26.00
4-Methyl-2-pentanone	2.06	2060	412	41.2	8.24	51.50
trans-1,3-Dichloropropene	1.00	1000	200	20.0	4.00	25.00
1,1,2-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Toluene	1.03	1030	206	20.6	4.12	25.75
2-Hexanone	2.03	2030	406	40.6	8.12	50.75
Dibromochloromethane	1.05	1050	210	21.0	4.20	26.25
1,2-Dibromoethane	1.04	1040	208	20.8	4.16	26.00
n-Butyl Acetate	2.03	2030	406	40.6	8.12	50.75
n-Octane	1.04	1040	208	20.8	4.16	26.00
Tetrachloroethene	1.06	1060	212	21.2	4.24	26.50
Chlorobenzene	1.03	1030	206	20.6	4.12	25.75
Ethylbenzene	1.03	1030	206	20.6	4.12	25.75
m-,p-Xylene	2.08	2080	416	41.6	8.32	52.00
Bromoform	1.05	1050	210	21.0	4.20	26.25
Styrene	1.01	1010	202	20.2	4.04	25.25
o-Xylene	1.04	1040	208	20.8	4.16	26.00
n-Nonane	1.04	1040	208	20.8	4.16	26.00
1,1,2,2-Tetrachloroethane	1.04	1040	208	20.8	4.16	26.00
Cumene	1.03	1030	206	20.6	4.12	25.75
alpha-Pinene	1.05	1050	210	21.0	4.20	26.25
n-Propylbenzene	1.04	1040	208	20.8	4.16	26.00
4-Ethyltoluene	1.04	1040	208	20.8	4.16	26.00
1,3,5-Trimethylbenzene	1.04	1040	208	20.8	4.16	26.00
1,2,4-Trimethylbenzene	1.03	1030	206	20.6	4.12	25.75
Benzyl Chloride	2.08	2080	416	41.6	8.32	52.00
1,3-Dichlorobenzene	1.04	1040	208	20.8	4.16	26.00
1,4-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
sec-Butylbenzene	1.02	1020	204	20.4	4.08	25.50
p-Isopropyltoluene	1.03	1030	206	20.6	4.12	25.75
1,2-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
d-Limonene	1.03	1030	206	20.6	4.12	25.75
1,2-Dibromo-3-chloropropane	2.02	2020	404	40.4	8.08	50.50
1,2,4-Trichlorobenzene	2.10	2100	420	42.0	8.40	52.50
Naphthalene	1.05	1050	210	21.0	4.20	26.25
Hexachloro-1,3-butadiene	1.06	1060	212	21.2	4.24	26.50
tert-Butylbenzene	1.03	1030	206	20.6	4.12	25.75
n-Butylbenzene	1.04	1040	208	20.8	4.16	26.00
1,1,1,2-Tetrachloroethane	1.03	1030	206	20.6	4.12	25.75

***Enter Information in the Solid Shaded Areas ONLY.**

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 04\25\04252201.D Vial: 2
Acq On : 25 Apr 2022 6:18 Operator: SC
Sample : CCV R9042522 25ng Inst : MS09
Misc : S35-04132201/S35-04222203 (5/22)

Quant Time: Apr 25 08:16:28 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/25/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	83	-0.02
2	T	Propene	1.725	1.958	-13.5	99	-0.01
3	T	Dichlorodifluoromethane (CF	2.361	2.415	-2.3	89	-0.01
4	T	Chloromethane	1.960	2.369	-20.9	99	-0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.061	1.006	5.2	82	-0.02
6	T	Vinyl Chloride	1.640	1.847	-12.6	94	-0.02
7	T	1,3-Butadiene	1.465	1.767	-20.6	96	-0.02
8	T	Bromomethane	0.837	0.902	-7.8	88	-0.02
9	T	Chloroethane	0.750	0.846	-12.8	95	-0.02
10	T	Ethanol	1.258	1.348	-7.2	97	-0.07
11	T	Acetonitrile	3.156	3.558	-12.7	97	-0.06
12	T	Acrolein	0.771	0.899	-16.6	94	-0.03
13	T	Acetone	0.991	1.033	-4.2	92	-0.05
14	T	Trichlorofluoromethane	2.200	2.190	0.5	86	-0.02
15	T	2-Propanol (Isopropanol)	3.915	4.564	-16.6	95	-0.06
16	T	Acrylonitrile	1.722	1.928	-12.0	92	-0.05
17	T	1,1-Dichloroethene	0.987	0.997	-1.0	84	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.506	3.417	-36.4#	95	-0.05
19	T	Methylene Chloride	1.031	1.051	-1.9	86	-0.03
20	T	3-Chloro-1-propene (Allyl C	2.316	2.650	-14.4	94	-0.02
21	T	Trichlorotrifluoroethane	0.941	0.846	10.1	76	-0.02
22	T	Carbon Disulfide	3.468	3.938	-13.6	90	-0.02
23	T	trans-1,2-Dichloroethene	1.640	1.817	-10.8	89	-0.02
24	T	1,1-Dichloroethane	2.011	2.128	-5.8	89	-0.02
25	T	Methyl tert-Butyl Ether	2.741	2.981	-8.8	91	-0.01
26	T	Vinyl Acetate	0.178	0.213	-19.7	83	-0.03
27	T	2-Butanone (MEK)	0.692	0.757	-9.4	86	-0.03
28	T	cis-1,2-Dichloroethene	1.646	1.768	-7.4	89	-0.02
29	T	Diisopropyl Ether	0.955	1.078	-12.9	87	-0.02
30	T	Ethyl Acetate	0.494	0.602	-21.9	92	-0.03
31	T	n-Hexane	2.227	2.629	-18.1	92	-0.01
32	T	Chloroform	1.933	1.970	-1.9	86	-0.04
33	S	1,2-Dichloroethane-d4(SS1)	1.912	2.133	-11.6	93	-0.02
34	T	Tetrahydrofuran (THF)	0.664	0.708	-6.6	87	-0.01
35	T	Ethyl tert-Butyl Ether	1.276	1.361	-6.7	85	-0.02
36	T	1,2-Dichloroethane	1.706	1.811	-6.2	89	-0.02
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	87	-0.01
38	T	1,1,1-Trichloroethane	0.428	0.421	1.6	84	-0.01
39	T	Isopropyl Acetate	0.000	0.000	0.0	101	0.00
40	T	1-Butanol	0.000	0.000	0.0	110	0.00
41	T	Benzene	0.968	0.931	3.8	85	-0.01
42	T	Carbon Tetrachloride	0.372	0.370	0.5	82	-0.01
43	T	Cyclohexane	0.371	0.372	-0.3	86	-0.02
44	T	tert-Amyl Methyl Ether	0.683	0.733	-7.3	87	-0.01
45	T	1,2-Dichloropropane	0.271	0.275	-1.5	89	-0.01
46	T	Bromodichloromethane	0.353	0.367	-4.0	86	-0.01
47	T	Trichloroethene	0.276	0.249	9.8	78	-0.01
48	T	1,4-Dioxane	0.195	0.197	-1.0	84	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.279	1.297	-1.4	90	-0.01
50	T	Methyl Methacrylate	0.097	0.099	-2.1	80	-0.01
51	T	n-Heptane	0.253	0.256	-1.2	86	0.00
52	T	cis-1,3-Dichloropropene	0.389	0.427	-9.8	87	-0.01
53	T	4-Methyl-2-pentanone	0.274	0.300	-9.5	90	-0.02
54	T	trans-1,3-Dichloropropene	0.374	0.422	-12.8	87	-0.01
55	T	1,1,2-Trichloroethane	0.248	0.238	4.0	82	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 04\25\04252201.D Vial: 2
Acq On : 25 Apr 2022 6:18 Operator: SC
Sample : CCV R9042522 25ng Inst : MS09
Misc : S35-04132201/S35-04222203 (5/22)

Quant Time: Apr 25 08:16:28 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	98	0.00
57	S	Toluene-d8 (SS2)	4.555	4.118	9.6	89	-0.01
58	T	Toluene	4.188	3.487	16.7	83	-0.01
59	T	2-Hexanone	3.227	3.332	-3.3	94	-0.02
60	T	Dibromochloromethane	1.172	1.052	10.2	80	-0.01
61	T	1,2-Dibromoethane	1.118	0.972	13.1	82	-0.01
62	T	n-Butyl Acetate	3.517	3.661	-4.1	93	-0.01
63	T	n-Octane	1.049	0.947	9.7	87	0.00
64	T	Tetrachloroethene	1.193	0.905	24.1	73	0.00
65	T	Chlorobenzene	2.819	2.325	17.5	82	0.00
66	T	Ethylbenzene	4.767	4.151	12.9	83	0.00
67	T	m- & p-Xylenes	3.831	3.399	11.3	83	-0.01
68	T	Bromoform	1.013	0.876	13.5	74	0.00
69	T	Styrene	2.733	2.512	8.1	82	0.00
70	T	o-Xylene	3.865	3.403	12.0	84	-0.01
71	T	n-Nonane	2.966	2.904	2.1	91	0.00
72	T	1,1,2,2-Tetrachloroethane	1.721	1.550	9.9	87	-0.01
73	S	Bromofluorobenzene (SS3)	1.604	1.246	22.3	75	0.00
74	T	Cumene	4.872	4.220	13.4	83	0.00
75	T	alpha-Pinene	2.311	2.080	10.0	81	0.00
76	T	n-Propylbenzene	5.858	5.313	9.3	85	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	83	0.00
78	T	4-Ethyltoluene	4.720	4.253	9.9	83	0.00
79	T	1,3,5-Trimethylbenzene	4.009	3.577	10.8	82	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	83	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	85	0.00
82	T	1,2,4-Trimethylbenzene	4.132	4.019	2.7	86	0.00
83	T	n-Decane	0.000	0.000	0.0	130	0.00
84	T	Benzyl Chloride	3.215	3.539	-10.1	87	-0.01
85	T	1,3-Dichlorobenzene	2.378	2.034	14.5	78	-0.01
86	T	1,4-Dichlorobenzene	2.408	1.981	17.7	78	0.00
87	T	sec-Butylbenzene	5.405	4.862	10.0	83	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.586	4.124	10.1	81	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	83	0.00
90	T	1,2-Dichlorobenzene	2.301	1.954	15.1	79	0.00
91	T	d-Limonene	1.537	1.672	-8.8	89	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.870	0.784	9.9	78	0.00
93	T	n-Undecane	0.000	0.000	0.0	0#	-21.34#
94	T	1,2,4-Trichlorobenzene	1.919	1.639	14.6	79	0.00
95	T	Naphthalene	5.201	4.937	5.1	84	0.00
96	T	n-Dodecane	0.000	0.000	0.0	0#	-22.26#
97	T	Hexachlorobutadiene	1.275	0.938	26.4	70	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	102	0.00
99	T	tert-Butylbenzene	3.973	3.627	8.7	84	0.00
100	T	n-Butylbenzene	4.511	4.230	6.2	86	0.00
101	T	1,1,1,2-Tetrachloroethane	1.029	0.876	14.9	81	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252201.D Vial: 2
Acq On : 25 Apr 2022 6:18 Operator: SC
Sample : CCV R9042522 25ng Inst : MS09
Misc : S35-04132201/S35-04222203 (5/22)

Quant Time: Apr 25 08:16:28 2022 4/25/22
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	129786	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.32	114	578774	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.64	54	168614	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	276796	13.943	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.52%				
57) Toluene-d8 (SS2)	15.77	98	694276	11.300	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.40%				
73) Bromofluorobenzene (SS3)	19.03	174	210176	9.713	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 77.68%				
Target Compounds							Qvalue
2) Propene	4.05	42	528613	29.511	ng		100
3) Dichlorodifluoromethan...	4.21	85	658242	26.849	ng		100
4) Chloromethane	4.50	50	627132	30.817	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.76	135	281900	25.585	ng		100
6) Vinyl Chloride	4.92	62	498567	29.286	ng		100
7) 1,3-Butadiene	5.19	54	476906	31.346	ng		94
8) Bromomethane	5.63	94	238873	27.471	ng		100
9) Chloroethane	5.97	64	223948	28.765	ng		99
10) Ethanol	6.37	45	1266867	96.966	ng		100
11) Acetonitrile	6.61	41	858963	26.212	ng		99
12) Acrolein	6.79	56	466852	58.300	ng		100
13) Acetone	7.01	58	1392132	135.357	ng		90
14) Trichlorofluoromethane	7.25	101	585592	25.634	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	2393072	58.866	ng		99
16) Acrylonitrile	7.77	53	1016113	56.845	ng		99
17) 1,1-Dichloroethene	8.22	96	276979	27.028	ng		90
18) 2-Methyl-2-Propanol (t...	8.39	59	1862832	71.604	ng		98
19) Methylene Chloride	8.45	84	283781	26.504	ng		86
20) 3-Chloro-1-propene (Al...	8.61	41	722256	30.031	ng		97
21) Trichlorotrifluoroethane	8.86	151	237182	24.270	ng		86
22) Carbon Disulfide	8.70	76	2146714	59.613	ng		100
23) trans-1,2-Dichloroethene	9.73	61	499954	29.363	ng		94
24) 1,1-Dichloroethane	9.98	63	580116	27.787	ng		100
25) Methyl tert-Butyl Ether	10.08	73	812494	28.547	ng		98
26) Vinyl Acetate	10.24	86	187991	101.641	ng	#	73
27) 2-Butanone (MEK)	10.48	72	404553	56.307	ng	#	84
28) cis-1,2-Dichloroethene	11.00	61	477186	27.923	ng		94
29) Diisopropyl Ether	11.30	87	593212	59.802	ng	#	67
30) Ethyl Acetate	11.31	61	637489	124.235	ng		96
31) n-Hexane	11.29	57	716404	30.978	ng		99
32) Chloroform	11.36	83	547213	27.270	ng		99
34) Tetrahydrofuran (THF)	11.75	72	361869	52.480	ng	#	89
35) Ethyl tert-Butyl Ether	11.90	87	742152	55.997	ng		92
36) 1,2-Dichloroethane	12.16	62	498340	28.131	ng		100
38) 1,1,1-Trichloroethane	12.44	97	506223	25.546	ng		97
39) Isopropyl Acetate	13.32	61	22068	No Calib			
40) 1-Butanol	12.90	56	21098	No Calib			
41) Benzene	12.92	78	1121041	25.021	ng		99
42) Carbon Tetrachloride	13.08	117	449145	26.067	ng		99
43) Cyclohexane	13.21	84	890703	51.859	ng		94
44) tert-Amyl Methyl Ether	13.55	73	1773579	56.118	ng		96
45) 1,2-Dichloropropane	13.77	63	328189	26.145	ng		99
46) Bromodichloromethane	13.96	83	445822	27.310	ng		99
47) Trichloroethene	14.02	130	296326	23.204	ng		99
48) 1,4-Dioxane	13.99	88	237508	26.292	ng		95
49) 2,2,4-Trimethylpentane...	14.09	57	1591779	26.884	ng		95
50) Methyl Methacrylate	14.22	100	237528	52.901	ng	#	88

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252201.D Vial: 2
Acq On : 25 Apr 2022 6:18 Operator: SC
Sample : CCV R9042522 25ng Inst : MS09
Misc : S35-04132201/S35-04222203 (5/22)

Quant Time: Apr 25 08:16:28 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

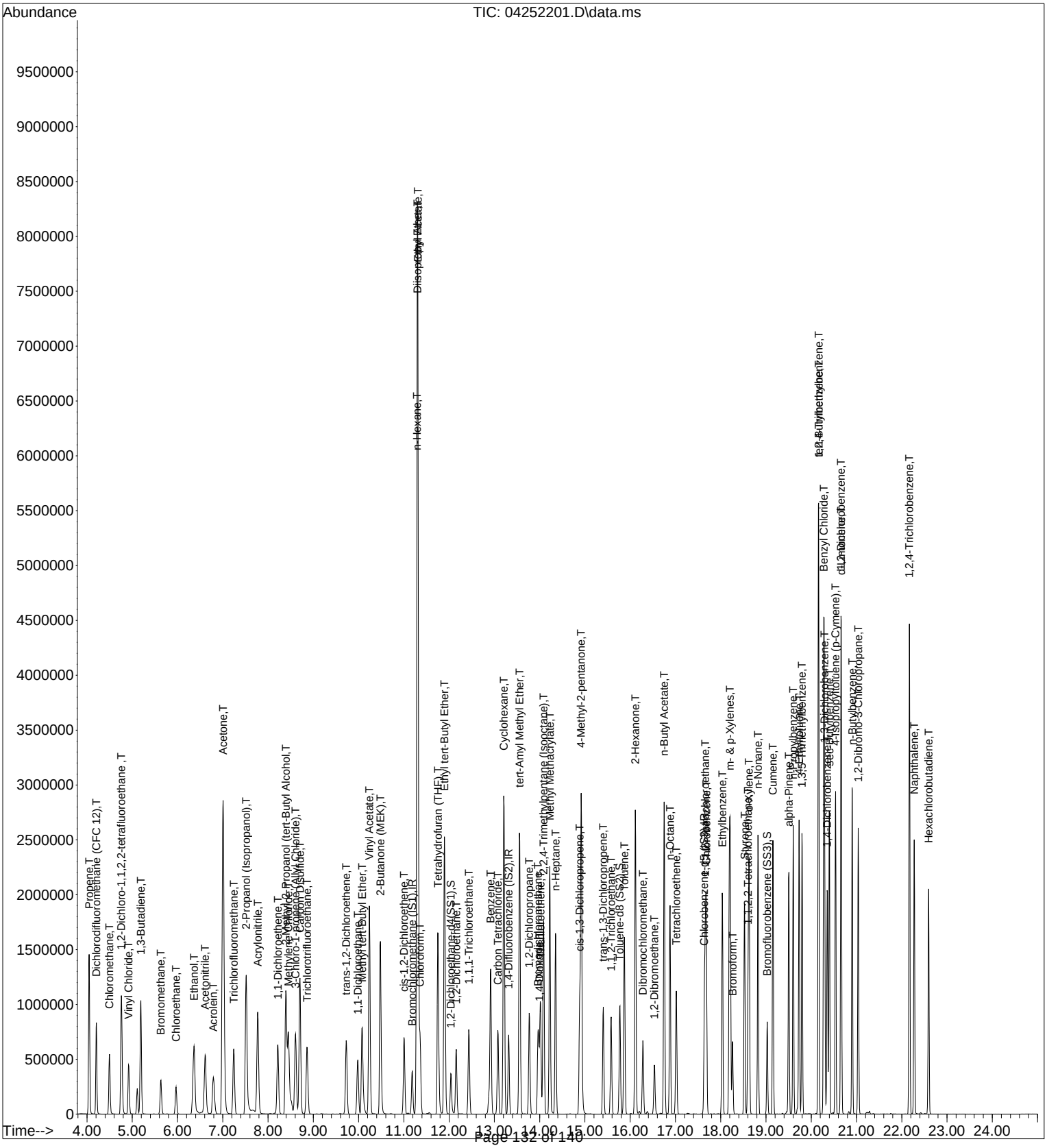
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.35	71	310547	26.550 ng		97
52) cis-1,3-Dichloropropene	14.88	75	519313	28.855 ng		100
53) 4-Methyl-2-pentanone	14.92	58	723345	57.038 ng		91
54) trans-1,3-Dichloropropene	15.40	75	493175	28.503 ng		100
55) 1,1,2-Trichloroethane	15.58	97	286510	24.916 ng		97
58) Toluene	15.87	91	1211157	21.438 ng		99
59) 2-Hexanone	16.11	43	2303478	52.924 ng		96
60) Dibromochloromethane	16.28	129	372640	23.579 ng		99
61) 1,2-Dibromoethane	16.53	107	340752	22.601 ng		99
62) n-Butyl Acetate	16.75	43	2518286	53.081 ng		97
63) n-Octane	16.88	57	335158	23.679 ng		96
64) Tetrachloroethene	17.02	166	317406	19.726 ng		99
65) Chlorobenzene	17.68	112	815487	21.449 ng		99
66) Ethylbenzene	18.03	91	1441918	22.424 ng		98
67) m- & p-Xylenes	18.20	91	2361450	45.702 ng		99
68) Bromoform	18.26	173	307080	22.464 ng		100
69) Styrene	18.53	104	872415	23.666 ng		98
70) o-Xylene	18.62	91	1193423	22.893 ng		98
71) n-Nonane	18.82	43	1018415	25.451 ng		96
72) 1,1,2,2-Tetrachloroethane	18.60	83	543674	23.425 ng		99
74) Cumene	19.15	105	1480157	22.521 ng		98
75) alpha-Pinene	19.50	93	757705	24.311 ng		99
76) n-Propylbenzene	19.60	91	1881389	23.811 ng		98
77) 3-Ethyltoluene	19.73	105	1520412	No Calib		
78) 4-Ethyltoluene	19.73	105	1520412	23.878 ng		98
79) 1,3,5-Trimethylbenzene	19.79	105	1254379	23.194 ng		98
80) alpha-Methylstyrene	19.60	118	2882	No Calib		
81) 2-Ethyltoluene	20.66	105	36710	No Calib		
82) 1,2,4-Trimethylbenzene	20.16	105	1395891	25.044 ng		99
83) n-Decane	20.51	58	453	No Calib	#	
84) Benzyl Chloride	20.28	91	2458421	56.691 ng		98
85) 1,3-Dichlorobenzene	20.29	146	713319	22.235 ng		100
86) 1,4-Dichlorobenzene	20.36	146	694598	21.388 ng		99
87) sec-Butylbenzene	20.40	105	1705265	23.390 ng		98
88) 4-Isopropyltoluene (p-...	20.54	119	1446186	23.380 ng		98
89) 1,2,3-Trimethylbenzene	20.40	105	1705265	No Calib		
90) 1,2-Dichlorobenzene	20.66	146	691837	22.291 ng		100
91) d-Limonene	20.66	68	591896	28.541 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.04	157	528931	45.093 ng	#	79
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.17	180	1127599	43.571 ng		99
95) Naphthalene	22.28	128	1731520	24.682 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.59	225	325892	18.950 ng		100
98) Cyclohexanone	18.62	55	1414	No Calib		
99) tert-Butylbenzene	20.16	119	1272127	23.739 ng		99
100) n-Butylbenzene	20.91	91	1483670	24.383 ng		98
101) 1,1,1,2-Tetrachloroethane	17.66	131	307126	22.125 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\25\04252201.D Vial: 2
Acq On : 25 Apr 2022 6:18 Operator: SC
Sample : CCV R9042522 25ng Inst : MS09
Misc : S35-04132201/S35-04222203 (5/22)

Quant Time: Apr 25 08:16:28 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

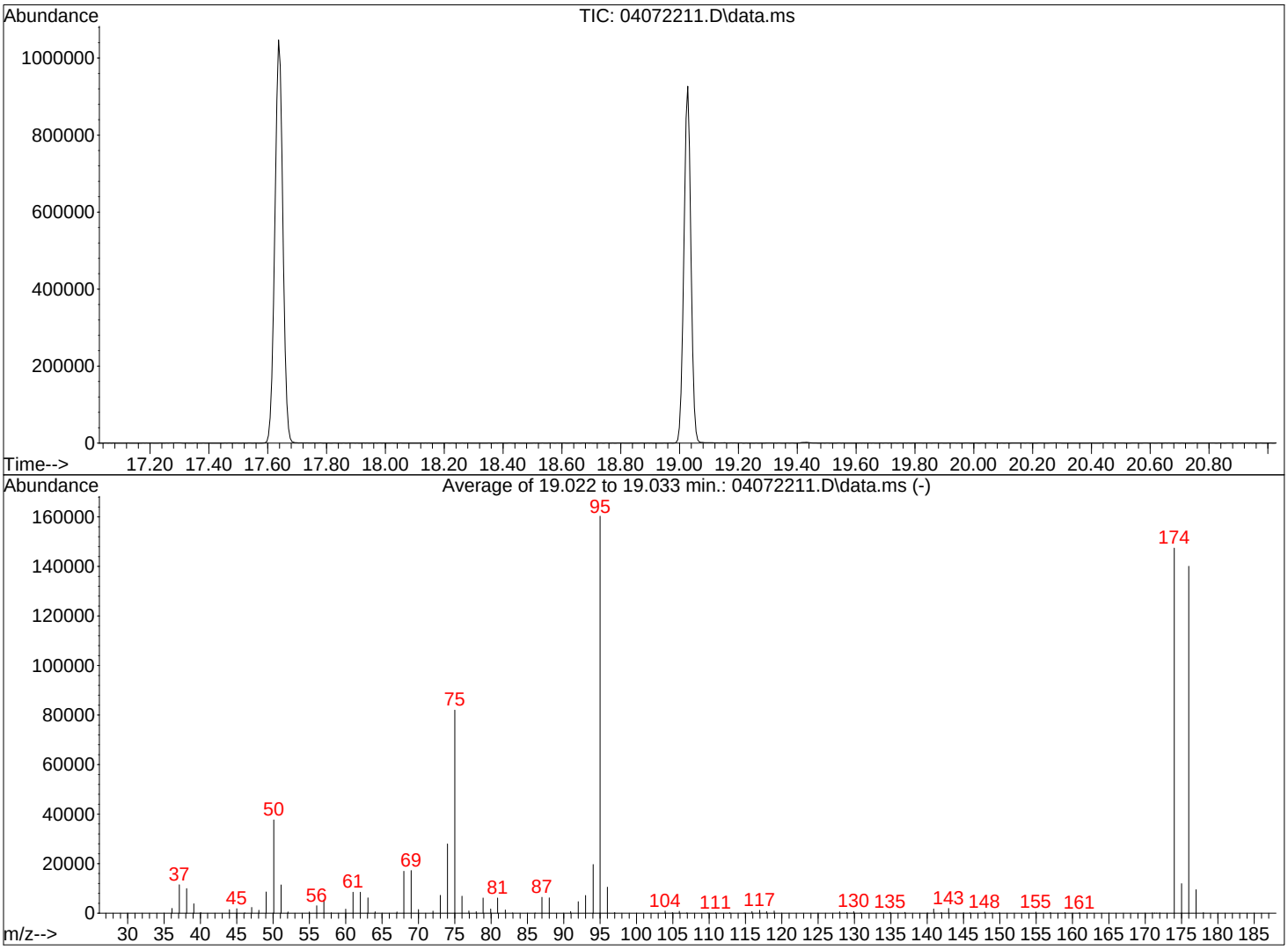


Data Path : I:\MS09\DATA\2022 04\07\
Data File : 04072211.D
Acq On : 7 Apr 2022 11:37
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S35-03082201
ALS Vial : 2 Sample Multiplier: 1

4/7/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9040722.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 07 15:24:56 2022



AutoFind: Scans 2684, 2685, 2686; Background Corrected with Scan 2676

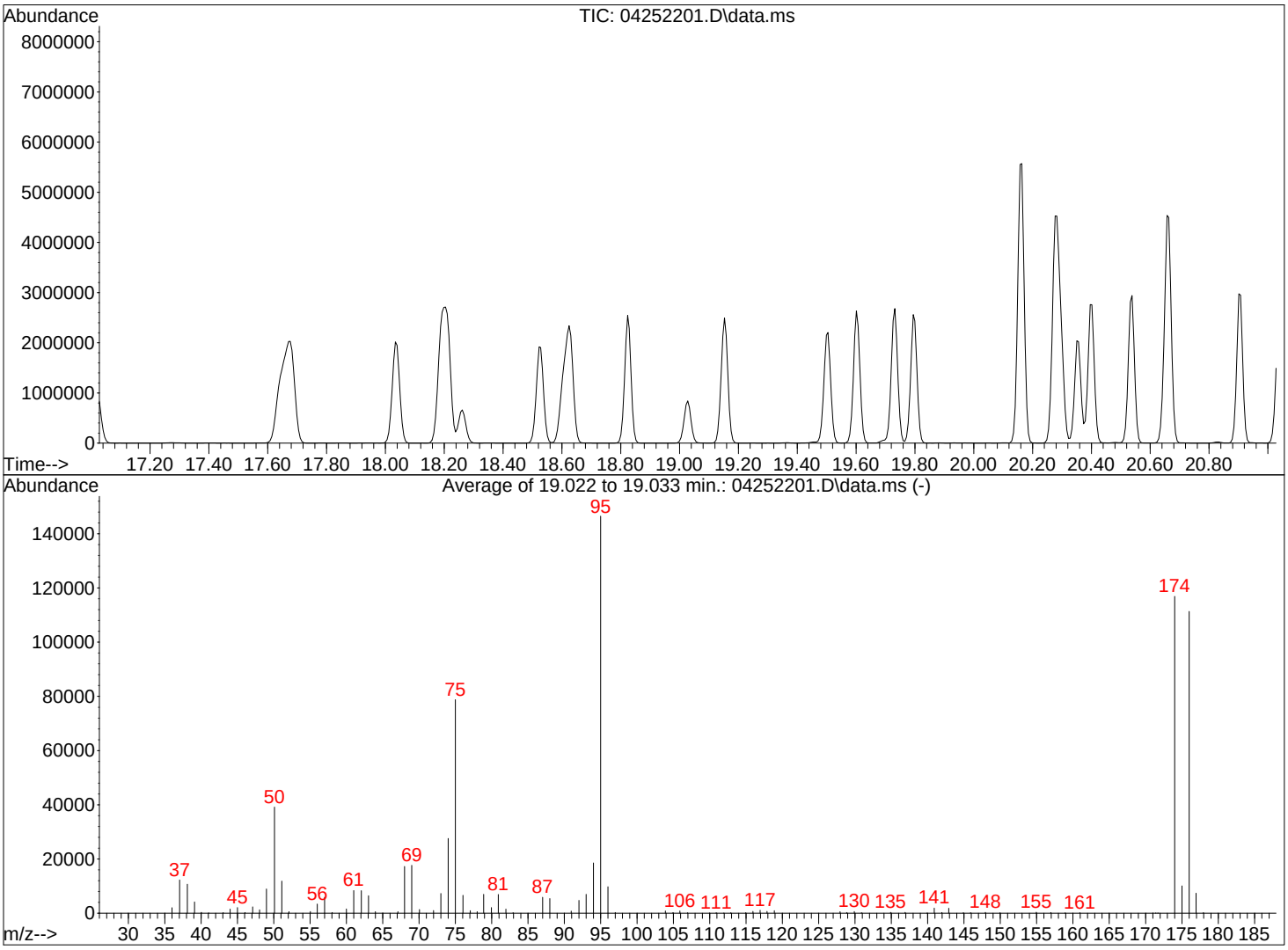
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.5	37707	PASS
75	95	30	66	51.1	81976	PASS
95	95	100	100	100.0	160299	PASS
96	95	5	9	6.5	10495	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	91.9	147392	PASS
175	174	4	9	8.1	11942	PASS
176	174	93	101	95.0	140048	PASS
177	176	5	9	6.8	9498	PASS

Data Path : I:\MS09\DATA\2022 04\25\
Data File : 04252201.D
Acq On : 25 Apr 2022 6:18
Operator : SC
Sample : CCV R9042522 25ng
Misc : S35-04132201/S35-04222203 (5/22)
ALS Vial : 2 Sample Multiplier: 1

4/25/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9040722.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 07 16:31:14 2022



AutoFind: Scans 2684, 2685, 2686; Background Corrected with Scan 2677

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	26.7	39163	PASS
75	95	30	66	53.8	78771	PASS
95	95	100	100	100.0	146496	PASS
96	95	5	9	6.7	9758	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	79.8	116885	PASS
175	174	4	9	8.6	10100	PASS
176	174	93	101	95.2	111323	PASS
177	176	5	9	6.6	7373	PASS

Injection Log

Directory: J:\MS09\DATA\2022_04\07\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/7/22 11:37	04072211.D	12.5ng TO-15 BFB STD	S35-03082201	SC	2	pass
2	4/7/22 12:10	04072212.D	0.1ng TO-15 ICAL STD	S35-03082201/S35-04052208 (5/5)	SC	5	
3	4/7/22 12:44	04072213.D	0.2ng TO-15 ICAL STD	S35-03082201/S35-04052208 (5/5)	SC	5	
4	4/7/22 13:17	04072214.D	0.5ng TO-15 ICAL STD	S35-03082201/S35-04052202 (5/5)	SC	6	
5	4/7/22 13:50	04072215.D	1.0ng TO-15 ICAL STD	S35-03082201/S35-04052202 (5/5)	SC	6	
6	4/7/22 14:24	04072216.D	5.0ng TO-15 ICAL STD	S35-03082201/S35-04052202 (5/5)	SC	6	
7	4/7/22 14:57	04072217.D	25ng TO-15 ICAL STD	S35-03082201/S35-04052201 (5/5)	SC	7	
8	4/7/22 15:31	04072218.D	50ng TO-15 ICAL STD	S35-03082201/S35-04052201 (5/5)	SC	7	
9	4/7/22 16:04	04072219.D	100ng TO-15 ICAL STD	S35-03082201/S35-04052201 (5/5)	SC	7	
10	4/7/22 16:37	04072220.D	Blank	S35-03082201	SC	2	
11	4/7/22 17:10	04072221.D	25ng TO-15 ICV STD	S35-03082201/S35-03162202 (4/15)	SC	2	pass

4/14/22

Injection Log

Directory: I:\MS09\DATA\2022_04\25\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/25/22 6:18	04252201.D	CCV R9042522_25ng	S35-04132201/S35-04222203 (5/22)	SC	2	pass
2	4/25/22 6:51	04252202.D	Blank	S35-04132201	SC	1	
3	4/25/22 7:24	04252203.D	MB R9042422_1000mL	S35-04132201	SC	2	pass
4	4/25/22 8:26	04252204.D	LCS R9042522_25ng	S35-04132201/S35-04082209 (5/8)	SC	2	pass
5	4/25/22 8:59	04252205.D	LCSD R9042422_25ng	S35-04132201/S35-04082209 (5/8)	SC	2	pass
6	4/25/22 9:32	04252206.D	RL R9042522_0.5ng	S35-04132201/S35-04082208 (5/8)	SC	4	pass
7	4/25/22 10:22	04252207.D	P2201767-004 (1000mL)	S35-04132201	SC	5	
8	4/25/22 10:56	04252208.D	P2201767-005 (1000mL)	S35-04132201	SC	6	
9	4/25/22 11:29	04252209.D	xxxP2201798-001 (1.0mL)	S35-04132201	SC	1	
10	4/25/22 12:05	04252210.D	xxxP2201664-004 (5.0mL)	S35-04132201	SC	1	IS/Surr failed
11	4/25/22 12:38	04252211.D	xxxP2201664-005 (40mL)	S35-04132201	SC	5	IS/Surr failed
12	4/25/22 13:12	04252212.D	P2201664-001 (400mL)	S35-04132201	SC	12	
13	4/25/22 13:45	04252213.D	P2201664-002 (400mL)	S35-04132201	SC	13	
14	4/25/22 14:18	04252214.D	P2201664-003 (400mL)	S35-04132201	SC	14	
15	4/25/22 14:51	04252215.D	P2201664-006 (400mL)	S35-04132201	SC	15	
16	4/25/22 15:25	04252216.D	P2201664-007 (400mL)	S35-04132201	SC	16	
17	4/25/22 16:05	04252217.D	P2201798-001 (100mL)	S35-04132201	SC	6	
18	4/25/22 16:38	04252218.D	P2201664-004 (1.0mL)	S35-04132201	SC	1	IS/Surr failed
19	4/25/22 17:28	04252219.D	P2201682-001 (1000mL)	S35-04132201	SC	7	
20	4/25/22 18:01	04252220.D	P2201682-002 (1000mL)	S35-04132201	SC	8	
21	4/25/22 18:34	04252221.D	P2201682-003 (1000mL)	S35-04132201	SC	9	
22	4/25/22 19:07	04252222.D	P2201682-004 (1000mL)	S35-04132201	SC	10	
23	4/25/22 19:40	04252223.D	P2201682-005 (1000mL)	S35-04132201	SC	11	
24	4/25/22 20:13	04252224.D	P2201682-005dup (1000mL)	S35-04132201	SC	11	pass
25	4/25/22 20:46	04252225.D	System	S35-04132201	SC	2	
26	4/25/22 21:20	04252226.D	P2201766-001 (1000mL)	S35-04132201	SC	12	
27	4/25/22 21:53	04252227.D	P2201766-002 (1000mL)	S35-04132201	SC	13	
28	4/25/22 22:26	04252228.D	P2201766-003 (1000mL)	S35-04132201	SC	14	
29	4/25/22 22:59	04252229.D	P2201766-004 (1000mL)	S35-04132201	SC	15	
30	4/25/22 23:33	04252230.D	P2201766-005 (1000mL)	S35-04132201	SC	16	
31	4/26/22 0:06	04252231.D	System	S35-04132201	SC	2	
							4/26/22

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 29204

Batch Started By: on 4/6/22 0351
Finished Cleaning By: on 4/6/22 0351

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS01500	4/6/22	4/7/22	Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/8/22 0305		MS09_04072254
AC02172	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/18/22 0803		
AC02261	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/12/22 0832		
AS01499	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-8.0	4/12/22 0348		
AS01509	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/8/22 0305		
AS00283	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-8.0	4/12/22 0348		
AS01358	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/8/22 0305		
AS01544	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/8/22 0305		
AC02387	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/12/22 0859		
AC02213	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/12/22 0832		
AC02403	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/12/22 0832		
AS00811	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/8/22 0305		
AC00416	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/12/22 0832		
AC02151	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/12/22 0832		
AC01788	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/12/22 0859		
AS00586	4/6/22		Pass w/ Conditions	-14.3	4/6/22 0351		-14.0	4/8/22 0305		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072254.D Vial: 16
Acq On : 8 Apr 2022 14:14 Operator: SC
Sample : AS01500 29204 Inst : MS09
Misc : S35-03082201

Quant Time: Apr 08 14:36:36 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/8/22

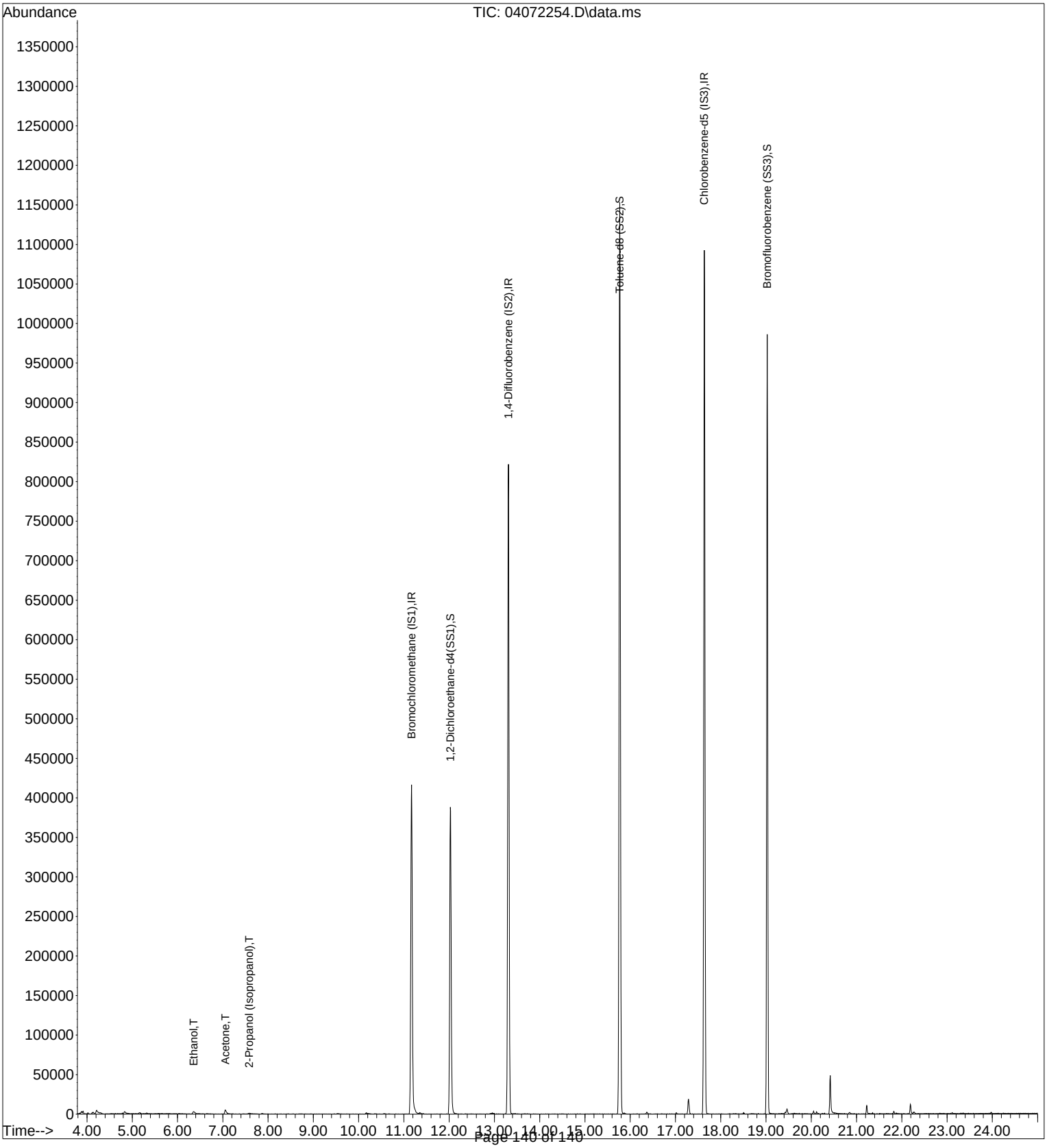
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	157010	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.31	114	688294	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.64	54	174526	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	306928	12.780	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%			
57) Toluene-d8 (SS2)	15.77	98	808869	12.719	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%			
73) Bromofluorobenzene (SS3)	19.03	174	273959	12.232	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%			
Target Compounds						Qvalue
10) Ethanol	6.36	45	7209	0.456	ng	80
13) Acetone	7.06	58	2149	0.173	ng	91
15) 2-Propanol (Isopropanol)	7.58	45	3272	0.067	ng	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 04\07\04072254.D Vial: 16
Acq On : 8 Apr 2022 14:14 Operator: SC
Sample : AS01500 29204 Inst : MS09
Misc : S35-03082201

Quant Time: Apr 08 14:36:36 2022
Quant Method : I:\MS09\Methods\R9040722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 07 16:31:14 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

May 19, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.007.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on April 28, 2022. For your reference, these analyses have been assigned our service request number P2201935.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 5:27 pm, May 19, 2022

Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2201935
Project: DOE Perimeter Air / 080153.007.15

CASE NARRATIVE

The samples were received intact under chain of custody on April 28, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2201935

Project ID: DOE Perimeter Air / 080153.007.15

Date Received: 4/28/2022

Time Received: 13:22

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_042822_S	P2201935-001	Air	4/28/2022	12:00	AC02469	-1.59	4.03	X
DOE-2_042822_S	P2201935-002	Air	4/28/2022	12:15	AC02477	-2.13	4.33	X
DOE-3_042822_S	P2201935-003	Air	4/28/2022	12:30	AC01566	-1.22	3.99	X
DOE-4_042822_S	P2201935-004	Air	4/28/2022	12:45	AS01299	-1.38	4.16	X
DOE-1_042822_D	P2201935-005	Air	4/28/2022	12:01	AC02406	-1.49	4.11	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. P2201935

Company Name & Address (Reporting Information)	North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304
Project Name	DOE Perimeter Air
Project Number	080153.015.15
P.O. # / Billing Information	PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Project Manager	Trina Cesnik
Phone	805-587-0691
Fax	
Email Address for Result Reporting	cchristensen@northwindgrp.com; denise.gonzalez@northwindg
Sampler (Print & Sign)	T. Stewart Williford
ALS Contact:	Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_042822_S	1	4/28/2022	1200	AC02469	FCR00398	-28.5	-1.5		X		
DOE-2_042822_S	2	4/28/2022	1215	AC02477	FCR00543	-29.5	-3.0		X		
DOE-3_042822_S	3	4/28/2022	1230	AC01566	FCR00189	-28.5	-2.0		X		
DOE-4_042822_S	4	4/28/2022	1245	AS01299	FCR00429	-28.5	-1.5		X		
DOE-1_042822_D	5	4/28/2022	1201	AC02406	FCR00273	-28.5	-2.5		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) _____ Tier III (Results + QC & Calibration Summaries) _____
Tier II (Results + QC Summaries) _____ Tier IV (Data Validation Package) 10% Surcharge X

EDD required Yes / No
Type: EQuIS Units: _____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature) T. Stewart Williford	Date: 4/28/22	Time: 1322	Received by: (Signature)	Date: 4.28.22	Time: 1342
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2201935

Project: DOE Perimeter Air / 080153.007.15

Sample(s) received on: 4/28/22 Date opened: 4/28/22 by: KYLE.WOODIN

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☒	☐	☐
	Is there a client indication that the submitted samples are **pH** preserved?	☒	☐	☐
	Were **VOA vials** checked for presence/absence of air bubbles?	☒	☐	☐
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☒	☐	☐
10	**Tubes:** Are the tubes capped and intact?	☒	☐	☐
11	**Badges:** Are the badges properly capped and intact?	☒	☐	☐
	Are dual bed badges separated and individually capped and intact?	☒	☐	☐

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2201935-001.01	6.0 L Ambient Can					
P2201935-002.01	6.0 L Ambient Can					
P2201935-003.01	6.0 L Ambient Can					
P2201935-004.01	6.0 L Silonite Can					
P2201935-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_042822_S** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-001

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02469

Initial Pressure (psig): -1.59 Final Pressure (psig): 4.03

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.76	**0.48**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.74	**0.22**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.2	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**16**	3.0	**4.3**	0.83	
110-54-3	n-Hexane	ND	0.76	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_042822_S** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-001

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02469

Initial Pressure (psig): -1.59 Final Pressure (psig): 4.03

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	ND	0.74	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.089	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_042822_S** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-001

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02469

Initial Pressure (psig): -1.59 Final Pressure (psig): 4.03

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.76	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_042822_S** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-002

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02477

Initial Pressure (psig): -2.13 Final Pressure (psig): 4.33

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.80	**0.49**	0.16	
74-87-3	Chloromethane	ND	0.77	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.82	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.79	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.79	ND	0.36	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.77	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.66	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.79	**0.22**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.70	
75-35-4	1,1-Dichloroethene	ND	0.82	ND	0.21	
75-09-2	Methylene Chloride	ND	0.79	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.6	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	0.79	ND	0.20	
141-78-6	Ethyl Acetate	**8.1**	3.2	**2.2**	0.88	
110-54-3	n-Hexane	ND	0.80	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_042822_S** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-002

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02477

Initial Pressure (psig): -2.13 Final Pressure (psig): 4.33

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.82	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.79	ND	0.14	
71-43-2	Benzene	ND	0.76	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.76	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	0.76	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.79	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.79	ND	0.22	
142-82-5	n-Heptane	ND	0.80	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.76	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.79	ND	0.14	
108-88-3	Toluene	ND	0.79	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.094	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.79	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_042822_S** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-002

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02477

Initial Pressure (psig): -2.13 Final Pressure (psig): 4.33

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.38	
75-25-2	Bromoform	ND	0.79	ND	0.076	
100-42-5	Styrene	ND	0.76	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.79	ND	0.11	
98-82-8	Cumene	ND	0.79	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.79	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.79	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.79	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.22	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.79	ND	0.074	
104-51-8	n-Butylbenzene	ND	0.79	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.80	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_042822_S** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-003

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01566

Initial Pressure (psig): -1.22 Final Pressure (psig): 3.99

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.74	**0.49**	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.75	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.72	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.72	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.71	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.61	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.72	**0.22**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.64	
75-35-4	1,1-Dichloroethene	ND	0.75	ND	0.19	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.75	ND	0.098	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.20	
108-05-4	Vinyl Acetate	ND	7.0	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.47	
156-59-2	cis-1,2-Dichloroethene	ND	0.72	ND	0.18	
141-78-6	Ethyl Acetate	**3.7**	2.9	**1.0**	0.81	
110-54-3	n-Hexane	ND	0.74	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_042822_S** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-003

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01566

Initial Pressure (psig): -1.22 Final Pressure (psig): 3.99

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.75	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.47	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.72	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.70	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	ND	0.72	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.72	ND	0.20	
142-82-5	n-Heptane	ND	0.74	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.71	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.72	ND	0.13	
108-88-3	Toluene	ND	0.72	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.087	
106-93-4	1,2-Dibromoethane	ND	0.72	ND	0.094	
111-65-9	n-Octane	ND	0.74	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.72	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_042822_S** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-003

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01566

Initial Pressure (psig): -1.22 Final Pressure (psig): 3.99

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.72	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.72	ND	0.070	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	o-Xylene	ND	0.72	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.72	ND	0.11	
98-82-8	Cumene	ND	0.72	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.74	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.74	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.72	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.72	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.72	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.72	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.72	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.72	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.21	
91-20-3	Naphthalene	ND	0.72	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.72	ND	0.068	
104-51-8	n-Butylbenzene	ND	0.72	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.74	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_042822_S** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-004

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01299

Initial Pressure (psig): -1.38 Final Pressure (psig): 4.16

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.75	**0.49**	0.15	
74-87-3	Chloromethane	ND	0.72	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.33	
74-83-9	Bromomethane	ND	0.72	ND	0.19	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.74	**0.22**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.75	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.1	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**6.1**	3.0	**1.7**	0.83	
110-54-3	n-Hexane	ND	0.75	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_042822_S** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-004

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01299

Initial Pressure (psig): -1.38 Final Pressure (psig): 4.16

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.48	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.71	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.71	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.71	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.20	
142-82-5	n-Heptane	ND	0.75	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	ND	0.74	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.75	ND	0.088	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.096	
111-65-9	n-Octane	ND	0.75	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_042822_S** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-004

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01299

Initial Pressure (psig): -1.38 Final Pressure (psig): 4.16

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.071	
100-42-5	Styrene	ND	0.71	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.75	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.069	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.75	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_042822_D** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-005

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02406

Initial Pressure (psig): -1.49 Final Pressure (psig): 4.11

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.75	**0.49**	0.15	
74-87-3	Chloromethane	ND	0.72	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.33	
74-83-9	Bromomethane	ND	0.72	ND	0.19	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.74	**0.22**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.75	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.1	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**14**	3.0	**3.9**	0.83	
110-54-3	n-Hexane	ND	0.75	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_042822_D** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-005

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02406

Initial Pressure (psig): -1.49 Final Pressure (psig): 4.11

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.48	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.71	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.71	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.71	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.20	
142-82-5	n-Heptane	ND	0.75	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	ND	0.74	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.75	ND	0.088	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.096	
111-65-9	n-Octane	ND	0.75	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_042822_D** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2201935-005

Test Code: EPA TO-15 Date Collected: 4/28/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 4/28/22
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02406

Initial Pressure (psig): -1.49 Final Pressure (psig): 4.11

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.071	
100-42-5	Styrene	ND	0.71	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.75	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.069	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.75	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P220516-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P220516-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P220516-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Project ID: P2201935

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date(s) Collected: 4/28/22
Analyst: Topacio Zavala Date(s) Received: 4/28/22
Sample Type: 6.0 L Summa Canister(s) / 6.0 L Silonite Canister(s) Date(s) Analyzed: 5/16/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220516-MB	**97**	**95**	**94**	70-130	
Lab Control Sample	P220516-LCS	**103**	**96**	**95**	70-130	
Duplicate Lab Control Sample	P220516-DLCS	**102**	**97**	**96**	70-130	
DOE-1_042822_S	P2201935-001	**93**	**96**	**91**	70-130	
DOE-2_042822_S	P2201935-002	**94**	**95**	**90**	70-130	
DOE-3_042822_S	P2201935-003	**94**	**94**	**88**	70-130	
DOE-4_042822_S	P2201935-004	**98**	**92**	**88**	70-130	
DOE-1_042822_D	P2201935-005	**96**	**92**	**87**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P220516-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	203	202	**98**	**97**	71-112	1	25	
74-87-3	Chloromethane	206	208	202	**101**	**98**	53-126	3	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	213	215	**102**	**103**	62-121	1	25	
75-01-4	Vinyl Chloride	208	250	243	**120**	**117**	63-123	3	25	
106-99-0	1,3-Butadiene	206	184	179	**89**	**87**	63-135	2	25	
74-83-9	Bromomethane	206	200	201	**97**	**98**	71-112	1	25	
75-00-3	Chloroethane	206	204	201	**99**	**98**	66-117	1	25	
107-02-8	Acrolein	416	399	392	**96**	**94**	71-123	2	25	
75-69-4	Trichlorofluoromethane (CFC 11)	202	199	198	**99**	**98**	71-114	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	396	376	**99**	**94**	61-124	5	25	
107-13-1	Acrylonitrile	402	404	396	**100**	**99**	65-130	1	25	
75-35-4	1,1-Dichloroethene	210	203	203	**97**	**97**	74-114	0	25	
75-09-2	Methylene Chloride	208	193	193	**93**	**93**	75-112	0	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	205	205	**95**	**95**	73-114	0	25	
75-15-0	Carbon Disulfide	414	375	369	**91**	**89**	70-113	2	25	
156-60-5	trans-1,2-Dichloroethene	208	211	208	**101**	**100**	76-119	1	25	
75-34-3	1,1-Dichloroethane	214	212	208	**99**	**97**	70-114	2	25	
1634-04-4	Methyl tert-Butyl Ether	206	204	201	**99**	**98**	72-118	1	25	
108-05-4	Vinyl Acetate	942	1120	1100	**119**	**117**	56-137	2	25	
78-93-3	2-Butanone (MEK)	408	413	408	**101**	**100**	74-121	1	25	
156-59-2	cis-1,2-Dichloroethene	206	210	206	**102**	**100**	73-117	2	25	
141-78-6	Ethyl Acetate	580	606	582	**104**	**100**	59-161	4	25	
110-54-3	n-Hexane	208	213	205	**102**	**99**	55-130	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P220516-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	210	210	208	**100**	**99**	71-114	1	25	
109-99-9	Tetrahydrofuran (THF)	404	397	391	**98**	**97**	73-114	1	25	
107-06-2	1,2-Dichloroethane	210	211	208	**100**	**99**	71-119	1	25	
71-55-6	1,1,1-Trichloroethane	208	207	206	**100**	**99**	73-119	1	25	
71-43-2	Benzene	208	212	208	**102**	**100**	72-113	2	25	
56-23-5	Carbon Tetrachloride	202	198	197	**98**	**98**	67-123	0	25	
110-82-7	Cyclohexane	412	419	412	**102**	**100**	70-119	2	25	
78-87-5	1,2-Dichloropropane	206	212	208	**103**	**101**	70-118	2	25	
75-27-4	Bromodichloromethane	208	213	211	**102**	**101**	74-119	1	25	
79-01-6	Trichloroethene	204	206	205	**101**	**100**	74-115	1	25	
123-91-1	1,4-Dioxane	206	213	211	**103**	**102**	77-124	1	25	
142-82-5	n-Heptane	206	210	206	**102**	**100**	70-119	2	25	
10061-01-5	cis-1,3-Dichloropropene	208	218	215	**105**	**103**	81-126	2	25	
108-10-1	4-Methyl-2-pentanone	412	434	422	**105**	**102**	73-129	3	25	
10061-02-6	trans-1,3-Dichloropropene	200	211	208	**106**	**104**	80-127	2	25	
79-00-5	1,1,2-Trichloroethane	208	207	205	**100**	**99**	78-117	1	25	
108-88-3	Toluene	206	194	194	**94**	**94**	70-118	0	25	
591-78-6	2-Hexanone	406	393	387	**97**	**95**	74-132	2	25	
124-48-1	Dibromochloromethane	210	194	196	**92**	**93**	69-137	1	25	
106-93-4	1,2-Dibromoethane	208	194	195	**93**	**94**	76-128	1	25	
111-65-9	n-Octane	208	200	198	**96**	**95**	68-120	1	25	
127-18-4	Tetrachloroethene	212	187	189	**88**	**89**	63-130	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2201935
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P220516-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 5/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	206	197	197	**96**	**96**	71-123	0	25	
179601-23-1	m,p-Xylenes	416	400	399	**96**	**96**	67-127	0	25	
75-25-2	Bromoform	210	200	203	**95**	**97**	65-149	2	25	
100-42-5	Styrene	202	199	199	**99**	**99**	76-132	0	25	
95-47-6	o-Xylene	208	200	199	**96**	**96**	69-124	0	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	203	203	**98**	**98**	69-128	0	25	
98-82-8	Cumene	206	197	196	**96**	**95**	69-125	1	25	
103-65-1	n-Propylbenzene	208	201	199	**97**	**96**	70-127	1	25	
622-96-8	4-Ethyltoluene	208	201	199	**97**	**96**	69-127	1	25	
108-67-8	1,3,5-Trimethylbenzene	208	201	200	**97**	**96**	66-129	1	25	
95-63-6	1,2,4-Trimethylbenzene	206	208	205	**101**	**100**	63-142	1	25	
100-44-7	Benzyl Chloride	416	438	438	**105**	**105**	73-145	0	25	
541-73-1	1,3-Dichlorobenzene	208	207	206	**100**	**99**	67-136	1	25	
106-46-7	1,4-Dichlorobenzene	210	201	201	**96**	**96**	63-134	0	25	
135-98-8	sec-Butylbenzene	204	199	197	**98**	**97**	68-130	1	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	198	197	**96**	**96**	60-139	0	25	
95-50-1	1,2-Dichlorobenzene	210	197	196	**94**	**93**	64-139	1	25	
120-82-1	1,2,4-Trichlorobenzene	420	411	410	**98**	**98**	62-154	0	25	
91-20-3	Naphthalene	210	209	210	**100**	**100**	62-156	0	25	
87-68-3	Hexachlorobutadiene	212	187	188	**88**	**89**	55-142	1	25	
104-51-8	n-Butylbenzene	208	203	201	**98**	**97**	70-131	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2201935

Client Project ID: **DOE Perimeter Air / 080153.007.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Lab File ID: 05162202.D

Analyst: Topacio Zavala Date Analyzed: 5/16/22

Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 07:14

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	212269	7.37	975883	9.42	257274	14.91
	Upper Limit	297177	7.70	1366236	9.75	360184	15.24
	Lower Limit	127361	7.04	585530	9.09	154364	14.58
	Client Sample ID						
01	Method Blank	198170	7.33	917860	9.40	243386	14.90
02	Lab Control Sample	204651	7.38	944053	9.43	249406	14.91
03	Duplicate Lab Control Sample	214230	7.38	990500	9.43	256314	14.91
04	DOE-1_042822_S	208391	7.33	972208	9.40	253643	14.90
05	DOE-2_042822_S	202711	7.33	945642	9.39	250309	14.90
06	DOE-3_042822_S	197133	7.33	910575	9.40	246752	14.90
07	DOE-4_042822_S	196024	7.33	909231	9.39	248832	14.90
08	DOE-1_042822_D	189863	7.33	893536	9.40	245632	14.90
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162220.D Vial: 10
Acq On : 16 May 2022 19:54 Operator: TZ
Sample : P2201935-001 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:31 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/17/22
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	208391	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.40	114	972208	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	253643	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	405191	11.575	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
57) Toluene-d8 (SS2)	12.51	98	1185456	12.007	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
73) Bromofluorobenzene (SS3)	16.88	174	308282	11.369	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
Target Compounds							Qvalue
2) Propene	3.41	42	12834	N.D.			
3) Dichlorodifluoromethan...	3.47	85	66476	1.645	ng		99
4) Chloromethane	3.62	50	8368	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	1251	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.15	94	480	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.40	45	65605	2.800	ng		100
11) Acetonitrile	4.56	41	7759	N.D.			
12) Acrolein	4.65	56	2448	N.D.			
13) Acetone	4.75	58	75634	4.033	ng		91
14) Trichlorofluoromethane	4.87	101	28799	0.851	ng		99
15) 2-Propanol (Isopropanol)	4.96	45	32334	0.459	ng		90
16) Acrylonitrile	5.11	53	2024	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.45	59	1609	N.D.			
19) Methylene Chloride	5.47	84	6590	N.D.			
20) 3-Chloro-1-propene (Al...	5.51	41	997	N.D.			
21) Trichlorotrifluoroethane	5.69	151	5045	N.D.			
22) Carbon Disulfide	5.72	76	13621	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.51	73	128	N.D.			
26) Vinyl Acetate	6.55	86	2001	0.597	ng	#	44
27) 2-Butanone (MEK)	6.78	72	6383	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.39	87	1033	N.D.			
30) Ethyl Acetate	7.39	61	107644	10.923	ng		93
31) n-Hexane	7.40	57	5110	N.D.			
32) Chloroform	7.46	83	2428	N.D.			
34) Tetrahydrofuran (THF)	7.88	72	511	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.21	62	1262	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.94	56	3360	No Calib		#	
41) Benzene	8.99	78	17550	N.D.			
42) Carbon Tetrachloride	9.16	117	8674	N.D.			
43) Cyclohexane	9.31	84	1473	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.94	63	117	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.32	57	19547	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162220.D Vial: 10
Acq On : 16 May 2022 19:54 Operator: TZ
Sample : P2201935-001 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:31 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

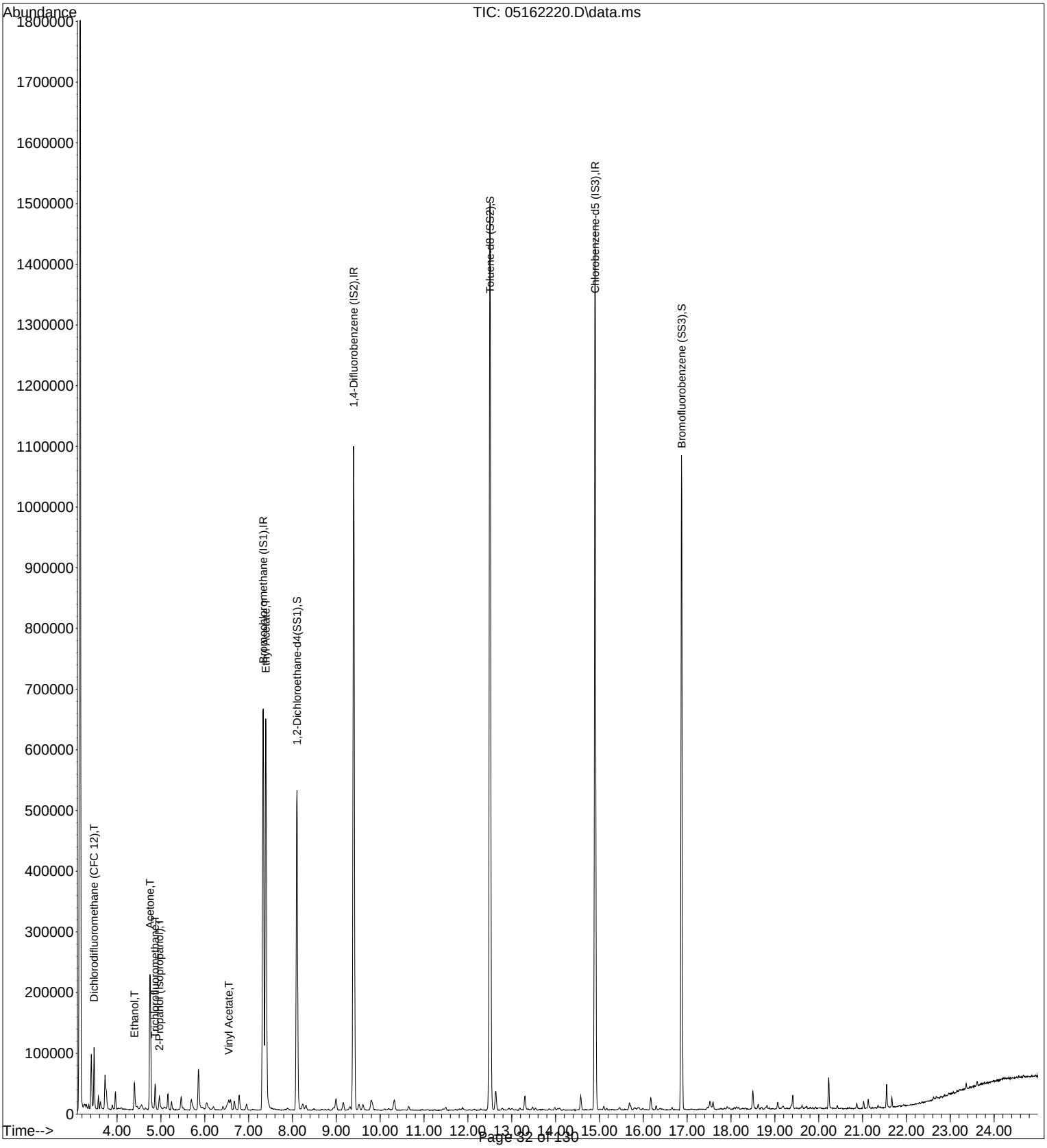
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.66	71	1253	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.44	58	239	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.63	91	22789	N.D.	
59) 2-Hexanone	13.01	43	2923	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.85	43	3157	N.D.	
63) n-Octane	13.97	57	812	N.D.	
64) Tetrachloroethene	14.09	166	833	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.46	91	3161	N.D.	
67) m- & p-Xylenes	15.68	91	10860	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.15	104	398	N.D.	
70) o-Xylene	16.29	91	4644	N.D.	
71) n-Nonane	16.65	43	2252	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.08	105	217	N.D.	
75) alpha-Pinene	17.59	93	5660	N.D.	
76) n-Propylbenzene	17.76	91	1001	N.D.	
77) 3-Ethyltoluene	17.08	105	217	No Calib	#
78) 4-Ethyltoluene	17.97	105	1619	N.D.	
79) 1,3,5-Trimethylbenzene	18.08	105	2123	N.D.	
80) alpha-Methylstyrene	16.87	118	1174	No Calib	#
81) 2-Ethyltoluene	16.87	105	898	No Calib	#
82) 1,2,4-Trimethylbenzene	18.62	105	4934	N.D.	
83) n-Decane	16.87	58	438	No Calib	#
84) Benzyl Chloride	18.77	91	125	N.D.	
85) 1,3-Dichlorobenzene	18.87	146	475	N.D.	
86) 1,4-Dichlorobenzene	18.87	146	475	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	19.19	119	2814	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.38	68	1687	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	21.56	128	1929	N.D.	
96) n-Dodecane	18.82	57	2717	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.30	55	193	No Calib	#
99) tert-Butylbenzene	18.61	119	574	N.D.	
100) n-Butylbenzene	19.73	91	1018	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162220.D Vial: 10
Acq On : 16 May 2022 19:54 Operator: TZ
Sample : P2201935-001 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:31 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162220.D Vial: 10
Acq On : 16 May 2022 19:54 Operator: TZ
Sample : P2201935-001 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:31 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/17/22

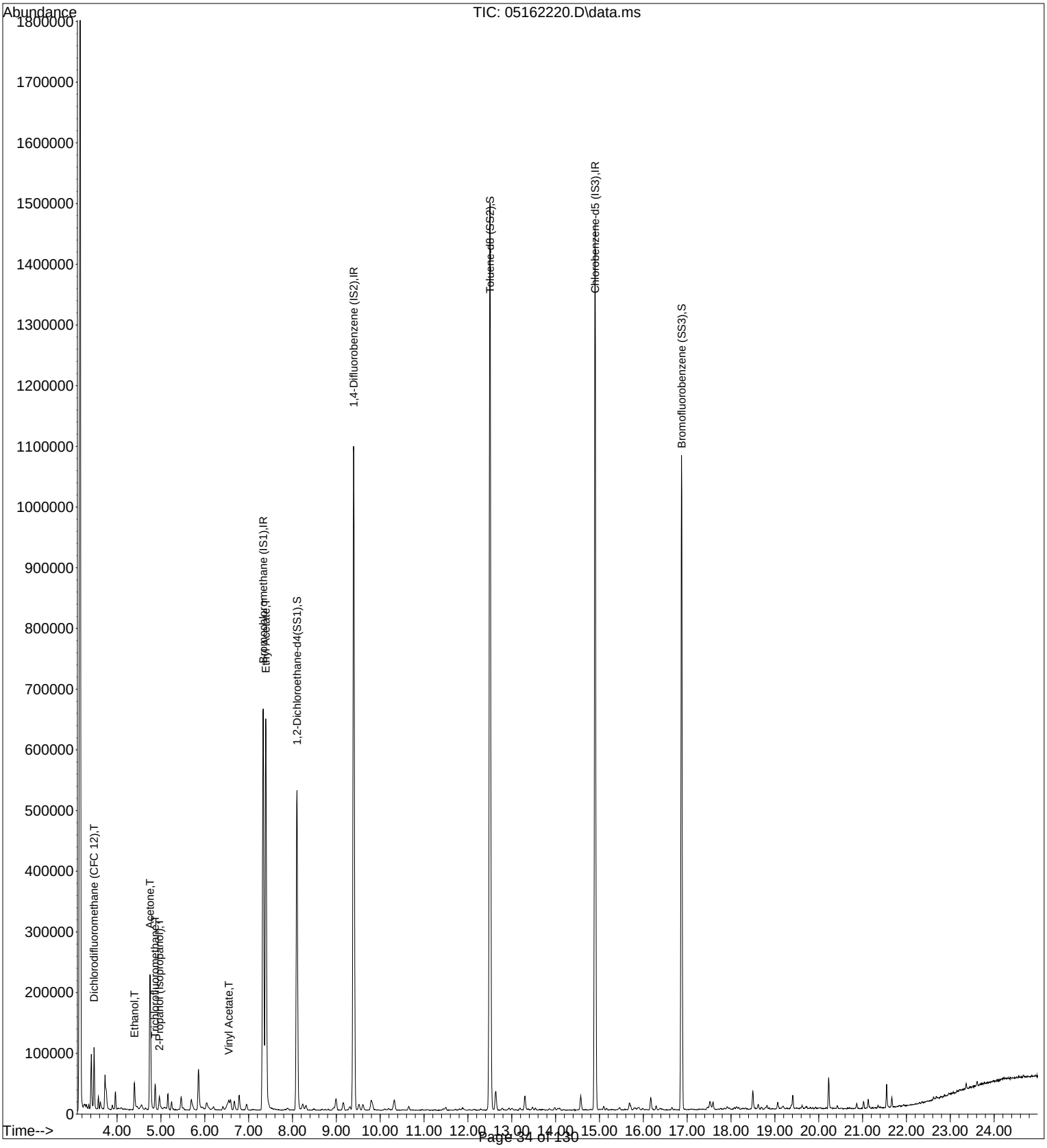
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	208391	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.40	114	972208	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	253643	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	405191	11.575	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
57) Toluene-d8 (SS2)	12.51	98	1185456	12.007	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
73) Bromofluorobenzene (SS3)	16.88	174	308282	11.369	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.47	85	66476	1.645	ng		99
10) Ethanol	4.40	45	65605	2.800	ng		100
13) Acetone	4.75	58	75634	4.033	ng		91
14) Trichlorofluoromethane	4.87	101	28799	0.851	ng		99
15) 2-Propanol (Isopropanol)	4.96	45	32334	0.459	ng		90
26) Vinyl Acetate	6.55	86	2001	0.597	ng	#	44
30) Ethyl Acetate	7.39	61	107644	10.923	ng		93

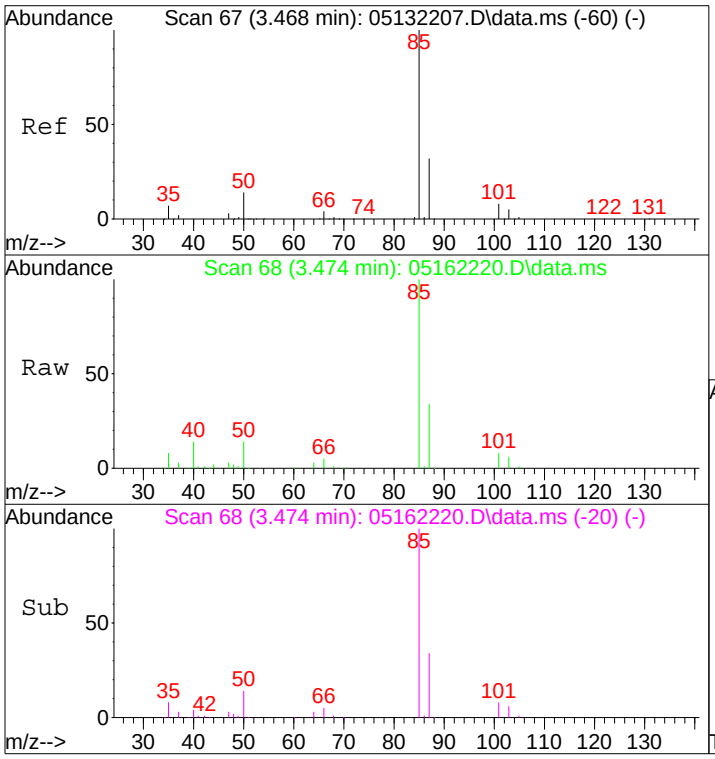
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162220.D Vial: 10
Acq On : 16 May 2022 19:54 Operator: TZ
Sample : P2201935-001 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:31 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

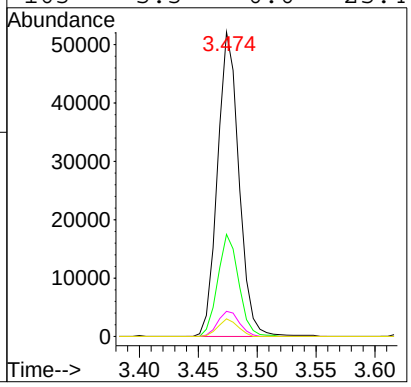


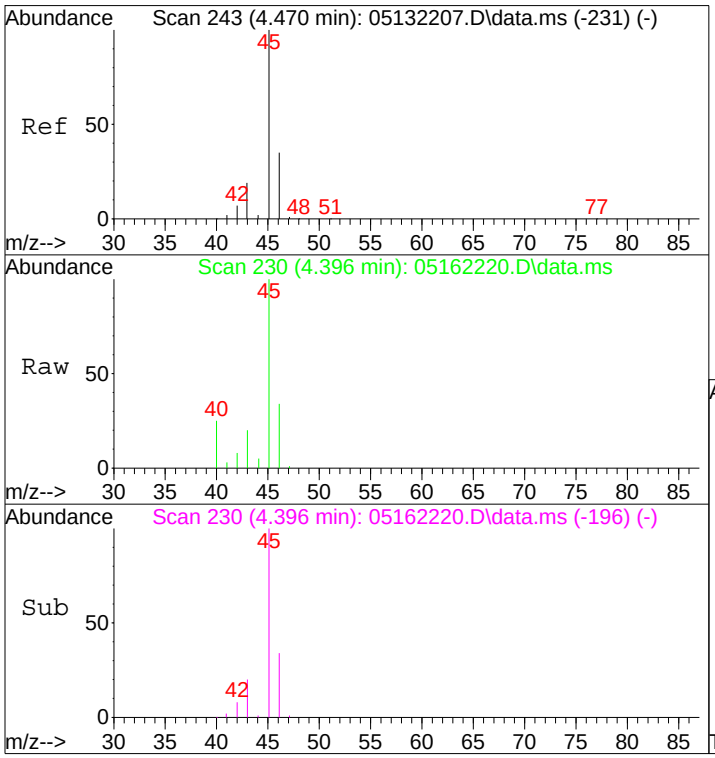


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.64 ng
RT: 3.47 min Scan# 68
Delta R.T. 0.023 min
Lab File: 05162220.D
Acq: 16 May 2022 19:54

Tgt Ion: 85 Resp: 66476

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.1	52.1
101	8.4	0.0	28.4
103	5.3	0.0	25.4

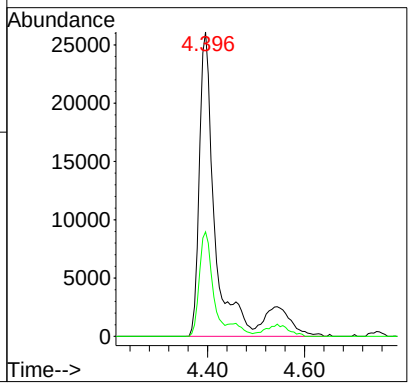


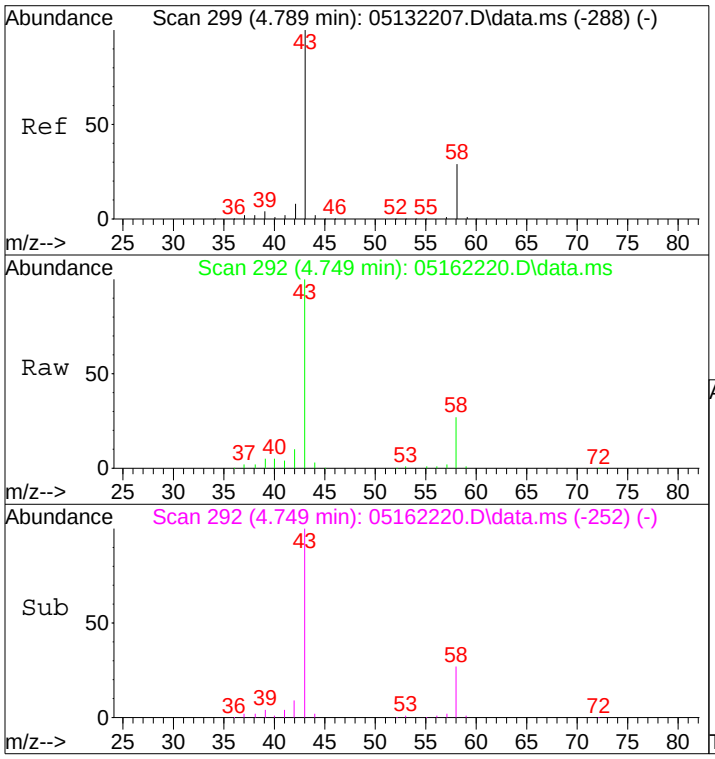


#10
Ethanol
Concen: 2.80 ng
RT: 4.40 min Scan# 230
Delta R.T. -0.057 min
Lab File: 05162220.D
Acq: 16 May 2022 19:54

Tgt Ion: 45 Resp: 65605

Ion	Ratio	Lower	Upper
45	100		
46	35.1	15.3	55.3

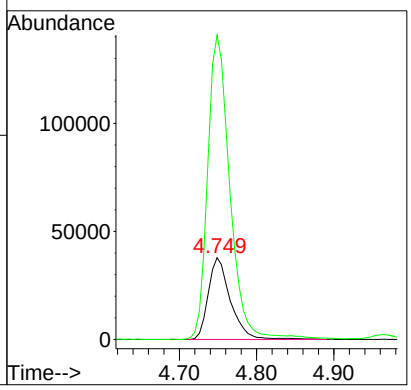


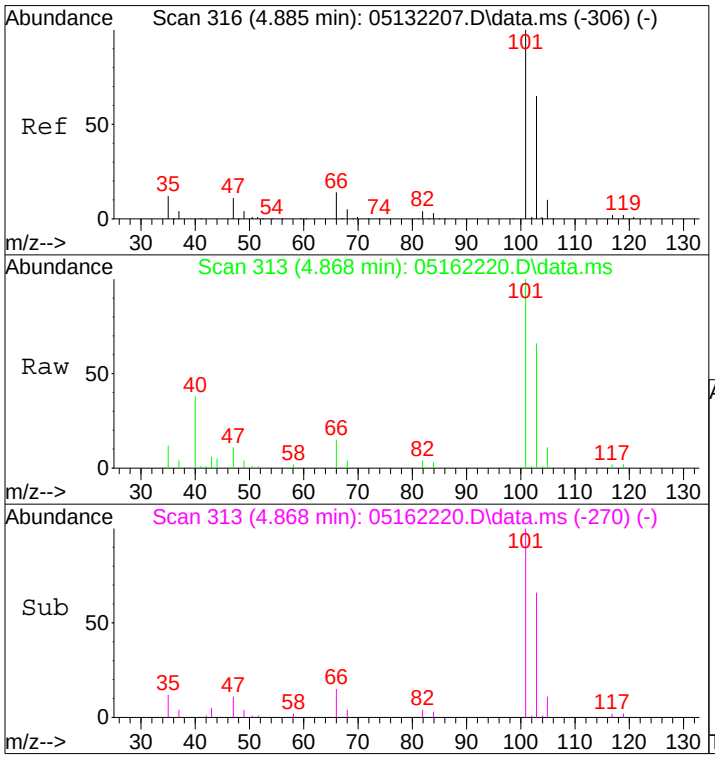


#13
Acetone
Concen: 4.03 ng
RT: 4.75 min Scan# 292
Delta R.T. -0.023 min
Lab File: 05162220.D
Acq: 16 May 2022 19:54

Tgt Ion: 58 Resp: 75634

Ion	Ratio	Lower	Upper
58	100		
43	374.1	323.5	383.5

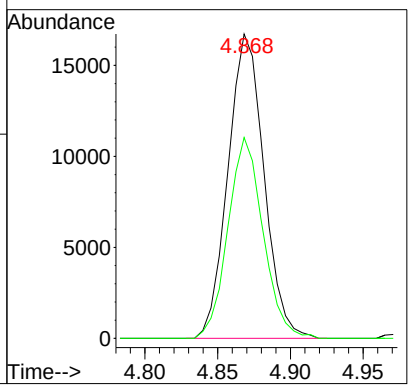


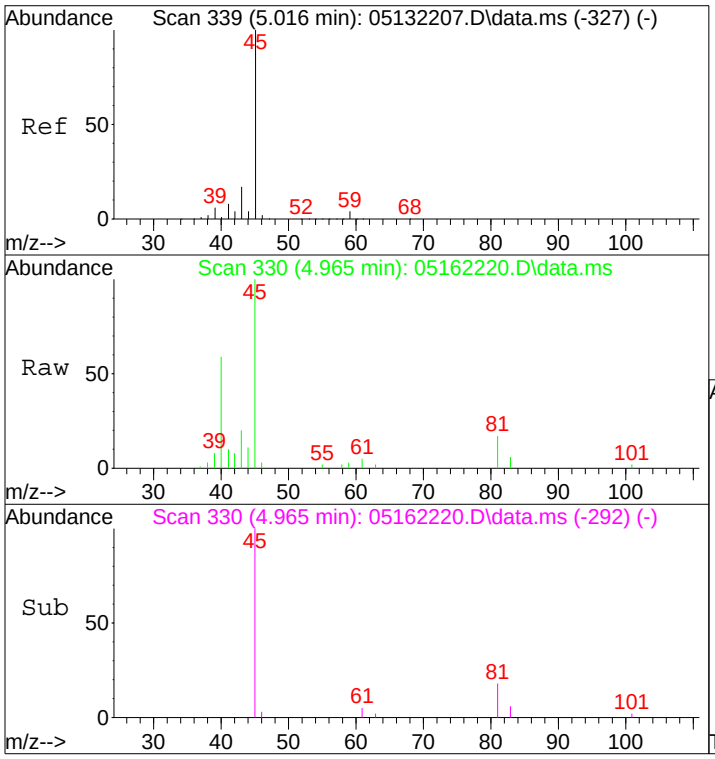


#14
Trichlorofluoromethane
Concen: 0.85 ng
RT: 4.87 min Scan# 313
Delta R.T. -0.006 min
Lab File: 05162220.D
Acq: 16 May 2022 19:54

Tgt Ion:101 Resp: 28799

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.8	84.8

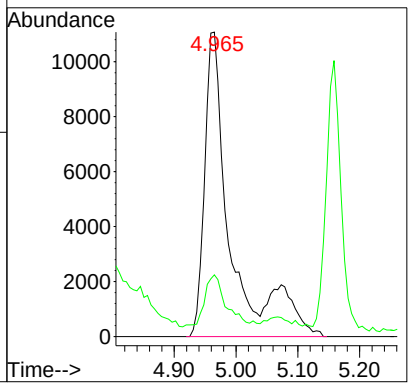


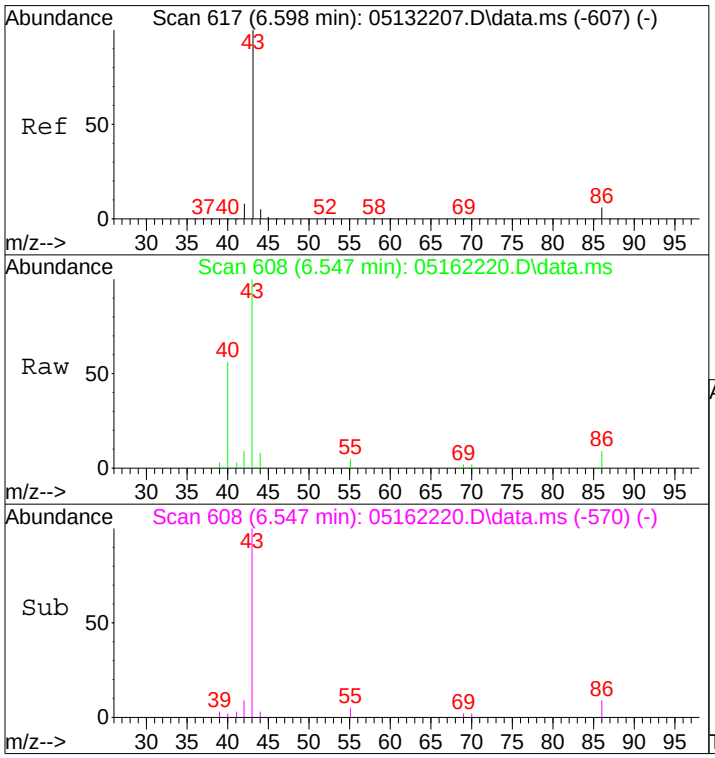


#15
2-Propanol (Isopropanol)
Concen: 0.46 ng
RT: 4.96 min Scan# 330
Delta R.T. -0.034 min
Lab File: 05162220.D
Acq: 16 May 2022 19:54

Tgt Ion: 45 Resp: 32334

Ion	Ratio	Lower	Upper
45	100		
43	22.0	0.0	37.7

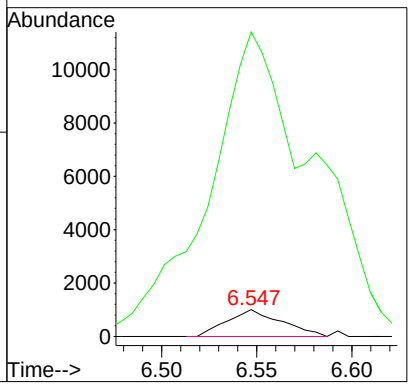


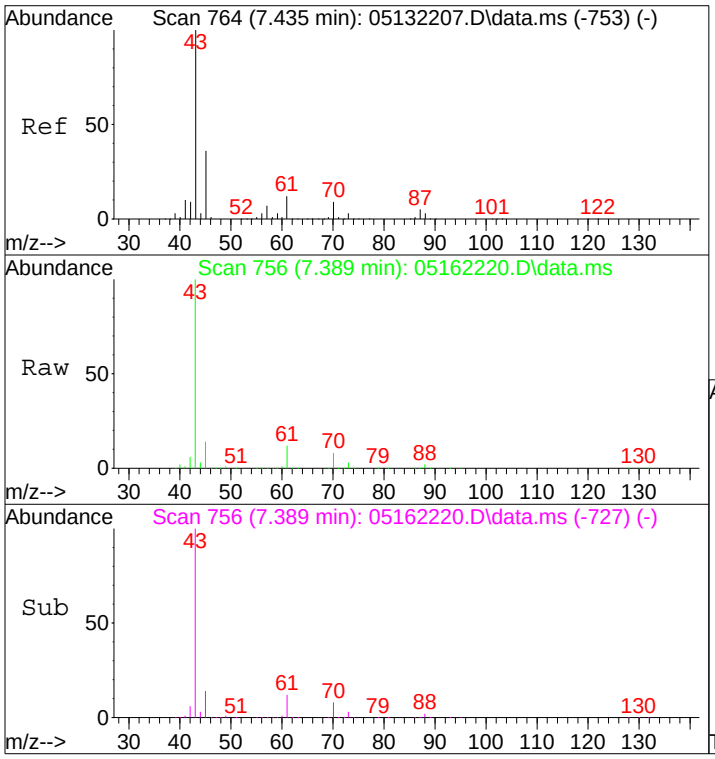


#26
Vinyl Acetate
Concen: 0.60 ng
RT: 6.55 min Scan# 608
Delta R.T. -0.034 min
Lab File: 05162220.D
Acq: 16 May 2022 19:54

Tgt Ion: 86 Resp: 2001

Ion	Ratio	Lower	Upper
86	100		
43	2235.1	1823.0	1863.0#

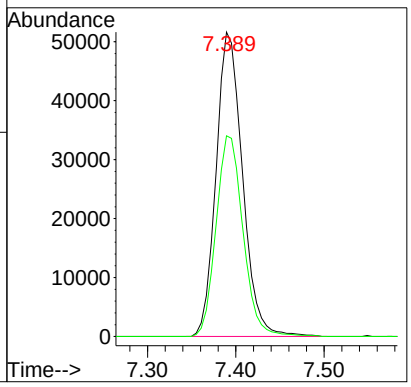




#30
Ethyl Acetate
Concen: 10.92 ng
RT: 7.39 min Scan# 756
Delta R.T. -0.034 min
Lab File: 05162220.D
Acq: 16 May 2022 19:54

Tgt Ion: 61 Resp: 107644

Ion	Ratio	Lower	Upper
61	100		
70	67.0	53.0	93.0



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162221.D Vial: 11
Acq On : 16 May 2022 20:31 Operator: TZ
Sample : P2201935-002 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:33 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022 5/17/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	202711	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.39	114	945642	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	250309	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.10	65	398707	11.709	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.68%			
57) Toluene-d8 (SS2)	12.50	98	1160602	11.912	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%			
73) Bromofluorobenzene (SS3)	16.87	174	300813	11.241	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.92%			
Target Compounds						Qvalue
2) Propene	3.41	42	13215	N.D.		
3) Dichlorodifluoromethan...	3.48	85	63016	1.603	ng	99
4) Chloromethane	3.62	50	8348	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	1201	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	3.94	54	208	N.D.		
8) Bromomethane	4.15	94	413	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.40	45	75656	3.319	ng	100
11) Acetonitrile	4.56	41	6636	N.D.		
12) Acrolein	4.65	56	2012	N.D.		
13) Acetone	4.75	58	66549	3.648	ng	87
14) Trichlorofluoromethane	4.87	101	26583	0.808	ng	99
15) 2-Propanol (Isopropanol)	4.96	45	35662	0.521	ng	94
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.45	59	1535	N.D.		
19) Methylene Chloride	5.47	84	6467	N.D.		
20) 3-Chloro-1-propene (Al...	5.51	41	500	N.D.		
21) Trichlorotrifluoroethane	5.69	151	4324	N.D.		
22) Carbon Disulfide	5.73	76	7066	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.54	86	1440	N.D.		
27) 2-Butanone (MEK)	6.79	72	5234	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	7.39	87	443	N.D.		
30) Ethyl Acetate	7.40	61	51393	5.361	ng	91
31) n-Hexane	7.40	57	3627	N.D.		
32) Chloroform	7.46	83	2201	N.D.		
34) Tetrahydrofuran (THF)	7.88	72	594	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.21	62	1199	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.93	56	4327	No Calib	#	
41) Benzene	9.00	78	14267	N.D.		
42) Carbon Tetrachloride	9.16	117	7832	N.D.		
43) Cyclohexane	9.31	84	715	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	9.96	63	310	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.33	57	11134	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162221.D Vial: 11
Acq On : 16 May 2022 20:31 Operator: TZ
Sample : P2201935-002 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:33 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

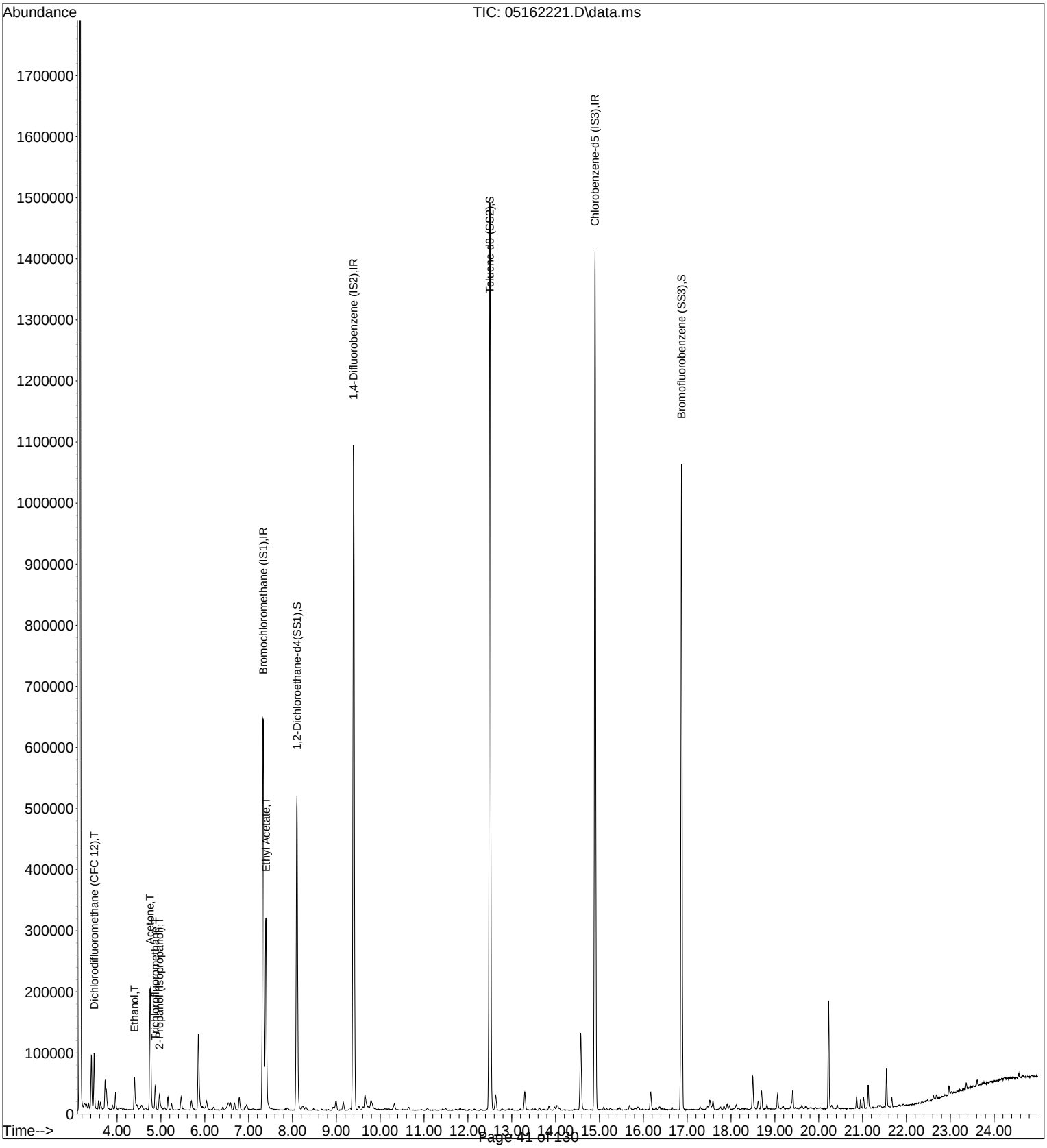
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.66	71	1122	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.43	58	327	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.63	91	17266	N.D.		
59) 2-Hexanone	13.01	43	2634	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.85	43	6668	N.D.		
63) n-Octane	13.98	57	989	N.D.		
64) Tetrachloroethene	14.09	166	600	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.46	91	2980	N.D.		
67) m- & p-Xylenes	15.68	91	6965	N.D.		
68) Bromoform	15.73	173	127	N.D.		
69) Styrene	16.15	104	485	N.D.		
70) o-Xylene	16.29	91	2796	N.D.		
71) n-Nonane	16.65	43	2560	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.07	105	223	N.D.		
75) alpha-Pinene	17.59	93	6441	N.D.		
76) n-Propylbenzene	17.76	91	3316	N.D.		
77) 3-Ethyltoluene	17.07	105	223	No Calib		#
78) 4-Ethyltoluene	17.96	105	4266	N.D.		
79) 1,3,5-Trimethylbenzene	18.07	105	1144	N.D.		
80) alpha-Methylstyrene	16.87	118	1100	No Calib		#
81) 2-Ethyltoluene	16.86	105	539	No Calib		#
82) 1,2,4-Trimethylbenzene	18.62	105	6847	N.D.		
83) n-Decane	16.86	58	455	No Calib		#
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.87	146	409	N.D.		
86) 1,4-Dichlorobenzene	18.87	146	409	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	19.19	119	2432	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.37	68	2085	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.11	58	279	No Calib		#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	21.56	128	2401	N.D.		
96) n-Dodecane	18.82	57	3035	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.29	55	130	No Calib		#
99) tert-Butylbenzene	18.62	119	783	N.D.		
100) n-Butylbenzene	19.72	91	1314	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162221.D Vial: 11
Acq On : 16 May 2022 20:31 Operator: TZ
Sample : P2201935-002 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:33 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162221.D Vial: 11
Acq On : 16 May 2022 20:31 Operator: TZ
Sample : P2201935-002 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:33 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 5/17/22

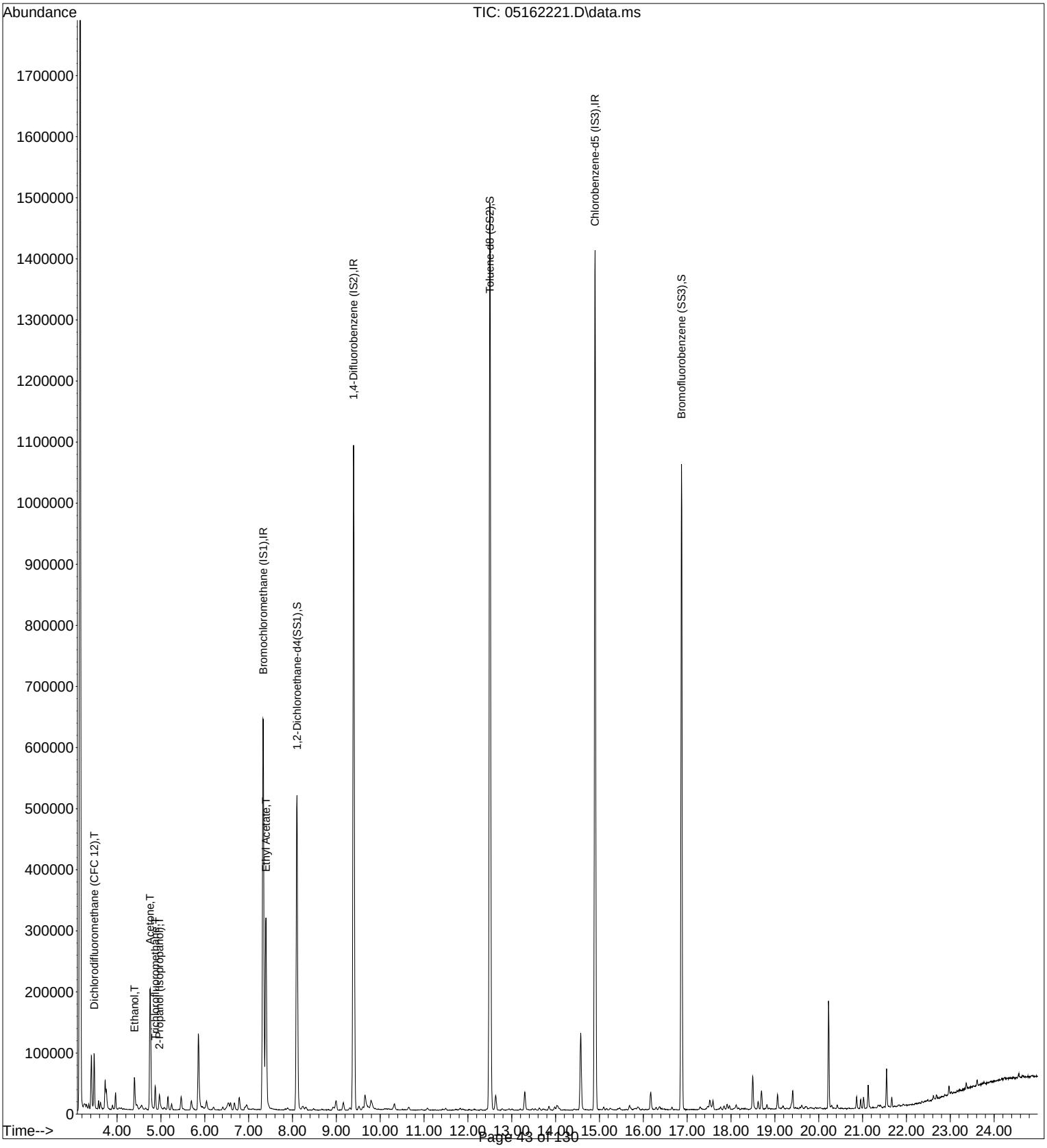
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	202711	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.39	114	945642	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	250309	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.10	65	398707	11.709	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.68%			
57) Toluene-d8 (SS2)	12.50	98	1160602	11.912	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%			
73) Bromofluorobenzene (SS3)	16.87	174	300813	11.241	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.92%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.48	85	63016	1.603	ng	99
10) Ethanol	4.40	45	75656	3.319	ng	100
13) Acetone	4.75	58	66549	3.648	ng	87
14) Trichlorofluoromethane	4.87	101	26583	0.808	ng	99
15) 2-Propanol (Isopropanol)	4.96	45	35662	0.521	ng	94
30) Ethyl Acetate	7.40	61	51393	5.361	ng	91

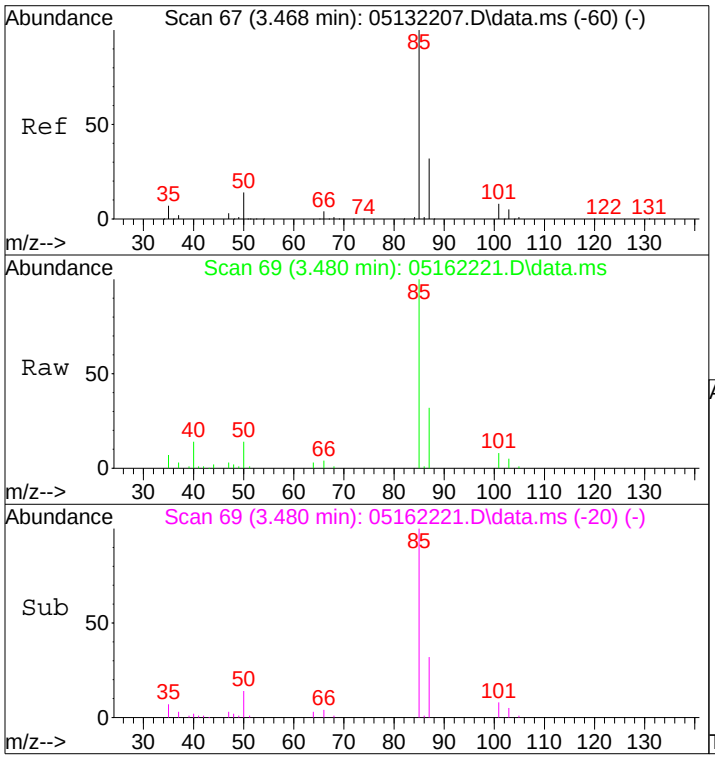
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162221.D Vial: 11
Acq On : 16 May 2022 20:31 Operator: TZ
Sample : P2201935-002 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:33 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

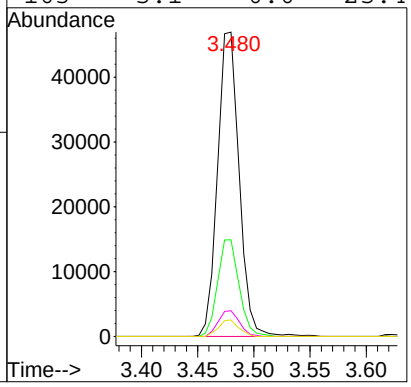


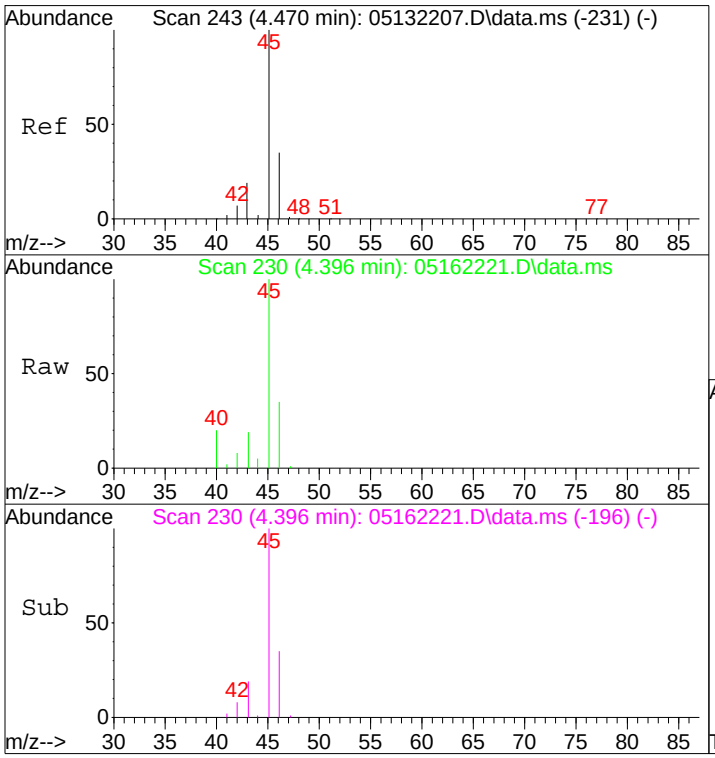


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.60 ng
RT: 3.48 min Scan# 69
Delta R.T. 0.028 min
Lab File: 05162221.D
Acq: 16 May 2022 20:31

Tgt Ion: 85 Resp: 63016

Ion	Ratio	Lower	Upper
85	100		
87	31.5	12.1	52.1
101	8.3	0.0	28.4
103	5.1	0.0	25.4

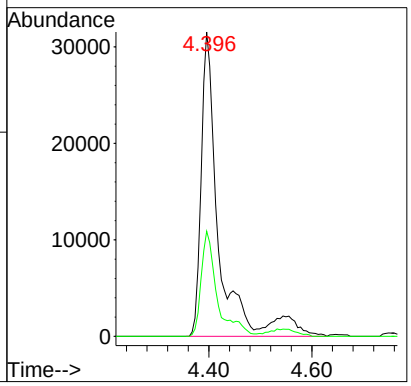


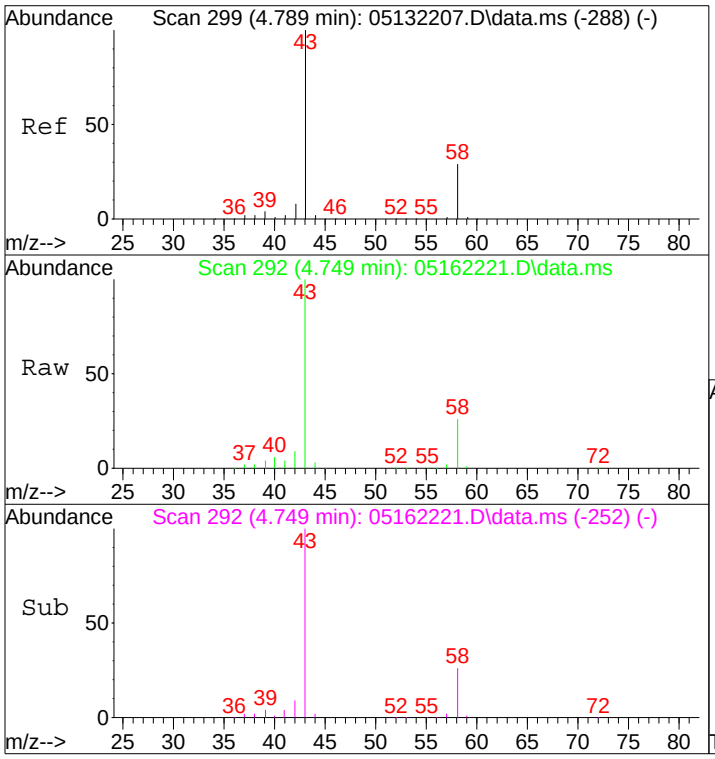


#10
Ethanol
Concen: 3.32 ng
RT: 4.40 min Scan# 230
Delta R.T. -0.057 min
Lab File: 05162221.D
Acq: 16 May 2022 20:31

Tgt Ion: 45 Resp: 75656

Ion	Ratio	Lower	Upper
45	100		
46	35.0	15.3	55.3

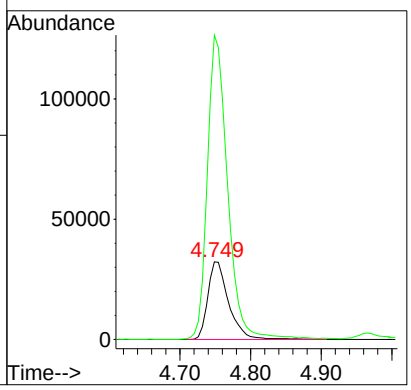


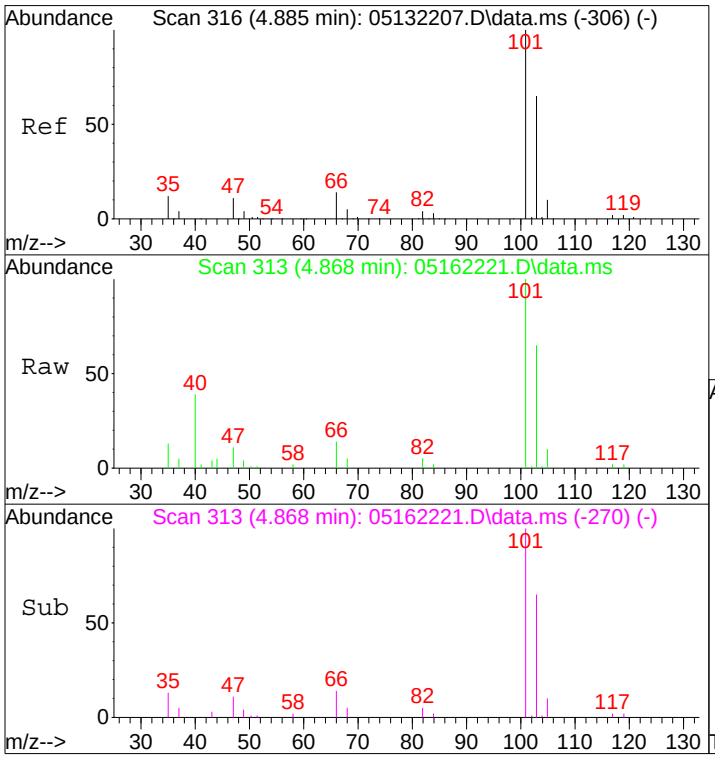


#13
Acetone
Concen: 3.65 ng
RT: 4.75 min Scan# 292
Delta R.T. -0.023 min
Lab File: 05162221.D
Acq: 16 May 2022 20:31

Tgt Ion: 58 Resp: 66549

Ion	Ratio	Lower	Upper
58	100		
43	381.3	323.5	383.5

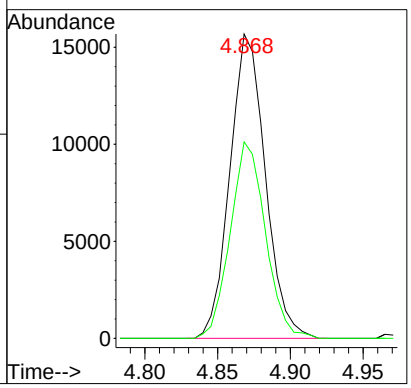


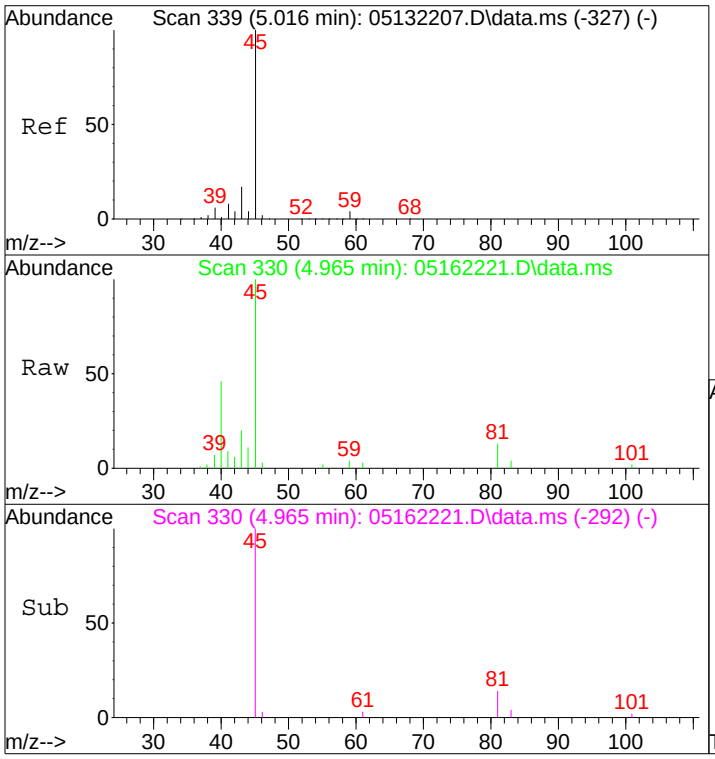


#14
Trichlorofluoromethane
Concen: 0.81 ng
RT: 4.87 min Scan# 313
Delta R.T. -0.006 min
Lab File: 05162221.D
Acq: 16 May 2022 20:31

Tgt Ion:101 Resp: 26583

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.8	84.8

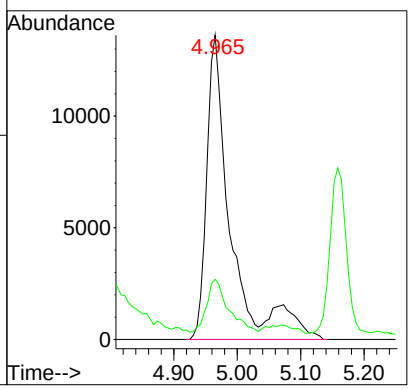


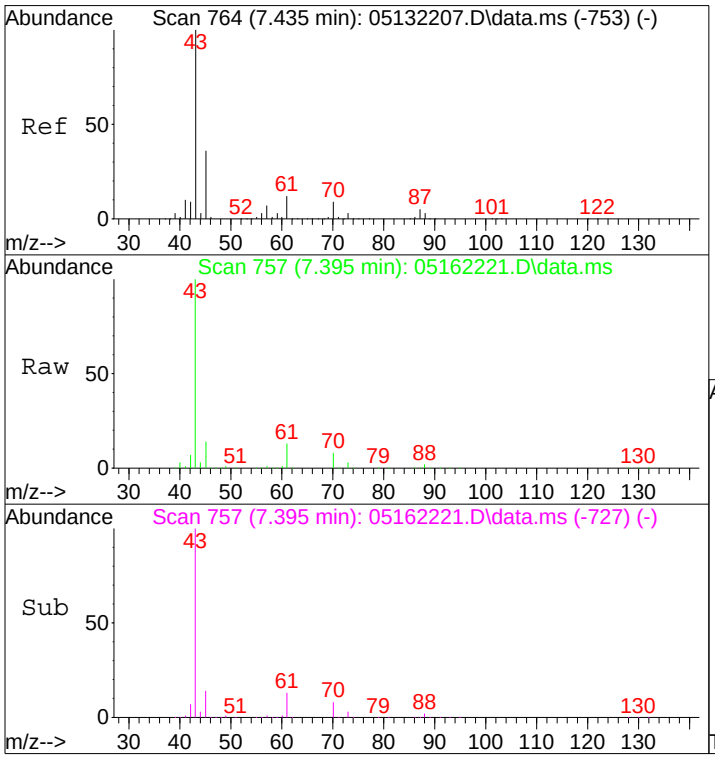


#15
2-Propanol (Isopropanol)
Concen: 0.52 ng
RT: 4.96 min Scan# 330
Delta R.T. -0.034 min
Lab File: 05162221.D
Acq: 16 May 2022 20:31

Tgt Ion: 45 Resp: 35662

Ion	Ratio	Lower	Upper
45	100		
43	20.3	0.0	37.7

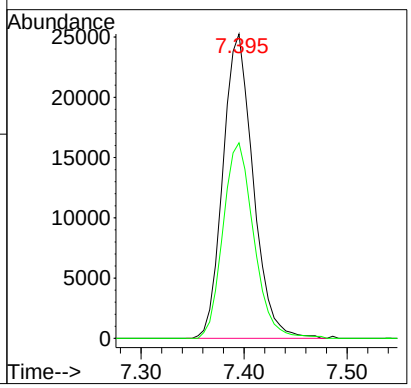




#30
Ethyl Acetate
Concen: 5.36 ng
RT: 7.40 min Scan# 757
Delta R.T. -0.028 min
Lab File: 05162221.D
Acq: 16 May 2022 20:31

Tgt Ion: 61 Resp: 51393

Ion	Ratio	Lower	Upper
61	100		
70	65.7	53.0	93.0



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162222.D Vial: 12
Acq On : 16 May 2022 21:09 Operator: TZ
Sample : P2201935-003 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:35 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022 5/17/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	197133	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.40	114	910575	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	246752	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	391006	11.807	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
57) Toluene-d8 (SS2)	12.51	98	1123734	11.699	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%				
73) Bromofluorobenzene (SS3)	16.87	174	291813	11.062	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.48%				
Target Compounds							Qvalue
2) Propene	3.41	42	12624	N.D.			
3) Dichlorodifluoromethan...	3.48	85	66706	1.745	ng		99
4) Chloromethane	3.62	50	9130	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	1234	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.93	54	190	N.D.			
8) Bromomethane	4.13	94	570	N.D.			
9) Chloroethane	4.28	64	196	N.D.			
10) Ethanol	4.40	45	77399	3.491	ng		100
11) Acetonitrile	4.57	41	8245	N.D.			
12) Acrolein	4.65	56	4962	N.D.			
13) Acetone	4.75	58	86077	4.852	ng		99
14) Trichlorofluoromethane	4.87	101	28286	0.884	ng		100
15) 2-Propanol (Isopropanol)	4.96	45	29330	N.D.			
16) Acrylonitrile	5.16	53	61	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.45	59	2052	N.D.			
19) Methylene Chloride	5.47	84	6763	N.D.			
20) 3-Chloro-1-propene (Al...	5.56	41	158	N.D.			
21) Trichlorotrifluoroethane	5.69	151	4619	N.D.			
22) Carbon Disulfide	5.72	76	35580	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.51	73	115	N.D.			
26) Vinyl Acetate	6.55	86	3064	0.966	ng	#	65
27) 2-Butanone (MEK)	6.79	72	8686	0.613	ng	#	88
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.40	61	24602	2.639	ng		94
31) n-Hexane	7.41	57	3704	N.D.			
32) Chloroform	7.46	83	2352	N.D.			
34) Tetrahydrofuran (THF)	7.89	72	665	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.21	62	1340	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.93	56	6764	No Calib		#	
41) Benzene	8.99	78	14183	N.D.			
42) Carbon Tetrachloride	9.16	117	8609	N.D.			
43) Cyclohexane	9.31	84	709	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.95	63	181	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.33	57	10494	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162222.D Vial: 12
Acq On : 16 May 2022 21:09 Operator: TZ
Sample : P2201935-003 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:35 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

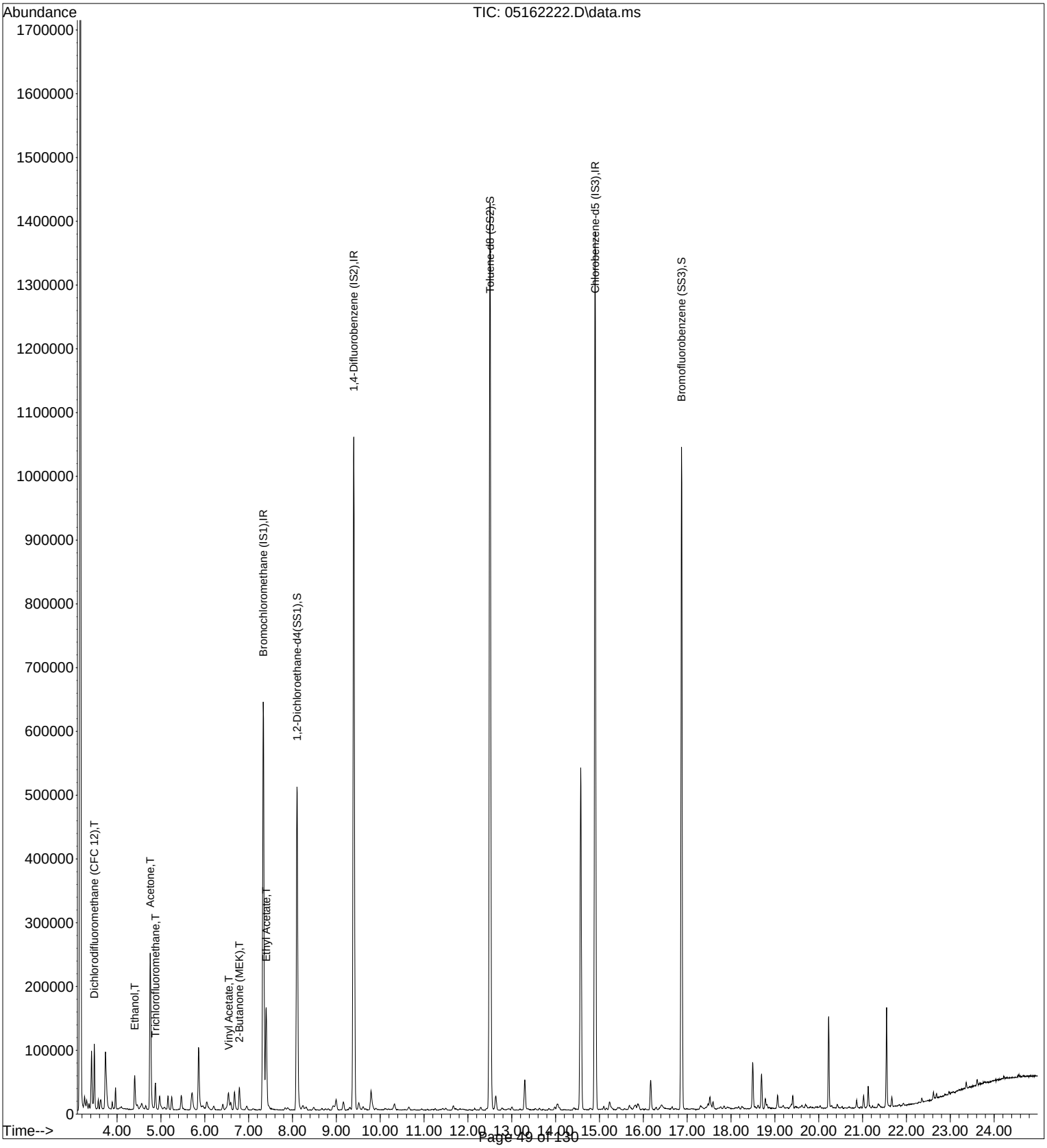
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.66	71	1051	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.43	58	558	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.64	91	16064	N.D.		
59) 2-Hexanone	13.00	43	5733	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.85	43	2911	N.D.		
63) n-Octane	13.98	57	807	N.D.		
64) Tetrachloroethene	14.10	166	705	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.46	91	2966	N.D.		
67) m- & p-Xylenes	15.69	91	6778	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.16	104	475	N.D.		
70) o-Xylene	16.30	91	2596	N.D.		
71) n-Nonane	16.65	43	2054	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	17.59	93	5035	N.D.		
76) n-Propylbenzene	17.76	91	1162	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.96	105	998	N.D.		
79) 1,3,5-Trimethylbenzene	18.08	105	693	N.D.		
80) alpha-Methylstyrene	16.88	118	1248	No Calib		#
81) 2-Ethyltoluene	16.88	105	399	No Calib		#
82) 1,2,4-Trimethylbenzene	18.62	105	2499	N.D.		
83) n-Decane	16.88	58	476	No Calib		#
84) Benzyl Chloride	18.78	91	714	N.D.		
85) 1,3-Dichlorobenzene	18.88	146	404	N.D.		
86) 1,4-Dichlorobenzene	18.88	146	404	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	19.19	119	2841	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.38	68	1793	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.44	180	160	N.D.		
95) Naphthalene	21.56	128	2254	N.D.		
96) n-Dodecane	18.82	57	3256	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.29	55	882	No Calib		#
99) tert-Butylbenzene	18.61	119	373	N.D.		
100) n-Butylbenzene	19.72	91	1260	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162222.D Vial: 12
Acq On : 16 May 2022 21:09 Operator: TZ
Sample : P2201935-003 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:35 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162222.D Vial: 12
Acq On : 16 May 2022 21:09 Operator: TZ
Sample : P2201935-003 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:35 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 5/17/22

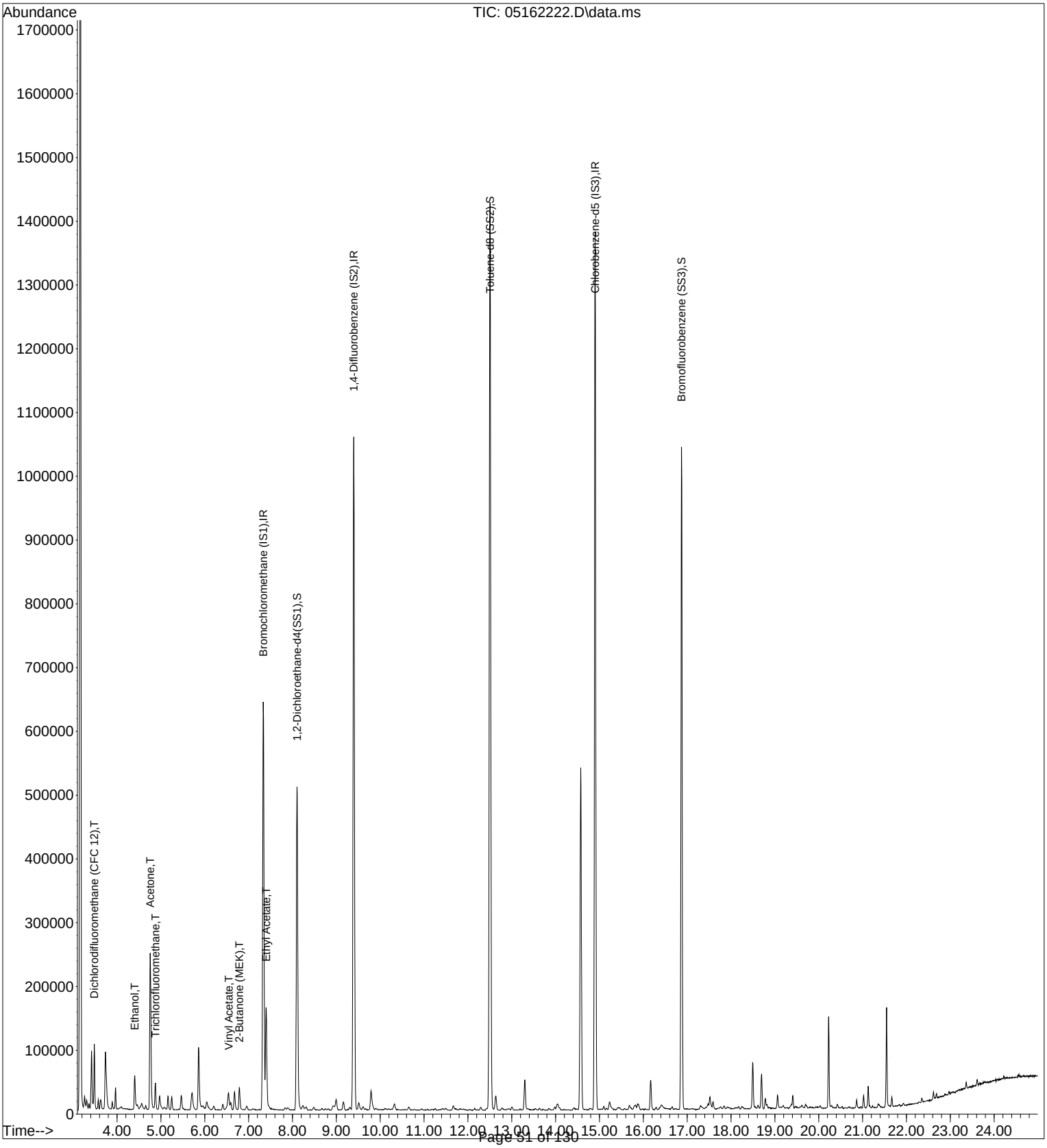
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	197133	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.40	114	910575	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	246752	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	391006	11.807	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
57) Toluene-d8 (SS2)	12.51	98	1123734	11.699	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%				
73) Bromofluorobenzene (SS3)	16.87	174	291813	11.062	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.48%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.48	85	66706	1.745	ng		99
10) Ethanol	4.40	45	77399	3.491	ng		100
13) Acetone	4.75	58	86077	4.852	ng		99
14) Trichlorofluoromethane	4.87	101	28286	0.884	ng		100
26) Vinyl Acetate	6.55	86	3064	0.966	ng	#	65
27) 2-Butanone (MEK)	6.79	72	8686	0.613	ng	#	88
30) Ethyl Acetate	7.40	61	24602	2.639	ng		94

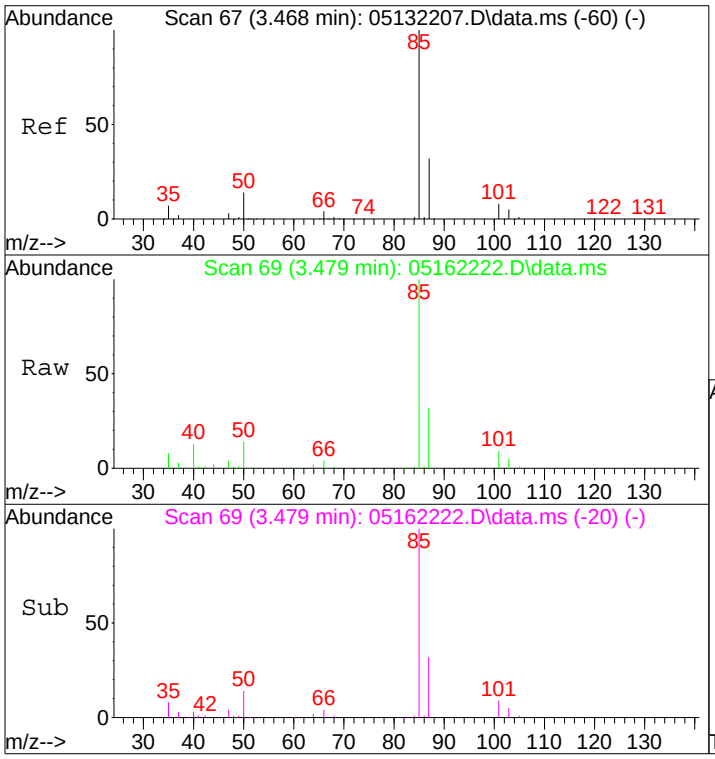
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162222.D Vial: 12
Acq On : 16 May 2022 21:09 Operator: TZ
Sample : P2201935-003 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:35 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

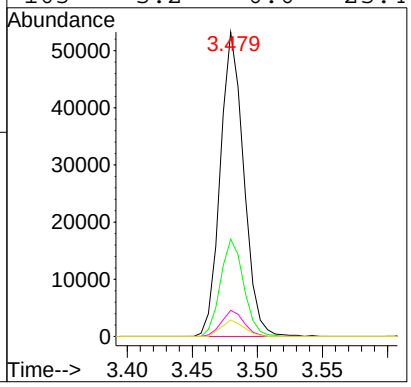


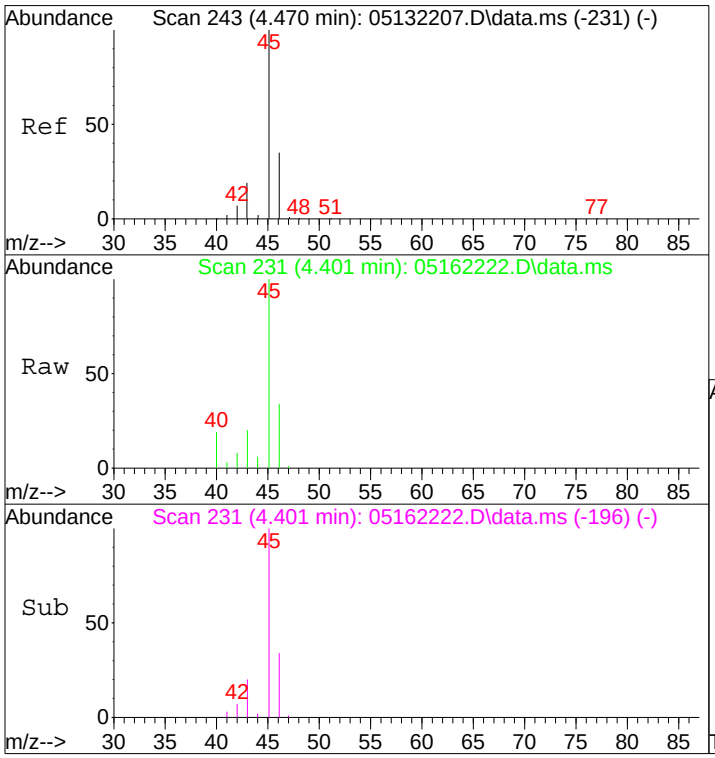


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.74 ng
RT: 3.48 min Scan# 69
Delta R.T. 0.028 min
Lab File: 05162222.D
Acq: 16 May 2022 21:09

Tgt Ion: 85 Resp: 66706

Ion	Ratio	Lower	Upper
85	100		
87	31.6	12.1	52.1
101	8.2	0.0	28.4
103	5.2	0.0	25.4

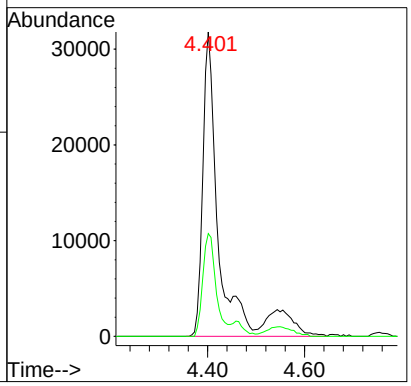


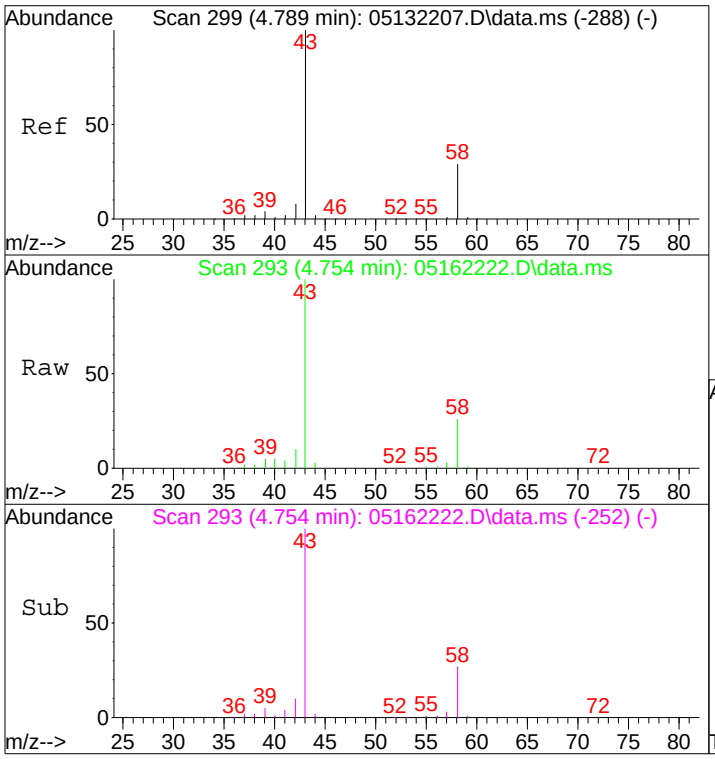


#10
Ethanol
Concen: 3.49 ng
RT: 4.40 min Scan# 231
Delta R.T. -0.051 min
Lab File: 05162222.D
Acq: 16 May 2022 21:09

Tgt Ion: 45 Resp: 77399

Ion	Ratio	Lower	Upper
45	100		
46	35.1	15.3	55.3

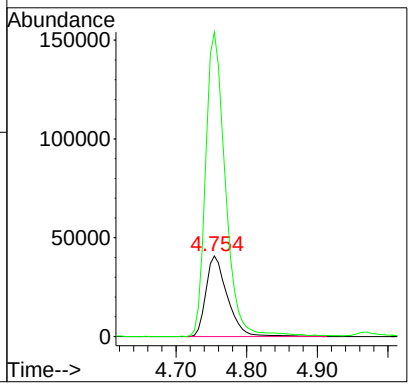


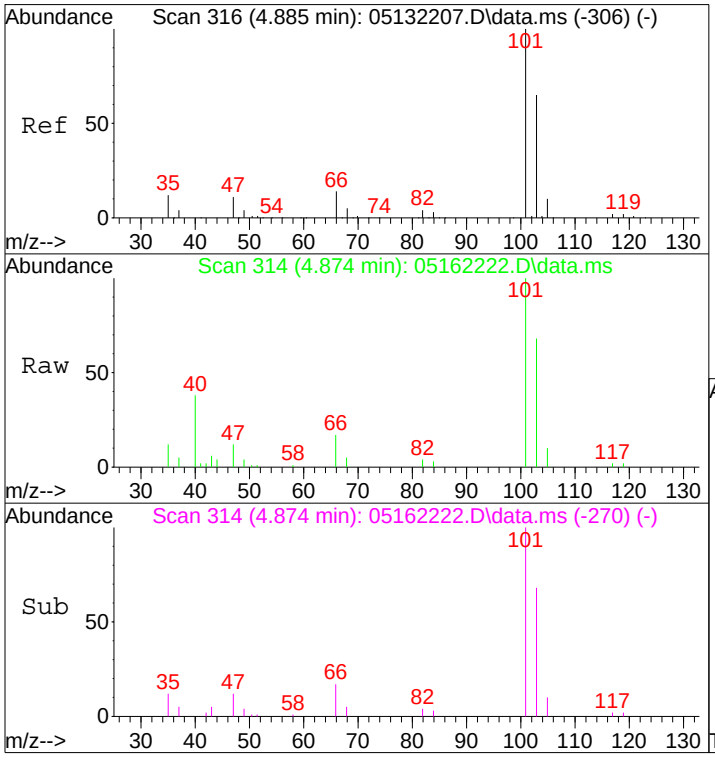


#13
Acetone
Concen: 4.85 ng
RT: 4.75 min Scan# 293
Delta R.T. -0.017 min
Lab File: 05162222.D
Acq: 16 May 2022 21:09

Tgt Ion: 58 Resp: 86077

Ion	Ratio	Lower	Upper
58	100		
43	350.6	323.5	383.5

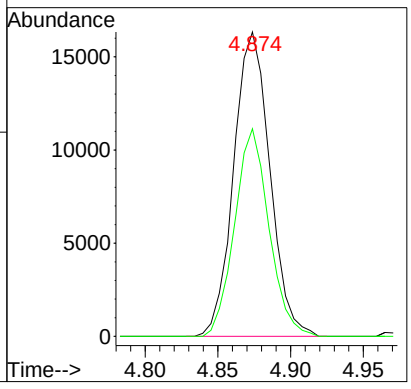


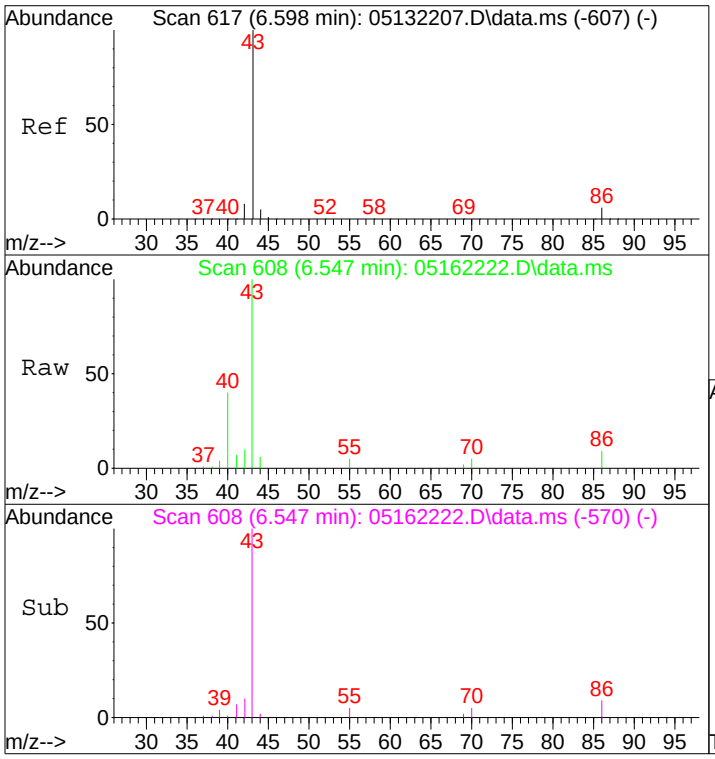


#14
Trichlorofluoromethane
Concen: 0.88 ng
RT: 4.87 min Scan# 314
Delta R.T. -0.000 min
Lab File: 05162222.D
Acq: 16 May 2022 21:09

Tgt Ion:101 Resp: 28286

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.8	84.8

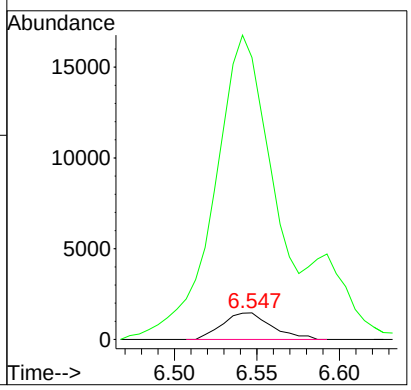


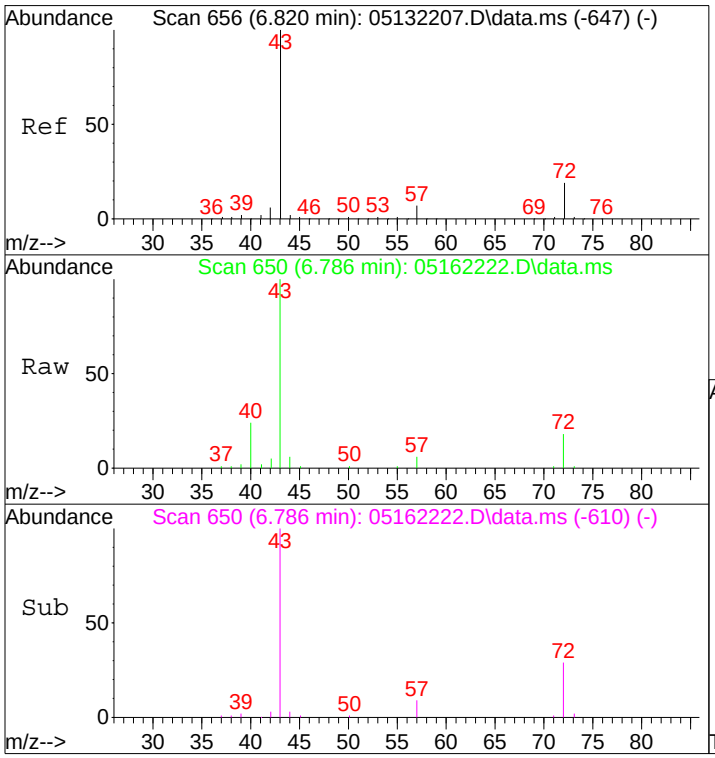


#26
Vinyl Acetate
Concen: 0.97 ng
RT: 6.55 min Scan# 608
Delta R.T. -0.034 min
Lab File: 05162222.D
Acq: 16 May 2022 21:09

Tgt Ion: 86 Resp: 3064

Ion	Ratio	Lower	Upper
86	100		
43	1599.9	1823.0	1863.0#

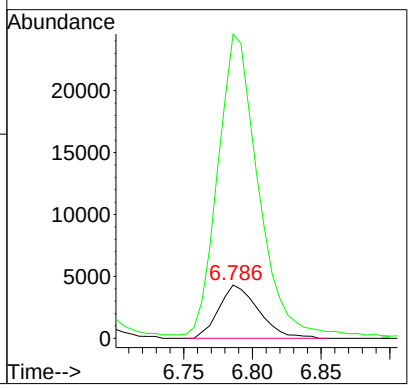


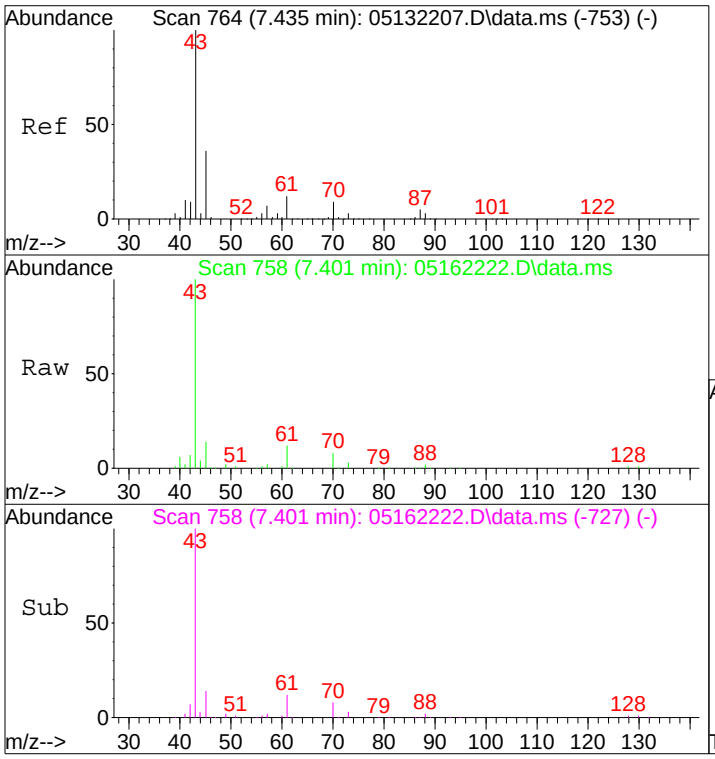


#27
2-Butanone (MEK)
Concen: 0.61 ng
RT: 6.79 min Scan# 650
Delta R.T. -0.023 min
Lab File: 05162222.D
Acq: 16 May 2022 21:09

Tgt Ion: 72 Resp: 8686

Ion	Ratio	Lower	Upper
72	100		
43	574.8	520.3	560.3#

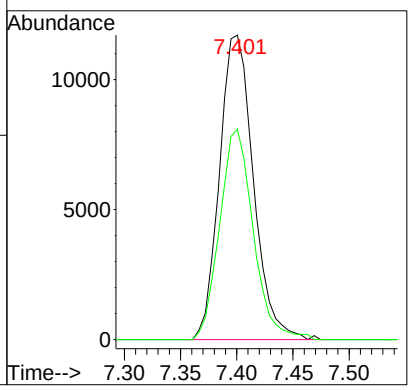




#30
Ethyl Acetate
Concen: 2.64 ng
RT: 7.40 min Scan# 758
Delta R.T. -0.023 min
Lab File: 05162222.D
Acq: 16 May 2022 21:09

Tgt Ion: 61 Resp: 24602

Ion	Ratio	Lower	Upper
61	100		
70	68.3	53.0	93.0



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162223.D Vial: 13
Acq On : 16 May 2022 21:47 Operator: TZ
Sample : P2201935-004 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:37 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022 5/17/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	196024	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.39	114	909231	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	248832	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.09	65	404458	12.283	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
57) Toluene-d8 (SS2)	12.50	98	1116884	11.531	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
73) Bromofluorobenzene (SS3)	16.87	174	292211	10.985	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.84%				
Target Compounds							Qvalue
2) Propene	3.41	42	10519	N.D.			
3) Dichlorodifluoromethan...	3.47	85	64294	1.691	ng		100
4) Chloromethane	3.61	50	9112	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	1126	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.92	54	109	N.D.			
8) Bromomethane	4.13	94	406	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.39	45	56633	2.569	ng		99
11) Acetonitrile	4.56	41	7398	N.D.			
12) Acrolein	4.65	56	2720	N.D.			
13) Acetone	4.74	58	72957	4.136	ng		89
14) Trichlorofluoromethane	4.86	101	27330	0.859	ng		100
15) 2-Propanol (Isopropanol)	4.96	45	20059	N.D.			
16) Acrylonitrile	5.11	53	104	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.45	59	1838	N.D.			
19) Methylene Chloride	5.46	84	6572	N.D.			
20) 3-Chloro-1-propene (Al...	5.55	41	106	N.D.			
21) Trichlorotrifluoroethane	5.69	151	4477	N.D.			
22) Carbon Disulfide	5.72	76	12403	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.40	73	320	N.D.			
26) Vinyl Acetate	6.54	86	1283	N.D.			
27) 2-Butanone (MEK)	6.78	72	6664	0.473	ng	#	81
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.39	87	252	N.D.			
30) Ethyl Acetate	7.39	61	40035	4.319	ng		90
31) n-Hexane	7.40	57	3452	N.D.			
32) Chloroform	7.46	83	2333	N.D.			
34) Tetrahydrofuran (THF)	7.89	72	573	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.21	62	1291	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.93	56	3827	No Calib		#	
41) Benzene	8.99	78	13781	N.D.			
42) Carbon Tetrachloride	9.15	117	7856	N.D.			
43) Cyclohexane	9.31	84	680	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.96	63	248	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.32	57	9696	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162223.D Vial: 13
Acq On : 16 May 2022 21:47 Operator: TZ
Sample : P2201935-004 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:37 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

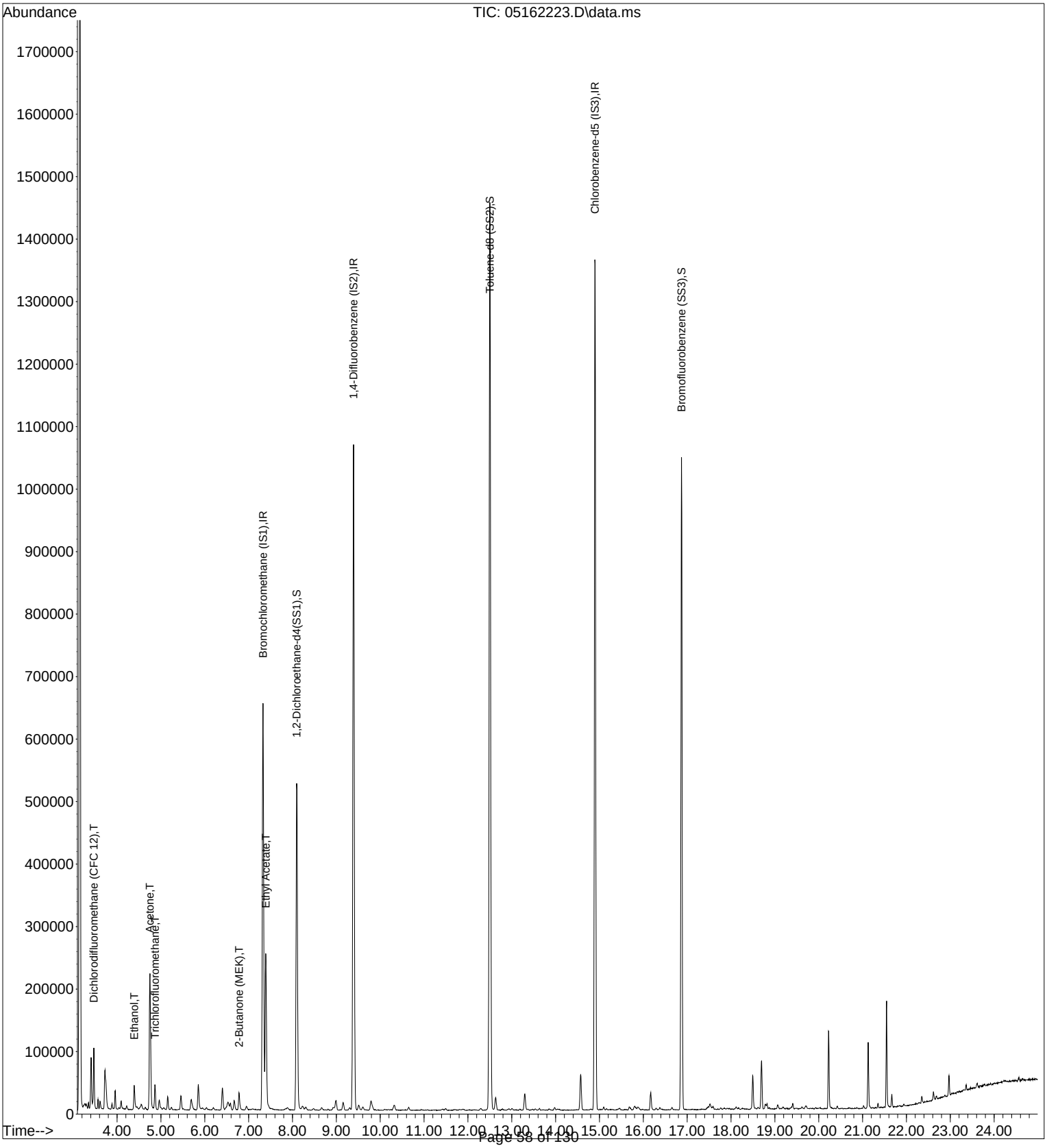
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.65	71	828	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.42	58	302	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.63	91	14223	N.D.		
59) 2-Hexanone	13.01	43	3442	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.86	43	2481	N.D.		
63) n-Octane	13.97	57	678	N.D.		
64) Tetrachloroethene	14.09	166	347	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.46	91	2471	N.D.		
67) m- & p-Xylenes	15.68	91	5318	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.15	104	197	N.D.		
70) o-Xylene	16.30	91	2225	N.D.		
71) n-Nonane	16.65	43	2321	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	17.59	93	2336	N.D.		
76) n-Propylbenzene	17.76	91	926	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.96	105	736	N.D.		
79) 1,3,5-Trimethylbenzene	18.08	105	357	N.D.		
80) alpha-Methylstyrene	16.87	118	1201	No Calib		#
81) 2-Ethyltoluene	16.87	105	376	No Calib		#
82) 1,2,4-Trimethylbenzene	18.62	105	1934	N.D.		
83) n-Decane	16.86	58	493	No Calib		#
84) Benzyl Chloride	18.77	91	768	N.D.		
85) 1,3-Dichlorobenzene	18.88	146	493	N.D.		
86) 1,4-Dichlorobenzene	18.88	146	493	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	19.19	119	1744	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.38	68	672	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.12	58	186	No Calib		#
94) 1,2,4-Trichlorobenzene	21.45	180	268	N.D.		
95) Naphthalene	21.56	128	1975	N.D.		
96) n-Dodecane	18.82	57	3411	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.29	55	232	No Calib		#
99) tert-Butylbenzene	18.70	119	1874	N.D.		
100) n-Butylbenzene	19.72	91	1137	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162223.D Vial: 13
Acq On : 16 May 2022 21:47 Operator: TZ
Sample : P2201935-004 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:37 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162223.D Vial: 13
Acq On : 16 May 2022 21:47 Operator: TZ
Sample : P2201935-004 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:37 2022 5/17/22
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

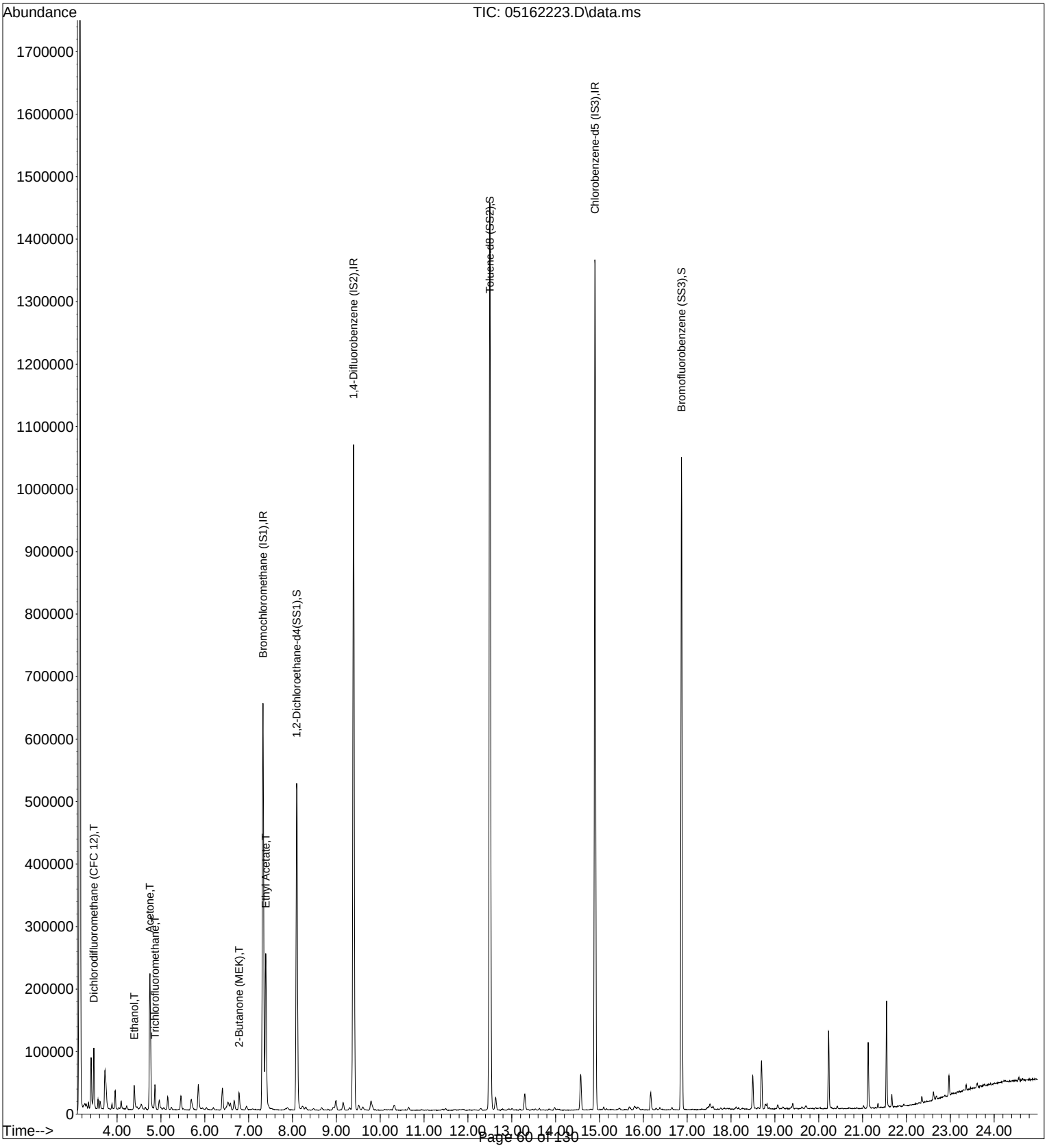
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	196024	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.39	114	909231	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	248832	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.09	65	404458	12.283	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
57) Toluene-d8 (SS2)	12.50	98	1116884	11.531	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
73) Bromofluorobenzene (SS3)	16.87	174	292211	10.985	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.84%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.47	85	64294	1.691	ng		100
10) Ethanol	4.39	45	56633	2.569	ng		99
13) Acetone	4.74	58	72957	4.136	ng		89
14) Trichlorofluoromethane	4.86	101	27330	0.859	ng		100
27) 2-Butanone (MEK)	6.78	72	6664	0.473	ng	#	81
30) Ethyl Acetate	7.39	61	40035	4.319	ng		90

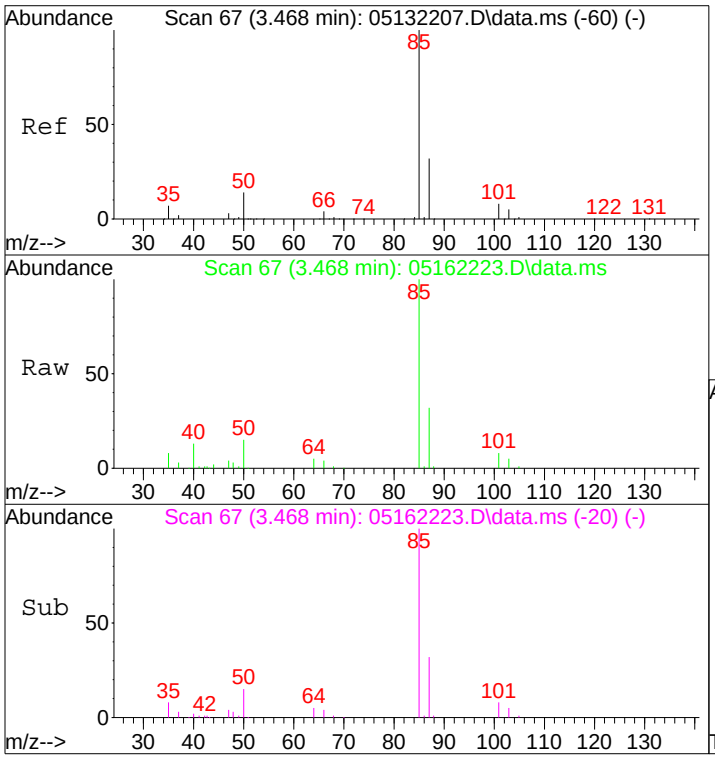
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162223.D Vial: 13
Acq On : 16 May 2022 21:47 Operator: TZ
Sample : P2201935-004 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:37 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

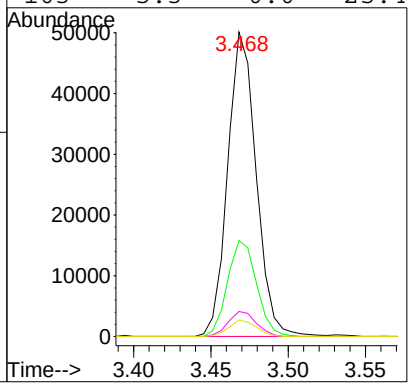


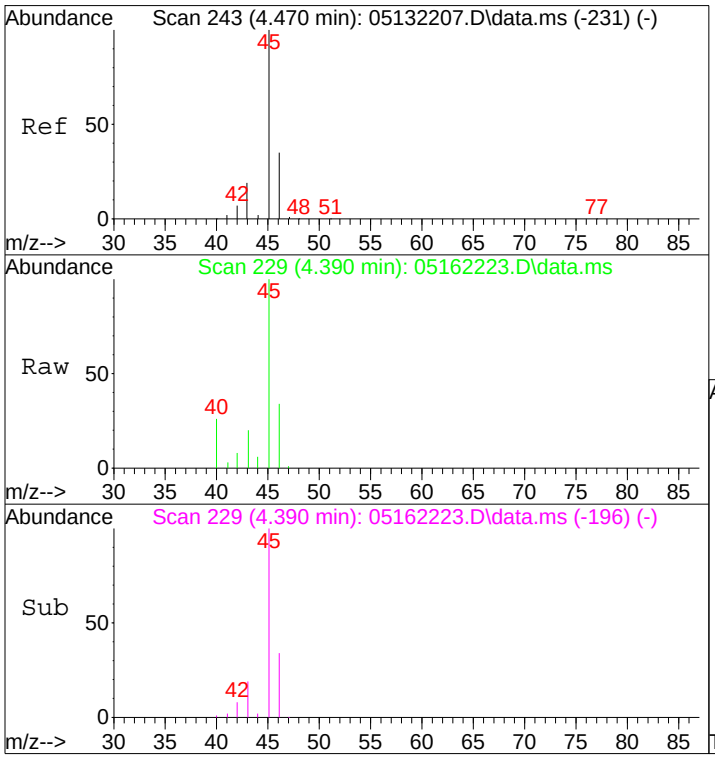


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.69 ng
RT: 3.47 min Scan# 67
Delta R.T. 0.017 min
Lab File: 05162223.D
Acq: 16 May 2022 21:47

Tgt Ion: 85 Resp: 64294

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.1	52.1
101	8.1	0.0	28.4
103	5.3	0.0	25.4

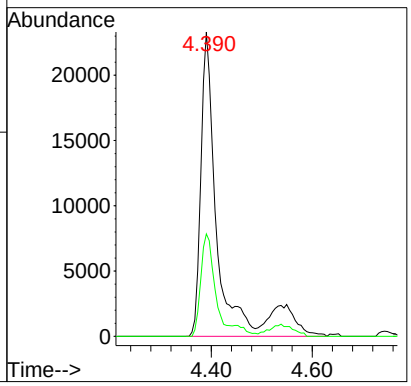


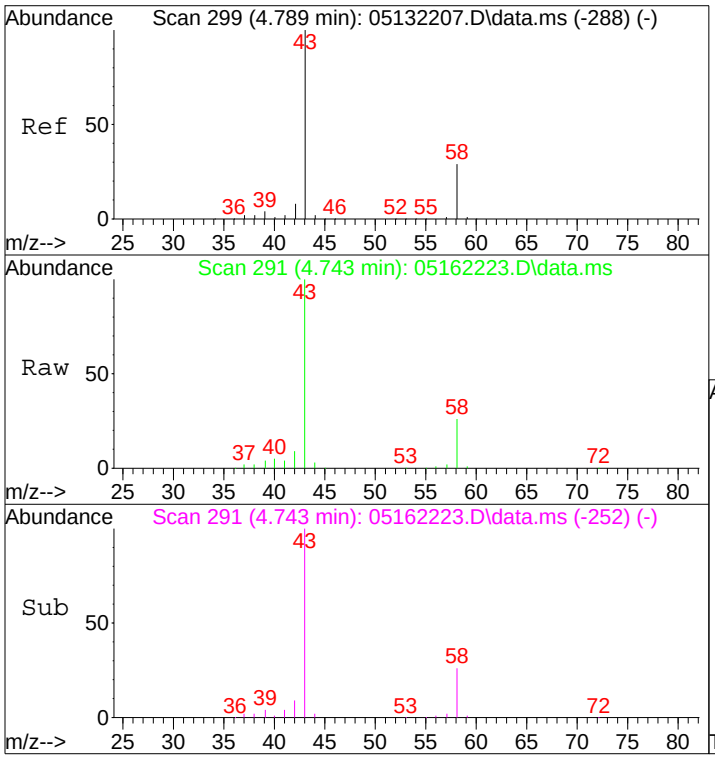


#10
Ethanol
Concen: 2.57 ng
RT: 4.39 min Scan# 229
Delta R.T. -0.063 min
Lab File: 05162223.D
Acq: 16 May 2022 21:47

Tgt Ion: 45 Resp: 56633

Ion	Ratio	Lower	Upper
45	100		
46	35.0	15.3	55.3

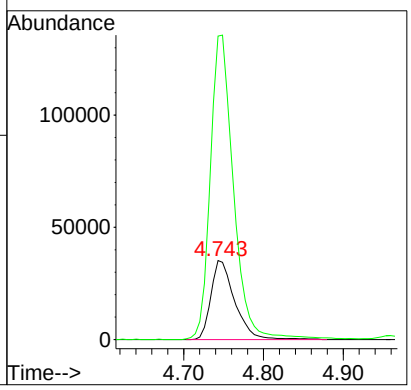


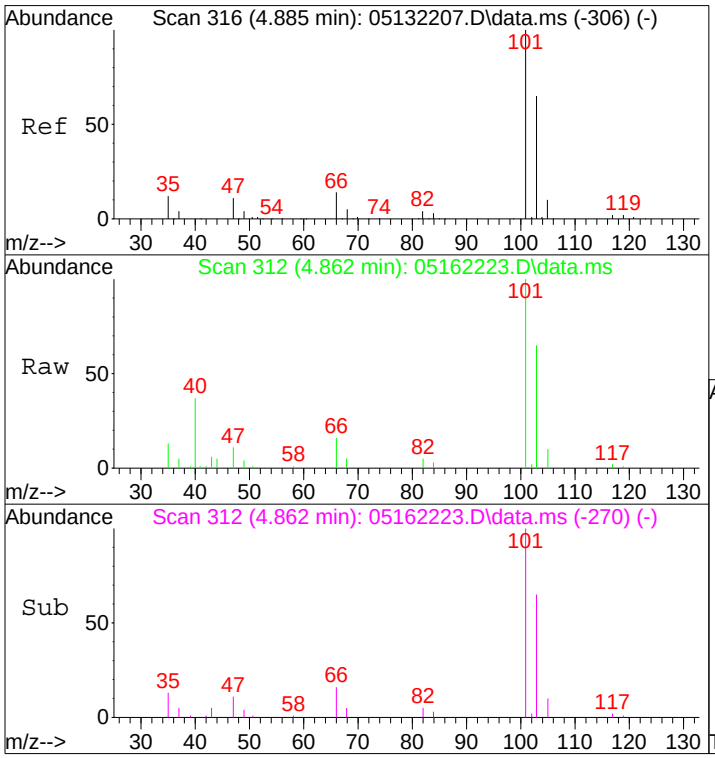


#13
Acetone
Concen: 4.14 ng
RT: 4.74 min Scan# 291
Delta R.T. -0.028 min
Lab File: 05162223.D
Acq: 16 May 2022 21:47

Tgt Ion: 58 Resp: 72957

Ion	Ratio	Lower	Upper
58	100		
43	377.8	323.5	383.5

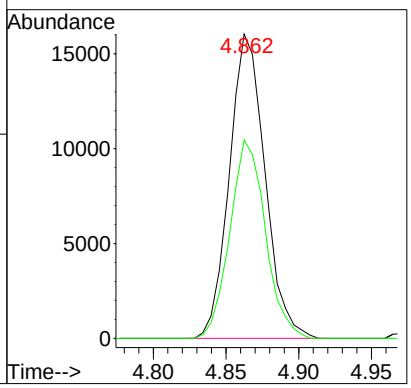


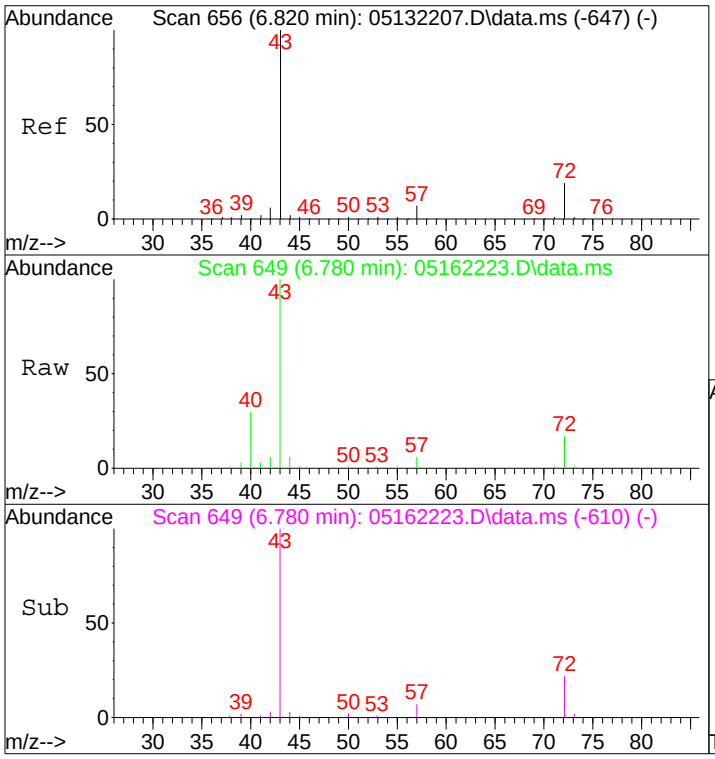


#14
Trichlorofluoromethane
Concen: 0.86 ng
RT: 4.86 min Scan# 312
Delta R.T. -0.011 min
Lab File: 05162223.D
Acq: 16 May 2022 21:47

Tgt Ion:101 Resp: 27330

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.8	84.8

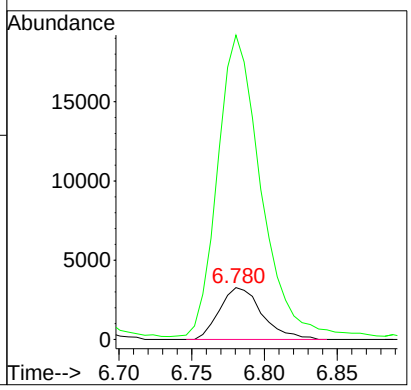


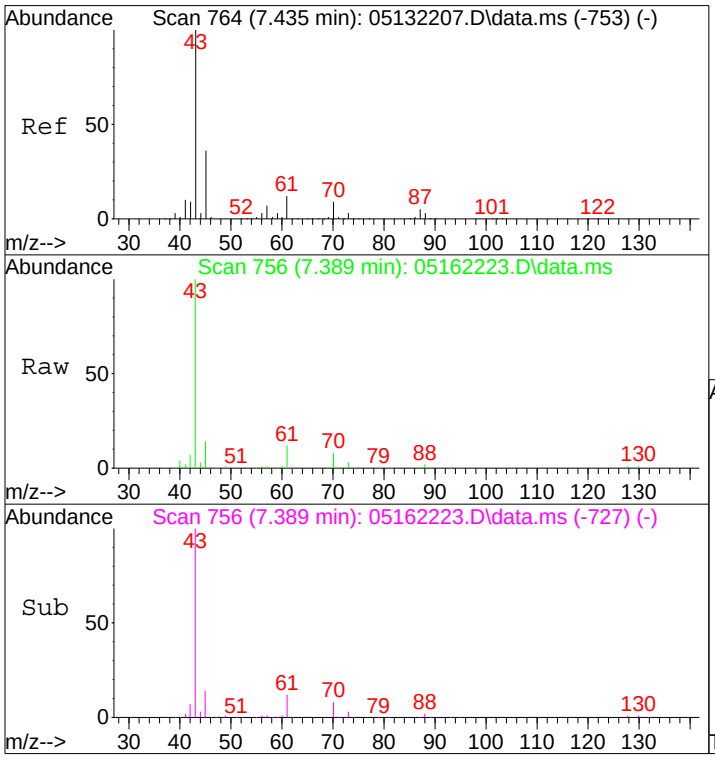


#27
2-Butanone (MEK)
Concen: 0.47 ng
RT: 6.78 min Scan# 649
Delta R.T. -0.028 min
Lab File: 05162223.D
Acq: 16 May 2022 21:47

Tgt Ion: 72 Resp: 6664

Ion	Ratio	Lower	Upper
72	100		
43	595.2	520.3	560.3#

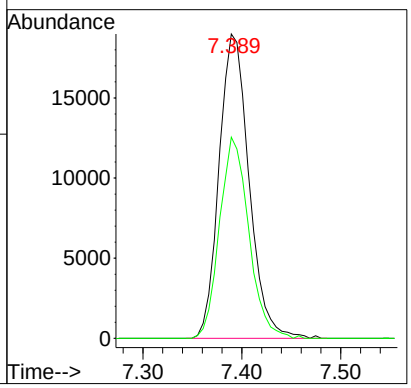




#30
Ethyl Acetate
Concen: 4.32 ng
RT: 7.39 min Scan# 756
Delta R.T. -0.034 min
Lab File: 05162223.D
Acq: 16 May 2022 21:47

Tgt Ion: 61 Resp: 40035

Ion	Ratio	Lower	Upper
61	100		
70	64.5	53.0	93.0



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162224.D Vial: 14
Acq On : 16 May 2022 22:24 Operator: TZ
Sample : P2201935-005 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:40 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022 5/17/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	189863	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.40	114	893536	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	245632	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	383638	12.028	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
57) Toluene-d8 (SS2)	12.51	98	1103713	11.543	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
73) Bromofluorobenzene (SS3)	16.87	174	286002	10.891	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.12%				
Target Compounds							Qvalue
2) Propene	3.41	42	10236	N.D.			
3) Dichlorodifluoromethan...	3.47	85	63295	1.719	ng		99
4) Chloromethane	3.62	50	8660	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	1196	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.93	54	132	N.D.			
8) Bromomethane	4.14	94	379	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.40	45	90690	4.248	ng		92
11) Acetonitrile	4.56	41	6967	N.D.			
12) Acrolein	4.65	56	1783	N.D.			
13) Acetone	4.75	58	67389	3.944	ng	#	81
14) Trichlorofluoromethane	4.87	101	26830	0.870	ng		98
15) 2-Propanol (Isopropanol)	4.96	45	20958	N.D.			
16) Acrylonitrile	5.15	53	52	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.45	59	2008	N.D.			
19) Methylene Chloride	5.46	84	6016	N.D.			
20) 3-Chloro-1-propene (Al...	5.51	41	528	N.D.			
21) Trichlorotrifluoroethane	5.69	151	4301	N.D.			
22) Carbon Disulfide	5.72	76	7817	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.55	86	1520	0.498	ng	#	29
27) 2-Butanone (MEK)	6.79	72	5177	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.39	87	870	N.D.			
30) Ethyl Acetate	7.39	61	89769	9.998	ng		91
31) n-Hexane	7.40	57	3579	N.D.			
32) Chloroform	7.46	83	2239	N.D.			
34) Tetrahydrofuran (THF)	7.88	72	579	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.21	62	1199	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.94	56	2634	No Calib		#	
41) Benzene	8.99	78	15314	N.D.			
42) Carbon Tetrachloride	9.16	117	7736	N.D.			
43) Cyclohexane	9.31	84	636	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.32	57	10206	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162224.D Vial: 14
Acq On : 16 May 2022 22:24 Operator: TZ
Sample : P2201935-005 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:40 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

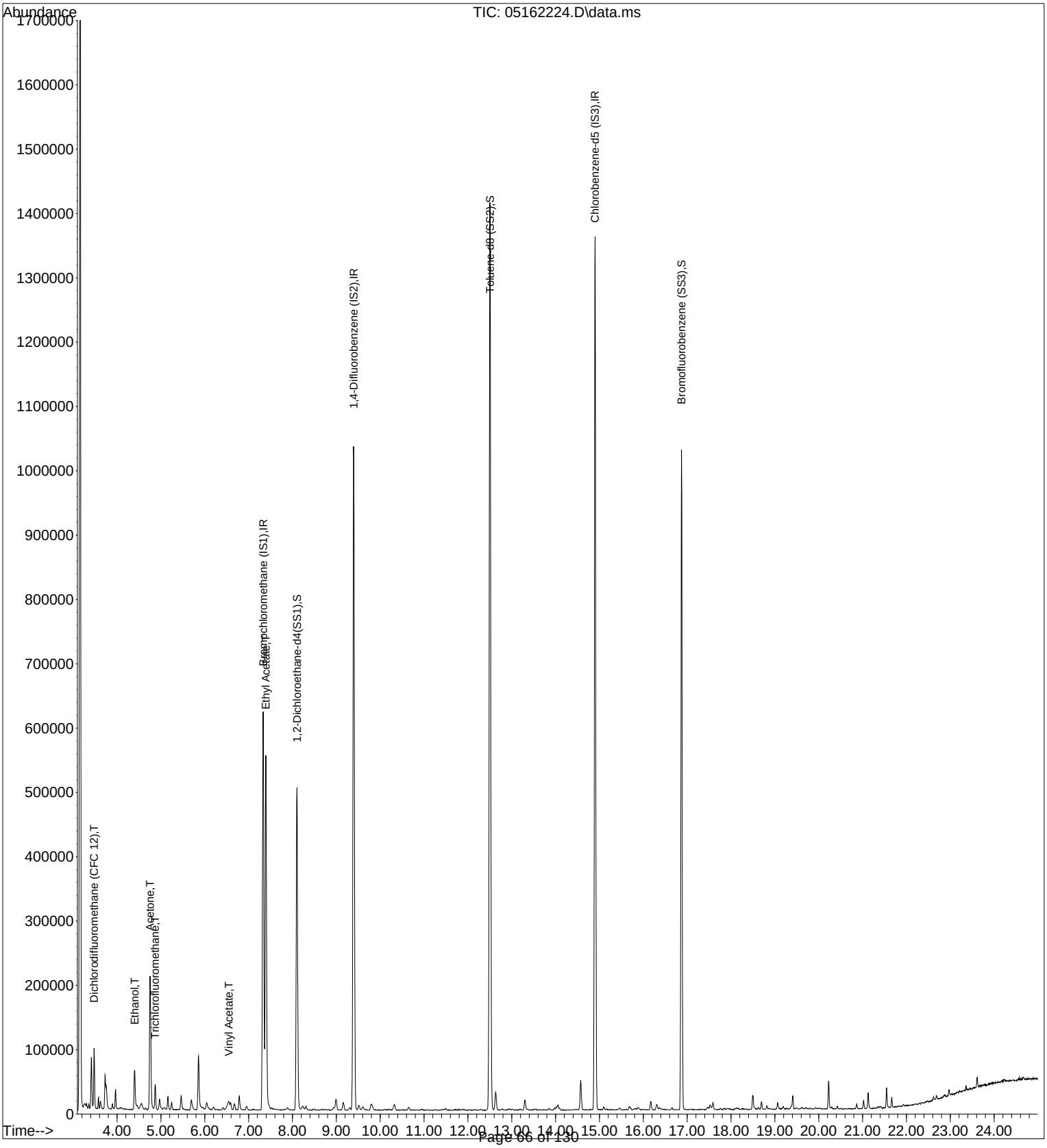
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.65	71	957	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.63	91	20446	N.D.		
59) 2-Hexanone	13.01	43	2496	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.85	43	3324	N.D.		
63) n-Octane	13.97	57	542	N.D.		
64) Tetrachloroethene	14.09	166	736	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.46	91	2691	N.D.		
67) m- & p-Xylenes	15.69	91	5809	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.15	104	123	N.D.		
70) o-Xylene	16.30	91	2705	N.D.		
71) n-Nonane	16.65	43	1769	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	17.59	93	5061	N.D.		
76) n-Propylbenzene	17.75	91	956	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.97	105	792	N.D.		
79) 1,3,5-Trimethylbenzene	18.07	105	394	N.D.		
80) alpha-Methylstyrene	16.87	118	1096	No Calib		#
81) 2-Ethyltoluene	16.87	105	494	No Calib		#
82) 1,2,4-Trimethylbenzene	18.61	105	1907	N.D.		
83) n-Decane	16.87	58	413	No Calib		#
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.88	146	345	N.D.		
86) 1,4-Dichlorobenzene	18.88	146	345	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	19.19	119	2283	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.37	68	1335	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.44	180	123	N.D.		
95) Naphthalene	21.57	128	1393	N.D.		
96) n-Dodecane	18.82	57	2248	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.42	55	476	No Calib		#
99) tert-Butylbenzene	18.70	119	265	N.D.		
100) n-Butylbenzene	19.72	91	464	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162224.D Vial: 14
Acq On : 16 May 2022 22:24 Operator: TZ
Sample : P2201935-005 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:40 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162224.D Vial: 14
Acq On : 16 May 2022 22:24 Operator: TZ
Sample : P2201935-005 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:40 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/17/22
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

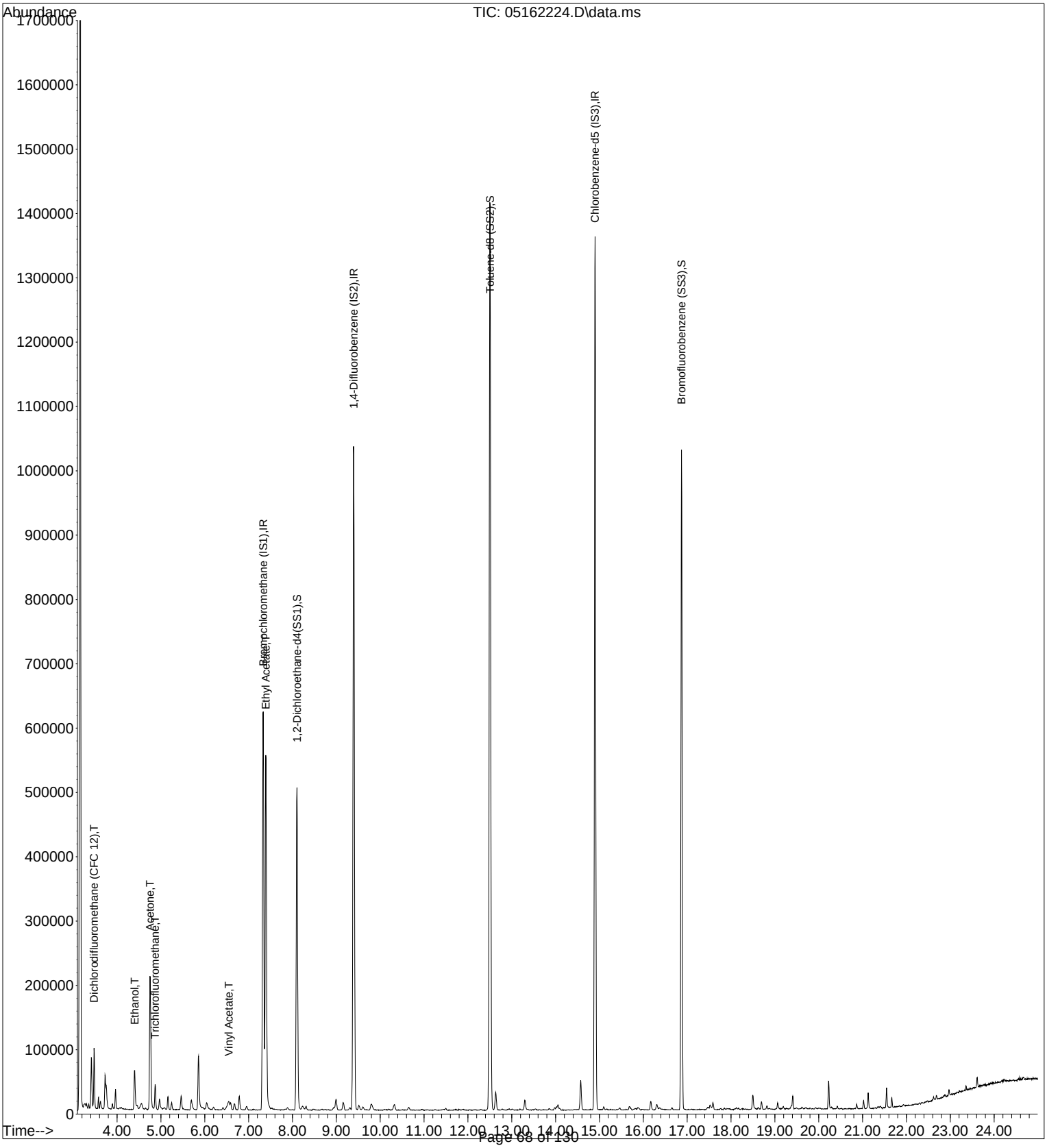
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	189863	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.40	114	893536	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	245632	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	383638	12.028	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
57) Toluene-d8 (SS2)	12.51	98	1103713	11.543	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
73) Bromofluorobenzene (SS3)	16.87	174	286002	10.891	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.12%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.47	85	63295	1.719	ng		99
10) Ethanol	4.40	45	90690	4.248	ng		92
13) Acetone	4.75	58	67389	3.944	ng	#	81
14) Trichlorofluoromethane	4.87	101	26830	0.870	ng		98
26) Vinyl Acetate	6.55	86	1520	0.498	ng	#	29
30) Ethyl Acetate	7.39	61	89769	9.998	ng		91

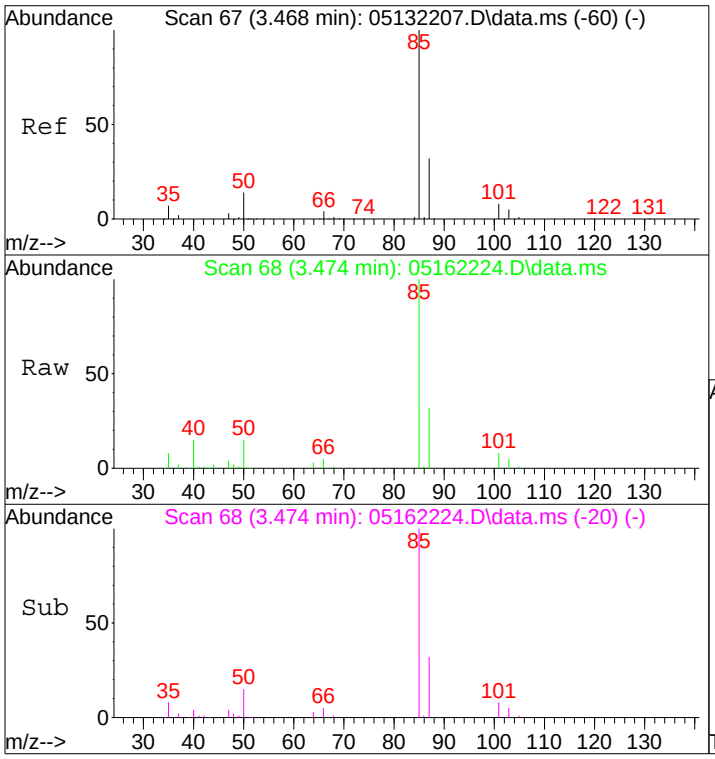
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162224.D Vial: 14
Acq On : 16 May 2022 22:24 Operator: TZ
Sample : P2201935-005 (1000mL) Inst : GCMS13
Misc : S35-03142201

Quant Time: May 17 05:41:40 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

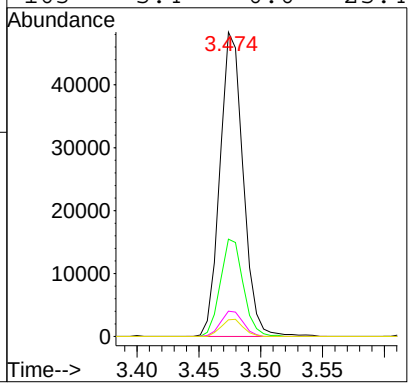


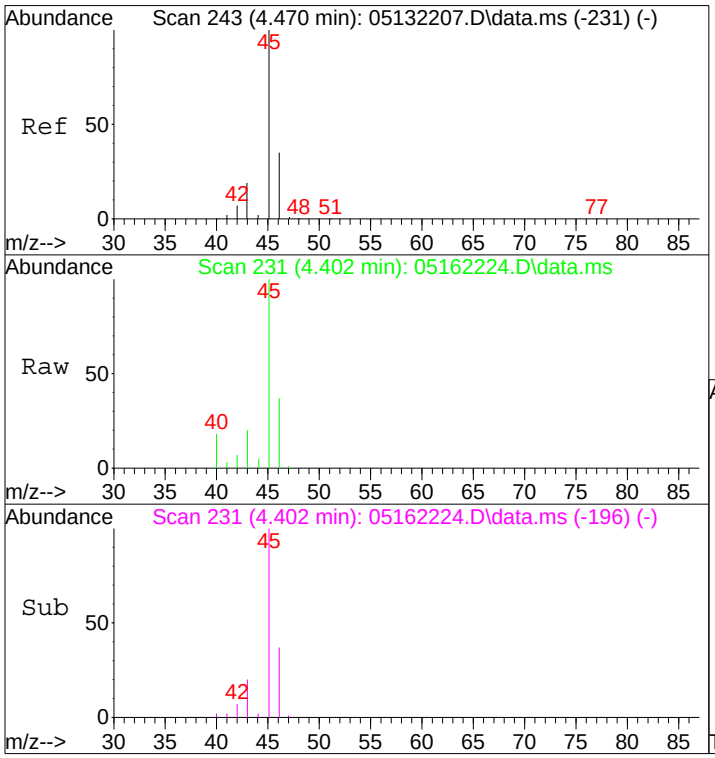


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.72 ng
RT: 3.47 min Scan# 68
Delta R.T. 0.023 min
Lab File: 05162224.D
Acq: 16 May 2022 22:24

Tgt Ion: 85 Resp: 63295

Ion	Ratio	Lower	Upper
85	100		
87	31.5	12.1	52.1
101	8.0	0.0	28.4
103	5.4	0.0	25.4

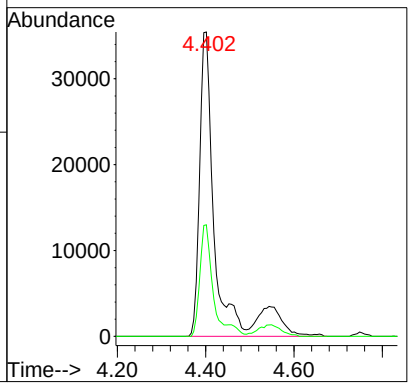


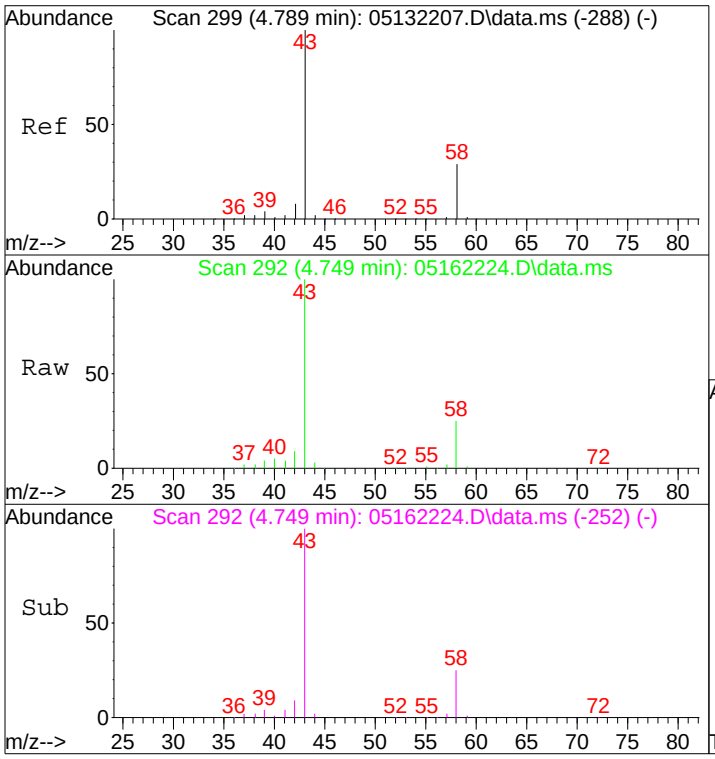


#10
Ethanol
Concen: 4.25 ng
RT: 4.40 min Scan# 231
Delta R.T. -0.051 min
Lab File: 05162224.D
Acq: 16 May 2022 22:24

Tgt Ion: 45 Resp: 90690

Ion	Ratio	Lower	Upper
45	100		
46	30.6	15.3	55.3

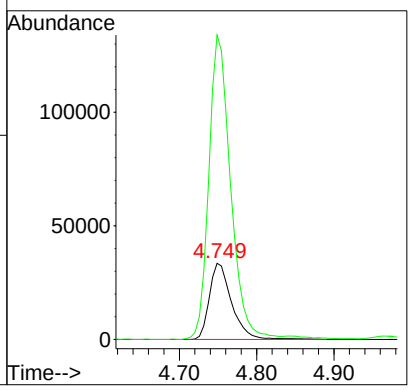


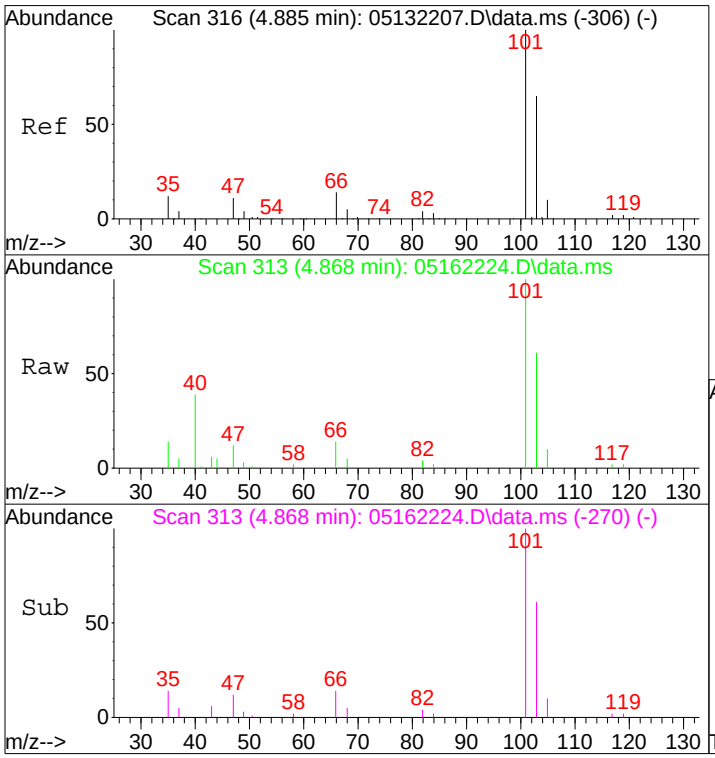


#13
Acetone
Concen: 3.94 ng
RT: 4.75 min Scan# 292
Delta R.T. -0.023 min
Lab File: 05162224.D
Acq: 16 May 2022 22:24

Tgt Ion: 58 Resp: 67389

Ion	Ratio	Lower	Upper
58	100		
43	395.4	323.5	383.5#

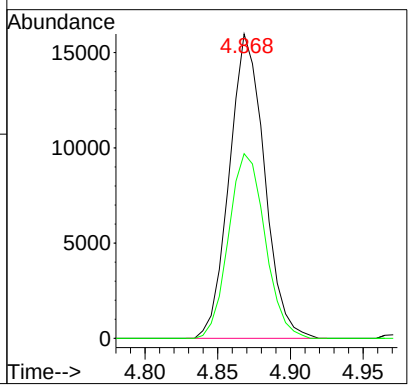


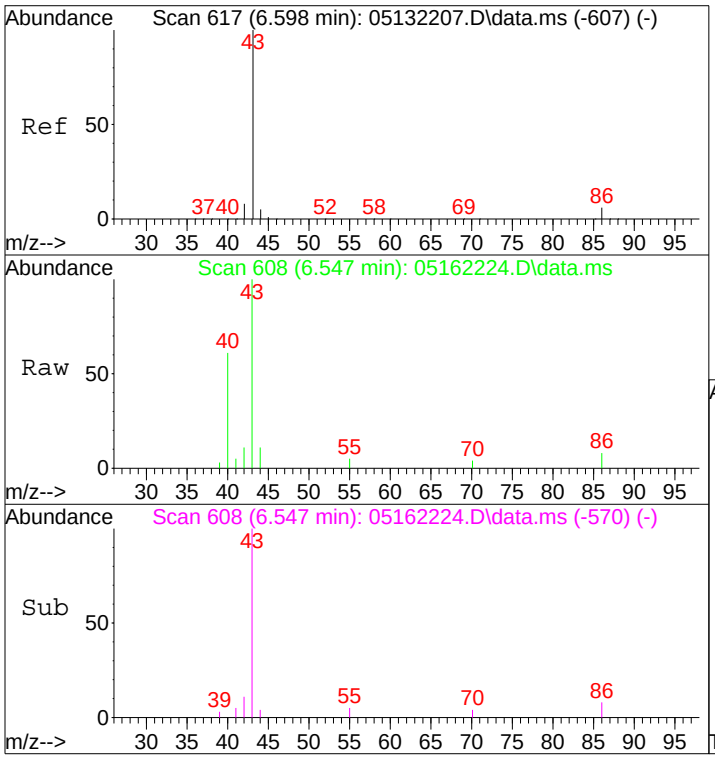


#14
Trichlorofluoromethane
Concen: 0.87 ng
RT: 4.87 min Scan# 313
Delta R.T. -0.006 min
Lab File: 05162224.D
Acq: 16 May 2022 22:24

Tgt Ion:101 Resp: 26830

Ion	Ratio	Lower	Upper
101	100		
103	62.9	44.8	84.8

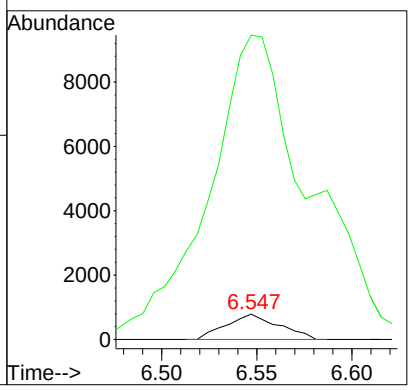


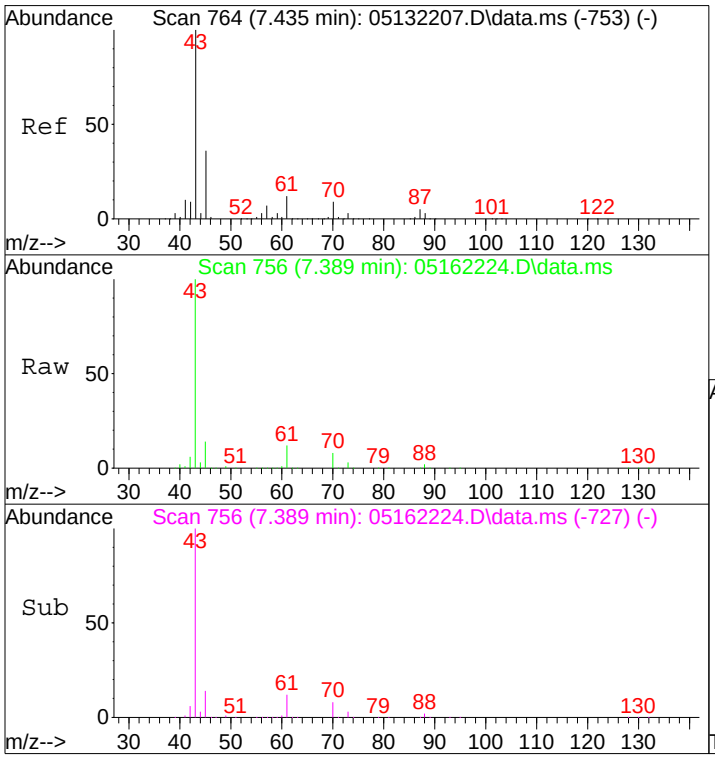


#26
Vinyl Acetate
Concen: 0.50 ng
RT: 6.55 min Scan# 608
Delta R.T. -0.034 min
Lab File: 05162224.D
Acq: 16 May 2022 22:24

Tgt Ion: 86 Resp: 1520

Ion	Ratio	Lower	Upper
86	100		
43	2335.5	1823.0	1863.0#

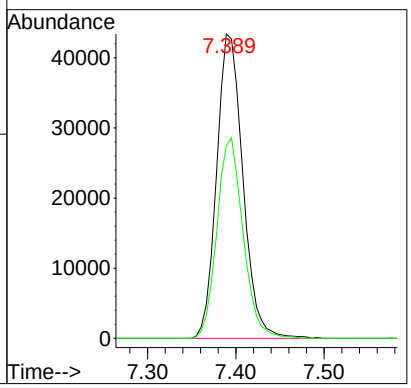




#30
Ethyl Acetate
Concen: 10.00 ng
RT: 7.39 min Scan# 756
Delta R.T. -0.034 min
Lab File: 05162224.D
Acq: 16 May 2022 22:24

Tgt Ion: 61 Resp: 89769

Ion	Ratio	Lower	Upper
61	100		
70	65.6	53.0	93.0



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162204.D Vial: 1
Acq On : 16 May 2022 8:28 Operator: TZ
Sample : MB R13051622 1000mL Inst : GCMS13
Misc : S35-03142201_AC01837

TZ 5/16/22

Quant Time: May 16 09:10:53 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	198170	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.40	114	917860	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	243386	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	403883	12.132	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
57) Toluene-d8 (SS2)	12.51	98	1128816	11.915	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
73) Bromofluorobenzene (SS3)	16.88	174	305645	11.747	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
Target Compounds							Qvalue
2) Propene	3.43	42	965	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.42	45	3578	0.161	ng		91
11) Acetonitrile	4.58	41	2658	N.D.			
12) Acrolein	4.67	56	594	N.D.			
13) Acetone	4.79	58	4360	0.245	ng	#	84
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	4.99	45	1973	N.D.			
16) Acrylonitrile	5.12	53	1063	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.47	84	465	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.74	76	9232	0.108	ng		93
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.81	72	185	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	7.91	72	682	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	183	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.98	56	356	No Calib		#	
41) Benzene	8.99	78	497	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.39	84	725	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162204.D Vial: 1
Acq On : 16 May 2022 8:28 Operator: TZ
Sample : MB R13051622 1000mL Inst : GCMS13
Misc : S35-03142201_AC01837

Quant Time: May 16 09:10:53 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

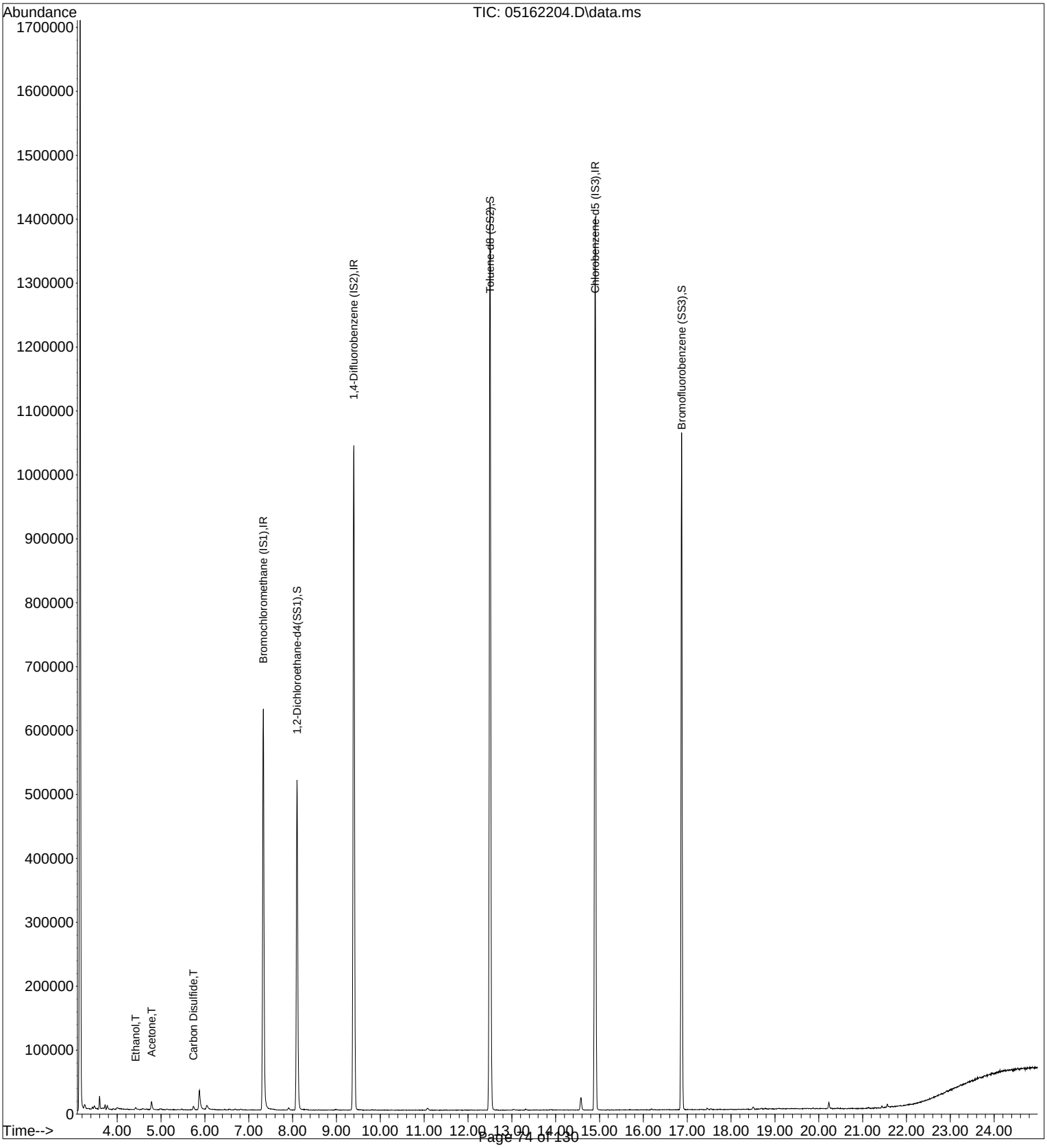
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.64	91	356	N.D.	
59) 2-Hexanone	13.05	43	2140	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.88	43	1490	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.47	91	117	N.D.	
67) m- & p-Xylenes	15.71	91	409	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.30	91	175	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.78	91	111	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.96	105	114	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	16.87	118	1234	No Calib	#
81) 2-Ethyltoluene	16.88	105	444	No Calib	#
82) 1,2,4-Trimethylbenzene	18.62	105	233	N.D.	
83) n-Decane	16.87	58	413	No Calib	#
84) Benzyl Chloride	18.78	91	1092	N.D.	
85) 1,3-Dichlorobenzene	18.79	146	128	N.D.	
86) 1,4-Dichlorobenzene	18.88	146	211	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	19.19	119	233	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	19.31	146	193	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	21.44	180	1052	N.D.	
95) Naphthalene	21.57	128	3052	N.D.	
96) n-Dodecane	0.00	57	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	19.73	91	342	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162204.D Vial: 1
Acq On : 16 May 2022 8:28 Operator: TZ
Sample : MB R13051622 1000mL Inst : GCMS13
Misc : S35-03142201_AC01837

Quant Time: May 16 09:10:53 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162205.D Vial: 1
Acq On : 16 May 2022 9:05 Operator: TZ
Sample : LCS R13051622 25ng Inst : GCMS13
Misc : S35-03142201/S35-050522005 (6/4)

TZ 5/16/22

Quant Time: May 16 09:40:21 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.38	130	204651	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.43	114	944053	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.91	54	249406	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.14	65	443933	12.913	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%				
57) Toluene-d8 (SS2)	12.52	98	1161739	11.966	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	16.88	174	316688	11.878	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
Target Compounds							Qvalue
2) Propene	3.38	42	1044444	25.986	ng		100
3) Dichlorodifluoromethan...	3.46	85	1009146	25.422	ng		100
4) Chloromethane	3.60	50	1010290	25.958	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	404611	26.669	ng		100
6) Vinyl Chloride	3.79	62	829993	31.246	ng		100
7) 1,3-Butadiene	3.91	54	580624	22.952	ng		99
8) Bromomethane	4.13	94	438673	24.940	ng		100
9) Chloroethane	4.28	64	420200	25.484	ng		100
10) Ethanol	4.46	45	2373369	103.127	ng		100
11) Acetonitrile	4.60	41	1493022	21.849	ng		100
12) Acrolein	4.67	56	873594	49.833	ng		100
13) Acetone	4.78	58	2240475	121.663	ng		99
14) Trichlorofluoromethane	4.88	101	827597	24.910	ng		100
15) 2-Propanol (Isopropanol)	5.02	45	3420636	49.464	ng		100
16) Acrylonitrile	5.16	53	1810840	50.507	ng		100
17) 1,1-Dichloroethene	5.39	96	470674	25.410	ng		97
18) 2-Methyl-2-Propanol (t...	5.49	59	2947013	52.256	ng		100
19) Methylene Chloride	5.51	84	533809	24.170	ng		96
20) 3-Chloro-1-propene (Al...	5.59	41	1197107	23.311	ng		99
21) Trichlorotrifluoroethane	5.70	151	362451	25.576	ng		98
22) Carbon Disulfide	5.73	76	4125011	46.815	ng		100
23) trans-1,2-Dichloroethene	6.28	61	952813	26.374	ng		99
24) 1,1-Dichloroethane	6.47	63	1116119	26.536	ng		100
25) Methyl tert-Butyl Ether	6.50	73	1702731	25.471	ng		99
26) Vinyl Acetate	6.59	86	460556	139.906	ng		98
27) 2-Butanone (MEK)	6.81	72	760192	51.653	ng		95
28) cis-1,2-Dichloroethene	7.22	61	895133	26.213	ng		99
29) Diisopropyl Ether	7.41	87	786172	54.341	ng	#	72
30) Ethyl Acetate	7.43	61	732628	75.700	ng		98
31) n-Hexane	7.42	57	1036110	26.580	ng		100
32) Chloroform	7.51	83	937231	26.252	ng		100
34) Tetrahydrofuran (THF)	7.89	72	737440	49.595	ng		97
35) Ethyl tert-Butyl Ether	7.95	87	1210878	52.704	ng		97
36) 1,2-Dichloroethane	8.25	62	808257	26.418	ng		99
38) 1,1,1-Trichloroethane	8.53	97	778874	25.883	ng		99
39) Isopropyl Acetate	9.19	61	425	No Calib		#	
40) 1-Butanol	8.93	56	17265	No Calib		#	
41) Benzene	9.03	78	2211015	26.441	ng		100
42) Carbon Tetrachloride	9.19	117	613757	24.755	ng		100
43) Cyclohexane	9.33	84	1534968	52.360	ng		98
44) tert-Amyl Methyl Ether	9.72	73	3337878	52.870	ng		99
45) 1,2-Dichloropropane	9.97	63	660124	26.519	ng		100
46) Bromodichloromethane	10.19	83	770389	26.570	ng		99
47) Trichloroethene	10.26	130	480045	25.778	ng		100
48) 1,4-Dioxane	10.24	88	431995	26.647	ng		99
49) 2,2,4-Trimethylpentane...	10.34	57	2791086	26.325	ng		99
50) Methyl Methacrylate	10.52	100	382439	53.485	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162205.D Vial: 1
Acq On : 16 May 2022 9:05 Operator: TZ
Sample : LCS R13051622 25ng Inst : GCMS13
Misc : S35-03142201/S35-050522005 (6/4)

Quant Time: May 16 09:40:21 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

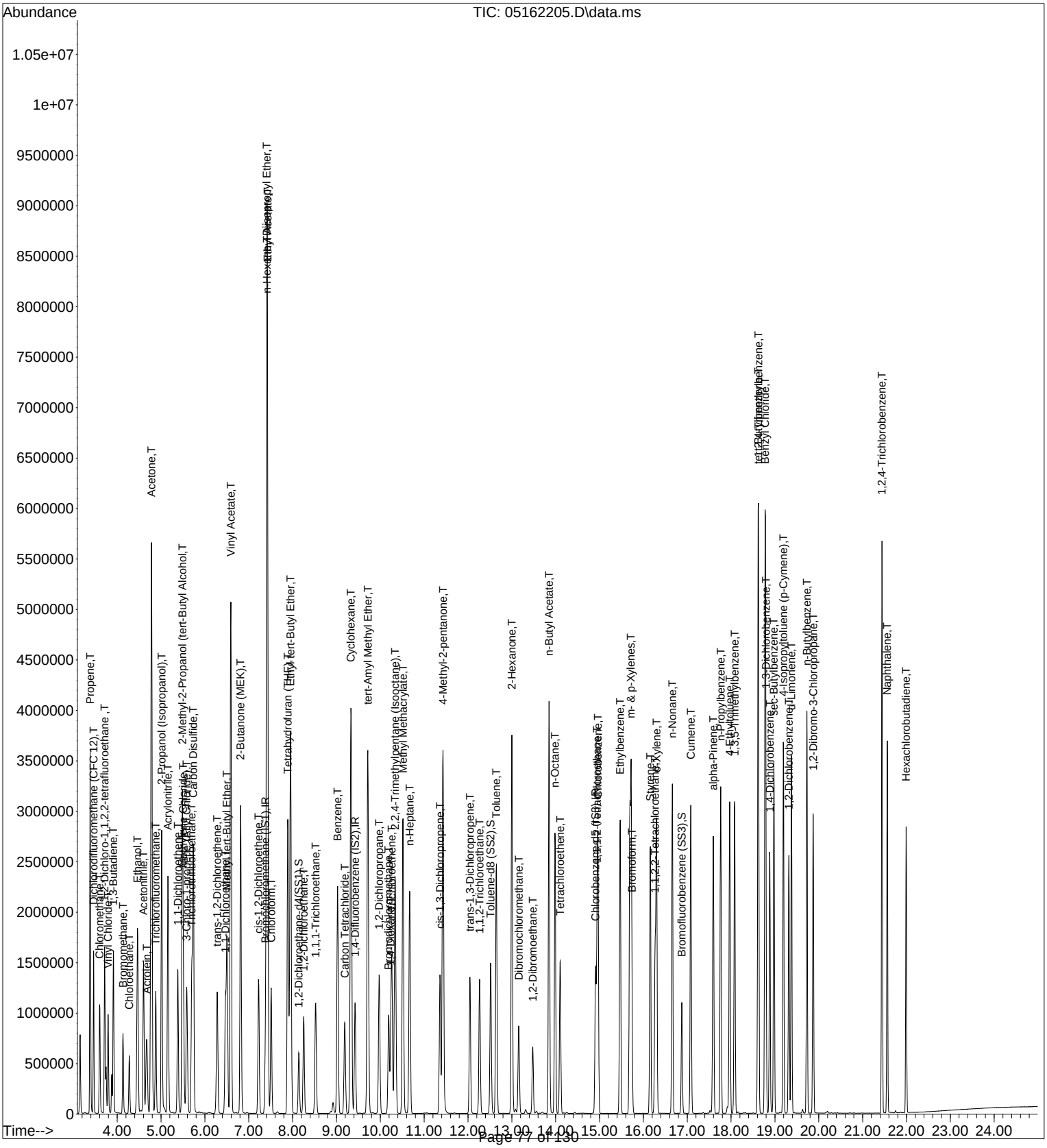
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.67	71	568889	26.190	ng		99
52) cis-1,3-Dichloropropene	11.36	75	962246	27.220	ng		100
53) 4-Methyl-2-pentanone	11.43	58	1240344	54.210	ng		98
54) trans-1,3-Dichloropropene	12.04	75	880953	26.361	ng		100
55) 1,1,2-Trichloroethane	12.27	97	498251	25.902	ng		100
58) Toluene	12.65	91	2091981	24.189	ng		100
59) 2-Hexanone	13.00	43	3444217	49.093	ng		99
60) Dibromochloromethane	13.16	129	556341	24.281	ng		100
61) 1,2-Dibromoethane	13.48	107	558665	24.229	ng		100
62) n-Butyl Acetate	13.85	43	3918810	50.666	ng		99
63) n-Octane	13.99	57	585751	25.052	ng		98
64) Tetrachloroethene	14.10	166	483173	23.354	ng		100
65) Chlorobenzene	14.96	112	1283369	24.394	ng		100
66) Ethylbenzene	15.47	91	2407047	24.623	ng		99
67) m- & p-Xylenes	15.72	91	3867352	50.013	ng		100
68) Bromoform	15.74	173	456774	24.999	ng		99
69) Styrene	16.16	104	1379956	24.924	ng		99
70) o-Xylene	16.30	91	1928487	24.942	ng		99
71) n-Nonane	16.66	43	1620873	25.226	ng		99
72) 1,1,2,2-Tetrachloroethane	16.27	83	998837	25.377	ng		100
74) Cumene	17.08	105	2221389	24.578	ng		100
75) alpha-Pinene	17.59	93	1223125	25.425	ng		100
76) n-Propylbenzene	17.76	91	2935932	25.091	ng		99
77) 3-Ethyltoluene	17.08	105	2221389	No Calib			
78) 4-Ethyltoluene	17.97	105	2197329	25.128	ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	1874719	25.065	ng		100
80) alpha-Methylstyrene	16.88	118	1188	No Calib		#	
81) 2-Ethyltoluene	16.88	105	441	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.62	105	1937736	25.948	ng		100
83) n-Decane	16.93	58	170	No Calib		#	
84) Benzyl Chloride	18.78	91	3677685	54.774	ng		99
85) 1,3-Dichlorobenzene	18.79	146	1018467	25.815	ng		100
86) 1,4-Dichlorobenzene	18.89	146	1021190	25.074	ng		100
87) sec-Butylbenzene	18.98	105	2506342	24.820	ng		100
88) 4-Isopropyltoluene (p-...	19.19	119	2033029	24.802	ng		100
89) 1,2,3-Trimethylbenzene	17.37	105	420	No Calib		#	
90) 1,2-Dichlorobenzene	19.32	146	974001	24.606	ng		100
91) d-Limonene	19.37	68	924548	26.288	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.88	157	730135	49.218	ng		96
93) n-Undecane	18.08	58	57815	No Calib			
94) 1,2,4-Trichlorobenzene	21.44	180	1502361	51.321	ng		100
95) Naphthalene	21.56	128	2386752	26.127	ng		100
96) n-Dodecane	18.82	57	2799	No Calib		#	
97) Hexachlorobutadiene	21.99	225	455110	23.345	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.62	119	1714949	25.244	ng		100
100) n-Butylbenzene	19.73	91	2220900	25.352	ng		99
101) 1,1,1,2-Tetrachloroethane	14.94	131	450913	24.232	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162205.D Vial: 1
Acq On : 16 May 2022 9:05 Operator: TZ
Sample : LCS R13051622 25ng Inst : GCMS13
Misc : S35-03142201/S35-050522005 (6/4)

Quant Time: May 16 09:40:21 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162206.D Vial: 1
Acq On : 16 May 2022 9:42 Operator: TZ
Sample : LCSD R13051622 25ng Inst : GCMS13
Misc : S35-03142201/S35-050522005 (6/4)

TZ 5/16/22

Quant Time: May 16 10:05:57 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.38	130	214230	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.43	114	990500	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.91	54	256314	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.14	65	460205	12.788	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
57) Toluene-d8 (SS2)	12.52	98	1208449	12.112	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
73) Bromofluorobenzene (SS3)	16.88	174	330375	12.057	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
Target Compounds							Qvalue
2) Propene	3.38	42	1070213	25.436	ng		100
3) Dichlorodifluoromethan...	3.46	85	1050435	25.279	ng		100
4) Chloromethane	3.60	50	1030135	25.285	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	425977	26.821	ng		100
6) Vinyl Chloride	3.79	62	843647	30.340	ng		100
7) 1,3-Butadiene	3.91	54	593780	22.422	ng		98
8) Bromomethane	4.13	94	462817	25.136	ng		100
9) Chloroethane	4.28	64	434450	25.170	ng		100
10) Ethanol	4.46	45	2397197	99.505	ng		100
11) Acetonitrile	4.60	41	1507558	21.075	ng		100
12) Acrolein	4.67	56	898384	48.955	ng		100
13) Acetone	4.78	58	2281790	118.366	ng		100
14) Trichlorofluoromethane	4.88	101	862821	24.809	ng		100
15) 2-Propanol (Isopropanol)	5.01	45	3402052	46.995	ng		100
16) Acrylonitrile	5.16	53	1858350	49.514	ng		100
17) 1,1-Dichloroethene	5.38	96	492463	25.398	ng		99
18) 2-Methyl-2-Propanol (t...	5.48	59	2983063	50.530	ng		100
19) Methylene Chloride	5.51	84	556500	24.071	ng		100
20) 3-Chloro-1-propene (Al...	5.59	41	1217622	22.651	ng		100
21) Trichlorotrifluoroethane	5.70	151	380532	25.652	ng		99
22) Carbon Disulfide	5.73	76	4256189	46.144	ng		100
23) trans-1,2-Dichloroethene	6.28	61	982838	25.988	ng		100
24) 1,1-Dichloroethane	6.47	63	1146501	26.040	ng		100
25) Methyl tert-Butyl Ether	6.50	73	1762303	25.184	ng		100
26) Vinyl Acetate	6.59	86	475781	138.068	ng	#	96
27) 2-Butanone (MEK)	6.81	72	785610	50.993	ng		99
28) cis-1,2-Dichloroethene	7.22	61	920759	25.757	ng		100
29) Diisopropyl Ether	7.41	87	804139	53.098	ng	#	68
30) Ethyl Acetate	7.43	61	736439	72.691	ng		100
31) n-Hexane	7.42	57	1043727	25.578	ng		99
32) Chloroform	7.51	83	970021	25.956	ng		100
34) Tetrahydrofuran (THF)	7.89	72	760117	48.834	ng		100
35) Ethyl tert-Butyl Ether	7.95	87	1251920	52.053	ng		99
36) 1,2-Dichloroethane	8.25	62	834638	26.060	ng		100
38) 1,1,1-Trichloroethane	8.53	97	813674	25.771	ng		100
39) Isopropyl Acetate	9.20	61	427	No Calib		#	
40) 1-Butanol	8.93	56	17476	No Calib		#	
41) Benzene	9.03	78	2281079	26.000	ng		100
42) Carbon Tetrachloride	9.19	117	640966	24.640	ng		100
43) Cyclohexane	9.33	84	1585930	51.561	ng		100
44) tert-Amyl Methyl Ether	9.72	73	3444645	52.002	ng		100
45) 1,2-Dichloropropane	9.97	63	678757	25.988	ng		100
46) Bromodichloromethane	10.19	83	800458	26.313	ng		99
47) Trichloroethene	10.26	130	500733	25.628	ng		100
48) 1,4-Dioxane	10.24	88	447952	26.336	ng		99
49) 2,2,4-Trimethylpentane...	10.34	57	2849906	25.620	ng		100
50) Methyl Methacrylate	10.52	100	399438	53.243	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162206.D Vial: 1
Acq On : 16 May 2022 9:42 Operator: TZ
Sample : LCSD R13051622 25ng Inst : GCMS13
Misc : S35-03142201/S35-050522005 (6/4)

Quant Time: May 16 10:05:57 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

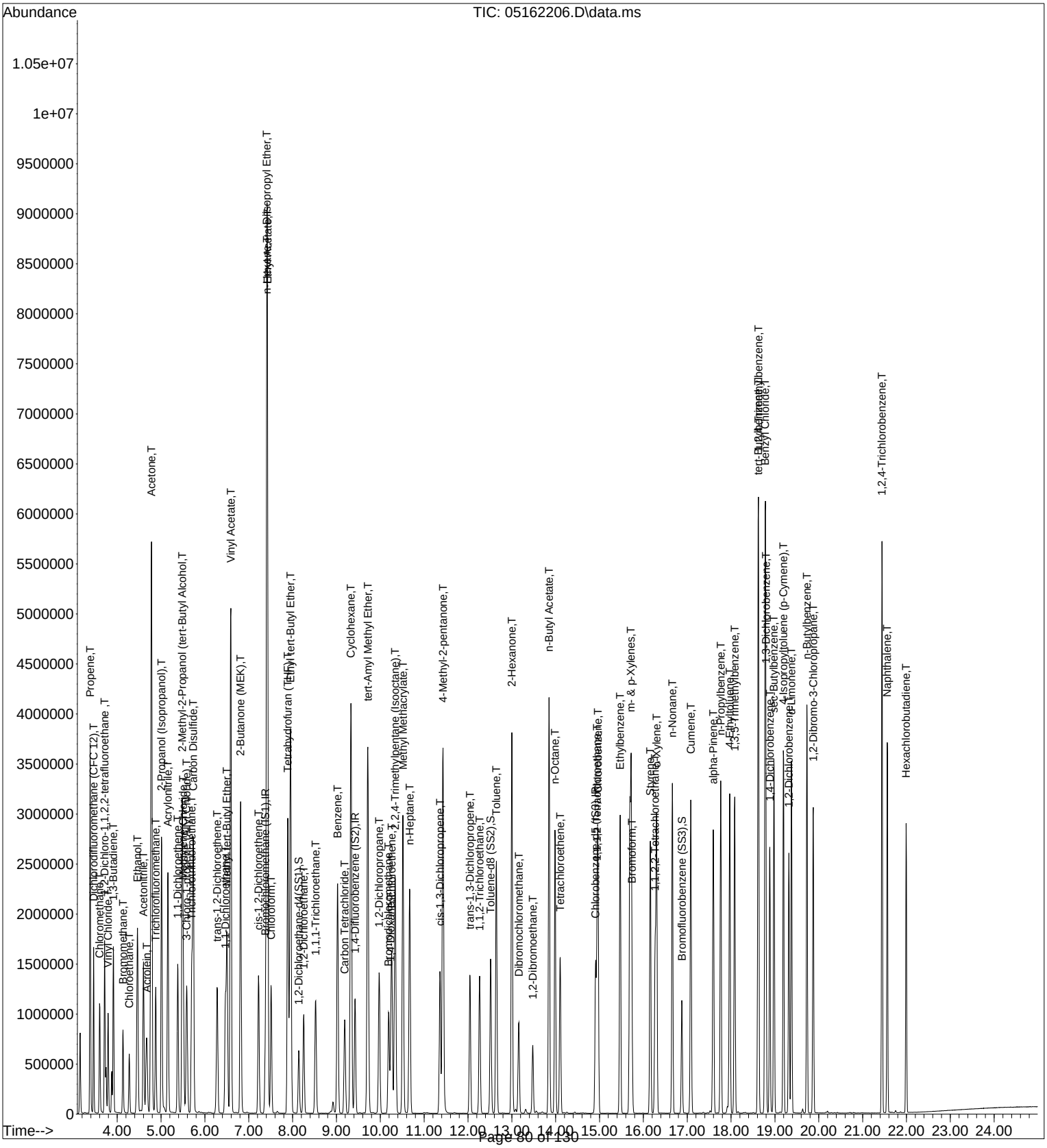
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.67	71	585439	25.688 ng		100
52) cis-1,3-Dichloropropene	11.36	75	995723	26.846 ng		100
53) 4-Methyl-2-pentanone	11.43	58	1265538	52.717 ng		99
54) trans-1,3-Dichloropropene	12.04	75	912290	26.018 ng		100
55) 1,1,2-Trichloroethane	12.27	97	517665	25.649 ng		100
58) Toluene	12.65	91	2150024	24.190 ng		100
59) 2-Hexanone	13.00	43	3485079	48.337 ng		100
60) Dibromochloromethane	13.16	129	576691	24.491 ng		100
61) 1,2-Dibromoethane	13.48	107	577689	24.379 ng		100
62) n-Butyl Acetate	13.85	43	3958903	49.805 ng		100
63) n-Octane	13.99	57	593616	24.704 ng		99
64) Tetrachloroethene	14.10	166	502194	23.619 ng		100
65) Chlorobenzene	14.96	112	1324069	24.489 ng		100
66) Ethylbenzene	15.47	91	2475632	24.642 ng		99
67) m- & p-Xylenes	15.72	91	3961607	49.851 ng		100
68) Bromoform	15.74	173	475387	25.316 ng		99
69) Styrene	16.16	104	1414308	24.856 ng		99
70) o-Xylene	16.30	91	1972978	24.829 ng		99
71) n-Nonane	16.66	43	1628363	24.659 ng		99
72) 1,1,2,2-Tetrachloroethane	16.27	83	1026098	25.367 ng		99
74) Cumene	17.08	105	2273761	24.479 ng		100
75) alpha-Pinene	17.59	93	1255754	25.400 ng		99
76) n-Propylbenzene	17.76	91	2988418	24.851 ng		99
77) 3-Ethyltoluene	17.08	105	2273761	No Calib		
78) 4-Ethyltoluene	17.97	105	2240271	24.929 ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	1921880	25.003 ng		99
80) alpha-Methylstyrene	16.88	118	1201	No Calib	#	
81) 2-Ethyltoluene	16.88	105	736	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.62	105	1969052	25.656 ng		100
83) n-Decane	16.88	58	506	No Calib	#	
84) Benzyl Chloride	18.78	91	3778732	54.762 ng		99
85) 1,3-Dichlorobenzene	18.79	146	1043580	25.738 ng		100
86) 1,4-Dichlorobenzene	18.89	146	1049580	25.076 ng		100
87) sec-Butylbenzene	18.98	105	2559377	24.662 ng		100
88) 4-Isopropyltoluene (p-...	19.19	119	2072683	24.605 ng		100
89) 1,2,3-Trimethylbenzene	17.38	105	604	No Calib	#	
90) 1,2-Dichlorobenzene	19.32	146	995510	24.471 ng		100
91) d-Limonene	19.37	68	937427	25.936 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.88	157	749044	49.132 ng		98
93) n-Undecane	18.08	58	59999	No Calib		
94) 1,2,4-Trichlorobenzene	21.44	180	1541143	51.226 ng		100
95) Naphthalene	21.56	128	2460685	26.210 ng		100
96) n-Dodecane	18.82	57	2859	No Calib	#	
97) Hexachlorobutadiene	21.99	225	470048	23.461 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.62	119	1743979	24.979 ng		100
100) n-Butylbenzene	19.73	91	2259499	25.097 ng		100
101) 1,1,1,2-Tetrachloroethane	14.94	131	467472	24.445 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162206.D Vial: 1
Acq On : 16 May 2022 9:42 Operator: TZ
Sample : LCSD R13051622 25ng Inst : GCMS13
Misc : S35-03142201/S35-050522005 (6/4)

Quant Time: May 16 10:05:57 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report GCMS13

Method Path : I:\MS13\METHODS\
Method File : R13051322.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Mon May 16 08:00:54 2022
Response Via : Initial Calibration

TR 5/16/22

Calibration Files
0.1 =05132202.D 0.2 =05132203.D 0.5 =05132204.D 1.0 =05132205.D 5.0 =05132206.D 25 =05162202.D 50 =05132208.D
100 =05132209.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene	2.522	2.390	2.356	2.141	2.740	2.400	2.586	2.504	2.455	7.24
3)	T	Dichlorodifluo...	2.469	2.379	2.641	2.516	2.398	2.355	2.334	2.304	2.425	4.61
4)	T	Chloromethane	2.615	2.523	2.811	2.603	1.953	2.279	1.856		2.377	15.15
5)	T	1,2-Dichloro-1...	0.889	0.853	0.976	0.961	0.937	0.932	0.933	0.932	0.927	4.22
6)	T	Vinyl Chloride	1.438	1.523	1.721	1.785	1.698	1.755	1.632	1.428	1.622	8.75
7)	T	1,3-Butadiene	1.993	1.826	2.024	1.762	1.264	1.250	1.163	1.080	1.545	25.46
8)	T	Bromomethane	1.127	1.105	1.121	1.098	1.014	1.044	1.044	1.042	1.074	4.01
9)	T	Chloroethane	1.030	0.979	1.086	1.027	1.000	0.978	0.972	0.985	1.007	3.84
10)	T	Ethanol	1.764	1.598	1.545	1.395	1.228	1.305	1.251	1.158	1.406	15.02
11)	T	Acetonitrile	4.937	4.616	4.442	4.092	3.982	3.817	3.754	3.751	4.174	10.62
12)	T	Acrolein	1.134	1.091	1.136	1.085	1.055	1.034	1.014	1.016	1.071	4.57
13)	T	Acetone	1.354	1.277	1.251	1.189	1.124	1.044	0.946	0.814	1.125	16.16
14)	T	Trichlorofluor...	2.078	1.895	2.173	2.078	1.984	1.978	1.987	2.062	2.029	4.20
15)	T	2-Propanol (Is...	5.354	4.973	5.182	4.875	3.686	3.931	3.129	2.661	4.224	24.01
16)	T	Acrylonitrile	2.249	2.144	2.321	2.293	2.236	2.177	2.089	2.010	2.190	4.83
17)	T	1,1-Dichloroet...	1.234	1.096	1.215	1.109	1.086	1.083	1.093	1.134	1.131	5.30
18)	T	2-Methyl-2-Pro...	3.768	3.686	4.161	3.982	3.756	3.616	2.875	1.712	3.445	23.06
19)	T	Methylene Chlo...	1.585	1.468	1.406	1.332	1.265	1.252	1.241	1.242	1.349	9.42
20)	T	3-Chloro-1-pro...	3.731	3.195	3.233	3.186	3.128	2.914	2.849	2.857	3.137	9.17
21)	T	Trichlorotrifl...	0.867	0.837	0.934	0.877	0.826	0.850	0.859	0.874	0.866	3.79
22)	T	Carbon Disulfide	7.163	6.092	5.734	5.249	4.960	4.865	4.707	4.285	5.382	17.09
23)	T	trans-1,2-Dich...	2.225	2.106	2.323	2.197	2.183	2.204	2.196	2.220	2.207	2.71
24)	T	1,1-Dichloroet...	2.635	2.525	2.795	2.641	2.542	2.541	2.475	2.398	2.569	4.70
25)	T	Methyl tert-Bu...	4.065	4.001	4.359	4.116	4.042	4.058	4.048	3.976	4.083	2.92
26)	T	Vinyl Acetate	0.160	0.177	0.206	0.201	0.210	0.222	0.220	0.213	0.201	10.79
27)	T	2-Butanone (MEK)	0.874	0.924	0.947	0.894	0.914	0.909	0.890	0.841	0.899	3.59
28)	T	cis-1,2-Dichlo...	2.047	2.019	2.229	2.094	2.068	2.098	2.071	2.061	2.086	3.04
29)	T	Diisopropyl Ether	0.944	0.938	1.029	0.956	0.937	0.888	0.768	0.608	0.884	15.13
30)	T	Ethyl Acetate	0.618	0.632	0.691	0.682	0.663	0.586	0.479	0.378	0.591	18.48
31)	T	n-Hexane	2.739	2.632	2.822	2.663	2.597	2.268	1.860	1.466	2.381	20.30
32)	T	Chloroform	2.223	2.143	2.362	2.198	2.111	2.146	2.127	2.135	2.181	3.78
33)	S	1,2-Dichloroet...	2.040	2.102	2.102	2.108	2.123	2.100	2.091	2.133	2.100	1.32
34)	T	Tetrahydrofura...	1.031	0.919	0.965	0.905	0.887	0.883	0.860	0.815	0.908	7.27
35)	T	Ethyl tert-But...	1.356	1.347	1.519	1.426	1.410	1.431	1.406	1.332	1.403	4.27
36)	T	1,2-Dichloroet...	1.859	1.807	2.000	1.889	1.847	1.854	1.843	1.851	1.869	3.08
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.403	0.383	0.436	0.408	0.388	0.400	0.395	0.373	0.398	4.76

39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.160	1.105	1.206	1.139	1.097	1.107	1.071	0.974	1.107	6.19
42)	T	Carbon Tetrach...	0.326	0.314	0.350	0.331	0.325	0.332	0.331	0.318	0.328	3.28
43)	T	Cyclohexane	0.403	0.393	0.423	0.402	0.391	0.395	0.376	0.322	0.388	7.73
44)	T	tert-Amyl Meth...	0.872	0.849	0.918	0.867	0.850	0.855	0.804	0.673	0.836	8.74
45)	T	1,2-Dichloropr...	0.330	0.326	0.354	0.337	0.333	0.334	0.324	0.298	0.330	4.77
46)	T	Bromodichlorom...	0.400	0.362	0.413	0.382	0.378	0.389	0.383	0.364	0.384	4.40
47)	T	Trichloroethene	0.263	0.232	0.263	0.244	0.243	0.248	0.246	0.233	0.247	4.76
48)	T	1,4-Dioxane	0.201	0.206	0.223	0.221	0.219	0.224	0.220	0.202	0.215	4.56
49)	T	2,2,4-Trimethy...	1.436	1.430	1.542	1.461	1.408	1.414	1.348	1.191	1.404	7.27
50)	T	Methyl Methacr...	0.086	0.086	0.102	0.097	0.097	0.100	0.099	0.090	0.095	6.68
51)	T	n-Heptane	0.289	0.283	0.312	0.301	0.287	0.291	0.281	0.257	0.288	5.60
52)	T	cis-1,3-Dichlo...	0.452	0.443	0.500	0.470	0.471	0.486	0.477	0.445	0.468	4.29
53)	T	4-Methyl-2-pen...	0.285	0.296	0.332	0.317	0.319	0.320	0.299	0.255	0.303	8.16
54)	T	trans-1,3-Dich...	0.427	0.406	0.463	0.442	0.450	0.465	0.458	0.429	0.442	4.64
55)	T	1,1,2-Trichlor...	0.269	0.250	0.267	0.258	0.248	0.255	0.252	0.238	0.255	3.95
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	4.993	4.896	4.827	4.857	4.792	4.790	4.851	4.920	4.866	1.41
58)	T	Toluene	4.862	4.412	4.654	4.360	4.165	4.210	4.166	3.847	4.334	7.29
59)	T	2-Hexanone	3.829	3.591	3.793	3.672	3.620	3.542	3.288	2.794	3.516	9.55
60)	T	Dibromochlorom...	1.131	1.087	1.225	1.125	1.101	1.159	1.180	1.178	1.148	3.99
61)	T	1,2-Dibromoethane	1.254	1.115	1.205	1.133	1.105	1.143	1.160	1.131	1.156	4.34
62)	T	n-Butyl Acetate	4.155	3.810	4.221	4.063	4.051	3.967	3.685	3.060	3.876	9.63
63)	T	n-Octane	1.209	1.203	1.304	1.211	1.161	1.157	1.124	1.006	1.172	7.33
64)	T	Tetrachloroethene	1.228	1.036	1.062	1.012	0.952	0.989	1.011	1.005	1.037	8.07
65)	T	Chlorobenzene	2.951	2.598	2.804	2.611	2.526	2.610	2.598	2.397	2.637	6.43
66)	T	Ethylbenzene	5.337	4.907	5.269	4.930	4.754	4.844	4.787	4.366	4.899	6.22
67)	T	m- & p-Xylenes	4.390	3.908	4.093	3.890	3.791	3.877	3.783	3.273	3.876	8.11
68)	T	Bromoform	0.948	0.841	0.938	0.880	0.884	0.955	0.973	0.907	0.916	4.95
69)	T	Styrene	2.913	2.623	2.817	2.707	2.691	2.882	2.879	2.687	2.775	3.99
70)	T	o-Xylene	4.232	3.866	4.150	3.857	3.744	3.829	3.824	3.498	3.875	5.91
71)	T	n-Nonane	3.524	3.354	3.557	3.340	3.229	3.168	2.997	2.594	3.220	9.69
72)	T	1,1,2,2-Tetrac...	2.045	1.929	2.076	1.998	1.946	1.983	1.972	1.832	1.973	3.78
73)	S	Bromofluoroben...	1.366	1.335	1.322	1.293	1.288	1.314	1.362	1.411	1.336	3.11
74)	T	Cumene	4.945	4.511	4.811	4.510	4.408	4.531	4.477	4.046	4.530	5.92
75)	T	alpha-Pinene	2.532	2.360	2.534	2.408	2.388	2.465	2.403	2.199	2.411	4.46
76)	T	n-Propylbenzene	6.424	5.850	6.270	5.900	5.770	5.895	5.741	5.068	5.864	6.87
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	4.746	4.312	4.597	4.363	4.250	4.429	4.387	3.977	4.383	5.23
79)	T	1,3,5-Trimethy...	4.004	3.717	3.931	3.725	3.628	3.775	3.763	3.446	3.749	4.59
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	4.151	3.785	3.941	3.797	3.741	3.878	3.662	2.988	3.743	9.06
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	3.635	3.308	3.467	3.375	3.469	3.685	3.388	2.594	3.365	10.02
85)	T	1,3-Dichlorobe...	2.276	2.020	2.018	1.955	1.910	2.033	1.982	1.626	1.977	9.06
86)	T	1,4-Dichlorobe...	2.275	2.029	2.060	1.908	1.898	2.061	2.099	2.000	2.041	5.83
87)	T	sec-Butylbenzene	5.512	4.973	5.332	5.094	4.969	5.134	5.048	4.425	5.061	6.27
88)	T	4-Isopropyltol...	4.425	3.993	4.387	4.055	4.016	4.204	4.142	3.644	4.108	6.03
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.207	2.009	2.036	1.869	1.848	1.975	2.008	1.918	1.984	5.71
91)	T	d-Limonene	1.717	1.695	1.821	1.776	1.790	1.882	1.824	1.597	1.763	5.10

92)	T	1,2-Dibromo-3-...	0.767	0.686	0.746	0.714	0.733	0.787	0.790	0.725	0.744	4.90
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	1.841	1.544	1.406	1.345	1.346	1.535	1.485	1.236	1.467	12.56
95)	T	Naphthalene	6.366	4.764	3.890	3.758	3.845	4.855	4.840	4.310	4.579	18.70
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.091	0.962	0.992	0.919	0.915	0.983	0.999	0.954	0.977	5.68
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	3.825	3.465	3.675	3.434	3.402	3.473	3.269	2.696	3.405	9.80
100)	T	n-Butylbenzene	4.823	4.469	4.599	4.363	4.363	4.467	4.330	3.712	4.391	7.24
101)	T	1,1,1,2-Tetrac...	0.947	0.915	1.000	0.934	0.897	0.936	0.947	0.885	0.933	3.79

(#) = Out of Range

R13051322.M Mon May 16 10:10:19 2022

Primary Source Standards Concentrations (Working & Initial Calibration)

TZ 5/16/22

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-05102204 | 200ng/L Std. ID: S35-05102201
20ng/L Std. ID: S35-05102203 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Rev 13 (08/20)

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | **40ng/L Std. ID:**
4ng/L Std. ID: S35-05102204 | **200ng/L Std. ID:** S35-05102201
20ng/L Std. ID: S35-05102203 | **1000ng/L Std. ID:**

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.			Primary Working Standards				Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Last Updated: 09/19/20

Calibration Status Report GCMS13

Method : I:\MS13\METHODS\R13051322.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration

TR 5/16/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS13\DATA\2022_05\13\05132202.D
2	0.2	0	13	I:\MS13\DATA\2022_05\13\05132203.D
3	0.5	1	13	I:\MS13\DATA\2022_05\13\05132204.D
4	1.0	1	13	I:\MS13\DATA\2022_05\13\05132205.D
5	5.0	5	13	I:\MS13\DATA\2022_05\13\05132206.D
6	25	26	13	I:\MS13\DATA\2022_05\16\05162202.D
7	50	52	13	I:\MS13\DATA\2022_05\13\05132208.D
8	100	104	13	I:\MS13\DATA\2022_05\13\05132209.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	May 13 13:52 2022	May 13 13:52 2022	13 May 2022 9:15
2	0.2	May 13 12:59 2022	May 13 12:59 2022	13 May 2022 9:53
3	0.5	May 13 12:59 2022	May 13 12:59 2022	13 May 2022 10:30
4	1.0	May 13 12:59 2022	May 13 12:59 2022	13 May 2022 11:07
5	5.0	May 13 12:59 2022	May 13 12:59 2022	13 May 2022 11:44
6	25	May 16 08:00 2022	May 16 07:36 2022	16 May 2022 7:14
7	50	May 13 14:15 2022	May 13 14:12 2022	13 May 2022 12:59
8	100	May 13 14:15 2022	May 13 14:13 2022	13 May 2022 13:36

R13051322.M Mon May 16 10:11:31 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132202.D Vial: 14
Acq On : 13 May 2022 9:15 Operator: TZ
Sample : 0.1ng R13051322 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102204 (6/9)

TZ 5/16/22

Quant Time: May 13 13:52:24 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 13:04:41 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	197554	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.39	114	906160	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.90	54	218152	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	403022	12.168	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
57) Toluene-d8 (SS2)	12.50	98	1089245	12.844	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
73) Bromofluorobenzene (SS3)	16.87	174	298037	12.942	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
Target Compounds							Qvalue
2) Propene	3.43	42	4146	0.108	ng		88
3) Dichlorodifluoromethan...	3.50	85	4098	0.105	ng		96
4) Chloromethane	3.64	50	4216	0.108	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	3.74	135	1518	0.104	ng		86
6) Vinyl Chloride	3.83	62	2364	0.090	ng		94
7) 1,3-Butadiene	3.94	54	3275	0.123	ng		86
8) Bromomethane	4.15	94	1816	0.106	ng		98
9) Chloroethane	4.30	64	1660	0.103	ng		88
10) Ethanol	4.40	45	10093	0.434	ng		95
11) Acetonitrile	4.57	41	7256m	0.106	ng		
12) Acrolein	4.66	56	3585	0.208	ng		80
13) Acetone	4.77	58	11110	0.583	ng		92
14) Trichlorofluoromethane	4.89	101	3383	0.105	ng		100
15) 2-Propanol (Isopropanol)	4.97	45	17093	0.232	ng		74
16) Acrylonitrile	5.11	53	7215	0.204	ng		97
17) 1,1-Dichloroethene	5.39	96	2087	0.116	ng	#	84
18) 2-Methyl-2-Propanol (t...	5.47	59	12506	0.207	ng		79
19) Methylene Chloride	5.46	84	2606	0.119	ng		97
20) 3-Chloro-1-propene (Al...	5.57	41	6192	0.121	ng		87
21) Trichlorotrifluoroethane	5.69	151	1480	0.108	ng		99
22) Carbon Disulfide	5.73	76	23773	0.265	ng		99
23) trans-1,2-Dichloroethene	6.25	61	3727	0.107	ng		98
24) 1,1-Dichloroethane	6.42	63	4373	0.106	ng		99
25) Methyl tert-Butyl Ether	6.51	73	6746	0.104	ng		97
26) Vinyl Acetate	6.56	86	860	0.278	ng	#	30
27) 2-Butanone (MEK)	6.80	72	2845	0.198	ng	#	65
28) cis-1,2-Dichloroethene	7.17	61	3364	0.102	ng		98
29) Diisopropyl Ether	7.41	87	3163	0.211	ng	#	68
30) Ethyl Acetate	7.41	61	3987	0.391	ng		92
31) n-Hexane	7.41	57	4546	0.110	ng	#	96
32) Chloroform	7.45	83	3759	0.108	ng		98
34) Tetrahydrofuran (THF)	7.89	72	3211	0.218	ng	#	91
35) Ethyl tert-Butyl Ether	7.94	87	4502	0.201	ng		93
36) 1,2-Dichloroethane	8.21	62	3115	0.105	ng		95
38) 1,1,1-Trichloroethane	8.49	97	3035	0.104	ng		93
39) Isopropyl Acetate	9.39	61	33520	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.99	78	8744	0.106	ng		99
42) Carbon Tetrachloride	9.15	117	2483	0.104	ng		100
43) Cyclohexane	9.31	84	6051	0.208	ng		95
44) tert-Amyl Methyl Ether	9.71	73	13209	0.210	ng		93
45) 1,2-Dichloropropane	9.94	63	2467	0.101	ng		95
46) Bromodichloromethane	10.16	83	3041	0.108	ng		96
47) Trichloroethene	10.23	130	1962	0.109	ng		96
48) 1,4-Dioxane	10.25	88	1512	0.097	ng		90
49) 2,2,4-Trimethylpentane...	10.32	57	11036	0.105	ng		84
50) Methyl Methacrylate	10.51	100	1303	0.190	ng	#	90

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132202.D Vial: 14
Acq On : 13 May 2022 9:15 Operator: TZ
Sample : 0.1ng R13051322 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102204 (6/9)

Quant Time: May 13 13:52:24 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 13:04:41 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

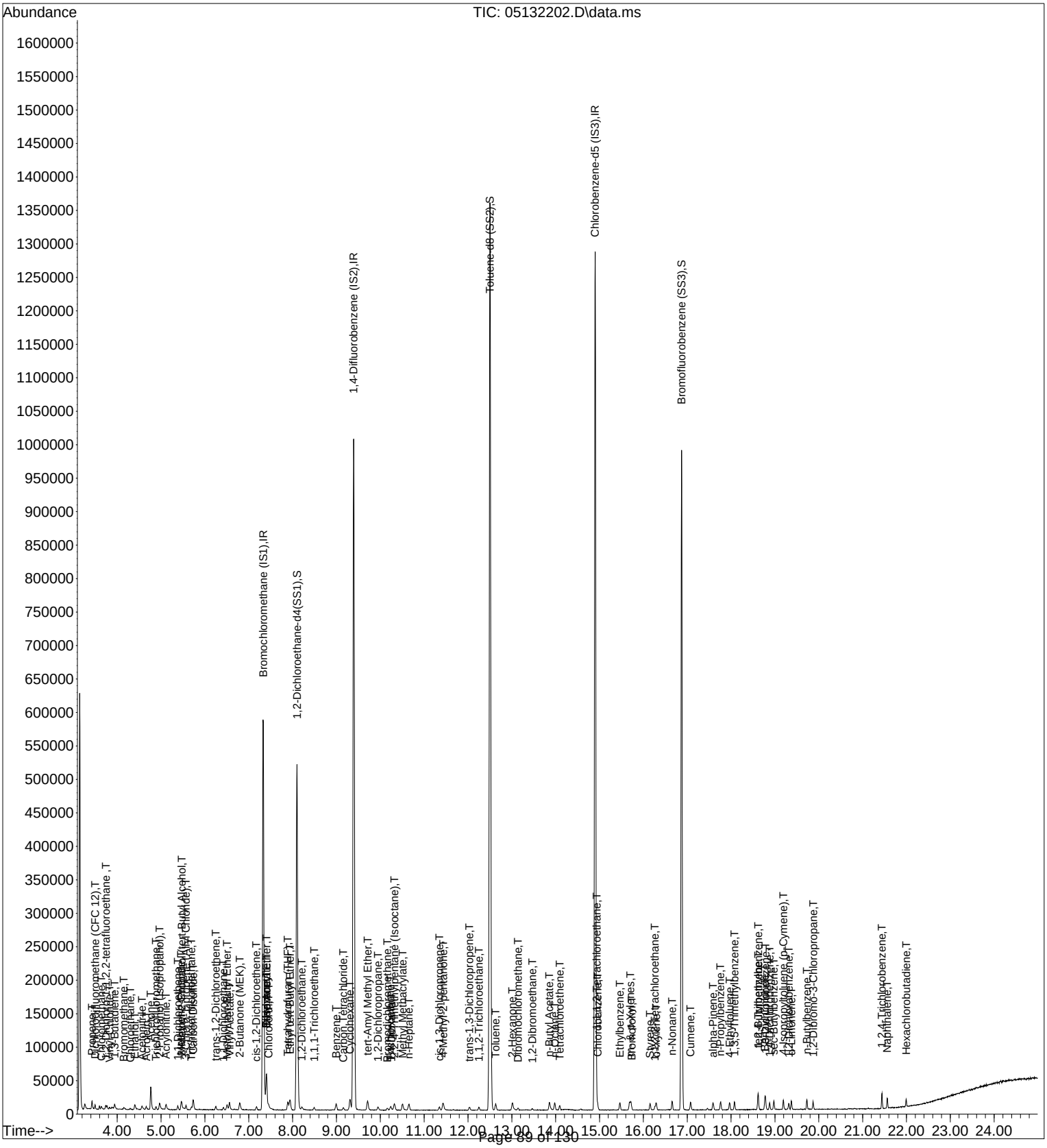
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.65	71	2202	0.103 ng		99
52) cis-1,3-Dichloropropene	11.35	75	3443	0.101 ng		96
53) 4-Methyl-2-pentanone	11.44	58	4295	0.190 ng		84
54) trans-1,3-Dichloropropene	12.03	75	3129	0.098 ng		92
55) 1,1,2-Trichloroethane	12.25	97	2025	0.108 ng		97
58) Toluene	12.63	91	8740	0.113 ng		96
59) 2-Hexanone	13.01	43	13698	0.214 ng		92
60) Dibromochloromethane	13.14	129	2073	0.104 ng		99
61) 1,2-Dibromoethane	13.47	107	2276	0.113 ng		92
62) n-Butyl Acetate	13.85	43	14792	0.210 ng		98
63) n-Octane	13.98	57	2216	0.105 ng		98
64) Tetrachloroethene	14.09	166	2229	0.122 ng		98
65) Chlorobenzene	14.96	112	5356	0.114 ng		98
66) Ethylbenzene	15.46	91	9593	0.110 ng		96
67) m- & p-Xylenes	15.70	91	15784	0.227 ng		96
68) Bromoform	15.73	173	1720	0.109 ng		96
69) Styrene	16.15	104	5237	0.108 ng		97
70) o-Xylene	16.29	91	7681	0.112 ng		95
71) n-Nonane	16.65	43	6396	0.109 ng		95
72) 1,1,2,2-Tetrachloroethane	16.26	83	3712	0.107 ng		98
74) Cumene	17.08	105	8975	0.111 ng		99
75) alpha-Pinene	17.59	93	4773	0.112 ng		79
76) n-Propylbenzene	17.76	91	11771	0.112 ng		97
77) 3-Ethyltoluene	17.08	105	8975	No Calib		
78) 4-Ethyltoluene	17.97	105	8780	0.113 ng		97
79) 1,3,5-Trimethylbenzene	18.08	105	7267	0.110 ng		100
80) alpha-Methylstyrene	16.87	118	1008	No Calib	#	
81) 2-Ethyltoluene	16.88	105	496	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.62	105	7462	0.110 ng		99
83) n-Decane	16.88	58	365	No Calib	#	
84) Benzyl Chloride	18.77	91	13069	0.215 ng		96
85) 1,3-Dichlorobenzene	18.79	146	4131	0.116 ng		97
86) 1,4-Dichlorobenzene	18.88	146	4130	0.116 ng		97
87) sec-Butylbenzene	18.98	105	10005	0.111 ng		96
88) 4-Isopropyltoluene (p-...	19.19	119	8032	0.110 ng		93
89) 1,2,3-Trimethylbenzene	17.59	105	425	No Calib	#	
90) 1,2-Dichlorobenzene	19.32	146	4045	0.116 ng		95
91) d-Limonene	19.37	68	3147	0.101 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.88	157	2676	0.208 ng	#	77
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.44	180	6555	0.250 ng		99
95) Naphthalene	21.56	128	11555	0.145 ng		98
96) n-Dodecane	18.62	57	434	No Calib	#	
97) Hexachlorobutadiene	22.00	225	1961	0.115 ng		94
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.62	119	6942	0.112 ng		99
100) n-Butylbenzene	19.73	91	8753	0.111 ng		99
101) 1,1,1,2-Tetrachloroethane	14.94	131	1718	0.105 ng	#	90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132202.D Vial: 14
Acq On : 13 May 2022 9:15 Operator: TZ
Sample : 0.1ng R13051322 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102204 (6/9)

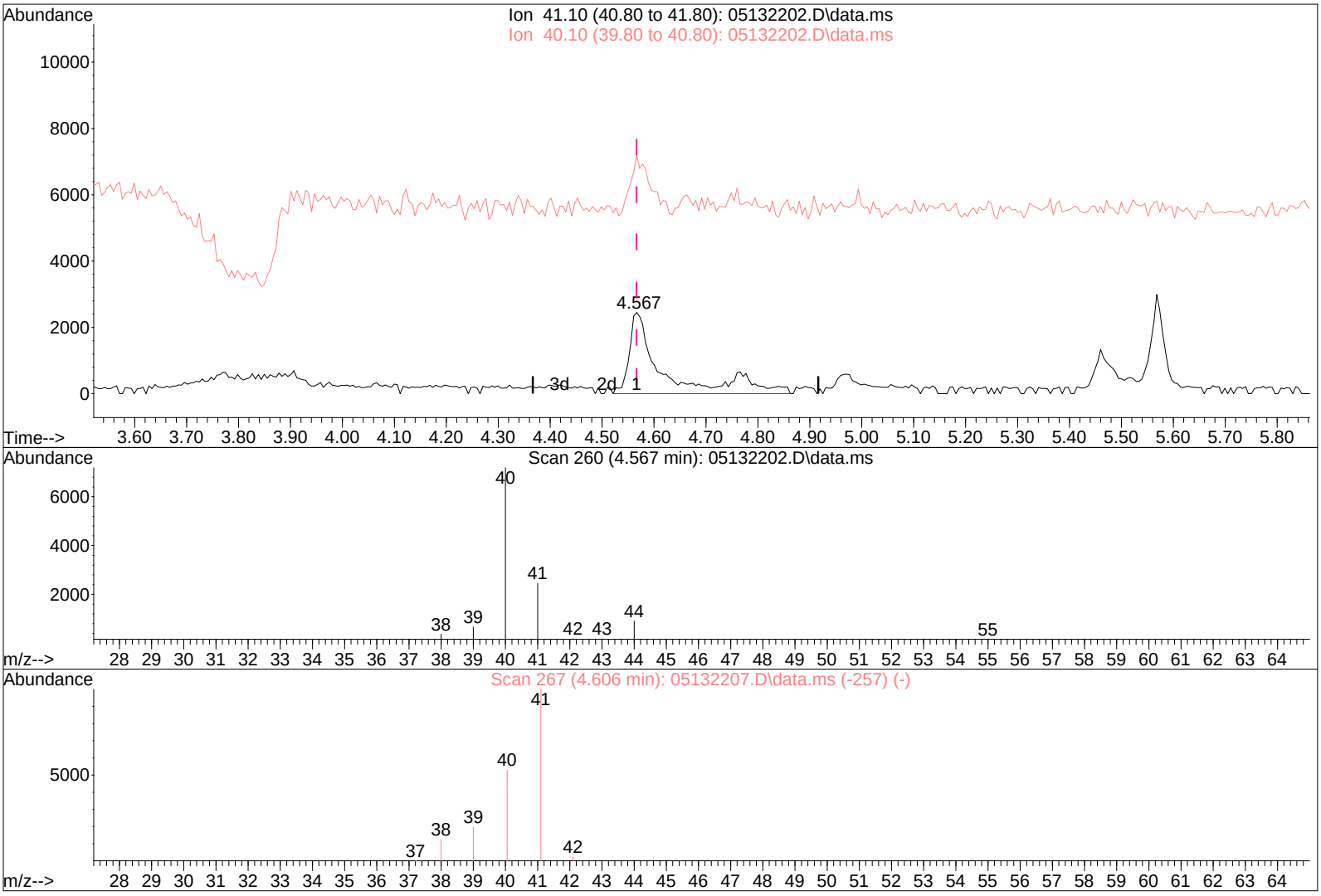
Quant Time: May 13 13:52:24 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 13:04:41 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 05\13\05132202.D Vial: 14
Acq On : 13 May 2022 9:15 Operator: TZ
Sample : 0.1ng R13051322 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102204 (6/9)

Quant Time: May 13 13:51:44 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 13:04:41 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132202.D\data.ms

(11) Acetonitrile (T)

4.567min (0.000) 0.16ng

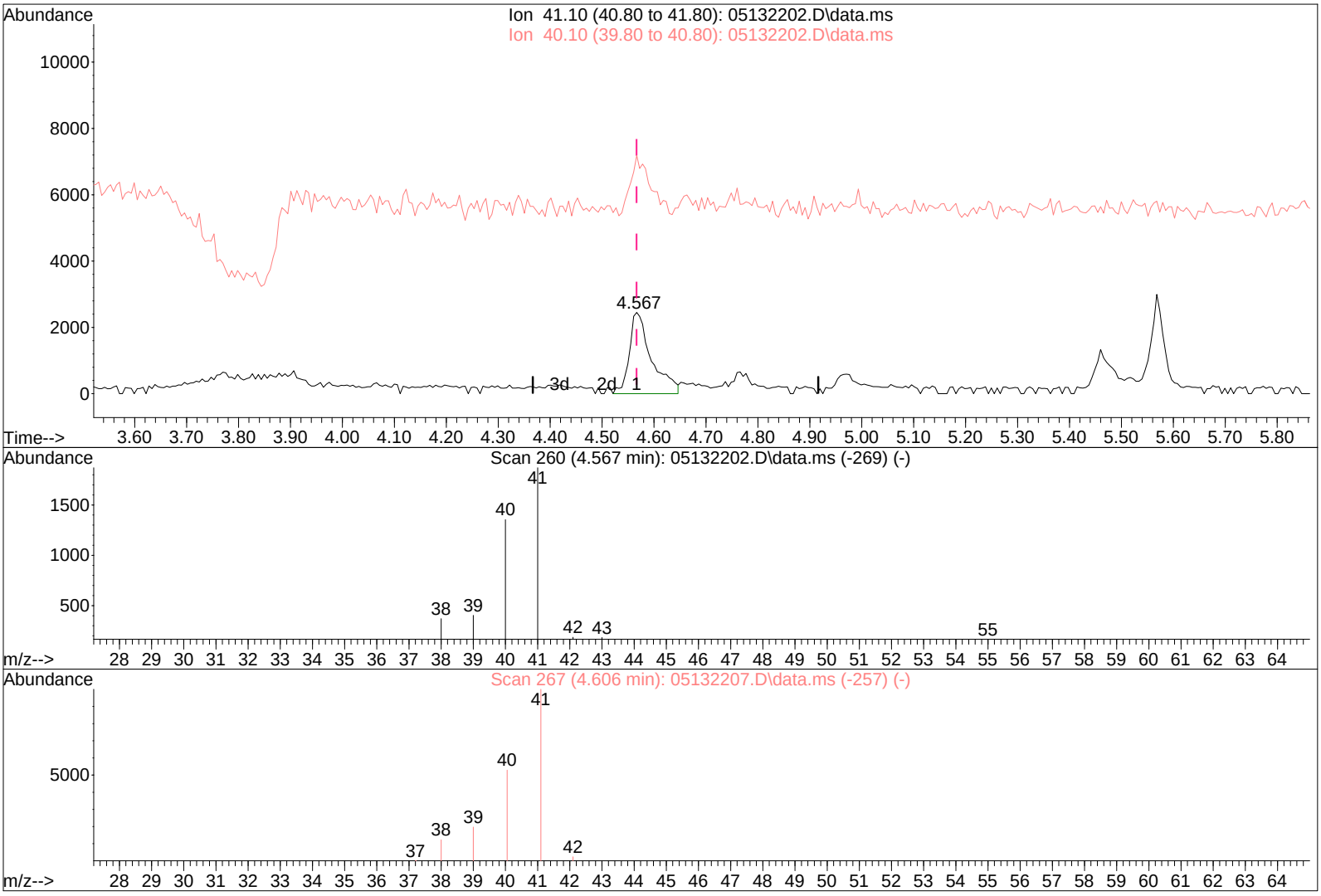
response 10929

Ion	Exp%	Act%
41.10	100	100
40.10	53.40	47.80
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 05\13\05132202.D Vial: 14
Acq On : 13 May 2022 9:15 Operator: TZ
Sample : 0.1ng R13051322 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102204 (6/9)

Quant Time: May 13 13:51:44 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 13:04:41 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132202.D\data.ms

(11) Acetonitrile (T)

4.567min (0.000) 0.11ng m

response 7256

Ion	Exp%	Act%
41.10	100	100
40.10	53.40	72.00
0.00	0.00	0.00
0.00	0.00	0.00

BLC

TZ 5/13/22

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132203.D Vial: 14
Acq On : 13 May 2022 9:53 Operator: TZ
Sample : 0.2ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102204 (6/9)

TZ 5/13/22

Quant Time: May 13 12:59:06 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	193444	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.40	114	889418	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	219853	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	406534	20.420	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 163.36%#				
57) Toluene-d8 (SS2)	12.50	98	1076302	8.119	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.96%#				
73) Bromofluorobenzene (SS3)	16.87	174	293440	5.937	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 47.52%#				
Target Compounds							Qvalue
2) Propene	3.42	42	7693	0.474	ng		97
3) Dichlorodifluoromethan...	3.50	85	7732	0.241	ng		99
4) Chloromethane	3.63	50	7965	0.346	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.74	135	2850	0.152	ng		99
6) Vinyl Chloride	3.82	62	4901	0.195	ng		92
7) 1,3-Butadiene	3.93	54	5877	0.329	ng		93
8) Bromomethane	4.15	94	3488	0.232	ng		96
9) Chloroethane	4.29	64	3091	0.274	ng		94
10) Ethanol	4.40	45	17910	1.572	ng		92
11) Acetonitrile	4.56	41	13287	0.478	ng		81
12) Acrolein	4.66	56	6755	0.691	ng		95
13) Acetone	4.77	58	20513	1.781	ng		96
14) Trichlorofluoromethane	4.89	101	6041	0.210	ng		92
15) 2-Propanol (Isopropanol)	4.96	45	31093	0.844	ng		81
16) Acrylonitrile	5.11	53	13472	0.689	ng		98
17) 1,1-Dichloroethene	5.38	96	3631	0.214	ng		97
18) 2-Methyl-2-Propanol (t...	5.46	59	23956	0.697	ng		89
19) Methylene Chloride	5.47	84	4724	0.261	ng		92
20) 3-Chloro-1-propene (Al...	5.57	41	10383	0.495	ng		90
21) Trichlorotrifluoroethane	5.69	151	2798	0.165	ng		96
22) Carbon Disulfide	5.73	76	39599	0.595	ng		98
23) trans-1,2-Dichloroethene	6.25	61	6908	0.315	ng		96
24) 1,1-Dichloroethane	6.42	63	8205	0.292	ng		97
25) Methyl tert-Butyl Ether	6.50	73	13004	0.282	ng		98
26) Vinyl Acetate	6.56	86	1861	0.606	ng	#	74
27) 2-Butanone (MEK)	6.79	72	5889	0.541	ng		98
28) cis-1,2-Dichloroethene	7.18	61	6498	0.299	ng		99
29) Diisopropyl Ether	7.40	87	6156	0.425	ng	#	78
30) Ethyl Acetate	7.41	61	7978	1.340	ng		100
31) n-Hexane	7.41	57	8554	0.340	ng	#	97
32) Chloroform	7.46	83	7097	0.248	ng		98
34) Tetrahydrofuran (THF)	7.89	72	5605	0.513	ng		93
35) Ethyl tert-Butyl Ether	7.94	87	8753	0.445	ng		93
36) 1,2-Dichloroethane	8.21	62	5927	0.284	ng		97
38) 1,1,1-Trichloroethane	8.49	97	5670	0.196	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.99	78	16347	0.220	ng		98
42) Carbon Tetrachloride	9.16	117	4694	0.183	ng		94
43) Cyclohexane	9.31	84	11576	0.415	ng		97
44) tert-Amyl Methyl Ether	9.71	73	25253	0.503	ng		97
45) 1,2-Dichloropropane	9.95	63	4781	0.263	ng		98
46) Bromodichloromethane	10.16	83	5413	0.212	ng		98
47) Trichloroethene	10.23	130	3407	0.145	ng		94
48) 1,4-Dioxane	10.25	88	3055	0.202	ng		99
49) 2,2,4-Trimethylpentane...	10.33	57	21575	0.296	ng		95
50) Methyl Methacrylate	10.51	100	2538	0.326	ng	#	88

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132203.D Vial: 14
Acq On : 13 May 2022 9:53 Operator: TZ
Sample : 0.2ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102204 (6/9)

Quant Time: May 13 12:59:06 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

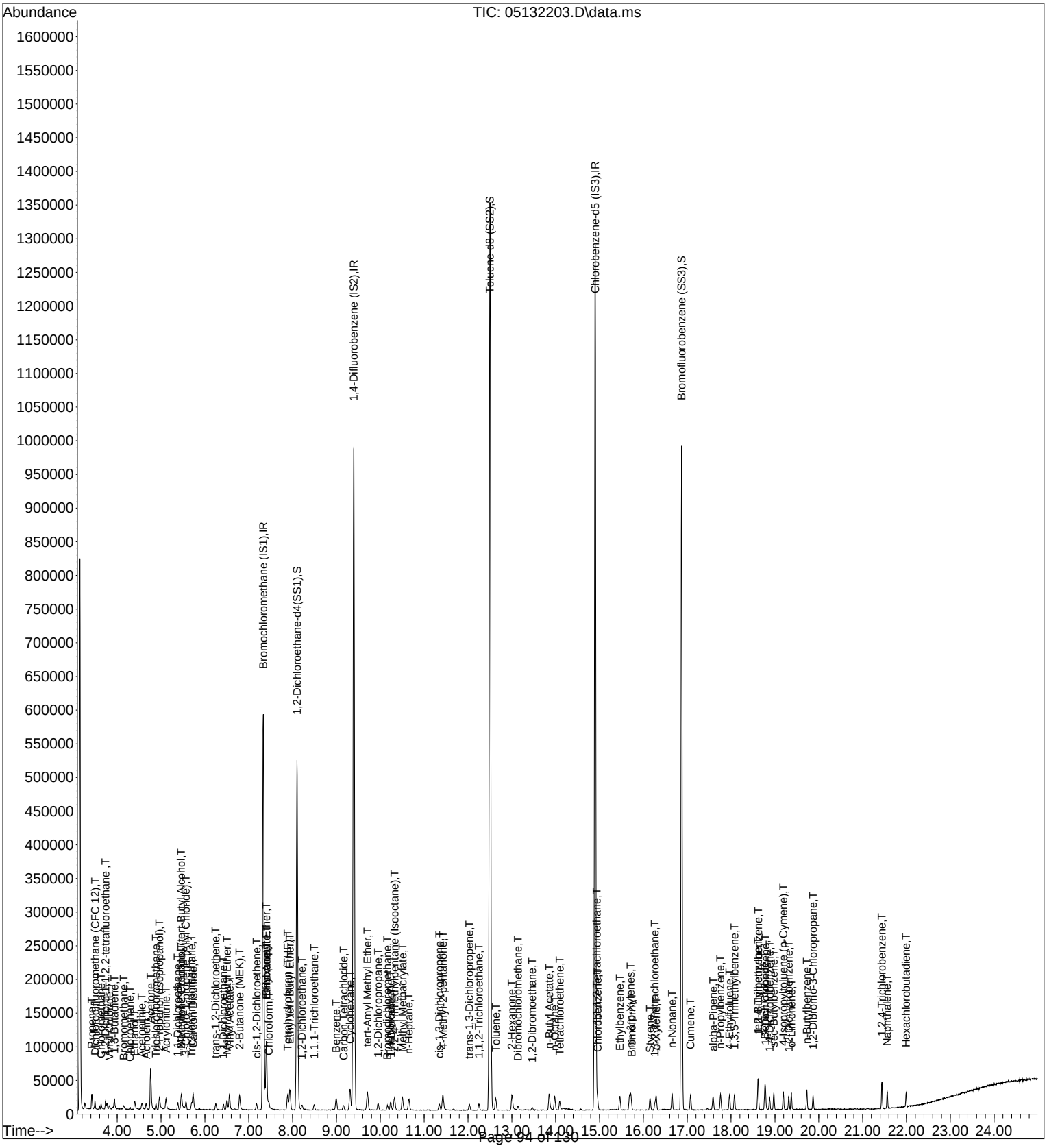
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.65	71	4230	0.234 ng		94
52) cis-1,3-Dichloropropene	11.35	75	6624	0.227 ng		100
53) 4-Methyl-2-pentanone	11.43	58	8761	0.595 ng		93
54) trans-1,3-Dichloropropene	12.03	75	5836	0.221 ng		95
55) 1,1,2-Trichloroethane	12.25	97	3707	0.188 ng		96
58) Toluene	12.63	91	15987	0.119 ng		99
59) 2-Hexanone	13.00	43	25896	0.479 ng		95
60) Dibromochloromethane	13.14	129	4015	0.098 ng		97
61) 1,2-Dibromoethane	13.46	107	4080	0.107 ng		98
62) n-Butyl Acetate	13.85	43	27339	0.462 ng		99
63) n-Octane	13.98	57	4445	0.178 ng		98
64) Tetrachloroethene	14.09	166	3791	0.082 ng		99
65) Chlorobenzene	14.96	112	9504	0.099 ng		97
66) Ethylbenzene	15.46	91	17780	0.118 ng		97
67) m- & p-Xylenes	15.71	91	28320	0.244 ng		100
68) Bromoform	15.73	173	3077	0.079 ng		100
69) Styrene	16.15	104	9504	0.102 ng		98
70) o-Xylene	16.29	91	14145	0.120 ng		98
71) n-Nonane	16.65	43	12269	0.228 ng		96
72) 1,1,2,2-Tetrachloroethane	16.26	83	7057	0.124 ng		94
74) Cumene	17.08	105	16503	0.104 ng		99
75) alpha-Pinene	17.59	93	8965	0.123 ng		93
76) n-Propylbenzene	17.76	91	21606	0.117 ng		98
77) 3-Ethyltoluene	17.08	105	16503	No Calib		
78) 4-Ethyltoluene	17.96	105	16080	0.104 ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	13598	0.106 ng		100
80) alpha-Methylstyrene	16.87	118	1167	No Calib	#	
81) 2-Ethyltoluene	16.88	105	395	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.62	105	13714	0.108 ng		99
83) n-Decane	16.87	58	262	No Calib	#	
84) Benzyl Chloride	18.77	91	23969	0.256 ng		97
85) 1,3-Dichlorobenzene	18.79	146	7389	0.086 ng		98
86) 1,4-Dichlorobenzene	18.88	146	7424	0.085 ng		98
87) sec-Butylbenzene	18.98	105	18194	0.103 ng		97
88) 4-Isopropyltoluene (p-...	19.19	119	14607	0.095 ng		97
89) 1,2,3-Trimethylbenzene	17.54	105	534	No Calib	#	
90) 1,2-Dichlorobenzene	19.32	146	7420	0.090 ng		97
91) d-Limonene	19.37	68	6260	0.148 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.87	157	4825	0.147 ng	#	80
93) n-Undecane	18.07	57	452	No Calib	#	
94) 1,2,4-Trichlorobenzene	21.44	180	11080	0.158 ng		99
95) Naphthalene	21.56	128	17429	0.092 ng		100
96) n-Dodecane	18.61	57	907	No Calib	#	
97) Hexachlorobutadiene	21.99	225	3487	0.071 ng		97
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.61	119	12676	0.099 ng		98
100) n-Butylbenzene	19.73	91	16350	0.120 ng		98
101) 1,1,1,2-Tetrachloroethane	14.94	131	3347	0.094 ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132203.D Vial: 14
Acq On : 13 May 2022 9:53 Operator: TZ
Sample : 0.2ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102204 (6/9)

Quant Time: May 13 12:59:06 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132204.D Vial: 15
Acq On : 13 May 2022 10:30 Operator: TZ
Sample : 0.5ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102203 (6/9)

TZ 5/13/22

Quant Time: May 13 12:59:07 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.34	130	190720	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.40	114	876930	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	219184	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.11	65	400982	20.429	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 163.44%#				
57) Toluene-d8 (SS2)	12.51	98	1058050	8.005	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.08%#				
73) Bromofluorobenzene (SS3)	16.88	174	289793	5.881	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 47.04%#				
Target Compounds							Qvalue
2) Propene	3.42	42	18689	1.167	ng		99
3) Dichlorodifluoromethan...	3.49	85	21154	0.669	ng		98
4) Chloromethane	3.63	50	21872	0.963	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.74	135	8042	0.435	ng		99
6) Vinyl Chloride	3.82	62	13652	0.550	ng		100
7) 1,3-Butadiene	3.93	54	16056	0.912	ng		93
8) Bromomethane	4.15	94	8725	0.589	ng		98
9) Chloroethane	4.29	64	8450	0.759	ng		98
10) Ethanol	4.41	45	42675	3.798	ng		97
11) Acetonitrile	4.57	41	31516	1.150	ng		99
12) Acrolein	4.66	56	17338	1.798	ng		92
13) Acetone	4.76	58	49538	4.363	ng		94
14) Trichlorofluoromethane	4.89	101	17072	0.601	ng		100
15) 2-Propanol (Isopropanol)	4.96	45	79858	2.197	ng		89
16) Acrylonitrile	5.12	53	35951	1.864	ng		99
17) 1,1-Dichloroethene	5.38	96	9920	0.593	ng		98
18) 2-Methyl-2-Propanol (t...	5.45	59	66667	1.967	ng		96
19) Methylene Chloride	5.47	84	11157	0.624	ng		98
20) 3-Chloro-1-propene (Al...	5.57	41	25898	1.253	ng		97
21) Trichlorotrifluoroethane	5.70	151	7695	0.460	ng		98
22) Carbon Disulfide	5.73	76	91865	1.400	ng		99
23) trans-1,2-Dichloroethene	6.25	61	18782	0.869	ng		100
24) 1,1-Dichloroethane	6.43	63	22388	0.809	ng		99
25) Methyl tert-Butyl Ether	6.50	73	34917	0.769	ng		99
26) Vinyl Acetate	6.56	86	5333	1.762	ng	#	79
27) 2-Butanone (MEK)	6.79	72	14875	1.386	ng		93
28) cis-1,2-Dichloroethene	7.18	61	17688	0.827	ng		99
29) Diisopropyl Ether	7.41	87	16649	1.166	ng	#	78
30) Ethyl Acetate	7.41	61	21493	3.662	ng		100
31) n-Hexane	7.41	57	22605	0.910	ng		99
32) Chloroform	7.47	83	19283	0.684	ng		98
34) Tetrahydrofuran (THF)	7.88	72	14497	1.347	ng		95
35) Ethyl tert-Butyl Ether	7.94	87	24332	1.254	ng		97
36) 1,2-Dichloroethane	8.22	62	16172	0.787	ng		100
38) 1,1,1-Trichloroethane	8.50	97	15920	0.559	ng		98
39) Isopropyl Acetate	8.99	61	105	No Calib		#	
40) 1-Butanol	8.97	56	119	No Calib		#	
41) Benzene	9.00	78	44007	0.600	ng		100
42) Carbon Tetrachloride	9.16	117	12883	0.509	ng		98
43) Cyclohexane	9.31	84	30709	1.117	ng		96
44) tert-Amyl Methyl Ether	9.70	73	67323	1.359	ng		98
45) 1,2-Dichloropropane	9.96	63	12799	0.714	ng		100
46) Bromodichloromethane	10.17	83	15200	0.604	ng		98
47) Trichloroethene	10.24	130	9520	0.411	ng		99
48) 1,4-Dioxane	10.23	88	8153	0.548	ng		96
49) 2,2,4-Trimethylpentane...	10.33	57	57336	0.797	ng		96
50) Methyl Methacrylate	10.51	100	7450	0.970	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132204.D Vial: 15
Acq On : 13 May 2022 10:30 Operator: TZ
Sample : 0.5ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102203 (6/9)

Quant Time: May 13 12:59:07 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

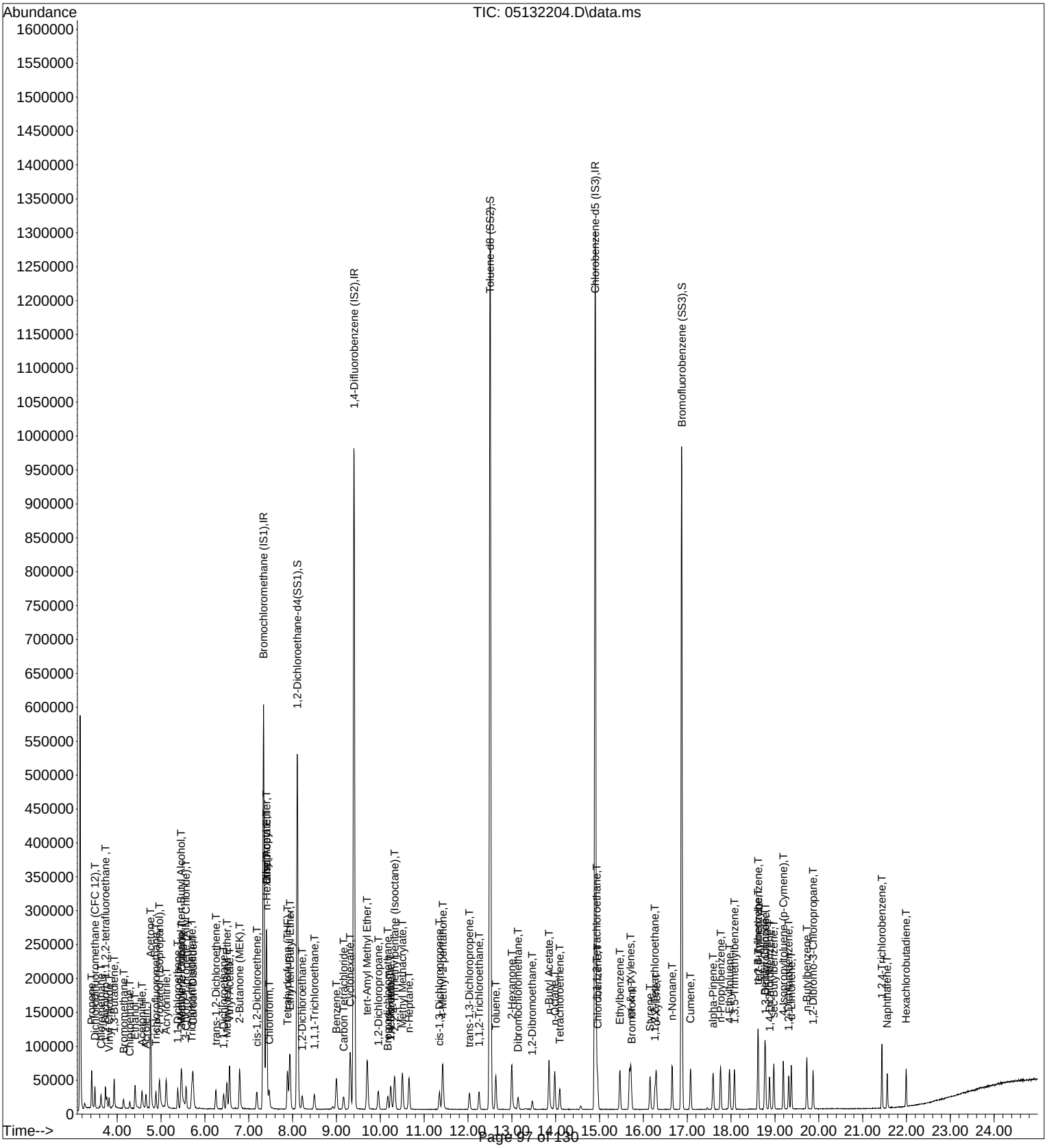
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.66	71	11486	0.644 ng		97
52) cis-1,3-Dichloropropene	11.35	75	18424	0.641 ng		98
53) 4-Methyl-2-pentanone	11.42	58	24247	1.670 ng		96
54) trans-1,3-Dichloropropene	12.03	75	16392	0.630 ng		100
55) 1,1,2-Trichloroethane	12.26	97	9749	0.503 ng		98
58) Toluene	12.64	91	42030	0.313 ng		100
59) 2-Hexanone	13.00	43	68177	1.266 ng		96
60) Dibromochloromethane	13.14	129	11274	0.276 ng		98
61) 1,2-Dibromoethane	13.46	107	10983	0.288 ng		99
62) n-Butyl Acetate	13.85	43	75487	1.281 ng		99
63) n-Octane	13.98	57	12004	0.481 ng		96
64) Tetrachloroethene	14.09	166	9681	0.210 ng		97
65) Chlorobenzene	14.96	112	25565	0.268 ng		100
66) Ethylbenzene	15.46	91	47585	0.317 ng		99
67) m- & p-Xylenes	15.71	91	73916	0.638 ng		100
68) Bromoform	15.73	173	8556	0.219 ng		100
69) Styrene	16.15	104	25438	0.274 ng		98
70) o-Xylene	16.30	91	37843	0.323 ng		99
71) n-Nonane	16.65	43	32430	0.606 ng		96
72) 1,1,2,2-Tetrachloroethane	16.26	83	18926	0.333 ng		100
74) Cumene	17.08	105	43866	0.277 ng		98
75) alpha-Pinene	17.59	93	23990	0.330 ng		98
76) n-Propylbenzene	17.76	91	57718	0.314 ng		99
77) 3-Ethyltoluene	17.08	105	43866	No Calib		
78) 4-Ethyltoluene	17.96	105	42719	0.278 ng		99
79) 1,3,5-Trimethylbenzene	18.08	105	35842	0.281 ng		99
80) alpha-Methylstyrene	16.88	118	1037	No Calib	#	
81) 2-Ethyltoluene	16.86	105	366	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.62	105	35586	0.281 ng		99
83) n-Decane	16.87	58	365	No Calib	#	
84) Benzyl Chloride	18.77	91	62624	0.671 ng		98
85) 1,3-Dichlorobenzene	18.79	146	18401	0.214 ng		97
86) 1,4-Dichlorobenzene	18.88	146	18787	0.216 ng		99
87) sec-Butylbenzene	18.98	105	48618	0.275 ng		98
88) 4-Isopropyltoluene (p-...	19.19	119	39997	0.260 ng		99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	19.31	146	18747	0.227 ng		100
91) d-Limonene	19.37	68	16766	0.398 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.87	157	13074	0.400 ng		88
93) n-Undecane	18.08	57	880	No Calib	#	
94) 1,2,4-Trichlorobenzene	21.44	180	25144	0.361 ng		99
95) Naphthalene	21.56	128	35471	0.188 ng		99
96) n-Dodecane	18.97	57	368	No Calib	#	
97) Hexachlorobutadiene	21.99	225	8955	0.182 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.61	119	33513	0.263 ng		100
100) n-Butylbenzene	19.73	91	41934	0.308 ng		98
101) 1,1,1,2-Tetrachloroethane	14.94	131	9116	0.256 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132204.D Vial: 15
Acq On : 13 May 2022 10:30 Operator: TZ
Sample : 0.5ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102203 (6/9)

Quant Time: May 13 12:59:07 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132205.D Vial: 15
Acq On : 13 May 2022 11:07 Operator: TZ
Sample : 1.0ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102203 (6/9)

TZ 5/13/22

Quant Time: May 13 12:59:10 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.34	130	188059	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.40	114	866642	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	216856	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.11	65	396396	20.481	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 163.84%#				
57) Toluene-d8 (SS2)	12.51	98	1053235	8.054	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 64.40%#				
73) Bromofluorobenzene (SS3)	16.87	174	280407	5.752	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 46.00%#				
Target Compounds							Qvalue
2) Propene	3.41	42	33504	2.122	ng		95
3) Dichlorodifluoromethan...	3.48	85	39739	1.274	ng		100
4) Chloromethane	3.62	50	39944	1.784	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	15618	0.857	ng		100
6) Vinyl Chloride	3.80	62	27923	1.142	ng		99
7) 1,3-Butadiene	3.92	54	27565	1.588	ng		100
8) Bromomethane	4.13	94	16850	1.153	ng		100
9) Chloroethane	4.27	64	15756	1.436	ng		98
10) Ethanol	4.41	45	75983	6.858	ng		96
11) Acetonitrile	4.56	41	57258	2.118	ng		96
12) Acrolein	4.65	56	32646	3.434	ng		94
13) Acetone	4.75	58	92806	8.289	ng		95
14) Trichlorofluoromethane	4.87	101	32196	1.149	ng		97
15) 2-Propanol (Isopropanol)	4.96	45	148168	4.135	ng		91
16) Acrylonitrile	5.11	53	70015	3.681	ng		98
17) 1,1-Dichloroethene	5.37	96	17857	1.083	ng		99
18) 2-Methyl-2-Propanol (t...	5.44	59	125804	3.765	ng		98
19) Methylene Chloride	5.46	84	20847	1.183	ng		98
20) 3-Chloro-1-propene (Al...	5.56	41	50337	2.470	ng		94
21) Trichlorotrifluoroethane	5.69	151	14252	0.863	ng		99
22) Carbon Disulfide	5.72	76	165826	2.564	ng		99
23) trans-1,2-Dichloroethene	6.24	61	35037	1.644	ng		100
24) 1,1-Dichloroethane	6.43	63	41720	1.529	ng		100
25) Methyl tert-Butyl Ether	6.50	73	65016	1.452	ng		99
26) Vinyl Acetate	6.56	86	10300	3.451	ng	#	80
27) 2-Butanone (MEK)	6.79	72	27696	2.618	ng	#	89
28) cis-1,2-Dichloroethene	7.18	61	32771	1.553	ng		99
29) Diisopropyl Ether	7.40	87	30494	2.166	ng	#	71
30) Ethyl Acetate	7.40	61	41834	7.228	ng		95
31) n-Hexane	7.41	57	42069	1.718	ng		99
32) Chloroform	7.46	83	35381	1.273	ng		99
34) Tetrahydrofuran (THF)	7.88	72	26834	2.528	ng		97
35) Ethyl tert-Butyl Ether	7.94	87	45054	2.355	ng		95
36) 1,2-Dichloroethane	8.22	62	30122	1.487	ng		100
38) 1,1,1-Trichloroethane	8.49	97	29419	1.045	ng		99
39) Isopropyl Acetate	8.99	61	653	No Calib		#	
40) 1-Butanol	8.98	56	892	No Calib		#	
41) Benzene	9.00	78	82119	1.132	ng		99
42) Carbon Tetrachloride	9.16	117	24073	0.963	ng		99
43) Cyclohexane	9.31	84	57717	2.125	ng		98
44) tert-Amyl Methyl Ether	9.70	73	125633	2.566	ng		99
45) 1,2-Dichloropropane	9.95	63	24098	1.360	ng		100
46) Bromodichloromethane	10.17	83	27801	1.118	ng		99
47) Trichloroethene	10.24	130	17413	0.760	ng		98
48) 1,4-Dioxane	10.23	88	15910	1.081	ng		99
49) 2,2,4-Trimethylpentane...	10.33	57	107404	1.510	ng		99
50) Methyl Methacrylate	10.50	100	13935	1.836	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132205.D Vial: 15
Acq On : 13 May 2022 11:07 Operator: TZ
Sample : 1.0ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102203 (6/9)

Quant Time: May 13 12:59:10 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

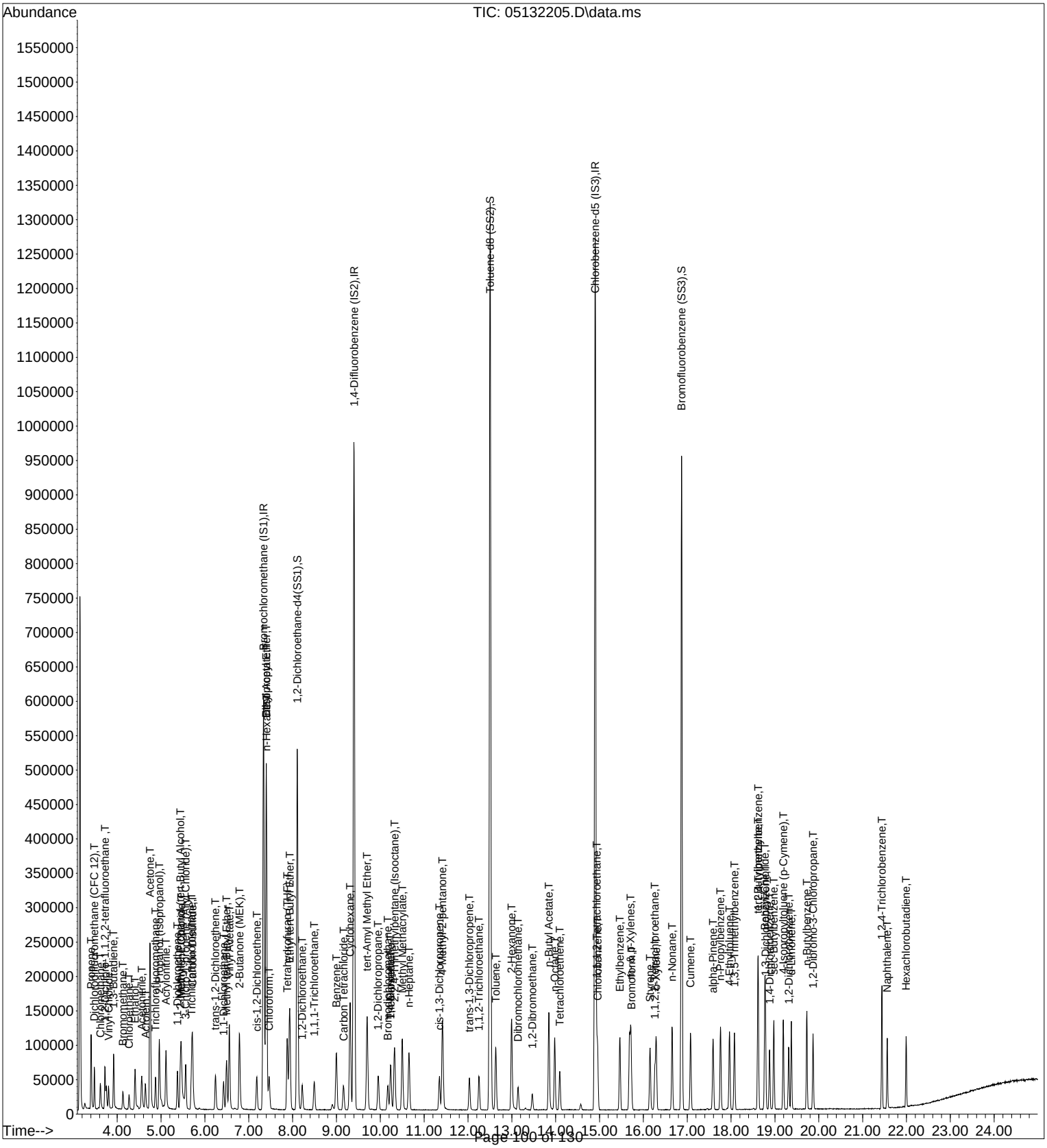
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.66	71	21928	1.245	ng		100
52) cis-1,3-Dichloropropene	11.35	75	34228	1.206	ng		100
53) 4-Methyl-2-pentanone	11.42	58	45695	3.184	ng		95
54) trans-1,3-Dichloropropene	12.03	75	30982	1.205	ng		99
55) 1,1,2-Trichloroethane	12.25	97	18568	0.969	ng		98
58) Toluene	12.64	91	77903	0.586	ng		99
59) 2-Hexanone	12.99	43	130595	2.450	ng		97
60) Dibromochloromethane	13.14	129	20490	0.506	ng		98
61) 1,2-Dibromoethane	13.47	107	20437	0.542	ng		99
62) n-Butyl Acetate	13.84	43	143780	2.465	ng		99
63) n-Octane	13.98	57	22060	0.894	ng		97
64) Tetrachloroethene	14.09	166	18262	0.401	ng		96
65) Chlorobenzene	14.96	112	47106	0.499	ng		99
66) Ethylbenzene	15.46	91	88100	0.593	ng		99
67) m- & p-Xylenes	15.71	91	139009	1.213	ng		100
68) Bromoform	15.73	173	15877	0.412	ng		100
69) Styrene	16.15	104	48370	0.527	ng		100
70) o-Xylene	16.29	91	69589	0.601	ng		98
71) n-Nonane	16.65	43	60258	1.138	ng		97
72) 1,1,2,2-Tetrachloroethane	16.26	83	36043	0.642	ng		100
74) Cumene	17.08	105	81364	0.520	ng		99
75) alpha-Pinene	17.59	93	45121	0.628	ng		96
76) n-Propylbenzene	17.76	91	107467	0.590	ng		99
77) 3-Ethyltoluene	17.08	105	81364	No Calib			
78) 4-Ethyltoluene	17.96	105	80236	0.529	ng		98
79) 1,3,5-Trimethylbenzene	18.08	105	67203	0.532	ng		99
80) alpha-Methylstyrene	16.87	118	967	No Calib		#	
81) 2-Ethyltoluene	16.87	105	348	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.62	105	67841	0.542	ng		100
83) n-Decane	16.87	58	404	No Calib		#	
84) Benzyl Chloride	18.77	91	120611	1.306	ng		98
85) 1,3-Dichlorobenzene	18.79	146	35272	0.414	ng		100
86) 1,4-Dichlorobenzene	18.88	146	34418	0.400	ng		99
87) sec-Butylbenzene	18.98	105	91903	0.526	ng		98
88) 4-Isopropyltoluene (p-...	19.19	119	73160	0.481	ng		98
89) 1,2,3-Trimethylbenzene	17.53	105	217	No Calib		#	
90) 1,2-Dichlorobenzene	19.32	146	34047	0.417	ng		99
91) d-Limonene	19.37	68	32353	0.777	ng		97
92) 1,2-Dibromo-3-Chloropr...	19.87	157	24788	0.766	ng		91
93) n-Undecane	18.07	57	998	No Calib		#	
94) 1,2,4-Trichlorobenzene	21.44	180	47585	0.690	ng		98
95) Naphthalene	21.56	128	67804	0.364	ng		99
96) n-Dodecane	18.97	57	910	No Calib		#	
97) Hexachlorobutadiene	21.99	225	16427	0.338	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.61	119	61961	0.492	ng		100
100) n-Butylbenzene	19.73	91	78715	0.585	ng		99
101) 1,1,1,2-Tetrachloroethane	14.94	131	16860	0.478	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132205.D Vial: 15
Acq On : 13 May 2022 11:07 Operator: TZ
Sample : 1.0ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102203 (6/9)

Quant Time: May 13 12:59:10 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132206.D Vial: 15
Acq On : 13 May 2022 11:44 Operator: TZ
Sample : 5.0ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102203 (6/9)

TZ 5/13/22

Quant Time: May 13 12:59:11 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.36	130	186516	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.41	114	867102	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	220399	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.12	65	395938	20.627	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 165.04%#				
57) Toluene-d8 (SS2)	12.51	98	1056231	7.947	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 63.60%#				
73) Bromofluorobenzene (SS3)	16.88	174	283793	5.728	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 45.84%#				
Target Compounds							Qvalue
2) Propene	3.38	42	212611	13.580	ng		100
3) Dichlorodifluoromethan...	3.47	85	187828	6.070	ng		100
4) Chloromethane	3.60	50	148614	6.691	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	75498	4.175	ng		99
6) Vinyl Chloride	3.79	62	131736	5.430	ng		100
7) 1,3-Butadiene	3.91	54	98104	5.698	ng		94
8) Bromomethane	4.12	94	77133	5.323	ng		98
9) Chloroethane	4.26	64	76103	6.991	ng		100
10) Ethanol	4.43	45	331596	30.177	ng		99
11) Acetonitrile	4.57	41	276263	10.305	ng		98
12) Acrolein	4.65	56	157478	16.702	ng		100
13) Acetone	4.75	58	435288	39.199	ng		96
14) Trichlorofluoromethane	4.87	101	152470	5.487	ng		99
15) 2-Propanol (Isopropanol)	4.98	45	555437	15.628	ng		97
16) Acrylonitrile	5.12	53	338651	17.953	ng		100
17) 1,1-Dichloroethene	5.37	96	86685	5.301	ng		97
18) 2-Methyl-2-Propanol (t...	5.45	59	588531	17.758	ng		98
19) Methylene Chloride	5.48	84	98118	5.613	ng		98
20) 3-Chloro-1-propene (Al...	5.57	41	245000	12.121	ng		95
21) Trichlorotrifluoroethane	5.69	151	66574	4.067	ng		99
22) Carbon Disulfide	5.72	76	777078	12.113	ng		100
23) trans-1,2-Dichloroethene	6.26	61	172667	8.170	ng		99
24) 1,1-Dichloroethane	6.44	63	199164	7.361	ng		100
25) Methyl tert-Butyl Ether	6.49	73	316610	7.127	ng		100
26) Vinyl Acetate	6.57	86	53315	18.010	ng	#	86
27) 2-Butanone (MEK)	6.79	72	140431	13.384	ng	#	93
28) cis-1,2-Dichloroethene	7.20	61	160454	7.667	ng		99
29) Diisopropyl Ether	7.40	87	148244	10.616	ng	#	74
30) Ethyl Acetate	7.41	61	201847	35.164	ng		96
31) n-Hexane	7.41	57	203475	8.376	ng		100
32) Chloroform	7.49	83	168510	6.113	ng		100
34) Tetrahydrofuran (THF)	7.88	72	130356	12.382	ng		97
35) Ethyl tert-Butyl Ether	7.94	87	220849	11.641	ng		95
36) 1,2-Dichloroethane	8.23	62	146105	7.273	ng		100
38) 1,1,1-Trichloroethane	8.50	97	140126	4.976	ng		99
39) Isopropyl Acetate	9.31	61	747	No Calib		#	
40) 1-Butanol	8.93	56	6527	No Calib		#	
41) Benzene	9.01	78	395555	5.451	ng		100
42) Carbon Tetrachloride	9.17	117	118326	4.732	ng		99
43) Cyclohexane	9.32	84	280943	10.337	ng		98
44) tert-Amyl Methyl Ether	9.70	73	615839	12.571	ng		99
45) 1,2-Dichloropropane	9.96	63	118807	6.702	ng		100
46) Bromodichloromethane	10.18	83	137778	5.540	ng		100
47) Trichloroethene	10.25	130	86657	3.781	ng		98
48) 1,4-Dioxane	10.23	88	79115	5.374	ng		99
49) 2,2,4-Trimethylpentane...	10.33	57	517693	7.276	ng		99
50) Methyl Methacrylate	10.50	100	70122	9.234	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132206.D Vial: 15
Acq On : 13 May 2022 11:44 Operator: TZ
Sample : 5.0ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102203 (6/9)

Quant Time: May 13 12:59:11 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

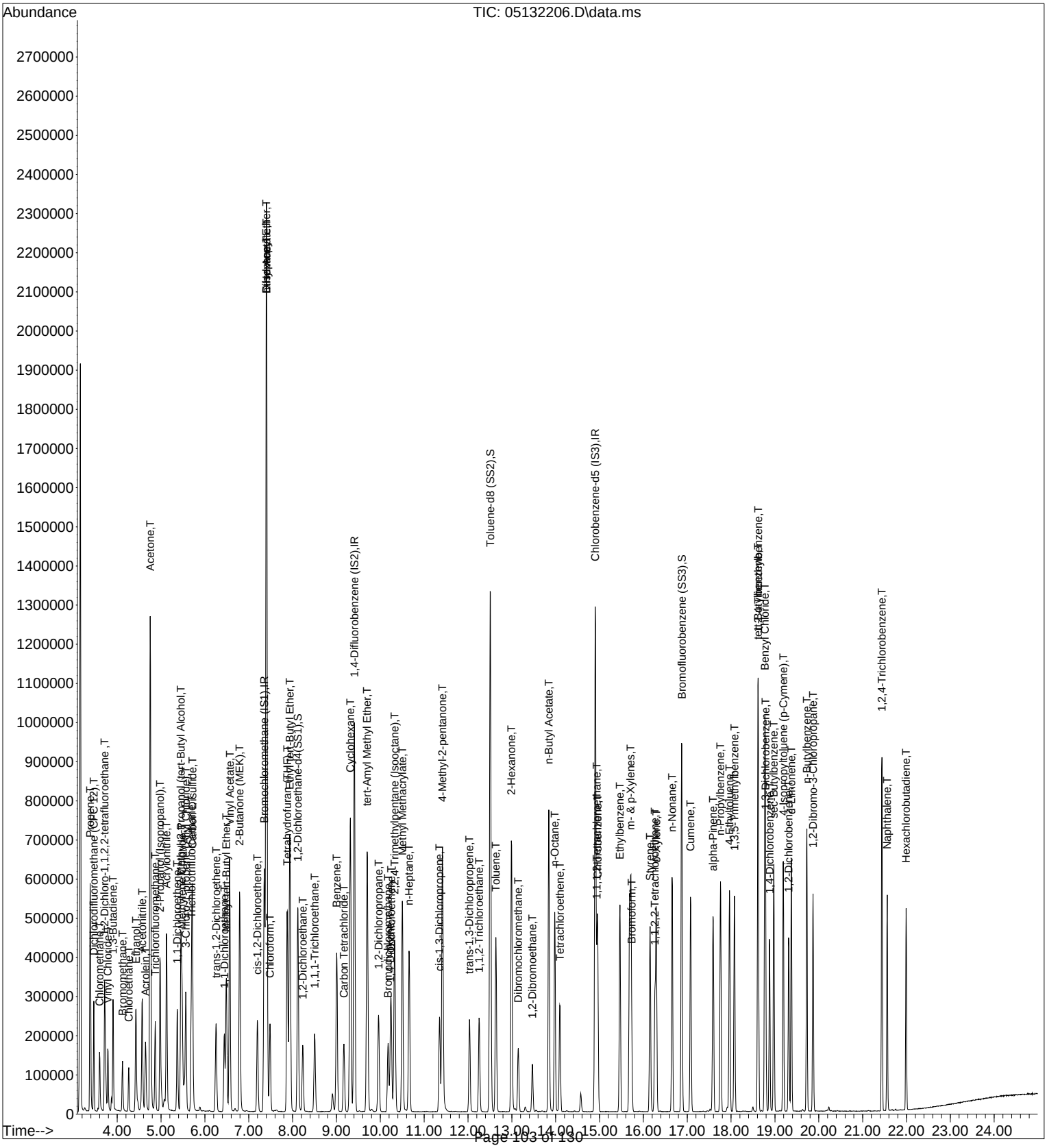
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.66	71	104454	5.927	ng		99
52) cis-1,3-Dichloropropene	11.35	75	171385	6.035	ng		99
53) 4-Methyl-2-pentanone	11.42	58	230026	16.018	ng		97
54) trans-1,3-Dichloropropene	12.03	75	157635	6.127	ng		99
55) 1,1,2-Trichloroethane	12.26	97	89518	4.668	ng		99
58) Toluene	12.64	91	378232	2.799	ng		100
59) 2-Hexanone	12.99	43	654221	12.077	ng		98
60) Dibromochloromethane	13.15	129	101916	2.479	ng		100
61) 1,2-Dibromoethane	13.47	107	101306	2.642	ng		100
62) n-Butyl Acetate	13.84	43	728567	12.292	ng		99
63) n-Octane	13.98	57	107488	4.288	ng		98
64) Tetrachloroethene	14.10	166	87304	1.885	ng		100
65) Chlorobenzene	14.96	112	231571	2.415	ng		100
66) Ethylbenzene	15.46	91	431720	2.861	ng		99
67) m- & p-Xylenes	15.71	91	688433	5.909	ng		100
68) Bromoform	15.73	173	81006	2.066	ng		100
69) Styrene	16.15	104	244355	2.622	ng		99
70) o-Xylene	16.30	91	343310	2.916	ng		99
71) n-Nonane	16.65	43	296050	5.500	ng		98
72) 1,1,2,2-Tetrachloroethane	16.26	83	178465	3.126	ng		99
74) Cumene	17.08	105	404139	2.541	ng		100
75) alpha-Pinene	17.59	93	227372	3.114	ng		100
76) n-Propylbenzene	17.76	91	534072	2.887	ng		99
77) 3-Ethyltoluene	17.08	105	404139	No Calib			
78) 4-Ethyltoluene	17.96	105	397155	2.574	ng		99
79) 1,3,5-Trimethylbenzene	18.08	105	332670	2.591	ng		99
80) alpha-Methylstyrene	16.87	118	1089	No Calib		#	
81) 2-Ethyltoluene	16.86	105	421	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.62	105	339721	2.668	ng		100
83) n-Decane	16.88	58	430	No Calib		#	
84) Benzyl Chloride	18.77	91	630040	6.713	ng		99
85) 1,3-Dichlorobenzene	18.79	146	175117	2.022	ng		100
86) 1,4-Dichlorobenzene	18.88	146	174007	1.989	ng		100
87) sec-Butylbenzene	18.98	105	455633	2.566	ng		100
88) 4-Isopropyltoluene (p-...	19.19	119	368242	2.381	ng		100
89) 1,2,3-Trimethylbenzene	17.52	105	2328	No Calib		#	
90) 1,2-Dichlorobenzene	19.31	146	171100	2.061	ng		100
91) d-Limonene	19.37	68	165678	3.915	ng		98
92) 1,2-Dibromo-3-Chloropr...	19.87	157	129288	3.931	ng		95
93) n-Undecane	18.07	57	7302	No Calib		#	
94) 1,2,4-Trichlorobenzene	21.44	180	242016	3.453	ng		99
95) Naphthalene	21.56	128	352517	1.862	ng		99
96) n-Dodecane	18.82	57	609	No Calib		#	
97) Hexachlorobutadiene	21.99	225	83126	1.681	ng		100
98) Cyclohexanone	15.46	55	234	No Calib		#	
99) tert-Butylbenzene	18.61	119	311879	2.437	ng		99
100) n-Butylbenzene	19.73	91	399983	2.923	ng		99
101) 1,1,1,2-Tetrachloroethane	14.94	131	82277	2.295	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132206.D Vial: 15
Acq On : 13 May 2022 11:44 Operator: TZ
Sample : 5.0ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102203 (6/9)

Quant Time: May 13 12:59:11 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132207.D Vial: 16
Acq On : 13 May 2022 12:22 Operator: TZ
Sample : 25ng R13051222 ICAL Std. Inst : GCMS13 TZ 5/13/22
Misc : S35-03142201/S35-05102201 (6/9)

Quant Time: May 13 12:59:12 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.39	130	195402	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.43	114	898946	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.91	54	229144	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.15	65	410330	20.404	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 163.20%#			
57) Toluene-d8 (SS2)	12.52	98	1097602	7.944	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 63.52%#			
73) Bromofluorobenzene (SS3)	16.88	174	301032	5.844	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 46.72%#			
Target Compounds						Qvalue
2) Propene	3.39	42	975510	59.474	ng	100
3) Dichlorodifluoromethan...	3.47	85	966312	29.807	ng	100
4) Chloromethane	3.60	50	908652	39.052	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	393355	20.765	ng	100
6) Vinyl Chloride	3.80	62	713424	28.070	ng	100
7) 1,3-Butadiene	3.92	54	508040	28.167	ng	100
8) Bromomethane	4.14	94	416357	27.428	ng	100
9) Chloroethane	4.28	64	389900	34.189	ng	100
10) Ethanol	4.47	45	1846401	160.392	ng	100
11) Acetonitrile	4.61	41	1387119	49.386	ng	100
12) Acrolein	4.67	56	808048	81.803	ng	100
13) Acetone	4.79	58	2116738	181.951	ng	100
14) Trichlorofluoromethane	4.89	101	796045	27.343	ng	100
15) 2-Propanol (Isopropanol)	5.02	45	3103576	83.352	ng	100
16) Acrylonitrile	5.16	53	1727160	87.399	ng	100
17) 1,1-Dichloroethene	5.39	96	453057	26.446	ng	100
18) 2-Methyl-2-Propanol (t...	5.49	59	2967820	85.477	ng	100
19) Methylene Chloride	5.51	84	508993	27.794	ng	100
20) 3-Chloro-1-propene (Al...	5.59	41	1195614	56.461	ng	100
21) Trichlorotrifluoroethane	5.70	151	358827	20.922	ng	100
22) Carbon Disulfide	5.74	76	3992446	59.405	ng	100
23) trans-1,2-Dichloroethene	6.29	61	912979	41.233	ng	100
24) 1,1-Dichloroethane	6.47	63	1042625	36.784	ng	100
25) Methyl tert-Butyl Ether	6.51	73	1665250	35.782	ng	100
26) Vinyl Acetate	6.60	86	294363	94.913	ng	100
27) 2-Butanone (MEK)	6.82	72	731645	66.559	ng	100
28) cis-1,2-Dichloroethene	7.23	61	852710	38.890	ng	100
29) Diisopropyl Ether	7.42	87	735580	50.281	ng	100
30) Ethyl Acetate	7.43	61	935064	155.492	ng	100
31) n-Hexane	7.42	57	930504	36.561	ng	100
32) Chloroform	7.51	83	897250	31.068	ng	100
34) Tetrahydrofuran (THF)	7.90	72	679799	61.637	ng	100
35) Ethyl tert-Butyl Ether	7.96	87	1174301	59.080	ng	100
36) 1,2-Dichloroethane	8.25	62	767930	36.489	ng	100
38) 1,1,1-Trichloroethane	8.53	97	748429	25.634	ng	100
39) Isopropyl Acetate	9.19	61	313	No Calib	#	
40) 1-Butanol	8.93	56	31493	No Calib		
41) Benzene	9.03	78	2069223	27.505	ng	100
42) Carbon Tetrachloride	9.19	117	626523	24.167	ng	100
43) Cyclohexane	9.34	84	1470402	52.187	ng	100
44) tert-Amyl Methyl Ether	9.72	73	3211525	63.232	ng	100
45) 1,2-Dichloropropane	9.98	63	617808	33.614	ng	100
46) Bromodichloromethane	10.19	83	735211	28.515	ng	100
47) Trichloroethene	10.26	130	459738	19.351	ng	100
48) 1,4-Dioxane	10.25	88	418810	27.439	ng	100
49) 2,2,4-Trimethylpentane...	10.34	57	2694845	36.535	ng	100
50) Methyl Methacrylate	10.52	100	375641	47.716	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132207.D Vial: 16
Acq On : 13 May 2022 12:22 Operator: TZ
Sample : 25ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102201 (6/9)

Quant Time: May 13 12:59:12 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

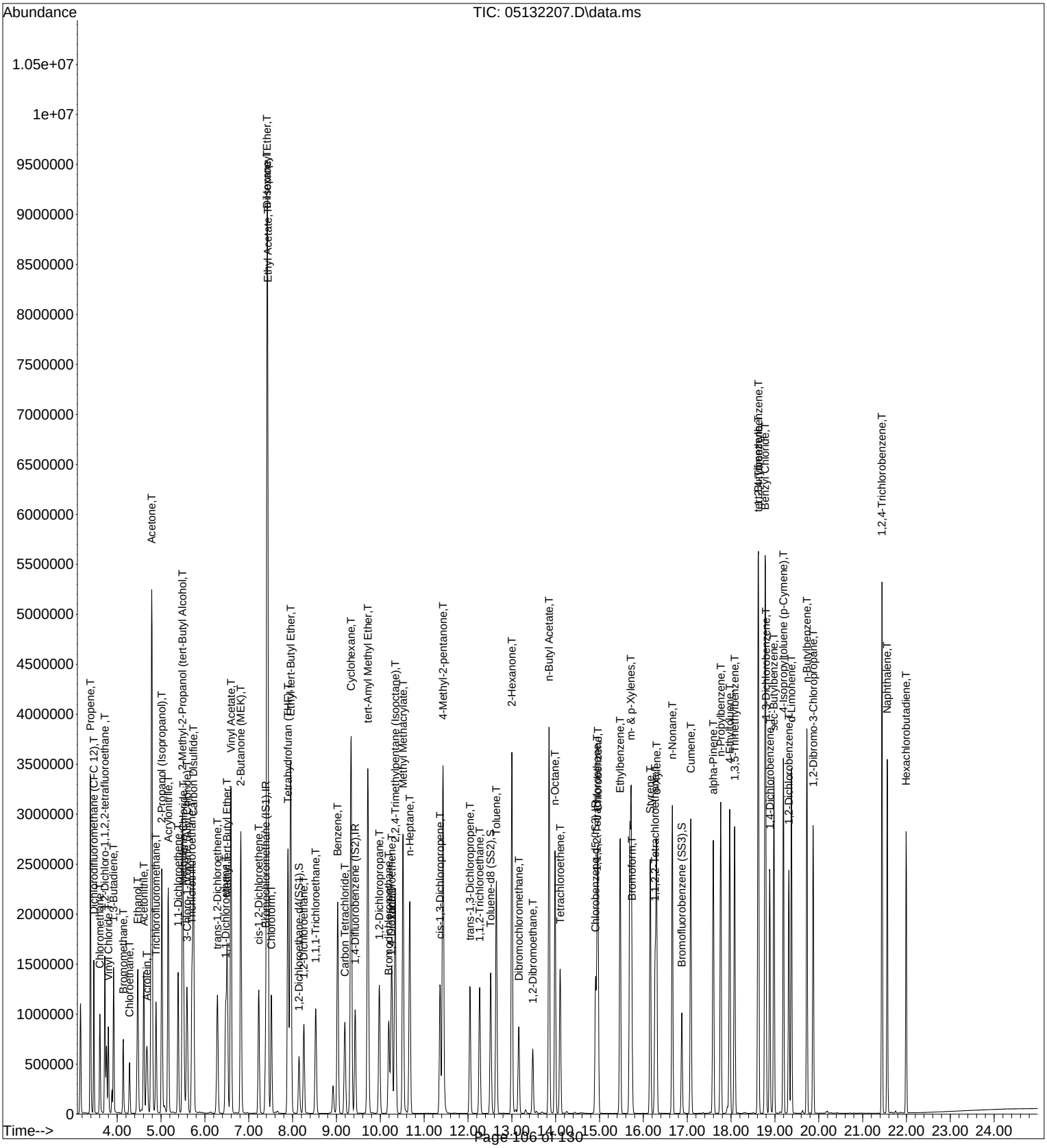
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.67	71	549119	30.054 ng		100
52) cis-1,3-Dichloropropene	11.36	75	917468	31.160 ng		100
53) 4-Methyl-2-pentanone	11.43	58	1197067	80.407 ng		100
54) trans-1,3-Dichloropropene	12.04	75	844013	31.643 ng		100
55) 1,1,2-Trichloroethane	12.27	97	477570	24.021 ng		100
58) Toluene	12.65	91	1987187	14.147 ng		100
59) 2-Hexanone	13.00	43	3327284	59.080 ng		100
60) Dibromochloromethane	13.16	129	557865	13.050 ng		100
61) 1,2-Dibromoethane	13.48	107	544687	13.664 ng		100
62) n-Butyl Acetate	13.85	43	3709076	60.190 ng		100
63) n-Octane	13.99	57	556721	21.359 ng		100
64) Tetrachloroethene	14.10	166	471233	9.787 ng		100
65) Chlorobenzene	14.96	112	1243920	12.477 ng		100
66) Ethylbenzene	15.47	91	2286371	14.575 ng		100
67) m- & p-Xylenes	15.72	91	3660294	30.220 ng		100
68) Bromoform	15.74	173	455241	11.166 ng		100
69) Styrene	16.16	104	1360466	14.039 ng		100
70) o-Xylene	16.30	91	1824922	14.908 ng		100
71) n-Nonane	16.66	43	1510154	26.984 ng		100
72) 1,1,2,2-Tetrachloroethane	16.27	83	945161	15.925 ng		100
74) Cumene	17.08	105	2159600	13.059 ng		100
75) alpha-Pinene	17.59	93	1219835	16.067 ng		100
76) n-Propylbenzene	17.76	91	2836535	14.746 ng		100
77) 3-Ethyltoluene	17.08	105	2159600	No Calib		
78) 4-Ethyltoluene	17.97	105	2151596	13.413 ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	1799461	13.479 ng		100
80) alpha-Methylstyrene	16.88	118	1103	No Calib	#	
81) 2-Ethyltoluene	16.88	105	421	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.62	105	1830418	13.829 ng		100
83) n-Decane	16.93	58	515	No Calib	#	
84) Benzyl Chloride	18.78	91	3478821	35.651 ng		100
85) 1,3-Dichlorobenzene	18.79	146	968851	10.761 ng		100
86) 1,4-Dichlorobenzene	18.89	146	982239	10.800 ng		100
87) sec-Butylbenzene	18.98	105	2447151	13.256 ng		100
88) 4-Isopropyltoluene (p-...	19.19	119	2003882	12.461 ng		100
89) 1,2,3-Trimethylbenzene	17.37	105	359	No Calib	#	
90) 1,2-Dichlorobenzene	19.32	146	950406	11.009 ng		100
91) d-Limonene	19.37	68	905483	20.581 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.88	157	721545	21.103 ng		100
93) n-Undecane	18.08	57	51089	No Calib	#	
94) 1,2,4-Trichlorobenzene	21.44	180	1435006	19.691 ng		100
95) Naphthalene	21.56	128	2314073	11.754 ng		100
96) n-Dodecane	18.82	57	2832	No Calib		
97) Hexachlorobutadiene	21.99	225	464146	9.027 ng		100
98) Cyclohexanone	15.35	55	184	No Calib	#	
99) tert-Butylbenzene	18.62	119	1655254	12.442 ng		100
100) n-Butylbenzene	19.73	91	2129252	14.969 ng		100
101) 1,1,1,2-Tetrachloroethane	14.94	131	446077	11.966 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132207.D Vial: 16
Acq On : 13 May 2022 12:22 Operator: TZ
Sample : 25ng R13051222 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102201 (6/9)

Quant Time: May 13 12:59:12 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 12:58:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132208.D Vial: 16
Acq On : 13 May 2022 12:59 Operator: TZ
Sample : 50ng R13051322 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102201 (6/9)

TZ 5/16/22

Quant Time: May 13 14:12:23 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 14:12:13 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.39	130	198913	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.44	114	938429	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.91	54	234315	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.16	65	415837	12.469	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
57) Toluene-d8 (SS2)	12.52	98	1136564	12.478	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	16.88	174	319050	12.898	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%				
Target Compounds							Qvalue
2) Propene	3.39	42	2139998	55.458	ng		99
3) Dichlorodifluoromethan...	3.47	85	1950291	49.829	ng		100
4) Chloromethane	3.61	50	1506123	38.411	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	802155	54.514	ng		100
6) Vinyl Chloride	3.80	62	1350584	51.338	ng		100
7) 1,3-Butadiene	3.93	54	962549	35.869	ng		99
8) Bromomethane	4.15	94	846892	49.060	ng		100
9) Chloroethane	4.29	64	789179	48.783	ng		100
10) Ethanol	4.49	45	3603244	153.757	ng		100
11) Acetonitrile	4.62	41	2777843	40.462	ng		100
12) Acrolein	4.69	56	1614293	93.126	ng		100
13) Acetone	4.80	58	3906129	203.454	ng		96
14) Trichlorofluoromethane	4.89	101	1628676	50.396	ng		100
15) 2-Propanol (Isopropanol)	5.03	45	5028183	67.705	ng		100
16) Acrylonitrile	5.18	53	3374204	94.801	ng		100
17) 1,1-Dichloroethene	5.40	96	930175	51.392	ng		98
18) 2-Methyl-2-Propanol (t...	5.51	59	4803992	78.858	ng		100
19) Methylene Chloride	5.52	84	1027218	46.616	ng		96
20) 3-Chloro-1-propene (Al...	5.60	41	2379829	46.284	ng		98
21) Trichlorotrifluoroethane	5.71	151	737973	53.596	ng		98
22) Carbon Disulfide	5.75	76	7865493	87.065	ng		100
23) trans-1,2-Dichloroethene	6.30	61	1851792	52.746	ng		99
24) 1,1-Dichloroethane	6.48	63	2067361	49.716	ng		100
25) Methyl tert-Butyl Ether	6.51	73	3381439	51.741	ng		100
26) Vinyl Acetate	6.61	86	595302	190.935	ng	#	83
27) 2-Butanone (MEK)	6.83	72	1459540	100.787	ng	#	93
28) cis-1,2-Dichloroethene	7.24	61	1713439	51.457	ng		99
29) Diisopropyl Ether	7.42	87	1295917	85.831	ng	#	83
30) Ethyl Acetate	7.45	61	1555227	151.458	ng		96
31) n-Hexane	7.42	57	1553770	37.264	ng		99
32) Chloroform	7.53	83	1811232	51.805	ng		100
34) Tetrahydrofuran (THF)	7.90	72	1347814	90.903	ng		96
35) Ethyl tert-Butyl Ether	7.96	87	2349662	104.370	ng		95
36) 1,2-Dichloroethane	8.27	62	1554672	52.078	ng		100
38) 1,1,1-Trichloroethane	8.54	97	1543186	50.989	ng		99
39) Isopropyl Acetate	9.19	61	970	No Calib		#	
40) 1-Butanol	8.93	56	65194	No Calib			
41) Benzene	9.03	78	4182111	49.060	ng		100
42) Carbon Tetrachloride	9.20	117	1303411	52.675	ng		100
43) Cyclohexane	9.34	84	2922419	97.006	ng		98
44) tert-Amyl Methyl Ether	9.72	73	6309993	96.786	ng		99
45) 1,2-Dichloropropane	9.98	63	1253656	49.737	ng		100
46) Bromodichloromethane	10.20	83	1509858	51.920	ng		100
47) Trichloroethene	10.27	130	952602	50.980	ng		100
48) 1,4-Dioxane	10.25	88	860128	53.106	ng		99
49) 2,2,4-Trimethylpentane...	10.35	57	5362858	49.310	ng		100
50) Methyl Methacrylate	10.53	100	769089	108.111	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132208.D Vial: 16
Acq On : 13 May 2022 12:59 Operator: TZ
Sample : 50ng R13051322 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102201 (6/9)

Quant Time: May 13 14:12:23 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 14:12:13 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

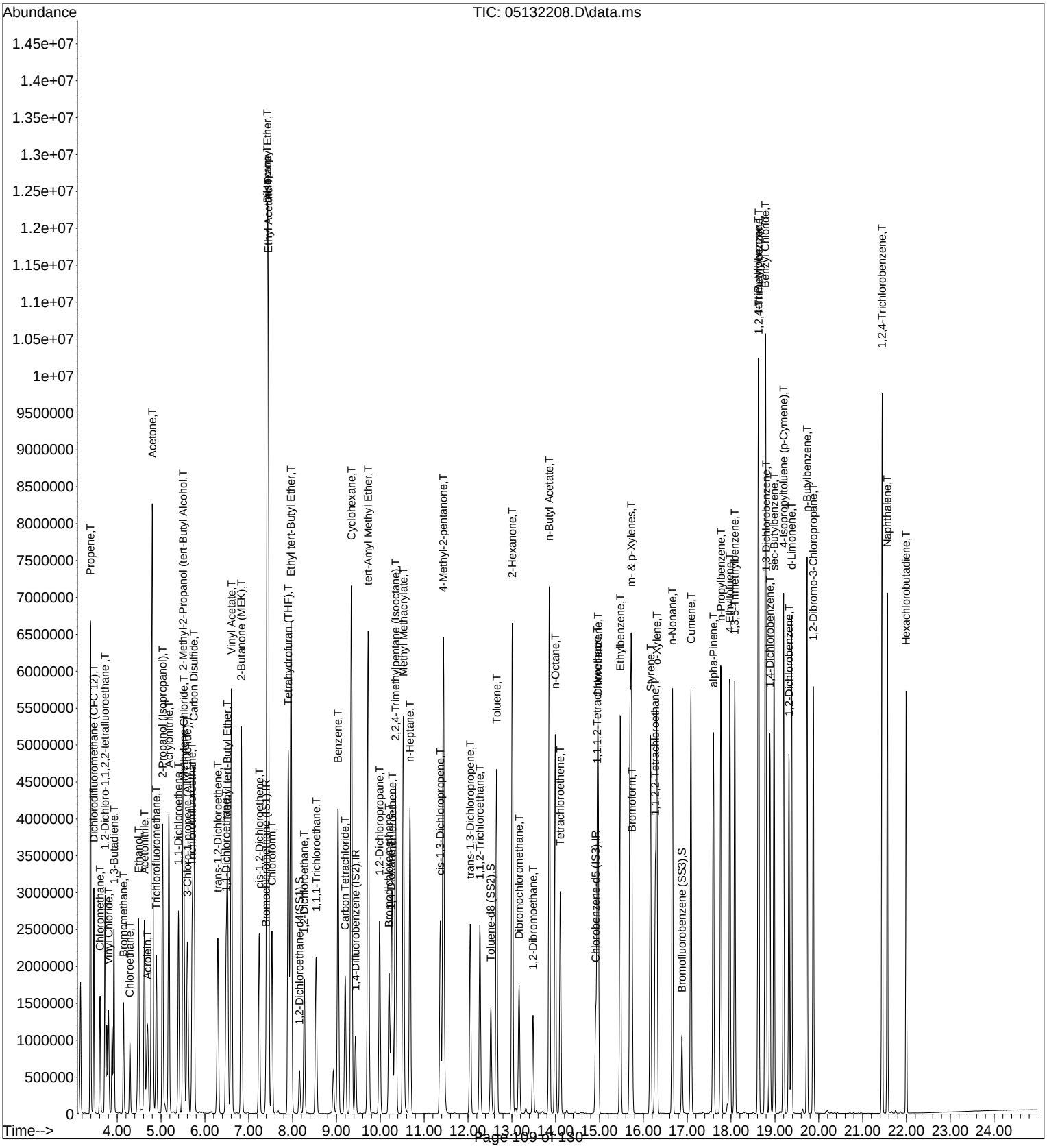
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.68	71	1108307	50.238 ng		99
52) cis-1,3-Dichloropropene	11.37	75	1879156	53.207 ng		100
53) 4-Methyl-2-pentanone	11.44	58	2338286	99.990 ng		97
54) trans-1,3-Dichloropropene	12.05	75	1736514	52.306 ng		100
55) 1,1,2-Trichloroethane	12.27	97	984945	50.871 ng		99
58) Toluene	12.65	91	4021290	48.273 ng		100
59) 2-Hexanone	13.01	43	6318042	91.728 ng		99
60) Dibromochloromethane	13.17	129	1161754	54.460 ng		99
61) 1,2-Dibromoethane	13.48	107	1130699	52.043 ng		100
62) n-Butyl Acetate	13.85	43	7046366	92.945 ng		99
63) n-Octane	13.99	57	1105707	48.844 ng		98
64) Tetrachloroethene	14.10	166	985846	50.254 ng		100
65) Chlorobenzene	14.97	112	2532624	50.354 ng		100
66) Ethylbenzene	15.48	91	4621703	49.242 ng		99
67) m- & p-Xylenes	15.72	91	7304125	97.622 ng		99
68) Bromoform	15.74	173	948718	55.762 ng		100
69) Styrene	16.16	104	2779519	53.487 ng		100
70) o-Xylene	16.31	91	3727671	50.389 ng		100
71) n-Nonane	16.66	43	2921458	46.358 ng		99
72) 1,1,2,2-Tetrachloroethane	16.27	83	1922401	51.375 ng		100
74) Cumene	17.09	105	4364147	50.401 ng		99
75) alpha-Pinene	17.60	93	2432325	53.011 ng		100
76) n-Propylbenzene	17.77	91	5649736	50.084 ng		99
77) 3-Ethyltoluene	17.09	105	4364147	No Calib		
78) 4-Ethyltoluene	17.97	105	4358252	52.252 ng		99
79) 1,3,5-Trimethylbenzene	18.08	105	3667894	51.537 ng		100
80) alpha-Methylstyrene	16.88	118	1205	No Calib	#	
81) 2-Ethyltoluene	16.88	105	890	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.63	105	3535461	48.584 ng		100
83) n-Decane	16.92	58	1137	No Calib	#	
84) Benzyl Chloride	18.78	91	6541810	99.999 ng		98
85) 1,3-Dichlorobenzene	18.80	146	1931518	50.628 ng		100
86) 1,4-Dichlorobenzene	18.89	146	2045557	53.529 ng		100
87) sec-Butylbenzene	18.98	105	4920651	50.782 ng		99
88) 4-Isopropyltoluene (p-...	19.20	119	4037486	51.528 ng		99
89) 1,2,3-Trimethylbenzene	17.37	105	1192	No Calib	#	
90) 1,2-Dichlorobenzene	19.32	146	1976497	52.962 ng		100
91) d-Limonene	19.38	68	1794802	53.785 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.88	157	1481486	106.970 ng		97
93) n-Undecane	18.08	58	108559	No Calib		
94) 1,2,4-Trichlorobenzene	21.45	180	2840235	100.830 ng		100
95) Naphthalene	21.57	128	4717913	54.956 ng		100
96) n-Dodecane	18.82	57	5693	No Calib	#	
97) Hexachlorobutadiene	21.99	225	964539	52.657 ng		99
98) Cyclohexanone	15.27	55	1438	No Calib	#	
99) tert-Butylbenzene	18.62	119	3186858	47.949 ng		99
100) n-Butylbenzene	19.73	91	4220286	49.877 ng		99
101) 1,1,1,2-Tetrachloroethane	14.95	131	923038	52.487 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132208.D Vial: 16
Acq On : 13 May 2022 12:59 Operator: TZ
Sample : 50ng R13051322 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102201 (6/9)

Quant Time: May 13 14:12:23 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 14:12:13 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132209.D Vial: 16
Acq On : 13 May 2022 13:36 Operator: TZ
Sample : 100ng R13051322 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102201 (6/9)

TZ 5/13/22

Quant Time: May 13 14:13:07 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 14:12:13 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.41	130	193700	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.44	114	1002589	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.91	54	243106	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.17	65	413232	12.724	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	12.53	98	1196124	12.657	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
73) Bromofluorobenzene (SS3)	16.88	174	343114	13.370	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.96%				
Target Compounds							Qvalue
2) Propene	3.39	42	4035623	107.397	ng		98
3) Dichlorodifluoromethan...	3.47	85	3749318	98.370	ng		99
4) Chloromethane	3.61	50	1861480	48.751	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.74	135	1559479	108.833	ng		100
6) Vinyl Chloride	3.81	62	2301620	89.843	ng		100
7) 1,3-Butadiene	3.94	54	1740618	66.609	ng		93
8) Bromomethane	4.16	94	1647718	98.020	ng		99
9) Chloroethane	4.30	64	1556549	98.807	ng		99
10) Ethanol	4.51	45	6498174	284.751	ng		99
11) Acetonitrile	4.64	41	5405524	80.856	ng		100
12) Acrolein	4.70	56	3147689	186.472	ng		97
13) Acetone	4.82	58	6543104	349.976	ng		93
14) Trichlorofluoromethane	4.90	101	3290677	104.564	ng		100
15) 2-Propanol (Isopropanol)	5.06	45	8328995	115.169	ng		99
16) Acrylonitrile	5.20	53	6323045	182.432	ng		100
17) 1,1-Dichloroethene	5.41	96	1880417	106.689	ng		94
18) 2-Methyl-2-Propanol (t...	5.52	59	5571646	93.920	ng		98
19) Methylene Chloride	5.54	84	2001372	93.268	ng		92
20) 3-Chloro-1-propene (Al...	5.62	41	4649001	92.849	ng		96
21) Trichlorotrifluoroethane	5.72	151	1463033	109.114	ng		95
22) Carbon Disulfide	5.76	76	13942933	158.491	ng		98
23) trans-1,2-Dichloroethene	6.31	61	3646957	106.675	ng		97
24) 1,1-Dichloroethane	6.50	63	3902111	96.363	ng		99
25) Methyl tert-Butyl Ether	6.52	73	6469540	101.658	ng		99
26) Vinyl Acetate	6.62	86	1121760	369.472	ng	#	57
27) 2-Butanone (MEK)	6.85	72	2683858	190.319	ng	#	81
28) cis-1,2-Dichloroethene	7.25	61	3320758	102.411	ng		97
29) Diisopropyl Ether	7.43	87	1997995	135.893	ng	#	78
30) Ethyl Acetate	7.47	61	2391724	239.189	ng		94
31) n-Hexane	7.43	57	2384748	58.732	ng		98
32) Chloroform	7.55	83	3539431	103.959	ng		100
34) Tetrahydrofuran (THF)	7.91	72	2488721	172.368	ng	#	91
35) Ethyl tert-Butyl Ether	7.98	87	4333999	197.693	ng	#	88
36) 1,2-Dichloroethane	8.28	62	3039755	104.565	ng		99
38) 1,1,1-Trichloroethane	8.54	97	3115275	96.346	ng		99
39) Isopropyl Acetate	9.21	61	2244	No Calib		#	
40) 1-Butanol	8.94	56	137156	No Calib			
41) Benzene	9.05	78	8120595	89.167	ng		100
42) Carbon Tetrachloride	9.21	117	2677478	101.280	ng		100
43) Cyclohexane	9.35	84	5337883	165.845	ng		95
44) tert-Amyl Methyl Ether	9.73	73	11278517	161.925	ng		98
45) 1,2-Dichloropropane	10.00	63	2462688	91.451	ng		100
46) Bromodichloromethane	10.21	83	3066091	98.687	ng		100
47) Trichloroethene	10.29	130	1923344	96.345	ng		100
48) 1,4-Dioxane	10.26	88	1689025	97.611	ng		97
49) 2,2,4-Trimethylpentane...	10.35	57	10122945	87.120	ng		98
50) Methyl Methacrylate	10.54	100	1507547	198.355	ng	#	90

Data File : I:\MS13\DATA\2022 05\13\05132209.D Vial: 16
Acq On : 13 May 2022 13:36 Operator: TZ
Sample : 100ng R13051322 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102201 (6/9)

Quant Time: May 13 14:13:07 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 14:12:13 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

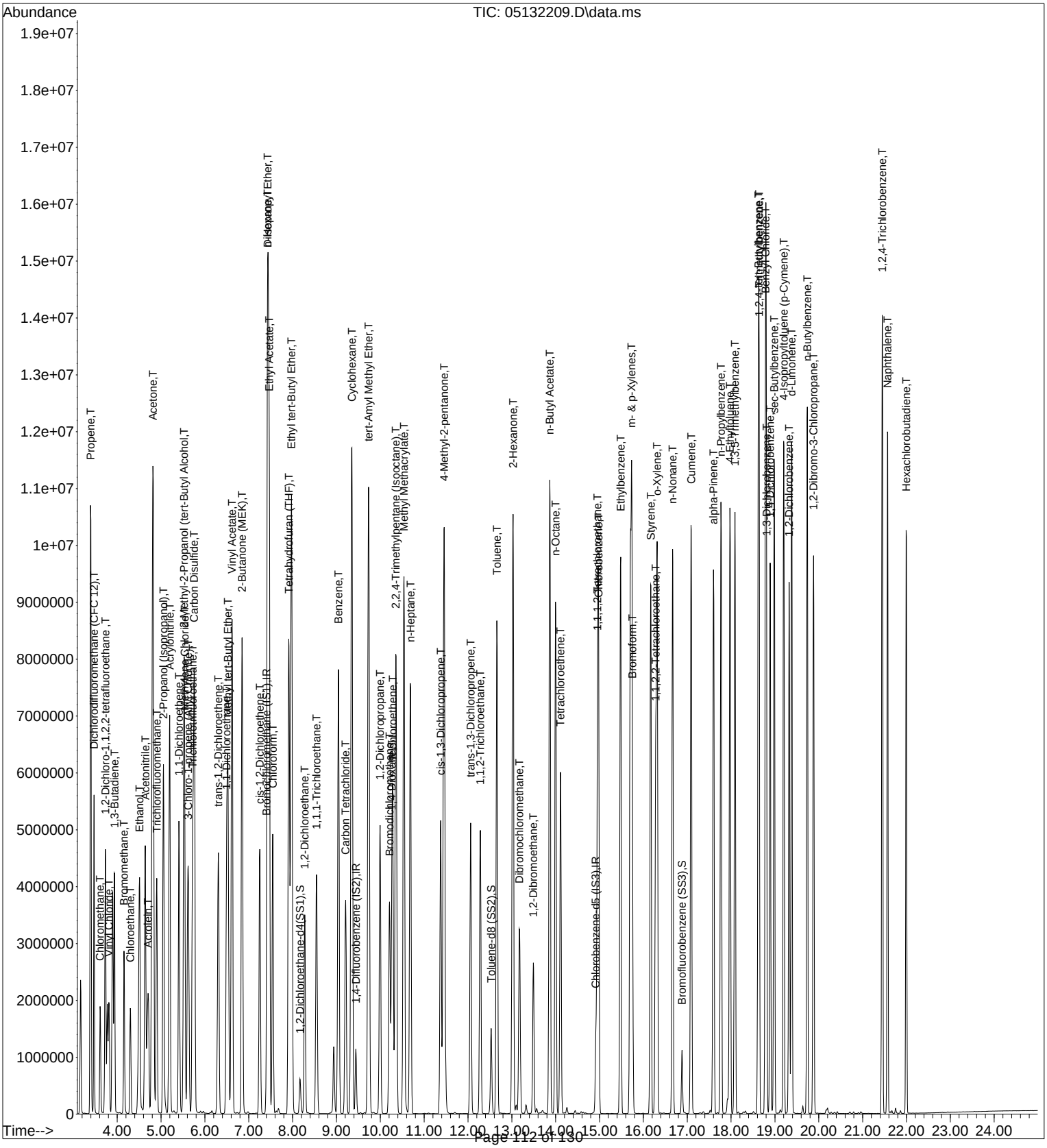
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.69	71	2160294	91.656	ng		97
52) cis-1,3-Dichloropropene	11.38	75	3749399	99.367	ng		100
53) 4-Methyl-2-pentanone	11.46	58	4257130	170.393	ng		94
54) trans-1,3-Dichloropropene	12.06	75	3472147	97.892	ng		100
55) 1,1,2-Trichloroethane	12.28	97	1984435	95.934	ng		99
58) Toluene	12.66	91	7705588	89.156	ng		99
59) 2-Hexanone	13.03	43	11141351	155.905	ng		98
60) Dibromochloromethane	13.17	129	2405848	108.701	ng		99
61) 1,2-Dibromoethane	13.49	107	2286982	101.456	ng		100
62) n-Butyl Acetate	13.87	43	12141891	154.366	ng		97
63) n-Octane	14.00	57	2053437	87.429	ng		96
64) Tetrachloroethene	14.11	166	2032309	99.851	ng		99
65) Chlorobenzene	14.98	112	4847727	92.898	ng		99
66) Ethylbenzene	15.48	91	8746802	89.823	ng		98
67) m- & p-Xylenes	15.73	91	13112633	168.917	ng		98
68) Bromoform	15.75	173	1834645	103.935	ng		99
69) Styrene	16.17	104	5382262	99.827	ng		99
70) o-Xylene	16.31	91	7075782	92.189	ng		99
71) n-Nonane	16.67	43	5247442	80.255	ng		97
72) 1,1,2,2-Tetrachloroethane	16.28	83	3705972	95.459	ng		100
74) Cumene	17.09	105	8184467	91.104	ng		98
75) alpha-Pinene	17.60	93	4618955	97.026	ng		100
76) n-Propylbenzene	17.77	91	10349432	88.429	ng		97
77) 3-Ethyltoluene	17.09	105	8184467	No Calib			
78) 4-Ethyltoluene	17.97	105	8198143	94.735	ng		98
79) 1,3,5-Trimethylbenzene	18.09	105	6969509	94.387	ng		99
80) alpha-Methylstyrene	16.89	118	1170	No Calib		#	
81) 2-Ethyltoluene	16.88	105	611	No Calib			
82) 1,2,4-Trimethylbenzene	18.64	105	5985475	79.277	ng		99
83) n-Decane	16.93	58	2664	No Calib		#	
84) Benzyl Chloride	18.79	91	10391219	153.098	ng		97
85) 1,3-Dichlorobenzene	18.81	146	3288114	83.070	ng		99
86) 1,4-Dichlorobenzene	18.89	146	4044831	102.020	ng		100
87) sec-Butylbenzene	18.98	105	8950801	89.033	ng		97
88) 4-Isopropyltoluene (p-...	19.20	119	7369513	90.651	ng		97
89) 1,2,3-Trimethylbenzene	17.37	105	1701	No Calib		#	
90) 1,2-Dichlorobenzene	19.32	146	3916525	101.151	ng		99
91) d-Limonene	19.38	68	3260257	94.168	ng		95
92) 1,2-Dibromo-3-Chloropr...	19.88	157	2818801	196.170	ng		95
93) n-Undecane	18.09	58	193154	No Calib			
94) 1,2,4-Trichlorobenzene	21.45	180	4903186	167.772	ng		100
95) Naphthalene	21.57	128	8716606	97.863	ng		98
96) n-Dodecane	18.83	57	10863	No Calib		#	
97) Hexachlorobutadiene	22.00	225	1911955	100.606	ng		99
98) Cyclohexanone	15.35	55	1058	No Calib		#	
99) tert-Butylbenzene	18.62	119	5452721	79.074	ng		99
100) n-Butylbenzene	19.74	91	7507601	85.519	ng		98
101) 1,1,1,2-Tetrachloroethane	14.95	131	1790027	98.106	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132209.D Vial: 16
Acq On : 13 May 2022 13:36 Operator: TZ
Sample : 100ng R13051322 ICAL Std. Inst : GCMS13
Misc : S35-03142201/S35-05102201 (6/9)

Quant Time: May 13 14:13:07 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 14:12:13 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132211.D Vial: 1
Acq On : 13 May 2022 14:48 Operator: TZ
Sample : 25ng R13051322 ICV Std. Inst : GCMS13
Misc : S35-03142201/S35-05052205 (6/4)

TZ 5/13/22

Quant Time: May 13 15:11:26 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 14:15:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.38	130	215375	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.43	114	991133	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.91	54	236799	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.15	65	441568	12.205	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
57) Toluene-d8 (SS2)	12.52	98	1190292	12.913	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%				
73) Bromofluorobenzene (SS3)	16.88	174	321336	12.694	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
Target Compounds							Qvalue
2) Propene	3.38	42	986561	23.323	ng		100
3) Dichlorodifluoromethan...	3.46	85	1035722	24.793	ng		100
4) Chloromethane	3.60	50	986892	24.095	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	423787	26.542	ng		100
6) Vinyl Chloride	3.80	62	689475	24.664	ng		100
7) 1,3-Butadiene	3.92	54	579750	21.776	ng		98
8) Bromomethane	4.13	94	467593	25.260	ng		100
9) Chloroethane	4.28	64	421297	24.279	ng		100
10) Ethanol	4.47	45	2269671	93.711	ng		100
11) Acetonitrile	4.61	41	1424687	19.811	ng		100
12) Acrolein	4.67	56	872801	47.309	ng		100
13) Acetone	4.79	58	2176974	112.328	ng		97
14) Trichlorofluoromethane	4.89	101	859761	24.589	ng		100
15) 2-Propanol (Isopropanol)	5.02	45	3315621	45.558	ng		100
16) Acrylonitrile	5.16	53	1775169	47.047	ng		100
17) 1,1-Dichloroethene	5.39	96	495057	25.396	ng		96
18) 2-Methyl-2-Propanol (t...	5.49	59	2987436	50.335	ng		99
19) Methylene Chloride	5.51	84	544403	23.422	ng		96
20) 3-Chloro-1-propene (Al...	5.59	41	1153622	21.346	ng		98
21) Trichlorotrifluoroethane	5.70	151	391716	26.265	ng		98
22) Carbon Disulfide	5.74	76	4145597	44.706	ng		100
23) trans-1,2-Dichloroethene	6.29	61	957327	25.179	ng		98
24) 1,1-Dichloroethane	6.47	63	1120949	25.324	ng		100
25) Methyl tert-Butyl Ether	6.51	73	1735112	24.663	ng		99
26) Vinyl Acetate	6.59	86	467603	134.974	ng	#	84
27) 2-Butanone (MEK)	6.82	72	766717	49.502	ng		95
28) cis-1,2-Dichloroethene	7.22	61	896839	24.955	ng		98
29) Diisopropyl Ether	7.42	87	778633	51.140	ng	#	61
30) Ethyl Acetate	7.43	61	693540	68.093	ng		98
31) n-Hexane	7.42	57	980070	23.891	ng		100
32) Chloroform	7.51	83	958923	25.523	ng		100
34) Tetrahydrofuran (THF)	7.90	72	744157	47.555	ng		96
35) Ethyl tert-Butyl Ether	7.96	87	1239050	51.244	ng		97
36) 1,2-Dichloroethane	8.25	62	809338	25.136	ng		100
38) 1,1,1-Trichloroethane	8.53	97	809077	25.609	ng		99
39) Isopropyl Acetate	9.19	61	297	No Calib		#	
40) 1-Butanol	8.94	56	17314	No Calib		#	
41) Benzene	9.03	78	2252700	25.660	ng		100
42) Carbon Tetrachloride	9.19	117	644056	24.743	ng		100
43) Cyclohexane	9.34	84	1560349	50.697	ng		98
44) tert-Amyl Methyl Ether	9.72	73	3358031	50.662	ng		99
45) 1,2-Dichloropropane	9.98	63	656331	25.114	ng		100
46) Bromodichloromethane	10.19	83	785529	25.805	ng		100
47) Trichloroethene	10.26	130	508309	25.999	ng		100
48) 1,4-Dioxane	10.24	88	443716	26.070	ng		98
49) 2,2,4-Trimethylpentane...	10.34	57	2761715	24.811	ng		99
50) Methyl Methacrylate	10.52	100	402191	53.576	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132211.D Vial: 1
Acq On : 13 May 2022 14:48 Operator: TZ
Sample : 25ng R13051322 ICV Std. Inst : GCMS13
Misc : S35-03142201/S35-05052205 (6/4)

Quant Time: May 13 15:11:26 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 14:15:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

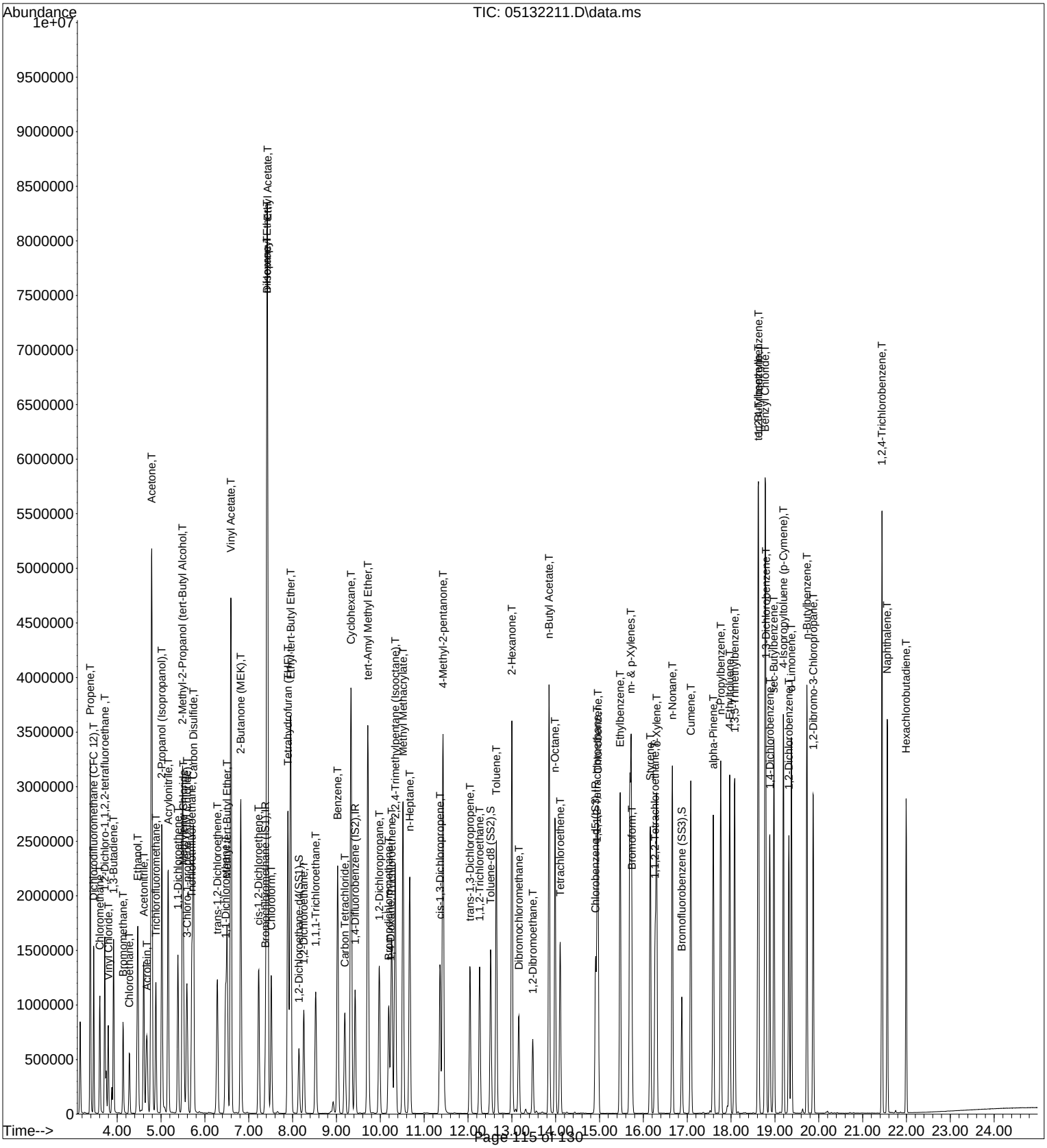
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.67	71	575764	25.248	ng		98
52) cis-1,3-Dichloropropene	11.36	75	977659	26.342	ng		100
53) 4-Methyl-2-pentanone	11.43	58	1215873	50.616	ng		98
54) trans-1,3-Dichloropropene	12.04	75	892097	25.426	ng		100
55) 1,1,2-Trichloroethane	12.27	97	512474	25.376	ng		100
58) Toluene	12.65	91	2135386	26.006	ng		100
59) 2-Hexanone	13.00	43	3291561	49.415	ng		99
60) Dibromochloromethane	13.16	129	582192	26.762	ng		99
61) 1,2-Dibromoethane	13.48	107	578677	26.433	ng		100
62) n-Butyl Acetate	13.85	43	3729649	50.788	ng		99
63) n-Octane	13.99	57	574022	25.857	ng		99
64) Tetrachloroethene	14.10	166	514046	26.169	ng		100
65) Chlorobenzene	14.96	112	1329027	26.607	ng		100
66) Ethylbenzene	15.47	91	2456490	26.467	ng		100
67) m- & p-Xylenes	15.72	91	3914374	53.316	ng		100
68) Bromoform	15.74	173	480167	27.678	ng		100
69) Styrene	16.16	104	1424020	27.089	ng		100
70) o-Xylene	16.30	91	1960509	26.706	ng		100
71) n-Nonane	16.66	43	1540893	25.258	ng		99
72) 1,1,2,2-Tetrachloroethane	16.27	83	1000502	26.773	ng		100
74) Cumene	17.08	105	2277173	26.536	ng		100
75) alpha-Pinene	17.59	93	1245235	27.263	ng		99
76) n-Propylbenzene	17.76	91	2946800	26.525	ng		100
77) 3-Ethyltoluene	17.08	105	2277173	No Calib			
78) 4-Ethyltoluene	17.97	105	2231701	26.880	ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	1915761	26.977	ng		100
80) alpha-Methylstyrene	16.87	118	1197	No Calib		#	
81) 2-Ethyltoluene	16.88	105	777	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.62	105	1929921	27.219	ng		100
83) n-Decane	16.88	58	410	No Calib		#	
84) Benzyl Chloride	18.78	91	3620296	56.790	ng		100
85) 1,3-Dichlorobenzene	18.79	146	1039298	27.745	ng		100
86) 1,4-Dichlorobenzene	18.89	146	1057243	27.341	ng		100
87) sec-Butylbenzene	18.98	105	2535451	26.445	ng		100
88) 4-Isopropyltoluene (p-...	19.19	119	2074042	26.650	ng		100
89) 1,2,3-Trimethylbenzene	17.37	105	838	No Calib		#	
90) 1,2-Dichlorobenzene	19.32	146	1006901	26.791	ng		100
91) d-Limonene	19.37	68	909647	27.242	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.88	157	754929	53.599	ng		97
93) n-Undecane	18.08	58	56537	No Calib			
94) 1,2,4-Trichlorobenzene	21.44	180	1533900	55.188	ng		100
95) Naphthalene	21.56	128	2431629	28.035	ng		100
96) n-Dodecane	18.82	57	2546	No Calib		#	
97) Hexachlorobutadiene	21.99	225	475209	25.674	ng		99
98) Cyclohexanone	15.31	55	169	No Calib		#	
99) tert-Butylbenzene	18.62	119	1725045	26.744	ng		100
100) n-Butylbenzene	19.73	91	2210161	26.572	ng		100
101) 1,1,1,2-Tetrachloroethane	14.94	131	470917	26.655	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\13\05132211.D Vial: 1
Acq On : 13 May 2022 14:48 Operator: TZ
Sample : 25ng R13051322 ICV Std. Inst : GCMS13
Misc : S35-03142201/S35-05052205 (6/4)

Quant Time: May 13 15:11:26 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 13 14:15:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

TZ 5/13/22

Data File Name: **05132211.D** Acq. Method File: **TO15.M**
Data File Path: **I:\MS13\DATA\2022_05\13** Sample Name: **25ng R13051322 ICV Std.**
Operator: **TZ** Misc Info: **S35-03142201/S35-05052205 (**
Date Acquired: **5/13/2022 14:48** Instrument Name: **GCMS13**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**3.38**	**23.3**	**25.75**	90	**56**	**128**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**3.46**	**24.8**	**26.00**	95	**71**	**112**	*	*
4)	**Chloromethane**	**3.60**	**24.1**	**25.75**	94	**53**	**126**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**3.72**	**26.5**	**26.00**	102	**62**	**121**	*	*
6)	**Vinyl Chloride**	**3.80**	**24.7**	**26.00**	95	**63**	**123**	*	*
7)	**1,3-Butadiene**	**3.92**	**21.8**	**25.75**	85	**63**	**135**	*	*
8)	**Bromomethane**	**4.13**	**25.3**	**25.75**	98	**71**	**112**	*	*
9)	**Chloroethane**	**4.28**	**24.3**	**25.75**	94	**66**	**117**	*	*
10)	**Ethanol**	**4.47**	**94**	**104.00**	90	**57**	**117**	*	*
11)	**Acetonitrile**	**4.61**	**19.8**	**25.25**	78	**59**	**131**	*	*
12)	**Acrolein**	**4.67**	**47.3**	**52.00**	91	**71**	**123**	*	*
13)	**Acetone**	**4.79**	**112**	**128.00**	88	**60**	**117**	*	*
14)	**Trichlorofluoromethane**	**4.89**	**24.6**	**25.25**	97	**71**	**114**	*	*
15)	**2-Propanol (Isopropanol)**	**5.02**	**45.6**	**50.00**	91	**61**	**124**	*	*
16)	**Acrylonitrile**	**5.16**	**47.0**	**50.25**	94	**65**	**130**	*	*
17)	**1,1-Dichloroethene**	**5.39**	**25.4**	**26.25**	97	**74**	**114**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	5.49	50.3	51.00	99	56	135	*	*
19)	**Methylene Chloride**	**5.51**	**23.4**	**26.00**	90	**75**	**112**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**5.59**	**21.3**	**25.50**	84	**57**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**5.70**	**26.3**	**27.00**	97	**73**	**114**	*	*
22)	**Carbon Disulfide**	**5.74**	**44.7**	**51.75**	86	**70**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**6.29**	**25.2**	**26.00**	97	**76**	**119**	*	*
24)	**1,1-Dichloroethane**	**6.47**	**25.3**	**26.75**	95	**70**	**114**	*	*
25)	**Methyl tert-Butyl Ether**	**6.51**	**24.7**	**25.75**	96	**72**	**118**	*	*
26)	**Vinyl Acetate**	**6.59**	**135**	**117.75**	115	**56**	**137**	*	*
27)	**2-Butanone (MEK)**	**6.82**	**49.5**	**51.00**	97	**74**	**121**	*	*
28)	**cis-1,2-Dichloroethene**	**7.22**	**25.0**	**25.75**	97	**73**	**117**	*	*
29)	Diisopropyl Ether	7.42	51.1	52.25	98	58	124	*	*
30)	**Ethyl Acetate**	**7.43**	**68.1**	**72.50**	94	**59**	**161**	*	*
31)	**n-Hexane**	**7.42**	**23.9**	**26.00**	92	**55**	**130**	*	*
32)	**Chloroform**	**7.51**	**25.5**	**26.25**	97	**71**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**7.90**	**47.6**	**50.50**	94	**73**	**114**	*	*
35)	Ethyl tert-Butyl Ether	7.96	51.2	51.75	99	76	119	*	*
36)	**1,2-Dichloroethane**	**8.25**	**25.1**	**26.25**	96	**71**	**119**	*	*
38)	**1,1,1-Trichloroethane**	**8.53**	**25.6**	**26.00**	98	**73**	**119**	*	*
41)	**Benzene**	**9.03**	**25.7**	**26.00**	99	**72**	**113**	*	*
42)	**Carbon Tetrachloride**	**9.19**	**24.7**	**25.25**	98	**67**	**123**	*	*
43)	**Cyclohexane**	**9.34**	**50.7**	**51.50**	98	**70**	**119**	*	*
44)	tert-Amyl Methyl Ether	9.72	50.7	**51.50**	98	74	120	*	*
45)	**1,2-Dichloropropane**	**9.98**	**25.1**	**25.75**	97	**70**	**118**	*	*
46)	**Bromodichloromethane**	**10.19**	**25.8**	**26.00**	99	**74**	**119**	*	*
47)	**Trichloroethene**	**10.26**	**26.0**	**25.50**	102	**74**	**115**	*	*
48)	**1,4-Dioxane**	**10.24**	**26.1**	**25.75**	101	**77**	**124**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	10.34	24.8	26.25	94	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05132211.D** **TO15.M**
Data File Path: **I:\MS13\DATA\2022_05\13** Sample Name: **25ng R13051322 ICV Std.**
Operator: **TZ** Misc Info: **S35-03142201/S35-05052205 (**
Date Acquired: **5/13/2022** **14:48** Instrument Name: **GCMS13**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**10.52**	**53.6**	**51.25**	105	**78**	**126**	*	*
51)	**n-Heptane**	**10.67**	**25.2**	**25.75**	98	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**11.36**	**26.3**	**26.00**	101	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**11.43**	**50.6**	**51.50**	98	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**12.04**	**25.4**	**25.00**	102	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**12.27**	**25.4**	**26.00**	98	**78**	**117**	*	*
58)	**Toluene**	**12.65**	**26.0**	**25.75**	101	**70**	**118**	*	*
59)	**2-Hexanone**	**13.00**	**49.4**	**50.75**	97	**74**	**132**	*	*
60)	**Dibromochloromethane**	**13.16**	**26.8**	**26.25**	102	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**13.48**	**26.4**	**26.00**	102	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**13.85**	**50.8**	**50.75**	100	**75**	**134**	*	*
63)	**n-Octane**	**13.99**	**25.9**	**26.00**	100	**68**	**120**	*	*
64)	**Tetrachloroethene**	**14.10**	**26.2**	**26.50**	99	**63**	**130**	*	*
65)	**Chlorobenzene**	**14.96**	**26.6**	**25.75**	103	**70**	**118**	*	*
66)	**Ethylbenzene**	**15.47**	**26.5**	**25.75**	103	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**15.72**	**53.3**	**52.00**	103	**67**	**127**	*	*
68)	**Bromoform**	**15.74**	**27.7**	**26.25**	106	**65**	**149**	*	*
69)	**Styrene**	**16.16**	**27.1**	**25.25**	107	**76**	**132**	*	*
70)	**o-Xylene**	**16.30**	**26.7**	**26.00**	103	**69**	**124**	*	*
71)	**n-Nonane**	**16.66**	**25.3**	**26.00**	97	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**16.27**	**26.8**	**26.00**	103	**69**	**128**	*	*
74)	**Cumene**	**17.08**	**26.5**	**25.75**	103	**69**	**125**	*	*
75)	**alpha-Pinene**	**17.59**	**27.3**	**26.25**	104	**68**	**129**	*	*
76)	**n-Propylbenzene**	**17.76**	**26.5**	**26.00**	102	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**17.97**	**26.9**	**26.00**	**103**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**18.08**	**27.0**	**26.00**	**104**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**18.62**	**27.2**	**25.75**	**106**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**18.78**	**56.8**	**52.00**	**109**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**18.79**	**27.7**	**26.00**	**107**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**18.89**	**27.3**	**26.25**	**104**	**63**	**134**	*	*
87)	sec-Butylbenzene	18.98	26.4	25.50	**104**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	19.19	26.6	25.75	**103**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**19.32**	**26.8**	**26.25**	**102**	**64**	**139**	*	*
91)	**d-Limonene**	**19.37**	**27.2**	**25.75**	**106**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**19.88**	**53.6**	**50.50**	**106**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**21.44**	**55.2**	**52.50**	**105**	**62**	**154**	*	*
95)	**Naphthalene**	**21.56**	**28.0**	**26.25**	**107**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**21.99**	**25.7**	**26.50**	**97**	55	142	*	*
99)	tert-Butylbenzene	18.62	26.7	25.75	104	61	140	*	*
100)	n-Butylbenzene	19.73	26.6	26.00	102	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	14.94	26.7	25.75	104	70	130	*	*

Bold = 75 Compound List
*** = Pass**

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2022 05\16\05162202.D Vial: 1
Acq On : 16 May 2022 7:14 Operator: TZ
Sample : CCV R13051622 25ng Inst : GCMS13
Misc : S35-03142201/S35-04262202 (5/26)

Quant Time: May 16 08:01:48 2022 TZ 5/16/22
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	109	0.00
2	T	Propene	2.455	2.311	5.9	105	0.00
3	T	Dichlorodifluoromethane (CF	2.425	2.309	4.8	107	0.00
4	T	Chloromethane	2.377	2.237	5.9	107	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	0.927	0.905	2.4	106	0.00
6	T	Vinyl Chloride	1.622	1.783	-9.9	110	0.00
7	T	1,3-Butadiene	1.545	1.384	10.4	120	0.00
8	T	Bromomethane	1.074	1.014	5.6	105	0.00
9	T	Chloroethane	1.007	0.966	4.1	107	0.00
10	T	Ethanol	1.406	1.283	8.7	107	0.00
11	T	Acetonitrile	4.174	3.775	9.6	107	0.00
12	T	Acrolein	1.071	1.015	5.2	107	0.00
13	T	Acetone	1.125	1.025	8.9	107	0.00
14	T	Trichlorofluoromethane	2.029	1.928	5.0	106	0.00
15	T	2-Propanol (Isopropanol)	4.224	3.911	7.4	108	0.00
16	T	Acrylonitrile	2.190	2.138	2.4	107	0.00
17	T	1,1-Dichloroethene	1.131	1.057	6.5	106	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.445	3.445	0.0	103	0.00
19	T	Methylene Chloride	1.349	1.229	8.9	107	0.00
20	T	3-Chloro-1-propene (Allyl C	3.137	2.869	8.5	107	0.00
21	T	Trichlorotrifluoroethane	0.866	0.816	5.8	104	0.00
22	T	Carbon Disulfide	5.382	4.798	10.9	107	0.00
23	T	trans-1,2-Dichloroethene	2.207	2.164	1.9	107	0.00
24	T	1,1-Dichloroethane	2.569	2.481	3.4	106	0.00
25	T	Methyl tert-Butyl Ether	4.083	3.974	2.7	106	0.00
26	T	Vinyl Acetate	0.201	0.217	-8.0	107	0.00
27	T	2-Butanone (MEK)	0.899	0.886	1.4	106	0.00
28	T	cis-1,2-Dichloroethene	2.086	2.058	1.3	107	0.00
29	T	Diisopropyl Ether	0.884	0.867	1.9	106	0.00
30	T	Ethyl Acetate	0.591	0.578	2.2	107	0.00
31	T	n-Hexane	2.381	2.232	6.3	107	0.00
32	T	Chloroform	2.181	2.091	4.1	106	0.00
33	S	1,2-Dichloroethane-d4(SS1)	2.100	2.152	-2.5	111	0.00
34	T	Tetrahydrofuran (THF)	0.908	0.862	5.1	106	0.00
35	T	Ethyl tert-Butyl Ether	1.403	1.399	0.3	106	0.00
36	T	1,2-Dichloroethane	1.869	1.814	2.9	106	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	109	0.00
38	T	1,1,1-Trichloroethane	0.398	0.390	2.0	106	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	100	0.00
40	T	1-Butanol	0.000	0.000	0.0	106	0.00
41	T	Benzene	1.107	1.082	2.3	106	0.00
42	T	Carbon Tetrachloride	0.328	0.323	1.5	106	0.00
43	T	Cyclohexane	0.388	0.386	0.5	106	0.00
44	T	tert-Amyl Methyl Ether	0.836	0.839	-0.4	107	0.00
45	T	1,2-Dichloropropane	0.330	0.328	0.6	107	0.00
46	T	Bromodichloromethane	0.384	0.378	1.6	105	0.00
47	T	Trichloroethene	0.247	0.241	2.4	105	0.00
48	T	1,4-Dioxane	0.215	0.219	-1.9	106	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.404	1.388	1.1	107	0.00
50	T	Methyl Methacrylate	0.095	0.097	-2.1	105	0.00
51	T	n-Heptane	0.288	0.286	0.7	107	0.00
52	T	cis-1,3-Dichloropropene	0.468	0.476	-1.7	106	0.00
53	T	4-Methyl-2-pentanone	0.303	0.314	-3.6	106	0.00
54	T	trans-1,3-Dichloropropene	0.442	0.455	-2.9	106	0.00
55	T	1,1,2-Trichloroethane	0.255	0.248	2.7	105	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2022 05\16\05162202.D Vial: 1
Acq On : 16 May 2022 7:14 Operator: TZ
Sample : CCV R13051622 25ng Inst : GCMS13
Misc : S35-03142201/S35-04262202 (5/26)

Quant Time: May 16 08:01:48 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	112	0.00
57	S	Toluene-d8 (SS2)	4.866	4.667	4.1	109	0.00
58	T	Toluene	4.334	3.965	8.5	106	0.00
59	T	2-Hexanone	3.516	3.357	4.5	106	0.00
60	T	Dibromochloromethane	1.148	1.085	5.5	105	0.00
61	T	1,2-Dibromoethane	1.156	1.072	7.3	105	0.00
62	T	n-Butyl Acetate	3.876	3.778	2.5	107	0.00
63	T	n-Octane	1.172	1.101	6.1	107	0.00
64	T	Tetrachloroethene	1.037	0.915	11.8	104	0.00
65	T	Chlorobenzene	2.637	2.439	7.5	105	0.00
66	T	Ethylbenzene	4.899	4.572	6.7	106	0.00
67	T	m- & p-Xylenes	3.876	3.651	5.8	106	0.00
68	T	Bromoform	0.916	0.890	2.8	105	0.00
69	T	Styrene	2.775	2.680	3.4	104	0.00
70	T	o-Xylene	3.875	3.617	6.7	106	0.00
71	T	n-Nonane	3.220	3.015	6.4	107	0.00
72	T	1,1,2,2-Tetrachloroethane	1.973	1.876	4.9	106	0.00
73	S	Bromofluorobenzene (SS3)	1.336	1.326	0.7	113	0.00
74	T	Cumene	4.530	4.253	6.1	105	0.00
75	T	alpha-Pinene	2.411	2.305	4.4	105	0.00
76	T	n-Propylbenzene	5.864	5.565	5.1	106	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	105	0.00
78	T	4-Ethyltoluene	4.383	4.142	5.5	105	0.00
79	T	1,3,5-Trimethylbenzene	3.749	3.539	5.6	105	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	118	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	178	0.00
82	T	1,2,4-Trimethylbenzene	3.743	3.636	2.9	105	0.00
83	T	n-Decane	0.000	0.000	0.0	124	0.00
84	T	Benzyl Chloride	3.365	3.497	-3.9	107	0.00
85	T	1,3-Dichlorobenzene	1.977	1.897	4.0	105	0.00
86	T	1,4-Dichlorobenzene	2.041	1.907	6.6	104	0.00
87	T	sec-Butylbenzene	5.061	4.829	4.6	106	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.108	3.933	4.3	105	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	167	0.00
90	T	1,2-Dichlorobenzene	1.984	1.837	7.4	104	0.00
91	T	d-Limonene	1.763	1.779	-0.9	106	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.744	0.735	1.2	105	0.00
93	T	n-Undecane	0.000	0.000	0.0	115	0.00
94	T	1,2,4-Trichlorobenzene	1.467	1.418	3.3	104	0.00
95	T	Naphthalene	4.579	4.468	2.4	103	0.00
96	T	n-Dodecane	0.000	0.000	0.0	103	0.00
97	T	Hexachlorobutadiene	0.977	0.905	7.4	103	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	70	0.00
99	T	tert-Butylbenzene	3.405	3.244	4.7	105	0.00
100	T	n-Butylbenzene	4.391	4.233	3.6	106	0.00
101	T	1,1,1,2-Tetrachloroethane	0.933	0.876	6.1	105	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162202.D Vial: 1
Acq On : 16 May 2022 7:14 Operator: TZ
Sample : CCV R13051622 25ng Inst : GCMS13
Misc : S35-03142201/S35-04262202 (5/26)

TZ 5/16/22

Quant Time: May 16 08:01:48 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.37	130	212269	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.42	114	975883	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.91	54	257274	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.13	65	456720	12.808	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%			
57) Toluene-d8 (SS2)	12.52	98	1200636	11.989	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%			
73) Bromofluorobenzene (SS3)	16.88	174	341062	12.401	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%			
Target Compounds						Qvalue
2) Propene	3.37	42	1020304	24.474	ng	99
3) Dichlorodifluoromethan...	3.45	85	1029224	24.998	ng	100
4) Chloromethane	3.59	50	968505	23.992	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.70	135	415144	26.381	ng	100
6) Vinyl Chloride	3.78	62	787433	28.580	ng	100
7) 1,3-Butadiene	3.90	54	610852	23.280	ng	98
8) Bromomethane	4.12	94	439065	24.066	ng	100
9) Chloroethane	4.26	64	418293	24.458	ng	100
10) Ethanol	4.45	45	1971401	82.587	ng	100
11) Acetonitrile	4.59	41	1490369	21.027	ng	100
12) Acrolein	4.66	56	862030	47.408	ng	100
13) Acetone	4.77	58	2258609	118.246	ng	99
14) Trichlorofluoromethane	4.87	101	843101	24.466	ng	100
15) 2-Propanol (Isopropanol)	5.00	45	3353678	46.755	ng	100
16) Acrylonitrile	5.15	53	1842309	49.540	ng	100
17) 1,1-Dichloroethene	5.37	96	480072	24.987	ng	98
18) 2-Methyl-2-Propanol (t...	5.47	59	3071232	52.504	ng	100
19) Methylene Chloride	5.50	84	542494	23.682	ng	99
20) 3-Chloro-1-propene (Al...	5.58	41	1278871	24.010	ng	100
21) Trichlorotrifluoroethane	5.69	151	374319	25.466	ng	100
22) Carbon Disulfide	5.73	76	4277846	46.808	ng	100
23) trans-1,2-Dichloroethene	6.27	61	973682	25.984	ng	99
24) 1,1-Dichloroethane	6.46	63	1106130	25.355	ng	100
25) Methyl tert-Butyl Ether	6.50	73	1771548	25.550	ng	100
26) Vinyl Acetate	6.58	86	313662	91.863	ng	98
27) 2-Butanone (MEK)	6.81	72	774872	50.761	ng	98
28) cis-1,2-Dichloroethene	7.22	61	908810	25.658	ng	99
29) Diisopropyl Ether	7.41	87	780029	51.981	ng	97
30) Ethyl Acetate	7.42	61	1001928	99.810	ng	100
31) n-Hexane	7.41	57	994819	24.605	ng	100
32) Chloroform	7.50	83	949831	25.650	ng	100
34) Tetrahydrofuran (THF)	7.88	72	721189	46.762	ng	100
35) Ethyl tert-Butyl Ether	7.95	87	1246875	52.323	ng	99
36) 1,2-Dichloroethane	8.25	62	816446	25.728	ng	100
38) 1,1,1-Trichloroethane	8.52	97	791919	25.458	ng	100
39) Isopropyl Acetate	9.19	61	314	No Calib	#	
40) 1-Butanol	8.92	56	33490	No Calib		
41) Benzene	9.02	78	2196569	25.412	ng	100
42) Carbon Tetrachloride	9.18	117	662801	25.861	ng	100
43) Cyclohexane	9.32	84	1561257	51.519	ng	100
44) tert-Amyl Methyl Ether	9.71	73	3424204	52.468	ng	100
45) 1,2-Dichloropropane	9.97	63	658792	25.602	ng	100
46) Bromodichloromethane	10.19	83	775202	25.864	ng	100
47) Trichloroethene	10.26	130	484393	25.163	ng	100
48) 1,4-Dioxane	10.23	88	443651	26.474	ng	99
49) 2,2,4-Trimethylpentane...	10.34	57	2872260	26.207	ng	100
50) Methyl Methacrylate	10.51	100	393881	53.289	ng	98

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162202.D Vial: 1
Acq On : 16 May 2022 7:14 Operator: TZ
Sample : CCV R13051622 25ng Inst : GCMS13
Misc : S35-03142201/S35-04262202 (5/26)

Quant Time: May 16 08:01:48 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

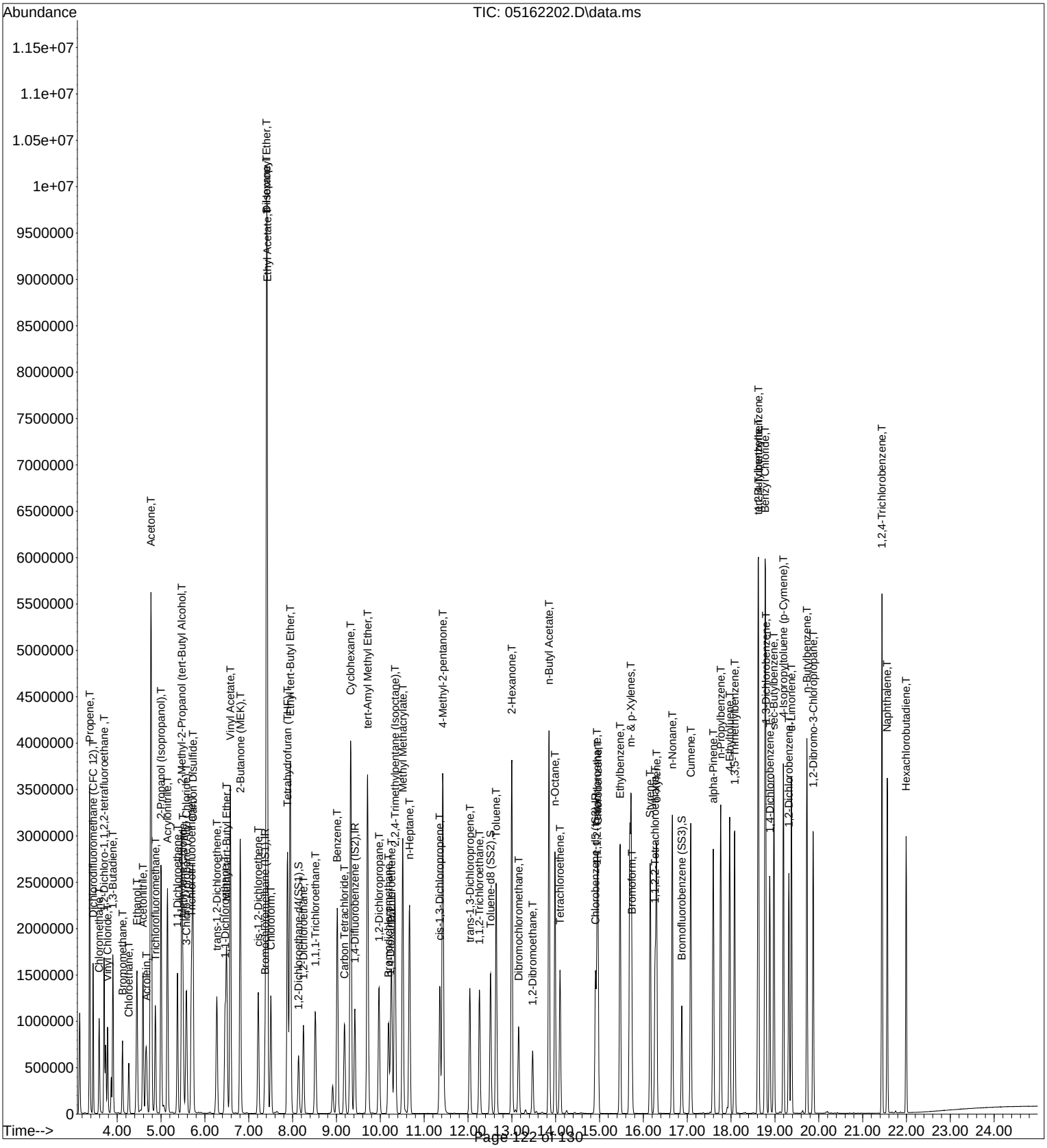
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.67	71	585316	26.068 ng		99
52) cis-1,3-Dichloropropene	11.36	75	975306	26.689 ng		100
53) 4-Methyl-2-pentanone	11.42	58	1273676	53.851 ng		100
54) trans-1,3-Dichloropropene	12.04	75	897674	25.985 ng		100
55) 1,1,2-Trichloroethane	12.26	97	502783	25.285 ng		99
58) Toluene	12.64	91	2101305	23.554 ng		100
59) 2-Hexanone	13.00	43	3541483	48.936 ng		100
60) Dibromochloromethane	13.15	129	586125	24.799 ng		99
61) 1,2-Dibromoethane	13.47	107	573860	24.127 ng		100
62) n-Butyl Acetate	13.85	43	3965188	49.698 ng		100
63) n-Octane	13.99	57	594641	24.654 ng		99
64) Tetrachloroethene	14.10	166	489509	22.937 ng		99
65) Chlorobenzene	14.96	112	1305147	24.049 ng		100
66) Ethylbenzene	15.47	91	2422911	24.027 ng		99
67) m- & p-Xylenes	15.72	91	3870338	48.521 ng		100
68) Bromoform	15.74	173	476385	25.275 ng		100
69) Styrene	16.15	104	1420496	24.871 ng		100
70) o-Xylene	16.30	91	1935546	24.267 ng		99
71) n-Nonane	16.66	43	1613314	24.340 ng		99
72) 1,1,2,2-Tetrachloroethane	16.27	83	1003772	24.722 ng		100
74) Cumene	17.08	105	2275860	24.410 ng		100
75) alpha-Pinene	17.59	93	1281063	25.815 ng		100
76) n-Propylbenzene	17.76	91	3006391	24.908 ng		100
77) 3-Ethyltoluene	17.08	105	2275860	No Calib		
78) 4-Ethyltoluene	17.97	105	2258950	25.043 ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	1893574	24.543 ng		100
80) alpha-Methylstyrene	16.88	118	1301	No Calib	#	
81) 2-Ethyltoluene	16.88	105	749	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.62	105	1927222	25.018 ng		100
83) n-Decane	16.93	58	637	No Calib	#	
84) Benzyl Chloride	18.78	91	3706398	53.513 ng		100
85) 1,3-Dichlorobenzene	18.79	146	1015051	24.941 ng		100
86) 1,4-Dichlorobenzene	18.89	146	1020324	24.286 ng		100
87) sec-Butylbenzene	18.98	105	2583985	24.806 ng		100
88) 4-Isopropyltoluene (p-...	19.19	119	2104659	24.891 ng		100
89) 1,2,3-Trimethylbenzene	17.38	105	601	No Calib	#	
90) 1,2-Dichlorobenzene	19.32	146	992664	24.310 ng		100
91) d-Limonene	19.37	68	960953	26.488 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.88	157	756664	49.447 ng		98
93) n-Undecane	18.08	58	58504	No Calib		
94) 1,2,4-Trichlorobenzene	21.44	180	1488771	49.301 ng		100
95) Naphthalene	21.56	128	2391051	25.373 ng		100
96) n-Dodecane	18.82	57	2911	No Calib	#	
97) Hexachlorobutadiene	21.99	225	479406	23.839 ng		100
98) Cyclohexanone	15.36	55	129	No Calib	#	
99) tert-Butylbenzene	18.62	119	1735815	24.769 ng		100
100) n-Butylbenzene	19.73	91	2265153	25.066 ng		100
101) 1,1,1,2-Tetrachloroethane	14.94	131	468866	24.426 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 05\16\05162202.D Vial: 1
Acq On : 16 May 2022 7:14 Operator: TZ
Sample : CCV R13051622 25ng Inst : GCMS13
Misc : S35-03142201/S35-04262202 (5/26)

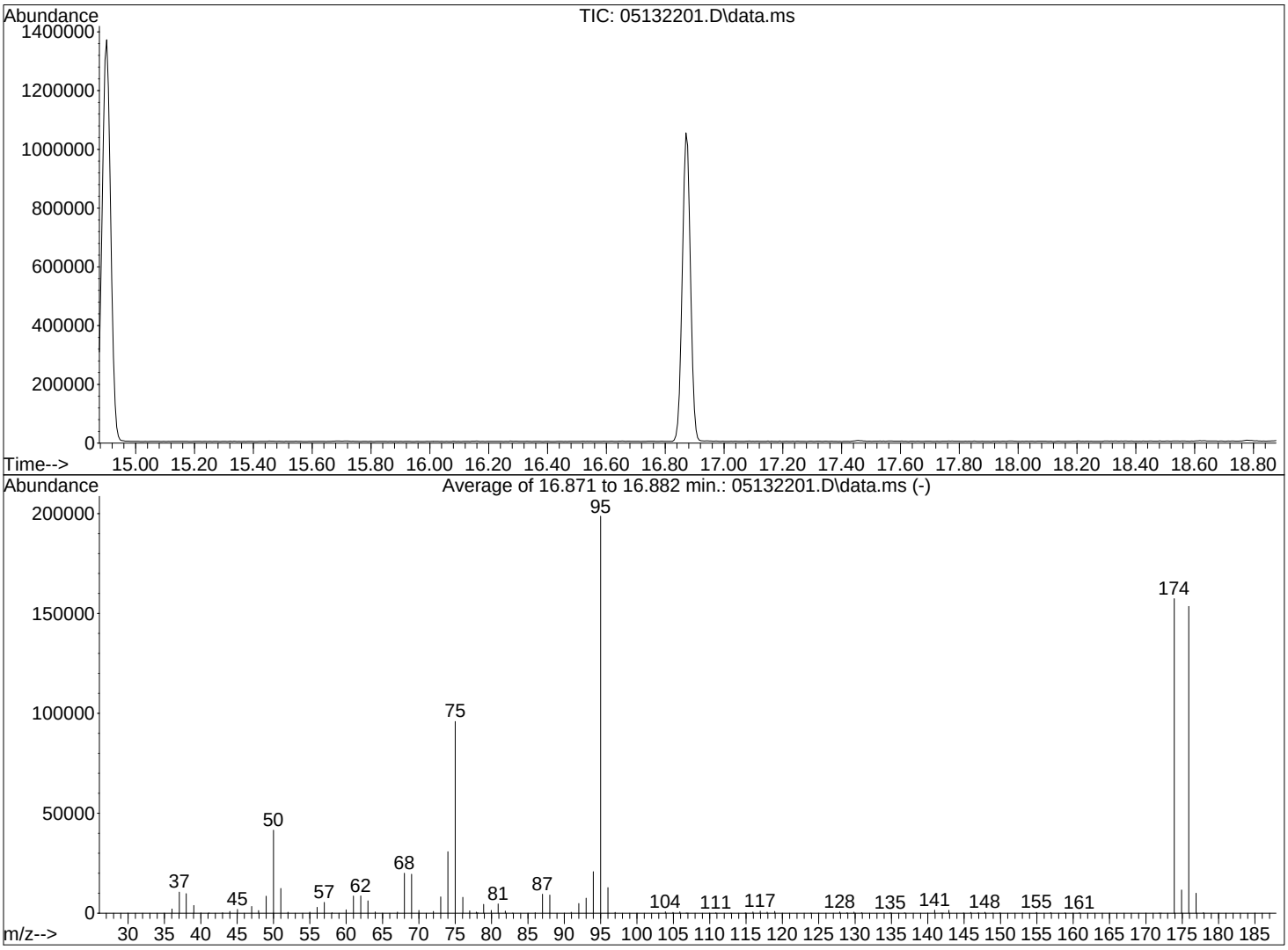
Quant Time: May 16 08:01:48 2022
Quant Method : I:\MS13\METHODS\R13051322.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon May 16 08:00:54 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS13\DATA\2022 05\13\
Data File : 05132201.D
Acq On : 13 May 2022 8:37
Operator : TZ
Sample : TO-15 BFB Std.
Misc : S35-03142201
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13051322.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 13 14:15:58 2022



AutoFind: Scans 2422, 2423, 2424; Background Corrected with Scan 2413

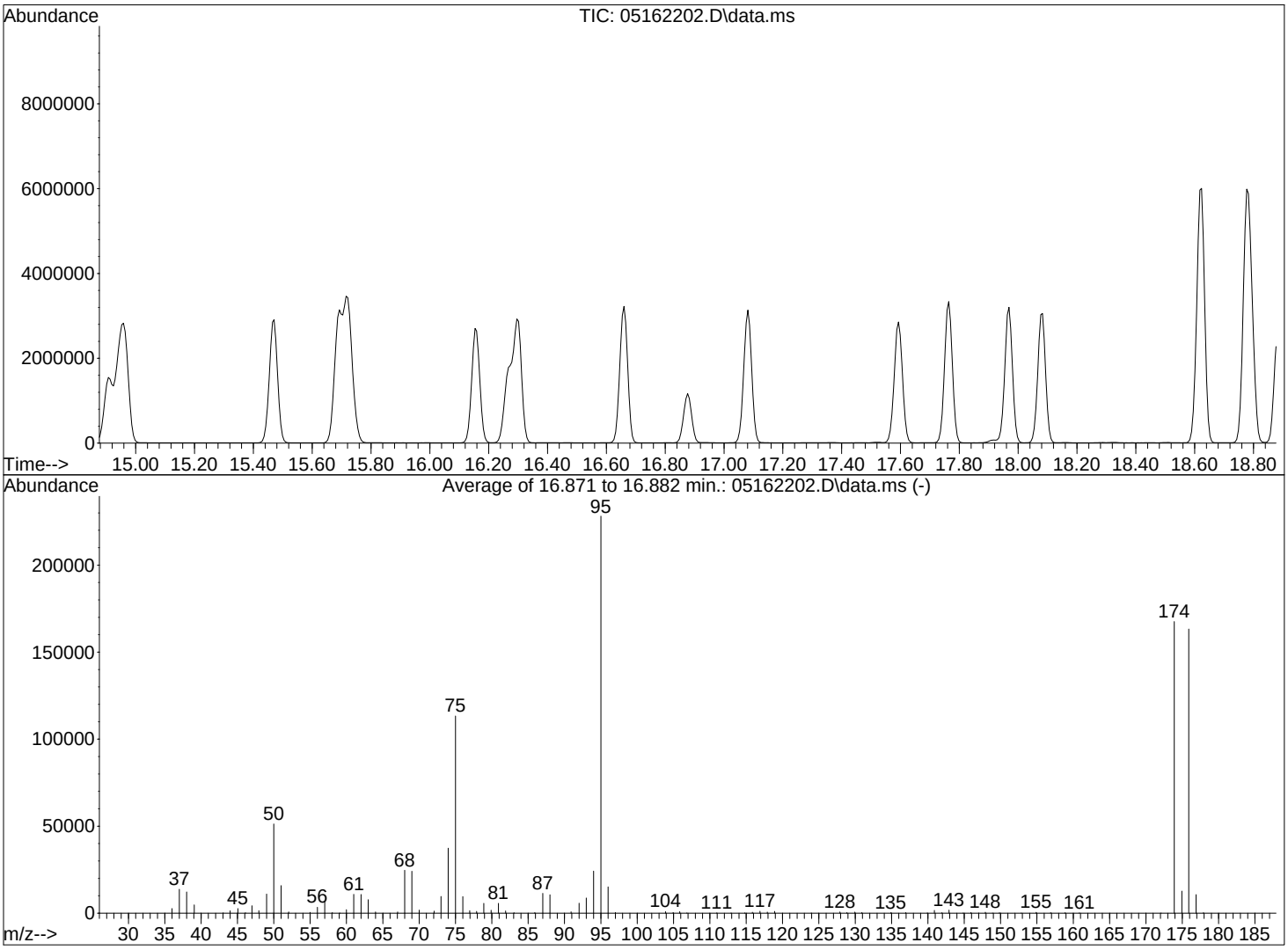
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.9	41557	PASS
75	95	30	66	48.3	95968	PASS
95	95	100	100	100.0	198699	PASS
96	95	5	9	6.5	12852	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	79.2	157419	PASS
175	174	4	9	7.4	11652	PASS
176	174	93	101	97.6	153579	PASS
177	176	5	9	6.5	10020	PASS

TZ 5/13/22

Data Path : I:\MS13\DATA\2022 05\16\
Data File : 05162202.D
Acq On : 16 May 2022 7:14
Operator : TZ
Sample : CCV R13051622 25ng
Misc : S35-03142201/S35-04262202 (5/26)
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13051322.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Mon May 16 08:00:54 2022



AutoFind: Scans 2422, 2423, 2424; Background Corrected with Scan 2413

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	22.5	51264	PASS
75	95	30	66	49.7	113280	PASS
95	95	100	100	100.0	228117	PASS
96	95	5	9	6.6	15157	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	73.5	167573	PASS
175	174	4	9	7.6	12674	PASS
176	174	93	101	97.4	163243	PASS
177	176	5	9	6.5	10671	PASS

TZ 5/16/22

TZ 5/16/22

Injection Log

Directory: J:\MS13\DATA\2022_05\13\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/13/22 8:37	05132201.D	TO-15 BFB Std.	S35-03142201	TZ	1	passed
2	5/13/22 9:15	05132202.D	0.1ng R13051322 ICAL Std.	S35-03142201/S35-05102204 (6/9)	TZ	14	R13051322.M
3	5/13/22 9:53	05132203.D	0.2ng R13051322 ICAL Std.	S35-03142201/S35-05102204 (6/9)	TZ	14	
4	5/13/22 10:30	05132204.D	0.5ng R13051322 ICAL Std.	S35-03142201/S35-05102203 (6/9)	TZ	15	
5	5/13/22 11:07	05132205.D	1.0ng R13051322 ICAL Std.	S35-03142201/S35-05102203 (6/9)	TZ	15	
6	5/13/22 11:44	05132206.D	5.0ng R13051322 ICAL Std.	S35-03142201/S35-05102203 (6/9)	TZ	15	
7	5/13/22 12:22	05132207.D	25ng R13051322 ICAL Std.	S35-03142201/S35-05102201 (6/9)	TZ	16	
8	5/13/22 12:59	05132208.D	50ng R13051322 ICAL Std.	S35-03142201/S35-05102201 (6/9)	TZ	16	
9	5/13/22 13:36	05132209.D	100ng R13051322 ICAL Std.	S35-03142201/S35-05102201 (6/9)	TZ	16	
10	5/13/22 14:13	05132210.D	Blank	S35-03142201	TZ	1	
11	5/13/22 14:48	05132211.D	LCS R13051322 ICV Std_25ng	S35-03142201/S35-05052205 (6/4)	TZ	1	passed
12	5/13/22 16:40	05132212.D	Blank	S35-03142201	TZ	1	
13	5/13/22 17:16	05132213.D	MB R13051122 1000mL	S35-03142201_AC01837	TZ	1	

R13051322.M ranges from 0.1ng-->100ng except: chloromethane: 0.1ng-->50ng

Injection Log

TZ 5/17/22

Directory: I:\MS13\DATA\2022_05\17\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/16/22 6:37	05162201.D	System	S35-03142201/S35-04262202 (5/26)	TZ	1	
2	5/16/22 7:14	05162202.D	CCV R13051122 25ng	S35-03142201/S35-04262202 (5/26)	TZ	1	passed
3	5/16/22 7:51	05162203.D	Blank	S35-03142201	TZ	1	
4	5/16/22 8:28	05162204.D	MB R13051622 1000mL	S35-03142201_AC01837	TZ	1	passed
5	5/16/22 9:05	05162205.D	LCS R13051622 25ng	S35-03142201/S35-050522005 (6/4)	TZ	1	passed
6	5/16/22 9:42	05162206.D	LCSD R13051622 25ng	S35-03142201/S35-050522005 (6/4)	TZ	1	passed
7	5/16/22 10:19	05162207.D	P2202018-001 (1000mL) pf2	S35-03142201	TZ	1	
8	5/16/22 11:25	05162208.D	P2202076-001 (200mL)	S35-03142201	TZ	2	
9	5/16/22 12:02	05162209.D	P2202076-002 (1000mL)	S35-03142201	TZ	3	
10	5/16/22 12:39	05162210.D	P2202084-001dil (100mL)	S35-03142201	TZ	12	
11	5/16/22 13:20	05162211.D	P2202084-001 (300mL)	S35-03142201	TZ	12	
12	5/16/22 14:42	05162212.D	P2202113-004 (1000mL)	S35-03142201	TZ	6	
13	5/16/22 15:19	05162213.D	P2202085-001 (15mL)	S35-03142201	TZ	2	over diluted
14	5/16/22 16:12	05162214.D	P2202113-001 (1000mL)	S35-03142201	TZ	3	
15	5/16/22 16:50	05162215.D	P2202113-002 (1000mL)	S35-03142201	TZ	4	
16	5/16/22 17:26	05162216.D	P2202113-003 (1000mL)	S35-03142201	TZ	5	
17	5/16/22 18:03	05162217.D	P2202113-005 (1000mL)	S35-03142201	TZ	7	
18	5/16/22 18:39	05162218.D	P2202113-005dup (1000mL)	S35-03142201	TZ	7	passed
19	5/16/22 19:17	05162219.D	P2202085-001 (65mL)	S35-03142201	TZ	2	
20	5/16/22 19:54	05162220.D	P2201935-001 (1000mL)	S35-03142201	TZ	10	
21	5/16/22 20:31	05162221.D	P2201935-002 (1000mL)	S35-03142201	TZ	11	
22	5/16/22 21:09	05162222.D	P2201935-003 (1000mL)	S35-03142201	TZ	12	
23	5/16/22 21:47	05162223.D	P2201935-004 (1000mL)	S35-03142201	TZ	13	
24	5/16/22 22:24	05162224.D	P2201935-005 (1000mL)	S35-03142201	TZ	14	
25	5/16/22 23:02	05162225.D	P2201927-001 (100mL)	S35-03142201	TZ	8	
26	5/16/22 23:40	05162226.D	P2201927-001dil (20mL)	S35-03142201	TZ	8	
27	5/17/22 0:17	05162227.D	P2201927-002 (400mL)	S35-03142201	TZ	9	
28	5/17/22 0:54	05162228.D	P2201984-001 (400mL)	S35-03142201	TZ	15	
29	5/17/22 1:30	05162229.D	P2201984-002 (400mL)	S35-03142201	TZ	16	
30	5/17/22 2:07	05162230.D	P2201984-003 (400mL)	S35-03142201	TZ	6	
31	5/17/22 2:44	05162231.D	System	S35-03142201/S35-04262202 (5/26)	TZ	1	

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 29260

Batch Started By: on 4/15/22 0416
Finished Cleaning By: ALESAICHERRE on 4/19/22 0643

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02231	4/15/22	4/18/22	Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE				ms21-04/18/22
AC02268	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/27/22 1014		
AC02406	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/27/22 0749		
AC01566	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/27/22 0749		
AS01299	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/27/22 0749		
AC02477	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/27/22 0749		
AS01616	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/26/22 0802		
AC02469	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/27/22 0749		
AS01480	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/27/22 1014		
AS01008	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/25/22 0843		
AC01758	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/27/22 1014		
AC02271	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/27/22 0158		
AC02340	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/27/22 0158		
AC02382	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/25/22 0844		
AS00726	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE	-14.0	4/27/22 0158		
AS00508	4/15/22		Pass w/ Conditions	-14.3	4/19/22 0643	ALESAICHERRE				

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 04\18\
Data File : 04182208.D
Acq On : 18 Apr 2022 13:21
Operator : RVT/KM
Sample : 041822 AC02231 29260
Misc : LL + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 3 Sample Multiplier: 1

4/19/22

Quant Time: Apr 18 13:52:40 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration

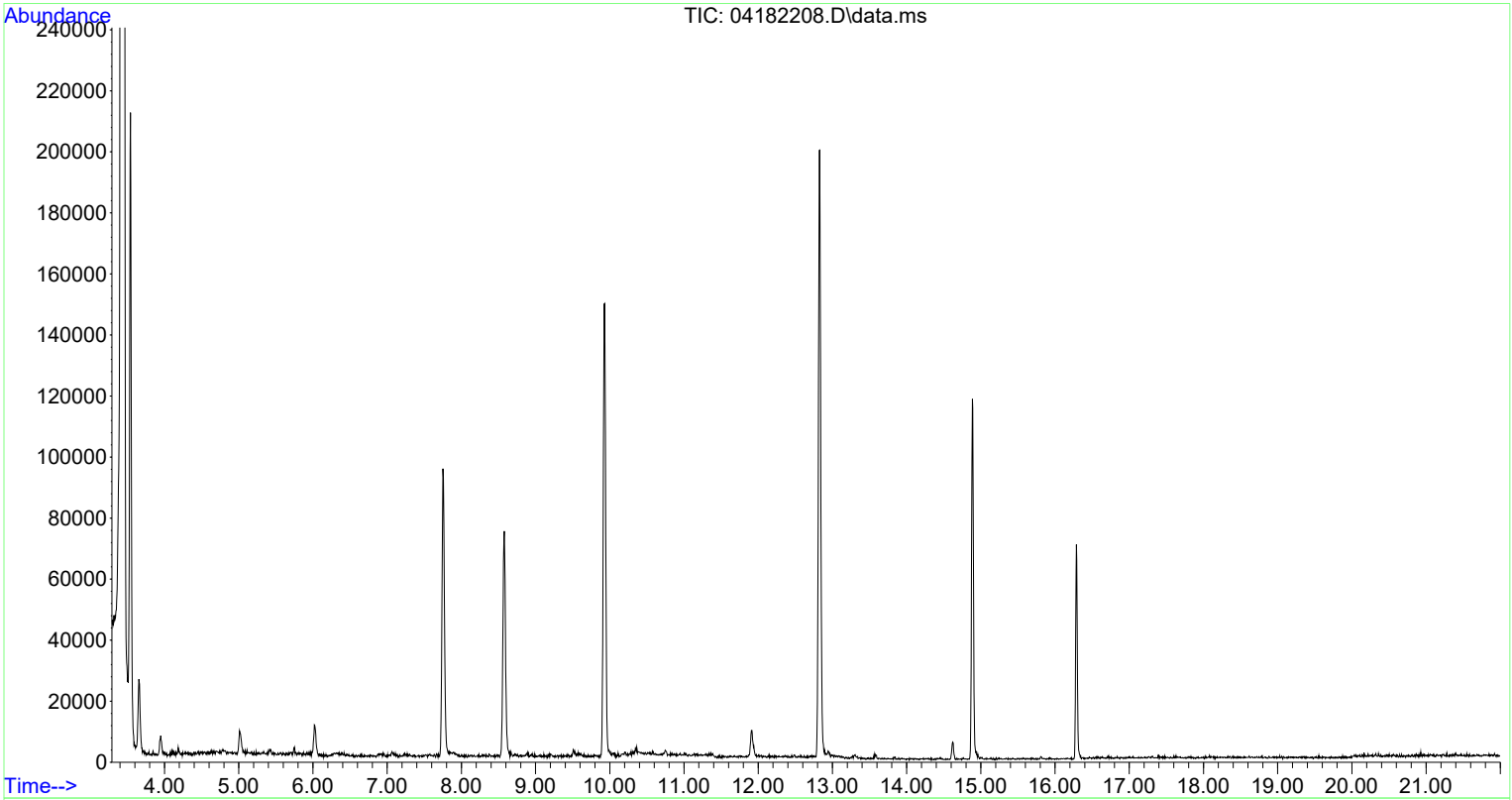
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.75	130	44423	1000.000	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.93	114	161034	1000.000	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.89	54	17219	1000.000	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.58	65	68356	865.910	pg		0.00
Spiked Amount 1000.000			Recovery = 86.59%				
57) Toluene-d8 (SS2)	12.83	98	168577	1902.179	pg		0.00
Spiked Amount 1000.000			Recovery = 190.22%				
74) Bromofluorobenzene (SS3)	16.29	174	23285	805.601	pg		0.00
Spiked Amount 1000.000			Recovery = 80.56%				
Target Compounds							Qvalue
13) * Acetone	5.02	58	3637	65.275	pg	#	55
22) * Carbon Disulfide	6.03	76	17546	68.264	pg		99
53) * 4-Methyl-2-pentanone	11.91	58	3382	83.728	pg		99
90) 1,2,3-Trimethylbenzene	17.86	105	114	25.233	pg	#	1

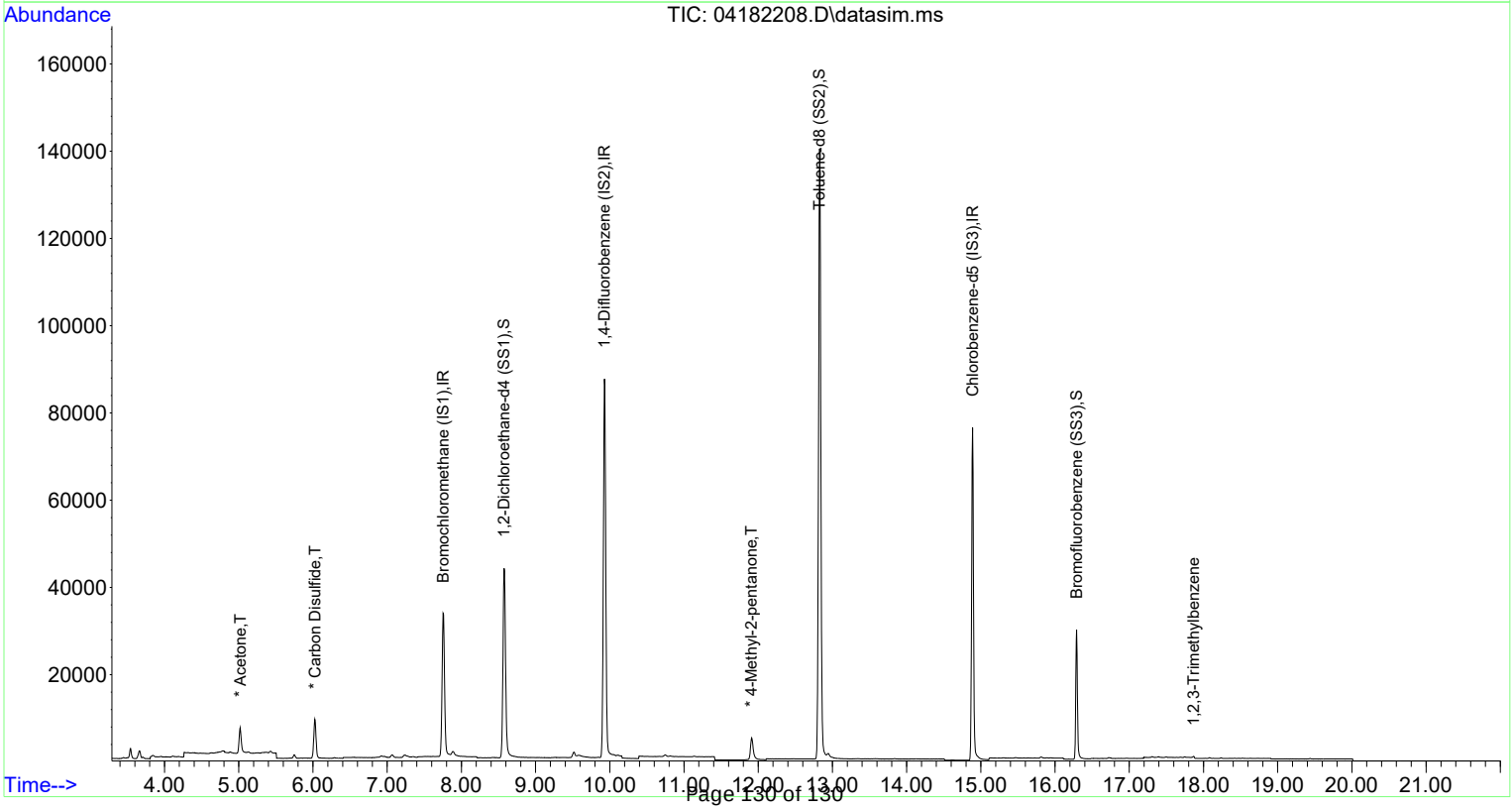
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 04\18\
Data File : 04182208.D
Acq On : 18 Apr 2022 13:21
Operator : RVT/KM
Sample : 041822 AC02231 29260
Misc : LL + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 18 13:52:40 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

June 2, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the sample submitted to our laboratory on May 13, 2022. For your reference, this analysis has been assigned our service request number P2202166.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 3:45 pm, Jun 02, 2022

Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2202166
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The sample was received intact under chain of custody on May 13, 2022 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The minimum criterion for hexachlorobutadiene was not met in the Continuing Calibration Verification (CCV) analyzed on May 25, 2022. In accordance with ALS Environmental standard operating procedures, a Method Reporting Limit (MRL) check standard containing the analyte of concern was analyzed and verified that instrument sensitivity was adequate to detect the analyte at the MRL on the day of analysis. Since the compound was not detected in the field samples, the data quality has not been affected. No further corrective action was necessary.

The container was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2202166
Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 5/13/2022
Time Received: 13:05

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_051322_S	P2202166-001	Air	5/13/2022	11:00	AC01831	-2.21	4.18	X
DOE-2_051322_S	P2202166-002	Air	5/13/2022	11:15	AS00977	-2.47	5.12	X
DOE-3_051322_S	P2202166-003	Air	5/13/2022	11:30	AS01291	-2.42	4.43	X
DOE-4_051322_S	P2202166-004	Air	5/13/2022	11:45	AS00813	-2.72	4.02	X
DOE-2_051322_D	P2202166-005	Air	5/13/2022	11:16	AC01795	-0.65	4.22	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. P22 02166

Company Name & Address (Reporting Information) North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304	Project Name: DOE Perimeter Air Project Number: 080153.015.15 P.O. # / Billing Information: PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Project Manager: Trina Cesnik Phone: 805-587-0691 Fax: Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg	Sampler (Print & Sign): T. Stewart Williford

ALS Contact: Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_051322_S	2	5/13/2022	1100	AC01831	FCR00301	-30.0	-4.0		X		
DOE-2_051322_S		5/13/2022	1115	AS00977	FCR00528	-28.5	-3.5		X		
DOE-3_051322_S	3	5/13/2022	1130	AS01291	FCR00398	-28.0	-2.0		X		
DOE-4_051322_S	4	5/13/2022	1145	AS00813	FCR00077	-29.0	-4.0		X		
DOE-2_051322_D		5/13/2022	1116	AC01795	FCR00203	-28.5	-1.0		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) 10% Surcharge X

EDD required Yes / No
Type: EQuIS Units:____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature) T. Stewart Williford	Date: 5/13/22	Time: 13:05	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature) Evan Garcia	Date: 5/13/22	Time: 13:05	Received by: (Signature)	Date: 5-13-22	Time: 1305

Cooler / Blank Temperature ___ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2202166

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 5/13/22 Date opened: 5/13/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2202166-001.01	6.0 L Ambient Can					
P2202166-002.01	6.0 L Silonite Can					
P2202166-003.01	6.0 L Silonite Can					
P2202166-004.01	6.0 L Silonite Can					
P2202166-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-001

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01831

Initial Pressure (psig): -2.21 Final Pressure (psig): 4.18

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.80	**0.48**	0.16	
74-87-3	Chloromethane	ND	0.77	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.82	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.79	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.79	ND	0.36	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.77	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.66	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.79	**0.21**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.70	
75-35-4	1,1-Dichloroethene	ND	0.82	ND	0.21	
75-09-2	Methylene Chloride	ND	0.79	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.6	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	0.79	ND	0.20	
141-78-6	Ethyl Acetate	**18**	3.2	**4.9**	0.88	
110-54-3	n-Hexane	ND	0.80	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-001

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01831

Initial Pressure (psig): -2.21 Final Pressure (psig): 4.18

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.82	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.79	ND	0.14	
71-43-2	Benzene	ND	0.76	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.76	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	0.76	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.79	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.79	ND	0.22	
142-82-5	n-Heptane	ND	0.80	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.76	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.79	ND	0.14	
108-88-3	Toluene	ND	0.79	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.094	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.79	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-001

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01831

Initial Pressure (psig): -2.21 Final Pressure (psig): 4.18

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.38	
75-25-2	Bromoform	ND	0.79	ND	0.076	
100-42-5	Styrene	ND	0.76	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.79	ND	0.11	
98-82-8	Cumene	ND	0.79	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.79	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.79	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.79	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.22	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.79	ND	0.074	**V**
104-51-8	n-Butylbenzene	ND	0.79	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.80	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-002

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00977

Initial Pressure (psig): -2.47 Final Pressure (psig): 5.12

Canister Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.86	**0.46**	0.17	
74-87-3	Chloromethane	ND	0.83	ND	0.40	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.87	ND	0.13	
75-01-4	Vinyl Chloride	ND	0.84	ND	0.33	
106-99-0	1,3-Butadiene	ND	0.84	ND	0.38	
74-83-9	Bromomethane	ND	0.83	ND	0.21	
75-00-3	Chloroethane	ND	0.83	ND	0.31	
107-02-8	Acrolein	ND	1.6	ND	0.71	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.84	**0.20**	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.66	
107-13-1	Acrylonitrile	ND	1.6	ND	0.75	
75-35-4	1,1-Dichloroethene	ND	0.87	ND	0.22	
75-09-2	Methylene Chloride	ND	0.84	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.87	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.8	ND	0.57	
156-60-5	trans-1,2-Dichloroethene	ND	0.86	ND	0.22	
75-34-3	1,1-Dichloroethane	ND	0.86	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.86	ND	0.24	
108-05-4	Vinyl Acetate	ND	8.1	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.55	
156-59-2	cis-1,2-Dichloroethene	ND	0.84	ND	0.21	
141-78-6	Ethyl Acetate	**13**	3.4	**3.5**	0.94	
110-54-3	n-Hexane	ND	0.86	ND	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-002

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00977

Initial Pressure (psig): -2.47 Final Pressure (psig): 5.12

Canister Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.87	ND	0.18	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.55	
107-06-2	1,2-Dichloroethane	ND	0.86	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.84	ND	0.15	
71-43-2	Benzene	ND	0.81	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.81	ND	0.13	
110-82-7	Cyclohexane	ND	1.8	ND	0.52	
78-87-5	1,2-Dichloropropane	ND	0.81	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.86	ND	0.13	
79-01-6	Trichloroethene	ND	0.84	ND	0.16	
123-91-1	1,4-Dioxane	ND	0.84	ND	0.23	
142-82-5	n-Heptane	ND	0.86	ND	0.21	
10061-01-5	cis-1,3-Dichloropropene	ND	0.81	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	1.8	ND	0.44	
10061-02-6	trans-1,3-Dichloropropene	ND	0.83	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.84	ND	0.15	
108-88-3	Toluene	ND	0.84	ND	0.22	
591-78-6	2-Hexanone	ND	1.8	ND	0.44	
124-48-1	Dibromochloromethane	ND	0.86	ND	0.10	
106-93-4	1,2-Dibromoethane	ND	0.84	ND	0.11	
111-65-9	n-Octane	ND	0.86	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.84	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-002

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00977

Initial Pressure (psig): -2.47 Final Pressure (psig): 5.12

Canister Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.84	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.8	ND	0.41	
75-25-2	Bromoform	ND	0.84	ND	0.082	
100-42-5	Styrene	ND	0.81	ND	0.19	
95-47-6	o-Xylene	ND	0.84	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.84	ND	0.12	
98-82-8	Cumene	ND	0.84	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.86	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.86	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.84	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.84	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.8	ND	0.34	
541-73-1	1,3-Dichlorobenzene	ND	0.84	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.84	ND	0.14	
135-98-8	sec-Butylbenzene	ND	0.84	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.84	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.86	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	ND	0.24	
91-20-3	Naphthalene	ND	0.84	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.84	ND	0.079	**V**
104-51-8	n-Butylbenzene	ND	0.84	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.86	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-003

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01291

Initial Pressure (psig): -2.42 Final Pressure (psig): 4.43

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.83	**0.46**	0.17	
74-87-3	Chloromethane	ND	0.80	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.84	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.81	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.81	ND	0.37	
74-83-9	Bromomethane	ND	0.80	ND	0.20	
75-00-3	Chloroethane	ND	0.80	ND	0.30	
107-02-8	Acrolein	ND	1.6	ND	0.68	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.81	**0.21**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.63	
107-13-1	Acrylonitrile	ND	1.6	ND	0.72	
75-35-4	1,1-Dichloroethene	ND	0.84	ND	0.21	
75-09-2	Methylene Chloride	ND	0.81	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.84	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.55	
156-60-5	trans-1,2-Dichloroethene	ND	0.83	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.83	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.83	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.8	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.53	
156-59-2	cis-1,2-Dichloroethene	ND	0.81	ND	0.20	
141-78-6	Ethyl Acetate	ND	3.3	ND	0.91	
110-54-3	n-Hexane	ND	0.83	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-003

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01291

Initial Pressure (psig): -2.42 Final Pressure (psig): 4.43

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.84	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.53	
107-06-2	1,2-Dichloroethane	ND	0.83	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.81	ND	0.15	
71-43-2	Benzene	ND	0.78	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.78	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.50	
78-87-5	1,2-Dichloropropane	ND	0.78	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.83	ND	0.12	
79-01-6	Trichloroethene	ND	0.81	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.81	ND	0.23	
142-82-5	n-Heptane	ND	0.83	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.78	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.42	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.81	ND	0.15	
108-88-3	Toluene	ND	0.81	ND	0.22	
591-78-6	2-Hexanone	ND	1.7	ND	0.42	
124-48-1	Dibromochloromethane	ND	0.83	ND	0.097	
106-93-4	1,2-Dibromoethane	ND	0.81	ND	0.11	
111-65-9	n-Octane	ND	0.83	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.81	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-003

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01291

Initial Pressure (psig): -2.42 Final Pressure (psig): 4.43

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.81	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.40	
75-25-2	Bromoform	ND	0.81	ND	0.078	
100-42-5	Styrene	ND	0.78	ND	0.18	
95-47-6	o-Xylene	ND	0.81	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.81	ND	0.12	
98-82-8	Cumene	ND	0.81	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.83	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.83	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.81	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.81	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.81	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.81	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.81	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.81	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.83	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.81	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.81	ND	0.076	**V**
104-51-8	n-Butylbenzene	ND	0.81	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.83	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-004

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00813

Initial Pressure (psig): -2.72 Final Pressure (psig): 4.02

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.83	**0.47**	0.17	
74-87-3	Chloromethane	ND	0.80	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.84	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.81	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.81	ND	0.37	
74-83-9	Bromomethane	ND	0.80	ND	0.20	
75-00-3	Chloroethane	ND	0.80	ND	0.30	
107-02-8	Acrolein	ND	1.6	ND	0.68	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.81	**0.21**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.63	
107-13-1	Acrylonitrile	ND	1.6	ND	0.72	
75-35-4	1,1-Dichloroethene	ND	0.84	ND	0.21	
75-09-2	Methylene Chloride	ND	0.81	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.84	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.55	
156-60-5	trans-1,2-Dichloroethene	ND	0.83	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.83	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.83	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.8	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.53	
156-59-2	cis-1,2-Dichloroethene	ND	0.81	ND	0.20	
141-78-6	Ethyl Acetate	**28**	3.3	**7.9**	0.91	
110-54-3	n-Hexane	ND	0.83	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-004

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00813

Initial Pressure (psig): -2.72 Final Pressure (psig): 4.02

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.84	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.53	
107-06-2	1,2-Dichloroethane	ND	0.83	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.81	ND	0.15	
71-43-2	Benzene	ND	0.78	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.78	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.50	
78-87-5	1,2-Dichloropropane	ND	0.78	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.83	ND	0.12	
79-01-6	Trichloroethene	ND	0.81	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.81	ND	0.23	
142-82-5	n-Heptane	ND	0.83	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.78	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.42	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.81	ND	0.15	
108-88-3	Toluene	ND	0.81	ND	0.22	
591-78-6	2-Hexanone	ND	1.7	ND	0.42	
124-48-1	Dibromochloromethane	ND	0.83	ND	0.097	
106-93-4	1,2-Dibromoethane	ND	0.81	ND	0.11	
111-65-9	n-Octane	ND	0.83	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.81	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-004

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00813

Initial Pressure (psig): -2.72 Final Pressure (psig): 4.02

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.81	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.40	
75-25-2	Bromoform	ND	0.81	ND	0.078	
100-42-5	Styrene	ND	0.78	ND	0.18	
95-47-6	o-Xylene	ND	0.81	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.81	ND	0.12	
98-82-8	Cumene	ND	0.81	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.83	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.83	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.81	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.81	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.81	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.81	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.81	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.81	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.83	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.81	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.81	ND	0.076	**V**
104-51-8	n-Butylbenzene	ND	0.81	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.83	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_051322_D** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-005

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01795

Initial Pressure (psig): -0.65 Final Pressure (psig): 4.22

Canister Dilution Factor: 1.35

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.72	**0.47**	0.14	
74-87-3	Chloromethane	ND	0.69	ND	0.33	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.73	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.70	ND	0.27	
106-99-0	1,3-Butadiene	ND	0.70	ND	0.32	
74-83-9	Bromomethane	ND	0.69	ND	0.18	
75-00-3	Chloroethane	ND	0.69	ND	0.26	
107-02-8	Acrolein	ND	1.4	ND	0.59	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.70	**0.20**	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.55	
107-13-1	Acrylonitrile	ND	1.4	ND	0.62	
75-35-4	1,1-Dichloroethene	ND	0.73	ND	0.18	
75-09-2	Methylene Chloride	ND	0.70	ND	0.20	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.73	ND	0.095	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	0.72	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.72	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.72	ND	0.20	
108-05-4	Vinyl Acetate	ND	6.8	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.46	
156-59-2	cis-1,2-Dichloroethene	ND	0.70	ND	0.18	
141-78-6	Ethyl Acetate	**3.3**	2.8	**0.91**	0.79	
110-54-3	n-Hexane	ND	0.72	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_051322_D** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-005

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01795

Initial Pressure (psig): -0.65 Final Pressure (psig): 4.22

Canister Dilution Factor: 1.35

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.73	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.46	
107-06-2	1,2-Dichloroethane	ND	0.72	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.70	ND	0.13	
71-43-2	Benzene	ND	0.68	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.68	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.68	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.72	ND	0.11	
79-01-6	Trichloroethene	ND	0.70	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.70	ND	0.19	
142-82-5	n-Heptane	ND	0.72	ND	0.17	
10061-01-5	cis-1,3-Dichloropropene	ND	0.68	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.36	
10061-02-6	trans-1,3-Dichloropropene	ND	0.69	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.70	ND	0.13	
108-88-3	Toluene	ND	0.70	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.36	
124-48-1	Dibromochloromethane	ND	0.72	ND	0.084	
106-93-4	1,2-Dibromoethane	ND	0.70	ND	0.091	
111-65-9	n-Octane	ND	0.72	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.70	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_051322_D** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-005

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01795

Initial Pressure (psig): -0.65 Final Pressure (psig): 4.22

Canister Dilution Factor: 1.35

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.70	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.34	
75-25-2	Bromoform	ND	0.70	ND	0.068	
100-42-5	Styrene	ND	0.68	ND	0.16	
95-47-6	o-Xylene	ND	0.70	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.70	ND	0.10	
98-82-8	Cumene	ND	0.70	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.72	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.72	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.70	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.70	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.70	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.70	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.70	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.70	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.72	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.70	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.70	ND	0.066	**V**
104-51-8	n-Butylbenzene	ND	0.70	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.72	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220525-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220525-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220525-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	**V**
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2202166

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 5/13/22
Analyst: Wida Ang Date(s) Received: 5/13/22
Sample Type: 6.0 L Summa Canister(s) / 6.0 L Silonite Canister(s) Date(s) Analyzed: 5/25/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220525-MB	**105**	**91**	**84**	70-130	
Lab Control Sample	P220525-LCS	**107**	**86**	**85**	70-130	
Duplicate Lab Control Sample	P220525-DLCS	**104**	**88**	**88**	70-130	
DOE-1_051322_S	P2202166-001	**101**	**96**	**88**	70-130	
DOE-1_051322_S	P2202166-001DUP	**103**	**94**	**86**	70-130	
DOE-2_051322_S	P2202166-002	**103**	**94**	**87**	70-130	
DOE-3_051322_S	P2202166-003	**103**	**94**	**85**	70-130	
DOE-4_051322_S	P2202166-004	**103**	**94**	**85**	70-130	
DOE-2_051322_D	P2202166-005	**104**	**92**	**84**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220525-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	193	192	**93**	**92**	71-112	1	25	
74-87-3	Chloromethane	206	206	214	**100**	**104**	53-126	4	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	208	208	**100**	**100**	62-121	0	25	
75-01-4	Vinyl Chloride	208	230	227	**111**	**109**	63-123	2	25	
106-99-0	1,3-Butadiene	206	215	212	**104**	**103**	63-135	1	25	
74-83-9	Bromomethane	206	187	185	**91**	**90**	71-112	1	25	
75-00-3	Chloroethane	206	199	195	**97**	**95**	66-117	2	25	
107-02-8	Acrolein	416	368	356	**88**	**86**	71-123	2	25	
75-69-4	Trichlorofluoromethane (CFC 11)	202	192	189	**95**	**94**	71-114	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	403	427	**101**	**107**	61-124	6	25	
107-13-1	Acrylonitrile	402	406	393	**101**	**98**	65-130	3	25	
75-35-4	1,1-Dichloroethene	210	194	189	**92**	**90**	74-114	2	25	
75-09-2	Methylene Chloride	208	192	185	**92**	**89**	75-112	3	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	193	192	**89**	**89**	73-114	0	25	
75-15-0	Carbon Disulfide	414	403	390	**97**	**94**	70-113	3	25	
156-60-5	trans-1,2-Dichloroethene	208	204	197	**98**	**95**	76-119	3	25	
75-34-3	1,1-Dichloroethane	214	205	198	**96**	**93**	70-114	3	25	
1634-04-4	Methyl tert-Butyl Ether	206	193	185	**94**	**90**	72-118	4	25	
108-05-4	Vinyl Acetate	942	1200	1160	**127**	**123**	56-137	3	25	
78-93-3	2-Butanone (MEK)	408	406	390	**100**	**96**	74-121	4	25	
156-59-2	cis-1,2-Dichloroethene	206	200	195	**97**	**95**	73-117	2	25	
141-78-6	Ethyl Acetate	580	746	718	**129**	**124**	59-161	4	25	
110-54-3	n-Hexane	208	240	231	**115**	**111**	55-130	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220525-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	210	211	205	**100**	**98**	71-114	2	25	
109-99-9	Tetrahydrofuran (THF)	404	402	386	**100**	**96**	73-114	4	25	
107-06-2	1,2-Dichloroethane	210	208	201	**99**	**96**	71-119	3	25	
71-55-6	1,1,1-Trichloroethane	208	194	190	**93**	**91**	73-119	2	25	
71-43-2	Benzene	208	199	194	**96**	**93**	72-113	3	25	
56-23-5	Carbon Tetrachloride	202	185	182	**92**	**90**	67-123	2	25	
110-82-7	Cyclohexane	412	409	398	**99**	**97**	70-119	2	25	
78-87-5	1,2-Dichloropropane	206	202	197	**98**	**96**	70-118	2	25	
75-27-4	Bromodichloromethane	208	205	199	**99**	**96**	74-119	3	25	
79-01-6	Trichloroethene	204	196	194	**96**	**95**	74-115	1	25	
123-91-1	1,4-Dioxane	206	200	194	**97**	**94**	77-124	3	25	
142-82-5	n-Heptane	206	195	191	**95**	**93**	70-119	2	25	
10061-01-5	cis-1,3-Dichloropropene	208	211	205	**101**	**99**	81-126	2	25	
108-10-1	4-Methyl-2-pentanone	412	441	425	**107**	**103**	73-129	4	25	
10061-02-6	trans-1,3-Dichloropropene	200	204	197	**102**	**99**	80-127	3	25	
79-00-5	1,1,2-Trichloroethane	208	197	191	**95**	**92**	78-117	3	25	
108-88-3	Toluene	206	169	169	**82**	**82**	70-118	0	25	
591-78-6	2-Hexanone	406	381	376	**94**	**93**	74-132	1	25	
124-48-1	Dibromochloromethane	210	165	165	**79**	**79**	69-137	0	25	
106-93-4	1,2-Dibromoethane	208	167	167	**80**	**80**	76-128	0	25	
111-65-9	n-Octane	208	167	167	**80**	**80**	68-120	0	25	
127-18-4	Tetrachloroethene	212	163	165	**77**	**78**	63-130	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220525-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	206	173	173	**84**	**84**	71-123	0	25	
179601-23-1	m,p-Xylenes	416	362	360	**87**	**87**	67-127	0	25	
75-25-2	Bromoform	210	165	168	**79**	**80**	65-149	1	25	
100-42-5	Styrene	202	171	171	**85**	**85**	76-132	0	25	
95-47-6	o-Xylene	208	180	179	**87**	**86**	69-124	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	183	181	**88**	**87**	69-128	1	25	
98-82-8	Cumene	206	177	177	**86**	**86**	69-125	0	25	
103-65-1	n-Propylbenzene	208	181	181	**87**	**87**	70-127	0	25	
622-96-8	4-Ethyltoluene	208	180	180	**87**	**87**	69-127	0	25	
108-67-8	1,3,5-Trimethylbenzene	208	182	182	**88**	**88**	66-129	0	25	
95-63-6	1,2,4-Trimethylbenzene	206	204	203	**99**	**99**	63-142	0	25	
100-44-7	Benzyl Chloride	416	402	397	**97**	**95**	73-145	2	25	
541-73-1	1,3-Dichlorobenzene	208	185	186	**89**	**89**	67-136	0	25	
106-46-7	1,4-Dichlorobenzene	210	170	171	**81**	**81**	63-134	0	25	
135-98-8	sec-Butylbenzene	204	184	183	**90**	**90**	68-130	0	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	177	176	**86**	**85**	60-139	1	25	
95-50-1	1,2-Dichlorobenzene	210	189	188	**90**	**90**	64-139	0	25	
120-82-1	1,2,4-Trichlorobenzene	420	331	334	**79**	**80**	62-154	1	25	
91-20-3	Naphthalene	210	178	179	**85**	**85**	62-156	0	25	
87-68-3	Hexachlorobutadiene	212	145	146	**68**	**69**	55-142	1	25	
104-51-8	n-Butylbenzene	208	181	179	**87**	**86**	70-131	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-001DUP

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01831

Initial Pressure (psig): -2.21 Final Pressure (psig): 4.18

Canister Dilution Factor: 1.51

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Dichlorodifluoromethane (CFC 12)	2.37	0.479	2.29	0.464	2.33	**3**	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Trichlorofluoromethane	1.17	0.209	1.18	0.210	1.175	**0.9**	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	ND	ND	-	-	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Vinyl Acetate	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Ethyl Acetate	17.8	4.93	17.9	4.98	17.85	**0.6**	25	
n-Hexane	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-001DUP

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01831

Initial Pressure (psig): -2.21 Final Pressure (psig): 4.18

Canister Dilution Factor: 1.51

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Chloroform	ND	ND	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Trichloroethene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	ND	ND	ND	ND	-	-	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Octane	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_051322_S** ALS Project ID: P2202166
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202166-001DUP

Test Code: EPA TO-15 Date Collected: 5/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/13/22
Analyst: Wida Ang Date Analyzed: 5/25/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01831

Initial Pressure (psig): -2.21 Final Pressure (psig): 4.18

Canister Dilution Factor: 1.51

Compound	Sample Result µg/m³	Sample Result ppbV	**Duplicate Sample Result µg/m³**	**Duplicate Sample Result ppbV**	Average µg/m³	**% RPD**	RPD Limit	**Data Qualifier**
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
sec-Butylbenzene	ND	ND	ND	ND	-	-	25	
4-Isopropyltoluene (p-Cymene)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	**V**
n-Butylbenzene	ND	ND	ND	ND	-	-	25	
Xylenes, Total	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.** ALS Project ID: P2202166

Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05252201.D

Analyst: Wida Ang Date Analyzed: 5/25/22

Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 01:30

Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	143471		11.31		649930		13.43		163230		17.73	
	Upper Limit	200859		11.64		909902		13.76		228522		18.06	
	Lower Limit	86083		10.98		389958		13.10		97938		17.40	
	Client Sample ID												
01	Method Blank	131095		11.29		589818		13.42		149670		17.73	
02	Lab Control Sample	140711		11.32		632821		13.43		169332		17.73	
03	Duplicate Lab Control Sample	151917		11.32		673855		13.43		174845		17.73	
04	DOE-1_051322_S	154793		11.30		693609		13.42		165693		17.73	
05	DOE-1_051322_S (Lab Duplicate)	147479		11.30		664574		13.42		160047		17.73	
06	DOE-2_051322_S	144999		11.30		651926		13.42		156414		17.73	
07	DOE-3_051322_S	141614		11.30		639422		13.42		155364		17.73	
08	DOE-4_051322_S	138140		11.30		620366		13.43		150951		17.73	
09	DOE-2_051322_D	136255		11.30		610651		13.42		152635		17.73	
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252226.D Vial: 3
Acq On : 25 May 2022 17:19 Operator: WA/CG
Sample : P2202166-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:17 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/25/22
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	154793	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	693609	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	165693	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	279968	12.680	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
57) Toluene-d8 (SS2)	15.88	98	749082	11.943	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
73) Bromofluorobenzene (SS3)	19.11	174	251257	10.991	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.92%				
Target Compounds							Qvalue
2) Propene	4.21	42	1967	N.D.			
3) Dichlorodifluoromethan...	4.36	85	54522	1.569	ng		100
4) Chloromethane	4.64	50	7967	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1370	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.78	94	370	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.46	45	49608	2.671	ng		96
11) Acetonitrile	6.74	41	5248	N.D.			
12) Acrolein	6.95	56	1438	N.D.			
13) Acetone	7.15	58	38627	2.655	ng		92
14) Trichlorofluoromethane	7.40	101	23786	0.776	ng		99
15) 2-Propanol (Isopropanol)	7.69	45	5073	N.D.			
16) Acrylonitrile	7.91	53	65	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.61	59	1008	N.D.			
19) Methylene Chloride	8.57	84	3569	N.D.			
20) 3-Chloro-1-propene (Al...	8.67	41	180	N.D.			
21) Trichlorotrifluoroethane	9.01	151	4537	N.D.			
22) Carbon Disulfide	8.85	76	6180	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.33	86	1581	0.597	ng	#	53
27) 2-Butanone (MEK)	10.63	72	3590	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	1307	N.D.			
30) Ethyl Acetate	11.43	61	87175	11.764	ng		91
31) n-Hexane	11.42	57	1035	N.D.			
32) Chloroform	11.47	83	1263	N.D.			
34) Tetrahydrofuran (THF)	11.91	72	3831	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	877	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	13.04	56	1445	No Calib		#	
41) Benzene	13.03	78	5994	N.D.			
42) Carbon Tetrachloride	13.19	117	6355	N.D.			
43) Cyclohexane	13.42	84	551	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.12	130	239	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	2057	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS16\DATA\2022 05\25\05252226.D Vial: 3
Acq On : 25 May 2022 17:19 Operator: WA/CG
Sample : P2202166-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:17 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

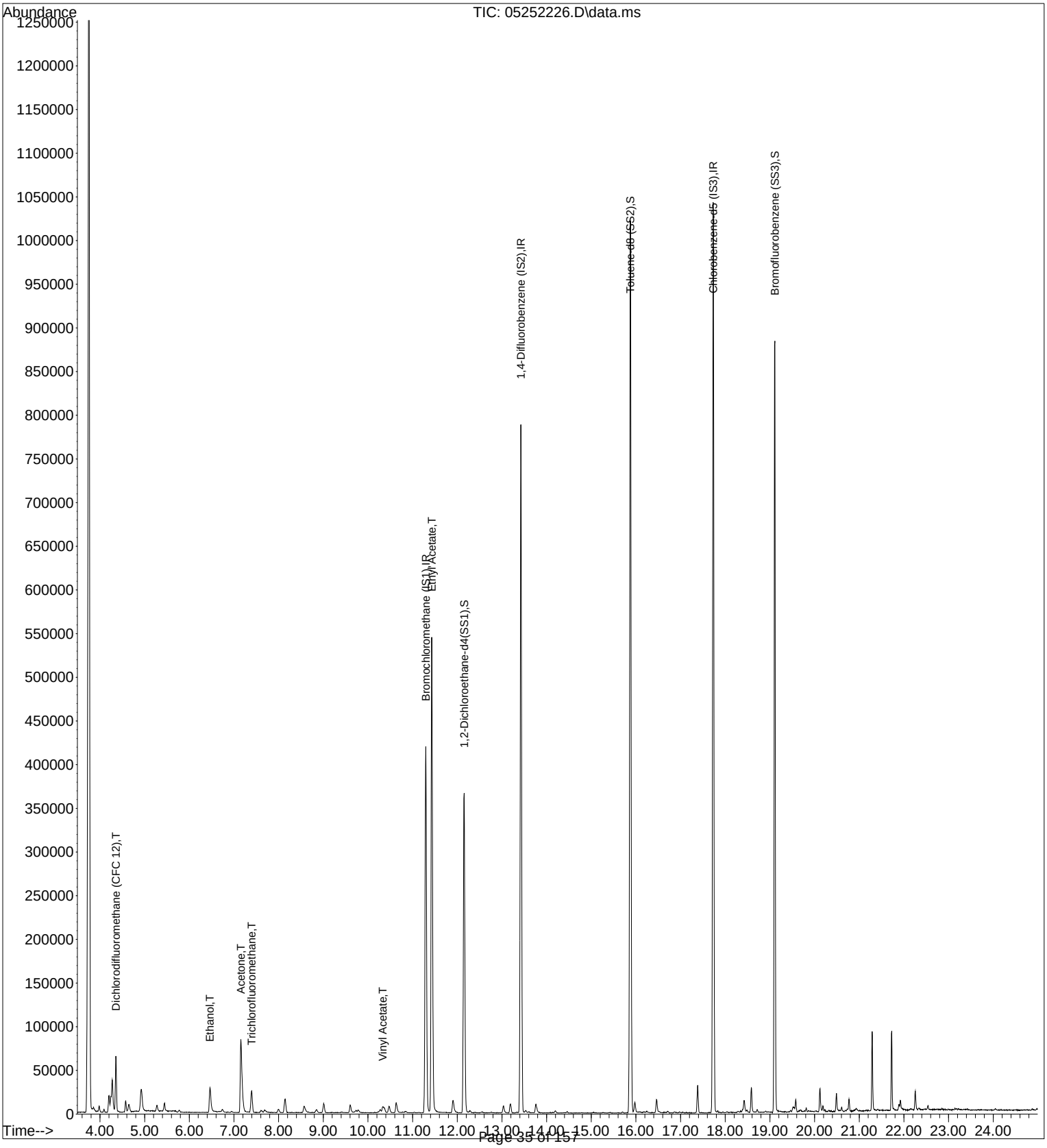
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	253	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	8289	N.D.	
59) 2-Hexanone	16.24	43	2407	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.86	43	1709	N.D.	
63) n-Octane	16.98	57	124	N.D.	
64) Tetrachloroethene	17.12	166	169	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.14	91	954	N.D.	
67) m- & p-Xylenes	18.28	91	1889	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.71	91	986	N.D.	
71) n-Nonane	18.90	43	784	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.24	105	532	N.D.	
75) alpha-Pinene	19.58	93	4569	N.D.	
76) n-Propylbenzene	19.68	91	694	N.D.	
77) 3-Ethyltoluene	19.81	105	556	No Calib	#
78) 4-Ethyltoluene	19.81	105	556	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	387	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.87	105	387	No Calib	#
82) 1,2,4-Trimethylbenzene	20.24	105	1412	N.D.	
83) n-Decane	20.13	58	241	No Calib	#
84) Benzyl Chloride	20.42	91	121	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.47	105	101	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	2920	N.D.	
89) 1,2,3-Trimethylbenzene	20.61	105	406	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	771	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	22.26	57	2859	No Calib	#
94) 1,2,4-Trichlorobenzene	22.24	180	256	N.D.	
95) Naphthalene	22.34	128	1236	N.D.	
96) n-Dodecane	22.33	57	466	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.22	55	111	No Calib	#
99) tert-Butylbenzene	20.23	119	178	N.D.	
100) n-Butylbenzene	20.96	91	801	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252226.D Vial: 3
Acq On : 25 May 2022 17:19 Operator: WA/CG
Sample : P2202166-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:17 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252226.D Vial: 3
Acq On : 25 May 2022 17:19 Operator: WA/CG
Sample : P2202166-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:17 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/25/22

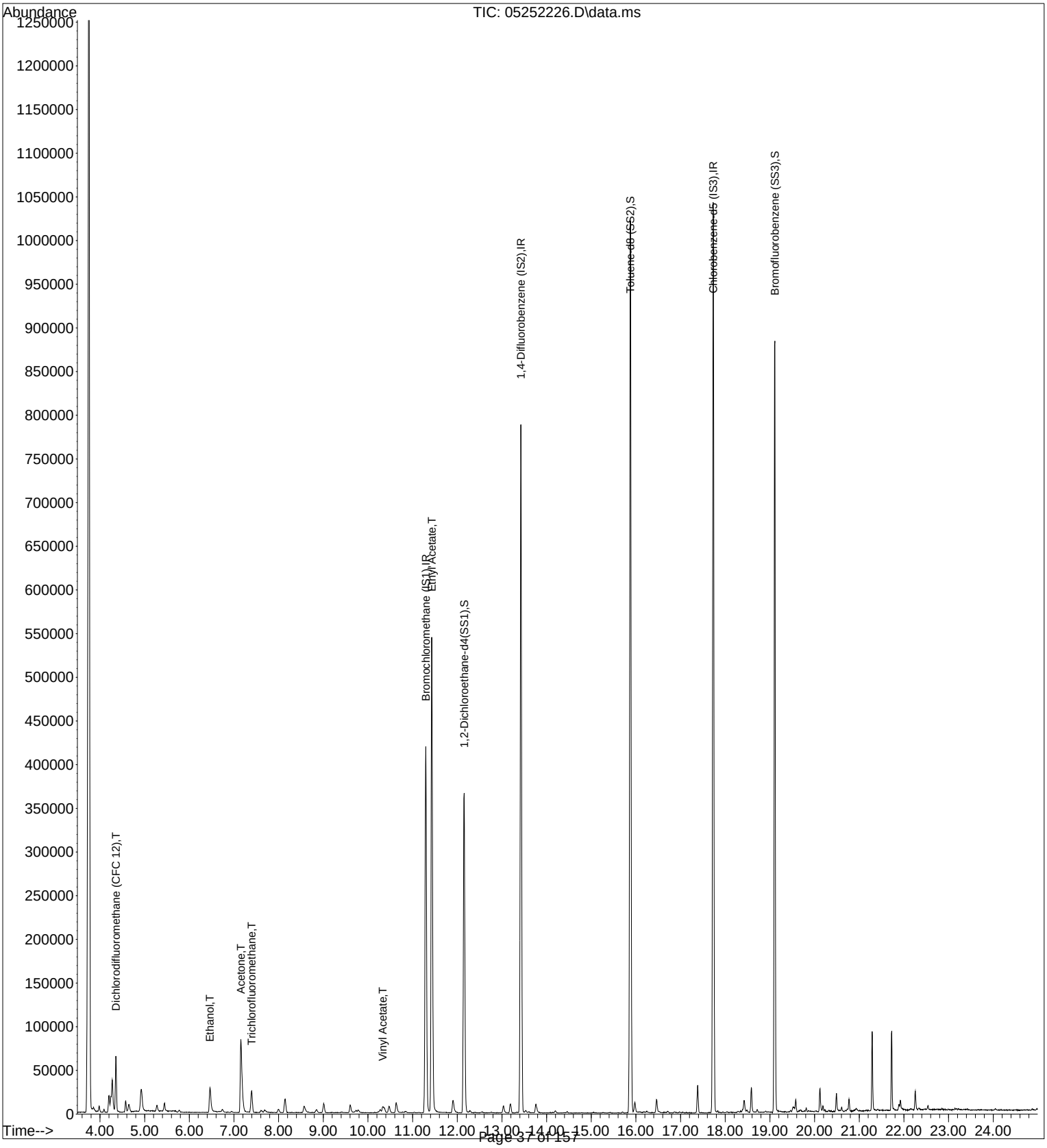
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	154793	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	693609	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	165693	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	279968	12.680	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
57) Toluene-d8 (SS2)	15.88	98	749082	11.943	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
73) Bromofluorobenzene (SS3)	19.11	174	251257	10.991	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.92%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.36	85	54522	1.569	ng		100
10) Ethanol	6.46	45	49608	2.671	ng		96
13) Acetone	7.15	58	38627	2.655	ng		92
14) Trichlorofluoromethane	7.40	101	23786	0.776	ng		99
26) Vinyl Acetate	10.33	86	1581	0.597	ng	#	53
30) Ethyl Acetate	11.43	61	87175	11.764	ng		91

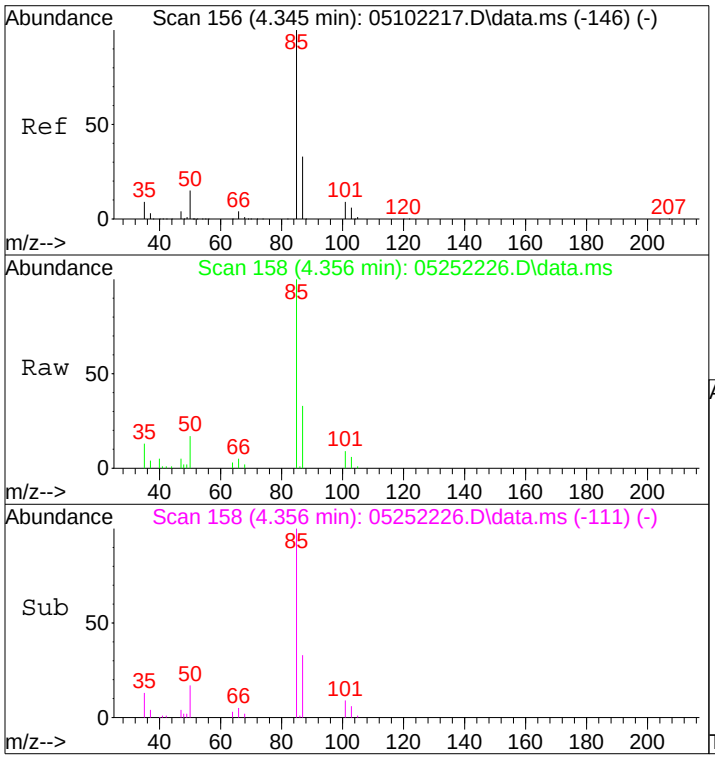
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252226.D Vial: 3
Acq On : 25 May 2022 17:19 Operator: WA/CG
Sample : P2202166-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:17 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

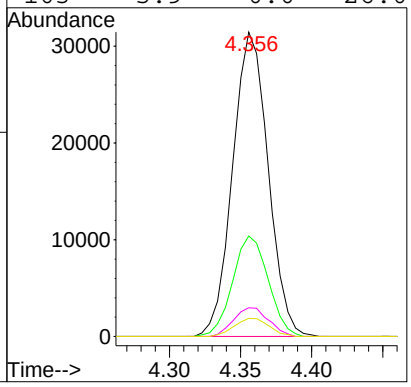


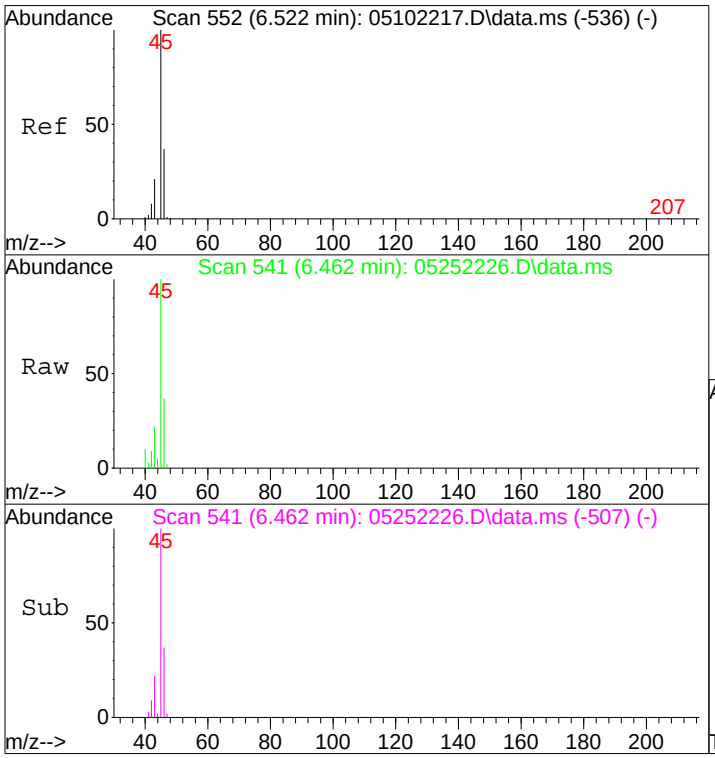


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.57 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.011 min
Lab File: 05252226.D
Acq: 25 May 2022 17:19

Tgt Ion: 85 Resp: 54522

Ion	Ratio	Lower	Upper
85	100		
87	33.1	12.9	52.9
101	9.4	0.0	29.3
103	5.9	0.0	26.0

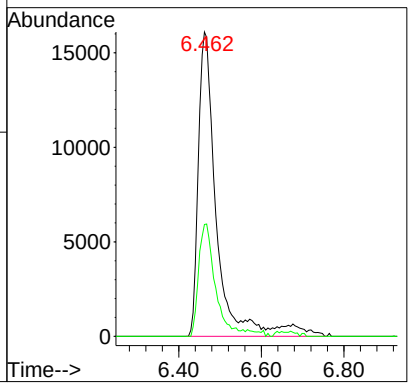


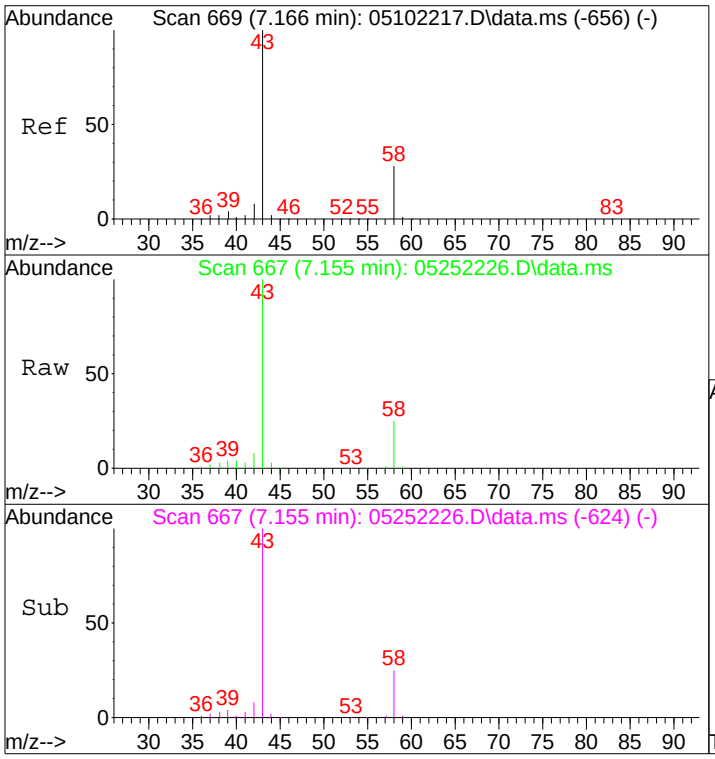


#10
Ethanol
Concen: 2.67 ng
RT: 6.46 min Scan# 541
Delta R.T. -0.060 min
Lab File: 05252226.D
Acq: 25 May 2022 17:19

Tgt Ion: 45 Resp: 49608

Ion	Ratio	Lower	Upper
45	100		
46	35.0	17.2	57.2

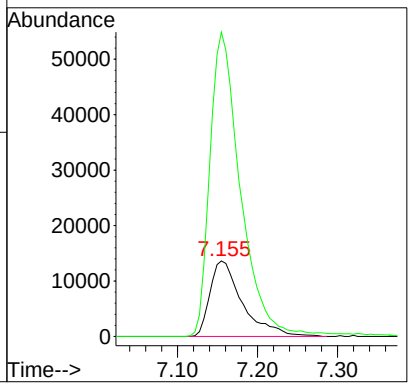


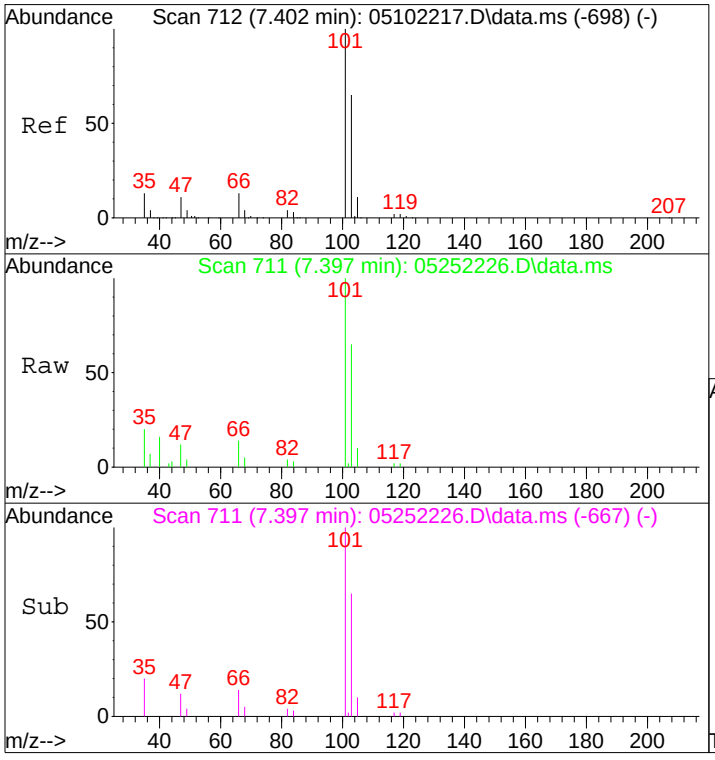


#13
Acetone
Concen: 2.66 ng
RT: 7.15 min Scan# 667
Delta R.T. -0.011 min
Lab File: 05252226.D
Acq: 25 May 2022 17:19

Tgt Ion: 58 Resp: 38627

Ion	Ratio	Lower	Upper
58	100		
43	381.8	334.7	394.7

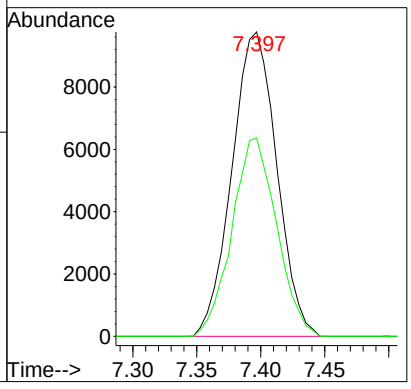


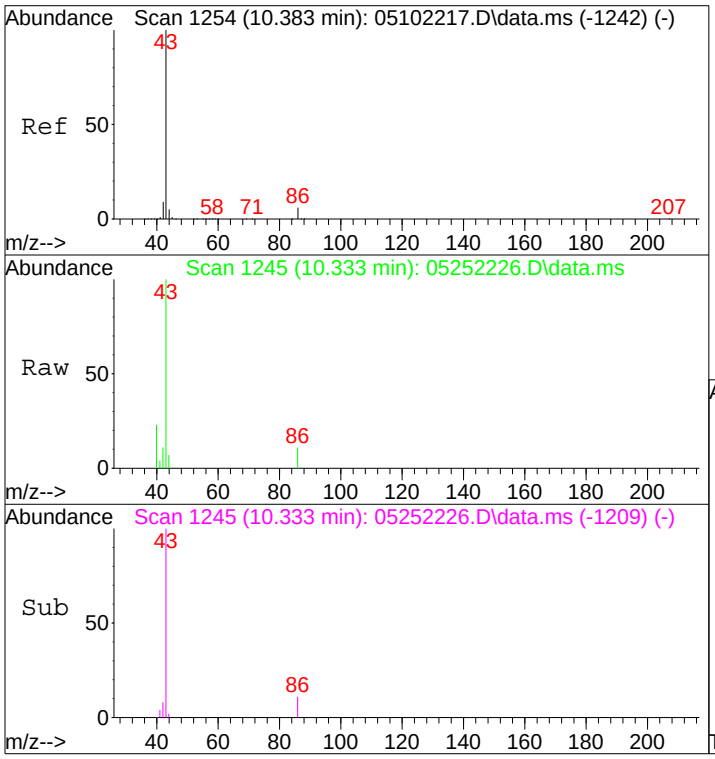


#14
Trichlorofluoromethane
Concen: 0.78 ng
RT: 7.40 min Scan# 711
Delta R.T. -0.005 min
Lab File: 05252226.D
Acq: 25 May 2022 17:19

Tgt Ion:101 Resp: 23786

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.5	84.5

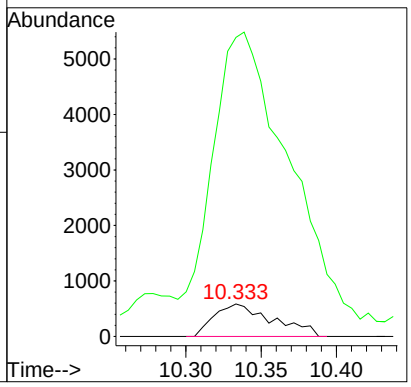


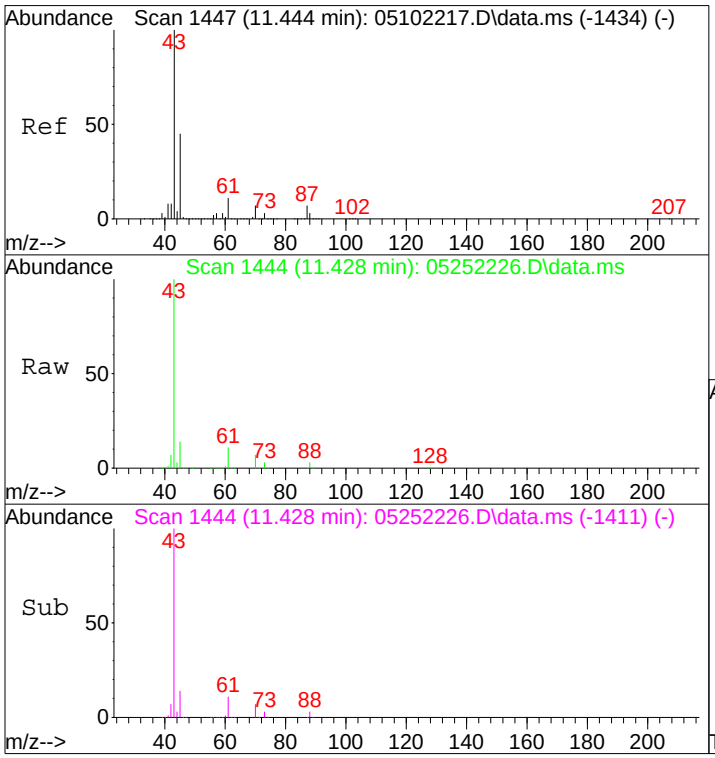


#26
Vinyl Acetate
Concen: 0.60 ng
RT: 10.33 min Scan# 1245
Delta R.T. -0.050 min
Lab File: 05252226.D
Acq: 25 May 2022 17:19

Tgt Ion: 86 Resp: 1581

Ion	Ratio	Lower	Upper
86	100		
43	1283.1	1551.4	1591.4#

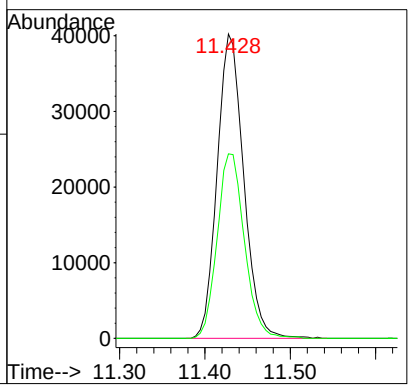




#30
Ethyl Acetate
Concen: 11.76 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.016 min
Lab File: 05252226.D
Acq: 25 May 2022 17:19

Tgt Ion: 61 Resp: 87175

Ion	Ratio	Lower	Upper
61	100		
70	62.2	49.4	89.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252228.D Vial: 4
Acq On : 25 May 2022 18:28 Operator: WA/CG
Sample : P2202166-002 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:21 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022 5/25/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	144999	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	651926	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	156414	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	265509	12.838	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%			
57) Toluene-d8 (SS2)	15.88	98	696662	11.767	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%			
73) Bromofluorobenzene (SS3)	19.11	174	234213	10.853	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.80%			
Target Compounds						Qvalue
2) Propene	4.21	42	2084	N.D.		
3) Dichlorodifluoromethan...	4.36	85	46068	1.415	ng	99
4) Chloromethane	4.64	50	7379	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1238	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.47	45	27769	1.596	ng	98
11) Acetonitrile	6.74	41	4002	N.D.		
12) Acrolein	6.95	56	1184	N.D.		
13) Acetone	7.16	58	31203	2.290	ng	95
14) Trichlorofluoromethane	7.39	101	20151	0.702	ng	99
15) 2-Propanol (Isopropanol)	7.70	45	4927	N.D.		
16) Acrylonitrile	8.14	53	3790	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.62	59	284	N.D.		
19) Methylene Chloride	8.57	84	3093	N.D.		
20) 3-Chloro-1-propene (Al...	8.57	41	103	N.D.		
21) Trichlorotrifluoroethane	9.01	151	3848	N.D.		
22) Carbon Disulfide	8.85	76	6406	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.38	86	161	N.D.		
27) 2-Butanone (MEK)	10.64	72	2266	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.43	87	786	N.D.		
30) Ethyl Acetate	11.43	61	54303	7.823	ng	90
31) n-Hexane	11.42	57	896	N.D.		
32) Chloroform	11.46	83	977	N.D.		
34) Tetrahydrofuran (THF)	11.93	72	315	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.27	62	730	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.04	56	1422	No Calib	#	
41) Benzene	13.04	78	5237	N.D.		
42) Carbon Tetrachloride	13.19	117	5628	N.D.		
43) Cyclohexane	13.42	84	534	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.20	57	1633	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Data File : I:\MS16\DATA\2022 05\25\05252228.D Vial: 4
Acq On : 25 May 2022 18:28 Operator: WA/CG
Sample : P2202166-002 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:21 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

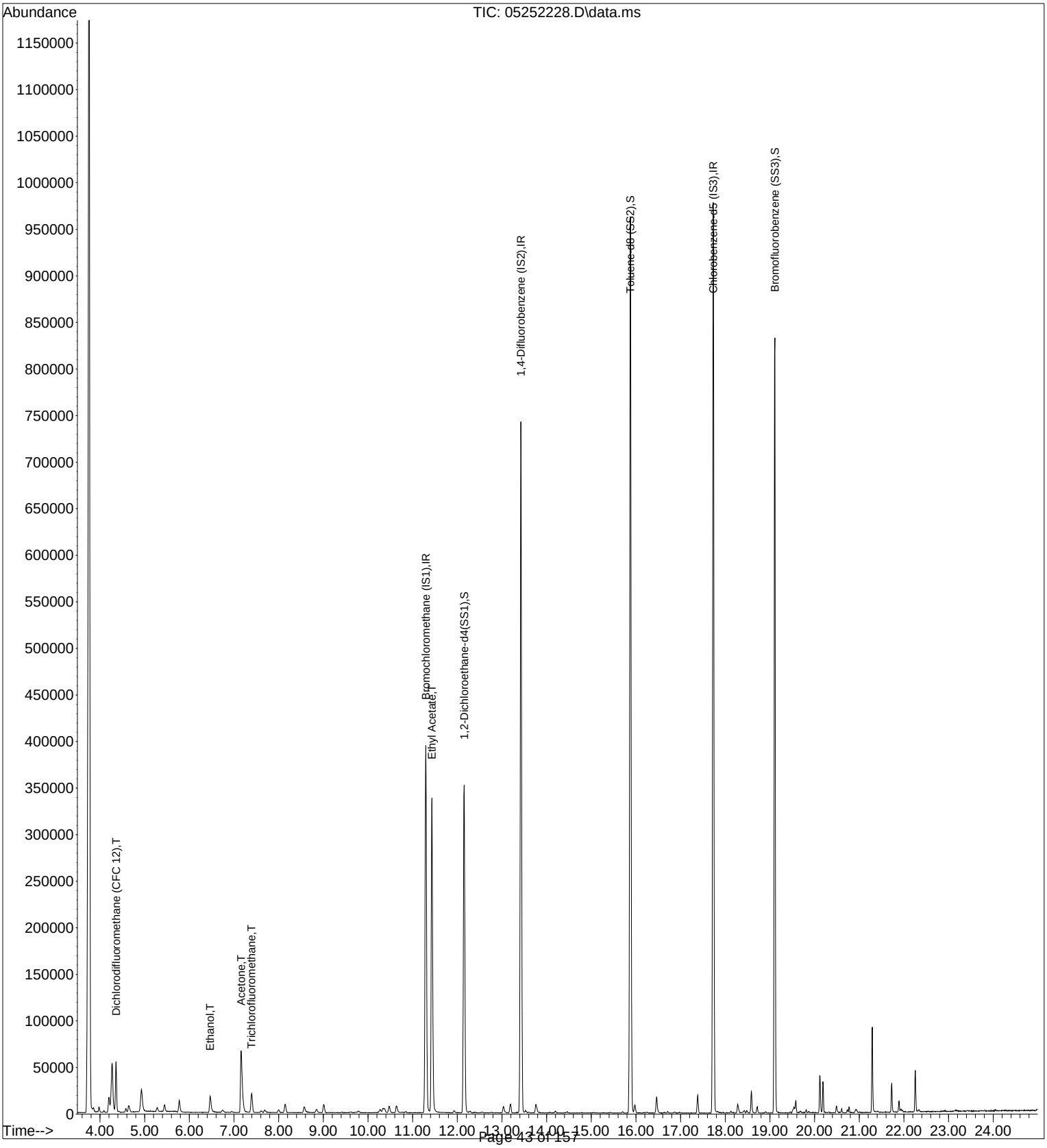
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.47	71	187	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	7025	N.D.	
59) 2-Hexanone	16.24	43	1241	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.87	43	1712	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.13	91	2133	N.D.	
67) m- & p-Xylenes	18.28	91	7401	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.71	91	2863	N.D.	
71) n-Nonane	18.91	43	922	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.10	105	244	N.D.	
75) alpha-Pinene	19.58	93	4709	N.D.	
76) n-Propylbenzene	19.68	91	325	N.D.	
77) 3-Ethyltoluene	19.81	105	203	No Calib	#
78) 4-Ethyltoluene	19.81	105	203	N.D.	
79) 1,3,5-Trimethylbenzene	19.81	105	203	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.81	105	203	No Calib	#
82) 1,2,4-Trimethylbenzene	20.24	105	479	N.D.	
83) n-Decane	20.12	58	416	No Calib	#
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	2445	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	761	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	22.25	57	6371	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.35	128	855	N.D.	
96) n-Dodecane	22.33	57	596	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.19	55	184	No Calib	#
99) tert-Butylbenzene	20.19	119	568	N.D.	
100) n-Butylbenzene	20.95	91	344	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252228.D Vial: 4
Acq On : 25 May 2022 18:28 Operator: WA/CG
Sample : P2202166-002 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:21 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252228.D Vial: 4
Acq On : 25 May 2022 18:28 Operator: WA/CG
Sample : P2202166-002 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:21 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/25/22

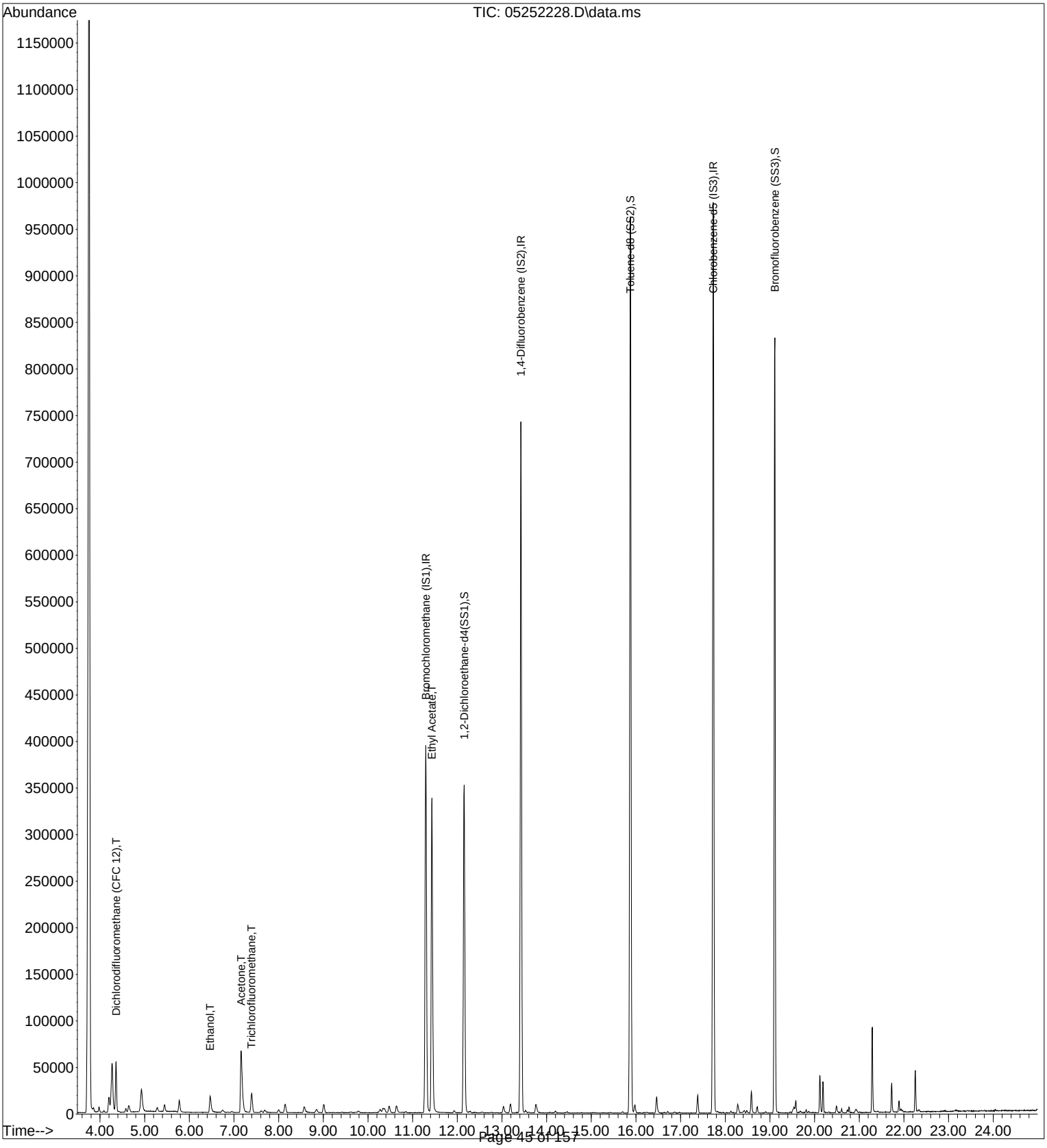
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	144999	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	651926	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	156414	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	265509	12.838	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%			
57) Toluene-d8 (SS2)	15.88	98	696662	11.767	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%			
73) Bromofluorobenzene (SS3)	19.11	174	234213	10.853	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.80%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.36	85	46068	1.415	ng	99
10) Ethanol	6.47	45	27769	1.596	ng	98
13) Acetone	7.16	58	31203	2.290	ng	95
14) Trichlorofluoromethane	7.39	101	20151	0.702	ng	99
30) Ethyl Acetate	11.43	61	54303	7.823	ng	90

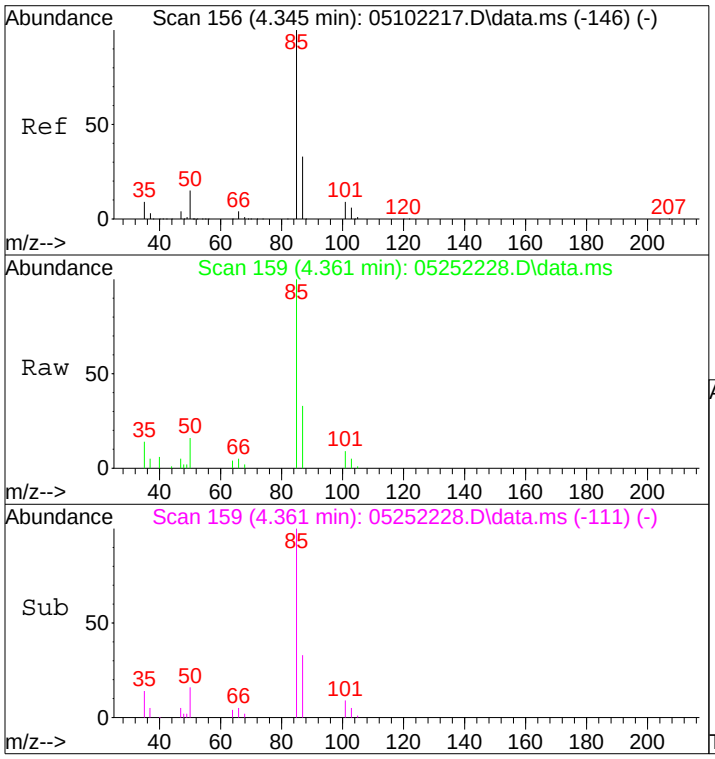
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252228.D Vial: 4
Acq On : 25 May 2022 18:28 Operator: WA/CG
Sample : P2202166-002 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:21 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

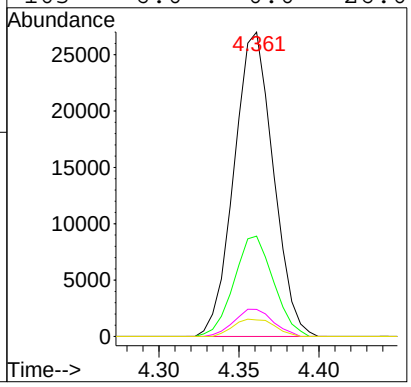


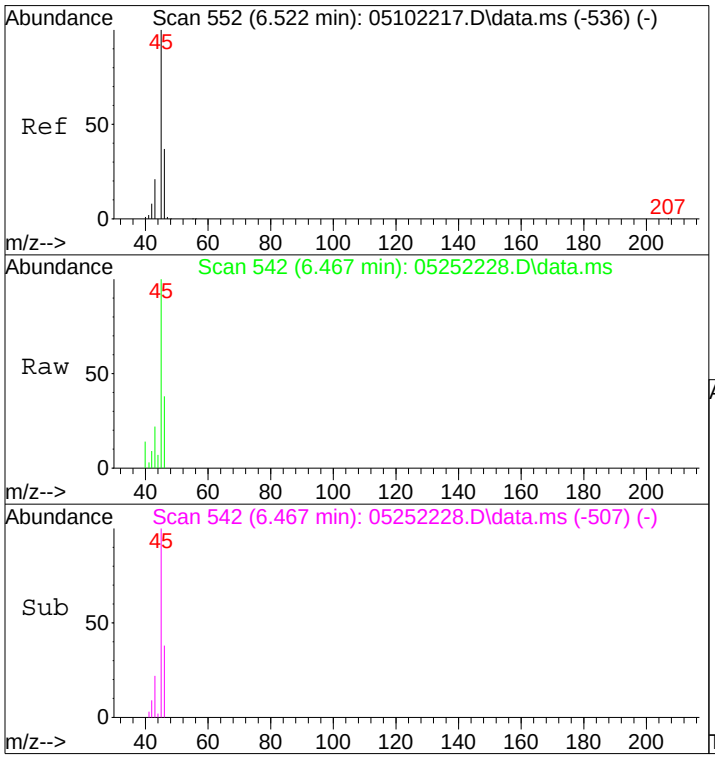


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.42 ng
RT: 4.36 min Scan# 159
Delta R.T. 0.016 min
Lab File: 05252228.D
Acq: 25 May 2022 18:28

Tgt Ion: 85 Resp: 46068

Ion	Ratio	Lower	Upper
85	100		
87	33.2	12.9	52.9
101	9.0	0.0	29.3
103	6.0	0.0	26.0

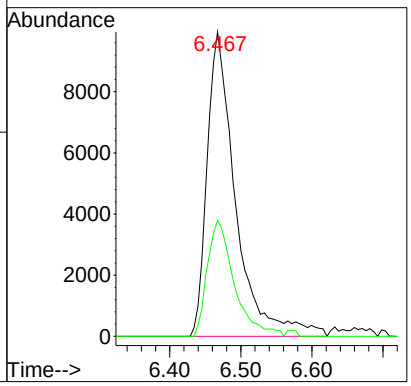


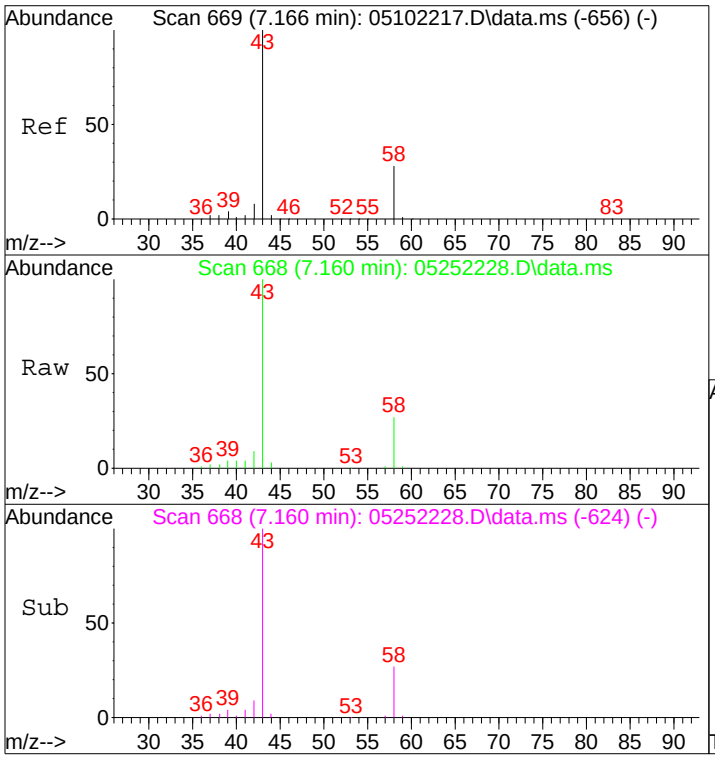


#10
Ethanol
Concen: 1.60 ng
RT: 6.47 min Scan# 542
Delta R.T. -0.055 min
Lab File: 05252228.D
Acq: 25 May 2022 18:28

Tgt Ion: 45 Resp: 27769

Ion	Ratio	Lower	Upper
45	100		
46	35.9	17.2	57.2

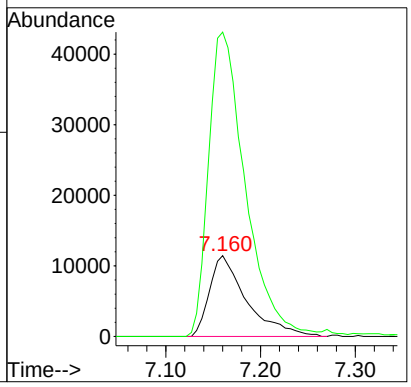


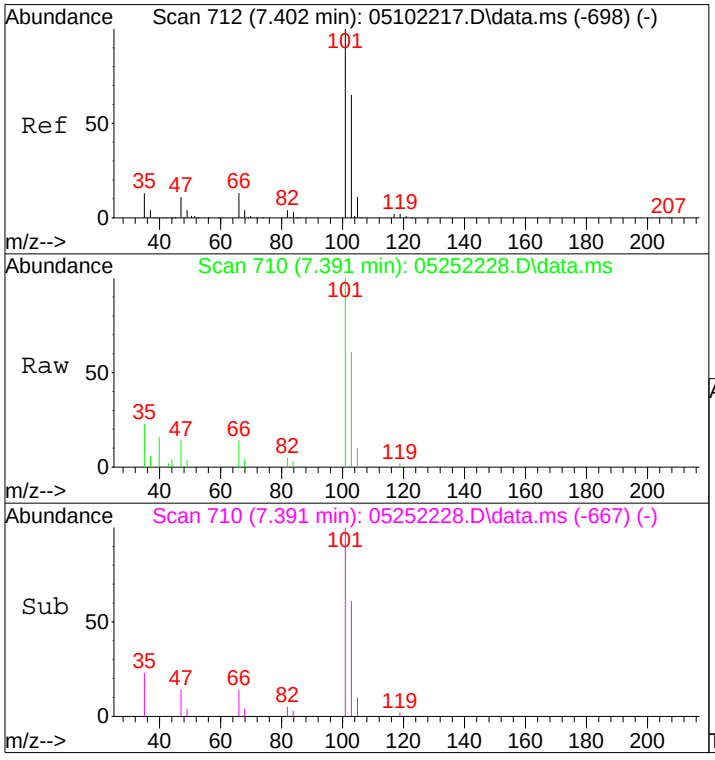


#13
Acetone
Concen: 2.29 ng
RT: 7.16 min Scan# 668
Delta R.T. -0.006 min
Lab File: 05252228.D
Acq: 25 May 2022 18:28

Tgt Ion: 58 Resp: 31203

Ion	Ratio	Lower	Upper
58	100		
43	376.1	334.7	394.7

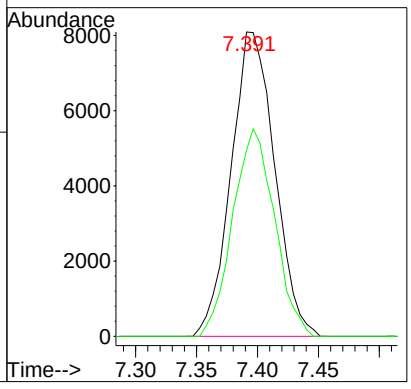


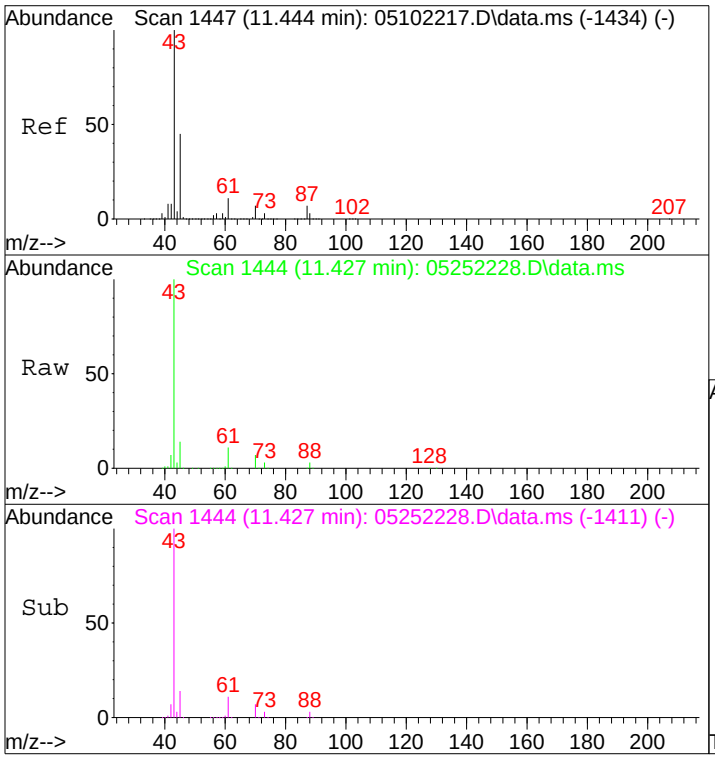


#14
Trichlorofluoromethane
Concen: 0.70 ng
RT: 7.39 min Scan# 710
Delta R.T. -0.011 min
Lab File: 05252228.D
Acq: 25 May 2022 18:28

Tgt Ion:101 Resp: 20151

Ion	Ratio	Lower	Upper
101	100		
103	65.2	44.5	84.5

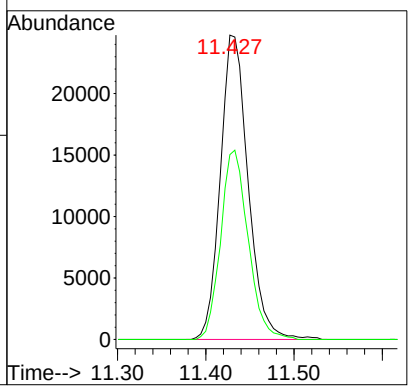




#30
Ethyl Acetate
Concen: 7.82 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.017 min
Lab File: 05252228.D
Acq: 25 May 2022 18:28

Tgt Ion: 61 Resp: 54303

Ion	Ratio	Lower	Upper
61	100		
70	61.4	49.4	89.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252229.D Vial: 5
Acq On : 25 May 2022 19:02 Operator: WA/CG
Sample : P2202166-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:23 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/25/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	141614	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	639422	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	155364	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	261057	12.924	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%			
57) Toluene-d8 (SS2)	15.88	98	688533	11.708	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.68%			
73) Bromofluorobenzene (SS3)	19.11	174	227931	10.633	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.04%			
Target Compounds						Qvalue
2) Propene	4.22	42	1486	N.D.		
3) Dichlorodifluoromethan...	4.37	85	46302	1.456	ng	99
4) Chloromethane	4.65	50	5822	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.93	135	1146	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.47	45	23762	1.398	ng	96
11) Acetonitrile	6.75	41	4461	N.D.		
12) Acrolein	6.96	56	948	N.D.		
13) Acetone	7.17	58	30072	2.260	ng	93
14) Trichlorofluoromethane	7.40	101	20777	0.741	ng	99
15) 2-Propanol (Isopropanol)	7.62	45	810	N.D.		
16) Acrylonitrile	8.15	53	4834	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.61	59	53	N.D.		
19) Methylene Chloride	8.57	84	3063	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.02	151	3870	N.D.		
22) Carbon Disulfide	8.86	76	3028	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.34	86	547	N.D.		
27) 2-Butanone (MEK)	10.64	72	2211	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.44	61	10635	1.569	ng	92
31) n-Hexane	11.42	57	818	N.D.		
32) Chloroform	11.47	83	938	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.28	62	664	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.06	56	960	No Calib	#	
41) Benzene	13.03	78	4685	N.D.		
42) Carbon Tetrachloride	13.19	117	5489	N.D.		
43) Cyclohexane	13.43	84	612	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.20	57	1597	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Data File : I:\MS16\DATA\2022 05\25\05252229.D Vial: 5
Acq On : 25 May 2022 19:02 Operator: WA/CG
Sample : P2202166-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:23 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

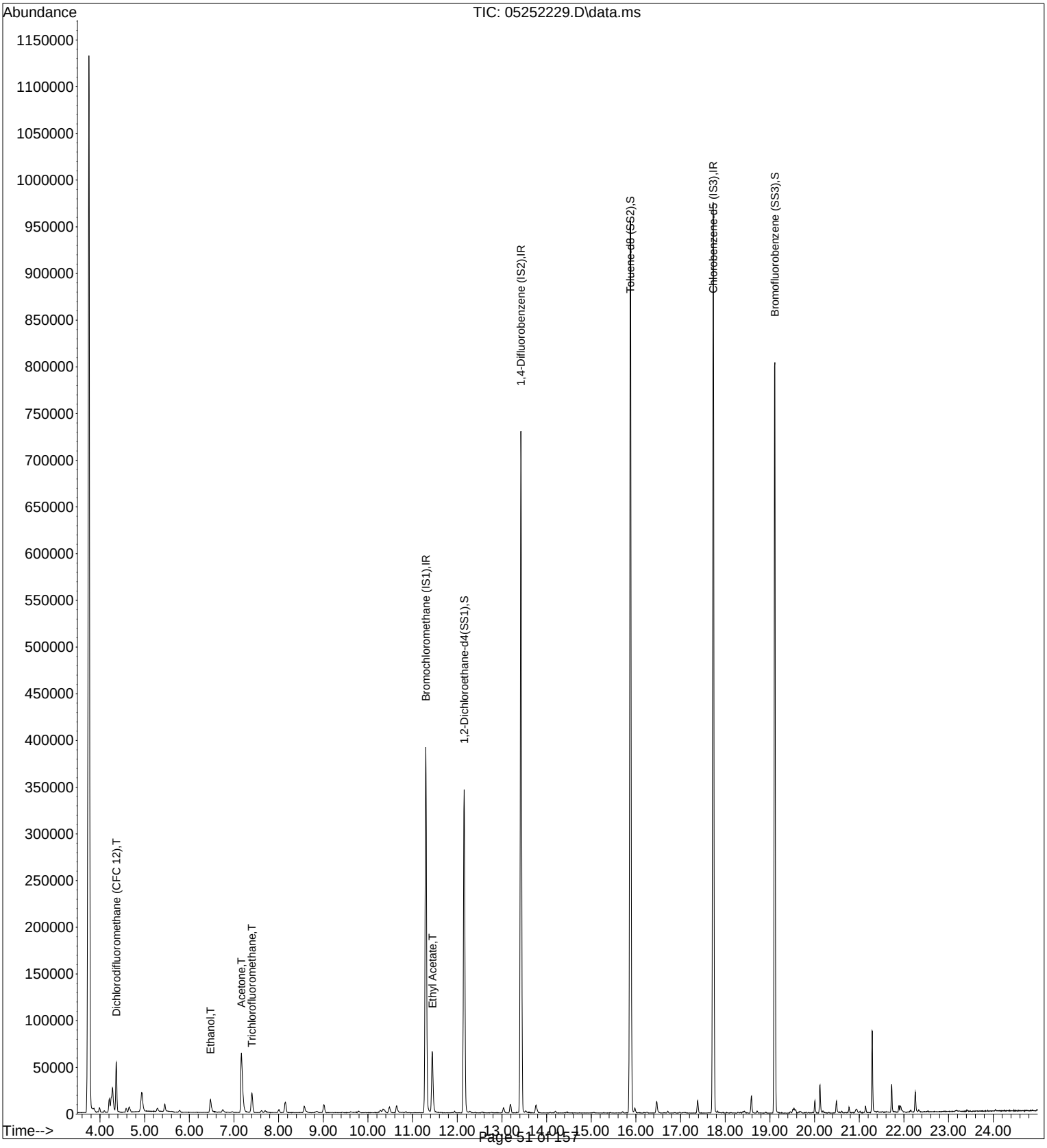
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	102	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.98	91	3874	N.D.		
59) 2-Hexanone	16.25	43	1313	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.87	43	823	N.D.		
63) n-Octane	16.98	57	114	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.13	91	598	N.D.		
67) m- & p-Xylenes	18.27	91	982	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.71	91	364	N.D.		
71) n-Nonane	18.90	43	713	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.11	105	301	N.D.		
75) alpha-Pinene	19.58	93	1227	N.D.		
76) n-Propylbenzene	19.68	91	314	N.D.		
77) 3-Ethyltoluene	19.81	105	163	No Calib		#
78) 4-Ethyltoluene	19.81	105	163	N.D.		
79) 1,3,5-Trimethylbenzene	19.81	105	163	N.D.		
80) alpha-Methylstyrene	20.01	118	3706	No Calib		#
81) 2-Ethyltoluene	19.81	105	163	No Calib		#
82) 1,2,4-Trimethylbenzene	20.24	105	524	N.D.		
83) n-Decane	20.12	58	282	No Calib		#
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.61	105	102	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	1256	N.D.		
89) 1,2,3-Trimethylbenzene	20.61	105	102	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.73	68	172	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	22.26	57	3233	No Calib		#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.35	128	840	N.D.		
96) n-Dodecane	22.33	57	651	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.42	55	1004	No Calib		#
99) tert-Butylbenzene	20.01	119	218	N.D.		
100) n-Butylbenzene	20.96	91	826	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252229.D Vial: 5
Acq On : 25 May 2022 19:02 Operator: WA/CG
Sample : P2202166-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:23 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252229.D Vial: 5
Acq On : 25 May 2022 19:02 Operator: WA/CG
Sample : P2202166-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:23 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 5/25/22

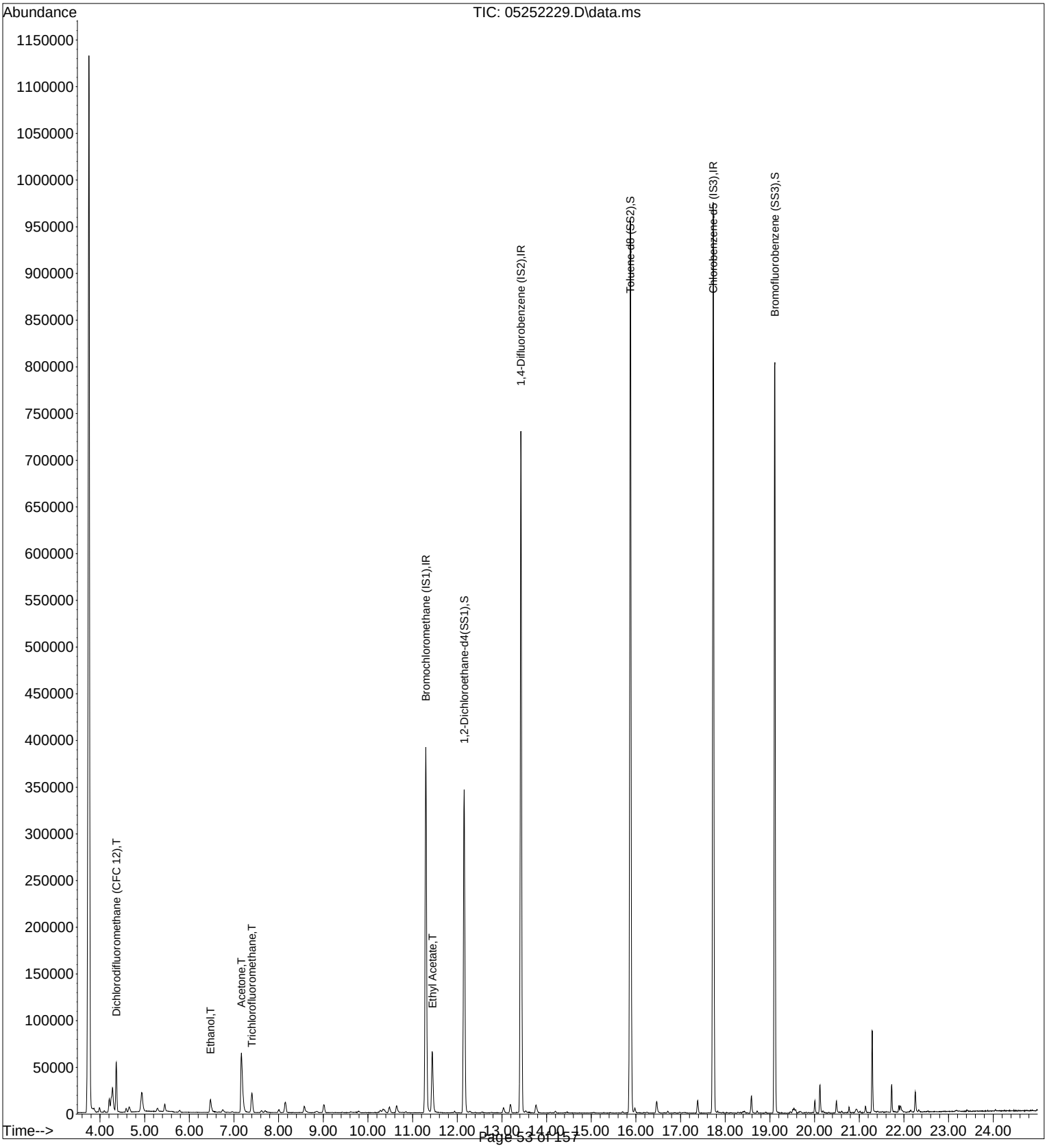
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	141614	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	639422	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	155364	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	261057	12.924	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%			
57) Toluene-d8 (SS2)	15.88	98	688533	11.708	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.68%			
73) Bromofluorobenzene (SS3)	19.11	174	227931	10.633	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.04%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.37	85	46302	1.456	ng	99
10) Ethanol	6.47	45	23762	1.398	ng	96
13) Acetone	7.17	58	30072	2.260	ng	93
14) Trichlorofluoromethane	7.40	101	20777	0.741	ng	99
30) Ethyl Acetate	11.44	61	10635	1.569	ng	92

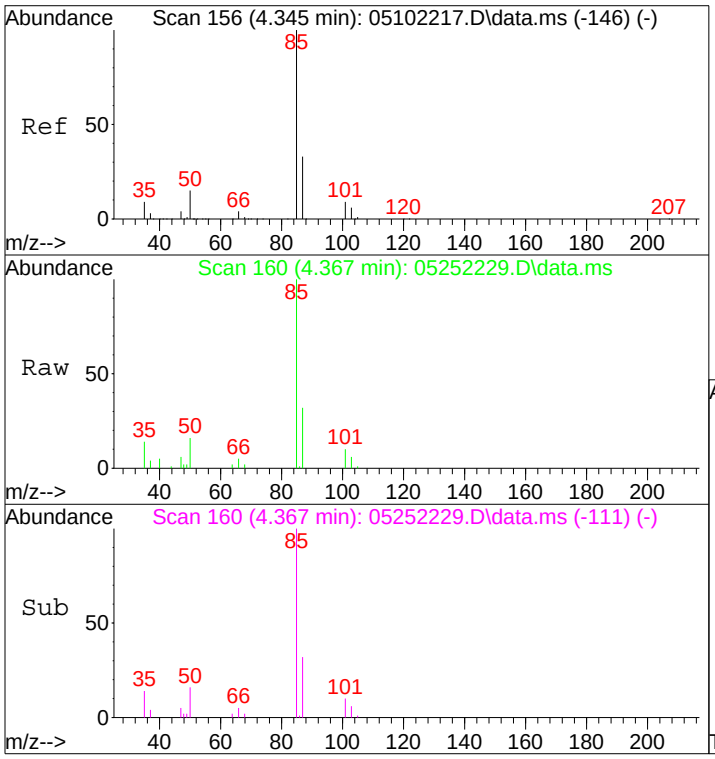
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252229.D Vial: 5
Acq On : 25 May 2022 19:02 Operator: WA/CG
Sample : P2202166-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:23 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

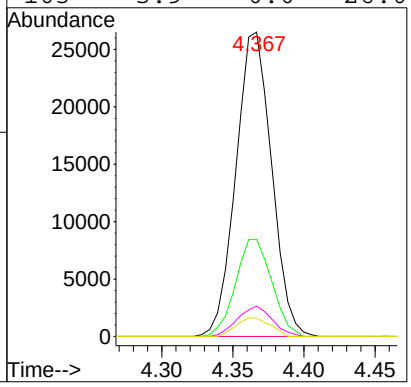


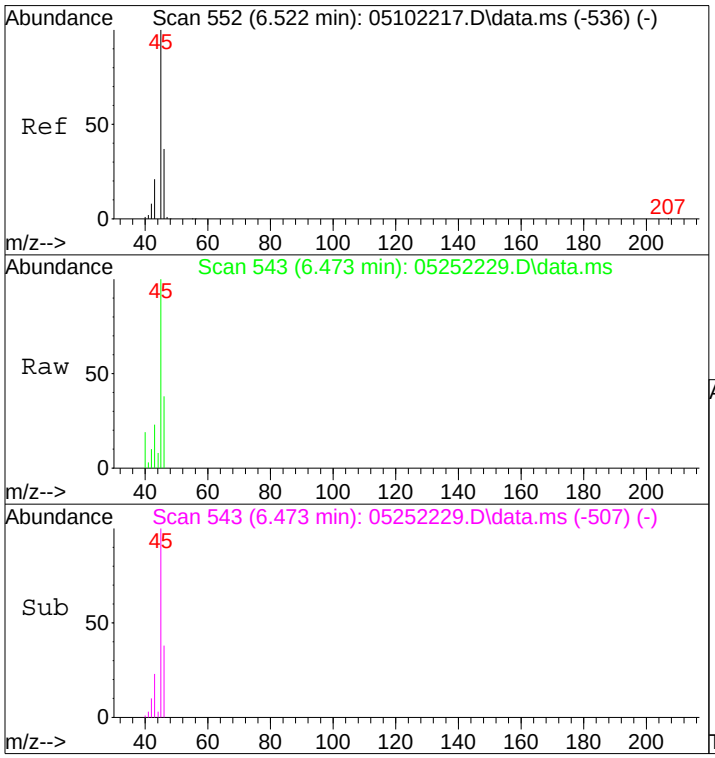


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.46 ng
RT: 4.37 min Scan# 160
Delta R.T. 0.022 min
Lab File: 05252229.D
Acq: 25 May 2022 19:02

Tgt Ion: 85 Resp: 46302

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.9	52.9
101	9.7	0.0	29.3
103	5.9	0.0	26.0

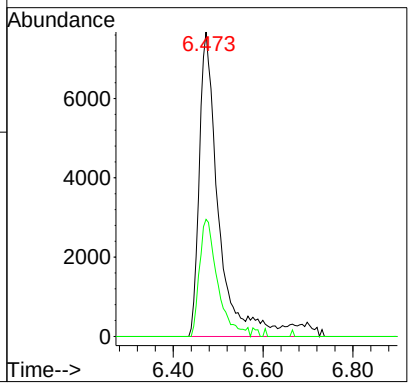


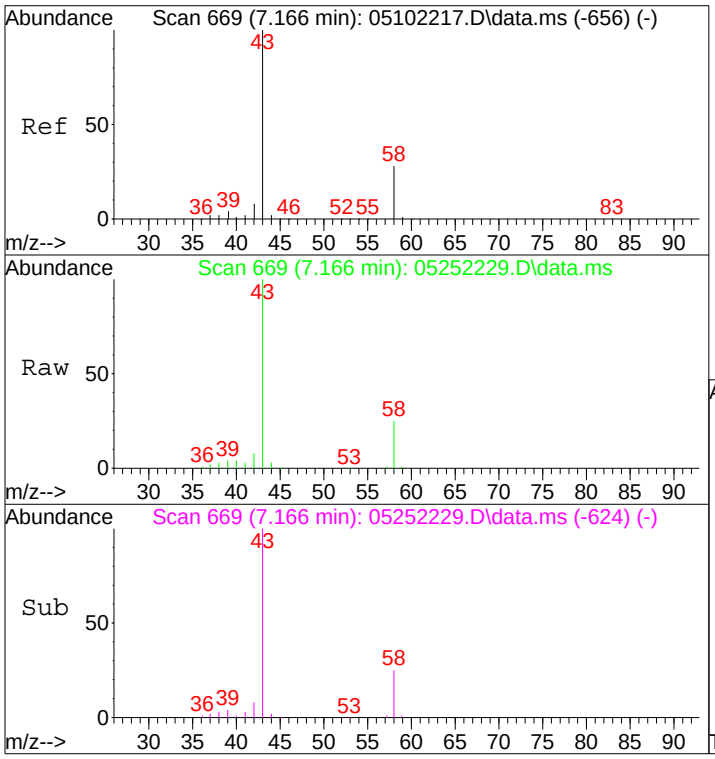


#10
Ethanol
Concen: 1.40 ng
RT: 6.47 min Scan# 543
Delta R.T. -0.050 min
Lab File: 05252229.D
Acq: 25 May 2022 19:02

Tgt Ion: 45 Resp: 23762

Ion	Ratio	Lower	Upper
45	100		
46	34.8	17.2	57.2

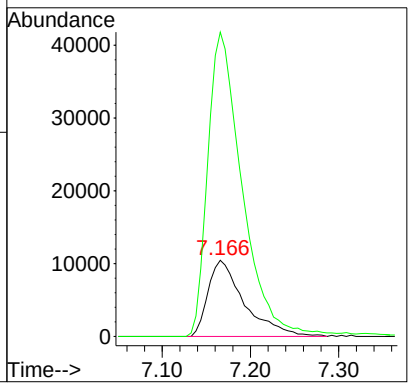


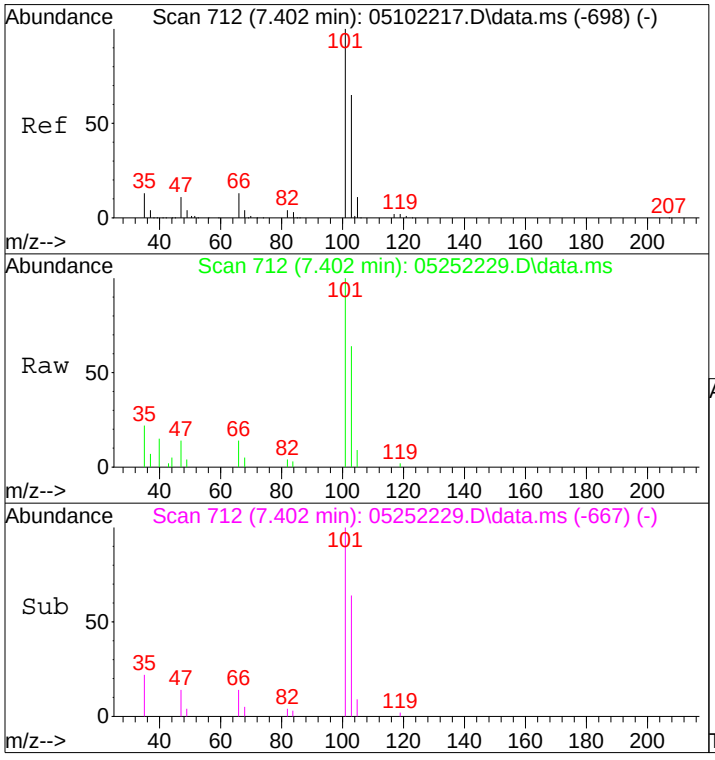


#13
Acetone
Concen: 2.26 ng
RT: 7.17 min Scan# 669
Delta R.T. 0.000 min
Lab File: 05252229.D
Acq: 25 May 2022 19:02

Tgt Ion: 58 Resp: 30072

Ion	Ratio	Lower	Upper
58	100		
43	381.3	334.7	394.7

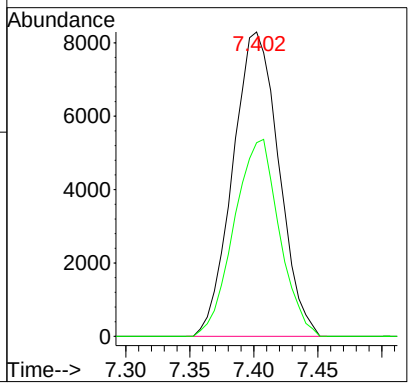


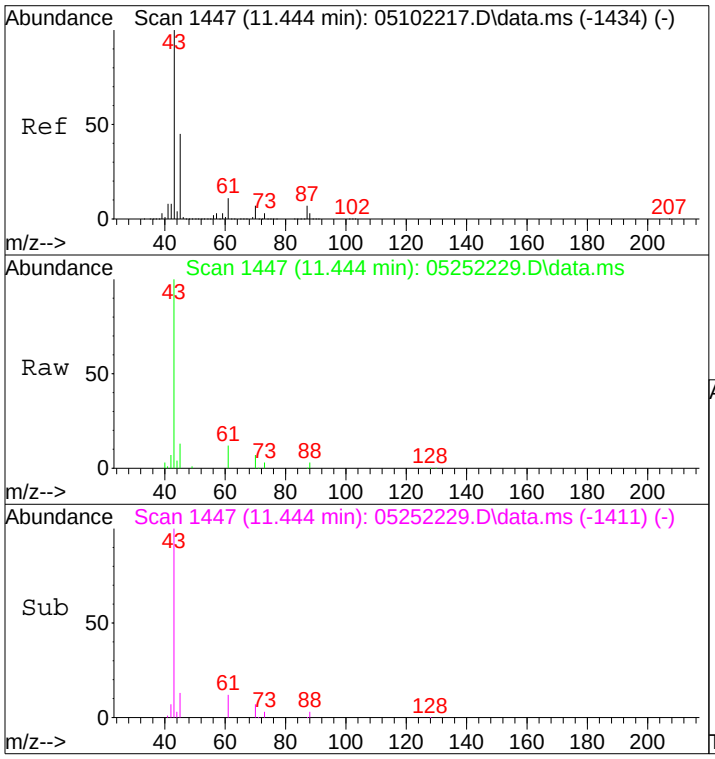


#14
Trichlorofluoromethane
Concen: 0.74 ng
RT: 7.40 min Scan# 712
Delta R.T. -0.000 min
Lab File: 05252229.D
Acq: 25 May 2022 19:02

Tgt Ion:101 Resp: 20777

Ion	Ratio	Lower	Upper
101	100		
103	63.5	44.5	84.5

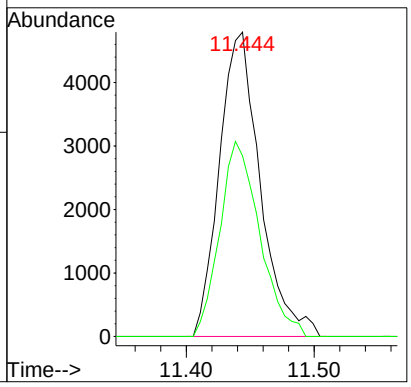




#30
Ethyl Acetate
Concen: 1.57 ng
RT: 11.44 min Scan# 1447
Delta R.T. -0.000 min
Lab File: 05252229.D
Acq: 25 May 2022 19:02

Tgt Ion: 61 Resp: 10635

Ion	Ratio	Lower	Upper
61	100		
70	62.7	49.4	89.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252231.D Vial: 6
Acq On : 25 May 2022 20:10 Operator: WA/CG
Sample : P2202166-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:27 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/25/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	138140	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.43	114	620366	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	150951	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	254603	12.922	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%			
57) Toluene-d8 (SS2)	15.88	98	668869	11.706	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.68%			
73) Bromofluorobenzene (SS3)	19.11	174	221212	10.621	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.96%			
Target Compounds						Qvalue
2) Propene	4.22	42	1680	N.D.		
3) Dichlorodifluoromethan...	4.37	85	45749	1.475	ng	100
4) Chloromethane	4.65	50	6021	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.93	135	1081	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.47	45	28910	1.744	ng	95
11) Acetonitrile	6.75	41	4879	N.D.		
12) Acrolein	6.95	56	754	N.D.		
13) Acetone	7.16	58	30677	2.363	ng	89
14) Trichlorofluoromethane	7.40	101	20319	0.743	ng	100
15) 2-Propanol (Isopropanol)	7.62	45	737	N.D.		
16) Acrylonitrile	8.15	53	1199	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.62	59	382	N.D.		
19) Methylene Chloride	8.58	84	3539	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.01	151	3707	N.D.		
22) Carbon Disulfide	8.85	76	1221	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.33	86	272	N.D.		
27) 2-Butanone (MEK)	10.64	72	2454	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.43	87	2051	N.D.		
30) Ethyl Acetate	11.43	61	119920	18.134	ng	91
31) n-Hexane	11.42	57	763	N.D.		
32) Chloroform	11.47	83	2092	N.D.		
34) Tetrahydrofuran (THF)	11.93	72	233	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.27	62	588	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.04	56	822	No Calib	#	
41) Benzene	13.03	78	9107	N.D.		
42) Carbon Tetrachloride	13.19	117	5450	N.D.		
43) Cyclohexane	13.42	84	546	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.13	130	924	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.20	57	1644	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252231.D Vial: 6
Acq On : 25 May 2022 20:10 Operator: WA/CG
Sample : P2202166-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:27 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

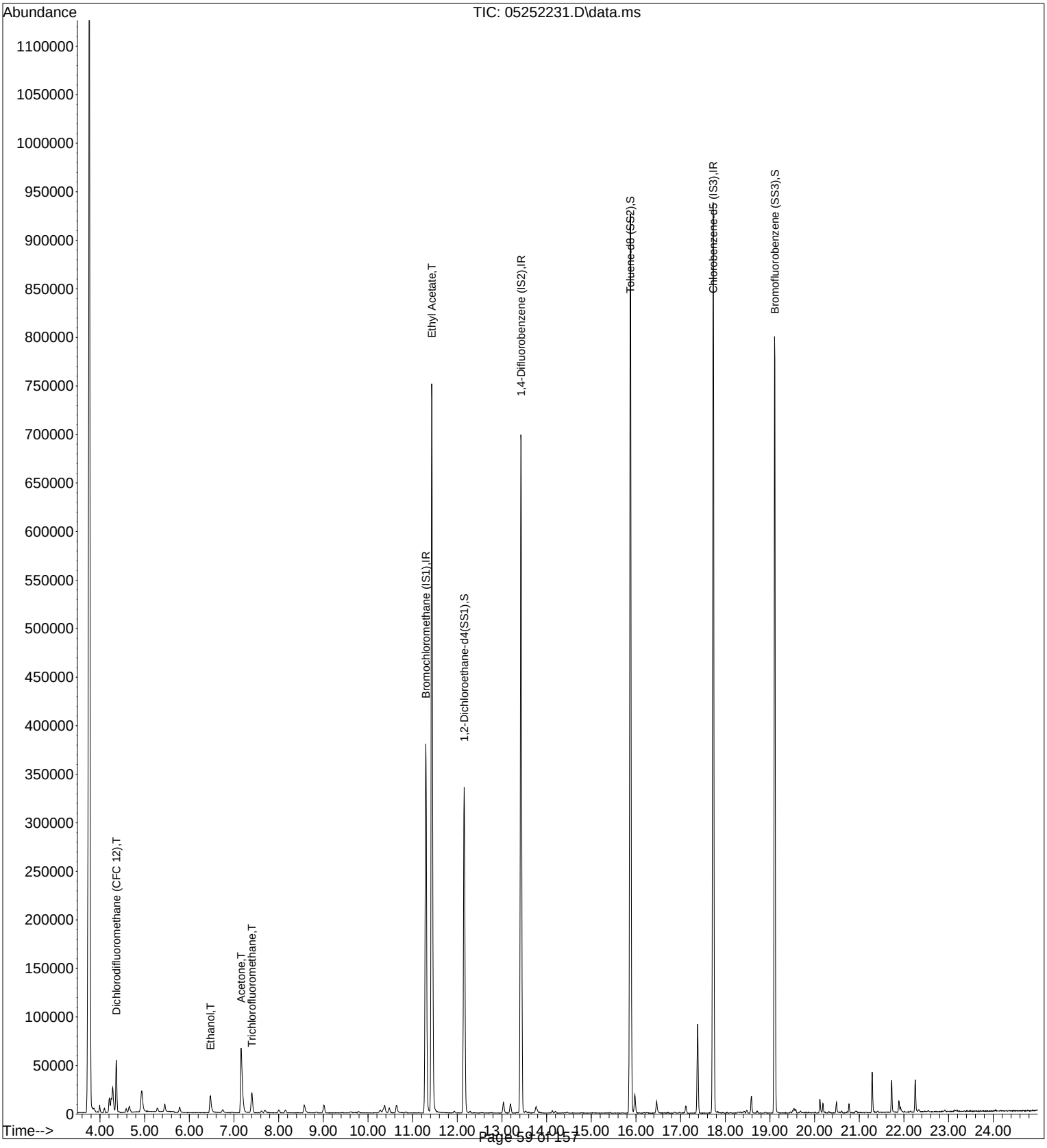
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	14965	N.D.	
59) 2-Hexanone	16.24	43	1211	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.87	43	1589	N.D.	
63) n-Octane	16.98	57	113	N.D.	
64) Tetrachloroethene	17.12	166	2271	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.13	91	673	N.D.	
67) m- & p-Xylenes	18.28	91	1380	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.71	91	560	N.D.	
71) n-Nonane	18.90	43	693	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.09	105	445	N.D.	
75) alpha-Pinene	19.58	93	1359	N.D.	
76) n-Propylbenzene	19.68	91	174	N.D.	
77) 3-Ethyltoluene	19.81	105	250	No Calib	#
78) 4-Ethyltoluene	19.81	105	250	N.D.	
79) 1,3,5-Trimethylbenzene	19.81	105	250	N.D.	
80) alpha-Methylstyrene	20.01	118	164	No Calib	#
81) 2-Ethyltoluene	19.81	105	250	No Calib	#
82) 1,2,4-Trimethylbenzene	20.23	105	664	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	1308	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	376	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	22.25	57	4713	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.34	128	1087	N.D.	
96) n-Dodecane	22.33	57	893	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.43	55	964	No Calib	#
99) tert-Butylbenzene	20.19	119	117	N.D.	
100) n-Butylbenzene	20.95	91	187	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252231.D Vial: 6
Acq On : 25 May 2022 20:10 Operator: WA/CG
Sample : P2202166-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:27 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252231.D Vial: 6
Acq On : 25 May 2022 20:10 Operator: WA/CG
Sample : P2202166-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:27 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/25/22

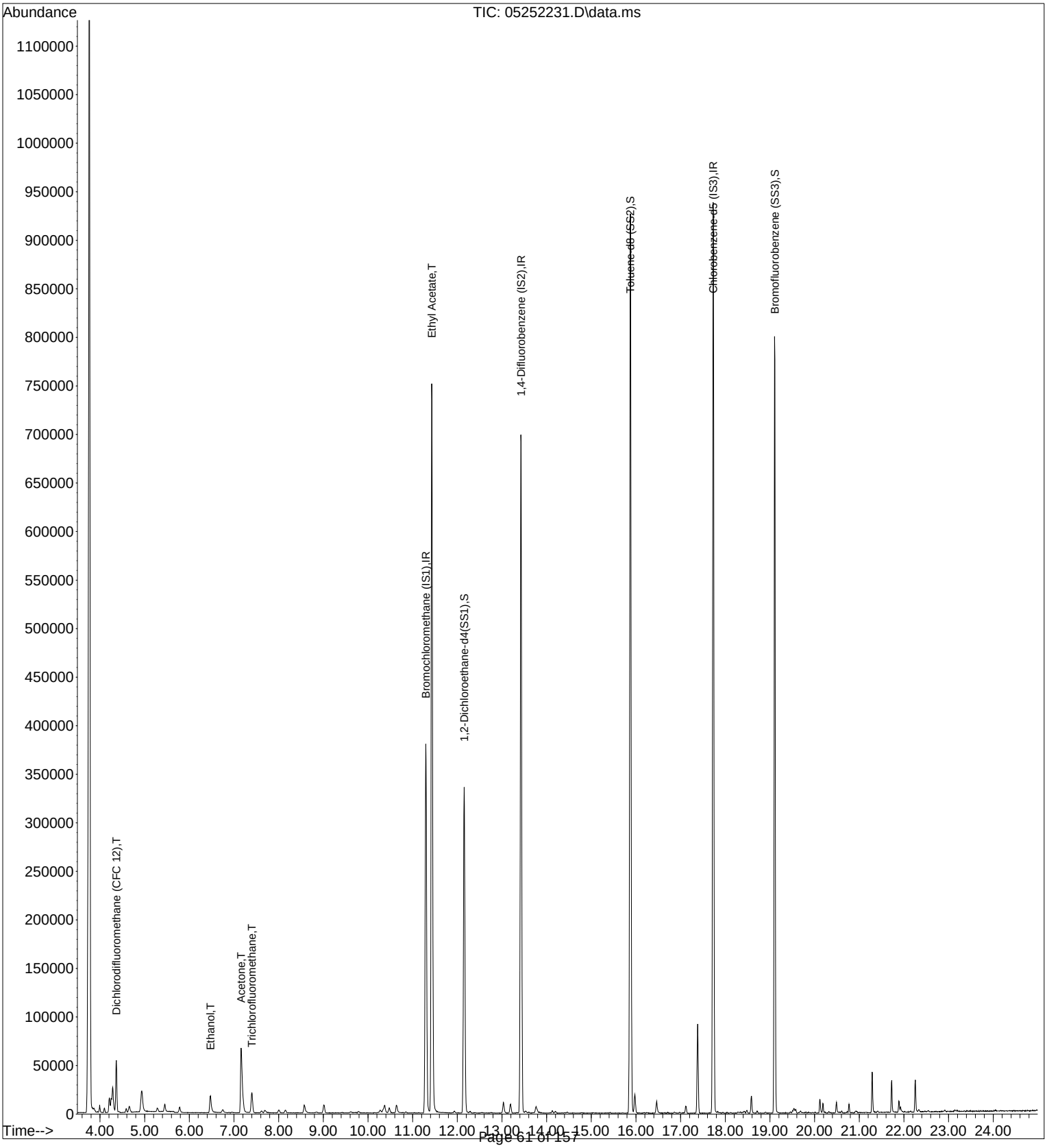
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	138140	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.43	114	620366	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	150951	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	254603	12.922	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%			
57) Toluene-d8 (SS2)	15.88	98	668869	11.706	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.68%			
73) Bromofluorobenzene (SS3)	19.11	174	221212	10.621	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.96%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.37	85	45749	1.475	ng	100
10) Ethanol	6.47	45	28910	1.744	ng	95
13) Acetone	7.16	58	30677	2.363	ng	89
14) Trichlorofluoromethane	7.40	101	20319	0.743	ng	100
30) Ethyl Acetate	11.43	61	119920	18.134	ng	91

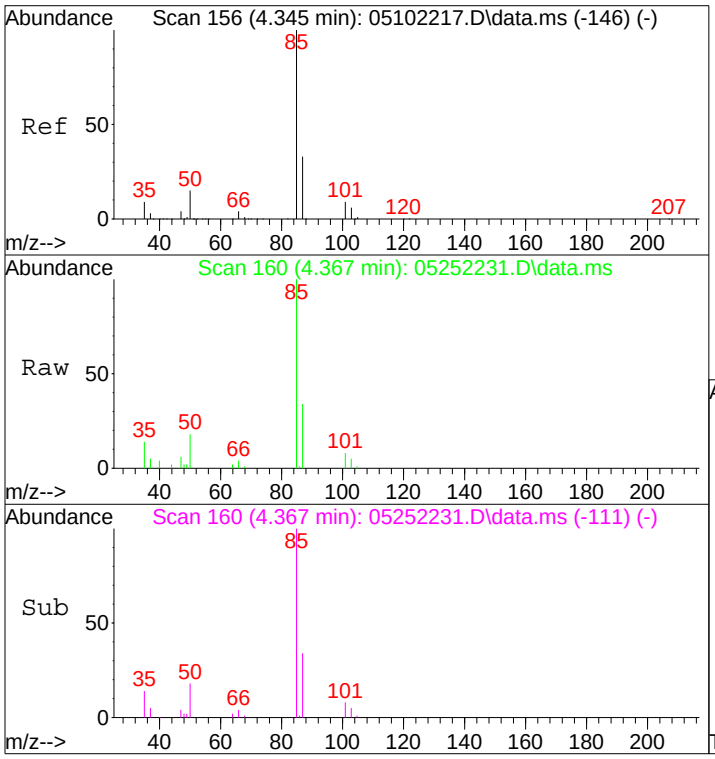
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252231.D Vial: 6
Acq On : 25 May 2022 20:10 Operator: WA/CG
Sample : P2202166-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:27 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

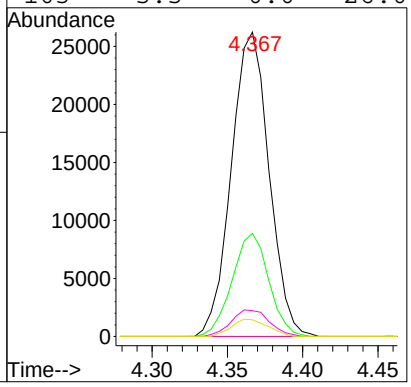


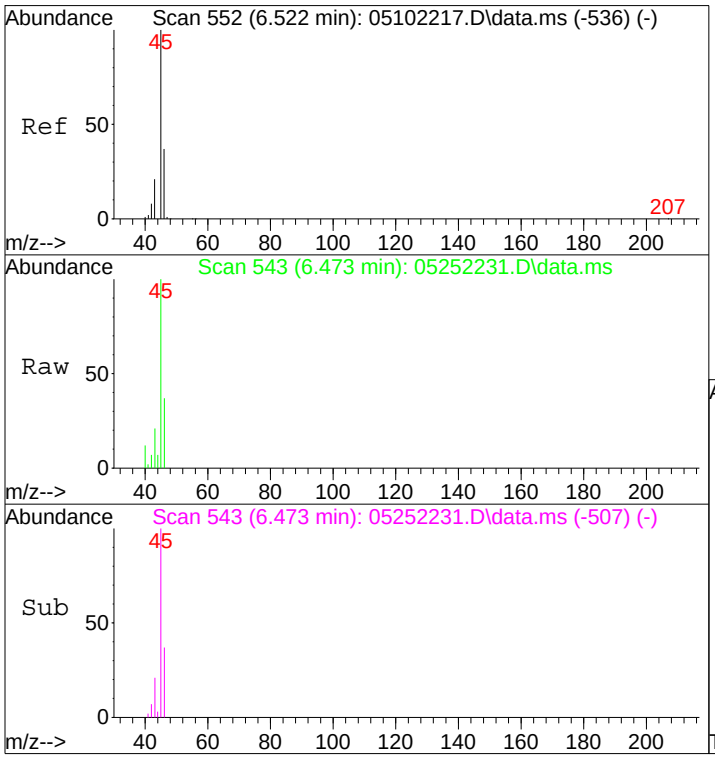


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.48 ng
RT: 4.37 min Scan# 160
Delta R.T. 0.022 min
Lab File: 05252231.D
Acq: 25 May 2022 20:10

Tgt Ion: 85 Resp: 45749

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.9	52.9
101	8.9	0.0	29.3
103	5.5	0.0	26.0

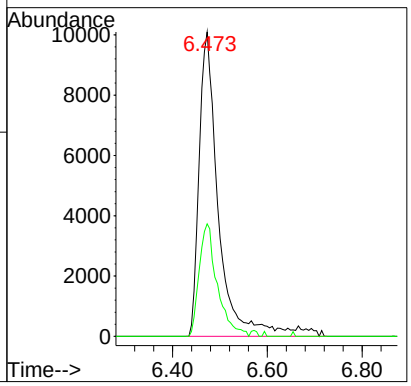


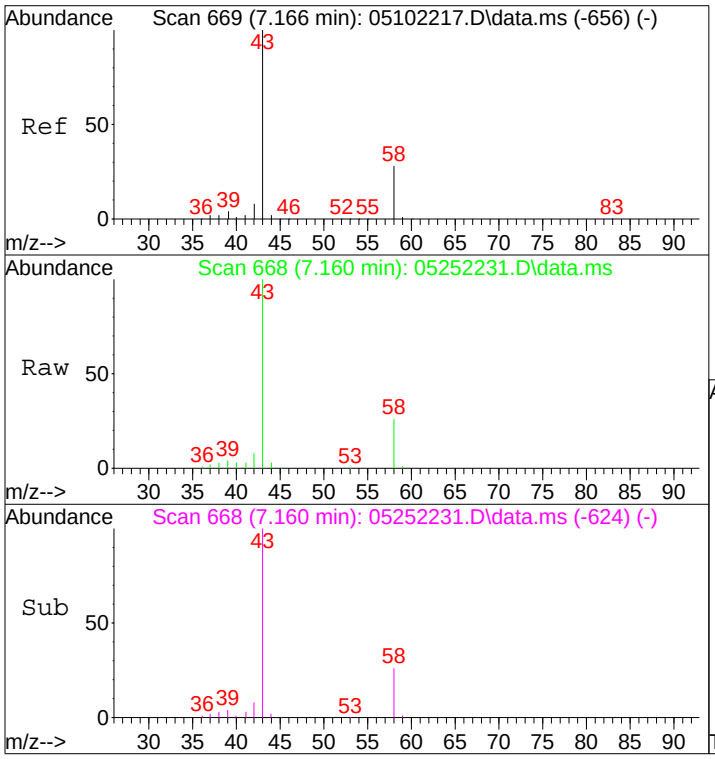


#10
Ethanol
Concen: 1.74 ng
RT: 6.47 min Scan# 543
Delta R.T. -0.050 min
Lab File: 05252231.D
Acq: 25 May 2022 20:10

Tgt Ion: 45 Resp: 28910

Ion	Ratio	Lower	Upper
45	100		
46	34.1	17.2	57.2

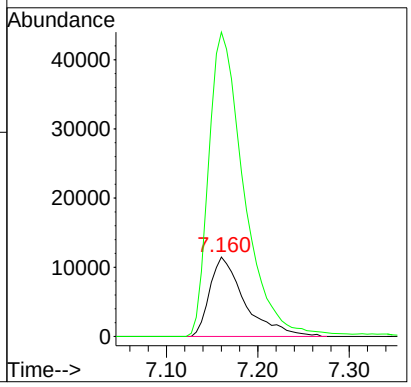


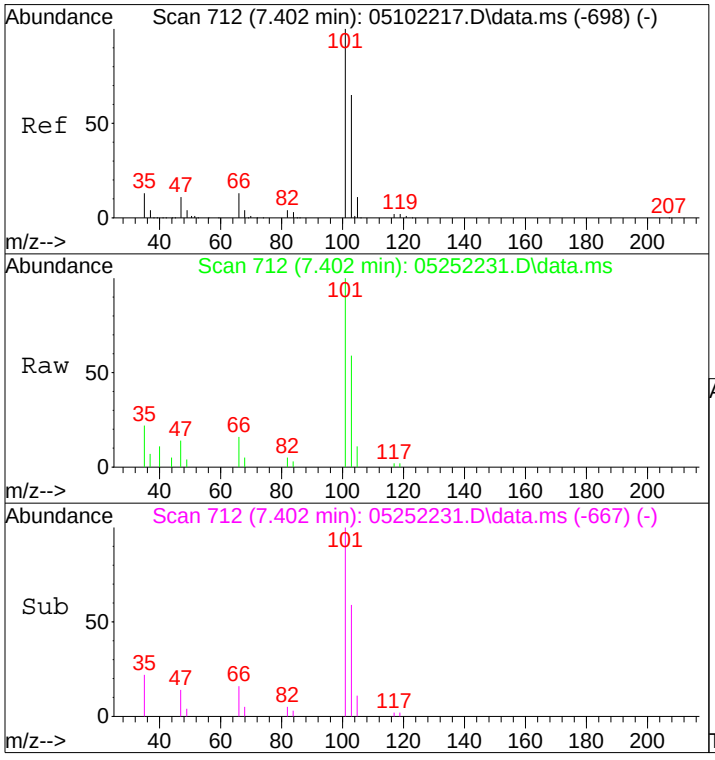


#13
Acetone
Concen: 2.36 ng
RT: 7.16 min Scan# 668
Delta R.T. -0.006 min
Lab File: 05252231.D
Acq: 25 May 2022 20:10

Tgt Ion: 58 Resp: 30677

Ion	Ratio	Lower	Upper
58	100		
43	389.2	334.7	394.7

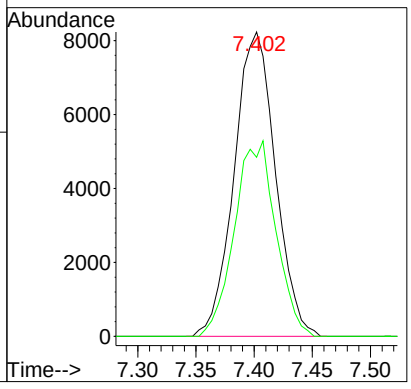


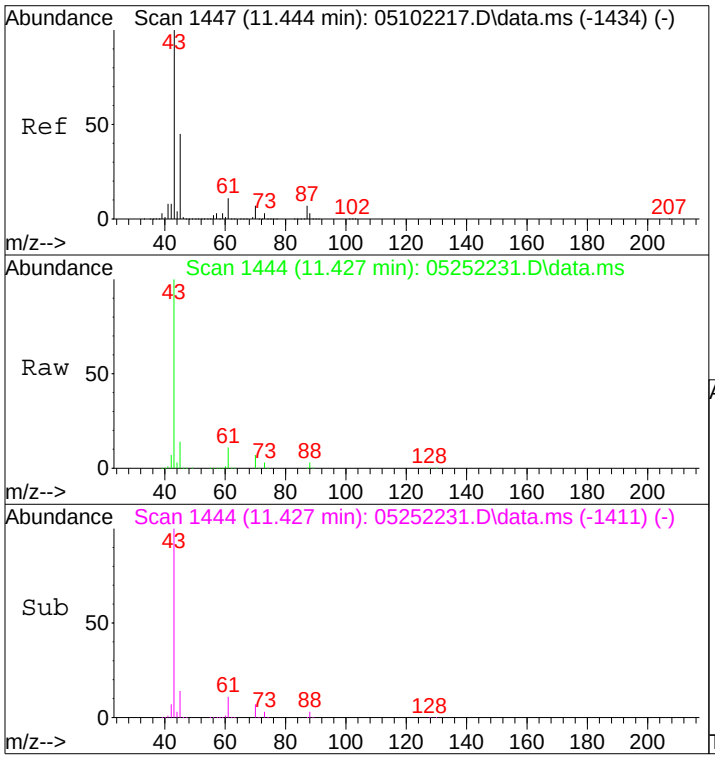


#14
Trichlorofluoromethane
Concen: 0.74 ng
RT: 7.40 min Scan# 712
Delta R.T. -0.000 min
Lab File: 05252231.D
Acq: 25 May 2022 20:10

Tgt Ion:101 Resp: 20319

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.5	84.5

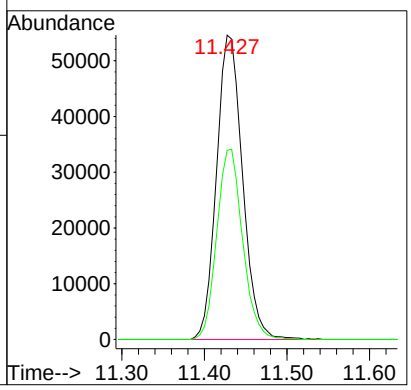




#30
Ethyl Acetate
Concen: 18.13 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.017 min
Lab File: 05252231.D
Acq: 25 May 2022 20:10

Tgt Ion: 61 Resp: 119920

Ion	Ratio	Lower	Upper
61	100		
70	61.8	49.4	89.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252232.D Vial: 7
Acq On : 25 May 2022 20:44 Operator: WA/CG
Sample : P2202166-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:15:25 2022 5/25/22
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	136255	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	610651	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	152635	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	253525	13.045	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%			
57) Toluene-d8 (SS2)	15.88	98	663184	11.478	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%			
73) Bromofluorobenzene (SS3)	19.11	174	221747	10.530	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.24%			
Target Compounds						Qvalue
2) Propene	4.21	42	1872	N.D.		
3) Dichlorodifluoromethan...	4.36	85	52326	1.710	ng	100
4) Chloromethane	4.65	50	8459	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.93	135	1178	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.79	94	402	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.46	45	23833	1.458	ng	98
11) Acetonitrile	6.74	41	4656	N.D.		
12) Acrolein	6.95	56	2560	N.D.		
13) Acetone	7.16	58	42462	3.316	ng	96
14) Trichlorofluoromethane	7.40	101	22842	0.847	ng	100
15) 2-Propanol (Isopropanol)	7.68	45	5368	N.D.		
16) Acrylonitrile	8.14	53	10642	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.60	59	131	N.D.		
19) Methylene Chloride	8.57	84	3382	N.D.		
20) 3-Chloro-1-propene (Al...	8.56	41	109	N.D.		
21) Trichlorotrifluoroethane	9.01	151	4378	N.D.		
22) Carbon Disulfide	8.84	76	5567	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.34	86	268	N.D.		
27) 2-Butanone (MEK)	10.63	72	2063	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.44	87	196	N.D.		
30) Ethyl Acetate	11.43	61	15755	2.415	ng	89
31) n-Hexane	11.42	57	1060	N.D.		
32) Chloroform	11.47	83	1264	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.27	62	809	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.04	56	1016	No Calib	#	
41) Benzene	13.03	78	6183	N.D.		
42) Carbon Tetrachloride	13.19	117	6376	N.D.		
43) Cyclohexane	13.42	84	537	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.20	57	2173	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Data File : I:\MS16\DATA\2022 05\25\05252232.D Vial: 7
Acq On : 25 May 2022 20:44 Operator: WA/CG
Sample : P2202166-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:15:25 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

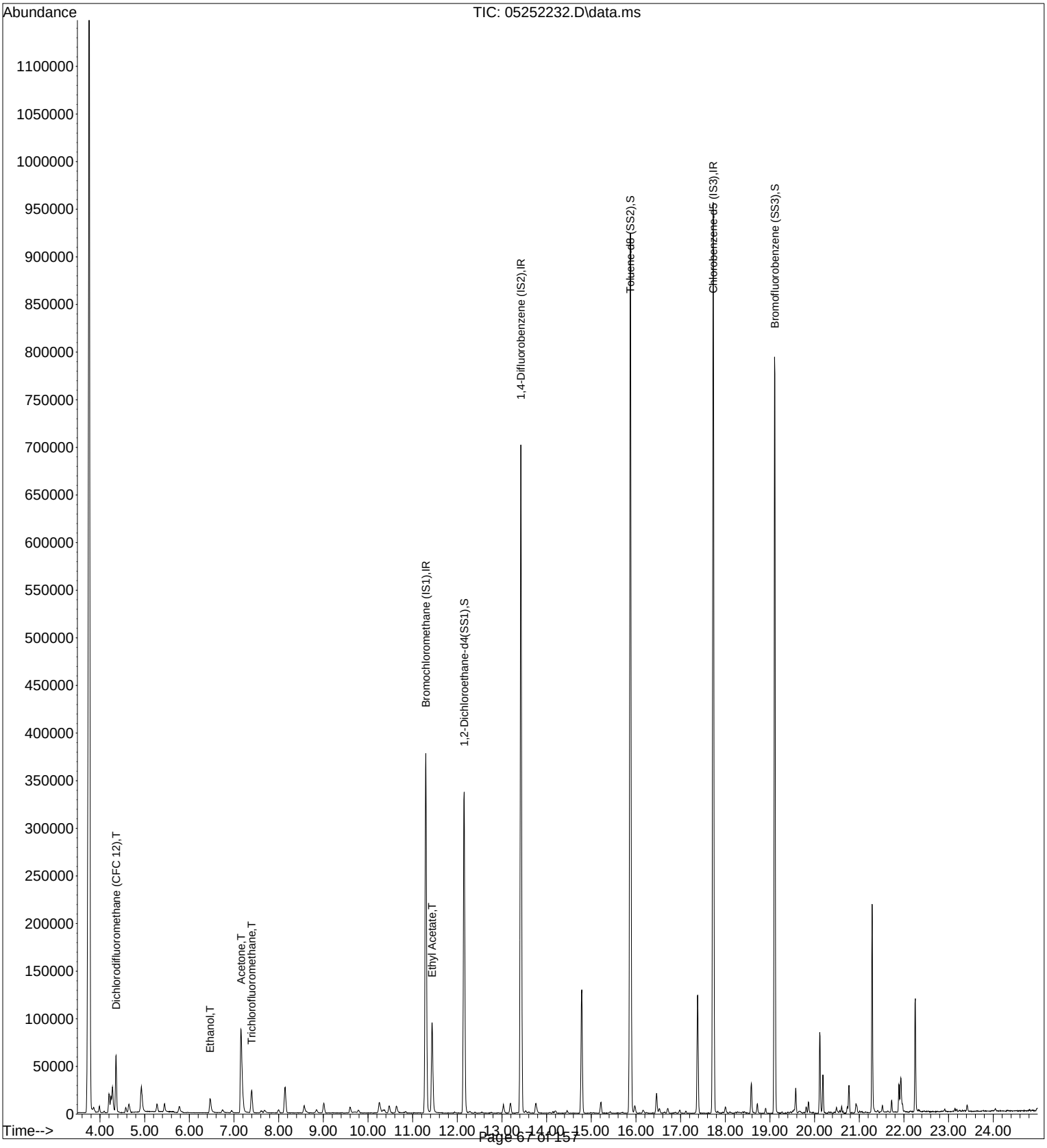
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.47	71	365	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.78	58	2592	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.97	91	5757	N.D.	
59) 2-Hexanone	16.24	43	948	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.86	43	801	N.D.	
63) n-Octane	16.98	57	599	N.D.	
64) Tetrachloroethene	17.12	166	718	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.13	91	834	N.D.	
67) m- & p-Xylenes	18.28	91	1295	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.71	91	610	N.D.	
71) n-Nonane	18.91	43	2557	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.72	83	327	N.D.	
74) Cumene	19.10	105	377	N.D.	
75) alpha-Pinene	19.58	93	9086	N.D.	
76) n-Propylbenzene	19.66	91	505	N.D.	
77) 3-Ethyltoluene	19.81	105	276	No Calib	#
78) 4-Ethyltoluene	19.81	105	276	N.D.	
79) 1,3,5-Trimethylbenzene	19.81	105	276	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.81	105	276	No Calib	#
82) 1,2,4-Trimethylbenzene	20.24	105	296	N.D.	
83) n-Decane	20.12	58	863	No Calib	#
84) Benzyl Chloride	20.44	91	123	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.61	105	181	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	4263	N.D.	
89) 1,2,3-Trimethylbenzene	20.61	105	181	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	1623	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	22.25	57	16474	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.35	128	532	N.D.	
96) n-Dodecane	22.33	57	1039	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.42	55	712	No Calib	#
99) tert-Butylbenzene	20.19	119	790	N.D.	
100) n-Butylbenzene	20.95	91	1411	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252232.D Vial: 7
Acq On : 25 May 2022 20:44 Operator: WA/CG
Sample : P2202166-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:15:25 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252232.D Vial: 7
Acq On : 25 May 2022 20:44 Operator: WA/CG
Sample : P2202166-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:15:25 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/25/22

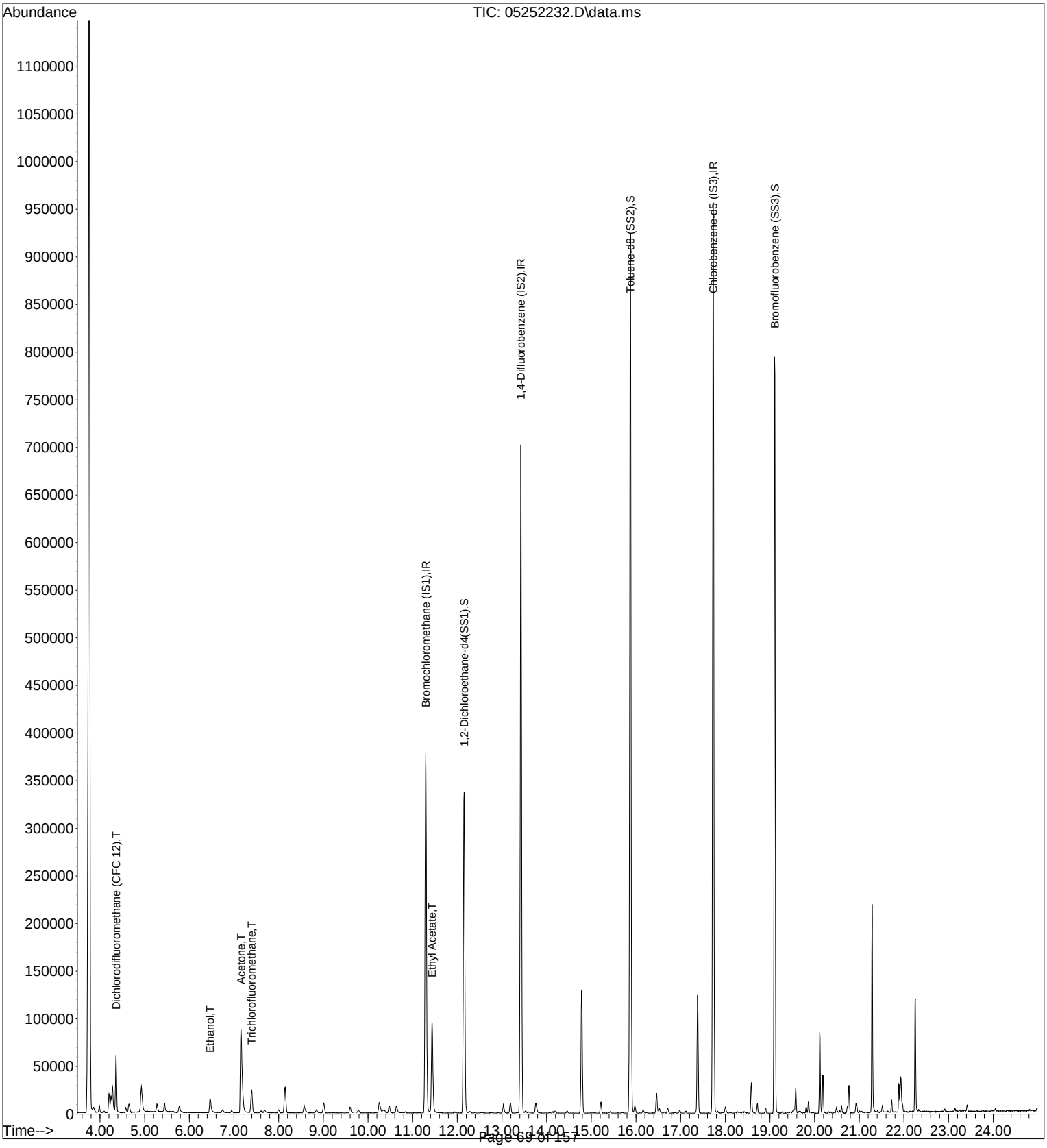
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	136255	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	610651	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	152635	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	253525	13.045	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%			
57) Toluene-d8 (SS2)	15.88	98	663184	11.478	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%			
73) Bromofluorobenzene (SS3)	19.11	174	221747	10.530	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.24%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.36	85	52326	1.710	ng	100
10) Ethanol	6.46	45	23833	1.458	ng	98
13) Acetone	7.16	58	42462	3.316	ng	96
14) Trichlorofluoromethane	7.40	101	22842	0.847	ng	100
30) Ethyl Acetate	11.43	61	15755	2.415	ng	89

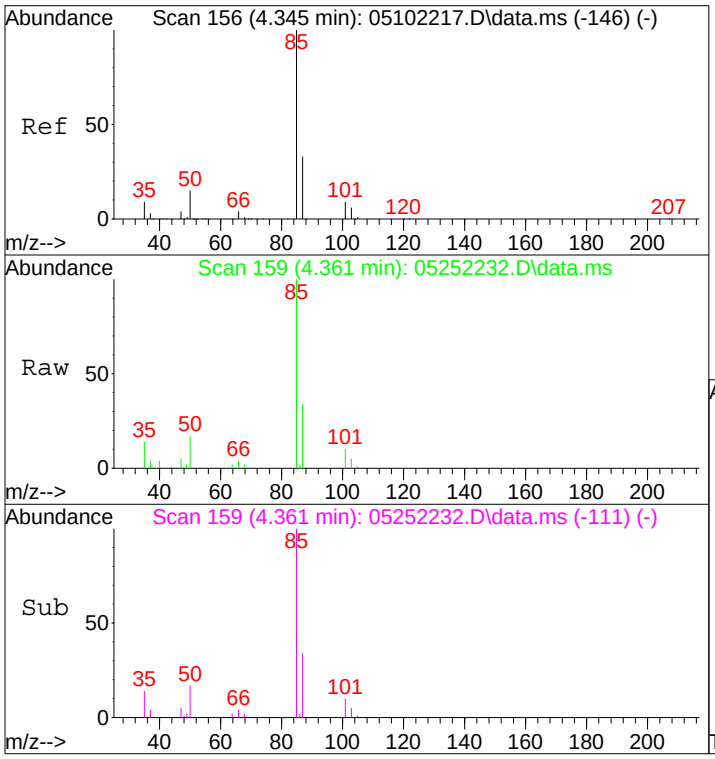
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252232.D Vial: 7
Acq On : 25 May 2022 20:44 Operator: WA/CG
Sample : P2202166-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:15:25 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

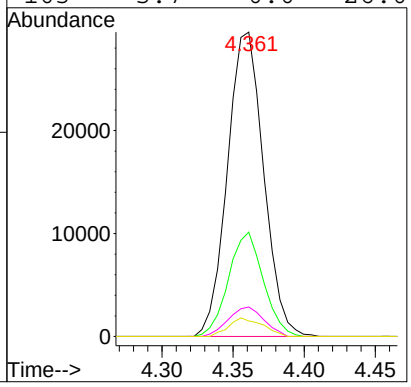


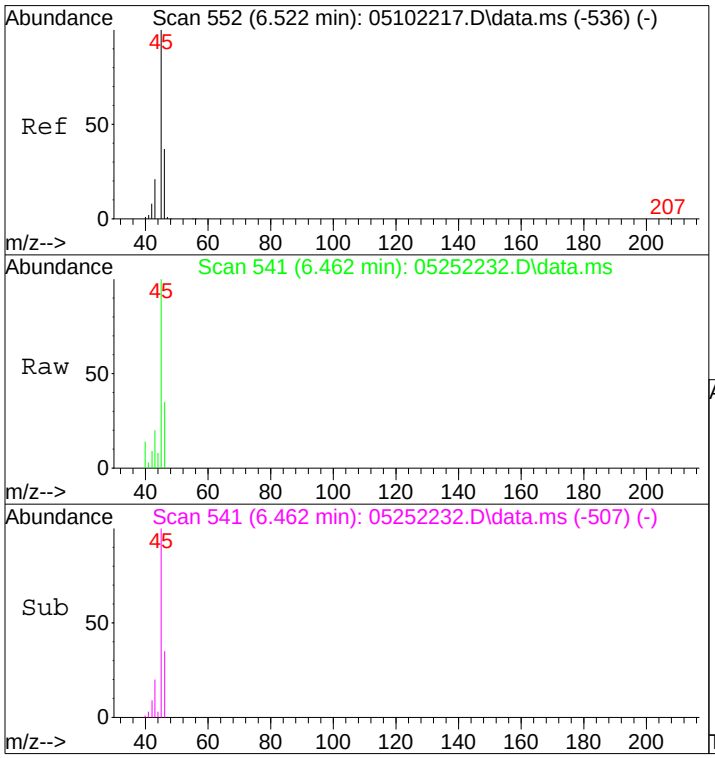


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.71 ng
RT: 4.36 min Scan# 159
Delta R.T. 0.016 min
Lab File: 05252232.D
Acq: 25 May 2022 20:44

Tgt Ion: 85 Resp: 52326

Ion	Ratio	Lower	Upper
85	100		
87	33.0	12.9	52.9
101	9.6	0.0	29.3
103	5.7	0.0	26.0

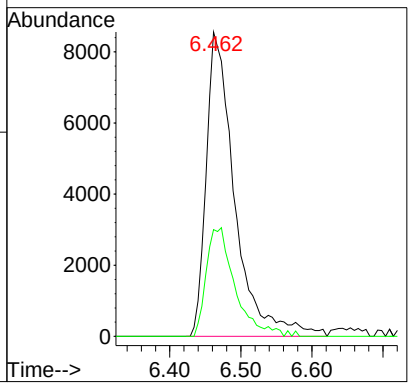


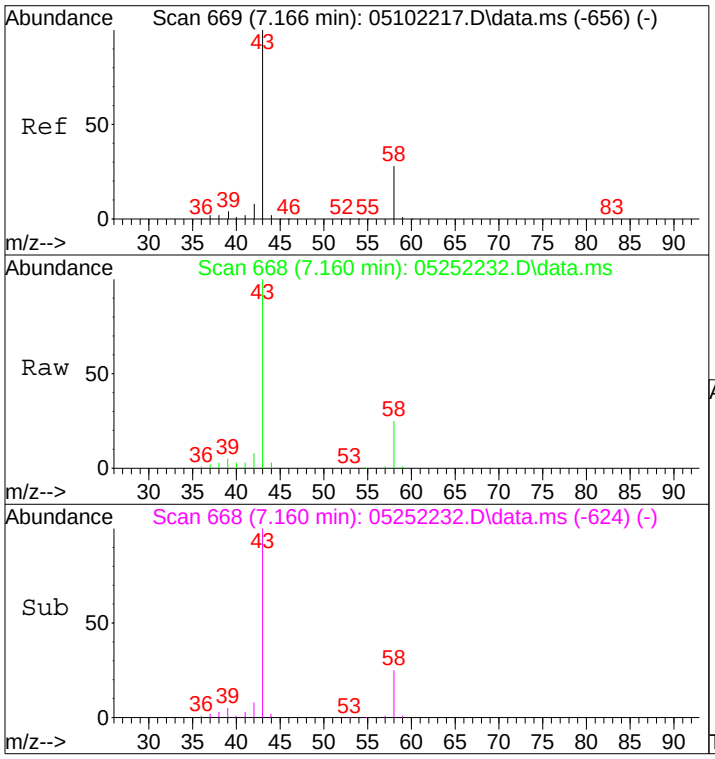


#10
Ethanol
Concen: 1.46 ng
RT: 6.46 min Scan# 541
Delta R.T. -0.061 min
Lab File: 05252232.D
Acq: 25 May 2022 20:44

Tgt Ion: 45 Resp: 23833

Ion	Ratio	Lower	Upper
45	100		
46	35.8	17.2	57.2

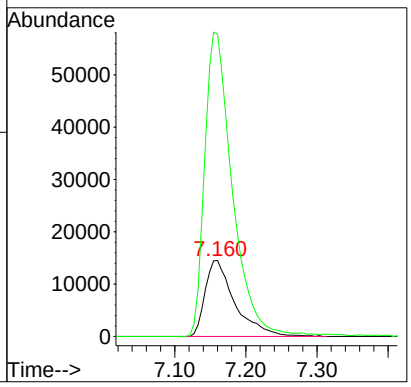


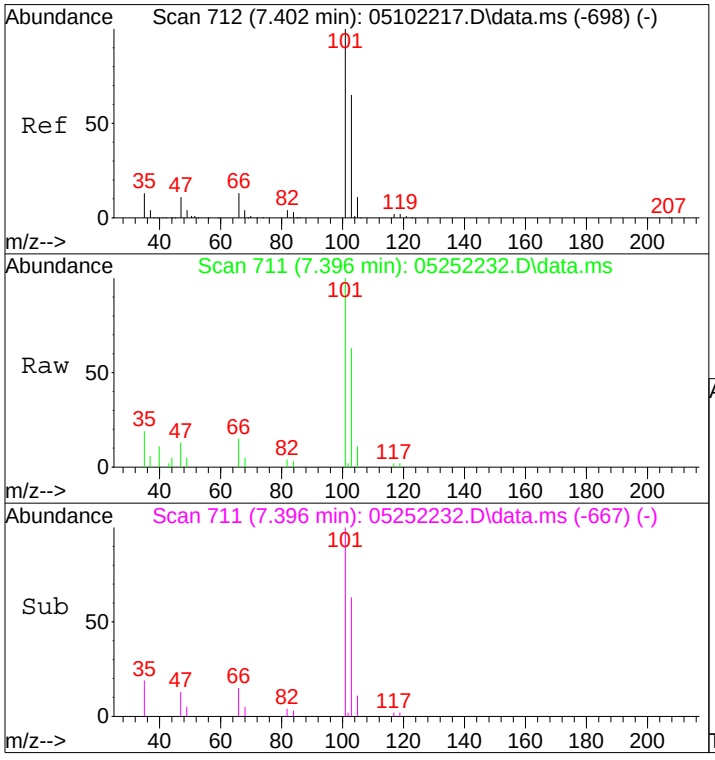


#13
Acetone
Concen: 3.32 ng
RT: 7.16 min Scan# 668
Delta R.T. -0.006 min
Lab File: 05252232.D
Acq: 25 May 2022 20:44

Tgt Ion: 58 Resp: 42462

Ion	Ratio	Lower	Upper
58	100		
43	372.5	334.7	394.7

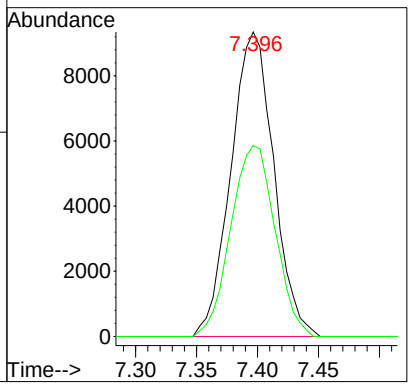


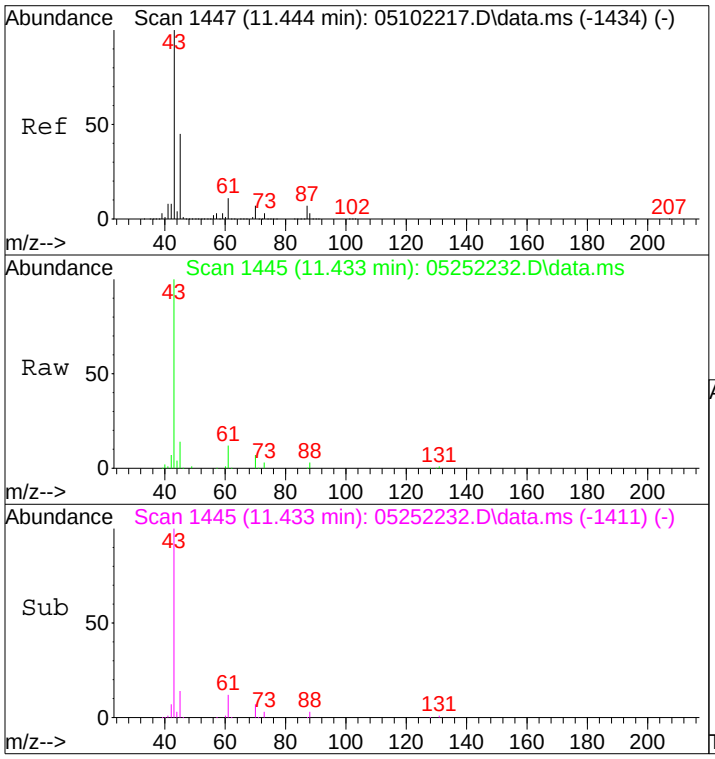


#14
Trichlorofluoromethane
Concen: 0.85 ng
RT: 7.40 min Scan# 711
Delta R.T. -0.006 min
Lab File: 05252232.D
Acq: 25 May 2022 20:44

Tgt Ion:101 Resp: 22842

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.5	84.5

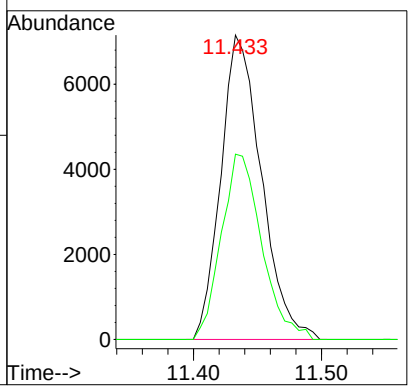




#30
Ethyl Acetate
Concen: 2.42 ng
RT: 11.43 min Scan# 1445
Delta R.T. -0.011 min
Lab File: 05252232.D
Acq: 25 May 2022 20:44

Tgt Ion: 61 Resp: 15755

Ion	Ratio	Lower	Upper
61	100		
70	60.6	49.4	89.4



Quantitation Report (QT Reviewed)

CG 5/25/22

Data File : I:\MS16\DATA\2022 05\25\05252203.D Vial: 2
Acq On : 25 May 2022 2:38 Operator: WA/CG
Sample : MB R16052522_1000mL Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 03:22:05 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022 VOA 5/25/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	131095	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	589818	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	149670	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	246409	13.178	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%				
57) Toluene-d8 (SS2)	15.88	98	644052	11.368	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
73) Bromofluorobenzene (SS3)	19.11	174	217141	10.515	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.16%				
Target Compounds							Qvalue
2) Propene	4.22	42	104	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.49	45	1079	0.069	ng	#	66
11) Acetonitrile	6.76	41	811	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.21	58	1301	0.106	ng		88
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.73	45	77	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.86	76	1044	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.04	78	641	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.41	84	487	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS16\DATA\2022 05\25\05252203.D Vial: 2
Acq On : 25 May 2022 2:38 Operator: WA/CG
Sample : MB R16052522_1000mL Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 03:22:05 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

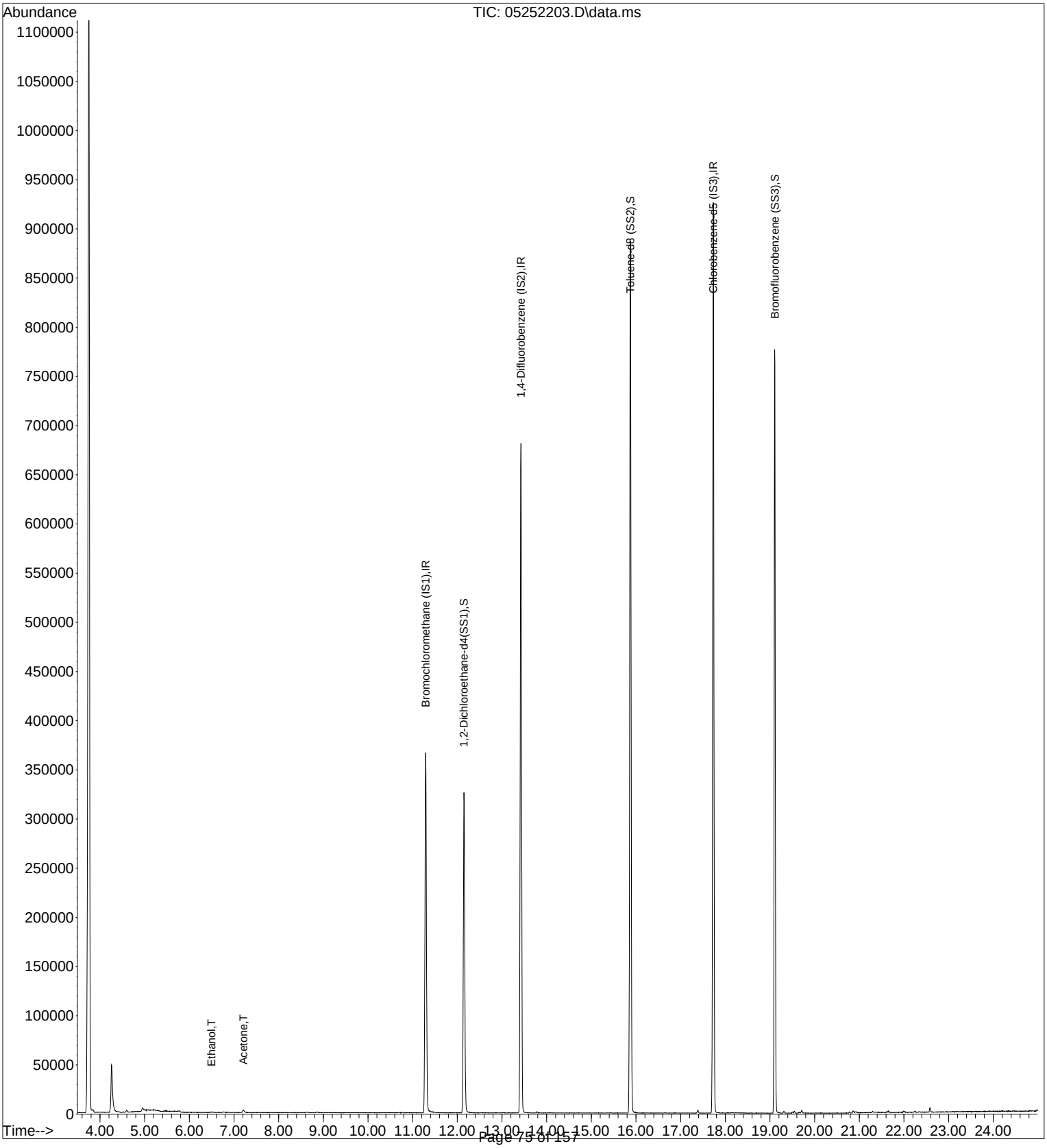
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.99	91	254	N.D.		
59) 2-Hexanone	16.27	43	161	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.88	43	171	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.13	91	431	N.D.		
67) m- & p-Xylenes	18.30	91	435	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.59	91	116	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	411	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.65	91	805	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.23	180	609	N.D.		
95) Naphthalene	22.35	128	938	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252203.D Vial: 2
Acq On : 25 May 2022 2:38 Operator: WA/CG
Sample : MB R16052522_1000mL Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 03:22:05 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252204.D Vial: 2
Acq On : 25 May 2022 3:12 Operator: WA/CG
Sample : LCS R16052522 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05192203 (6/18)

CG 5/25/22

Quant Time: May 25 04:36:16 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/25/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	140711	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	632821	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	169332	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	267363	13.321	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.56%				
57) Toluene-d8 (SS2)	15.88	98	692502	10.804	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.40%				
73) Bromofluorobenzene (SS3)	19.11	174	247369	10.588	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.72%				
Target Compounds							Qvalue
2) Propene	4.18	42	727039	26.516	ng		99
3) Dichlorodifluoromethan...	4.34	85	762985	24.151	ng		100
4) Chloromethane	4.64	50	714378	25.797	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	421568	26.049	ng		100
6) Vinyl Chloride	5.06	62	707186	28.805	ng		99
7) 1,3-Butadiene	5.33	54	592349	26.875	ng		96
8) Bromomethane	5.78	94	285492	23.380	ng		100
9) Chloroethane	6.12	64	260889	24.914	ng		99
10) Ethanol	6.53	45	1785303	105.745	ng		100
11) Acetonitrile	6.78	41	928218	23.557	ng		100
12) Acrolein	6.95	56	559776	46.025	ng		99
13) Acetone	7.17	58	1776400	134.330	ng		89
14) Trichlorofluoromethane	7.40	101	670149	24.061	ng		100
15) 2-Propanol (Isopropanol)	7.68	45	2413702	50.411	ng		99
16) Acrylonitrile	7.94	53	1250140	50.781	ng		99
17) 1,1-Dichloroethene	8.37	96	352764	24.271	ng		95
18) 2-Methyl-2-Propanol (t...	8.55	59	2148331	49.750	ng		97
19) Methylene Chloride	8.61	84	363212	24.031	ng		88
20) 3-Chloro-1-propene (Al...	8.76	41	676659	25.582	ng		97
21) Trichlorotrifluoroethane	9.01	151	319595	24.179	ng		93
22) Carbon Disulfide	8.86	76	2613513	50.409	ng		100
23) trans-1,2-Dichloroethene	9.87	61	585524	25.500	ng		99
24) 1,1-Dichloroethane	10.13	63	722444	25.663	ng		99
25) Methyl tert-Butyl Ether	10.22	73	1133802	24.105	ng		99
26) Vinyl Acetate	10.38	86	359780	149.422	ng	#	67
27) 2-Butanone (MEK)	10.62	72	517811	50.746	ng	#	81
28) cis-1,2-Dichloroethene	11.14	61	570968	25.034	ng		98
29) Diisopropyl Ether	11.43	87	828469	63.466	ng	#	76
30) Ethyl Acetate	11.44	61	628301	93.275	ng		95
31) n-Hexane	11.42	57	940766	30.004	ng		99
32) Chloroform	11.49	83	681536	26.434	ng		100
34) Tetrahydrofuran (THF)	11.88	72	487322	50.235	ng	#	90
35) Ethyl tert-Butyl Ether	12.03	87	973982	53.212	ng		92
36) 1,2-Dichloroethane	12.29	62	584454	25.998	ng		100
38) 1,1,1-Trichloroethane	12.56	97	619750	24.229	ng		98
39) Isopropyl Acetate	13.00	61	11291	No Calib		#	
40) 1-Butanol	13.01	56	16660	No Calib		#	
41) Benzene	13.04	78	1506431	24.885	ng		99
42) Carbon Tetrachloride	13.20	117	504068	23.136	ng		100
43) Cyclohexane	13.33	84	1193769	51.113	ng		95
44) tert-Amyl Methyl Ether	13.68	73	2370467	52.667	ng		97
45) 1,2-Dichloropropane	13.89	63	419694	25.295	ng		100
46) Bromodichloromethane	14.08	83	562556	25.587	ng		100
47) Trichloroethene	14.13	130	413403	24.559	ng		100
48) 1,4-Dioxane	14.11	88	316022	25.011	ng		98
49) 2,2,4-Trimethylpentane...	14.20	57	1942175	25.640	ng		95
50) Methyl Methacrylate	14.34	100	326746	51.987	ng		92

Data File : I:\MS16\DATA\2022 05\25\05252204.D Vial: 2
Acq On : 25 May 2022 3:12 Operator: WA/CG
Sample : LCS R16052522 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05192203 (6/18)

Quant Time: May 25 04:36:16 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

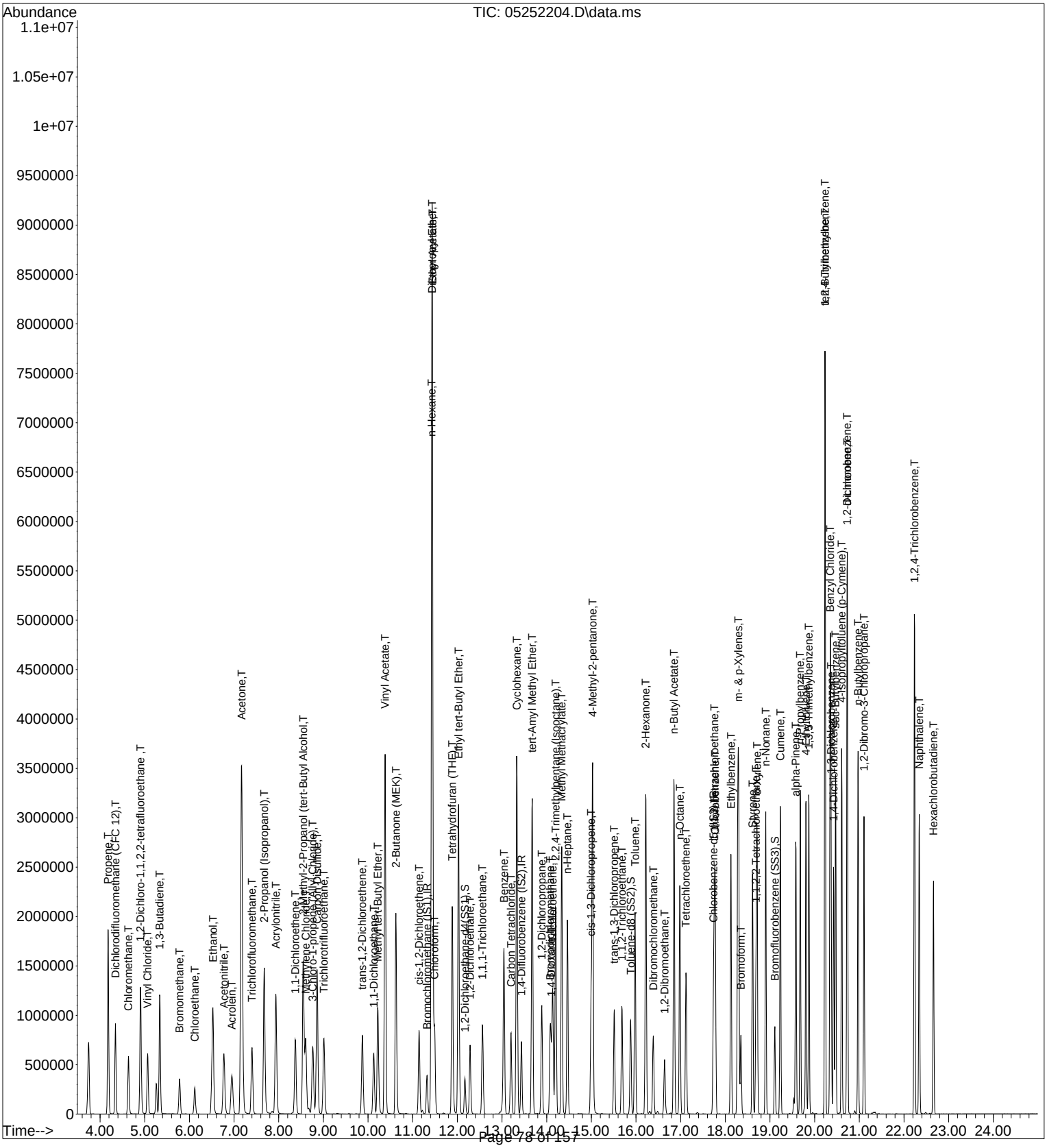
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	386333	24.343	ng		96
52) cis-1,3-Dichloropropene	15.00	75	632887	26.431	ng		99
53) 4-Methyl-2-pentanone	15.03	58	939722	55.162	ng		89
54) trans-1,3-Dichloropropene	15.51	75	563009	25.521	ng		100
55) 1,1,2-Trichloroethane	15.68	97	371936	24.654	ng		99
58) Toluene	15.98	91	1586479	21.166	ng		99
59) 2-Hexanone	16.22	43	2709259	47.572	ng		95
60) Dibromochloromethane	16.39	129	467978	20.605	ng		100
61) 1,2-Dibromoethane	16.64	107	432482	20.837	ng		100
62) n-Butyl Acetate	16.85	43	3013811	48.511	ng		95
63) n-Octane	16.98	57	420942	20.869	ng		94
64) Tetrachloroethene	17.12	166	431732	20.352	ng		100
65) Chlorobenzene	17.77	112	1062397	21.288	ng		100
66) Ethylbenzene	18.13	91	1878687	21.588	ng		99
67) m- & p-Xylenes	18.29	91	3084990	45.242	ng		99
68) Bromoform	18.35	173	402234	20.650	ng		100
69) Styrene	18.61	104	1116624	21.402	ng		100
70) o-Xylene	18.71	91	1523973	22.515	ng		99
71) n-Nonane	18.91	43	1204406	24.344	ng		93
72) 1,1,2,2-Tetrachloroethane	18.69	83	720790	22.828	ng		99
74) Cumene	19.23	105	1955853	22.187	ng		99
75) alpha-Pinene	19.58	93	966915	22.996	ng		99
76) n-Propylbenzene	19.68	91	2372973	22.687	ng		98
77) 3-Ethyltoluene	19.81	105	1956739	No Calib			
78) 4-Ethyltoluene	19.81	105	1956739	22.515	ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	1642290	22.717	ng		98
80) alpha-Methylstyrene	19.87	118	13241	No Calib		#	
81) 2-Ethyltoluene	19.87	105	1642290	No Calib			
82) 1,2,4-Trimethylbenzene	20.23	105	1909283	25.543	ng		98
83) n-Decane	20.23	58	115085	No Calib		#	
84) Benzyl Chloride	20.35	91	2715654	50.269	ng		98
85) 1,3-Dichlorobenzene	20.37	146	985864	23.141	ng		100
86) 1,4-Dichlorobenzene	20.42	146	921783	21.297	ng		100
87) sec-Butylbenzene	20.47	105	2210800	22.999	ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	1888896	22.091	ng		99
89) 1,2,3-Trimethylbenzene	20.61	105	73406	No Calib			
90) 1,2-Dichlorobenzene	20.73	146	968956	23.576	ng		100
91) d-Limonene	20.73	68	721563	26.106	ng		97
92) 1,2-Dibromo-3-Chloropr...	21.11	157	699746	42.085	ng		87
93) n-Undecane	22.34	57	901	No Calib		#	
94) 1,2,4-Trichlorobenzene	22.24	180	1431356	41.406	ng		100
95) Naphthalene	22.34	128	2219068	22.236	ng		100
96) n-Dodecane	22.34	57	901	No Calib		#	
97) Hexachlorobutadiene	22.66	225	400691	18.153	ng		100
98) Cyclohexanone	18.28	55	3061	No Calib			
99) tert-Butylbenzene	20.23	119	1814553	25.281	ng		100
100) n-Butylbenzene	20.97	91	1789211	22.588	ng		98
101) 1,1,1,2-Tetrachloroethane	17.76	131	414638	20.961	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252204.D Vial: 2
Acq On : 25 May 2022 3:12 Operator: WA/CG
Sample : LCS R16052522 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05192203 (6/18)

Quant Time: May 25 04:36:16 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

CG 5/25/22

Data File : I:\MS16\DATA\2022 05\25\05252205.D Vial: 2
Acq On : 25 May 2022 3:46 Operator: WA/CG
Sample : LCSD R16052522 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05192203 (6/18)

Quant Time: May 25 04:43:14 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022 WA 5/25/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	151917	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	673855	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	174845	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	282710	13.047	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.40%				
57) Toluene-d8 (SS2)	15.88	98	731505	11.053	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.40%				
73) Bromofluorobenzene (SS3)	19.11	174	264916	10.982	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.84%				
Target Compounds							Qvalue
2) Propene	4.18	42	679371	22.950	ng		99
3) Dichlorodifluoromethan...	4.34	85	817258	23.961	ng		100
4) Chloromethane	4.64	50	798363	26.703	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	453873	25.977	ng		100
6) Vinyl Chloride	5.06	62	753708	28.435	ng		99
7) 1,3-Butadiene	5.33	54	629460	26.453	ng		97
8) Bromomethane	5.78	94	305240	23.153	ng		100
9) Chloroethane	6.12	64	275816	24.397	ng		99
10) Ethanol	6.52	45	1865036	102.320	ng		100
11) Acetonitrile	6.77	41	964803	22.679	ng		100
12) Acrolein	6.95	56	583828	44.462	ng		99
13) Acetone	7.17	58	1835189	128.539	ng		90
14) Trichlorofluoromethane	7.40	101	709568	23.597	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	2762160	53.433	ng		99
16) Acrylonitrile	7.94	53	1304886	49.095	ng		99
17) 1,1-Dichloroethene	8.37	96	371449	23.671	ng		95
18) 2-Methyl-2-Propanol (t...	8.55	59	2451951	52.593	ng		98
19) Methylene Chloride	8.60	84	376553	23.076	ng		89
20) 3-Chloro-1-propene (Al...	8.76	41	696314	24.383	ng		97
21) Trichlorotrifluoroethane	9.01	151	341983	23.964	ng		95
22) Carbon Disulfide	8.86	76	2728553	48.746	ng		100
23) trans-1,2-Dichloroethene	9.87	61	610395	24.623	ng		99
24) 1,1-Dichloroethane	10.12	63	752431	24.757	ng		100
25) Methyl tert-Butyl Ether	10.22	73	1175975	23.157	ng		99
26) Vinyl Acetate	10.38	86	376404	144.795	ng	#	71
27) 2-Butanone (MEK)	10.62	72	537691	48.807	ng	#	83
28) cis-1,2-Dichloroethene	11.14	61	598839	24.320	ng		98
29) Diisopropyl Ether	11.43	87	858176	60.892	ng	#	74
30) Ethyl Acetate	11.44	61	652567	89.731	ng		95
31) n-Hexane	11.42	57	975545	28.818	ng		99
32) Chloroform	11.49	83	712359	25.591	ng		100
34) Tetrahydrofuran (THF)	11.88	72	505288	48.245	ng	#	91
35) Ethyl tert-Butyl Ether	12.03	87	1008604	51.038	ng		92
36) 1,2-Dichloroethane	12.29	62	608977	25.091	ng		100
38) 1,1,1-Trichloroethane	12.56	97	647927	23.788	ng		98
39) Isopropyl Acetate	12.99	61	11650	No Calib		#	
40) 1-Butanol	13.01	56	17818	No Calib		#	
41) Benzene	13.04	78	1566868	24.308	ng		100
42) Carbon Tetrachloride	13.20	117	528777	22.792	ng		100
43) Cyclohexane	13.33	84	1236021	49.699	ng		95
44) tert-Amyl Methyl Ether	13.68	73	2447919	51.076	ng		97
45) 1,2-Dichloropropane	13.89	63	436101	24.683	ng		100
46) Bromodichloromethane	14.08	83	581846	24.853	ng		100
47) Trichloroethene	14.13	130	433842	24.203	ng		100
48) 1,4-Dioxane	14.11	88	325513	24.193	ng		99
49) 2,2,4-Trimethylpentane...	14.20	57	2016852	25.005	ng		96
50) Methyl Methacrylate	14.34	100	339894	50.785	ng		94

Data File : I:\MS16\DATA\2022 05\25\05252205.D Vial: 2
Acq On : 25 May 2022 3:46 Operator: WA/CG
Sample : LCSD R16052522 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05192203 (6/18)

Quant Time: May 25 04:43:14 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

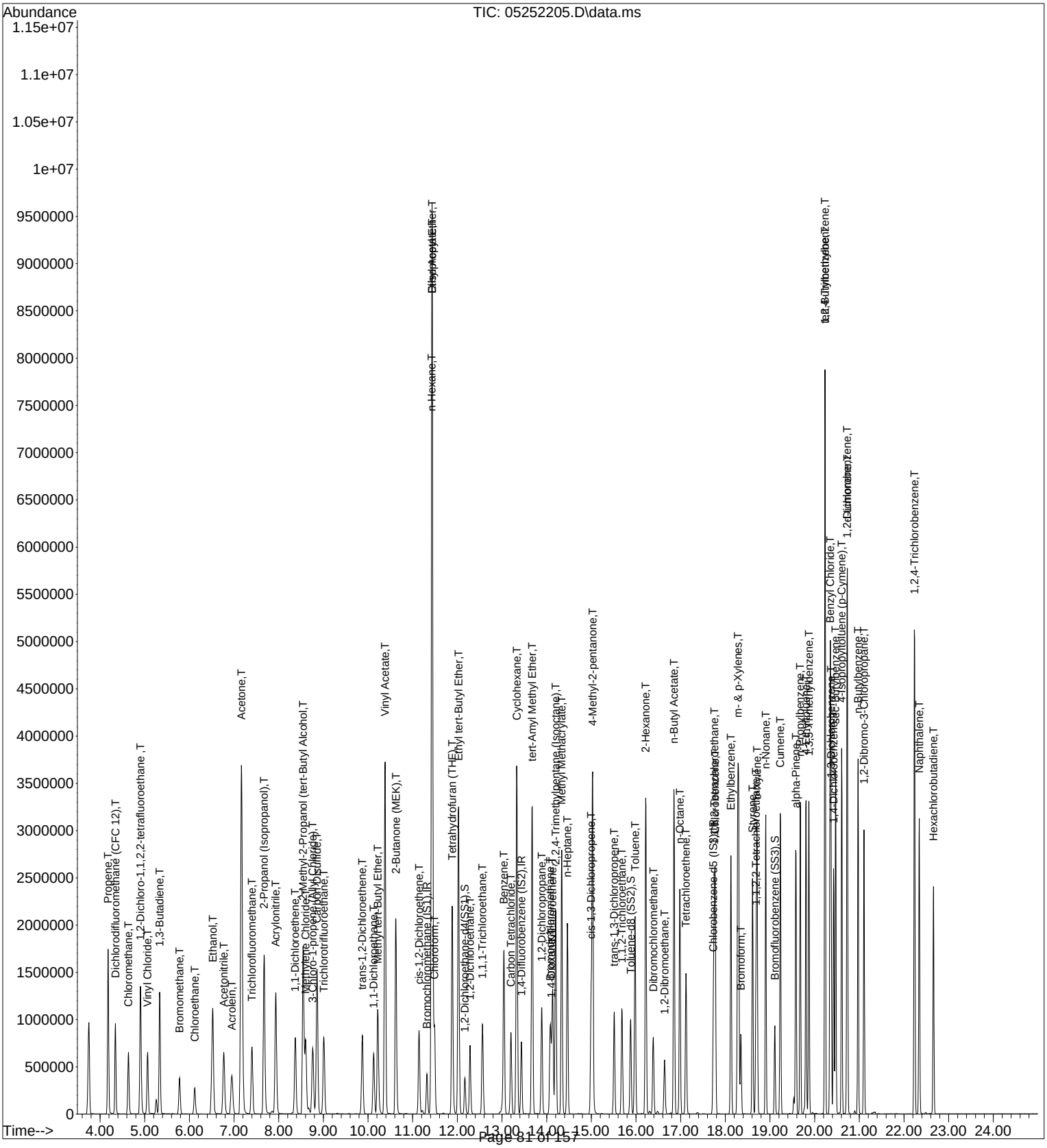
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	403670	23.887	ng		96
52) cis-1,3-Dichloropropene	15.00	75	654461	25.668	ng		99
53) 4-Methyl-2-pentanone	15.03	58	962785	53.074	ng		90
54) trans-1,3-Dichloropropene	15.51	75	578643	24.633	ng		100
55) 1,1,2-Trichloroethane	15.68	97	383616	23.880	ng		99
58) Toluene	15.98	91	1633935	21.112	ng		99
59) 2-Hexanone	16.22	43	2764421	47.010	ng		95
60) Dibromochloromethane	16.39	129	484605	20.665	ng		100
61) 1,2-Dibromoethane	16.64	107	448560	20.931	ng		99
62) n-Butyl Acetate	16.85	43	3060968	47.717	ng		96
63) n-Octane	16.98	57	434265	20.850	ng		95
64) Tetrachloroethene	17.12	166	450773	20.580	ng		100
65) Chlorobenzene	17.77	112	1106432	21.471	ng		100
66) Ethylbenzene	18.13	91	1938030	21.568	ng		99
67) m- & p-Xylenes	18.28	91	3169875	45.022	ng		99
68) Bromoform	18.35	173	422861	21.024	ng		100
69) Styrene	18.61	104	1149927	21.345	ng		100
70) o-Xylene	18.71	91	1564294	22.382	ng		98
71) n-Nonane	18.91	43	1230691	24.091	ng		94
72) 1,1,2,2-Tetrachloroethane	18.69	83	739191	22.672	ng		100
74) Cumene	19.23	105	2012774	22.113	ng		99
75) alpha-Pinene	19.58	93	993254	22.878	ng		99
76) n-Propylbenzene	19.68	91	2440584	22.598	ng		98
77) 3-Ethyltoluene	19.81	105	2023329	No Calib			
78) 4-Ethyltoluene	19.81	105	2023329	22.547	ng		98
79) 1,3,5-Trimethylbenzene	19.87	105	1695244	22.710	ng		98
80) alpha-Methylstyrene	19.87	118	12997	No Calib		#	
81) 2-Ethyltoluene	19.87	105	1695244	No Calib			
82) 1,2,4-Trimethylbenzene	20.23	105	1957187	25.358	ng		99
83) n-Decane	20.23	58	116034	No Calib		#	
84) Benzyl Chloride	20.35	91	2770958	49.676	ng		98
85) 1,3-Dichlorobenzene	20.37	146	1023224	23.260	ng		100
86) 1,4-Dichlorobenzene	20.42	146	954398	21.355	ng		100
87) sec-Butylbenzene	20.47	105	2265941	22.829	ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	1941580	21.991	ng		99
89) 1,2,3-Trimethylbenzene	20.61	105	75885	No Calib			
90) 1,2-Dichlorobenzene	20.73	146	998633	23.532	ng		100
91) d-Limonene	20.73	68	734512	25.736	ng		98
92) 1,2-Dibromo-3-Chloropr...	21.11	157	725410	42.252	ng		89
93) n-Undecane	22.33	57	978	No Calib		#	
94) 1,2,4-Trichlorobenzene	22.24	180	1491828	41.795	ng		100
95) Naphthalene	22.34	128	2305177	22.371	ng		100
96) n-Dodecane	22.33	57	734	No Calib		#	
97) Hexachlorobutadiene	22.66	225	416479	18.273	ng		100
98) Cyclohexanone	18.28	55	3187	No Calib			
99) tert-Butylbenzene	20.23	119	1859779	25.094	ng		100
100) n-Butylbenzene	20.97	91	1832949	22.411	ng		98
101) 1,1,1,2-Tetrachloroethane	17.76	131	431459	21.124	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252205.D Vial: 2
Acq On : 25 May 2022 3:46 Operator: WA/CG
Sample : LCSD R16052522 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05192203 (6/18)

Quant Time: May 25 04:43:14 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252227.D Vial: 3
Acq On : 25 May 2022 17:54 Operator: WA/CG
Sample : P2202166-001dup (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:19 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/25/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	147479	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	664574	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	160047	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	270989	12.882	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.04%				
57) Toluene-d8 (SS2)	15.88	98	711570	11.746	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
73) Bromofluorobenzene (SS3)	19.11	174	238626	10.806	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.48%				
Target Compounds							Qvalue
2) Propene	4.21	42	2869	N.D.			
3) Dichlorodifluoromethan...	4.36	85	50261	1.518	ng		100
4) Chloromethane	4.65	50	6550	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1356	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.78	94	219	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.46	45	46207	2.611	ng		97
11) Acetonitrile	6.75	41	4498	N.D.			
12) Acrolein	6.95	56	1357	N.D.			
13) Acetone	7.15	58	33584	2.423	ng		90
14) Trichlorofluoromethane	7.39	101	22790	0.781	ng		98
15) 2-Propanol (Isopropanol)	7.61	45	755	N.D.			
16) Acrylonitrile	8.14	53	5585	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.63	59	991	N.D.			
19) Methylene Chloride	8.57	84	3375	N.D.			
20) 3-Chloro-1-propene (Al...	8.60	41	100	N.D.			
21) Trichlorotrifluoroethane	9.01	151	4361	N.D.			
22) Carbon Disulfide	8.84	76	5930	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.34	86	1416	0.561	ng	#	66
27) 2-Butanone (MEK)	10.64	72	2628	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	927	N.D.			
30) Ethyl Acetate	11.43	61	83887	11.882	ng		91
31) n-Hexane	11.42	57	961	N.D.			
32) Chloroform	11.46	83	1212	N.D.			
34) Tetrahydrofuran (THF)	11.92	72	891	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.28	62	815	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	13.04	56	1313	No Calib		#	
41) Benzene	13.03	78	5636	N.D.			
42) Carbon Tetrachloride	13.19	117	6129	N.D.			
43) Cyclohexane	13.42	84	529	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	1867	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS16\DATA\2022 05\25\05252227.D Vial: 3
Acq On : 25 May 2022 17:54 Operator: WA/CG
Sample : P2202166-001dup (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:19 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

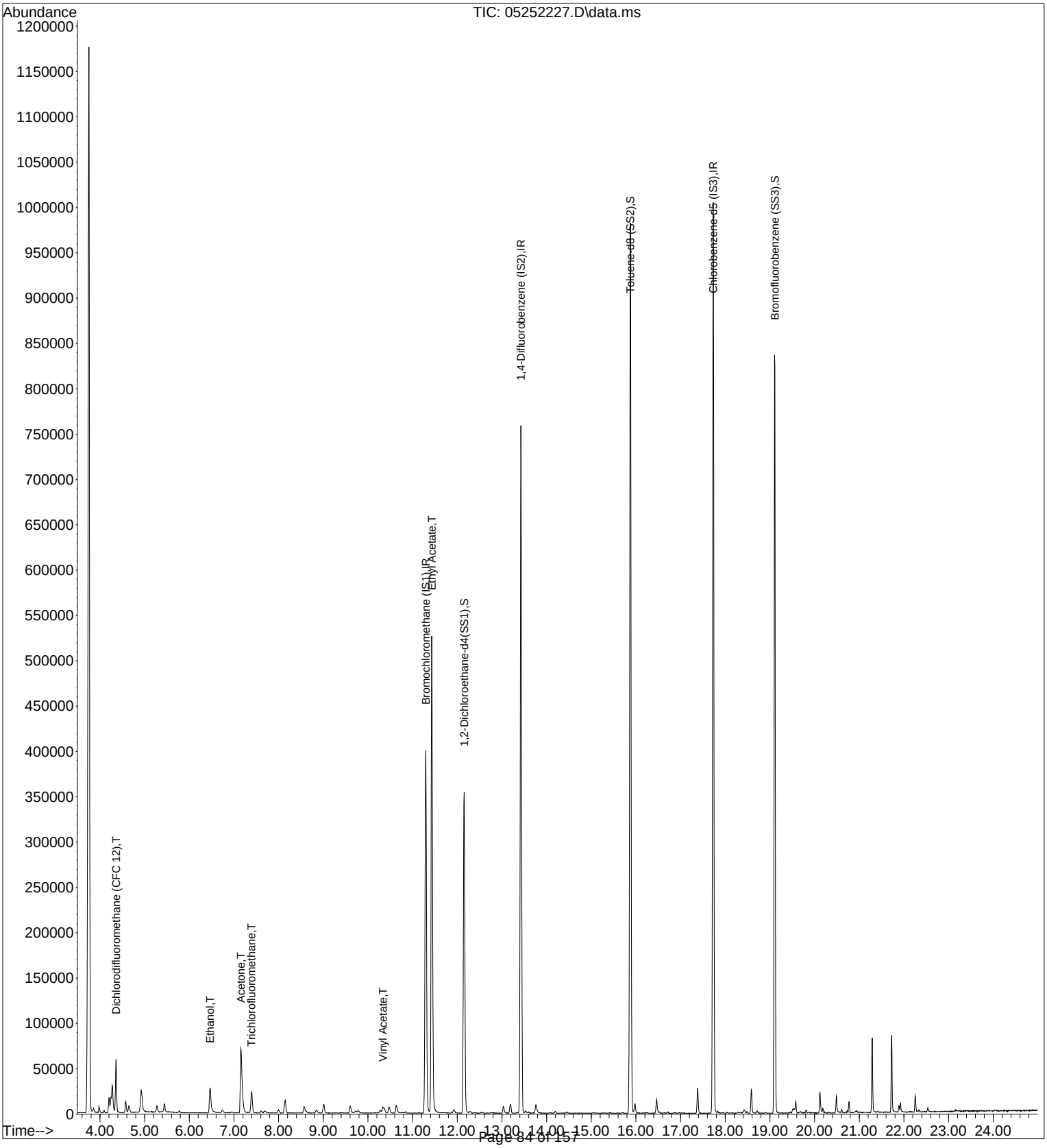
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.45	71	172	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	7943	N.D.	
59) 2-Hexanone	16.24	43	1524	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.87	43	1049	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.13	91	806	N.D.	
67) m- & p-Xylenes	18.28	91	1571	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.71	91	779	N.D.	
71) n-Nonane	18.90	43	780	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.12	105	610	N.D.	
75) alpha-Pinene	19.58	93	4518	N.D.	
76) n-Propylbenzene	19.68	91	360	N.D.	
77) 3-Ethyltoluene	19.80	105	495	No Calib	#
78) 4-Ethyltoluene	19.80	105	495	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	163	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.87	105	163	No Calib	#
82) 1,2,4-Trimethylbenzene	20.23	105	697	N.D.	
83) n-Decane	20.12	58	120	No Calib	#
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.61	105	249	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	2371	N.D.	
89) 1,2,3-Trimethylbenzene	20.61	105	249	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	659	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	22.26	57	2640	No Calib	#
94) 1,2,4-Trichlorobenzene	22.24	180	107	N.D.	
95) Naphthalene	22.34	128	767	N.D.	
96) n-Dodecane	22.34	57	622	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.43	55	2028	No Calib	#
99) tert-Butylbenzene	20.24	119	105	N.D.	
100) n-Butylbenzene	20.96	91	459	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252227.D Vial: 3
Acq On : 25 May 2022 17:54 Operator: WA/CG
Sample : P2202166-001dup (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:19 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252227.D Vial: 3
Acq On : 25 May 2022 17:54 Operator: WA/CG
Sample : P2202166-001dup (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:19 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/25/22

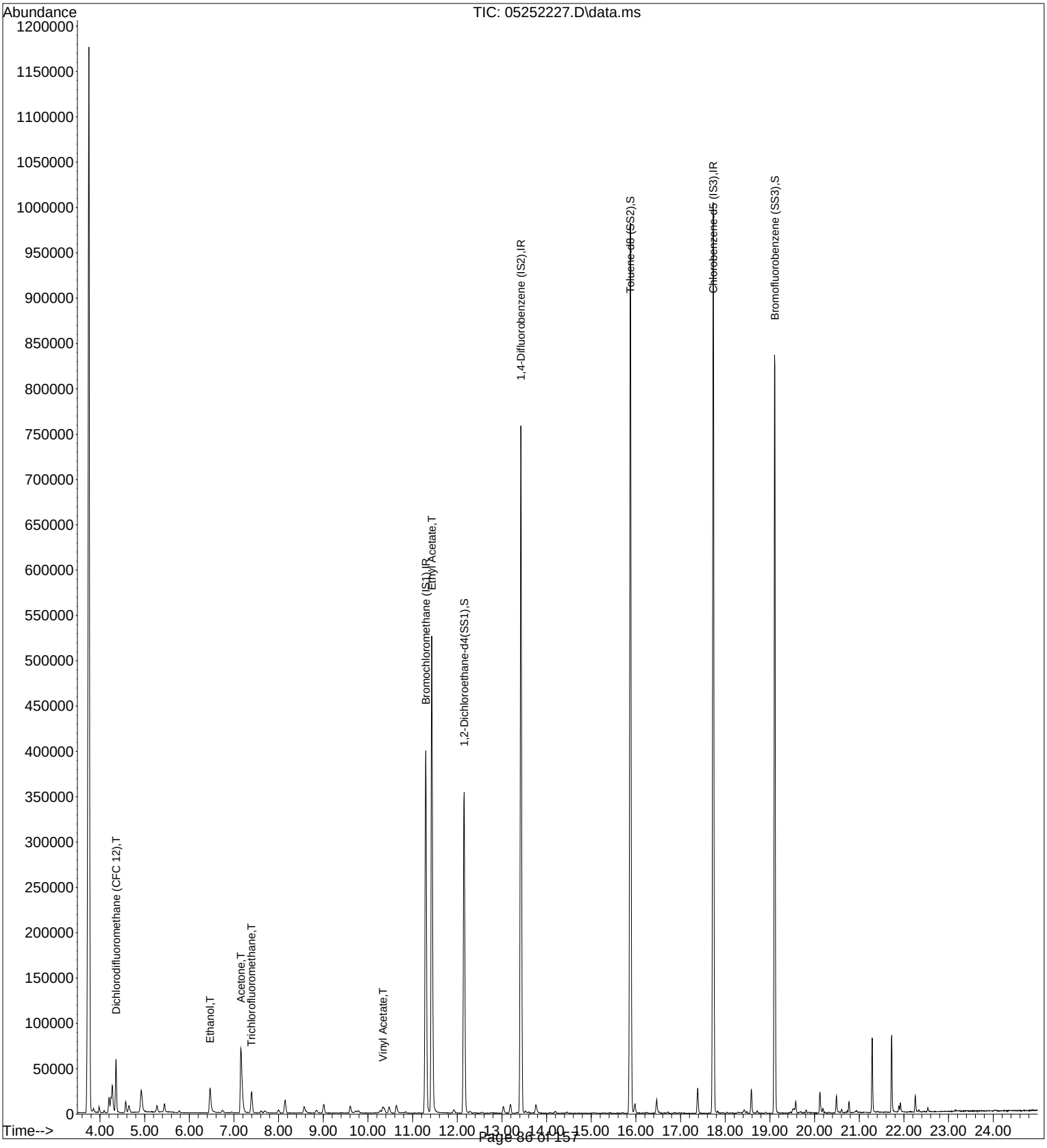
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	147479	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	664574	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	160047	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	270989	12.882	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.04%				
57) Toluene-d8 (SS2)	15.88	98	711570	11.746	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
73) Bromofluorobenzene (SS3)	19.11	174	238626	10.806	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.48%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.36	85	50261	1.518	ng		100
10) Ethanol	6.46	45	46207	2.611	ng		97
13) Acetone	7.15	58	33584	2.423	ng		90
14) Trichlorofluoromethane	7.39	101	22790	0.781	ng		98
26) Vinyl Acetate	10.34	86	1416	0.561	ng	#	66
30) Ethyl Acetate	11.43	61	83887	11.882	ng		91

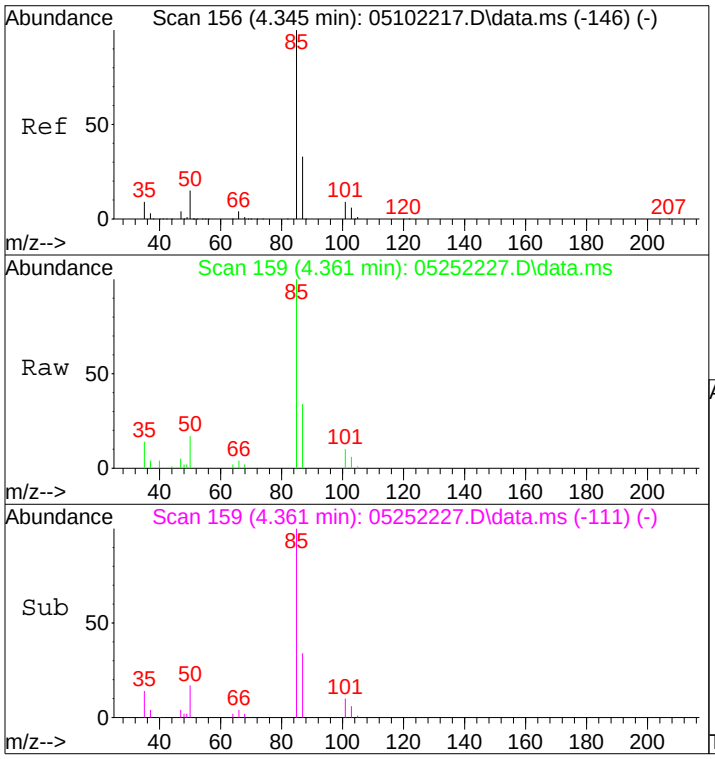
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252227.D Vial: 3
Acq On : 25 May 2022 17:54 Operator: WA/CG
Sample : P2202166-001dup (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: May 25 21:08:19 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

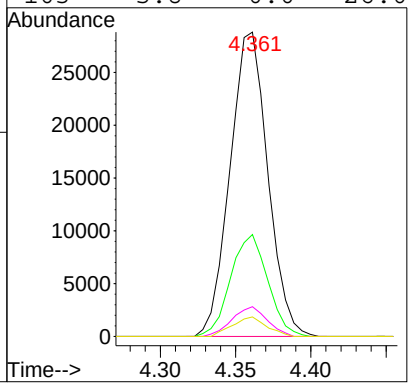


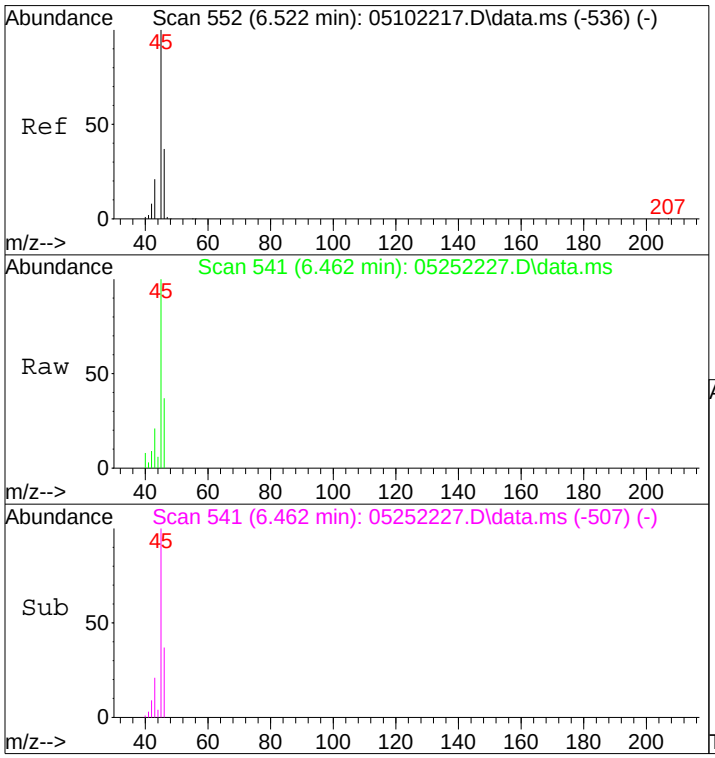


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.52 ng
RT: 4.36 min Scan# 159
Delta R.T. 0.016 min
Lab File: 05252227.D
Acq: 25 May 2022 17:54

Tgt Ion: 85 Resp: 50261

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.9	52.9
101	9.1	0.0	29.3
103	5.8	0.0	26.0

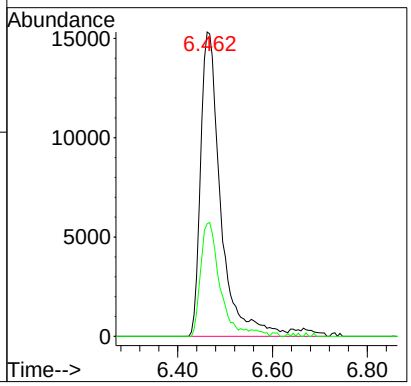


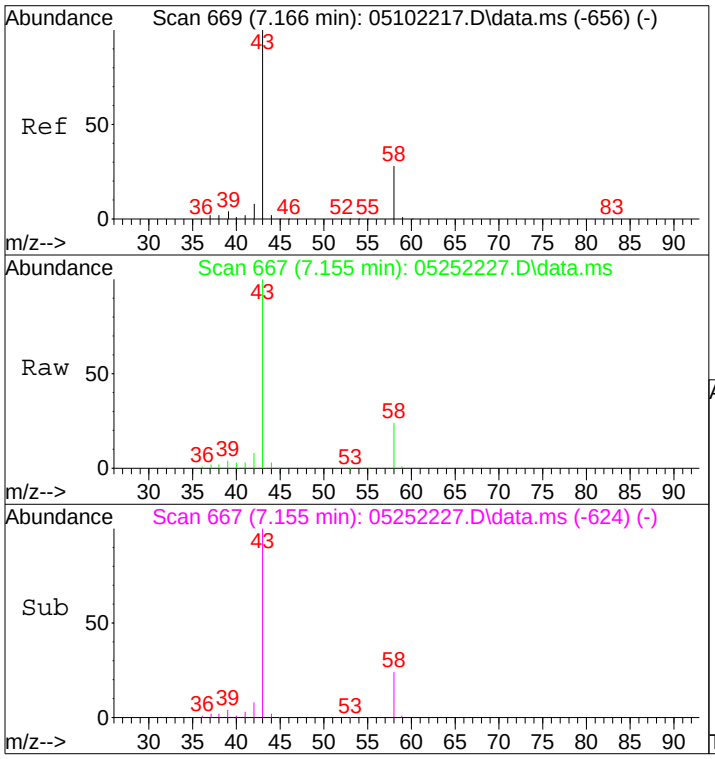


#10
Ethanol
Concen: 2.61 ng
RT: 6.46 min Scan# 541
Delta R.T. -0.060 min
Lab File: 05252227.D
Acq: 25 May 2022 17:54

Tgt Ion: 45 Resp: 46207

Ion	Ratio	Lower	Upper
45	100		
46	35.7	17.2	57.2

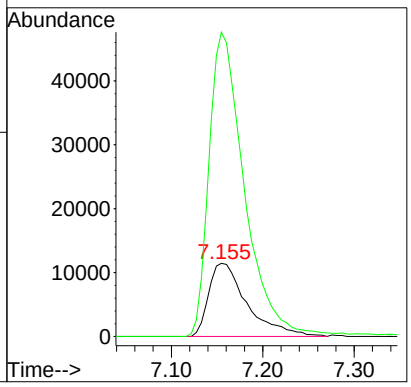


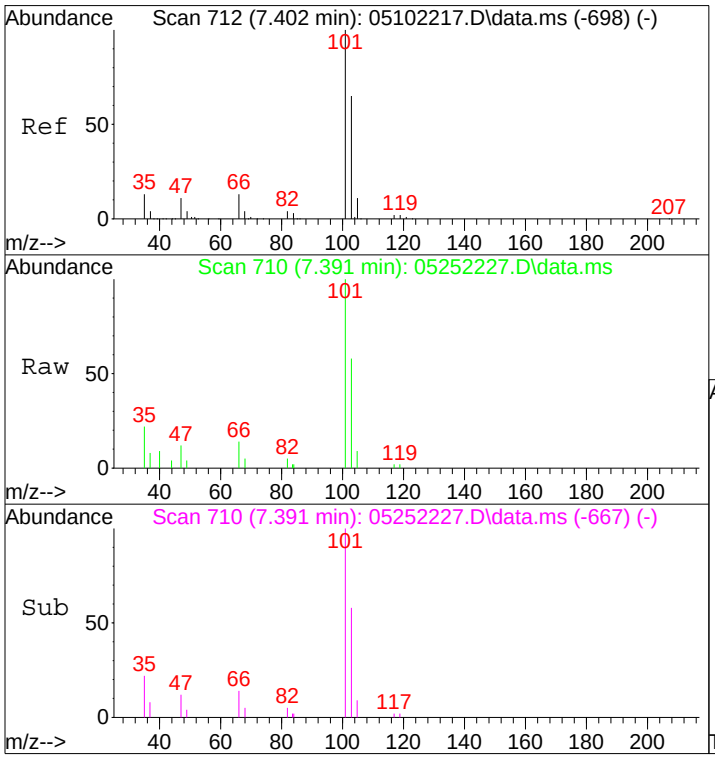


#13
Acetone
Concen: 2.42 ng
RT: 7.15 min Scan# 667
Delta R.T. -0.011 min
Lab File: 05252227.D
Acq: 25 May 2022 17:54

Tgt Ion: 58 Resp: 33584

Ion	Ratio	Lower	Upper
58	100		
43	386.9	334.7	394.7

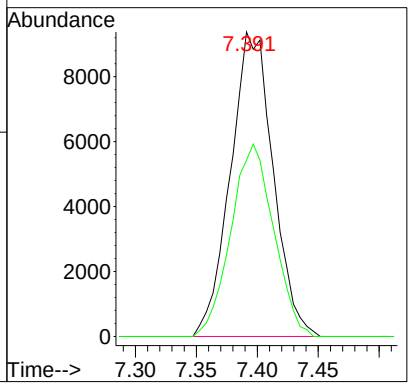


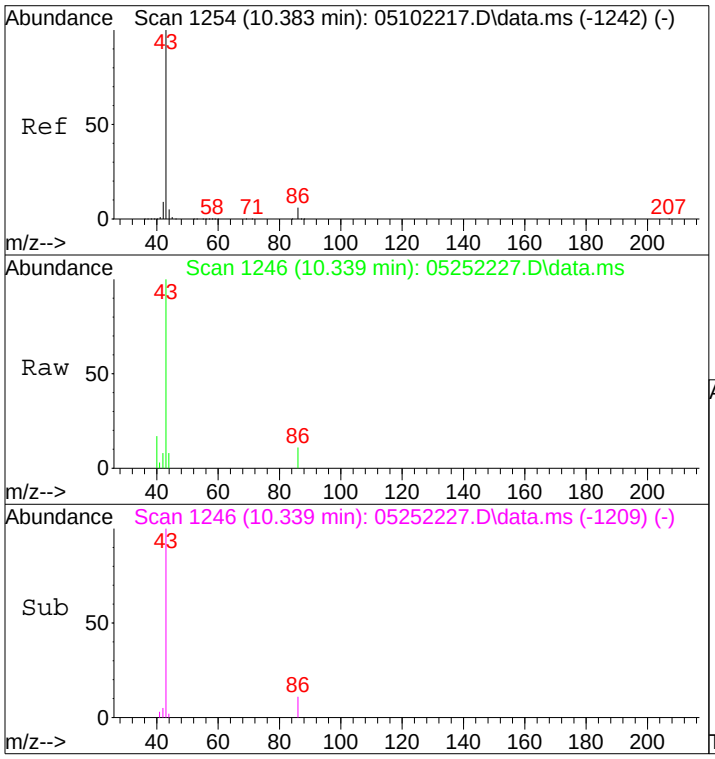


#14
Trichlorofluoromethane
Concen: 0.78 ng
RT: 7.39 min Scan# 710
Delta R.T. -0.011 min
Lab File: 05252227.D
Acq: 25 May 2022 17:54

Tgt Ion:101 Resp: 22790

Ion	Ratio	Lower	Upper
101	100		
103	63.3	44.5	84.5

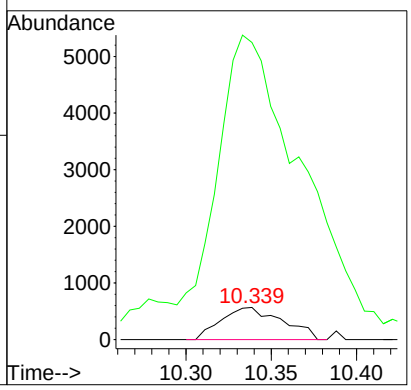


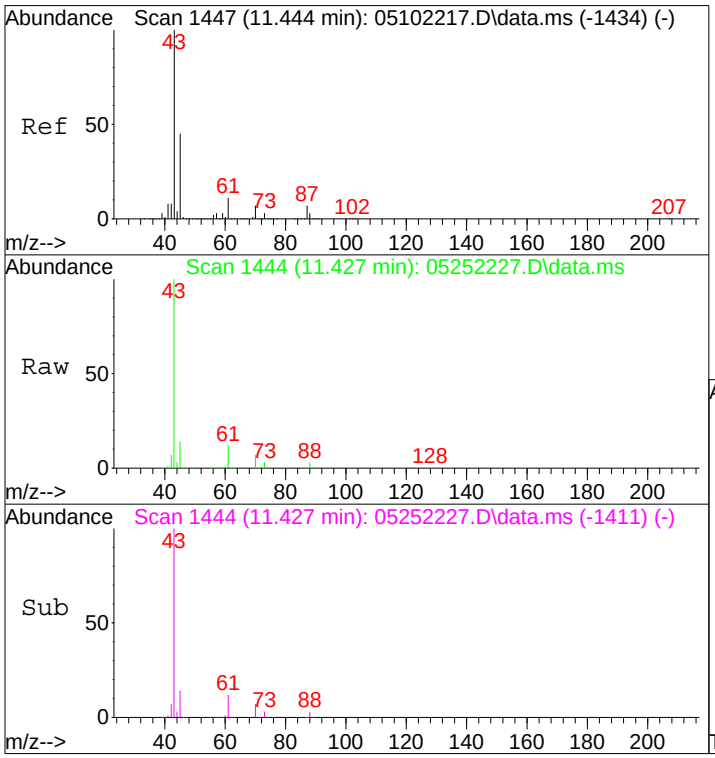


#26
Vinyl Acetate
Concen: 0.56 ng
RT: 10.34 min Scan# 1246
Delta R.T. -0.044 min
Lab File: 05252227.D
Acq: 25 May 2022 17:54

Tgt Ion: 86 Resp: 1416

Ion	Ratio	Lower	Upper
86	100		
43	1362.1	1551.4	1591.4#

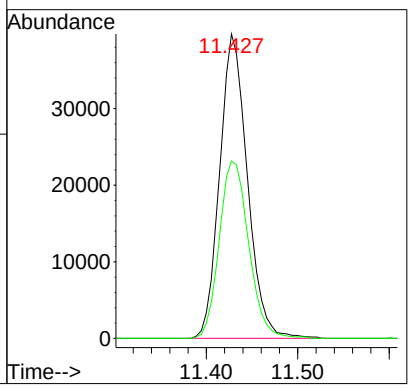




#30
Ethyl Acetate
Concen: 11.88 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.017 min
Lab File: 05252227.D
Acq: 25 May 2022 17:54

Tgt Ion: 61 Resp: 83887

Ion	Ratio	Lower	Upper
61	100		
70	61.8	49.4	89.4



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16051022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue May 10 19:05:32 2022
Response Via : Initial Calibration

WA 5/10/22

Calibration Files
0.1 =05102212.D 0.2 =05102213.D 0.5 =05102214.D 1.0 =05102215.D 5.0 =05102216.D 25 =05102217.D 50 =05102218.D
100 =05102219.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	----------	ISTD	----------	----------					
2)	T	Propene	2.375	2.174	2.504	2.145	2.482	2.403	2.496	2.906	2.436	9.69
3)	T	Dichlorodifluo...	3.485	2.952	2.680	2.924	2.672	2.710	2.564	2.465	2.806	11.38
4)	T	Chloromethane	3.065	2.786	2.442	2.769	2.281	2.483	2.267	1.587	2.460	18.18
5)	T	1,2-Dichloro-1...	1.674	1.501	1.406	1.488	1.368	1.394	1.379	1.291	1.438	8.11
6)	T	Vinyl Chloride	2.440	2.239	2.108	2.297	2.134	2.146	2.101	1.982	2.181	6.45
7)	T	1,3-Butadiene	2.389	2.031	1.838	1.958	1.790	1.945	1.916	1.797	1.958	9.87
8)	T	Bromomethane	1.238	1.139	1.026	1.090	1.058	1.056	1.039	1.033	1.085	6.64
9)	T	Chloroethane	1.006	0.922	0.888	0.987	0.902	0.925	0.917	0.895	0.930	4.65
10)	T	Ethanol	2.087	1.714	1.482	1.399	1.278	1.362	1.358	1.319	1.500	18.20
11)	T	Acetonitrile	4.307	3.614	3.293	3.463	3.268	3.418	3.367	3.273	3.500	9.89
12)	T	Acrolein	1.415	1.137	0.996	1.144	0.971	1.019	0.995	0.966	1.080	14.10
13)	T	Acetone	1.448	1.259	1.110	1.186	1.090	1.160	1.115	1.031	1.175	11.02
14)	T	Trichlorofluor...	2.765	2.553	2.409	2.566	2.376	2.454	2.384	2.285	2.474	6.06
15)	T	2-Propanol (Is...	6.083	5.170	3.825	4.945	3.592	4.106	3.673	2.634	4.253	25.56
16)	T	Acrylonitrile	2.473	2.170	2.064	2.193	2.081	2.226	2.197	2.092	2.187	5.97
17)	T	1,1-Dichloroet...	1.612	1.325	1.215	1.312	1.188	1.255	1.225	1.197	1.291	10.78
18)	T	2-Methyl-2-Pro...	4.453	4.091	3.703	4.214	3.785	4.182	3.934	2.325	3.836	17.13
19)	T	Methylene Chlo...	1.668	1.457	1.274	1.353	1.236	1.284	1.254	1.214	1.343	11.37
20)	T	3-Chloro-1-pro...	2.385	2.161	2.137	2.386	2.293	2.547	2.483	2.405	2.350	6.15
21)	T	Trichlorotrifl...	1.275	1.208	1.100	1.235	1.135	1.192	1.153	1.095	1.174	5.49
22)	T	Carbon Disulfide	5.381	4.666	4.329	4.692	4.372	4.640	4.503	4.262	4.606	7.67
23)	T	trans-1,2-Dich...	2.195	1.987	1.914	2.117	1.983	2.086	2.039	1.996	2.040	4.38
24)	T	1,1-Dichloroet...	2.800	2.548	2.361	2.633	2.396	2.507	2.424	2.337	2.501	6.28
25)	T	Methyl tert-Bu...	4.829	4.310	3.960	4.319	3.989	4.131	4.007	3.883	4.178	7.36
26)	T	Vinyl Acetate	0.157	0.182	0.181	0.211	0.217	0.260	0.257	0.246	0.214	18.08
27)	T	2-Butanone (MEK)	0.972	0.895	0.869	0.923	0.871	0.931	0.919	0.872	0.906	4.04
28)	T	cis-1,2-Dichlo...	2.191	2.040	1.953	2.083	1.958	2.055	1.998	1.930	2.026	4.24
29)	T	Diisopropyl Ether	1.312	1.207	1.127	1.258	1.185	1.194	1.092	0.903	1.160	10.72
30)	T	Ethyl Acetate	0.631	0.560	0.571	0.621	0.611	0.688	0.618	0.488	0.598	9.87
31)	T	n-Hexane	3.461	2.969	2.588	2.800	2.601	2.871	2.682	2.310	2.785	12.20
32)	T	Chloroform	2.724	2.396	2.197	2.386	2.224	2.263	2.155	1.978	2.290	9.60
33)	S	1,2-Dichloroet...	1.821	1.814	1.823	1.818	1.815	1.768	1.731	1.675	1.783	3.05
34)	T	Tetrahydrofura...	0.987	0.889	0.796	0.871	0.819	0.868	0.853	0.811	0.862	6.97
35)	T	Ethyl tert-But...	1.764	1.603	1.522	1.652	1.573	1.690	1.663	1.541	1.626	5.02
36)	T	1,2-Dichloroet...	2.176	2.072	1.928	2.105	1.953	2.000	1.929	1.813	1.997	5.81
37)	IR	1,4-Difluorobenzen...	----------	----------	ISTD	----------	----------					
38)	T	1,1,1-Trichlor...	0.574	0.524	0.474	0.509	0.475	0.505	0.496	0.485	0.505	6.46
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.405	1.221	1.120	1.189	1.110	1.193	1.179	1.149	1.196	7.75
42)	T	Carbon Tetrach...	0.467	0.428	0.399	0.434	0.404	0.442	0.438	0.431	0.430	5.01

Method Path : I:\MS16\METHODS\
Method File : R16051022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

43)	T	Cyclohexane	0.536	0.457	0.430	0.466	0.430	0.469	0.466	0.437	0.461	7.44
44)	T	tert-Amyl Meth...	0.948	0.927	0.842	0.872	0.840	0.919	0.912	0.853	0.889	4.77
45)	T	1,2-Dichloropr...	0.364	0.330	0.308	0.330	0.310	0.331	0.326	0.321	0.328	5.27
46)	T	Bromodichlorom...	0.492	0.435	0.405	0.440	0.408	0.441	0.433	0.422	0.434	6.23
47)	T	Trichloroethene	0.364	0.333	0.312	0.333	0.316	0.339	0.338	0.325	0.333	4.79
48)	T	1,4-Dioxane	0.260	0.260	0.227	0.252	0.236	0.256	0.254	0.251	0.250	4.71
49)	T	2,2,4-Trimethy...	1.750	1.572	1.399	1.521	1.411	1.495	1.454	1.367	1.496	8.24
50)	T	Methyl Methacr...	0.124	0.116	0.115	0.124	0.121	0.135	0.133	0.125	0.124	5.79
51)	T	n-Heptane	0.380	0.321	0.287	0.310	0.291	0.313	0.308	0.298	0.313	9.33
52)	T	cis-1,3-Dichlo...	0.466	0.442	0.427	0.472	0.460	0.508	0.507	0.502	0.473	6.46
53)	T	4-Methyl-2-pen...	0.354	0.332	0.309	0.336	0.321	0.358	0.351	0.331	0.337	5.07
54)	T	trans-1,3-Dich...	0.388	0.387	0.394	0.428	0.431	0.488	0.486	0.483	0.436	10.28
55)	T	1,1,2-Trichlor...	0.332	0.303	0.282	0.298	0.280	0.300	0.296	0.293	0.298	5.38
56)	IR	Chlorobenzene-d5 (...	----------	----------	ISTD	----------	----------					
57)	S	Toluene-d8 (SS2)	4.833	4.799	4.753	4.750	4.702	4.701	4.706	4.610	4.732	1.45
58)	T	Toluene	6.754	5.654	5.207	5.561	5.147	5.458	5.399	5.084	5.533	9.63
59)	T	2-Hexanone	4.785	4.232	3.951	4.245	4.122	4.376	4.226	3.697	4.204	7.51
60)	T	Dibromochlorom...	1.931	1.637	1.537	1.673	1.581	1.711	1.719	1.623	1.677	7.15
61)	T	1,2-Dibromoethane	1.642	1.555	1.445	1.554	1.463	1.570	1.563	1.465	1.532	4.43
62)	T	n-Butyl Acetate	4.913	4.671	4.230	4.672	4.513	4.852	4.721	4.117	4.586	6.18
63)	T	n-Octane	2.074	1.623	1.351	1.423	1.316	1.405	1.404	1.316	1.489	17.18
64)	T	Tetrachloroethene	1.736	1.605	1.488	1.601	1.473	1.576	1.569	1.478	1.566	5.60
65)	T	Chlorobenzene	4.192	3.788	3.457	3.673	3.459	3.735	3.745	3.424	3.684	6.84
66)	T	Ethylbenzene	7.654	6.609	5.993	6.387	6.008	6.449	6.400	5.891	6.424	8.71
67)	T	m- & p-Xylenes	5.889	5.391	4.777	4.973	4.714	5.075	5.009	4.440	5.034	8.84
68)	T	Bromoform	1.558	1.412	1.351	1.446	1.397	1.513	1.489	1.337	1.438	5.43
69)	T	Styrene	4.070	3.919	3.571	3.816	3.701	4.050	4.013	3.673	3.851	4.93
70)	T	o-Xylene	5.896	5.242	4.771	5.037	4.756	4.999	4.901	4.371	4.997	8.89
71)	T	n-Nonane	4.124	3.822	3.454	3.710	3.542	3.772	3.630	3.163	3.652	7.75
72)	T	1,1,2,2-Tetrac...	2.701	2.395	2.161	2.315	2.219	2.376	2.341	2.139	2.331	7.64
73)	S	Bromofluoroben...	1.738	1.734	1.726	1.712	1.717	1.726	1.728	1.715	1.725	0.52
74)	T	Cumene	7.410	6.717	6.028	6.598	6.189	6.667	6.575	5.874	6.507	7.41
75)	T	alpha-Pinene	3.084	3.138	2.914	3.097	3.024	3.283	3.278	3.014	3.104	4.12
76)	T	n-Propylbenzene	8.967	8.093	7.186	7.793	7.405	7.906	7.693	6.725	7.721	8.63
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	7.330	6.660	5.963	6.429	6.133	6.648	6.476	5.685	6.415	7.84
79)	T	1,3,5-Trimethy...	6.153	5.571	5.033	5.327	5.119	5.485	5.344	4.661	5.337	8.20
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	6.211	5.633	5.130	5.568	5.325	5.972	5.696	4.607	5.518	9.07
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	3.471	3.314	3.373	3.771	4.152	5.014	4.896	3.913	3.988	16.57
85)	T	1,3-Dichlorobe...	3.741	3.334	2.995	3.152	3.034	3.311	3.123	2.469	3.145	11.46
86)	T	1,4-Dichlorobe...	3.946	3.391	2.995	3.141	2.999	3.278	3.127	2.685	3.195	11.57
87)	T	sec-Butylbenzene	8.293	7.434	6.810	7.338	6.978	7.364	6.898	5.653	7.096	10.51
88)	T	4-Isopropyltol...	7.505	6.590	5.923	6.367	6.045	6.603	6.271	5.192	6.312	10.48
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	3.569	3.247	2.907	3.015	2.936	3.199	3.012	2.386	3.034	11.18
91)	T	d-Limonene	2.111	2.009	1.916	2.043	2.019	2.259	2.183	1.783	2.040	7.32
92)	T	1,2-Dibromo-3-...	1.339	1.226	1.130	1.210	1.193	1.338	1.297	1.086	1.227	7.57
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	3.171	2.611	2.375	2.322	2.304	2.778	2.679	2.175	2.552	12.76

Method Path : I:\MS16\METHODS\
Method File : R16051022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95)	T	Naphthalene	8.191	7.104	6.596	6.573	8.189	8.037	6.877	7.367	10.12
96)	T	n-Dodecane								0.000	-1.00
97)	T	Hexachlorobuta...	1.859	1.710	1.554	1.565	1.507	1.663	1.666	1.512	1.629	7.34
98)	T	Cyclohexanone								0.000	-1.00
99)	T	tert-Butylbenzene	6.166	5.470	4.994	5.340	5.129	5.715	5.337	4.237	5.298	10.60
100)	T	n-Butylbenzene	6.800	6.090	5.450	5.795	5.625	6.033	5.864	5.122	5.847	8.52
101)	T	1,1,1,2-Tetrac...	1.679	1.480	1.386	1.450	1.362	1.479	1.480	1.365	1.460	7.00

(#) = Out of Range

Primary Source Standards Concentrations (Working & Initial Calibration)

5/11/22

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-05102204 | 200ng/L Std. ID: S35-05102202
20ng/L Std. ID: S35-05102203 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.1250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | **40ng/L Std. ID:**
4ng/L Std. ID: S35-05102204 | **200ng/L Std. ID:** S35-05102202
20ng/L Std. ID: S35-05102203 | **1000ng/L Std. ID:**

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.1250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16051022.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration

5/10/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2022_05\10\05102212.D
2	0.2	0	13	I:\MS16\DATA\2022_05\10\05102213.D
3	0.5	1	13	I:\MS16\DATA\2022_05\10\05102214.D
4	1.0	1	13	I:\MS16\DATA\2022_05\10\05102215.D
5	5.0	5	13	I:\MS16\DATA\2022_05\10\05102216.D
6	25	26	13	I:\MS16\DATA\2022_05\10\05102217.D
7	50	52	13	I:\MS16\DATA\2022_05\10\05102218.D
8	100	104	13	I:\MS16\DATA\2022_05\10\05102219.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	May 10 18:16 2022	May 10 17:40 2022	10 May 2022 13:46
2	0.2	May 10 18:16 2022	May 10 17:45 2022	10 May 2022 14:20
3	0.5	May 10 18:16 2022	May 10 17:59 2022	10 May 2022 14:54
4	1.0	May 10 18:17 2022	May 10 18:03 2022	10 May 2022 15:28
5	5.0	May 10 18:17 2022	May 10 18:08 2022	10 May 2022 16:02
6	25	May 10 18:17 2022	May 10 18:10 2022	10 May 2022 16:36
7	50	May 10 18:17 2022	May 10 18:12 2022	10 May 2022 17:10
8	100	May 10 19:05 2022	May 10 18:15 2022	10 May 2022 17:44

R16051022.M Tue May 10 20:28:03 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:40:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/11/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	164400	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	744343	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	166054	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	299319	13.254	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%				
57) Toluene-d8 (SS2)	15.88	98	802500	10.001	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.00%				
73) Bromofluorobenzene (SS3)	19.11	174	288607	11.285	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%				
Target Compounds							Qvalue
2) Propene	4.22	42	3248m	0.130	ng		
3) Dichlorodifluoromethan...	4.37	85	4813	0.116	ng		96
4) Chloromethane	4.66	50	4112	0.137	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.93	135	2378	0.107	ng		95
6) Vinyl Chloride	5.08	62	3337	0.108	ng		99
7) 1,3-Butadiene	5.35	54	3268	0.153	ng		90
8) Bromomethane	5.79	94	1661	0.099	ng		80
9) Chloroethane	6.13	64	1350	0.099	ng		89
10) Ethanol	6.47	45	9935	0.642	ng		86
11) Acetonitrile	6.75	41	5268	0.127	ng		77
12) Acrolein	6.95	56	3723m	0.326	ng		
13) Acetone	7.17	58	9881	0.638	ng		90
14) Trichlorofluoromethane	7.41	101	3746	0.106	ng		96
15) 2-Propanol (Isopropanol)	7.67	45	16162	0.306	ng		90
16) Acrylonitrile	7.91	53	6603	0.243	ng		95
17) 1,1-Dichloroethene	8.37	96	2269	0.123	ng		86
18) 2-Methyl-2-Propanol (t...	8.58	59	12300	0.253	ng		90
19) Methylene Chloride	8.57	84	2282	0.113	ng		95
20) 3-Chloro-1-propene (Al...	8.74	41	3294	0.117	ng		94
21) Trichlorotrifluoroethane	9.01	151	1811	0.113	ng		98
22) Carbon Disulfide	8.85	76	14862	0.216	ng		99
23) trans-1,2-Dichloroethene	9.85	61	3060	0.112	ng		84
24) 1,1-Dichloroethane	10.10	63	3867	0.115	ng		97
25) Methyl tert-Butyl Ether	10.25	73	6668	0.119	ng		84
26) Vinyl Acetate	10.38	86	701	0.179	ng	#	45
27) 2-Butanone (MEK)	10.64	72	2634	0.185	ng	#	82
28) cis-1,2-Dichloroethene	11.12	61	2997	0.113	ng		88
29) Diisopropyl Ether	11.44	87	3657	0.220	ng	#	89
30) Ethyl Acetate	11.44	61	3384	0.463	ng		95
31) n-Hexane	11.41	57	4780	0.172	ng	#	85
32) Chloroform	11.46	83	3834	0.115	ng		95
34) Tetrahydrofuran (THF)	11.91	72	2556	0.196	ng	#	71
35) Ethyl tert-Butyl Ether	12.03	87	4872	0.229	ng	#	93
36) 1,2-Dichloroethane	12.27	62	3033	0.117	ng		97
38) 1,1,1-Trichloroethane	12.55	97	3552	0.118	ng		96
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	8701	0.112	ng		99
42) Carbon Tetrachloride	13.19	117	2920	0.119	ng		97
43) Cyclohexane	13.32	84	6606	0.232	ng		95
44) tert-Amyl Methyl Ether	13.68	73	11801	0.234	ng		96
45) 1,2-Dichloropropane	13.89	63	2235	0.118	ng		98
46) Bromodichloromethane	14.07	83	3075	0.121	ng		96
47) Trichloroethene	14.13	130	2230	0.108	ng		100
48) 1,4-Dioxane	14.12	88	1608	0.094	ng		92
49) 2,2,4-Trimethylpentane...	14.20	57	11049	0.147	ng		93
50) Methyl Methacrylate	14.34	100	1542	0.192	ng	#	80

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:40:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

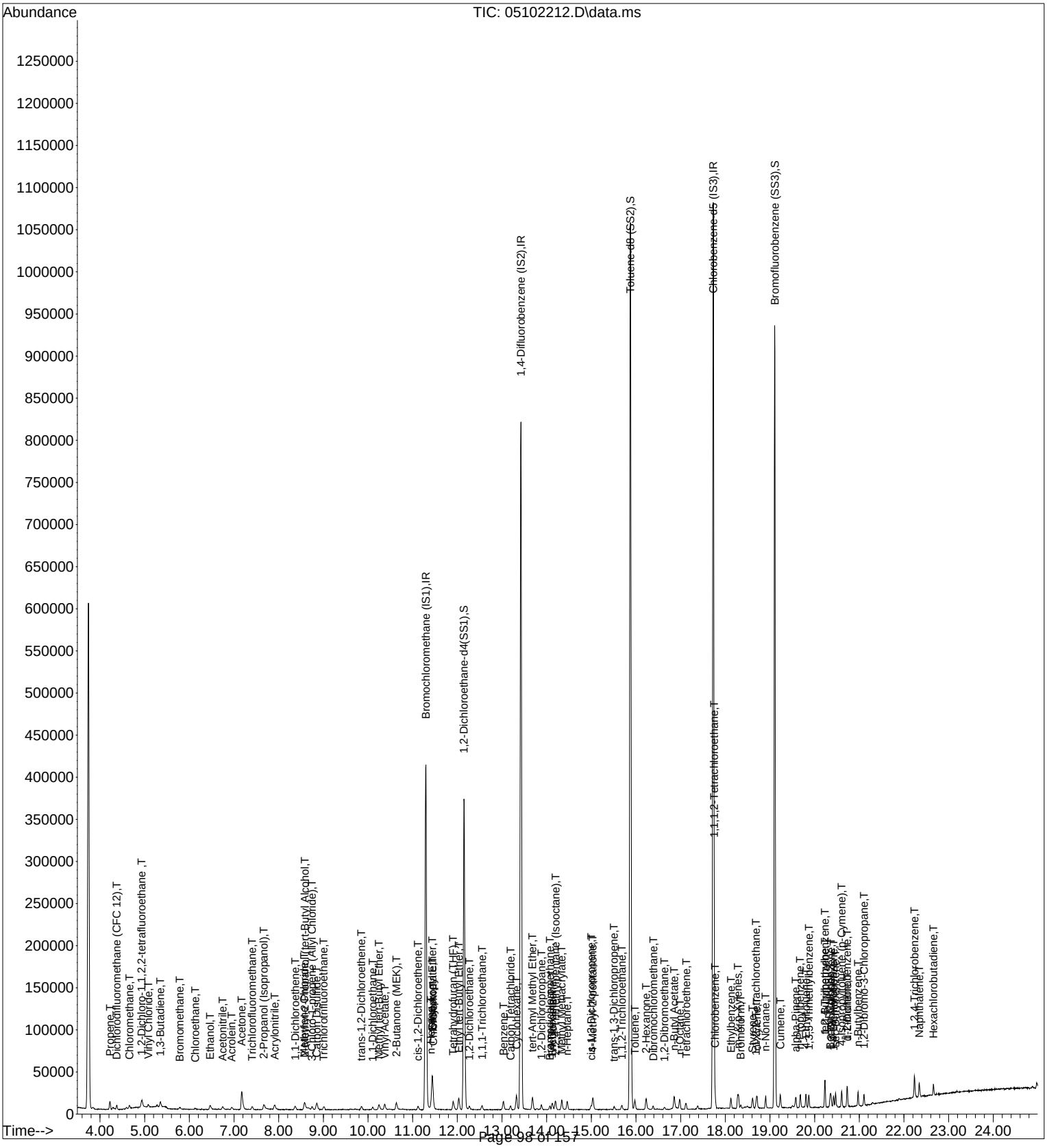
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	2377	0.124 ng	#	80
52) cis-1,3-Dichloropropene	15.00	75	2911	0.098 ng		96
53) 4-Methyl-2-pentanone	15.03	58	4386	0.254 ng		93
54) trans-1,3-Dichloropropene	15.51	75	2336	0.086 ng		93
55) 1,1,2-Trichloroethane	15.68	97	2056	0.111 ng		90
58) Toluene	15.98	91	9242	0.095 ng		94
59) 2-Hexanone	16.23	43	13031	0.238 ng		93
60) Dibromochloromethane	16.39	129	2693	0.105 ng		95
61) 1,2-Dibromoethane	16.64	107	2269	0.086 ng		99
62) n-Butyl Acetate	16.86	43	13314	0.222 ng		84
63) n-Octane	16.98	57	2893	0.149 ng		85
64) Tetrachloroethene	17.12	166	2398	0.092 ng		100
65) Chlorobenzene	17.77	112	5791	0.090 ng		98
66) Ethylbenzene	18.13	91	10473	0.097 ng		94
67) m- & p-Xylenes	18.28	91	16117	0.196 ng		95
68) Bromoform	18.35	173	2152	0.098 ng		96
69) Styrene	18.61	104	5569	0.083 ng		96
70) o-Xylene	18.71	91	8146	0.099 ng		95
71) n-Nonane	18.90	43	5697	0.132 ng		91
72) 1,1,2,2-Tetrachloroethane	18.69	83	3732	0.097 ng		97
74) Cumene	19.23	105	10238	0.095 ng		99
75) alpha-Pinene	19.58	93	4424	0.087 ng	#	48
76) n-Propylbenzene	19.68	91	12508	0.098 ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.81	105	10321	0.099 ng		96
79) 1,3,5-Trimethylbenzene	19.87	105	8501	0.099 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.23	105	8499	0.104 ng		98
83) n-Decane	0.00	58	0	N.D. d		
84) Benzyl Chloride	20.35	91	9498	0.145 ng		96
85) 1,3-Dichlorobenzene	20.37	146	5168	0.105 ng		95
86) 1,4-Dichlorobenzene	20.42	146	5452	0.106 ng		93
87) sec-Butylbenzene	20.47	105	11457	0.100 ng		95
88) 4-Isopropyltoluene (p-...	20.61	119	10368	0.104 ng		98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.73	146	4978	0.107 ng		91
91) d-Limonene	20.73	68	2945	0.101 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.11	157	3557	0.202 ng	#	37
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.23	180	8593	0.233 ng		97
95) Naphthalene	22.34	128	13681	0.112 ng		100
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.66	225	2543	0.113 ng		93
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.23	119	8519	0.106 ng		98
100) n-Butylbenzene	20.97	91	9394	0.102 ng		95
101) 1,1,1,2-Tetrachloroethane	17.75	131	2319	0.103 ng	#	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

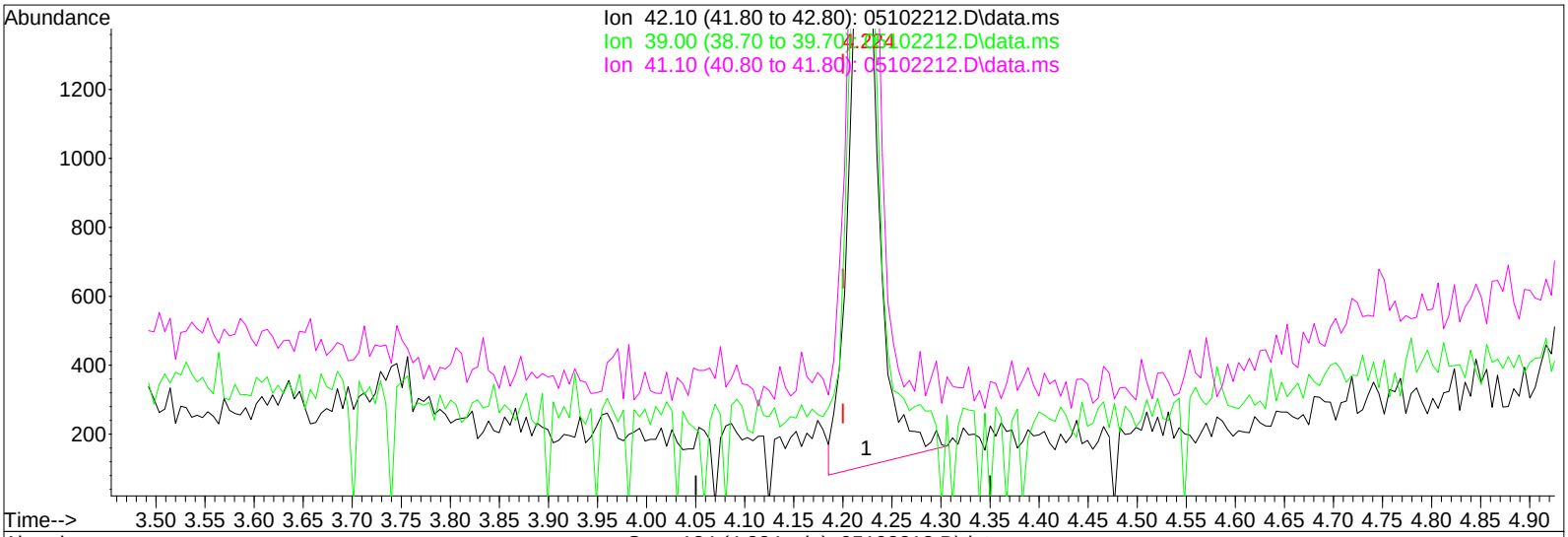
Quant Time: May 10 17:40:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

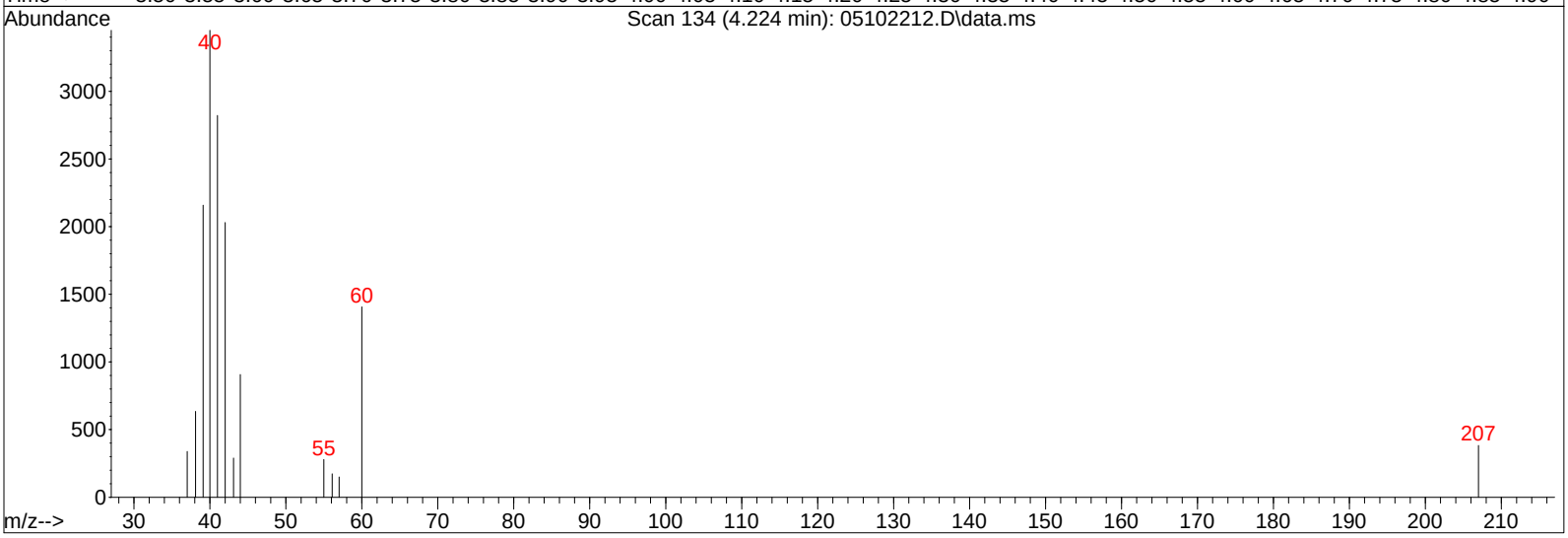


Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05052204 (6/09)

Quant Time: May 10 17:36:12 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102212.D\data.ms

(2) Propene (T)

4.224min (+0.024) 0.15ng

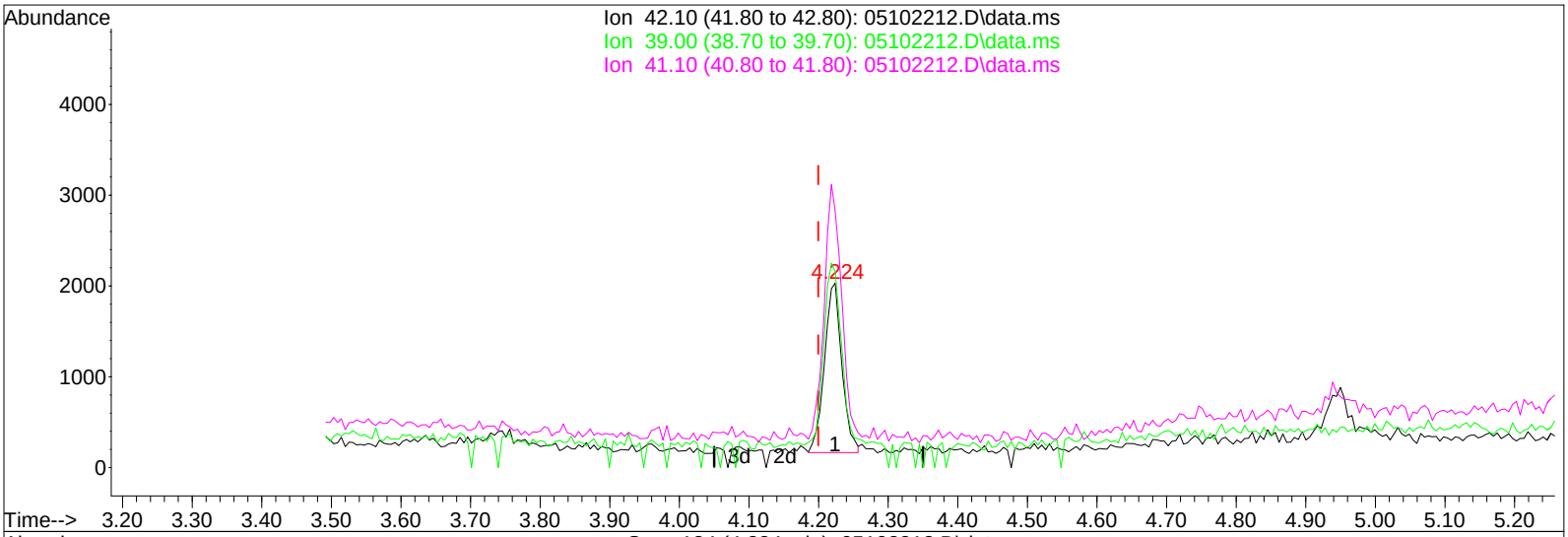
response 3642

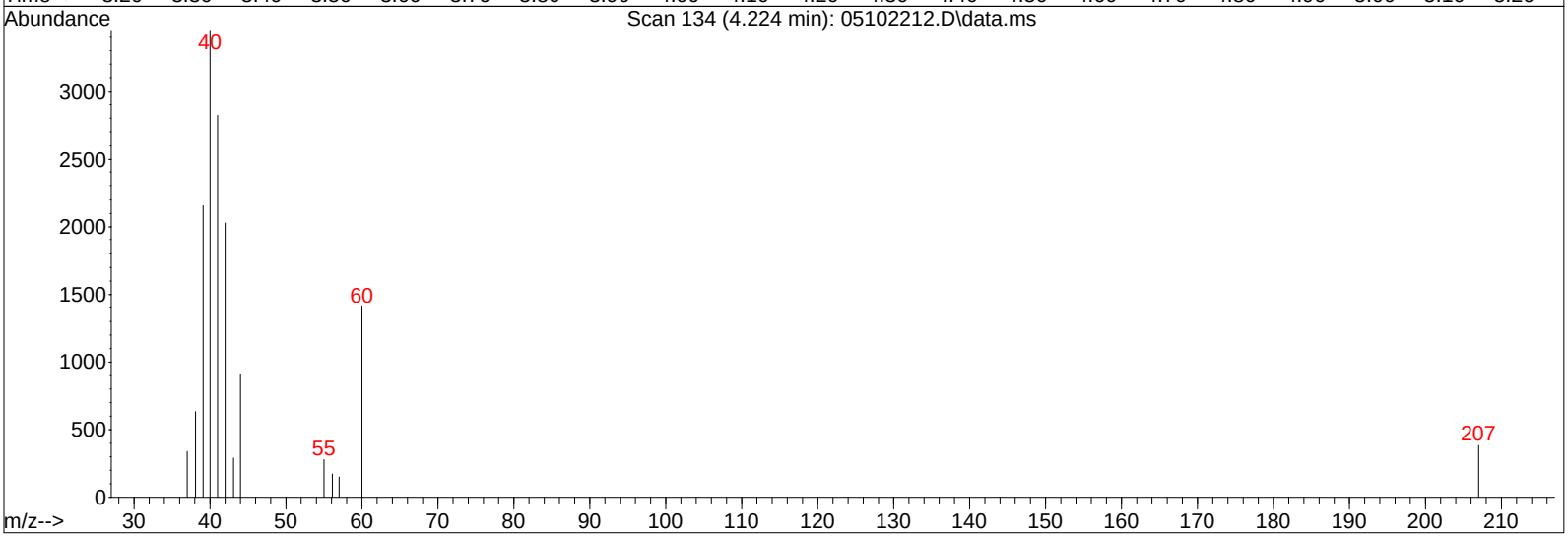
Ion	Exp%	Act%
42.10	100	100
39.00	114.30	145.47#
41.10	152.50	134.24
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:40:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102212.D\data.ms

(2) Propene (T)

4.224min (+0.024) 0.13ng m

response 3248

Ion	Exp%	Act%
42.10	100	100
39.00	114.30	163.12#
41.10	152.50	150.52
0.00	0.00	0.00

BLC

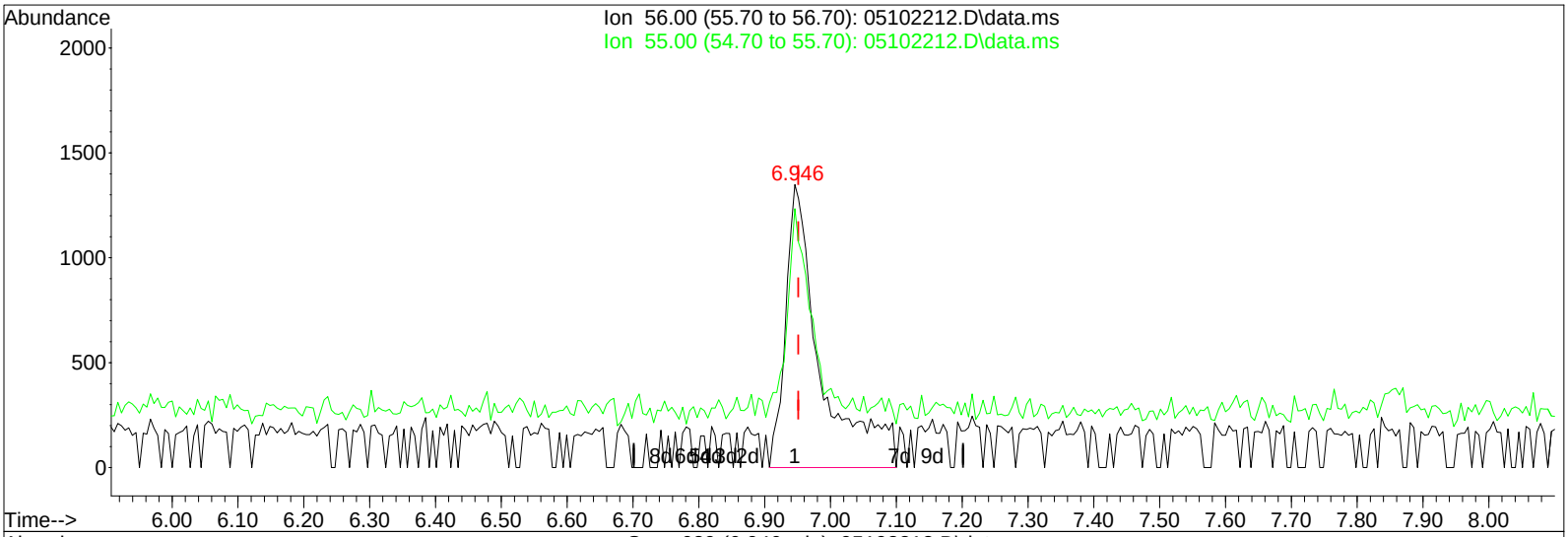
5/11/22

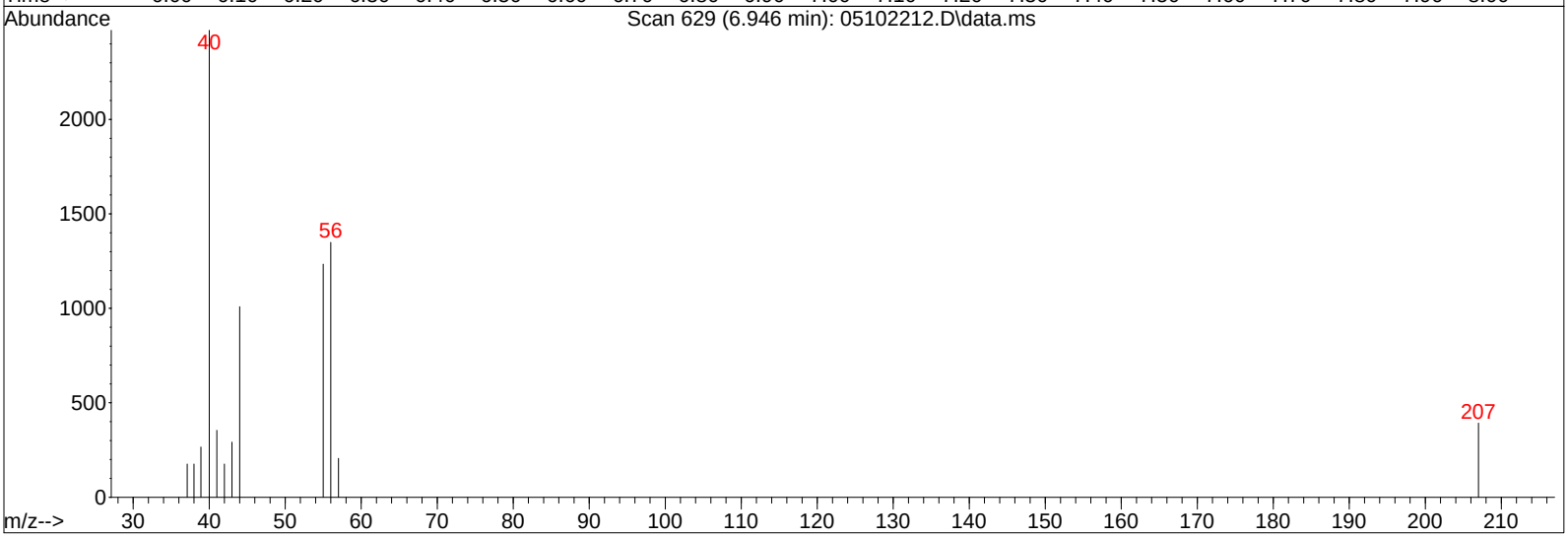
TZ 5/16/22

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05052204 (6/09)

Quant Time: May 10 17:36:12 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102212.D\data.ms

(12) Acrolein (T)

6.946min (-0.005) 0.43ng

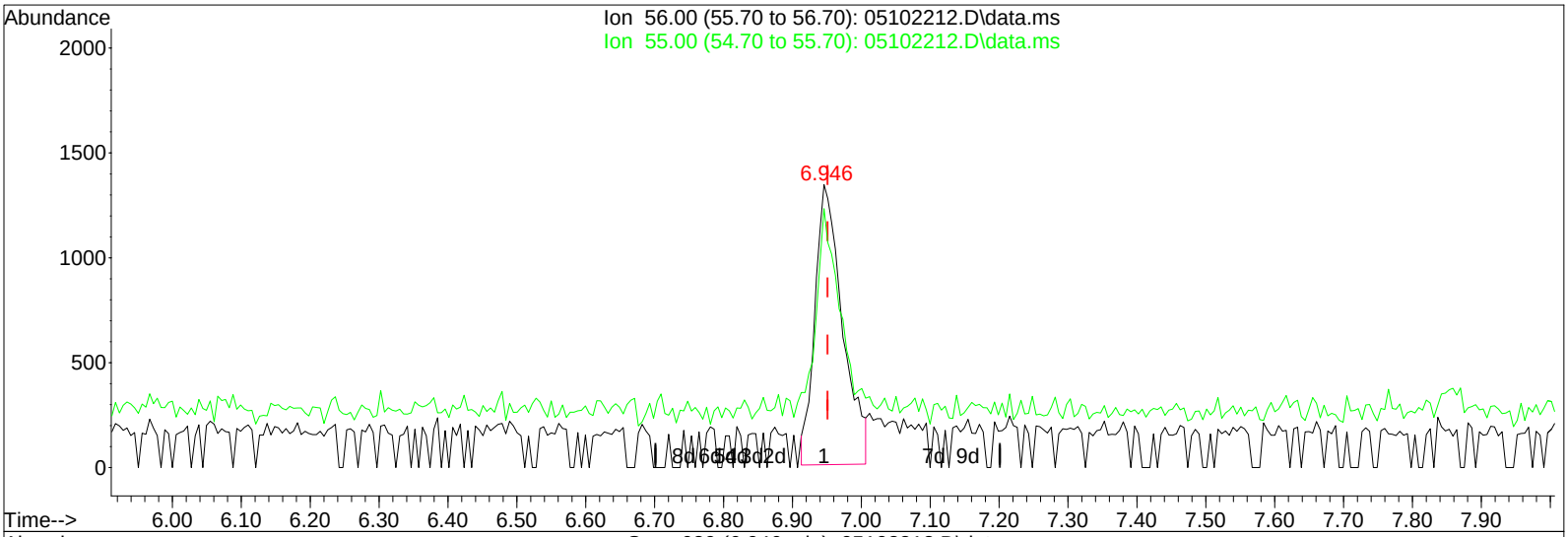
response 4964

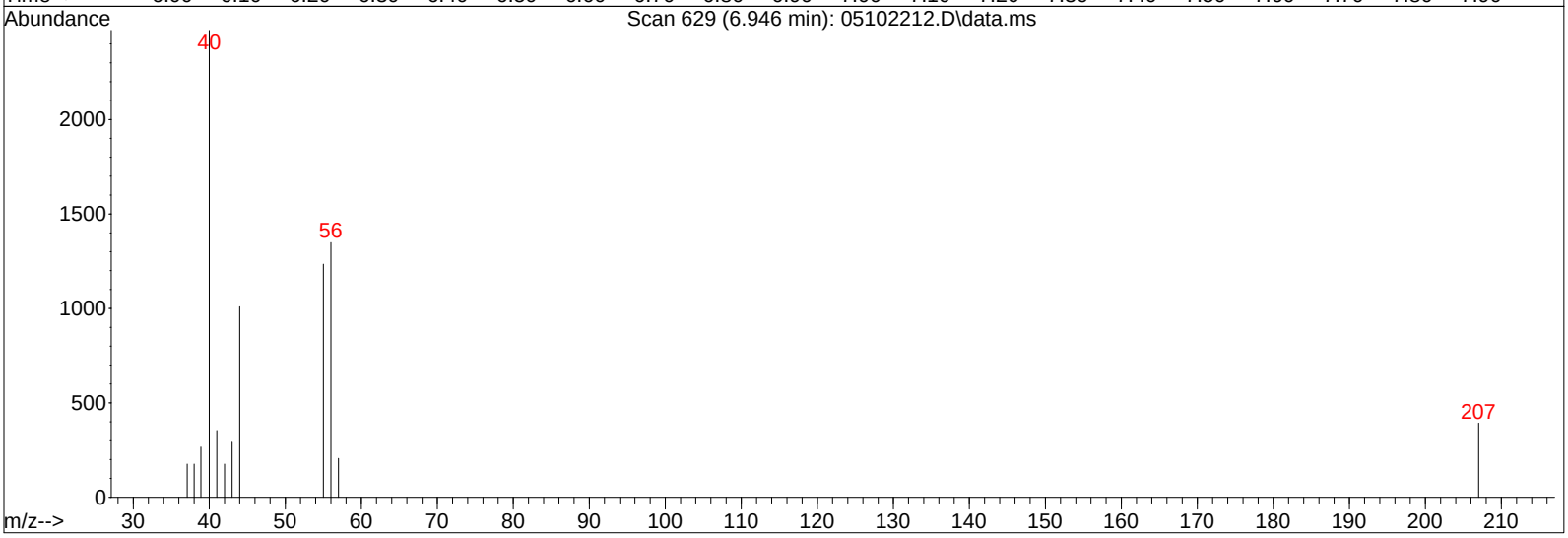
Ion	Exp%	Act%
56.00	100	100
55.00	72.10	62.37
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:40:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102212.D\data.ms

(12) Acrolein (T)

6.946min (-0.005) 0.33ng m

response 3723

Ion	Exp%	Act%
56.00	100	100
55.00	72.10	83.16
0.00	0.00	0.00
0.00	0.00	0.00

BLC

5/11/22

TZ 5/16/22

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:45:45 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/11/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	161132	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	727640	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	160388	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	292238	13.203	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%				
57) Toluene-d8 (SS2)	15.88	98	769761	9.932	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.44%				
73) Bromofluorobenzene (SS3)	19.11	174	278036	11.255	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.08%				
Target Compounds							Qvalue
2) Propene	4.21	42	5830m	0.238	ng		
3) Dichlorodifluoromethan...	4.37	85	7990	0.197	ng		97
4) Chloromethane	4.65	50	7326	0.248	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	4179	0.193	ng		98
6) Vinyl Chloride	5.08	62	6003	0.198	ng		100
7) 1,3-Butadiene	5.34	54	5445	0.261	ng		90
8) Bromomethane	5.77	94	2994	0.182	ng		95
9) Chloroethane	6.12	64	2425	0.182	ng		92
10) Ethanol	6.46	45	15995	1.054	ng		86
11) Acetonitrile	6.73	41	8666	0.214	ng		85
12) Acrolein	6.94	56	5863m	0.523	ng		
13) Acetone	7.16	58	16842	1.109	ng		95
14) Trichlorofluoromethane	7.40	101	6780	0.197	ng		99
15) 2-Propanol (Isopropanol)	7.65	45	26923	0.520	ng		96
16) Acrylonitrile	7.90	53	11359	0.426	ng		99
17) 1,1-Dichloroethene	8.36	96	3656	0.202	ng		92
18) 2-Methyl-2-Propanol (t...	8.57	59	22151	0.464	ng		90
19) Methylene Chloride	8.57	84	3907	0.197	ng		90
20) 3-Chloro-1-propene (Al...	8.74	41	5851	0.212	ng		95
21) Trichlorotrifluoroethane	9.01	151	3364	0.215	ng		99
22) Carbon Disulfide	8.85	76	25264	0.375	ng		100
23) trans-1,2-Dichloroethene	9.85	61	5431	0.203	ng		93
24) 1,1-Dichloroethane	10.10	63	6898	0.210	ng		100
25) Methyl tert-Butyl Ether	10.23	73	11666	0.213	ng		90
26) Vinyl Acetate	10.37	86	1591	0.415	ng		99
27) 2-Butanone (MEK)	10.62	72	4752	0.340	ng	#	84
28) cis-1,2-Dichloroethene	11.12	61	5471	0.211	ng		93
29) Diisopropyl Ether	11.43	87	6595	0.405	ng	#	88
30) Ethyl Acetate	11.44	61	5889	0.822	ng		88
31) n-Hexane	11.42	57	8038	0.295	ng		91
32) Chloroform	11.45	83	6609	0.203	ng		97
34) Tetrahydrofuran (THF)	11.90	72	4516	0.354	ng		97
35) Ethyl tert-Butyl Ether	12.03	87	8679	0.417	ng		97
36) 1,2-Dichloroethane	12.27	62	5663	0.224	ng		100
38) 1,1,1-Trichloroethane	12.55	97	6350	0.215	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	14786	0.196	ng		99
42) Carbon Tetrachloride	13.19	117	5232	0.218	ng		99
43) Cyclohexane	13.32	84	11018	0.396	ng		92
44) tert-Amyl Methyl Ether	13.68	73	22553	0.457	ng		98
45) 1,2-Dichloropropane	13.87	63	3962	0.215	ng		95
46) Bromodichloromethane	14.07	83	5316	0.215	ng		95
47) Trichloroethene	14.12	130	3994	0.198	ng		99
48) 1,4-Dioxane	14.12	88	3149	0.188	ng		99
49) 2,2,4-Trimethylpentane...	14.19	57	19403	0.265	ng		100
50) Methyl Methacrylate	14.34	100	2807	0.357	ng	#	84

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:45:45 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

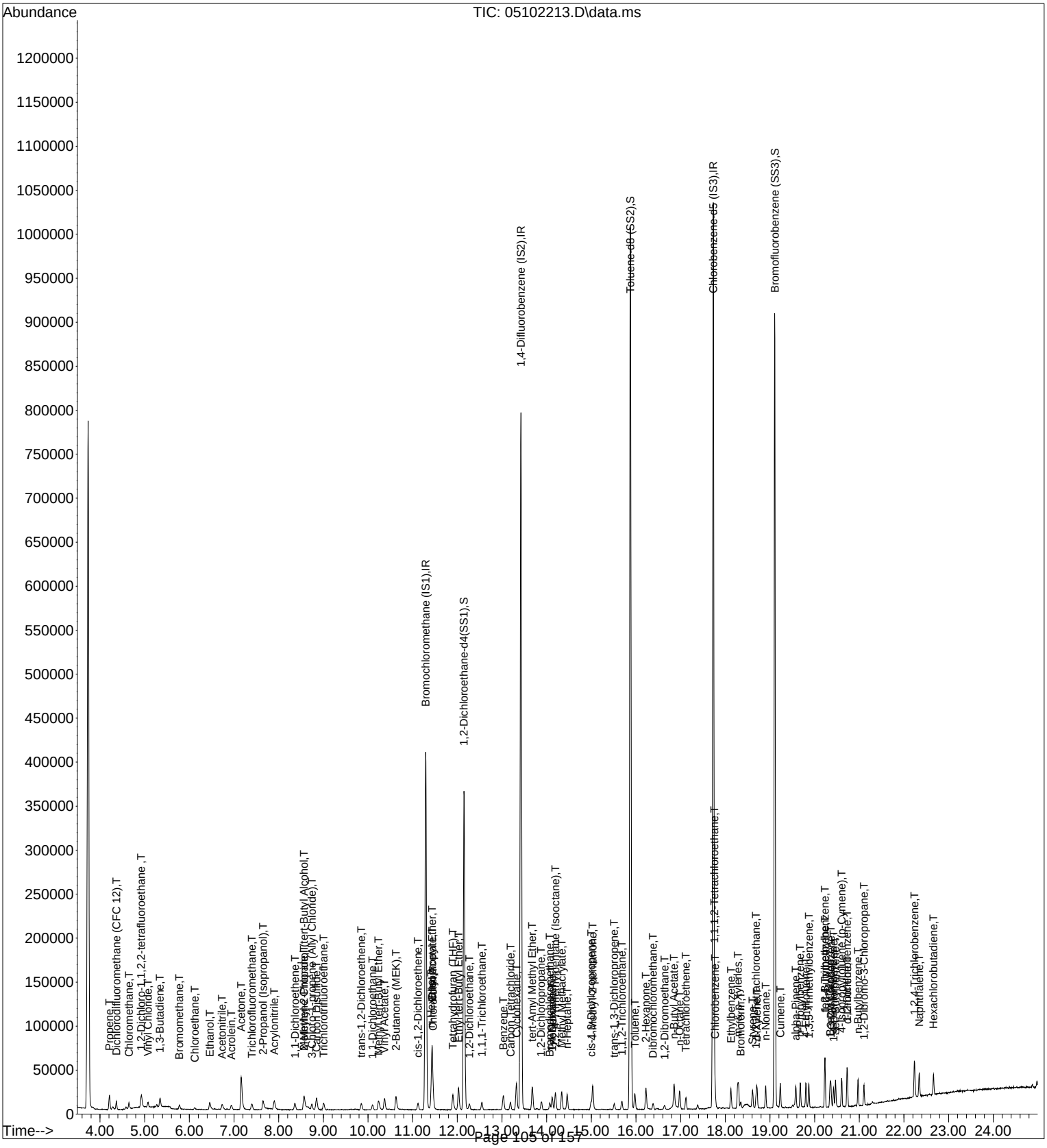
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	3929	0.209 ng	91
52) cis-1,3-Dichloropropene	15.00	75	5404	0.186 ng	97
53) 4-Methyl-2-pentanone	15.03	58	8034	0.476 ng	94
54) trans-1,3-Dichloropropene	15.51	75	4546	0.170 ng	100
55) 1,1,2-Trichloroethane	15.68	97	3667	0.203 ng	100
58) Toluene	15.98	91	14945	0.159 ng	100
59) 2-Hexanone	16.22	43	22261	0.421 ng	97
60) Dibromochloromethane	16.38	129	4412	0.178 ng	99
61) 1,2-Dibromoethane	16.64	107	4149	0.163 ng	96
62) n-Butyl Acetate	16.85	43	24452	0.422 ng	95
63) n-Octane	16.98	57	4373	0.234 ng	93
64) Tetrachloroethene	17.12	166	4283	0.170 ng	100
65) Chlorobenzene	17.77	112	10109	0.163 ng	96
66) Ethylbenzene	18.13	91	17470	0.167 ng	99
67) m- & p-Xylenes	18.28	91	28500	0.359 ng	95
68) Bromoform	18.35	173	3769	0.177 ng	99
69) Styrene	18.61	104	10358	0.160 ng	99
70) o-Xylene	18.71	91	13990	0.175 ng	97
71) n-Nonane	18.91	43	10200	0.244 ng	94
72) 1,1,2,2-Tetrachloroethane	18.69	83	6393	0.173 ng	97
74) Cumene	19.23	105	17926	0.173 ng	99
75) alpha-Pinene	19.58	93	8697	0.178 ng	66
76) n-Propylbenzene	19.68	91	21808	0.177 ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.80	105	18116	0.180 ng	98
79) 1,3,5-Trimethylbenzene	19.87	105	14869	0.179 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.23	105	14890	0.188 ng	99
83) n-Decane	0.00	58	0	N.D. d	
84) Benzyl Chloride	20.35	91	17518	0.277 ng	97
85) 1,3-Dichlorobenzene	20.36	146	8899	0.186 ng	96
86) 1,4-Dichlorobenzene	20.42	146	9049	0.182 ng	95
87) sec-Butylbenzene	20.47	105	19839	0.180 ng	96
88) 4-Isopropyltoluene (p-...	20.61	119	17587	0.182 ng	97
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.73	146	8750	0.194 ng	94
91) d-Limonene	20.73	68	5413	0.191 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	6291	0.369 ng	82
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.23	180	13670	0.383 ng	100
95) Naphthalene	22.34	128	21860	0.186 ng	99
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	22.66	225	4520	0.208 ng	98
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.23	119	14599	0.187 ng	100
100) n-Butylbenzene	20.97	91	16254	0.183 ng	96
101) 1,1,1,2-Tetrachloroethane	17.76	131	3950	0.182 ng	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

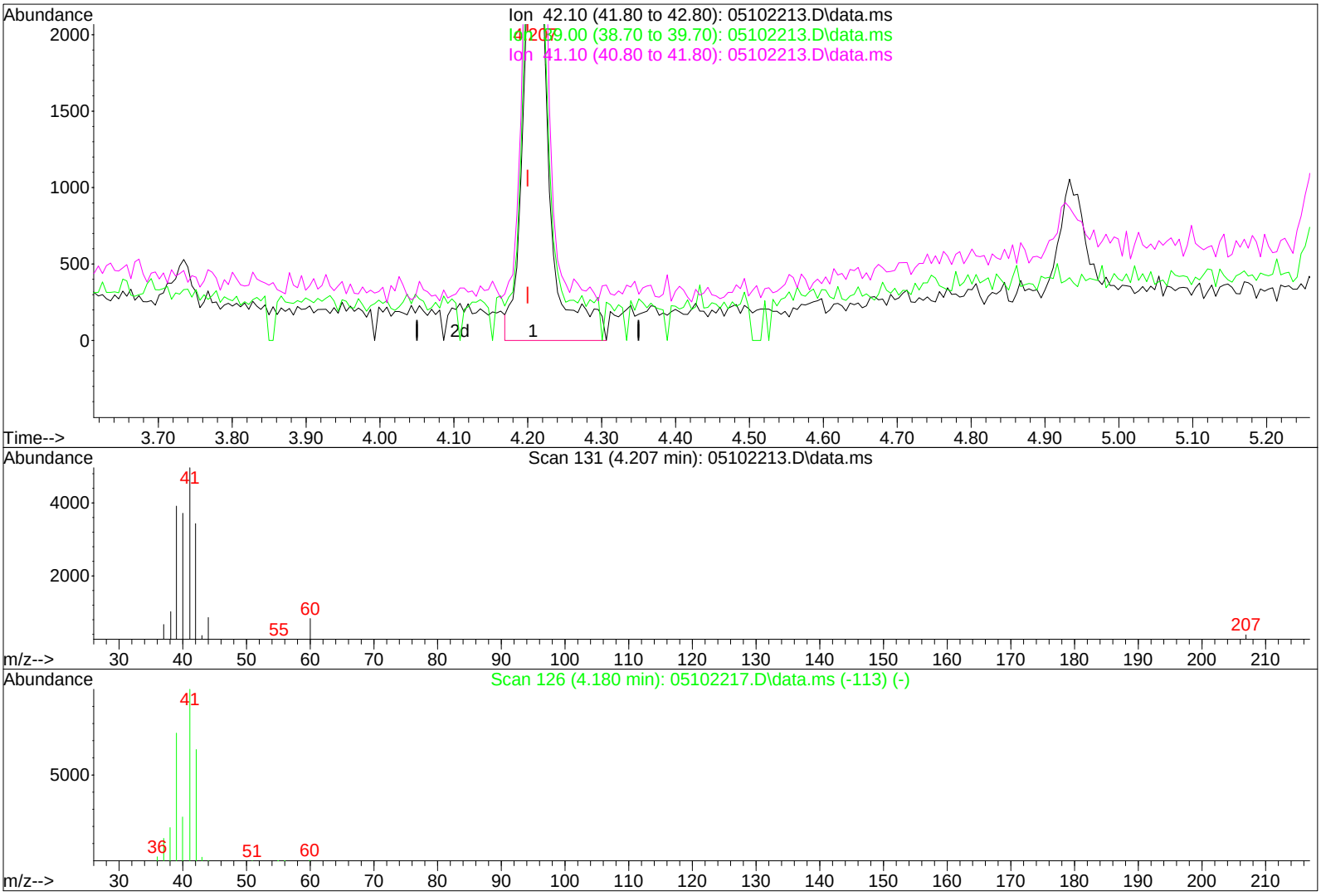
Quant Time: May 10 17:45:45 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05052204 (6/09)

Quant Time: May 10 17:35:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05102213.D\data.ms

(2) Propene (T)

4.207min (+0.007) 0.29ng

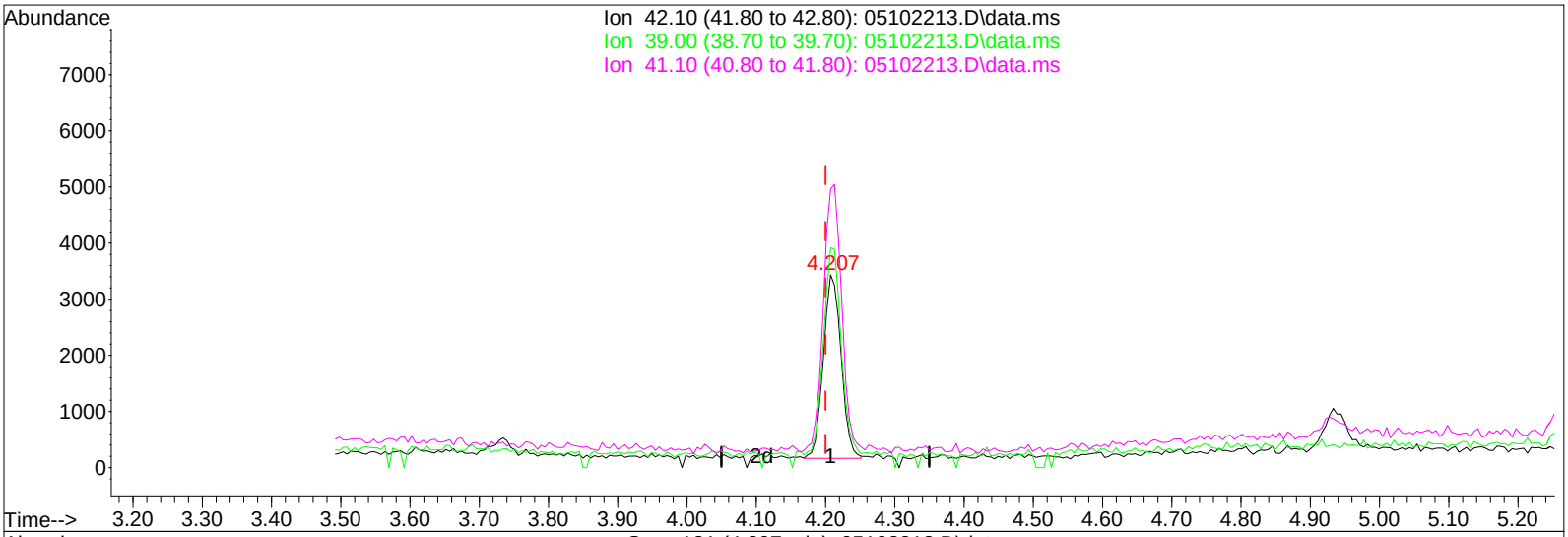
response 7216

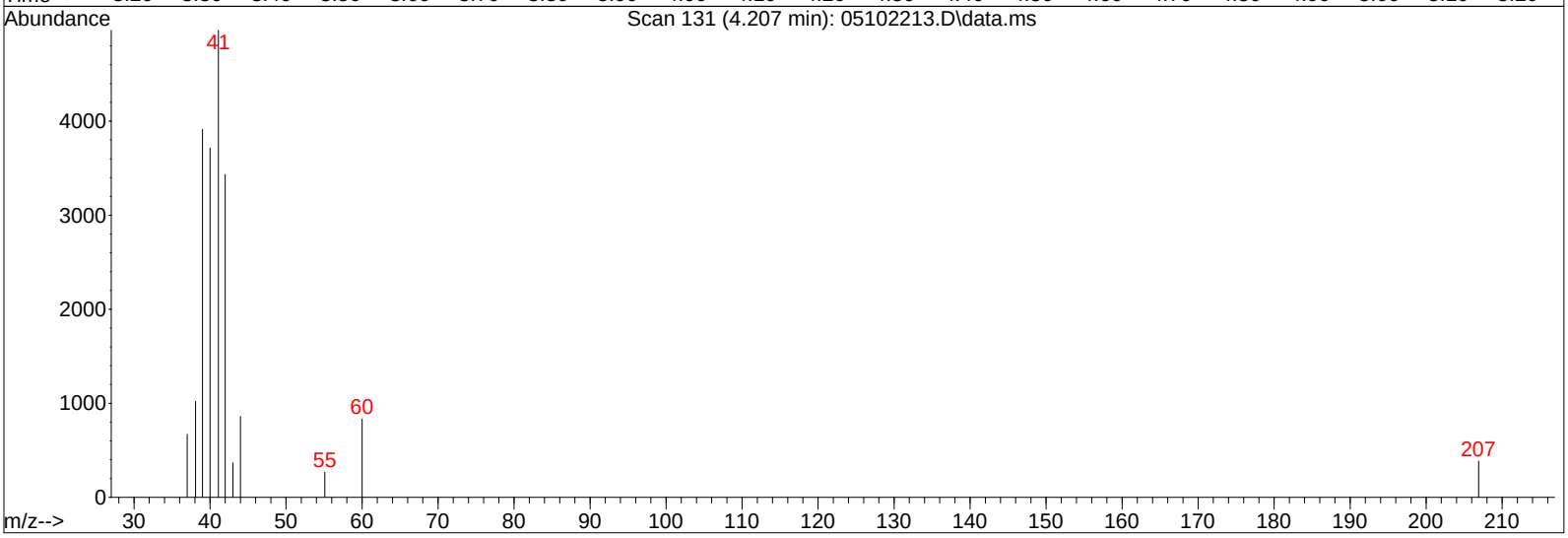
Ion	Exp%	Act%
42.10	100	100
39.00	114.30	116.38
41.10	152.50	122.59#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:45:45 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102213.D\data.ms

(2) Propene (T)

4.207min (+0.007) 0.24ng m

response 5830

Ion	Exp%	Act%
42.10	100	100
39.00	114.30	144.05#
41.10	152.50	151.73
0.00	0.00	0.00

BLC

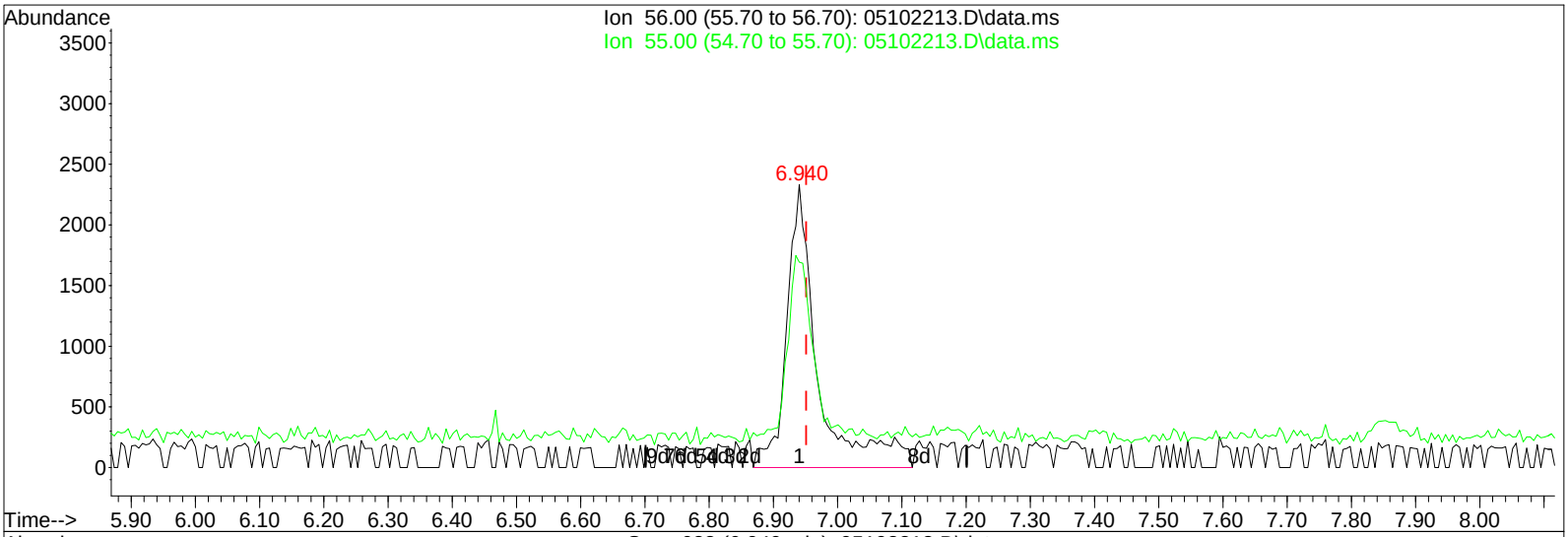
5/11/22

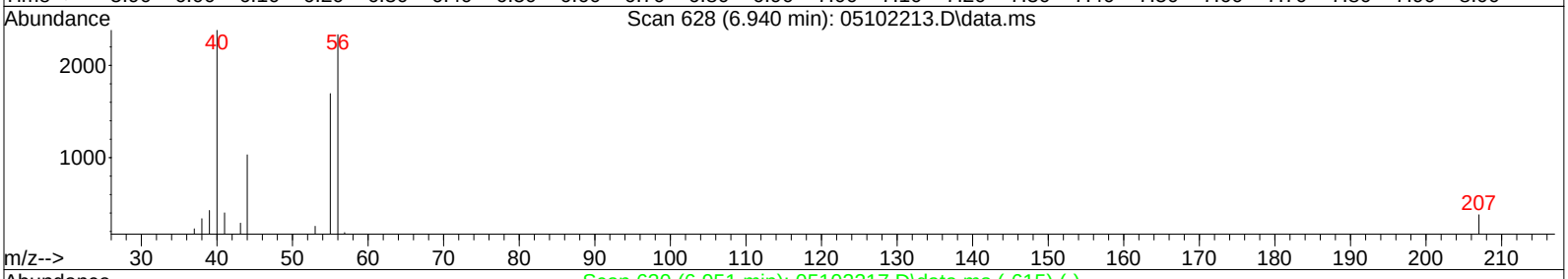
Tz 5/16/22

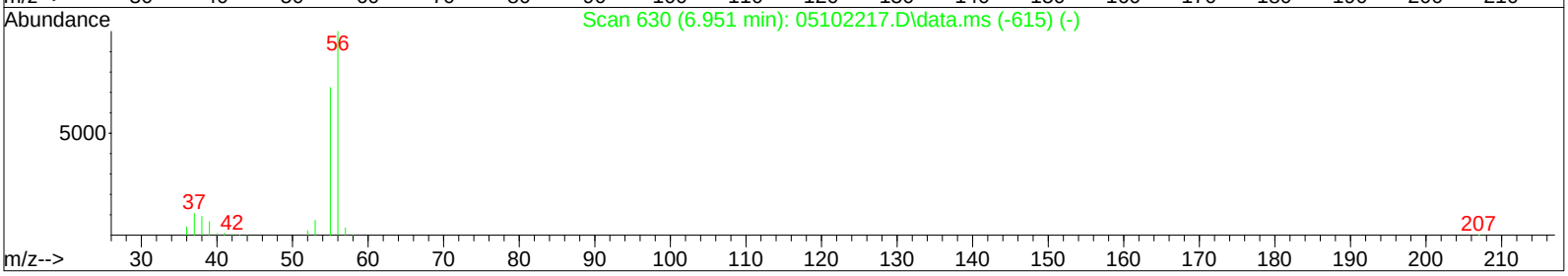
Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05052204 (6/09)

Quant Time: May 10 17:35:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 05102213.D\data.ms

(12) Acrolein (T)

6.940min (-0.011) 0.70ng

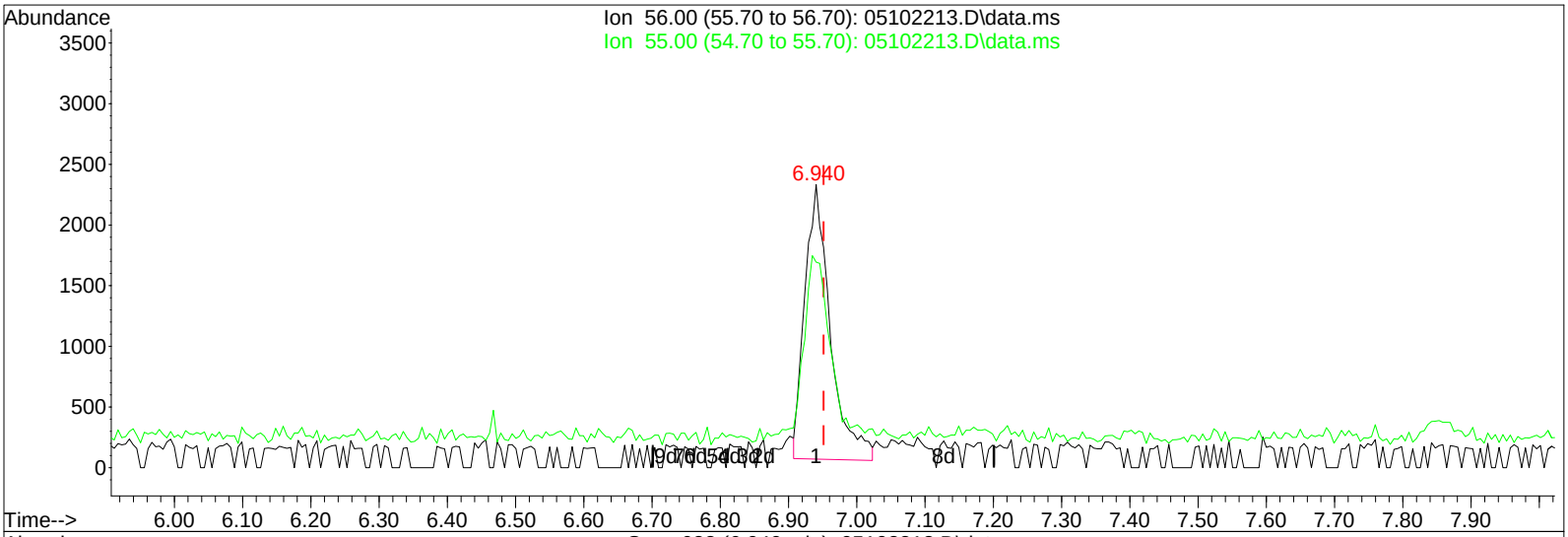
response 7799

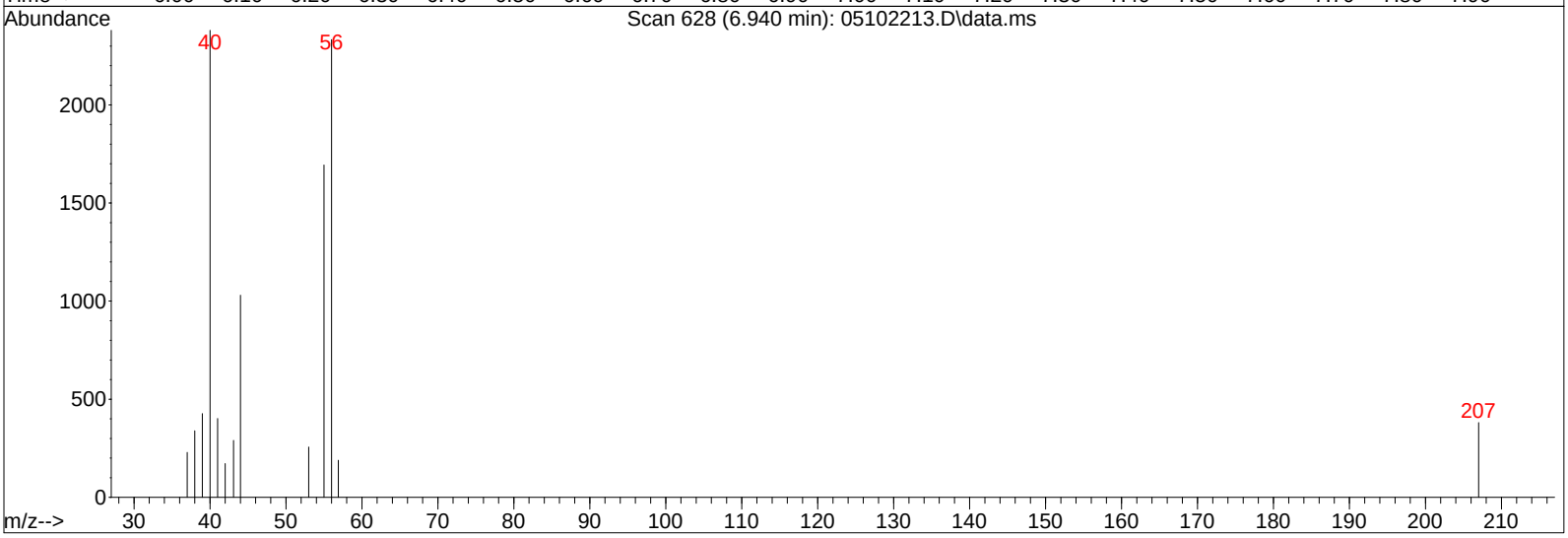
Ion	Exp%	Act%
56.00	100	100
55.00	72.10	53.58
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:45:45 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102213.D\data.ms

(12) Acrolein (T)

6.940min (-0.011) 0.52ng m

response 5863

Ion	Exp%	Act%
56.00	100	100
55.00	72.10	71.28
0.00	0.00	0.00
0.00	0.00	0.00

BLC

5/11/22

Tz 5/16/22

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102214.D Vial: 13
Acq On : 10 May 2022 14:54 Operator: TZ/CG
Sample : 0.5ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:59:03 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/11/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	160991	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	728369	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	164807	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	293414	13.268	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
57) Toluene-d8 (SS2)	15.88	98	783320	9.835	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.72%				
73) Bromofluorobenzene (SS3)	19.11	174	284457	11.207	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.68%				
Target Compounds							Qvalue
2) Propene	4.21	42	16770	0.684	ng		95
3) Dichlorodifluoromethan...	4.37	85	18123	0.447	ng		98
4) Chloromethane	4.65	50	16041	0.544	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	9779	0.451	ng		96
6) Vinyl Chloride	5.07	62	14121	0.467	ng		99
7) 1,3-Butadiene	5.35	54	12309	0.590	ng		95
8) Bromomethane	5.77	94	6736	0.409	ng		95
9) Chloroethane	6.12	64	5831	0.439	ng		98
10) Ethanol	6.46	45	34541	2.278	ng		91
11) Acetonitrile	6.73	41	19719	0.487	ng		93
12) Acrolein	6.93	56	12824m	1.146	ng		
13) Acetone	7.15	58	37113	2.447	ng		92
14) Trichlorofluoromethane	7.40	101	15981	0.464	ng		99
15) 2-Propanol (Isopropanol)	7.64	45	49752	0.962	ng		97
16) Acrylonitrile	7.90	53	26978	1.012	ng		96
17) 1,1-Dichloroethene	8.36	96	8371	0.462	ng		99
18) 2-Methyl-2-Propanol (t...	8.55	59	50078	1.050	ng		94
19) Methylene Chloride	8.57	84	8534	0.432	ng		97
20) 3-Chloro-1-propene (Al...	8.74	41	14452	0.523	ng		98
21) Trichlorotrifluoroethane	9.01	151	7652	0.489	ng		97
22) Carbon Disulfide	8.85	76	58548	0.870	ng		100
23) trans-1,2-Dichloroethene	9.85	61	13068	0.488	ng		96
24) 1,1-Dichloroethane	10.10	63	15964	0.486	ng		99
25) Methyl tert-Butyl Ether	10.23	73	26776	0.490	ng		95
26) Vinyl Acetate	10.37	86	3960	1.033	ng	#	93
27) 2-Butanone (MEK)	10.62	72	11530	0.826	ng		96
28) cis-1,2-Dichloroethene	11.12	61	13083	0.504	ng		97
29) Diisopropyl Ether	11.43	87	15382	0.946	ng	#	90
30) Ethyl Acetate	11.43	61	15013	2.096	ng		99
31) n-Hexane	11.42	57	17499	0.644	ng		94
32) Chloroform	11.47	83	15136	0.465	ng		97
34) Tetrahydrofuran (THF)	11.89	72	10096	0.793	ng		97
35) Ethyl tert-Butyl Ether	12.02	87	20577	0.990	ng		98
36) 1,2-Dichloroethane	12.27	62	13163	0.520	ng		99
38) 1,1,1-Trichloroethane	12.55	97	14369	0.486	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	33929	0.448	ng		100
42) Carbon Tetrachloride	13.19	117	12194	0.507	ng		99
43) Cyclohexane	13.32	84	25922	0.931	ng		98
44) tert-Amyl Methyl Ether	13.68	73	51244	1.037	ng		99
45) 1,2-Dichloropropane	13.88	63	9251	0.501	ng		97
46) Bromodichloromethane	14.07	83	12382	0.499	ng		96
47) Trichloroethene	14.13	130	9377	0.463	ng		98
48) 1,4-Dioxane	14.11	88	6883	0.410	ng		94
49) 2,2,4-Trimethylpentane...	14.19	57	43213	0.589	ng		97
50) Methyl Methacrylate	14.34	100	6960	0.885	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102214.D Vial: 13
Acq On : 10 May 2022 14:54 Operator: TZ/CG
Sample : 0.5ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:59:03 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

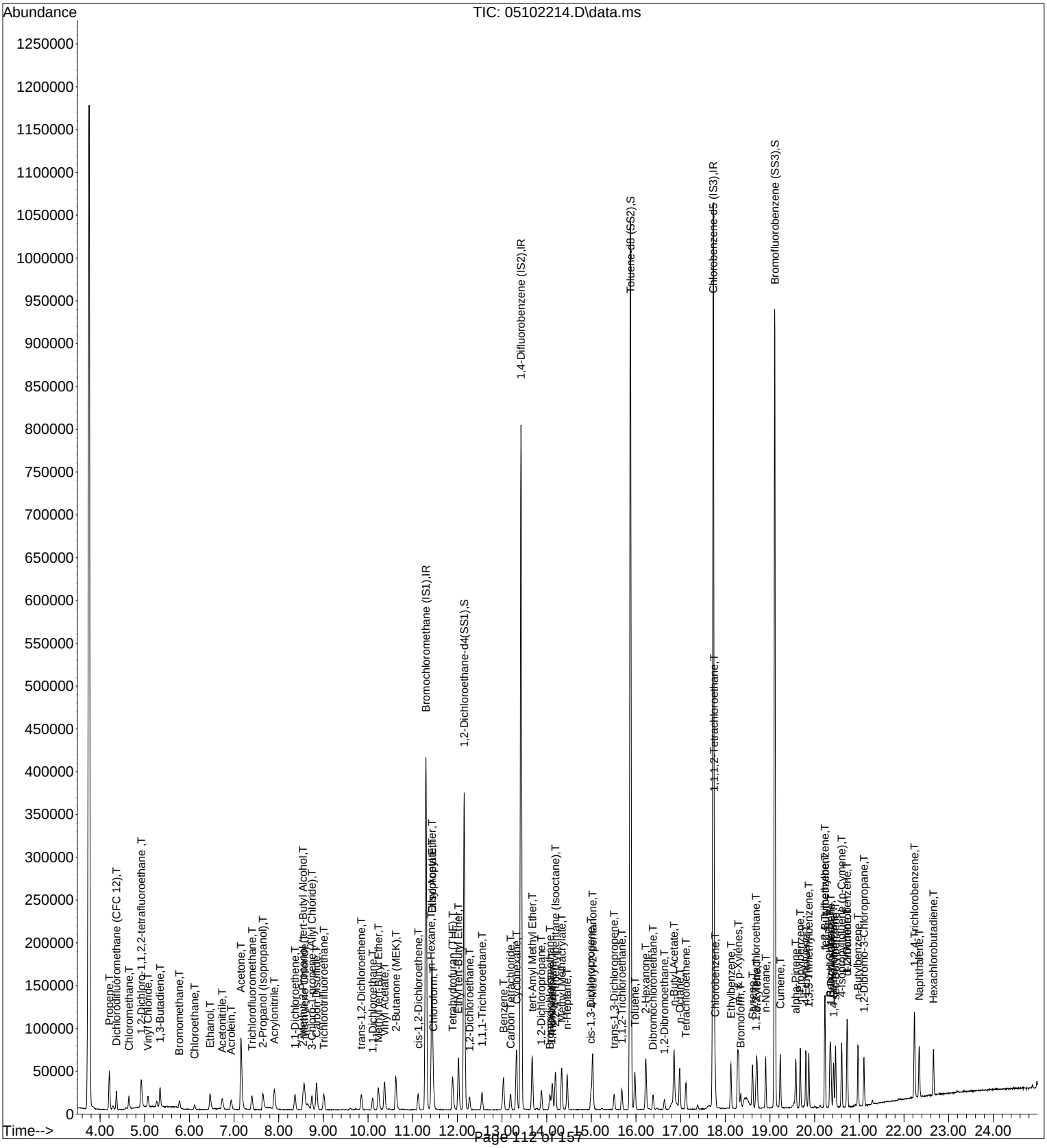
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	8786	0.467 ng		95
52) cis-1,3-Dichloropropene	14.99	75	13060	0.449 ng		99
53) 4-Methyl-2-pentanone	15.03	58	18715	1.109 ng		95
54) trans-1,3-Dichloropropene	15.51	75	11585	0.434 ng		100
55) 1,1,2-Trichloroethane	15.68	97	8531	0.472 ng		95
58) Toluene	15.98	91	35357	0.367 ng		99
59) 2-Hexanone	16.22	43	53391	0.982 ng		97
60) Dibromochloromethane	16.38	129	10641	0.417 ng		98
61) 1,2-Dibromoethane	16.63	107	9908	0.379 ng		98
62) n-Butyl Acetate	16.85	43	56890	0.955 ng		98
63) n-Octane	16.98	57	9354	0.486 ng		97
64) Tetrachloroethene	17.12	166	10205	0.395 ng		99
65) Chlorobenzene	17.77	112	23702	0.372 ng		99
66) Ethylbenzene	18.13	91	40696	0.380 ng		98
67) m- & p-Xylenes	18.29	91	64870	0.795 ng		96
68) Bromoform	18.35	173	9262	0.424 ng		99
69) Styrene	18.61	104	24247	0.364 ng		99
70) o-Xylene	18.71	91	32709	0.399 ng		97
71) n-Nonane	18.91	43	23678	0.551 ng		98
72) 1,1,2,2-Tetrachloroethane	18.69	83	14815	0.390 ng		99
74) Cumene	19.23	105	41327	0.387 ng		100
75) alpha-Pinene	19.58	93	20744	0.412 ng		96
76) n-Propylbenzene	19.68	91	49742	0.393 ng		97
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.80	105	41670	0.403 ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	34508	0.405 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.23	105	34831	0.429 ng		100
83) n-Decane	0.00	58	0	N.D. d		
84) Benzyl Chloride	20.35	91	45804	0.704 ng		97
85) 1,3-Dichlorobenzene	20.36	146	20534	0.419 ng		99
86) 1,4-Dichlorobenzene	20.42	146	20533	0.403 ng		97
87) sec-Butylbenzene	20.47	105	46692	0.411 ng		98
88) 4-Isopropyltoluene (p-...	20.61	119	40611	0.410 ng		98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.73	146	20122	0.435 ng		97
91) d-Limonene	20.73	68	13259	0.456 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	14894	0.851 ng	#	81
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.23	180	31935	0.871 ng		99
95) Naphthalene	22.34	128	48707	0.403 ng		100
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.66	225	10549	0.472 ng		99
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.23	119	34236	0.428 ng		99
100) n-Butylbenzene	20.97	91	37365	0.409 ng		98
101) 1,1,1,2-Tetrachloroethane	17.75	131	9502	0.425 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102214.D Vial: 13
Acq On : 10 May 2022 14:54 Operator: TZ/CG
Sample : 0.5ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

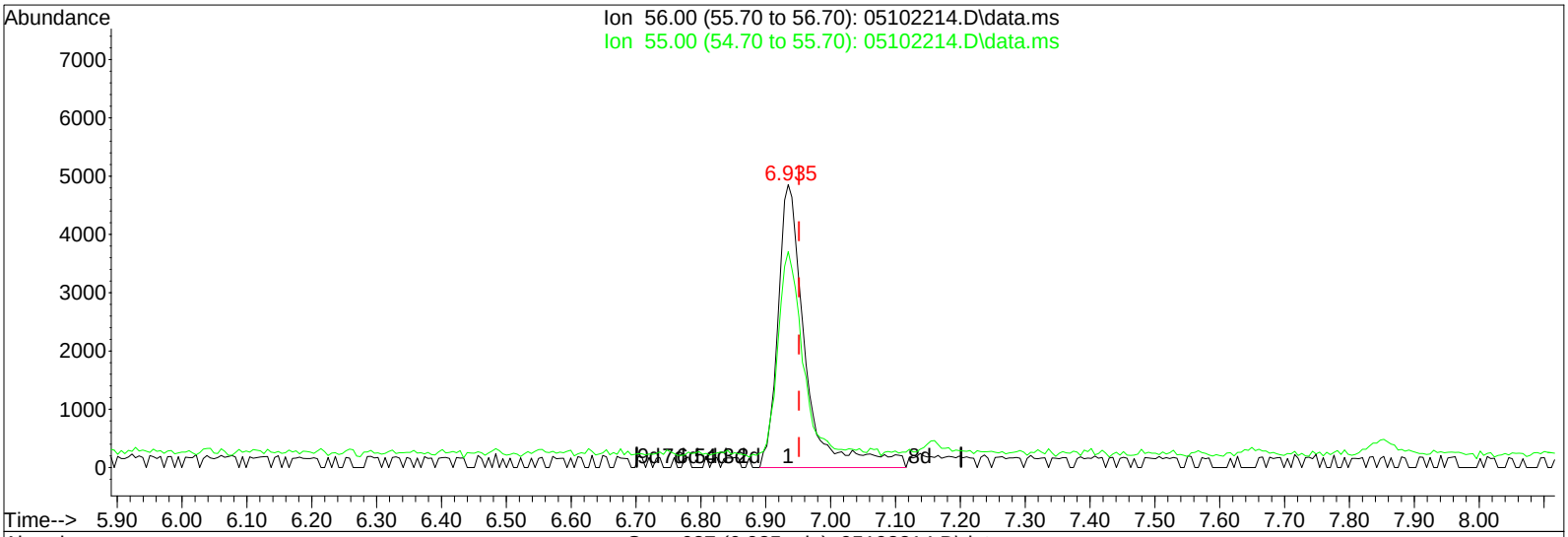
Quant Time: May 10 17:59:03 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

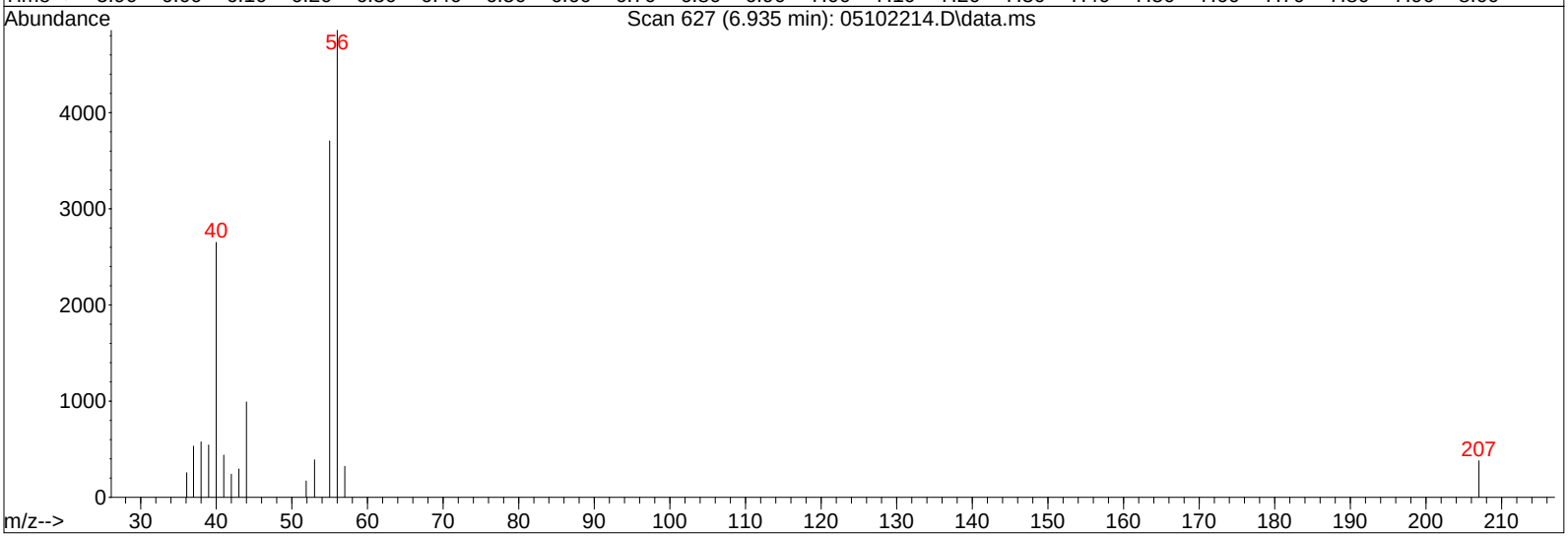


Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102214.D Vial: 13
Acq On : 10 May 2022 14:54 Operator: TZ/CG
Sample : 0.5ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05052204 (6/09)

Quant Time: May 10 17:35:17 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102214.D\data.ms

(12) Acrolein (T)

6.935min (-0.017) 1.27ng

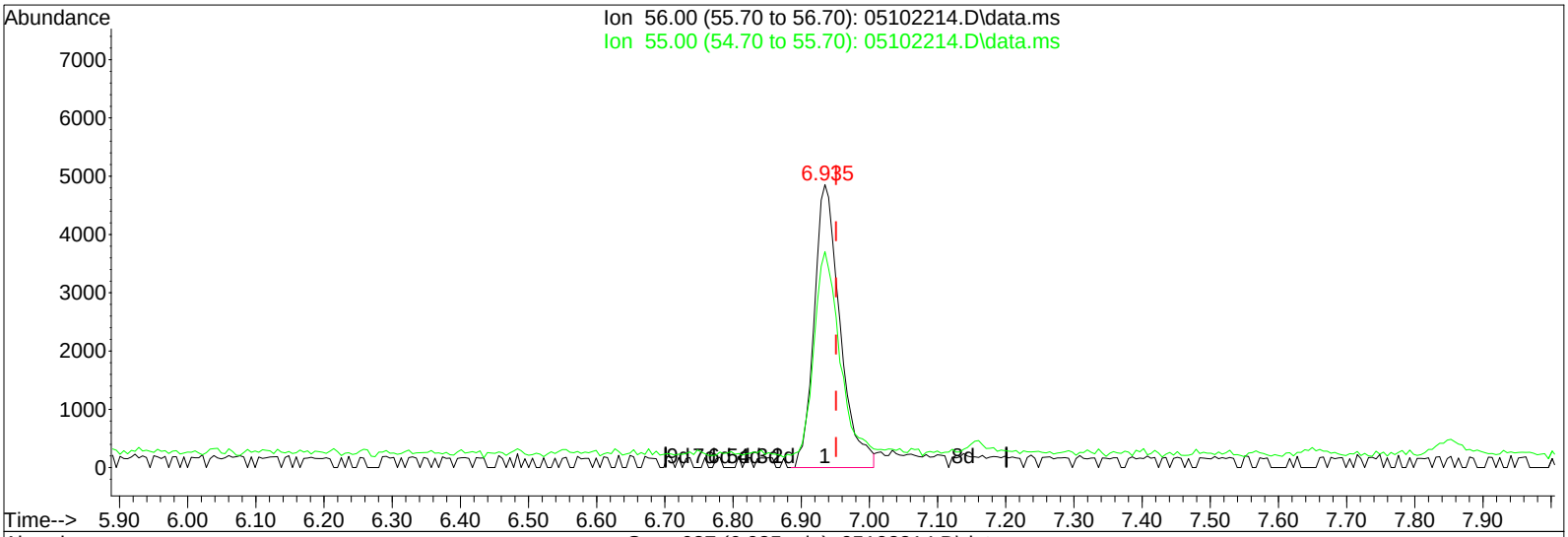
response 14197

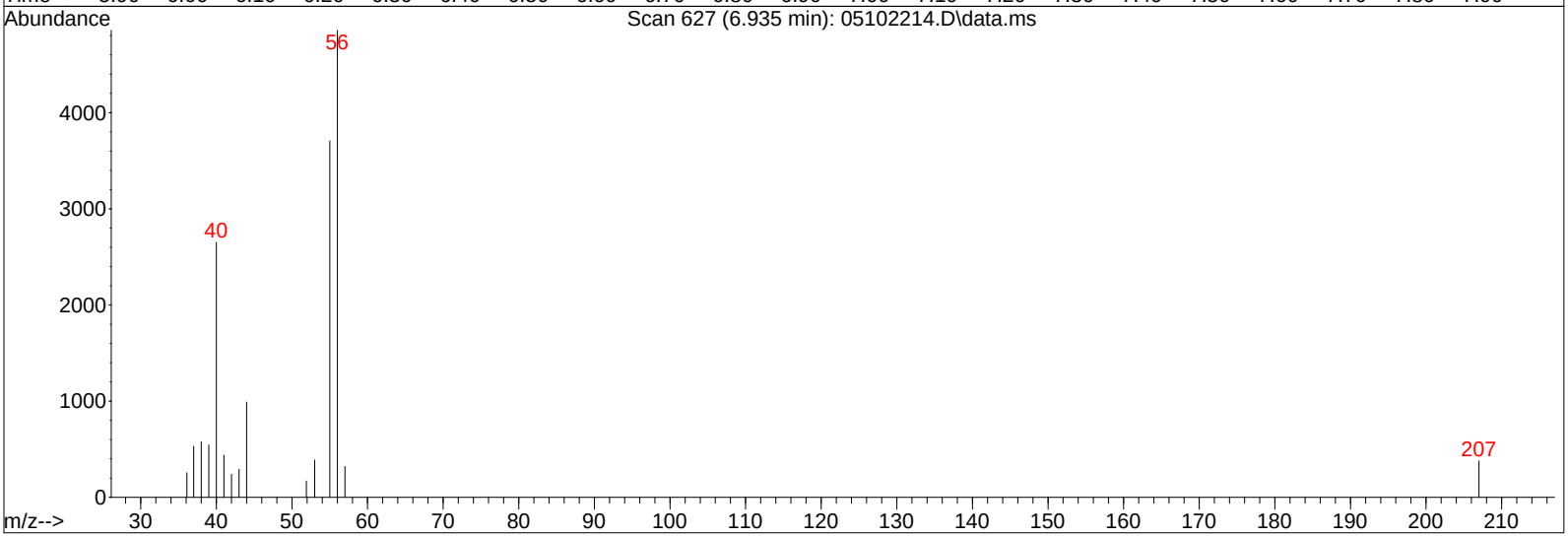
Ion	Exp%	Act%
56.00	100	100
55.00	72.10	70.89
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102214.D Vial: 13
Acq On : 10 May 2022 14:54 Operator: TZ/CG
Sample : 0.5ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:59:03 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102214.D\data.ms

(12) Acrolein (T)

6.935min (-0.017) 1.15ng m

response 12824

Ion	Exp%	Act%
56.00	100	100
55.00	72.10	78.48
0.00	0.00	0.00
0.00	0.00	0.00

5/11/22

BLC

5/16/22

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102215.D Vial: 14
Acq On : 10 May 2022 15:28 Operator: TZ/CG
Sample : 1.0ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102203 (6/09)

Quant Time: May 10 18:03:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022 5/10/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	162687	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	736519	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	165921	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	295715	13.233	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
57) Toluene-d8 (SS2)	15.88	98	788105	9.829	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.64%				
73) Bromofluorobenzene (SS3)	19.11	174	284122	11.118	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.96%				
Target Compounds							Qvalue
2) Propene	4.20	42	29032	1.171	ng		97
3) Dichlorodifluoromethan...	4.36	85	39956	0.976	ng		99
4) Chloromethane	4.64	50	36765	1.235	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	20918	0.955	ng		99
6) Vinyl Chloride	5.06	62	31096	1.018	ng		99
7) 1,3-Butadiene	5.33	54	26502	1.258	ng		99
8) Bromomethane	5.77	94	14473	0.870	ng		97
9) Chloroethane	6.11	64	13099	0.975	ng		98
10) Ethanol	6.46	45	65917	4.302	ng		99
11) Acetonitrile	6.73	41	41912	1.024	ng		98
12) Acrolein	6.92	56	29768	2.632	ng		95
13) Acetone	7.14	58	80083	5.224	ng		92
14) Trichlorofluoromethane	7.40	101	34392	0.988	ng		99
15) 2-Propanol (Isopropanol)	7.64	45	130016	2.488	ng		98
16) Acrylonitrile	7.90	53	57941	2.151	ng		99
17) 1,1-Dichloroethene	8.36	96	18265	0.998	ng		99
18) 2-Methyl-2-Propanol (t...	8.53	59	115183	2.390	ng		98
19) Methylene Chloride	8.57	84	18317	0.917	ng		99
20) 3-Chloro-1-propene (Al...	8.74	41	32603	1.168	ng		100
21) Trichlorotrifluoroethane	9.01	151	17365	1.099	ng		99
22) Carbon Disulfide	8.85	76	128243	1.886	ng		99
23) trans-1,2-Dichloroethene	9.85	61	29210	1.080	ng		99
24) 1,1-Dichloroethane	10.11	63	35980	1.084	ng		100
25) Methyl tert-Butyl Ether	10.22	73	59016	1.068	ng		99
26) Vinyl Acetate	10.37	86	9344	2.412	ng	#	90
27) 2-Butanone (MEK)	10.61	72	24749	1.754	ng		99
28) cis-1,2-Dichloroethene	11.12	61	28197	1.075	ng		98
29) Diisopropyl Ether	11.43	87	34706	2.112	ng	#	85
30) Ethyl Acetate	11.43	61	32968	4.555	ng		99
31) n-Hexane	11.42	57	38258	1.392	ng		97
32) Chloroform	11.47	83	33230	1.010	ng		97
34) Tetrahydrofuran (THF)	11.89	72	22333	1.735	ng		96
35) Ethyl tert-Butyl Ether	12.02	87	45162	2.150	ng		98
36) 1,2-Dichloroethane	12.27	62	29040	1.136	ng		100
38) 1,1,1-Trichloroethane	12.55	97	31213	1.044	ng		100
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	72874	0.952	ng		100
42) Carbon Tetrachloride	13.19	117	26846	1.103	ng		99
43) Cyclohexane	13.32	84	56834	2.019	ng		100
44) tert-Amyl Methyl Ether	13.67	73	107327	2.148	ng		98
45) 1,2-Dichloropropane	13.89	63	20012	1.071	ng		100
46) Bromodichloromethane	14.07	83	27195	1.085	ng		99
47) Trichloroethene	14.13	130	20239	0.989	ng		99
48) 1,4-Dioxane	14.11	88	15424	0.908	ng		99
49) 2,2,4-Trimethylpentane...	14.19	57	94999	1.280	ng		98
50) Methyl Methacrylate	14.34	100	15229	1.914	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102215.D Vial: 14
Acq On : 10 May 2022 15:28 Operator: TZ/CG
Sample : 1.0ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102203 (6/09)

Quant Time: May 10 18:03:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

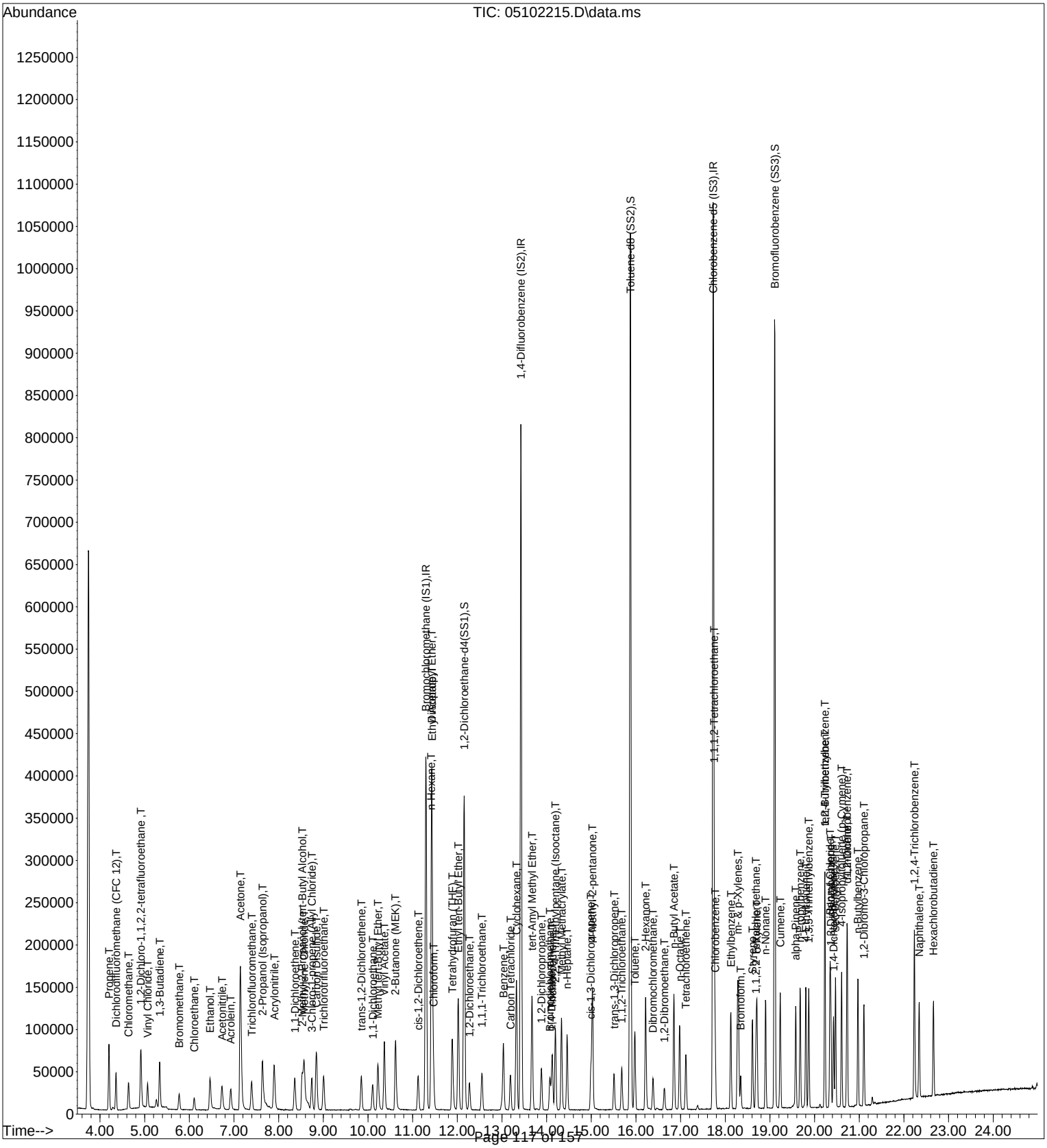
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	19151	1.008	ng	97
52) cis-1,3-Dichloropropene	14.99	75	29189	0.993	ng	99
53) 4-Methyl-2-pentanone	15.02	58	41170	2.412	ng	96
54) trans-1,3-Dichloropropene	15.51	75	25497	0.944	ng	98
55) 1,1,2-Trichloroethane	15.68	97	18249	0.999	ng	99
58) Toluene	15.98	91	76036	0.784	ng	99
59) 2-Hexanone	16.22	43	115524	2.110	ng	98
60) Dibromochloromethane	16.38	129	23311	0.907	ng	99
61) 1,2-Dibromoethane	16.63	107	21449	0.814	ng	99
62) n-Butyl Acetate	16.85	43	126521	2.110	ng	100
63) n-Octane	16.98	57	19839	1.024	ng	98
64) Tetrachloroethene	17.12	166	22101	0.849	ng	99
65) Chlorobenzene	17.77	112	50702	0.790	ng	99
66) Ethylbenzene	18.13	91	87325	0.809	ng	99
67) m- & p-Xylenes	18.28	91	135990	1.656	ng	99
68) Bromoform	18.35	173	19960	0.907	ng	99
69) Styrene	18.61	104	52168	0.778	ng	100
70) o-Xylene	18.71	91	69531	0.842	ng	98
71) n-Nonane	18.90	43	51221	1.184	ng	100
72) 1,1,2,2-Tetrachloroethane	18.69	83	31953	0.835	ng	99
74) Cumene	19.23	105	91083	0.848	ng	99
75) alpha-Pinene	19.58	93	44398	0.876	ng	91
76) n-Propylbenzene	19.68	91	108609	0.852	ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.80	105	90457	0.869	ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	73534	0.858	ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.23	105	76121	0.931	ng	99
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	103116	1.573	ng	98
85) 1,3-Dichlorobenzene	20.36	146	43510	0.881	ng	98
86) 1,4-Dichlorobenzene	20.42	146	43358	0.845	ng	98
87) sec-Butylbenzene	20.47	105	101296	0.886	ng	99
88) 4-Isopropyltoluene (p-...	20.61	119	87899	0.881	ng	98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	42028	0.903	ng	97
91) d-Limonene	20.73	68	28470	0.972	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	32135	1.823	ng	89
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.23	180	62871	1.704	ng	99
95) Naphthalene	22.34	128	91053	0.749	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.66	225	21396	0.950	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.23	119	73721	0.915	ng	99
100) n-Butylbenzene	20.97	91	79995	0.871	ng	98
101) 1,1,1,2-Tetrachloroethane	17.75	131	20022	0.890	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102215.D Vial: 14
Acq On : 10 May 2022 15:28 Operator: TZ/CG
Sample : 1.0ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102203 (6/09)

Quant Time: May 10 18:03:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102216.D Vial: 14
Acq On : 10 May 2022 16:02 Operator: TZ/CG
Sample : 5.0ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102203 (6/09)

Quant Time: May 10 18:08:49 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	161199	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	727569	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	165374	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	292598	13.214	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%				
57) Toluene-d8 (SS2)	15.88	98	777514	9.729	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 77.84%				
73) Bromofluorobenzene (SS3)	19.11	174	284011	11.151	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.20%				
Target Compounds							Qvalue
2) Propene	4.17	42	166473	6.779	ng		99
3) Dichlorodifluoromethan...	4.34	85	180887	4.459	ng		99
4) Chloromethane	4.63	50	149993	5.085	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	95263	4.390	ng		100
6) Vinyl Chloride	5.05	62	143115	4.727	ng		100
7) 1,3-Butadiene	5.32	54	120044	5.749	ng		100
8) Bromomethane	5.76	94	69580	4.219	ng		99
9) Chloroethane	6.10	64	59307	4.457	ng		100
10) Ethanol	6.48	45	298411	19.655	ng		100
11) Acetonitrile	6.74	41	195953	4.831	ng		98
12) Acrolein	6.93	56	125234	11.177	ng		99
13) Acetone	7.14	58	364769	24.015	ng		94
14) Trichlorofluoromethane	7.39	101	157831	4.575	ng		99
15) 2-Propanol (Isopropanol)	7.64	45	467807	9.036	ng		99
16) Acrylonitrile	7.91	53	272368	10.203	ng		100
17) 1,1-Dichloroethene	8.36	96	81991	4.522	ng		99
18) 2-Methyl-2-Propanol (t...	8.52	59	512554	10.735	ng		98
19) Methylene Chloride	8.58	84	82881	4.186	ng		99
20) 3-Chloro-1-propene (Al...	8.74	41	155246	5.614	ng		99
21) Trichlorotrifluoroethane	9.00	151	79042	5.047	ng		99
22) Carbon Disulfide	8.84	76	592026	8.788	ng		100
23) trans-1,2-Dichloroethene	9.86	61	135533	5.056	ng		99
24) 1,1-Dichloroethane	10.11	63	162197	4.931	ng		100
25) Methyl tert-Butyl Ether	10.21	73	270070	4.933	ng		100
26) Vinyl Acetate	10.37	86	47682	12.421	ng	#	94
27) 2-Butanone (MEK)	10.61	72	115628	8.272	ng		97
28) cis-1,2-Dichloroethene	11.13	61	131268	5.052	ng		100
29) Diisopropyl Ether	11.43	87	161998	9.947	ng	#	90
30) Ethyl Acetate	11.43	61	160781	22.421	ng		100
31) n-Hexane	11.42	57	176113	6.469	ng		99
32) Chloroform	11.48	83	153433	4.708	ng		100
34) Tetrahydrofuran (THF)	11.88	72	104077	8.160	ng		99
35) Ethyl tert-Butyl Ether	12.02	87	213015	10.233	ng		99
36) 1,2-Dichloroethane	12.27	62	133509	5.269	ng		100
38) 1,1,1-Trichloroethane	12.55	97	143621	4.861	ng		100
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	336056	4.445	ng		100
42) Carbon Tetrachloride	13.19	117	123484	5.137	ng		99
43) Cyclohexane	13.32	84	258834	9.310	ng		100
44) tert-Amyl Methyl Ether	13.67	73	510832	10.350	ng		99
45) 1,2-Dichloropropane	13.89	63	93014	5.040	ng		99
46) Bromodichloromethane	14.07	83	124591	5.030	ng		100
47) Trichloroethene	14.13	130	94618	4.681	ng		100
48) 1,4-Dioxane	14.10	88	71498	4.260	ng		99
49) 2,2,4-Trimethylpentane...	14.20	57	435149	5.936	ng		98
50) Methyl Methacrylate	14.33	100	72954	9.283	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102216.D Vial: 14
Acq On : 10 May 2022 16:02 Operator: TZ/CG
Sample : 5.0ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102203 (6/09)

Quant Time: May 10 18:08:49 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

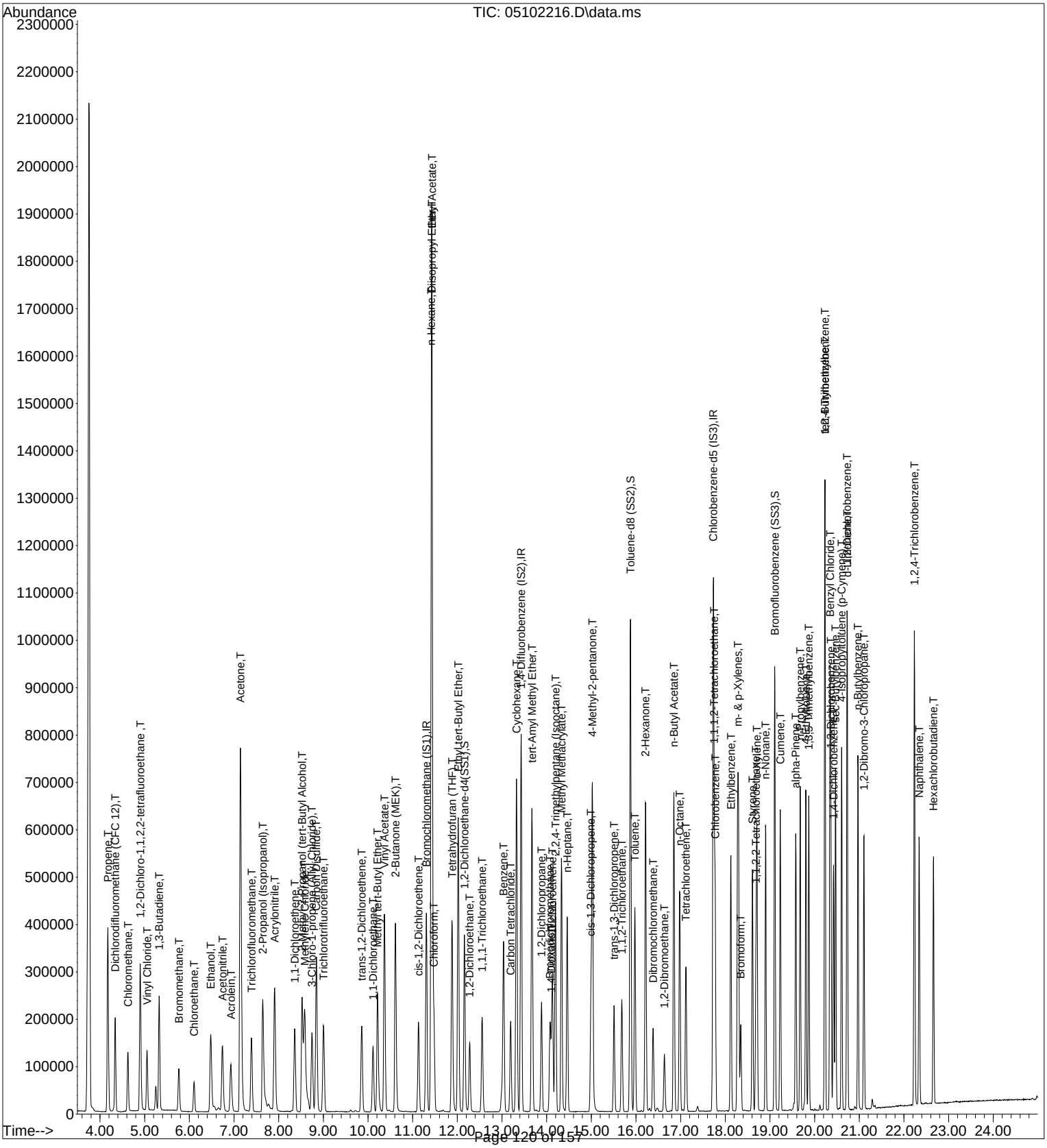
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	88895	4.735	ng	100
52) cis-1,3-Dichloropropene	14.99	75	140645	4.844	ng	100
53) 4-Methyl-2-pentanone	15.02	58	194506	11.534	ng	95
54) trans-1,3-Dichloropropene	15.51	75	126817	4.754	ng	99
55) 1,1,2-Trichloroethane	15.68	97	84818	4.700	ng	100
58) Toluene	15.98	91	350678	3.629	ng	100
59) 2-Hexanone	16.21	43	558946	10.241	ng	97
60) Dibromochloromethane	16.38	129	109839	4.287	ng	99
61) 1,2-Dibromoethane	16.64	107	100645	3.832	ng	99
62) n-Butyl Acetate	16.85	43	609015	10.192	ng	99
63) n-Octane	16.98	57	91371	4.733	ng	100
64) Tetrachloroethene	17.12	166	101363	3.906	ng	99
65) Chlorobenzene	17.77	112	237964	3.722	ng	100
66) Ethylbenzene	18.13	91	409343	3.804	ng	99
67) m- & p-Xylenes	18.28	91	642406	7.850	ng	99
68) Bromoform	18.35	173	96118	4.382	ng	100
69) Styrene	18.61	104	252145	3.771	ng	100
70) o-Xylene	18.71	91	327162	3.974	ng	98
71) n-Nonane	18.90	43	243688	5.653	ng	99
72) 1,1,2,2-Tetrachloroethane	18.69	83	152659	4.003	ng	99
74) Cumene	19.23	105	425799	3.976	ng	99
75) alpha-Pinene	19.58	93	216015	4.278	ng	96
76) n-Propylbenzene	19.68	91	514355	4.047	ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.80	105	430042	4.145	ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	352169	4.122	ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.23	105	362798	4.450	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	565734	8.660	ng	99
85) 1,3-Dichlorobenzene	20.36	146	208712	4.241	ng	99
86) 1,4-Dichlorobenzene	20.42	146	206302	4.033	ng	99
87) sec-Butylbenzene	20.47	105	480039	4.214	ng	99
88) 4-Isopropyltoluene (p-...	20.61	119	415860	4.184	ng	99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	203913	4.395	ng	99
91) d-Limonene	20.73	68	140258	4.806	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	157853	8.984	ng	92
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.23	180	310883	8.454	ng	99
95) Naphthalene	22.34	128	452213	3.731	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.66	225	102645	4.574	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.23	119	352832	4.395	ng	100
100) n-Butylbenzene	20.97	91	386954	4.225	ng	99
101) 1,1,1,2-Tetrachloroethane	17.75	131	93684	4.180	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102216.D Vial: 14
Acq On : 10 May 2022 16:02 Operator: TZ/CG
Sample : 5.0ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102203 (6/09)

Quant Time: May 10 18:08:49 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102217.D Vial: 15
Acq On : 10 May 2022 16:36 Operator: TZ/CG
Sample : 25ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:10:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	169128	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	748374	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	172826	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	298966	12.869	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%			
57) Toluene-d8 (SS2)	15.88	98	812433	9.728	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 77.84%			
73) Bromofluorobenzene (SS3)	19.11	174	298373	11.209	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.68%			
Target Compounds						Qvalue
2) Propene	4.18	42	845342	32.811	ng	100
3) Dichlorodifluoromethan...	4.34	85	962455	22.611	ng	100
4) Chloromethane	4.64	50	856715	27.680	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	509321	22.370	ng	100
6) Vinyl Chloride	5.07	62	754854	23.764	ng	100
7) 1,3-Butadiene	5.33	54	684091	31.225	ng	100
8) Bromomethane	5.78	94	364401	21.060	ng	100
9) Chloroethane	6.12	64	319182	22.861	ng	100
10) Ethanol	6.52	45	1667593	104.689	ng	100
11) Acetonitrile	6.77	41	1075335	25.270	ng	100
12) Acrolein	6.95	56	689163	58.624	ng	100
13) Acetone	7.17	58	2036328	127.780	ng	100
14) Trichlorofluoromethane	7.40	101	855126	23.626	ng	100
15) 2-Propanol (Isopropanol)	7.67	45	2805508	51.649	ng	100
16) Acrylonitrile	7.94	53	1528378	54.569	ng	100
17) 1,1-Dichloroethene	8.38	96	454280	23.882	ng	100
18) 2-Methyl-2-Propanol (t...	8.55	59	2970531	59.301	ng	100
19) Methylene Chloride	8.61	84	451815	21.747	ng	100
20) 3-Chloro-1-propene (Al...	8.77	41	904705	31.180	ng	100
21) Trichlorotrifluoroethane	9.01	151	435379	26.497	ng	100
22) Carbon Disulfide	8.86	76	3296246	46.636	ng	100
23) trans-1,2-Dichloroethene	9.88	61	747833	26.592	ng	100
24) 1,1-Dichloroethane	10.13	63	890334	25.800	ng	100
25) Methyl tert-Butyl Ether	10.22	73	1467192	25.541	ng	100
26) Vinyl Acetate	10.38	86	298951	74.222	ng	100
27) 2-Butanone (MEK)	10.62	72	649024	44.256	ng	100
28) cis-1,2-Dichloroethene	11.14	61	722860	26.518	ng	100
29) Diisopropyl Ether	11.43	87	856144	50.104	ng	100
30) Ethyl Acetate	11.44	61	948868	126.115	ng	100
31) n-Hexane	11.42	57	1019731	35.699	ng	100
32) Chloroform	11.49	83	819143	23.958	ng	100
34) Tetrahydrofuran (THF)	11.88	72	578505	43.229	ng	100
35) Ethyl tert-Butyl Ether	12.03	87	1200699	54.978	ng	100
36) 1,2-Dichloroethane	12.29	62	717219	26.977	ng	100
38) 1,1,1-Trichloroethane	12.56	97	785702	25.852	ng	100
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	13.04	78	1856401	23.872	ng	100
42) Carbon Tetrachloride	13.20	117	694500	28.089	ng	100
43) Cyclohexane	13.33	84	1452726	50.800	ng	100
44) tert-Amyl Methyl Ether	13.67	73	2873357	56.598	ng	100
45) 1,2-Dichloropropane	13.89	63	510196	26.877	ng	100
46) Bromodichloromethane	14.08	83	692397	27.178	ng	100
47) Trichloroethene	14.13	130	522651	25.140	ng	100
48) 1,4-Dioxane	14.11	88	399089	23.120	ng	100
49) 2,2,4-Trimethylpentane...	14.20	57	2371921	31.455	ng	100
50) Methyl Methacrylate	14.34	100	419971	51.954	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102217.D Vial: 15
Acq On : 10 May 2022 16:36 Operator: TZ/CG
Sample : 25ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:10:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

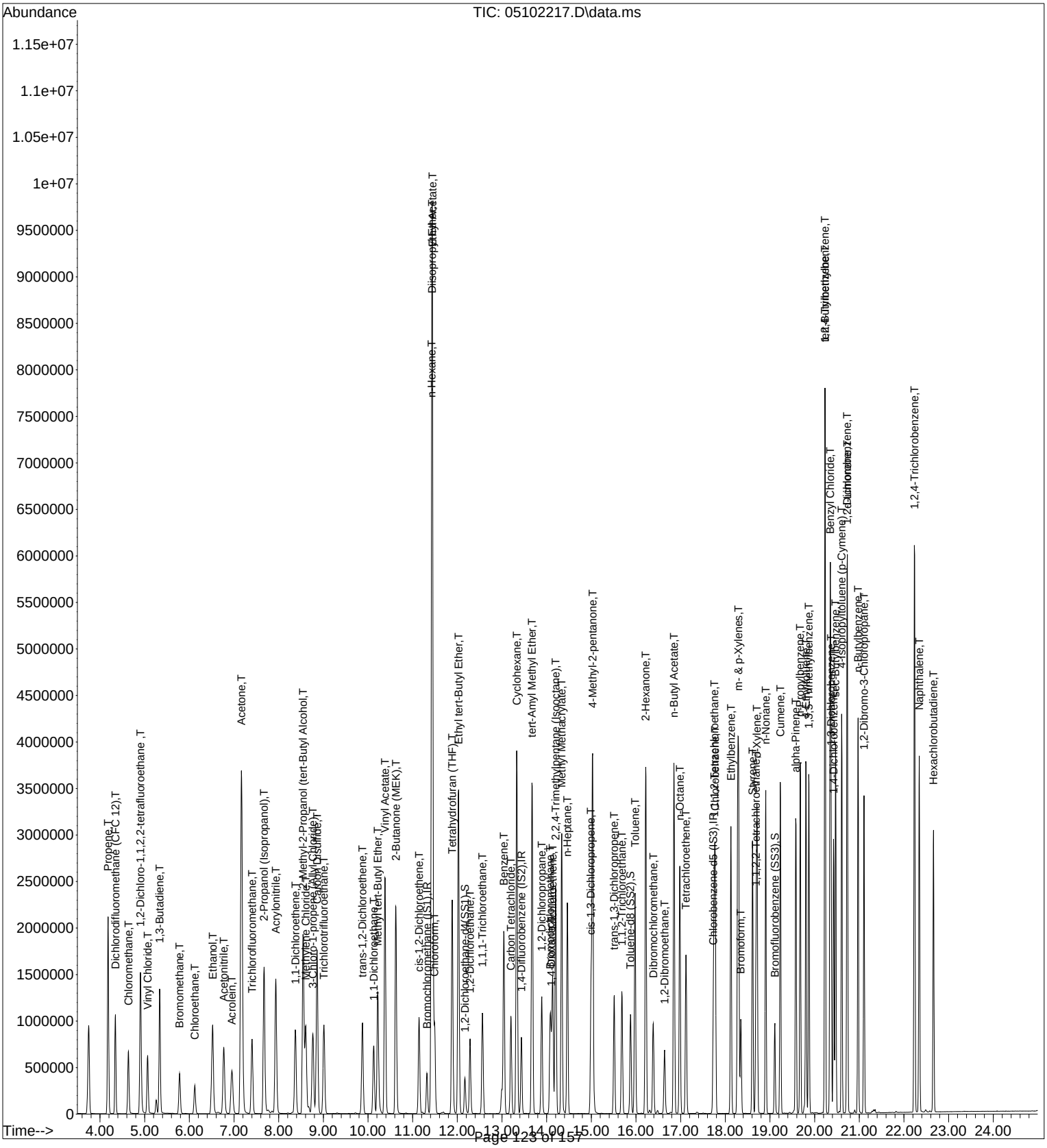
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	491380	25.447	ng	100
52) cis-1,3-Dichloropropene	14.99	75	799066	26.754	ng	100
53) 4-Methyl-2-pentanone	15.03	58	1115216	64.293	ng	100
54) trans-1,3-Dichloropropene	15.51	75	738348	26.908	ng	100
55) 1,1,2-Trichloroethane	15.68	97	467273	25.175	ng	100
58) Toluene	15.98	91	1942996	19.238	ng	100
59) 2-Hexanone	16.22	43	3100707	54.362	ng	100
60) Dibromochloromethane	16.39	129	621068	23.198	ng	100
61) 1,2-Dibromoethane	16.64	107	564399	20.564	ng	100
62) n-Butyl Acetate	16.85	43	3421097	54.783	ng	100
63) n-Octane	16.98	57	510079	25.284	ng	100
64) Tetrachloroethene	17.12	166	566686	20.896	ng	100
65) Chlorobenzene	17.77	112	1342582	20.091	ng	100
66) Ethylbenzene	18.13	91	2296082	20.420	ng	100
67) m- & p-Xylenes	18.29	91	3613702	42.253	ng	100
68) Bromoform	18.35	173	544006	23.733	ng	100
69) Styrene	18.61	104	1441748	20.632	ng	100
70) o-Xylene	18.71	91	1797188	20.888	ng	100
71) n-Nonane	18.91	43	1355992	30.100	ng	100
72) 1,1,2,2-Tetrachloroethane	18.69	83	854137	21.431	ng	100
74) Cumene	19.23	105	2396765	21.417	ng	100
75) alpha-Pinene	19.58	93	1225664	23.229	ng	100
76) n-Propylbenzene	19.68	91	2869460	21.605	ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	2435670	22.461	ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	1971831	22.087	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.23	105	2126158	24.957	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	3570170	52.296	ng	100
85) 1,3-Dichlorobenzene	20.37	146	1190248	23.144	ng	100
86) 1,4-Dichlorobenzene	20.42	146	1178321	22.041	ng	100
87) sec-Butylbenzene	20.47	105	2647078	22.238	ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	2373776	22.853	ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	1160911	23.941	ng	100
91) d-Limonene	20.73	68	819741	26.879	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	924798	50.365	ng	100
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.24	180	1959079	50.975	ng	100
95) Naphthalene	22.34	128	2943786	23.238	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.66	225	592149	25.249	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.23	119	2054297	24.485	ng	100
100) n-Butylbenzene	20.97	91	2168582	22.656	ng	100
101) 1,1,1,2-Tetrachloroethane	17.76	131	531837	22.704	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102217.D Vial: 15
Acq On : 10 May 2022 16:36 Operator: TZ/CG
Sample : 25ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:10:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102218.D Vial: 15
Acq On : 10 May 2022 17:10 Operator: TZ/CG
Sample : 50ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:12:40 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 5/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.33	130	176011	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.44	114	771444	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	176942	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.18	65	304686	12.602	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	15.88	98	832633	9.738	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 77.92%				
73) Bromofluorobenzene (SS3)	19.11	174	305821	11.222	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.76%				
Target Compounds							Qvalue
2) Propene	4.19	42	1827832	68.170	ng		99
3) Dichlorodifluoromethan...	4.35	85	1895439	42.788	ng		99
4) Chloromethane	4.64	50	1628078	50.545	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	1048202	44.238	ng		100
6) Vinyl Chloride	5.07	62	1538337	46.535	ng		100
7) 1,3-Butadiene	5.35	54	1402790	61.526	ng		100
8) Bromomethane	5.79	94	745790	41.415	ng		100
9) Chloroethane	6.13	64	658259	45.304	ng		100
10) Ethanol	6.55	45	3460777	208.766	ng		100
11) Acetonitrile	6.79	41	2204420	49.778	ng		100
12) Acrolein	6.97	56	1401745	114.577	ng		99
13) Acetone	7.19	58	4072386	245.550	ng		93
14) Trichlorofluoromethane	7.41	101	1728861	45.898	ng		100
15) 2-Propanol (Isopropanol)	7.69	45	5223219	92.399	ng		99
16) Acrylonitrile	7.96	53	3139847	107.721	ng		99
17) 1,1-Dichloroethene	8.39	96	922599	46.606	ng		99
18) 2-Methyl-2-Propanol (t...	8.57	59	5816899	111.583	ng		99
19) Methylene Chloride	8.62	84	918296	42.472	ng		98
20) 3-Chloro-1-propene (Al...	8.78	41	1835230	60.776	ng		100
21) Trichlorotrifluoroethane	9.02	151	876505	51.257	ng		99
22) Carbon Disulfide	8.87	76	6657059	90.501	ng		100
23) trans-1,2-Dichloroethene	9.88	61	1521842	51.999	ng		99
24) 1,1-Dichloroethane	10.14	63	1792275	49.906	ng		100
25) Methyl tert-Butyl Ether	10.22	73	2962431	49.554	ng		100
26) Vinyl Acetate	10.39	86	615362	146.805	ng	#	93
27) 2-Butanone (MEK)	10.63	72	1332559	87.312	ng		95
28) cis-1,2-Dichloroethene	11.15	61	1463186	51.578	ng		99
29) Diisopropyl Ether	11.44	87	1629659	91.643	ng	#	87
30) Ethyl Acetate	11.46	61	1774024	226.566	ng		99
31) n-Hexane	11.42	57	1982904	66.703	ng		100
32) Chloroform	11.50	83	1623420	45.625	ng		100
34) Tetrahydrofuran (THF)	11.89	72	1183767	84.998	ng		98
35) Ethyl tert-Butyl Ether	12.03	87	2458044	108.149	ng		99
36) 1,2-Dichloroethane	12.29	62	1439345	52.022	ng		100
38) 1,1,1-Trichloroethane	12.57	97	1592758	50.839	ng		100
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.04	78	3783740	47.200	ng		100
42) Carbon Tetrachloride	13.20	117	1419289	55.686	ng		100
43) Cyclohexane	13.34	84	2975926	100.953	ng		100
44) tert-Amyl Methyl Ether	13.68	73	5884558	112.445	ng		99
45) 1,2-Dichloropropane	13.89	63	1037523	53.021	ng		100
46) Bromodichloromethane	14.08	83	1404289	53.474	ng		100
47) Trichloroethene	14.14	130	1073083	50.072	ng		100
48) 1,4-Dioxane	14.11	88	815827	45.849	ng		99
49) 2,2,4-Trimethylpentane...	14.20	57	4757511	61.205	ng		98
50) Methyl Methacrylate	14.34	100	853405	102.415	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102218.D Vial: 15
Acq On : 10 May 2022 17:10 Operator: TZ/CG
Sample : 50ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:12:40 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

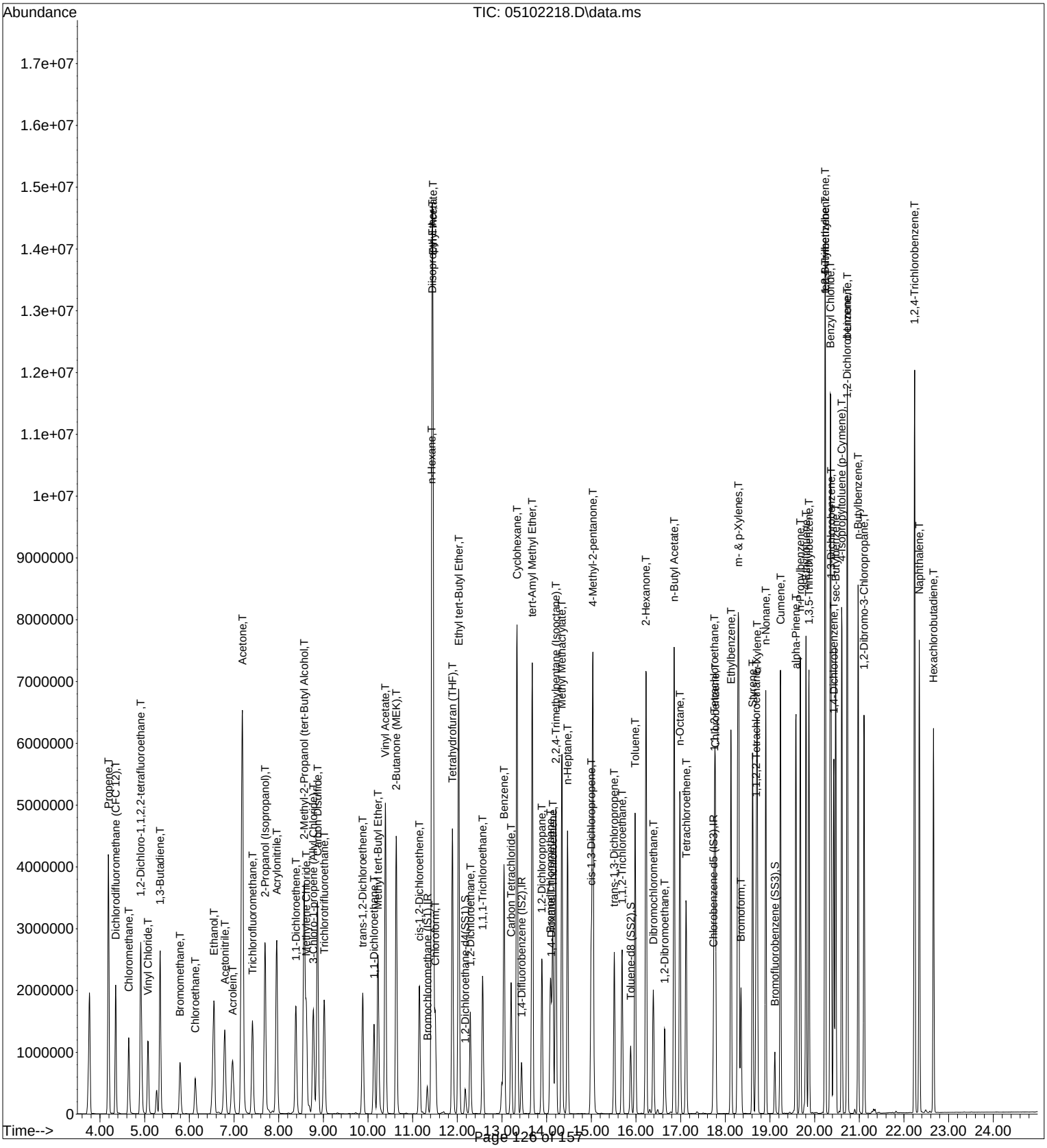
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	996365	50.055	ng	100
52) cis-1,3-Dichloropropene	15.00	75	1642476	53.348	ng	100
53) 4-Methyl-2-pentanone	15.03	58	2251857	125.939	ng	97
54) trans-1,3-Dichloropropene	15.51	75	1516161	53.602	ng	100
55) 1,1,2-Trichloroethane	15.69	97	951159	49.713	ng	99
58) Toluene	15.98	91	3935746	38.062	ng	100
59) 2-Hexanone	16.22	43	6130959	104.988	ng	98
60) Dibromochloromethane	16.39	129	1277401	46.603	ng	100
61) 1,2-Dibromoethane	16.64	107	1150307	40.936	ng	99
62) n-Butyl Acetate	16.86	43	6816142	106.609	ng	98
63) n-Octane	16.98	57	1043121	50.503	ng	100
64) Tetrachloroethene	17.12	166	1155179	41.605	ng	99
65) Chlorobenzene	17.78	112	2756804	40.295	ng	100
66) Ethylbenzene	18.13	91	4665520	40.527	ng	100
67) m- & p-Xylenes	18.29	91	7302596	83.399	ng	99
68) Bromoform	18.35	173	1095947	46.700	ng	100
69) Styrene	18.61	104	2925626	40.893	ng	100
70) o-Xylene	18.71	91	3607338	40.952	ng	100
71) n-Nonane	18.91	43	2672042	57.934	ng	98
72) 1,1,2,2-Tetrachloroethane	18.69	83	1722797	42.221	ng	100
74) Cumene	19.24	105	4839949	42.243	ng	100
75) alpha-Pinene	19.58	93	2505381	46.377	ng	100
76) n-Propylbenzene	19.68	91	5717356	42.046	ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	4858806	43.765	ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	3933692	43.037	ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	4152744	47.611	ng	98
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	7138659	102.136	ng	100
85) 1,3-Dichlorobenzene	20.37	146	2298991	43.663	ng	100
86) 1,4-Dichlorobenzene	20.43	146	2301765	42.055	ng	100
87) sec-Butylbenzene	20.47	105	5077836	41.666	ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	4615978	43.405	ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	2238096	45.082	ng	100
91) d-Limonene	20.73	68	1622490	51.963	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1836355	97.682	ng	97
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.24	180	3868542	98.317	ng	99
95) Naphthalene	22.34	128	5916022	45.614	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.66	225	1214862	50.597	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	3928579	45.735	ng	99
100) n-Butylbenzene	20.97	91	4316217	44.044	ng	100
101) 1,1,1,2-Tetrachloroethane	17.76	131	1089720	45.439	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102218.D Vial: 15
Acq On : 10 May 2022 17:10 Operator: TZ/CG
Sample : 50ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:12:40 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102219.D Vial: 15
Acq On : 10 May 2022 17:44 Operator: TZ/CG
Sample : 100ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:15:08 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	186418	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	799420	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	189901	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.19	65	312270	12.195	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.52%				
57) Toluene-d8 (SS2)	15.89	98	875368	9.539	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 76.32%				
73) Bromofluorobenzene (SS3)	19.11	174	325697	11.136	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.12%				
Target Compounds							Qvalue
2) Propene	4.20	42	4507895	158.739	ng		98
3) Dichlorodifluoromethan...	4.36	85	3860524	82.284	ng		99
4) Chloromethane	4.65	50	2414019	70.762	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	2079564	82.867	ng		100
6) Vinyl Chloride	5.08	62	3074764	87.820	ng		100
7) 1,3-Butadiene	5.35	54	2787467	115.433	ng		98
8) Bromomethane	5.80	94	1571560	82.400	ng		100
9) Chloroethane	6.14	64	1362077	88.510	ng		100
10) Ethanol	6.59	45	7119509	405.497	ng		100
11) Acetonitrile	6.82	41	4539787	96.791	ng		99
12) Acrolein	6.98	56	2882532	222.462	ng		100
13) Acetone	7.21	58	7982801	454.463	ng	#	85
14) Trichlorofluoromethane	7.42	101	3510410	87.992	ng		100
15) 2-Propanol (Isopropanol)	7.73	45	7935130	132.536	ng		99
16) Acrylonitrile	7.98	53	6332528	205.126	ng		100
17) 1,1-Dichloroethene	8.39	96	1910035	91.101	ng		98
18) 2-Methyl-2-Propanol (t...	8.60	59	7281537	131.880	ng		99
19) Methylene Chloride	8.63	84	1882668	82.214	ng		97
20) 3-Chloro-1-propene (Al...	8.79	41	3766387	117.765	ng		98
21) Trichlorotrifluoroethane	9.03	151	1764028	97.400	ng		99
22) Carbon Disulfide	8.88	76	13346795	171.318	ng		100
23) trans-1,2-Dichloroethene	9.89	61	3155589	101.801	ng		99
24) 1,1-Dichloroethane	10.15	63	3659812	96.219	ng		100
25) Methyl tert-Butyl Ether	10.23	73	6081042	96.041	ng		100
26) Vinyl Acetate	10.40	86	1249269	281.395	ng	#	77
27) 2-Butanone (MEK)	10.65	72	2678301	165.691	ng	#	89
28) cis-1,2-Dichloroethene	11.16	61	2992999	99.614	ng		99
29) Diisopropyl Ether	11.44	87	2856247	151.653	ng	#	66
30) Ethyl Acetate	11.48	61	2969817	358.111	ng		94
31) n-Hexane	11.43	57	3617171	114.885	ng		99
32) Chloroform	11.52	83	3156526	83.759	ng		100
34) Tetrahydrofuran (THF)	11.90	72	2381604	161.460	ng		95
35) Ethyl tert-Butyl Ether	12.04	87	4826644	200.508	ng		96
36) 1,2-Dichloroethane	12.30	62	2866063	97.805	ng		99
38) 1,1,1-Trichloroethane	12.57	97	3224623	99.324	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.05	78	7640435	91.975	ng		100
42) Carbon Tetrachloride	13.21	117	2896077	109.651	ng		100
43) Cyclohexane	13.34	84	5790312	189.553	ng		99
44) tert-Amyl Methyl Ether	13.68	73	11406888	210.341	ng		98
45) 1,2-Dichloropropane	13.90	63	2117417	104.421	ng		100
46) Bromodichloromethane	14.09	83	2830814	104.022	ng		100
47) Trichloroethene	14.14	130	2141764	96.442	ng		99
48) 1,4-Dioxane	14.12	88	1671286	90.639	ng		99
49) 2,2,4-Trimethylpentane...	14.21	57	9264212	115.012	ng		96
50) Methyl Methacrylate	14.35	100	1666785	193.027	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102219.D Vial: 15
Acq On : 10 May 2022 17:44 Operator: TZ/CG
Sample : 100ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:15:08 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

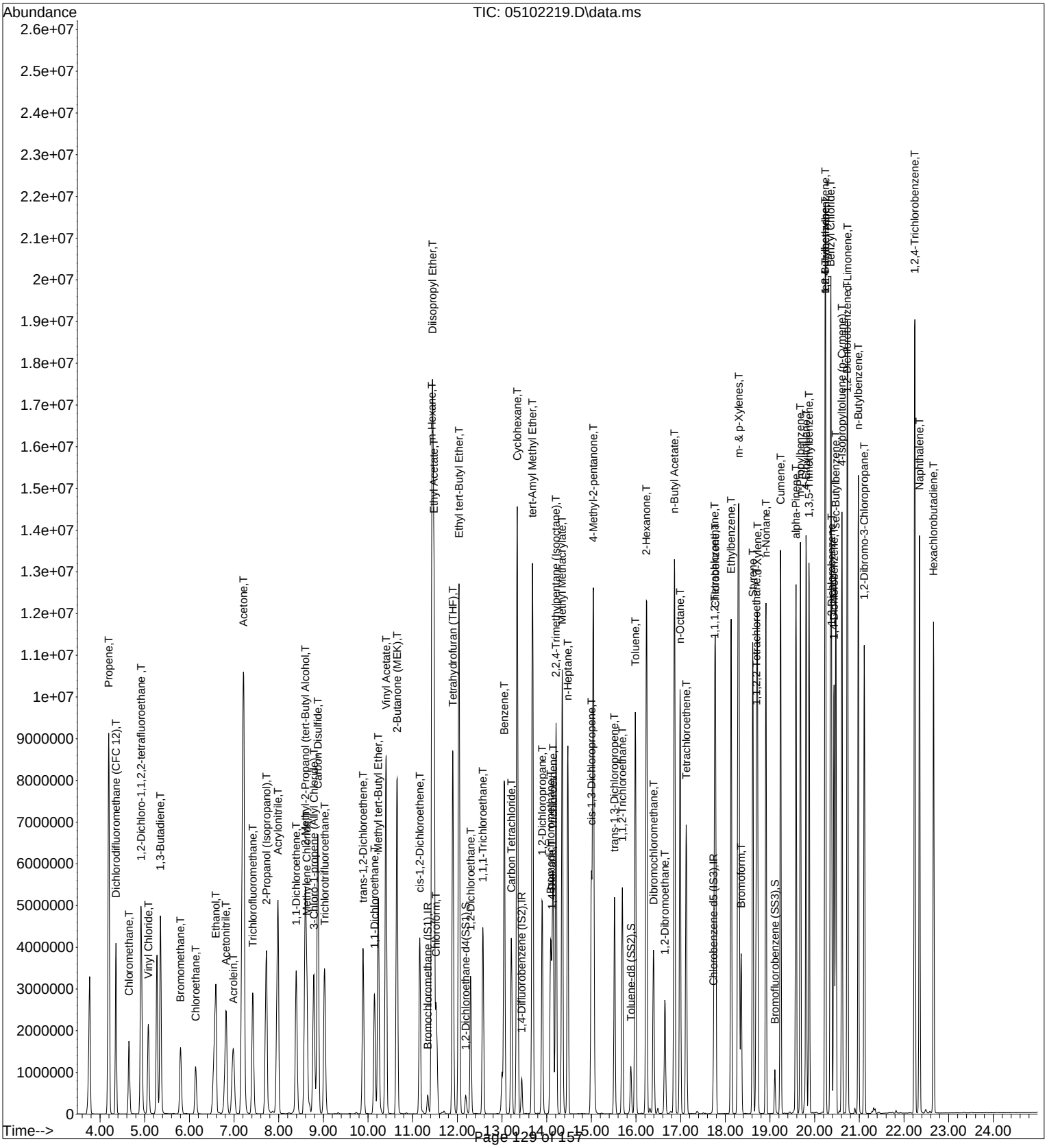
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	2004247	97.166	ng	100
52) cis-1,3-Dichloropropene	15.00	75	3369991	105.628	ng	100
53) 4-Methyl-2-pentanone	15.05	58	4403306	237.645	ng	92
54) trans-1,3-Dichloropropene	15.52	75	3117107	106.345	ng	99
55) 1,1,2-Trichloroethane	15.69	97	1948545	98.278	ng	100
58) Toluene	15.99	91	7954691	71.679	ng	99
59) 2-Hexanone	16.23	43	11513050	183.699	ng	95
60) Dibromochloromethane	16.39	129	2588744	87.998	ng	99
61) 1,2-Dibromoethane	16.65	107	2315407	76.775	ng	100
62) n-Butyl Acetate	16.86	43	12759019	185.941	ng	96
63) n-Octane	16.99	57	2098988	94.689	ng	100
64) Tetrachloroethene	17.12	166	2335690	78.382	ng	99
65) Chlorobenzene	17.78	112	5410461	73.686	ng	100
66) Ethylbenzene	18.13	91	9217632	74.605	ng	99
67) m- & p-Xylenes	18.30	91	13894983	147.858	ng	98
68) Bromoform	18.36	173	2112668	83.881	ng	100
69) Styrene	18.61	104	5746974	74.847	ng	99
70) o-Xylene	18.72	91	6906306	73.053	ng	99
71) n-Nonane	18.91	43	4997484	100.958	ng	95
72) 1,1,2,2-Tetrachloroethane	18.70	83	3379742	77.176	ng	100
74) Cumene	19.24	105	9281082	75.477	ng	100
75) alpha-Pinene	19.58	93	4945368	85.297	ng	100
76) n-Propylbenzene	19.68	91	10728101	73.511	ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	9154960	76.835	ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	7364621	75.075	ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	7208924	77.009	ng	96
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.36	91	12245521	163.246	ng	99
85) 1,3-Dichlorobenzene	20.38	146	3901616	69.043	ng	100
86) 1,4-Dichlorobenzene	20.43	146	4241783	72.212	ng	100
87) sec-Butylbenzene	20.47	105	8931967	68.289	ng	98
88) 4-Isopropyltoluene (p-...	20.61	119	8203808	71.878	ng	98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	3806371	71.440	ng	100
91) d-Limonene	20.74	68	2844737	84.891	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	3300869	163.603	ng	92
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.24	180	6740013	159.605	ng	99
95) Naphthalene	22.35	128	10865528	78.059	ng	99
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.66	225	2366297	91.827	ng	99
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	6694702	72.619	ng	98
100) n-Butylbenzene	20.98	91	8092639	76.944	ng	99
101) 1,1,1,2-Tetrachloroethane	17.76	131	2157184	83.811	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102219.D Vial: 15
Acq On : 10 May 2022 17:44 Operator: TZ/CG
Sample : 100ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:15:08 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102221.D Vial: 2
Acq On : 10 May 2022 18:52 Operator: TZ/CG
Sample : 25ng R16051022 ICV Inst : GCMS-16
Misc : S35-04032201/S35-05062202 (6/5)

Quant Time: May 10 20:37:58 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/11/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	181873	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	811497	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	181873	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	318751	12.287	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
57) Toluene-d8 (SS2)	15.88	98	869410	12.629	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	19.11	174	314084	12.517	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
Target Compounds							Qvalue
2) Propene	4.18	42	883284	24.923	ng		99
3) Dichlorodifluoromethan...	4.34	85	997533	24.429	ng		100
4) Chloromethane	4.64	50	936285	26.158	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	535347	25.593	ng		100
6) Vinyl Chloride	5.06	62	811034	25.558	ng		100
7) 1,3-Butadiene	5.33	54	730876	25.656	ng		99
8) Bromomethane	5.78	94	408839	25.903	ng		100
9) Chloroethane	6.12	64	353776	26.138	ng		100
10) Ethanol	6.52	45	2143265	98.217	ng		100
11) Acetonitrile	6.77	41	1133100	22.248	ng		100
12) Acrolein	6.95	56	750973	47.771	ng		100
13) Acetone	7.17	58	2120479	124.058	ng		97
14) Trichlorofluoromethane	7.40	101	898714	24.965	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	3029882	48.958	ng		100
16) Acrylonitrile	7.94	53	1549984	48.711	ng		100
17) 1,1-Dichloroethene	8.37	96	481082	25.608	ng		99
18) 2-Methyl-2-Propanol (t...	8.55	59	3066599	54.943	ng		100
19) Methylene Chloride	8.61	84	477138	24.424	ng		99
20) 3-Chloro-1-propene (Al...	8.77	41	888325	25.983	ng		100
21) Trichlorotrifluoroethane	9.01	151	459436	26.892	ng		100
22) Carbon Disulfide	8.86	76	3370594	50.298	ng		100
23) trans-1,2-Dichloroethene	9.87	61	776737	26.172	ng		99
24) 1,1-Dichloroethane	10.12	63	946968	26.025	ng		100
25) Methyl tert-Butyl Ether	10.22	73	1500840	24.687	ng		100
26) Vinyl Acetate	10.38	86	471721	151.573	ng	#	96
27) 2-Butanone (MEK)	10.62	72	662618	50.240	ng		99
28) cis-1,2-Dichloroethene	11.14	61	742912	25.201	ng		99
29) Diisopropyl Ether	11.43	87	932525	55.269	ng	#	49
30) Ethyl Acetate	11.44	61	666556	76.559	ng		98
31) n-Hexane	11.42	57	1035469	25.550	ng		100
32) Chloroform	11.49	83	858606	25.764	ng		100
34) Tetrahydrofuran (THF)	11.88	72	622368	49.636	ng		99
35) Ethyl tert-Butyl Ether	12.03	87	1235375	52.217	ng		100
36) 1,2-Dichloroethane	12.29	62	732268	25.201	ng		100
38) 1,1,1-Trichloroethane	12.57	97	818933	24.967	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.04	78	1958349	25.228	ng		100
42) Carbon Tetrachloride	13.20	117	683307	24.457	ng		100
43) Cyclohexane	13.33	84	1502997	50.183	ng		100
44) tert-Amyl Methyl Ether	13.68	73	2958013	51.250	ng		100
45) 1,2-Dichloropropane	13.89	63	537752	25.274	ng		100
46) Bromodichloromethane	14.08	83	721389	25.587	ng		100
47) Trichloroethene	14.13	130	553602	25.646	ng		100
48) 1,4-Dioxane	14.11	88	412929	25.485	ng		100
49) 2,2,4-Trimethylpentane...	14.20	57	2411419	24.826	ng		99
50) Methyl Methacrylate	14.34	100	429336	53.269	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102221.D Vial: 2
Acq On : 10 May 2022 18:52 Operator: TZ/CG
Sample : 25ng R16051022 ICV Inst : GCMS-16
Misc : S35-04032201/S35-05062202 (6/5)

Quant Time: May 10 20:37:58 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

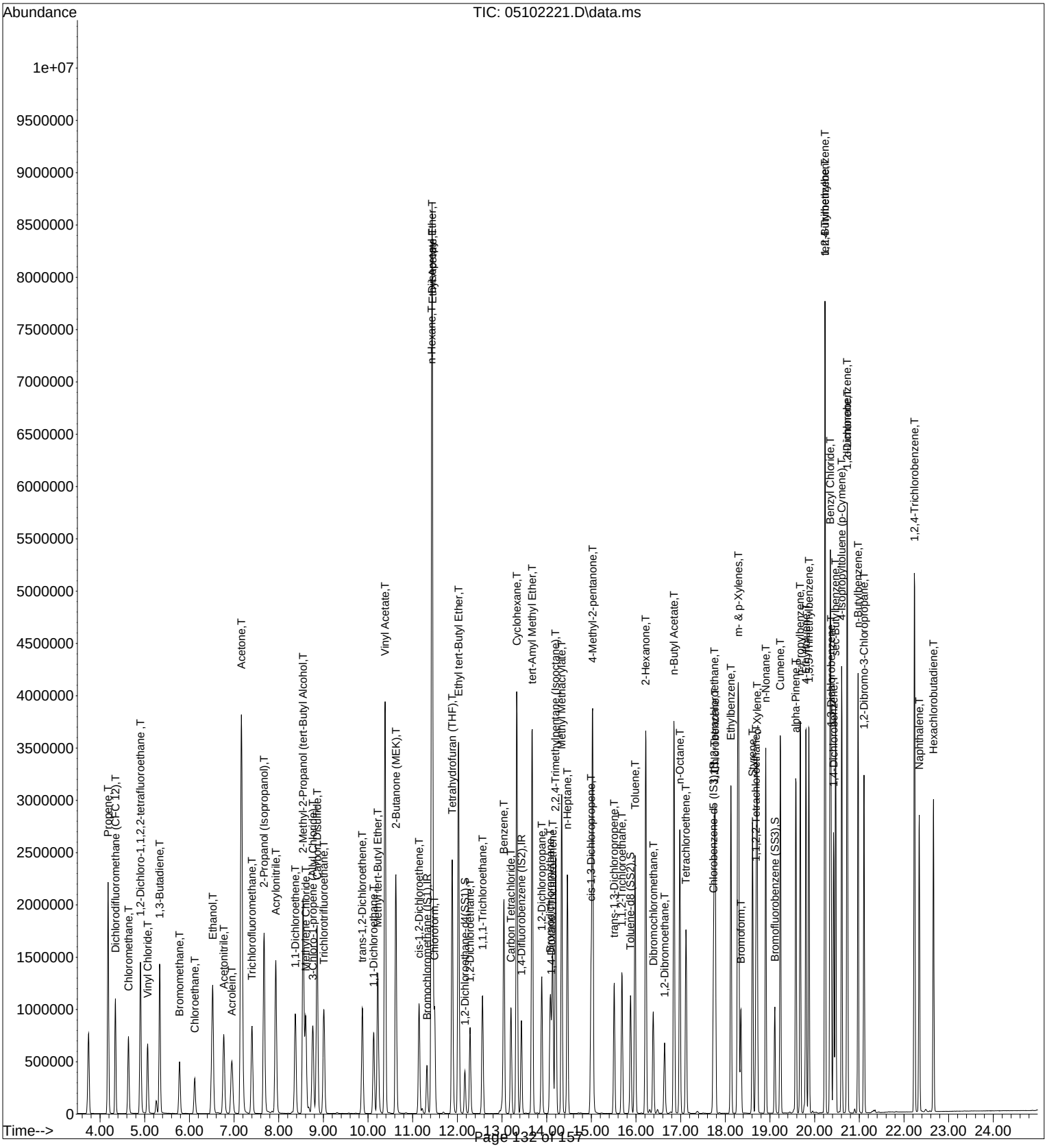
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	500353	24.586	ng	100
52) cis-1,3-Dichloropropene	15.00	75	817864	26.636	ng	100
53) 4-Methyl-2-pentanone	15.03	58	1130022	51.727	ng	99
54) trans-1,3-Dichloropropene	15.51	75	727180	25.705	ng	100
55) 1,1,2-Trichloroethane	15.68	97	488469	25.249	ng	99
58) Toluene	15.98	91	2007889	24.941	ng	100
59) 2-Hexanone	16.22	43	3050984	49.878	ng	100
60) Dibromochloromethane	16.39	129	620432	25.434	ng	100
61) 1,2-Dibromoethane	16.64	107	564725	25.333	ng	99
62) n-Butyl Acetate	16.85	43	3447273	51.662	ng	100
63) n-Octane	16.98	57	523030	24.142	ng	100
64) Tetrachloroethene	17.12	166	589864	25.889	ng	100
65) Chlorobenzene	17.77	112	1346808	25.126	ng	100
66) Ethylbenzene	18.13	91	2353882	25.184	ng	100
67) m- & p-Xylenes	18.29	91	3681249	50.264	ng	100
68) Bromoform	18.35	173	543643	25.985	ng	100
69) Styrene	18.61	104	1372715	24.496	ng	100
70) o-Xylene	18.71	91	1841739	25.334	ng	100
71) n-Nonane	18.91	43	1379636	25.963	ng	100
72) 1,1,2,2-Tetrachloroethane	18.69	83	878788	25.912	ng	99
74) Cumene	19.23	105	2430342	25.669	ng	100
75) alpha-Pinene	19.58	93	1232506	27.292	ng	99
76) n-Propylbenzene	19.68	91	2865797	25.509	ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	2406219	25.778	ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	2009092	25.874	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.23	105	2135399	26.598	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	3259097	56.169	ng	100
85) 1,3-Dichlorobenzene	20.37	146	1123247	24.547	ng	100
86) 1,4-Dichlorobenzene	20.42	146	1071777	23.055	ng	100
87) sec-Butylbenzene	20.47	105	2637708	25.548	ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	2329526	25.365	ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	1111478	25.179	ng	99
91) d-Limonene	20.73	68	804659	27.105	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	894286	50.076	ng	99
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.24	180	1659233	44.688	ng	100
95) Naphthalene	22.34	128	2238463	20.884	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.66	225	589374	24.859	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.23	119	2061443	26.740	ng	100
100) n-Butylbenzene	20.97	91	2128679	25.021	ng	100
101) 1,1,1,2-Tetrachloroethane	17.76	131	535696	25.214	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102221.D Vial: 2
Acq On : 10 May 2022 18:52 Operator: TZ/CG
Sample : 25ng R16051022 ICV Inst : GCMS-16
Misc : S35-04032201/S35-05062202 (6/5)

Quant Time: May 10 20:37:58 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

5/11/22

Data File Name: **05102221.D** Acq. Method File: **TO15.M**

Data File Path: **I:\MS16\DATA\2022_05\10** Sample Name: **25ng R16051022 ICV**

Operator: **TZ/CG** Misc Info: **S35-04032201/S35-05062202 (**

Date Acquired: **5/10/2022 18:52** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.18**	**24.9**	**25.75**	97	**56**	**128**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.34**	**24.4**	**26.00**	94	**71**	**112**	*	*
4)	**Chloromethane**	**4.64**	**26.2**	**25.75**	102	**53**	**126**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.91**	**25.6**	**26.00**	98	**62**	**121**	*	*
6)	**Vinyl Chloride**	**5.06**	**25.6**	**26.00**	98	**63**	**123**	*	*
7)	**1,3-Butadiene**	**5.33**	**25.7**	**25.75**	100	**63**	**135**	*	*
8)	**Bromomethane**	**5.78**	**25.9**	**25.75**	101	**71**	**112**	*	*
9)	**Chloroethane**	**6.12**	**26.1**	**25.75**	101	**66**	**117**	*	*
10)	**Ethanol**	**6.52**	**98**	**104.00**	94	**57**	**117**	*	*
11)	**Acetonitrile**	**6.77**	**22.2**	**25.25**	88	**59**	**131**	*	*
12)	**Acrolein**	**6.95**	**47.8**	**52.00**	92	**71**	**123**	*	*
13)	**Acetone**	**7.17**	**124**	**128.00**	97	**60**	**117**	*	*
14)	**Trichlorofluoromethane**	**7.40**	**25.0**	**25.25**	99	**71**	**114**	*	*
15)	**2-Propanol (Isopropanol)**	**7.67**	**49.0**	**50.00**	98	**61**	**124**	*	*
16)	**Acrylonitrile**	**7.94**	**48.7**	**50.25**	97	**65**	**130**	*	*
17)	**1,1-Dichloroethene**	**8.37**	**25.6**	**26.25**	98	**74**	**114**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.55	54.9	51.00	108	56	135	*	*
19)	**Methylene Chloride**	**8.61**	**24.4**	**26.00**	94	**75**	**112**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.77**	**26.0**	**25.50**	102	**57**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**9.01**	**26.9**	**27.00**	100	**73**	**114**	*	*
22)	**Carbon Disulfide**	**8.86**	**50.3**	**51.75**	97	**70**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.87**	**26.2**	**26.00**	101	**76**	**119**	*	*
24)	**1,1-Dichloroethane**	**10.12**	**26.0**	**26.75**	97	**70**	**114**	*	*
25)	**Methyl tert-Butyl Ether**	**10.22**	**24.7**	**25.75**	96	**72**	**118**	*	*
26)	**Vinyl Acetate**	**10.38**	**152**	**117.75**	129	**56**	**137**	*	*
27)	**2-Butanone (MEK)**	**10.62**	**50.2**	**51.00**	98	**74**	**121**	*	*
28)	**cis-1,2-Dichloroethene**	**11.14**	**25.2**	**25.75**	98	**73**	**117**	*	*
29)	Diisopropyl Ether	11.43	55.3	52.25	106	58	124	*	*
30)	**Ethyl Acetate**	**11.44**	**76.6**	**72.50**	106	**59**	**161**	*	*
31)	**n-Hexane**	**11.42**	**25.6**	**26.00**	98	**55**	**130**	*	*
32)	**Chloroform**	**11.49**	**25.8**	**26.25**	98	**71**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.88**	**49.6**	**50.50**	98	**73**	**114**	*	*
35)	Ethyl tert-Butyl Ether	12.03	52.2	51.75	101	76	119	*	*
36)	**1,2-Dichloroethane**	**12.29**	**25.2**	**26.25**	96	**71**	**119**	*	*
38)	**1,1,1-Trichloroethane**	**12.57**	**25.0**	**26.00**	96	**73**	**119**	*	*
41)	**Benzene**	**13.04**	**25.2**	**26.00**	97	**72**	**113**	*	*
42)	**Carbon Tetrachloride**	**13.20**	**24.5**	**25.25**	97	**67**	**123**	*	*
43)	**Cyclohexane**	**13.33**	**50.2**	**51.50**	97	**70**	**119**	*	*
44)	tert-Amyl Methyl Ether	13.68	51.3	**51.50**	100	74	120	*	*
45)	**1,2-Dichloropropane**	**13.89**	**25.3**	**25.75**	98	**70**	**118**	*	*
46)	**Bromodichloromethane**	**14.08**	**25.6**	**26.00**	98	**74**	**119**	*	*
47)	**Trichloroethene**	**14.13**	**25.6**	**25.50**	100	**74**	**115**	*	*
48)	**1,4-Dioxane**	**14.11**	**25.5**	**25.75**	99	**77**	**124**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.20	24.8	26.25	94	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05102221.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2022_05\10** Sample Name: **25ng R16051022 ICV**
Operator: **TZ/CG** Misc Info: **S35-04032201/S35-05062202 (**
Date Acquired: **5/10/2022 18:52** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.34**	**53.3**	**51.25**	104	**78**	**126**	*	*
51)	**n-Heptane**	**14.46**	**24.6**	**25.75**	96	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**15.00**	**26.6**	**26.00**	102	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**15.03**	**51.7**	**51.50**	100	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**15.51**	**25.7**	**25.00**	103	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**15.68**	**25.2**	**26.00**	97	**78**	**117**	*	*
58)	**Toluene**	**15.98**	**24.9**	**25.75**	97	**70**	**118**	*	*
59)	**2-Hexanone**	**16.22**	**49.9**	**50.75**	98	**74**	**132**	*	*
60)	**Dibromochloromethane**	**16.39**	**25.4**	**26.25**	97	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**16.64**	**25.3**	**26.00**	97	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**16.85**	**51.7**	**50.75**	102	**75**	**134**	*	*
63)	**n-Octane**	**16.98**	**24.1**	**26.00**	93	**68**	**120**	*	*
64)	**Tetrachloroethene**	**17.12**	**25.9**	**26.50**	98	**63**	**130**	*	*
65)	**Chlorobenzene**	**17.77**	**25.1**	**25.75**	97	**70**	**118**	*	*
66)	**Ethylbenzene**	**18.13**	**25.2**	**25.75**	98	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**18.29**	**50.3**	**52.00**	97	**67**	**127**	*	*
68)	**Bromoform**	**18.35**	**26.0**	**26.25**	99	**65**	**149**	*	*
69)	**Styrene**	**18.61**	**24.5**	**25.25**	97	**76**	**132**	*	*
70)	**o-Xylene**	**18.71**	**25.3**	**26.00**	97	**69**	**124**	*	*
71)	**n-Nonane**	**18.91**	**26.0**	**26.00**	100	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.69**	**25.9**	**26.00**	100	**69**	**128**	*	*
74)	**Cumene**	**19.23**	**25.7**	**25.75**	100	**69**	**125**	*	*
75)	**alpha-Pinene**	**19.58**	**27.3**	**26.25**	104	**68**	**129**	*	*
76)	**n-Propylbenzene**	**19.68**	**25.5**	**26.00**	98	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**19.81**	**25.8**	**26.00**	**99**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.87**	**25.9**	**26.00**	**100**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**20.23**	**26.6**	**25.75**	**103**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**20.35**	**56.2**	**52.00**	**108**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**20.37**	**24.5**	**26.00**	**94**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**20.42**	**23.1**	**26.25**	**88**	**63**	**134**	*	*
87)	sec-Butylbenzene	20.47	25.5	25.50	**100**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.61	25.4	25.75	**99**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**20.73**	**25.2**	**26.25**	**96**	**64**	**139**	*	*
91)	**d-Limonene**	**20.73**	**27.1**	**25.75**	**105**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.11**	**50.1**	**50.50**	**99**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**22.24**	**44.7**	**52.50**	**85**	**62**	**154**	*	*
95)	**Naphthalene**	**22.34**	**20.9**	**26.25**	**80**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**22.66**	**24.9**	**26.50**	**94**	55	142	*	*
99)	tert-Butylbenzene	20.23	26.7	25.75	104	61	140	*	*
100)	n-Butylbenzene	20.97	25.0	26.00	96	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	17.76	25.2	25.75	98	70	130	*	*

Bold = 75 Compound List
*** = Pass**

Evaluate Continuing Calibration Report

CG 5/25/22

Data File : I:\MS16\DATA\2022 05\25\05252201.D Vial: 2
Acq On : 25 May 2022 1:30 Operator: WA/CG
Sample : CCV R16052522 5ng Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/9)

Quant Time: May 25 03:22:00 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/25/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	89	-0.02
2	T	Propene	2.436	2.032	16.6	73	0.00
3	T	Dichlorodifluoromethane (CF	2.806	2.706	3.6	90	0.00
4	T	Chloromethane	2.460	2.750	-11.8	107	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.438	1.490	-3.6	97	0.00
6	T	Vinyl Chloride	2.181	2.466	-13.1	103	-0.01
7	T	1,3-Butadiene	1.958	2.015	-2.9	100	-0.01
8	T	Bromomethane	1.085	1.040	4.1	87	-0.01
9	T	Chloroethane	0.930	0.932	-0.2	92	-0.01
10	T	Ethanol	1.500	1.370	8.7	95	-0.04
11	T	Acetonitrile	3.500	3.578	-2.2	97	-0.03
12	T	Acrolein	1.080	0.980	9.3	90	-0.02
13	T	Acetone	1.175	1.174	0.1	96	-0.03
14	T	Trichlorofluoromethane	2.474	2.439	1.4	91	-0.01
15	T	2-Propanol (Isopropanol)	4.253	4.940	-16.2	122	-0.03
16	T	Acrylonitrile	2.187	2.192	-0.2	94	-0.03
17	T	1,1-Dichloroethene	1.291	1.207	6.5	90	-0.02
18	T	2-Methyl-2-Propanol (tert-B	3.836	4.042	-5.4	95	-0.03
19	T	Methylene Chloride	1.343	1.265	5.8	91	-0.03
20	T	3-Chloro-1-propene (Allyl C	2.350	2.399	-2.1	93	-0.02
21	T	Trichlorotrifluoroethane	1.174	1.091	7.1	86	-0.01
22	T	Carbon Disulfide	4.606	4.522	1.8	92	-0.02
23	T	trans-1,2-Dichloroethene	2.040	1.989	2.5	89	-0.02
24	T	1,1-Dichloroethane	2.501	2.426	3.0	90	-0.02
25	T	Methyl tert-Butyl Ether	4.178	3.931	5.9	88	0.00
26	T	Vinyl Acetate	0.214	0.215	-0.5	88	-0.02
27	T	2-Butanone (MEK)	0.906	0.860	5.1	88	-0.01
28	T	cis-1,2-Dichloroethene	2.026	1.968	2.9	89	-0.01
29	T	Diisopropyl Ether	1.160	1.215	-4.7	91	0.00
30	T	Ethyl Acetate	0.598	0.651	-8.9	95	-0.01
31	T	n-Hexane	2.785	2.790	-0.2	95	0.00
32	T	Chloroform	2.290	2.288	0.1	92	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.783	1.902	-6.7	93	-0.01
34	T	Tetrahydrofuran (THF)	0.862	0.817	5.2	89	0.00
35	T	Ethyl tert-Butyl Ether	1.626	1.554	4.4	88	0.00
36	T	1,2-Dichloroethane	1.997	1.986	0.6	91	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	89	0.00
38	T	1,1,1-Trichloroethane	0.505	0.469	7.1	88	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	0#	0.00
40	T	1-Butanol	0.000	0.000	0.0	0#	0.01
41	T	Benzene	1.196	1.103	7.8	89	0.00
42	T	Carbon Tetrachloride	0.430	0.391	9.1	86	0.00
43	T	Cyclohexane	0.461	0.427	7.4	89	0.00
44	T	tert-Amyl Methyl Ether	0.889	0.818	8.0	87	0.00
45	T	1,2-Dichloropropane	0.328	0.313	4.6	90	0.00
46	T	Bromodichloromethane	0.434	0.410	5.5	90	0.00
47	T	Trichloroethene	0.333	0.305	8.4	86	0.00
48	T	1,4-Dioxane	0.250	0.230	8.0	87	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.496	1.446	3.3	92	0.00
50	T	Methyl Methacrylate	0.124	0.115	7.3	85	0.00
51	T	n-Heptane	0.313	0.287	8.3	88	0.00
52	T	cis-1,3-Dichloropropene	0.473	0.447	5.5	87	0.00
53	T	4-Methyl-2-pentanone	0.337	0.328	2.7	91	0.00
54	T	trans-1,3-Dichloropropene	0.436	0.412	5.5	85	0.00
55	T	1,1,2-Trichloroethane	0.298	0.275	7.7	88	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 05\25\05252201.D Vial: 2
Acq On : 25 May 2022 1:30 Operator: WA/CG
Sample : CCV R16052522 5ng Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/9)

Quant Time: May 25 03:22:00 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	99	0.00
57	S	Toluene-d8 (SS2)	4.732	4.326	8.6	91	0.00
58	T	Toluene	5.533	4.632	16.3	89	0.00
59	T	2-Hexanone	4.204	3.914	6.9	94	0.00
60	T	Dibromochloromethane	1.677	1.374	18.1	86	0.00
61	T	1,2-Dibromoethane	1.532	1.279	16.5	86	0.00
62	T	n-Butyl Acetate	4.586	4.231	7.7	93	0.00
63	T	n-Octane	1.489	1.193	19.9	89	0.00
64	T	Tetrachloroethene	1.566	1.222	22.0	82	0.00
65	T	Chlorobenzene	3.684	3.040	17.5	87	0.00
66	T	Ethylbenzene	6.424	5.295	17.6	87	0.00
67	T	m- & p-Xylenes	5.034	4.124	18.1	86	0.00
68	T	Bromoform	1.438	1.139	20.8	80	0.00
69	T	Styrene	3.851	3.150	18.2	84	0.00
70	T	o-Xylene	4.997	4.151	16.9	86	0.00
71	T	n-Nonane	3.652	3.305	9.5	92	0.00
72	T	1,1,2,2-Tetrachloroethane	2.331	1.997	14.3	89	0.00
73	S	Bromofluorobenzene (SS3)	1.725	1.507	12.6	87	0.00
74	T	Cumene	6.507	5.428	16.6	87	0.00
75	T	alpha-Pinene	3.104	2.537	18.3	83	0.00
76	T	n-Propylbenzene	7.721	6.520	15.6	87	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	0#	0.00
78	T	4-Ethyltoluene	6.415	5.303	17.3	85	0.00
79	T	1,3,5-Trimethylbenzene	5.337	4.417	17.2	85	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	0#	0.00
82	T	1,2,4-Trimethylbenzene	5.518	4.651	15.7	86	0.00
83	T	n-Decane	0.000	0.000	0.0	0#	0.00
84	T	Benzyl Chloride	3.988	3.169	20.5	75	0.00
85	T	1,3-Dichlorobenzene	3.145	2.602	17.3	85	0.00
86	T	1,4-Dichlorobenzene	3.195	2.540	20.5	84	0.00
87	T	sec-Butylbenzene	7.096	6.073	14.4	86	0.00
88	T	4-Isopropyltoluene (p-Cymen	6.312	5.176	18.0	85	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	0#	0.00
90	T	1,2-Dichlorobenzene	3.034	2.501	17.6	84	0.00
91	T	d-Limonene	2.040	1.759	13.8	86	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.227	0.971	20.9	80	0.00
93	T	n-Undecane	0.000	0.000	0.0	0#	0.08
94	T	1,2,4-Trichlorobenzene	2.552	1.849	27.5	79	0.00
95	T	Naphthalene	7.367	5.807	21.2	87	0.00
96	T	n-Dodecane	0.000	0.000	0.0	0#	0.00
97	T	Hexachlorobutadiene	1.629	1.101	32.4#	72	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-0.02
99	T	tert-Butylbenzene	5.298	4.519	14.7	87	0.00
100	T	n-Butylbenzene	5.847	4.890	16.4	86	0.00
101	T	1,1,1,2-Tetrachloroethane	1.460	1.193	18.3	86	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

CG 5/25/22

Data File : I:\MS16\DATA\2022 05\25\05252201.D Vial: 2
Acq On : 25 May 2022 1:30 Operator: WA/CG
Sample : CCV R16052522 5ng Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/9)

Quant Time: May 25 03:22:00 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/25/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	143471	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	649930	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	163230	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	272929	13.337	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.72%				
57) Toluene-d8 (SS2)	15.88	98	706097	11.428	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.44%				
73) Bromofluorobenzene (SS3)	19.11	174	246023	10.924	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.36%				
Target Compounds							Qvalue
2) Propene	4.19	42	121276	4.338	ng		98
3) Dichlorodifluoromethan...	4.34	85	163040	5.061	ng		100
4) Chloromethane	4.63	50	160960	5.701	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	92372	5.598	ng		99
6) Vinyl Chloride	5.05	62	147172	5.879	ng		100
7) 1,3-Butadiene	5.32	54	120262	5.351	ng		96
8) Bromomethane	5.77	94	60881	4.890	ng		100
9) Chloroethane	6.11	64	54569	5.111	ng		99
10) Ethanol	6.48	45	284536	16.529	ng		100
11) Acetonitrile	6.74	41	190969	4.753	ng		99
12) Acrolein	6.93	56	112463	9.069	ng		99
13) Acetone	7.14	58	349787	25.942	ng		87
14) Trichlorofluoromethane	7.39	101	144165	5.077	ng		99
15) 2-Propanol (Isopropanol)	7.64	45	572641	11.730	ng		98
16) Acrylonitrile	7.91	53	255421	10.176	ng		99
17) 1,1-Dichloroethene	8.36	96	74100	5.000	ng		95
18) 2-Methyl-2-Propanol (t...	8.52	59	487110	11.063	ng		97
19) Methylene Chloride	8.58	84	75506	4.900	ng		89
20) 3-Chloro-1-propene (Al...	8.74	41	144551	5.360	ng		96
21) Trichlorotrifluoroethane	9.00	151	67642	5.019	ng		93
22) Carbon Disulfide	8.84	76	544980	10.309	ng		100
23) trans-1,2-Dichloroethene	9.86	61	120993	5.168	ng		100
24) 1,1-Dichloroethane	10.11	63	146206	5.094	ng		99
25) Methyl tert-Butyl Ether	10.21	73	236852	4.939	ng		99
26) Vinyl Acetate	10.37	86	41959	17.091	ng	#	70
27) 2-Butanone (MEK)	10.61	72	101687	9.774	ng	#	82
28) cis-1,2-Dichloroethene	11.13	61	117430	5.050	ng		99
29) Diisopropyl Ether	11.43	87	147875	11.110	ng	#	89
30) Ethyl Acetate	11.43	61	152403	22.190	ng		93
31) n-Hexane	11.42	57	168093	5.258	ng		99
32) Chloroform	11.47	83	140502	5.345	ng		99
34) Tetrahydrofuran (THF)	11.88	72	92417	9.343	ng	#	91
35) Ethyl tert-Butyl Ether	12.02	87	187307	10.036	ng		94
36) 1,2-Dichloroethane	12.27	62	120827	5.271	ng		99
38) 1,1,1-Trichloroethane	12.55	97	126732	4.824	ng		98
39) Isopropyl Acetate	12.99	61	9285	No Calib		#	
40) 1-Butanol	13.02	56	4951	No Calib		#	
41) Benzene	13.03	78	298298	4.798	ng		99
42) Carbon Tetrachloride	13.19	117	106811	4.773	ng		99
43) Cyclohexane	13.32	84	229637	9.573	ng		97
44) tert-Amyl Methyl Ether	13.67	73	444669	9.620	ng		96
45) 1,2-Dichloropropane	13.89	63	83798	4.918	ng		100
46) Bromodichloromethane	14.07	83	112040	4.962	ng		99
47) Trichloroethene	14.13	130	81689	4.725	ng		99
48) 1,4-Dioxane	14.10	88	62183	4.792	ng		99
49) 2,2,4-Trimethylpentane...	14.20	57	398365	5.121	ng		94
50) Methyl Methacrylate	14.34	100	62311	9.653	ng		94

Data File : I:\MS16\DATA\2022 05\25\05252201.D Vial: 2
Acq On : 25 May 2022 1:30 Operator: WA/CG
Sample : CCV R16052522 5ng Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/9)

Quant Time: May 25 03:22:00 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

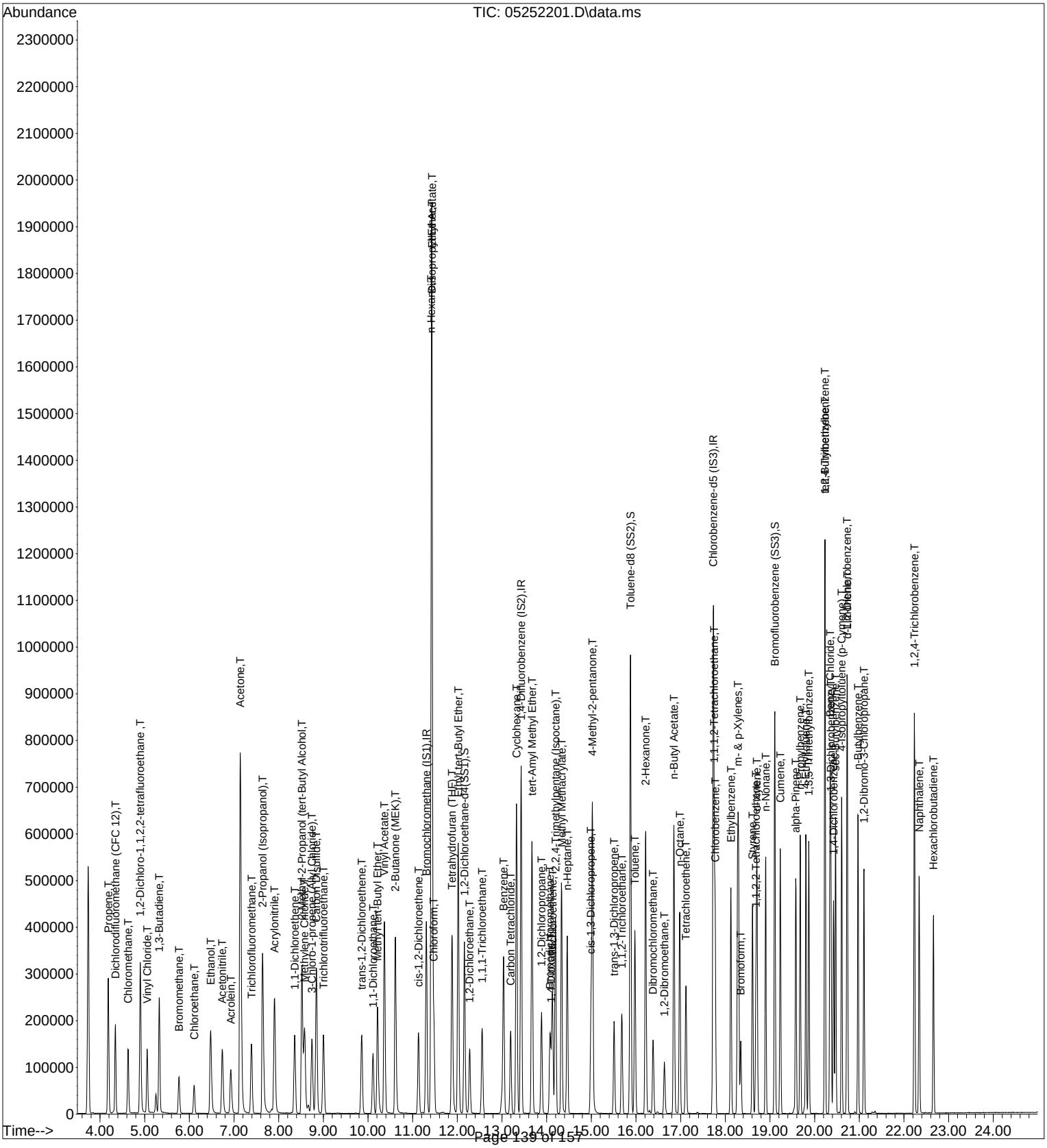
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	78259	4.801 ng		97
52) cis-1,3-Dichloropropene	14.99	75	121997	4.961 ng		99
53) 4-Methyl-2-pentanone	15.02	58	177169	10.126 ng		87
54) trans-1,3-Dichloropropene	15.51	75	108207	4.776 ng		99
55) 1,1,2-Trichloroethane	15.68	97	74402	4.802 ng		99
58) Toluene	15.98	91	311487	4.311 ng		98
59) 2-Hexanone	16.22	43	523885	9.543 ng		94
60) Dibromochloromethane	16.38	129	94200	4.303 ng		100
61) 1,2-Dibromoethane	16.64	107	86856	4.341 ng		100
62) n-Butyl Acetate	16.85	43	563507	9.409 ng		96
63) n-Octane	16.98	57	81763	4.205 ng		95
64) Tetrachloroethene	17.12	166	82987	4.058 ng		99
65) Chlorobenzene	17.77	112	206460	4.292 ng		99
66) Ethylbenzene	18.13	91	356072	4.245 ng		98
67) m- & p-Xylenes	18.28	91	554673	8.439 ng		99
68) Bromoform	18.35	173	77317	4.118 ng		100
69) Styrene	18.61	104	211862	4.212 ng		99
70) o-Xylene	18.71	91	281868	4.320 ng		99
71) n-Nonane	18.91	43	224434	4.706 ng		93
72) 1,1,2,2-Tetrachloroethane	18.69	83	135625	4.456 ng		100
74) Cumene	19.23	105	368593	4.338 ng		98
75) alpha-Pinene	19.58	93	178876	4.413 ng		94
76) n-Propylbenzene	19.68	91	447016	4.433 ng		98
77) 3-Ethyltoluene	19.80	105	367018	No Calib		
78) 4-Ethyltoluene	19.80	105	367018	4.381 ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	299935	4.304 ng		98
80) alpha-Methylstyrene	19.87	118	2619	No Calib		
81) 2-Ethyltoluene	19.87	105	299935	No Calib		
82) 1,2,4-Trimethylbenzene	20.23	105	312814	4.341 ng		99
83) n-Decane	20.23	58	19139	No Calib	#	
84) Benzyl Chloride	20.35	91	426181	8.184 ng		97
85) 1,3-Dichlorobenzene	20.36	146	176697	4.303 ng		100
86) 1,4-Dichlorobenzene	20.42	146	172455	4.133 ng		100
87) sec-Butylbenzene	20.47	105	412374	4.450 ng		98
88) 4-Isopropyltoluene (p-...	20.61	119	351462	4.264 ng		99
89) 1,2,3-Trimethylbenzene	20.61	105	13800	No Calib		
90) 1,2-Dichlorobenzene	20.73	146	171477	4.328 ng		100
91) d-Limonene	20.73	68	120614	4.527 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.11	157	126760	7.909 ng	#	81
93) n-Undecane	22.34	57	117	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.23	180	246328	7.392 ng		100
95) Naphthalene	22.34	128	394310	4.099 ng		100
96) n-Dodecane	22.34	57	117	No Calib	#	
97) Hexachlorobutadiene	22.66	225	74071	3.481 ng		100
98) Cyclohexanone	18.27	55	467	No Calib		
99) tert-Butylbenzene	20.23	119	306838	4.435 ng		100
100) n-Butylbenzene	20.97	91	332043	4.349 ng		98
101) 1,1,1,2-Tetrachloroethane	17.75	131	81020	4.249 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\25\05252201.D Vial: 2
Acq On : 25 May 2022 1:30 Operator: WA/CG
Sample : CCV R16052522 5ng Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/9)

Quant Time: May 25 03:22:00 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

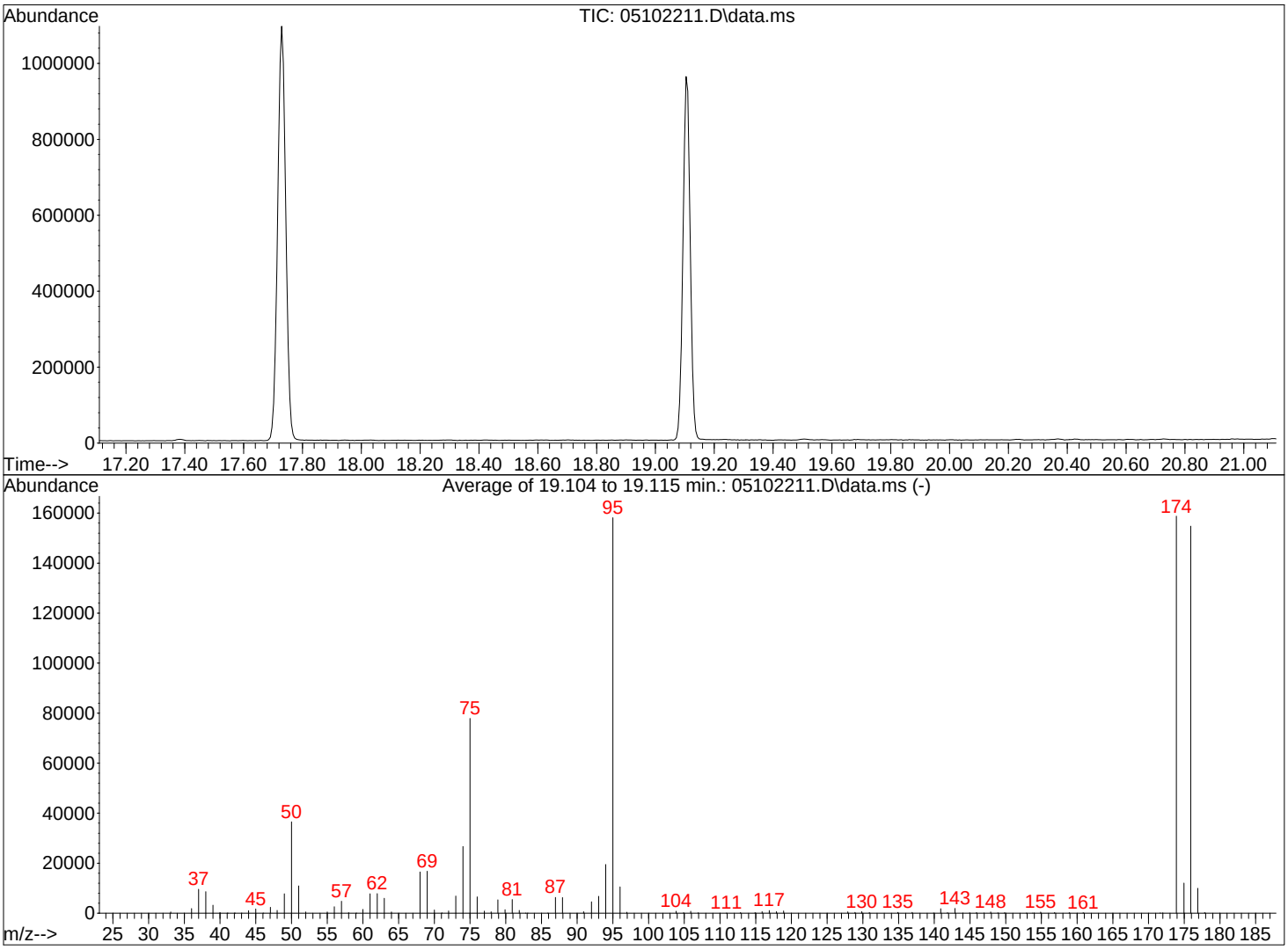


BFB

Data Path : I:\MS16\DATA\2022 05\10\
Data File : 05102211.D
Acq On : 10 May 2022 13:12
Operator : TZ/CG
Sample : R16051022 BFB Std
Misc : S35-04032201
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16051022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue May 10 19:05:32 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2831

5/10/22

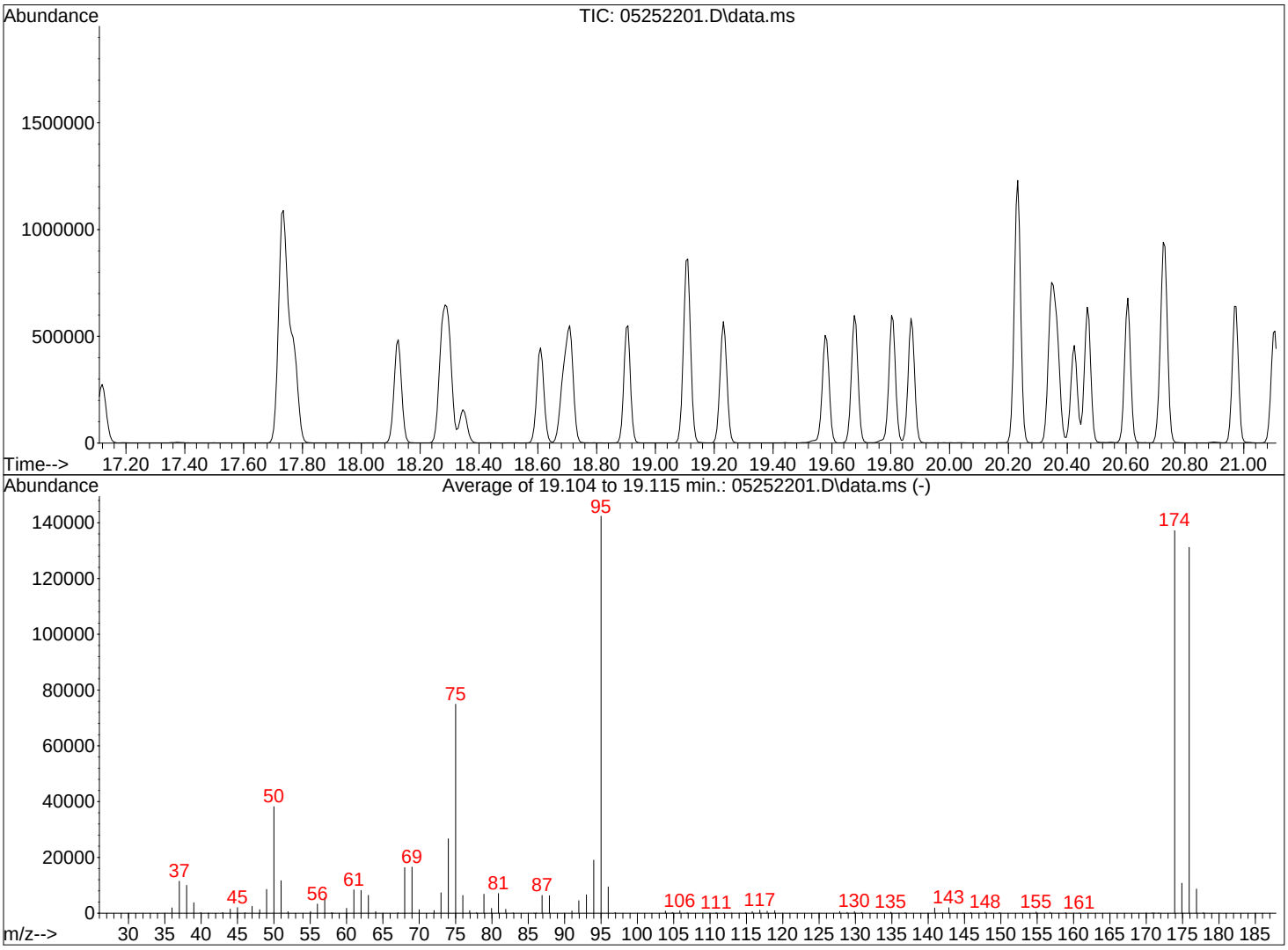
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.1	36512	PASS
75	95	30	66	49.2	77896	PASS
95	95	100	100	100.0	158197	PASS
96	95	5	9	6.6	10511	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	100.4	158784	PASS
175	174	4	9	7.6	12026	PASS
176	174	93	101	97.5	154795	PASS
177	176	5	9	6.4	9945	PASS

CG 5/25/22

Data Path : I:\MS16\DATA\2022 05\25\
Data File : 05252201.D
Acq On : 25 May 2022 1:30
Operator : WA/CG
Sample : CCV R16052522 5ng
Misc : S35-04032201/S35-05102202 (6/9)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16051022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue May 10 19:05:32 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2832

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	26.8	38195	PASS
75	95	30	66	52.6	74912	PASS
95	95	100	100	100.0	142347	PASS
96	95	5	9	6.6	9459	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	96.4	137168	PASS
175	174	4	9	7.8	10747	PASS
176	174	93	101	95.6	131136	PASS
177	176	5	9	6.6	8677	PASS

Injection Log

Directory: J:\MS16\DATA\2022_05\10\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
11	5/10/22 13:12	05102211.D	R16051022_BFB Std	S35-04032201	TZ/CG	2	*Pass*
12	5/10/22 13:46	05102212.D	0.1ng R16051022 ICAL Std	S35-04032201/S35-05102204 (6/09)	TZ/CG	13	
14	5/10/22 14:20	05102213.D	0.2ng R16051022 ICAL Std	S35-04032201/S35-05102204 (6/09)	TZ/CG	13	
16	5/10/22 14:54	05102214.D	0.5ng R16051022 ICAL Std	S35-04032201/S35-05102204 (6/09)	TZ/CG	13	
18	5/10/22 15:28	05102215.D	1.0ng R16051022 ICAL Std	S35-04032201/S35-05102203 (6/09)	TZ/CG	14	***R16051022.M***
19	5/10/22 16:02	05102216.D	5.0ng R16051022 ICAL Std	S35-04032201/S35-05102203 (6/09)	TZ/CG	14	
20	5/10/22 16:36	05102217.D	25ng R16051022 ICAL Std	S35-04032201/S35-05102202 (6/09)	TZ/CG	15	
22	5/10/22 17:10	05102218.D	50ng R16051022 ICAL Std	S35-04032201/S35-05102202 (6/09)	TZ/CG	15	
23	5/10/22 17:44	05102219.D	100ng R16051022 ICAL Std	S35-04032201/S35-05102202 (6/09)	TZ/CG	15	
24	5/10/22 18:18	05102220.D	Blank	S35-04032201	TZ/CG	2	
25	5/10/22 18:52	05102221.D	25ng R16051022 ICV	S35-04032201/S35-05062202 (6/5)	TZ/CG	2	*Pass*
26	5/10/22 19:26	05102222.D	25ng R16051022 ICV	S35-04032201/S35-05062202 (6/5)	TZ/CG	2	*Pass*
	R16051022.M : good for low level compounds and DoD; ranges from 0.1ng --> 100ng, except: naphthalene: from 0.2ng --> 100ng						

5/11/22

Injection Log

Directory: I:\MS16\DATA\2022_05\25\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	*Comment*
1	5/25/22 1:30	05252201.D	CCV R16052522_5ng	S35-04032201/S35-05102202 (6/9)	WA/CG	2	*Passed*
2	5/25/22 2:04	05252202.D	CCV C6052522_25ng	S35-04032201/S35-04132211 (6/13)	WA/CG	16	*Passed*
3	5/25/22 2:38	05252203.D	MB R16052522_1000mL	S35-04032201	WA/CG	2	*Passed*
4	5/25/22 3:12	05252204.D	LCS R16052522_25ng	S35-04032201/S35-05192203 (6/18)	WA/CG	2	*Passed*
5	5/25/22 3:46	05252205.D	LCSD R16052522_25ng	S35-04032201/S35-05192203 (6/18)	WA/CG	2	*Passed*
6	5/25/22 4:20	05252206.D	Blank	S35-04032201/S35-05192203 (6/18)	WA/CG	2	
7	5/25/22 4:54	05252207.D	P2202176-006 (400mL)	S35-04032201	WA/CG	8	
8	5/25/22 6:15	05252208.D	P2202124-001dil (0.25mL)	S35-04032201	WA/CG	1	*not used*
9	5/25/22 6:49	05252209.D	P2202124-001 (1.0mL)	S35-04032201	WA/CG	1	
10	5/25/22 7:22	05252210.D	RL R16052522_0.5ng	S35-04032201/S35-04282207 (5/28)	WA/CG	15	*Passed*
11	5/25/22 8:06	05252211.D	P2202124-001dil (0.40mL)	S35-04032201	WA/CG	1	
12	5/25/22 8:48	05252212.D	P2202301-002 (100mL)	S35-04032201	WA/CG	4	
13	5/25/22 9:22	05252213.D	P2202301-001 (1000mL)	S35-04032201	WA/CG	3	
14	5/25/22 9:55	05252214.D	P2202301-002dil (15mL)	S35-04032201	WA/CG	4	
15	5/25/22 10:30	05252215.D	P2202169-001 (400mL)	S35-04032201	WA/CG	5	
16	5/25/22 11:03	05252216.D	P2202169-001dil (40mL)	S35-04032201	WA/CG	5	
17	5/25/22 11:37	05252217.D	P2202143-001 (1000mL)	S35-04032201	WA/CG	6	
18	5/25/22 12:22	05252218.D	P2202277-001 (1000mL)	S35-04032201	WA/CG	3	
19	5/25/22 12:55	05252219.D	P2202277-005 (1000mL)	S35-04032201	WA/CG	4	
20	5/25/22 13:29	05252220.D	CCVend R16052522_25ng	S35-04032201/S35-05242205 (6/23)	WA/CG	2	*Passed*
21	5/25/22 14:03	05252221.D	P2202277-001dil (100mL)	S35-04032201	WA/CG	3	
22	5/25/22 14:38	05252222.D	P2202276-023 (7.5mL)	S35-04032201	WA/CG	1	
23	5/25/22 15:12	05252223.D	P2202276-025 (7.5mL)	S35-04032201	WA/CG	1	
24	5/25/22 15:50	05252224.D	P2202276-025dil (2.0mL)	S35-04032201	WA/CG	1	
25	5/25/22 16:45	05252225.D	P2202276-021 (1000mL)	S35-04032201	WA/CG	8	
26	5/25/22 17:19	05252226.D	P2202166-001 (1000mL)	S35-04032201	WA/CG	3	
27	5/25/22 17:54	05252227.D	P2202166-001dup (1000mL)	S35-04032201	WA/CG	3	*Passed*
28	5/25/22 18:28	05252228.D	P2202166-002 (1000mL)	S35-04032201	WA/CG	4	
29	5/25/22 19:02	05252229.D	P2202166-003 (1000mL)	S35-04032201	WA/CG	5	
30	5/25/22 19:36	05252230.D	P2202276-022 (100mL)	S35-04032201	WA/CG	9	
31	5/25/22 20:10	05252231.D	P2202166-004 (1000mL)	S35-04032201	WA/CG	6	
32	5/25/22 20:44	05252232.D	P2202166-005 (1000mL)	S35-04032201	WA/CG	7	
33	5/25/22 21:18	05252233.D	P2202276-022dil (25mL)	S35-04032201	WA/CG	9	*not used*
34	5/25/22 21:51	05252234.D	P2202276-024 (100mL)	S35-04032201	WA/CG	10	
35	5/25/22 22:25	05252235.D	P2202276-022dil (15mL)	S35-04032201	WA/CG	9	
36	5/25/22 23:00	05252236.D	P2202276-026 (1000mL)	S35-04032201	WA/CG	11	
37	5/25/22 23:34	05252237.D	P2202276-027 (100mL)	S35-04032201	WA/CG	12	
	CCV : hexachlorobutadiene out low (w/ passing RL check-----> sampled ND)						
	CCVend : ethyl acetate out high						

Injection Log

Directory: I:\MS16\DATA\2022_05\25\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	*Comment*
	LCS (DoD) : ethyl acetate above curreny; w/in 130%						
							LDA 5/26/22

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-11
Cycles: 30
Batch: 29270

Batch Started By: ANAKLOWYCZ on 4/19/22 0842
Finished Cleaning By: ALESAICHERRE on 4/20/22 0634

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS01510	4/19/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0634	ALESAICHERRE				ms21-04/19/22
AS00977	4/19/22		Pass w/ Conditions	-14.3	4/20/22 0634	ALESAICHERRE	-14.0	5/11/22 0203		
AC02473	4/19/22		Pass w/ Conditions	-14.3	4/20/22 0634	ALESAICHERRE	-14.0	5/4/22 0232		
AS00563	4/19/22		Pass w/ Conditions	-14.3	4/20/22 0634	ALESAICHERRE	-14.0	4/28/22 1034		
AS01613	4/19/22		Pass w/ Conditions	-14.3	4/20/22 0634	ALESAICHERRE	-14.0	4/28/22 0136		
AS01291	4/19/22		Pass w/ Conditions	-14.3	4/20/22 0634	ALESAICHERRE	-14.0	5/11/22 0203		
AC02194	4/19/22		Pass w/ Conditions	-14.3	4/20/22 0634	ALESAICHERRE	-14.0	4/28/22 0136		
AS01094	4/19/22		Pass w/ Conditions	-14.3	4/20/22 0634	ALESAICHERRE	-14.0	4/28/22 1034		
AC01831	4/19/22		Pass w/ Conditions	-14.3	4/20/22 0634	ALESAICHERRE	-14.0	5/11/22 0203		
AC02413	4/19/22		Pass w/ Conditions	-14.3	4/20/22 0634	ALESAICHERRE	-14.0	5/4/22 0232		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 04\19\
Data File : 04192213.D
Acq On : 19 Apr 2022 17:09
Operator : RVT/KM
Sample : 041922 AS01510 29270
Misc : LL + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 8 Sample Multiplier: 1

APL 4/20/22

Quant Time: Apr 20 04:51:35 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.75	130	38209	1000.000	pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.93	114	116341	1000.000	pg	0.00
56) Chlorobenzene-d5 (IS3)	14.88	54	17435	1000.000	pg	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4 ...	8.58	65	64800	954.363	pg	0.00
Spiked Amount 1000.000			Recovery = 95.44%			
57) Toluene-d8 (SS2)	12.83	98	134462	1498.438	pg	0.00
Spiked Amount 1000.000			Recovery = 149.84%			
74) Bromofluorobenzene (SS3)	16.29	174	25050	855.928	pg	0.00
Spiked Amount 1000.000			Recovery = 85.59%			

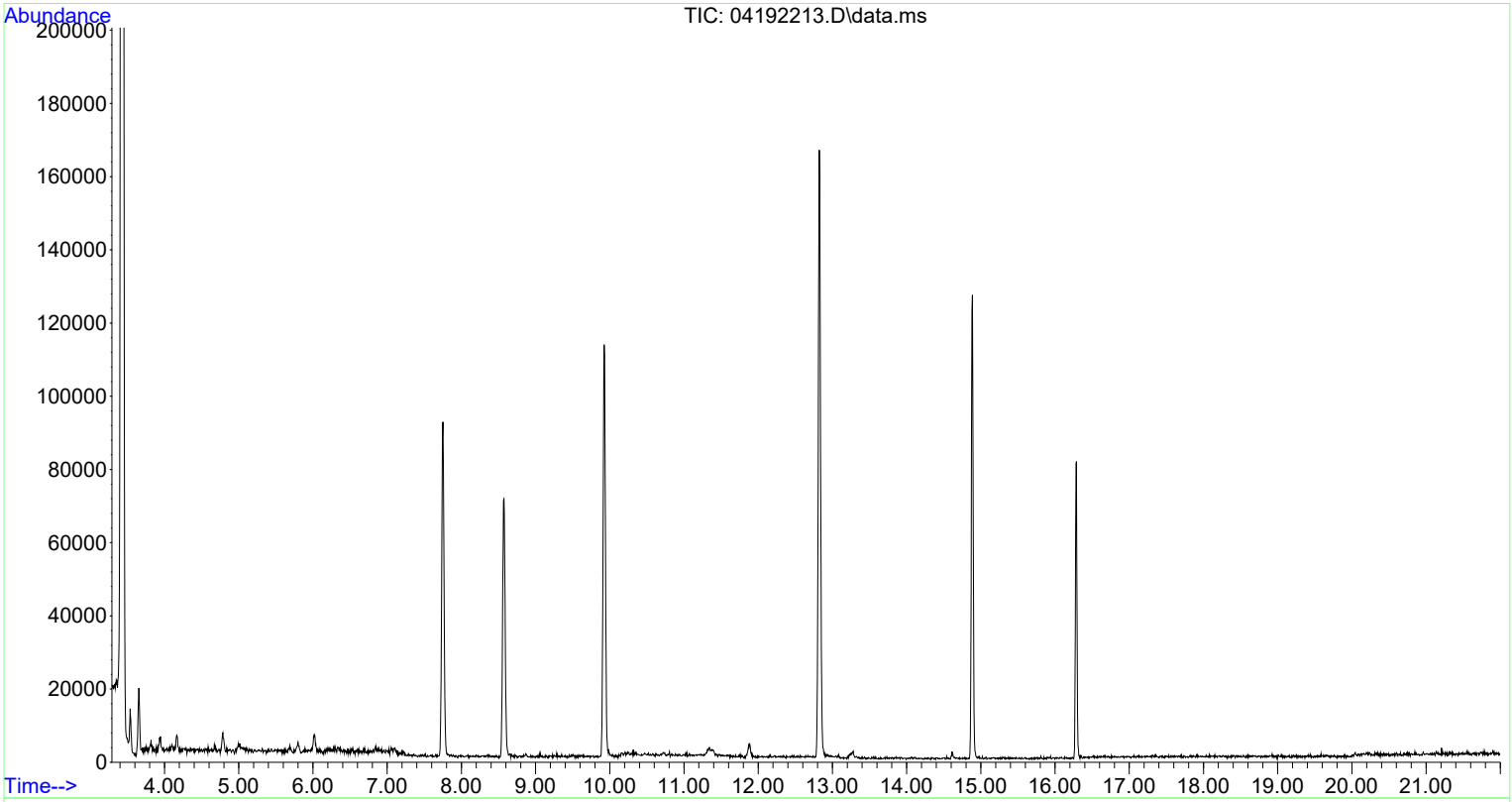
Target Compounds	Qvalue

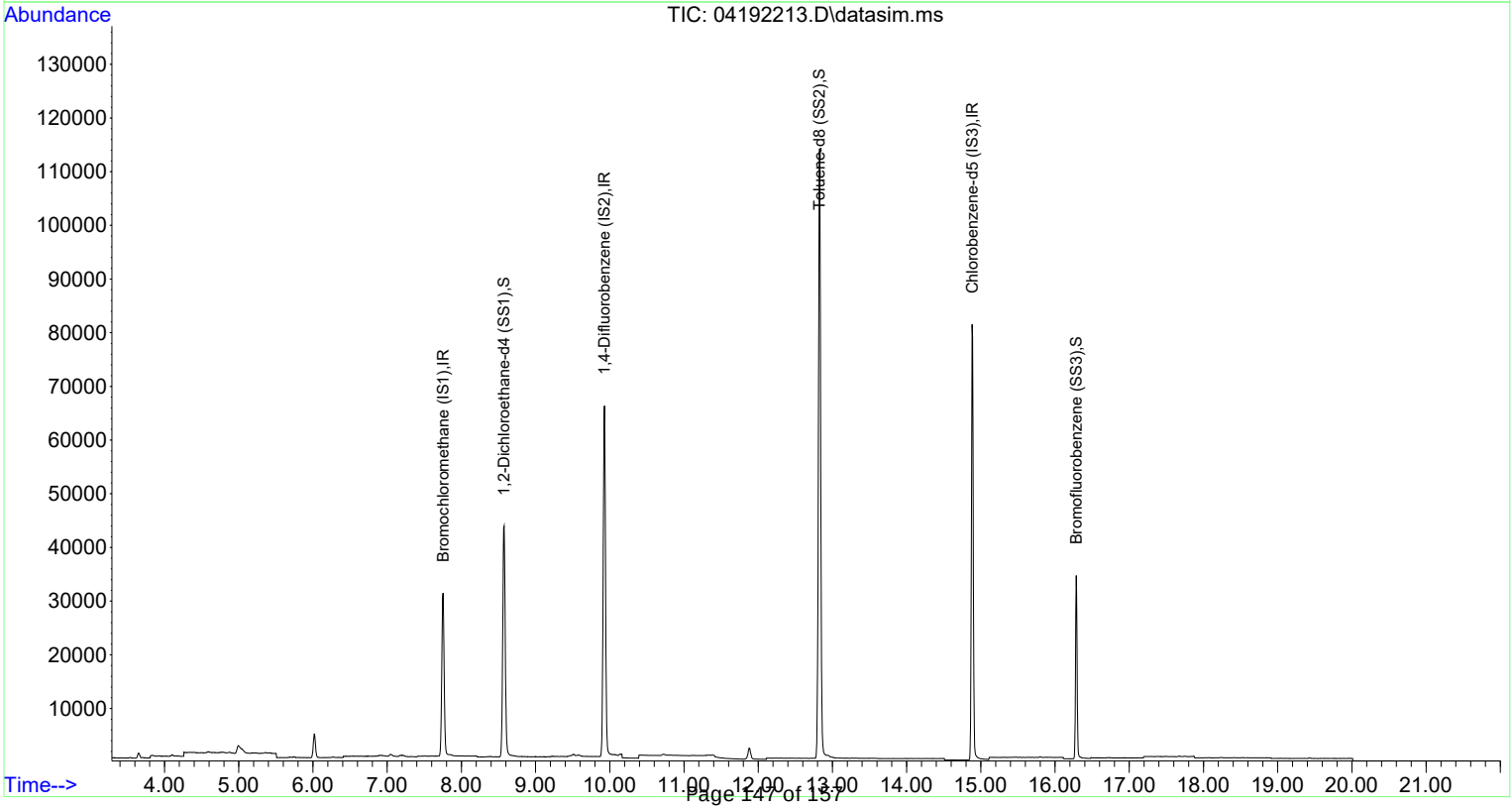
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 04\19\
Data File : 04192213.D
Acq On : 19 Apr 2022 17:09
Operator : RVT/KM
Sample : 041922 AS01510 29270
Misc : LL + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 20 04:51:35 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 29234

Batch Started By: **on 4/12/22 0410**
Finished Cleaning By: **on 5/11/22 0202**

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS01288	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202					ms21-04/13/22
AS00167	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	5/3/22 0226		
AS01653	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-8.0	4/28/22 0858		
AS01540	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	5/3/22 0226		
AS00813	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	5/11/22 0203		
AS01268	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	5/3/22 0226		
AS01131	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	5/3/22 0226		
AS01422	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	5/11/22 0856		
AS00829	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	4/28/22 0857		
AS00709	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	5/3/22 0226		
AS01315	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	5/3/22 0226		
AS01110	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	5/6/22 1247		
AS00326	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	5/6/22 1248		
AS01479	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	5/6/22 1248		
AS00969	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	5/6/22 1248		GC22_041522
AS00826	4/12/22	4/13/22	Pass w/ Conditions	-14.3	5/11/22 0202		-14.0	4/28/22 0857		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 04\13\
Data File : 04132212.D
Acq On : 13 Apr 2022 17:30
Operator : RVT/KM
Sample : 041322 AS01288 29234
Misc : SIM + TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 7 Sample Multiplier: 1

4/14/22

Quant Time: Apr 14 05:11:44 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration

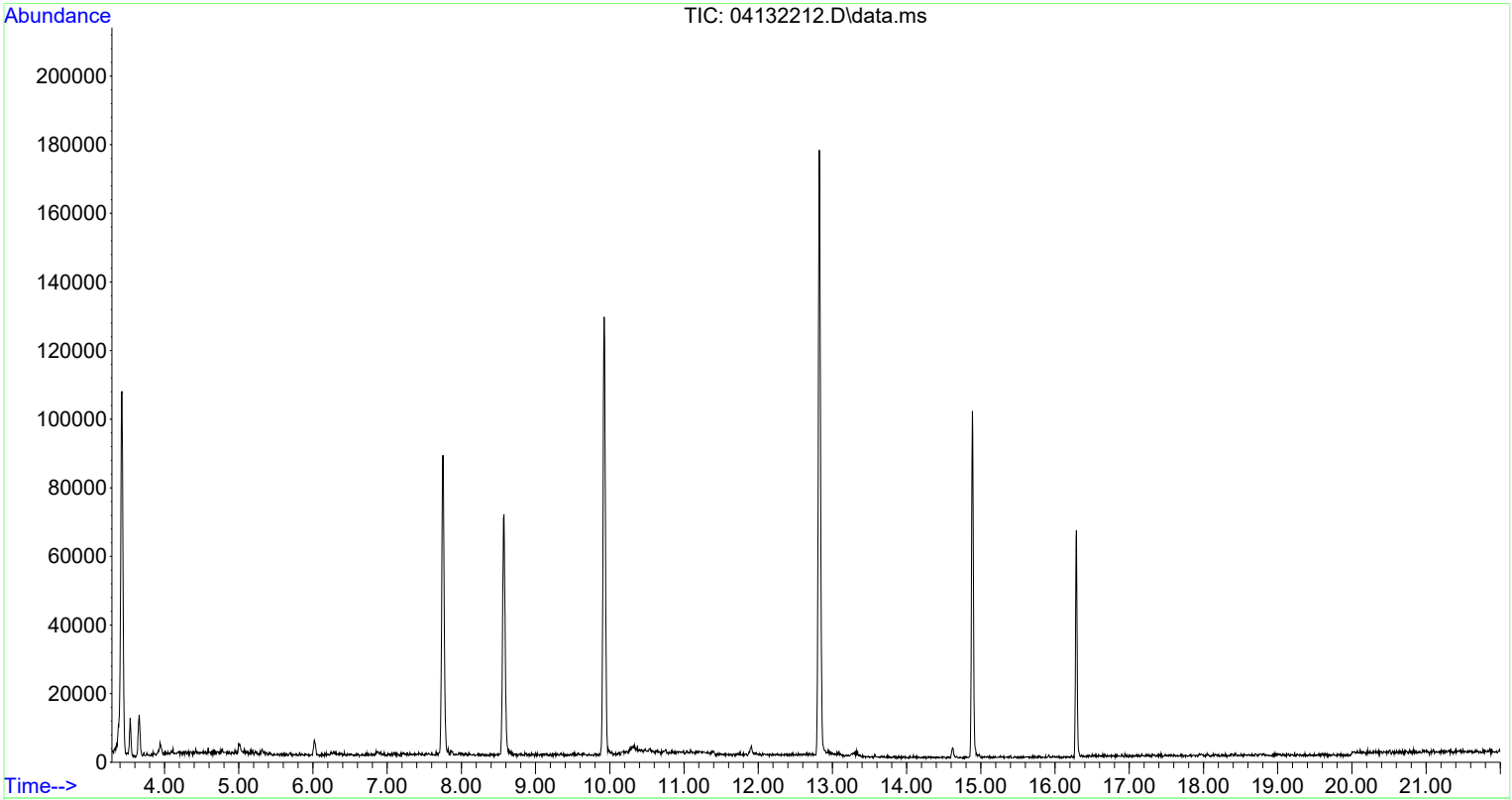
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane (IS1)	7.753	130	39479	1000.00	pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.927	114	131945	1000.00	pg	0.00
56) Chlorobenzene-d5 (IS3)	14.888	54	15185	1000.00	pg	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4 ...	8.570	65	64813	923.85	pg	0.00
Spiked Amount 1000.000			Recovery = 92.39%			
57) Toluene-d8 (SS2)	12.827	98	143195	1832.21	pg	0.00
Spiked Amount 1000.000			Recovery = 183.22%			
74) Bromofluorobenzene (SS3)	16.285	174	20262	794.91	pg	0.00
Spiked Amount 1000.000			Recovery = 79.49%			
Target Compounds						Qvalue
13] * Acetone	5.014	58	1732	34.98	pg	# 47
22] * Carbon Disulfide	6.021	76	6628	29.02	pg	99
53] * 4-Methyl-2-pentanone	11.905	58	884	26.71	pg	100

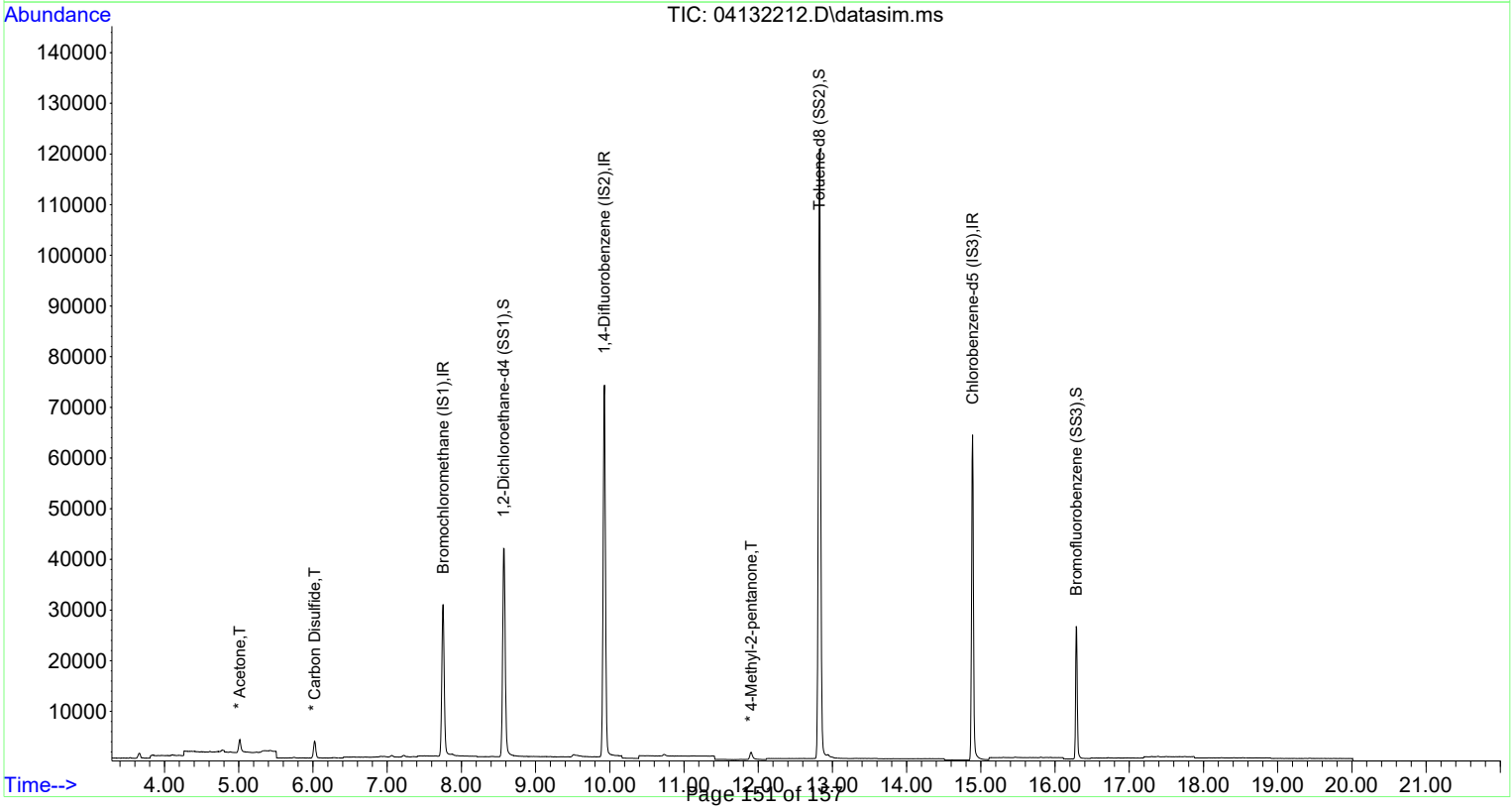
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 04\13\
Data File : 04132212.D
Acq On : 13 Apr 2022 17:30
Operator : RVT/KM
Sample : 041322 AS01288 29234
Misc : SIM + TICS (Sig #1); S35-02102202 (Sig #2)
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 14 05:11:44 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 04\19\
Data File : 04192209.D
Acq On : 19 Apr 2022 14:24
Operator : RVT/KM
Sample : 041422 AS00113 29244
Misc : LL + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

APL 4/20/22

Quant Time: Apr 20 04:43:36 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration

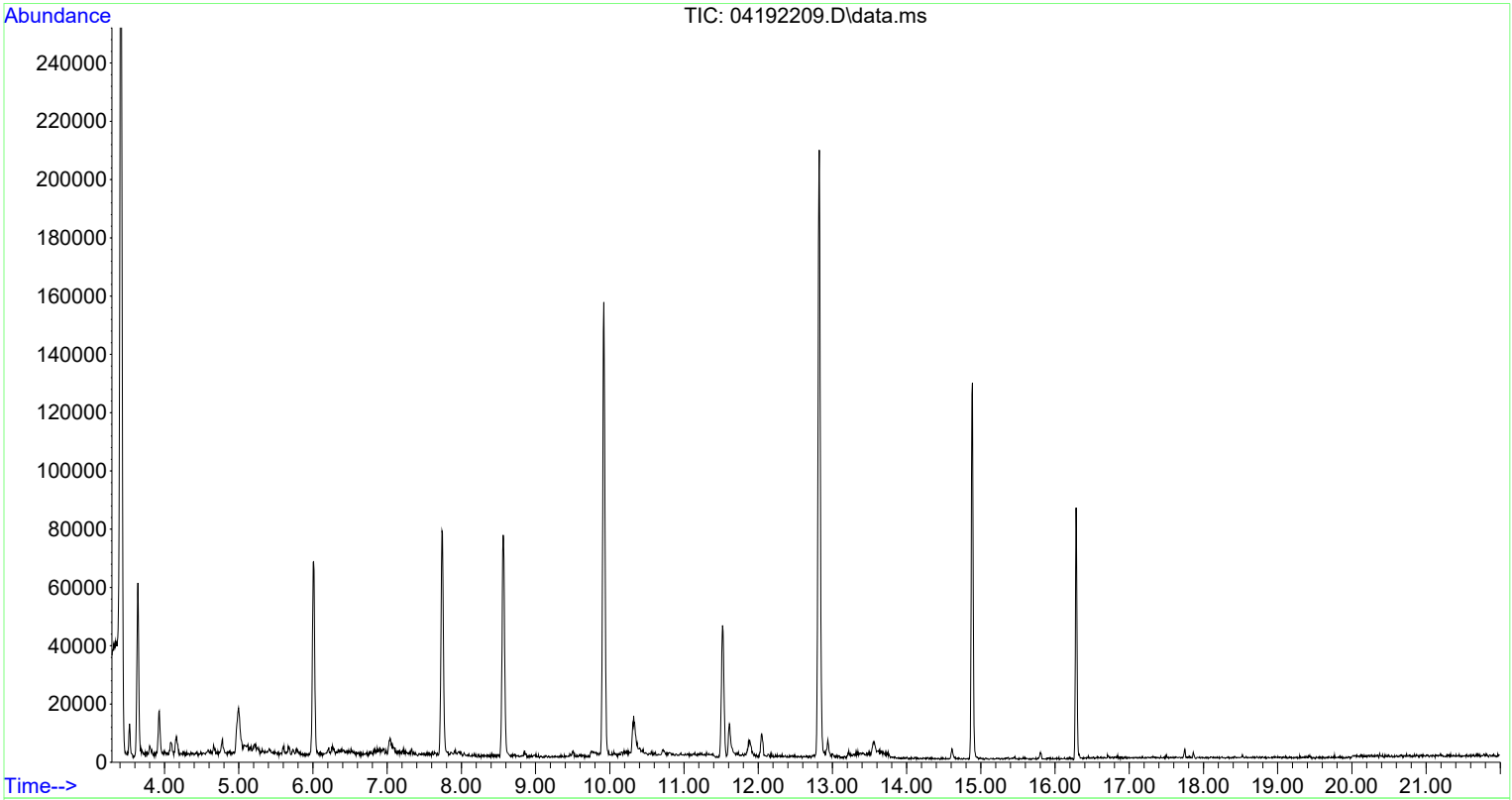
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.74	130	40569	1000.000	pg	-0.02
37) 1,4-Difluorobenzene (IS2)	9.92	114	160469	1000.000	pg	0.00
56) Chlorobenzene-d5 (IS3)	14.88	54	17852	1000.000	pg	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4 ...	8.57	65	67688	938.905	pg	-0.01
Spiked Amount 1000.000			Recovery = 93.89%			
57) Toluene-d8 (SS2)	12.82	98	171032	1861.451	pg	-0.01
Spiked Amount 1000.000			Recovery = 186.15%			
74) Bromofluorobenzene (SS3)	16.28	174	26044	869.105	pg	0.00
Spiked Amount 1000.000			Recovery = 86.91%			
Target Compounds						Qvalue
22) * Carbon Disulfide	6.01	76	118582	505.180	pg	99

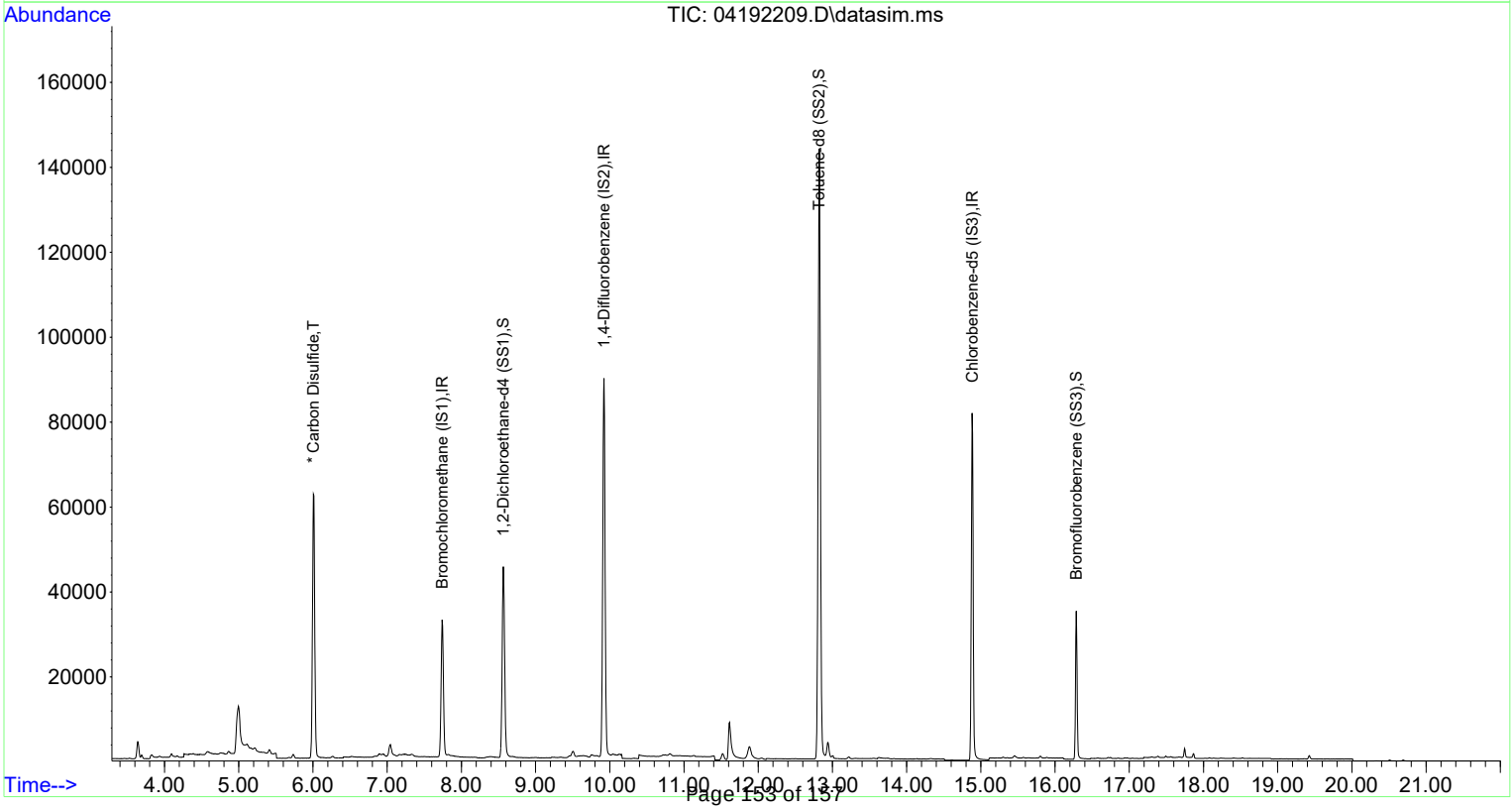
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 04\19\
Data File : 04192209.D
Acq On : 19 Apr 2022 14:24
Operator : RVT/KM
Sample : 041422 AS00113 29244
Misc : LL + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 20 04:43:36 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-03
Cycles: 30
Batch: 29244

Batch Started By: on 4/13/22 0430
Finished Cleaning By: ALESAICHERRE on 4/20/22 0630

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS00113	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE				ms21-04/19/22
AS01331	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE	-14.0	4/25/22 0843		
AS00399	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE	-14.0	4/22/22 0838		
AC00917	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE	-14.0	4/22/22 0838		
AC01638	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE				
AC02242	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE	-14.0	4/25/22 0843		
AC01076	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE	-14.0	4/22/22 0838		
AC02282	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE				
AC02124	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE	-14.0	4/28/22 0914		
AC02132	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE	-14.0	4/21/22 1017		
AC01049	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE	-14.0	4/22/22 0838		
AC02482	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE				
AC02339	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE	-14.0	4/22/22 0838		
AC01795	4/13/22	4/19/22	Pass w/ Conditions	-14.3	4/20/22 0630	ALESAICHERRE				

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-03
Cycles: 30
Batch: 29267

Batch Started By: **on 4/18/22 0357**
Finished Cleaning By: **on 5/12/22 0903**

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS01462	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903					ms21-04/19/22
AS01490	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903		-14.0	5/12/22 0904		
AS01555	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903		-14.0	5/12/22 0904		
AC02289	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903		-14.0	5/12/22 0904		
AC02282	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903		-14.0	5/12/22 0904		
AS00979	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903		-14.0	5/12/22 0904		
AC01795	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903		-14.0	5/11/22 0203		
AC02482	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903		-14.0	5/12/22 0904		
AC01570	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903		-14.0	5/12/22 0904		
AC02452	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903		-14.0	5/12/22 0904		
AC01932	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903		-14.0	5/12/22 0904		
AC00819	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903		-14.0	5/12/22 0904		
AS00617	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903		-14.0	5/12/22 0904		
AC02215	4/18/22	4/19/22	Pass w/ Conditions	-14.3	5/12/22 0903		-14.0	5/12/22 0904		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 04\19\
Data File : 04192210.D
Acq On : 19 Apr 2022 15:08
Operator : RVT/KM
Sample : 041922 AS01462 29267
Misc : LL + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

4/20/22

Quant Time: Apr 20 04:44:57 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.75	130	36906	1000.000	pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.92	114	147321	1000.000	pg	0.00
56) Chlorobenzene-d5 (IS3)	14.88	54	17116	1000.000	pg	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4 ...	8.57	65	52591	801.897	pg	0.00
Spiked Amount 1000.000			Recovery = 80.19%			
57) Toluene-d8 (SS2)	12.82	98	158293	1796.886	pg	0.00
Spiked Amount 1000.000			Recovery = 179.69%			
74) Bromofluorobenzene (SS3)	16.29	174	25520	888.239	pg	0.00
Spiked Amount 1000.000			Recovery = 88.82%			

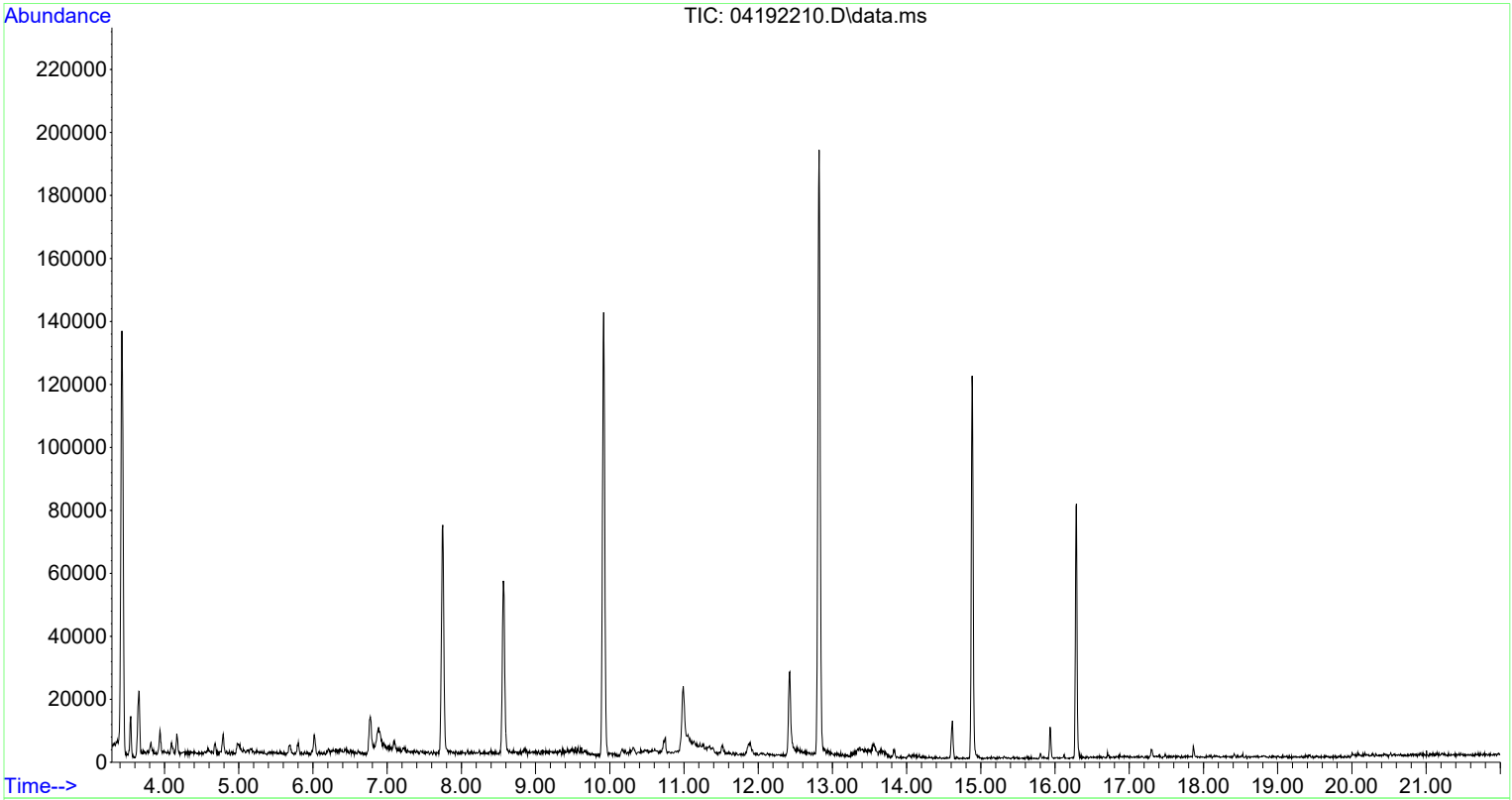
Target Compounds	Qvalue

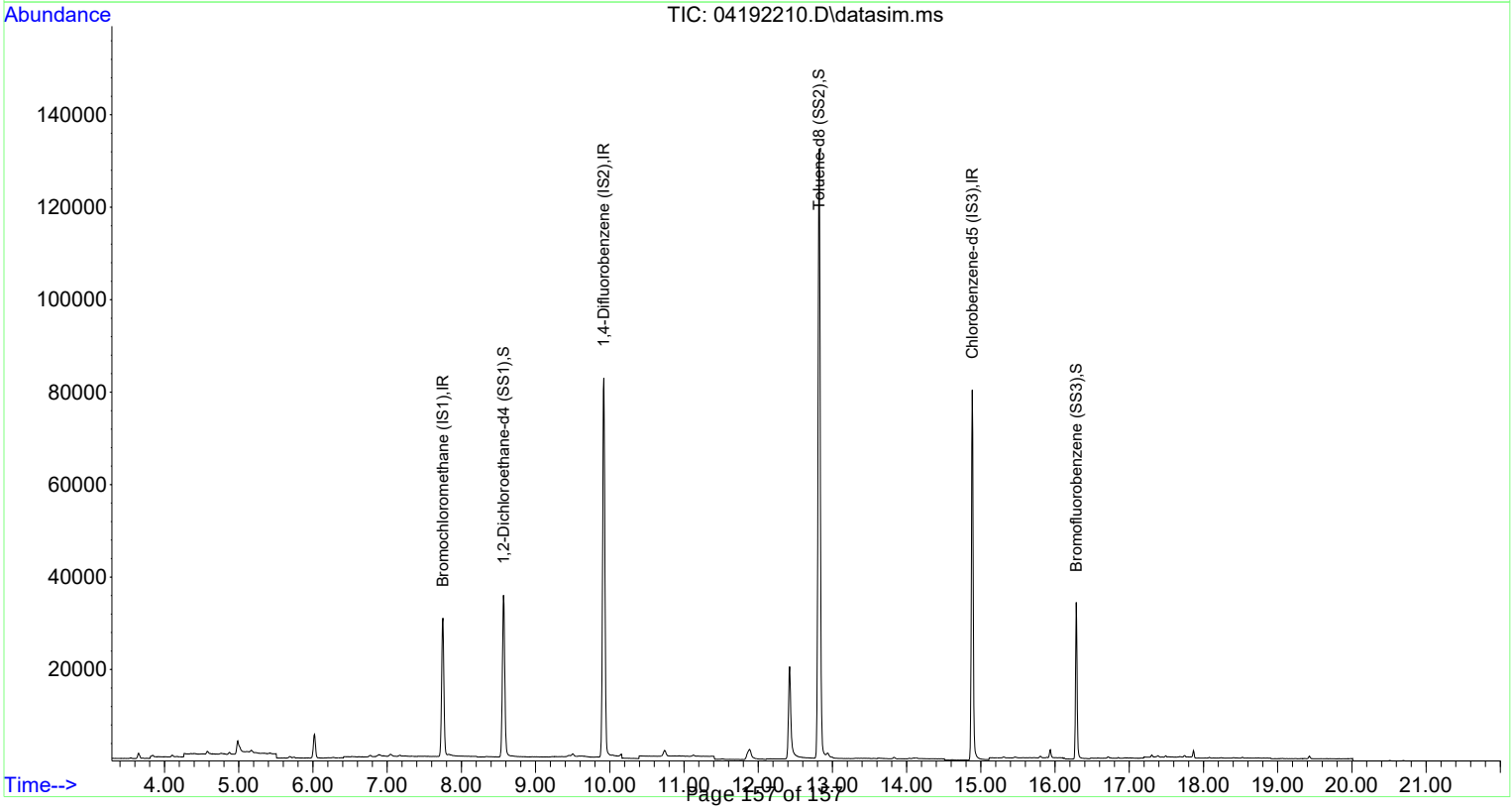
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 04\19\
Data File : 04192210.D
Acq On : 19 Apr 2022 15:08
Operator : RVT/KM
Sample : 041922 AS01462 29267
Misc : LL + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 20 04:44:57 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

June 16, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on May 27, 2022. For your reference, these analyses have been assigned our service request number P2202388.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 5:25 pm, Jun 16, 2022

Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2202388
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on May 27, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The upper control criterion was exceeded for ethyl acetate in the Continuing Calibration Verification (CCV) and for vinyl acetate in the Laboratory Control samples (LCS/LCSD) analyzed on June 9, 2022. Since the apparent problem equates to a potential high bias and the field samples analyzed in this sequence did not contain the analytes in question, the data quality is not affected. No corrective action was required.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2202388
Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 5/27/2022
Time Received: 12:38

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_052722_S	P2202388-001	Air	5/27/2022	11:00	AS00754	-1.34	4.04	X
DOE-2_052722_S	P2202388-002	Air	5/27/2022	11:15	AC01149	-1.18	4.11	X
DOE-3_052722_S	P2202388-003	Air	5/27/2022	11:30	AC01306	-0.93	4.22	X
DOE-4_052722_S	P2202388-004	Air	5/27/2022	11:45	AS00903	-1.60	4.17	X
DOE-3_052722_D	P2202388-005	Air	5/27/2022	11:31	AC02467	-0.35	4.98	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

P2202388

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No.

Company Name & Address (Reporting Information)	North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304
Project Manager	Trina Cesnik
Phone	805-587-0691
Fax	
Email Address for Result Reporting	cchristensen@northwindgrp.com; denise.gonzalez@northwindg
Project Name	DOE Perimeter Air
Project Number	080153.015.15
P.O. # / Billing Information	PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Sampler (Print & Sign)	T. Stewart Willford
ALS Contact:	Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_052722_S	1	5/27/2022	1100	AS00754	SFC00556	-29.0	-2.5		X		
DOE-2_052722_S	2	5/27/2022	1115	AC01149	SFC00495	-29.5	-2.5		X		
DOE-3_052722_S	3	5/27/2022	1130	AC01306	SFC00450	-28.5	-1.5		X		
DOE-4_052722_S	4	5/27/2022	1145	AS00903	SFC00485	-29.5	-3.0		X		
DOE-3_052722_D	5	5/27/2022	1131	AC02467	SFC00609	-28.5	-1.5		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) 10% Surcharge ✓

EDD required Yes / No
Type: EQuIS Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature) T. Stewart Willford	Date: 5/27/22	Time:	Received by: (Signature)	Date: 5/27	Time: 1238	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2202388

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 5/27/22 Date opened: 5/27/22 by: KYLE.WOODIN

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2202388-001.01	6.0 L Silonite Can					
P2202388-002.01	6.0 L Ambient Can					
P2202388-003.01	6.0 L Ambient Can					
P2202388-004.01	6.0 L Silonite Can					
P2202388-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_052722_S** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-001

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/9/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00754

Initial Pressure (psig): -1.34 Final Pressure (psig): 4.04

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	0.74	**0.51**	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.76	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.71	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.61	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.73	**0.22**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.0	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.47	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.18	
141-78-6	Ethyl Acetate	**12**	2.9	**3.3**	0.82	**V**
110-54-3	n-Hexane	ND	0.74	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased high) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_052722_S** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-001

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/9/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00754

Initial Pressure (psig): -1.34 Final Pressure (psig): 4.04

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.76	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.47	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.70	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	ND	0.73	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	
142-82-5	n-Heptane	ND	0.74	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.71	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	ND	0.73	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.087	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.095	
111-65-9	n-Octane	ND	0.74	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.73	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_052722_S** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-001

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/9/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00754

Initial Pressure (psig): -1.34 Final Pressure (psig): 4.04

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.73	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.73	ND	0.070	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	o-Xylene	ND	0.73	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.74	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.74	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.73	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.73	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.21	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.068	
104-51-8	n-Butylbenzene	ND	0.73	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.74	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_052722_S** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-002

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01149

Initial Pressure (psig): -1.18 Final Pressure (psig): 4.11

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	0.74	**0.50**	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.75	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.72	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.72	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.71	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.61	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.72	**0.22**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.64	
75-35-4	1,1-Dichloroethene	ND	0.75	ND	0.19	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.75	ND	0.098	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.20	
108-05-4	Vinyl Acetate	ND	7.0	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.47	
156-59-2	cis-1,2-Dichloroethene	ND	0.72	ND	0.18	
141-78-6	Ethyl Acetate	**8.1**	2.9	**2.3**	0.81	**V**
110-54-3	n-Hexane	ND	0.74	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased high) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_052722_S** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-002

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01149

Initial Pressure (psig): -1.18 Final Pressure (psig): 4.11

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.75	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.47	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.72	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.70	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	ND	0.72	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.72	ND	0.20	
142-82-5	n-Heptane	ND	0.74	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.71	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.72	ND	0.13	
108-88-3	Toluene	ND	0.72	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.087	
106-93-4	1,2-Dibromoethane	ND	0.72	ND	0.094	
111-65-9	n-Octane	ND	0.74	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.72	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_052722_S** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-002

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01149

Initial Pressure (psig): -1.18 Final Pressure (psig): 4.11

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.72	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.72	ND	0.070	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	o-Xylene	ND	0.72	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.72	ND	0.11	
98-82-8	Cumene	ND	0.72	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.74	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.74	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.72	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.72	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.72	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.72	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.72	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.72	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.21	
91-20-3	Naphthalene	ND	0.72	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.72	ND	0.068	
104-51-8	n-Butylbenzene	ND	0.72	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.74	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_052722_S** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-003

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/10/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01306

Initial Pressure (psig): -0.93 Final Pressure (psig): 4.22

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	0.73	**0.51**	0.15	
74-87-3	Chloromethane	ND	0.70	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.74	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.71	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.71	ND	0.32	
74-83-9	Bromomethane	ND	0.70	ND	0.18	
75-00-3	Chloroethane	ND	0.70	ND	0.26	
107-02-8	Acrolein	ND	1.4	ND	0.60	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.71	**0.22**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.56	
107-13-1	Acrylonitrile	ND	1.4	ND	0.63	
75-35-4	1,1-Dichloroethene	ND	0.74	ND	0.19	
75-09-2	Methylene Chloride	ND	0.71	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.74	ND	0.097	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	0.73	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.73	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.73	ND	0.20	
108-05-4	Vinyl Acetate	ND	6.9	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.46	
156-59-2	cis-1,2-Dichloroethene	ND	0.71	ND	0.18	
141-78-6	Ethyl Acetate	**7.8**	2.9	**2.2**	0.80	**V**
110-54-3	n-Hexane	ND	0.73	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased high) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_052722_S** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-003

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/10/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01306

Initial Pressure (psig): -0.93 Final Pressure (psig): 4.22

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.74	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.46	
107-06-2	1,2-Dichloroethane	ND	0.73	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.71	ND	0.13	
71-43-2	Benzene	ND	0.69	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.69	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.69	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.73	ND	0.11	
79-01-6	Trichloroethene	ND	0.71	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.71	ND	0.20	
142-82-5	n-Heptane	ND	0.73	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.69	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.70	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.71	ND	0.13	
108-88-3	Toluene	ND	0.71	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.73	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.71	ND	0.093	
111-65-9	n-Octane	ND	0.73	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.71	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_052722_S** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-003

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/10/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01306

Initial Pressure (psig): -0.93 Final Pressure (psig): 4.22

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.71	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.71	ND	0.069	
100-42-5	Styrene	ND	0.69	ND	0.16	
95-47-6	o-Xylene	ND	0.71	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.71	ND	0.10	
98-82-8	Cumene	ND	0.71	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.73	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.73	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.71	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.71	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.71	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.71	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.71	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.71	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.73	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.71	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.71	ND	0.067	
104-51-8	n-Butylbenzene	ND	0.71	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.73	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_052722_S** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-004

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00903

Initial Pressure (psig): -1.60 Final Pressure (psig): 4.17

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.6**	0.76	**0.52**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.78	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.63	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.75	**0.22**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.59	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.75	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.2	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	**9.6**	3.0	**2.7**	0.84	**V**
110-54-3	n-Hexane	ND	0.76	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased high) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_052722_S** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-004

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00903

Initial Pressure (psig): -1.60 Final Pressure (psig): 4.17

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.78	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.75	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.75	ND	0.14	
108-88-3	Toluene	ND	0.75	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.75	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.75	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_052722_S** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-004

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00903

Initial Pressure (psig): -1.60 Final Pressure (psig): 4.17

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.75	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.75	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.75	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.75	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.75	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.75	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.75	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.75	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.76	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_052722_D** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-005

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/10/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02467

Initial Pressure (psig): -0.35 Final Pressure (psig): 4.98

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.6**	0.73	**0.52**	0.15	
74-87-3	Chloromethane	ND	0.70	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.74	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.71	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.71	ND	0.32	
74-83-9	Bromomethane	ND	0.70	ND	0.18	
75-00-3	Chloroethane	ND	0.70	ND	0.26	
107-02-8	Acrolein	ND	1.4	ND	0.60	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.71	**0.22**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.56	
107-13-1	Acrylonitrile	ND	1.4	ND	0.63	
75-35-4	1,1-Dichloroethene	ND	0.74	ND	0.19	
75-09-2	Methylene Chloride	ND	0.71	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.74	ND	0.097	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	0.73	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.73	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.73	ND	0.20	
108-05-4	Vinyl Acetate	ND	6.9	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.46	
156-59-2	cis-1,2-Dichloroethene	ND	0.71	ND	0.18	
141-78-6	Ethyl Acetate	**20**	2.9	**5.5**	0.80	**V**
110-54-3	n-Hexane	ND	0.73	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased high) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_052722_D** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-005

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/10/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02467

Initial Pressure (psig): -0.35 Final Pressure (psig): 4.98

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.74	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.46	
107-06-2	1,2-Dichloroethane	ND	0.73	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.71	ND	0.13	
71-43-2	Benzene	ND	0.69	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.69	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.69	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.73	ND	0.11	
79-01-6	Trichloroethene	ND	0.71	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.71	ND	0.20	
142-82-5	n-Heptane	ND	0.73	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.69	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.70	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.71	ND	0.13	
108-88-3	Toluene	ND	0.71	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.73	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.71	ND	0.093	
111-65-9	n-Octane	ND	0.73	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.71	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_052722_D** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202388-005

Test Code: EPA TO-15 Date Collected: 5/27/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 5/27/22
Analyst: Wida Ang Date Analyzed: 6/10/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02467

Initial Pressure (psig): -0.35 Final Pressure (psig): 4.98

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.71	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.71	ND	0.069	
100-42-5	Styrene	ND	0.69	ND	0.16	
95-47-6	o-Xylene	ND	0.71	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.71	ND	0.10	
98-82-8	Cumene	ND	0.71	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.73	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.73	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.71	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.71	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.71	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.71	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.71	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.71	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.73	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.71	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.71	ND	0.067	
104-51-8	n-Butylbenzene	ND	0.71	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.73	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220609-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 6/9/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220609-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 6/9/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220609-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 6/9/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2202388

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 5/27/22
Analyst: Wida Ang Date(s) Received: 5/27/22
Sample Type: 6.0 L Silonite Canister(s) / 6.0 L Summa Canister(s) Date(s) Analyzed: 6/9 - 6/10/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220609-MB	**105**	**89**	**84**	70-130	
Lab Control Sample	P220609-LCS	**105**	**83**	**85**	70-130	
Duplicate Lab Control Sample	P220609-DLCS	**106**	**84**	**85**	70-130	
DOE-1_052722_S	P2202388-001	**105**	**87**	**84**	70-130	
DOE-2_052722_S	P2202388-002	**105**	**87**	**83**	70-130	
DOE-3_052722_S	P2202388-003	**105**	**87**	**82**	70-130	
DOE-4_052722_S	P2202388-004	**107**	**88**	**84**	70-130	
DOE-3_052722_D	P2202388-005	**105**	**88**	**82**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220609-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 6/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	205	209	**99**	**100**	71-112	1	25	
74-87-3	Chloromethane	206	212	224	**103**	**109**	53-126	6	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	209	209	**100**	**100**	62-121	0	25	
75-01-4	Vinyl Chloride	208	231	236	**111**	**113**	63-123	2	25	
106-99-0	1,3-Butadiene	206	236	240	**115**	**117**	63-135	2	25	
74-83-9	Bromomethane	206	200	202	**97**	**98**	71-112	1	25	
75-00-3	Chloroethane	206	215	216	**104**	**105**	66-117	1	25	
107-02-8	Acrolein	416	405	414	**97**	**100**	71-123	3	25	
75-69-4	Trichlorofluoromethane (CFC 11)	202	203	202	**100**	**100**	71-114	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	425	447	**106**	**112**	61-124	6	25	
107-13-1	Acrylonitrile	402	438	447	**109**	**111**	65-130	2	25	
75-35-4	1,1-Dichloroethene	210	205	206	**98**	**98**	74-114	0	25	
75-09-2	Methylene Chloride	208	202	204	**97**	**98**	75-112	1	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	200	199	**93**	**92**	73-114	1	25	
75-15-0	Carbon Disulfide	414	431	434	**104**	**105**	70-113	1	25	
156-60-5	trans-1,2-Dichloroethene	208	217	219	**104**	**105**	76-119	1	25	
75-34-3	1,1-Dichloroethane	214	216	220	**101**	**103**	70-114	2	25	
1634-04-4	Methyl tert-Butyl Ether	206	203	205	**99**	**100**	72-118	1	25	
108-05-4	Vinyl Acetate	942	1290	1310	**137**	**139**	56-137	1	25	**L**
78-93-3	2-Butanone (MEK)	408	428	433	**105**	**106**	74-121	0.9	25	
156-59-2	cis-1,2-Dichloroethene	206	213	216	**103**	**105**	73-117	2	25	
141-78-6	Ethyl Acetate	580	781	788	**135**	**136**	59-161	0.7	25	
110-54-3	n-Hexane	208	254	256	**122**	**123**	55-130	0.8	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220609-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 6/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	210	222	224	**106**	**107**	71-114	0.9	25	
109-99-9	Tetrahydrofuran (THF)	404	422	427	**104**	**106**	73-114	2	25	
107-06-2	1,2-Dichloroethane	210	218	219	**104**	**104**	71-119	0	25	
71-55-6	1,1,1-Trichloroethane	208	206	206	**99**	**99**	73-119	0	25	
71-43-2	Benzene	208	213	216	**102**	**104**	72-113	2	25	
56-23-5	Carbon Tetrachloride	202	198	197	**98**	**98**	67-123	0	25	
110-82-7	Cyclohexane	412	436	441	**106**	**107**	70-119	0.9	25	
78-87-5	1,2-Dichloropropane	206	217	221	**105**	**107**	70-118	2	25	
75-27-4	Bromodichloromethane	208	216	221	**104**	**106**	74-119	2	25	
79-01-6	Trichloroethene	204	210	210	**103**	**103**	74-115	0	25	
123-91-1	1,4-Dioxane	206	214	216	**104**	**105**	77-124	1	25	
142-82-5	n-Heptane	206	212	212	**103**	**103**	70-119	0	25	
10061-01-5	cis-1,3-Dichloropropene	208	225	229	**108**	**110**	81-126	2	25	
108-10-1	4-Methyl-2-pentanone	412	484	491	**117**	**119**	73-129	2	25	
10061-02-6	trans-1,3-Dichloropropene	200	219	221	**110**	**111**	80-127	0.9	25	
79-00-5	1,1,2-Trichloroethane	208	211	212	**101**	**102**	78-117	1	25	
108-88-3	Toluene	206	173	174	**84**	**84**	70-118	0	25	
591-78-6	2-Hexanone	406	414	422	**102**	**104**	74-132	2	25	
124-48-1	Dibromochloromethane	210	169	168	**80**	**80**	69-137	0	25	
106-93-4	1,2-Dibromoethane	208	169	169	**81**	**81**	76-128	0	25	
111-65-9	n-Octane	208	174	178	**84**	**86**	68-120	2	25	
127-18-4	Tetrachloroethene	212	165	165	**78**	**78**	63-130	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220609-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 6/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	206	177	178	**86**	**86**	71-123	0	25	
179601-23-1	m,p-Xylenes	416	367	369	**88**	**89**	67-127	1	25	
75-25-2	Bromoform	210	167	166	**80**	**79**	65-149	1	25	
100-42-5	Styrene	202	173	174	**86**	**86**	76-132	0	25	
95-47-6	o-Xylene	208	184	185	**88**	**89**	69-124	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	187	189	**90**	**91**	69-128	1	25	
98-82-8	Cumene	206	181	182	**88**	**88**	69-125	0	25	
103-65-1	n-Propylbenzene	208	185	187	**89**	**90**	70-127	1	25	
622-96-8	4-Ethyltoluene	208	184	186	**88**	**89**	69-127	1	25	
108-67-8	1,3,5-Trimethylbenzene	208	185	187	**89**	**90**	66-129	1	25	
95-63-6	1,2,4-Trimethylbenzene	206	207	209	**100**	**101**	63-142	1	25	
100-44-7	Benzyl Chloride	416	436	448	**105**	**108**	73-145	3	25	
541-73-1	1,3-Dichlorobenzene	208	189	191	**91**	**92**	67-136	1	25	
106-46-7	1,4-Dichlorobenzene	210	175	177	**83**	**84**	63-134	1	25	
135-98-8	sec-Butylbenzene	204	190	192	**93**	**94**	68-130	1	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	184	185	**89**	**90**	60-139	1	25	
95-50-1	1,2-Dichlorobenzene	210	191	193	**91**	**92**	64-139	1	25	
120-82-1	1,2,4-Trichlorobenzene	420	357	359	**85**	**85**	62-154	0	25	
91-20-3	Naphthalene	210	177	179	**84**	**85**	62-156	1	25	
87-68-3	Hexachlorobutadiene	212	154	156	**73**	**74**	55-142	1	25	
104-51-8	n-Butylbenzene	208	189	191	**91**	**92**	70-131	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2202388
Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 06092234.D
Analyst: Wida Ang Date Analyzed: 6/9/22
Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 20:01
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	132734		11.32	584758		13.43		153744		17.73	
	Upper Limit	185828		11.65	818661		13.76		215242		18.06	
	Lower Limit	79640		10.99	350855		13.10		92246		17.40	
	Client Sample ID											
01	Method Blank	120449		11.30	530740		13.42		136043		17.73	
02	Lab Control Sample	127251		11.32	561258		13.43		156604		17.73	
03	DOE-1_052722_S	117529		11.30	518690		13.42		138979		17.73	
04	DOE-2_052722_S	115079		11.30	511873		13.42		137672		17.73	
05	DOE-3_052722_S	114932		11.30	507342		13.42		138459		17.73	
06	DOE-4_052722_S	112883		11.30	504441		13.42		136024		17.73	
07	DOE-3_052722_D	115515		11.30	513104		13.43		135425		17.73	
08	Duplicate Lab Control Sample	125069		11.32	552592		13.43		154439		17.73	
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092239.D Vial: 6
Acq On : 9 Jun 2022 22:53 Operator: WA/CG
Sample : P2202388-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 12 11:10:55 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) WA 6/12/22
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	117529	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	518690	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	138979	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	220175	13.134	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%				
57) Toluene-d8 (SS2)	15.88	98	575283	10.935	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%				
73) Bromofluorobenzene (SS3)	19.11	174	201361	10.501	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.00%				
Target Compounds							Qvalue
2) Propene	4.21	42	6769	N.D.			
3) Dichlorodifluoromethan...	4.36	85	47163	1.787	ng		99
4) Chloromethane	4.64	50	6477	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1078	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.78	94	440	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.46	45	35179	2.495	ng		95
11) Acetonitrile	6.74	41	4787	N.D.			
12) Acrolein	6.95	56	2095	N.D.			
13) Acetone	7.15	58	47274	4.280	ng	#	76
14) Trichlorofluoromethane	7.39	101	20669	0.888	ng		96
15) 2-Propanol (Isopropanol)	7.67	45	11514	N.D.			
16) Acrylonitrile	7.92	53	503	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.61	59	330	N.D.			
19) Methylene Chloride	8.57	84	3433	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.01	151	3863	N.D.			
22) Carbon Disulfide	8.85	76	2726	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.63	72	3092	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	731	N.D.			
30) Ethyl Acetate	11.43	61	47473	8.438	ng		89
31) n-Hexane	11.42	57	1598	N.D.			
32) Chloroform	11.46	83	1608	N.D.			
34) Tetrahydrofuran (THF)	11.93	72	106	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	664	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	13.03	56	4652	No Calib		#	
41) Benzene	13.03	78	8543	N.D.			
42) Carbon Tetrachloride	13.19	117	5502	N.D.			
43) Cyclohexane	13.32	84	427	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	5502	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092239.D Vial: 6
Acq On : 9 Jun 2022 22:53 Operator: WA/CG
Sample : P2202388-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 12 11:10:55 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

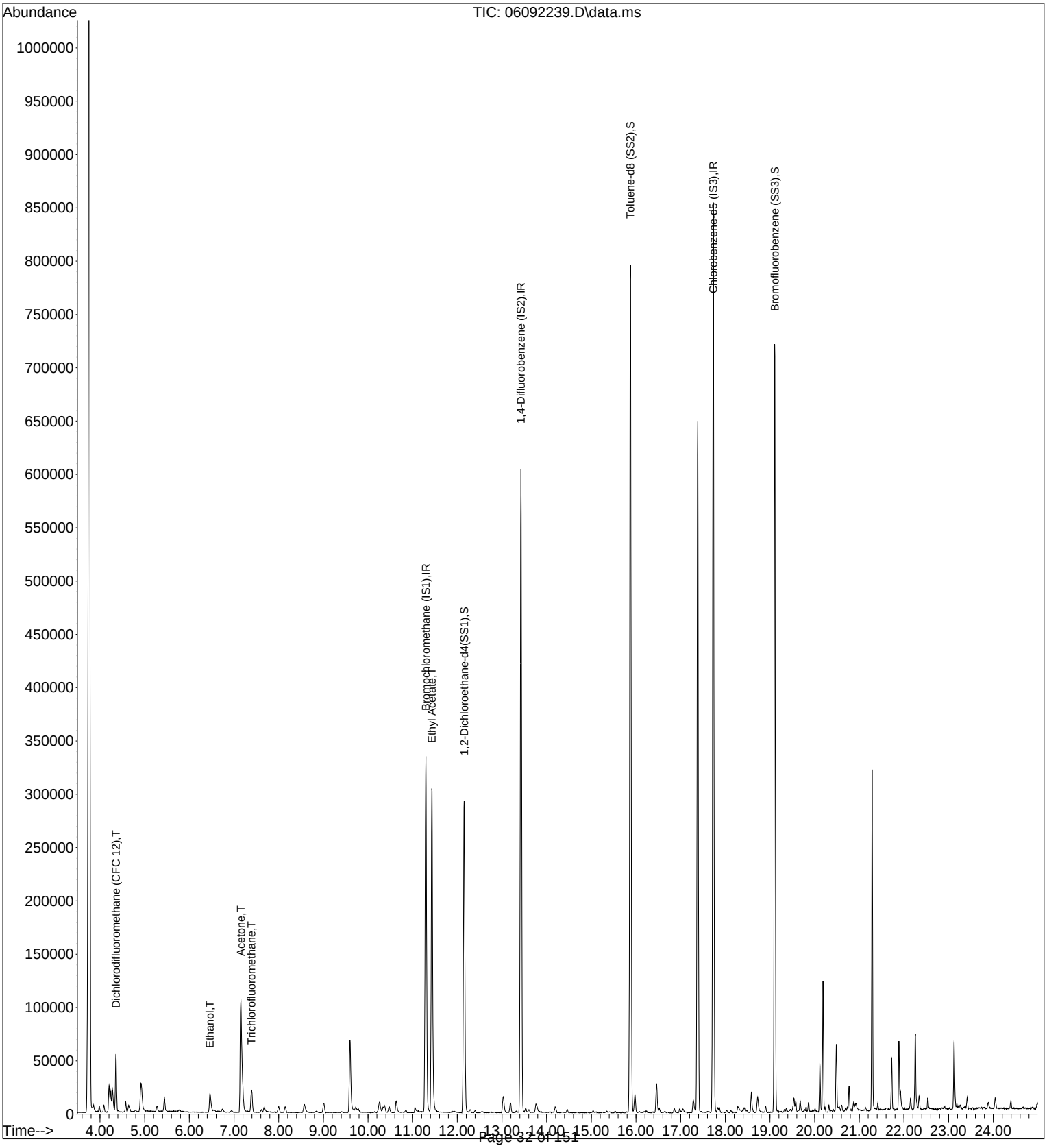
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	623	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	15.04	58	399	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.98	91	12576	N.D.		
59) 2-Hexanone	16.23	43	2921	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.86	43	4854	N.D.		
63) n-Octane	16.98	57	636	N.D.		
64) Tetrachloroethene	17.11	166	108	N.D.		
65) Chlorobenzene	17.76	112	289	N.D.		
66) Ethylbenzene	18.12	91	2095	N.D.		
67) m- & p-Xylenes	18.28	91	4268	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.61	104	808	N.D.		
70) o-Xylene	18.71	91	1818	N.D.		
71) n-Nonane	18.90	43	2529	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.24	105	406	N.D.		
75) alpha-Pinene	19.58	93	3642	N.D.		
76) n-Propylbenzene	19.68	91	1122	N.D.		
77) 3-Ethyltoluene	19.80	105	1037	No Calib		
78) 4-Ethyltoluene	19.80	105	1037	N.D.		
79) 1,3,5-Trimethylbenzene	19.87	105	627	N.D.		
80) alpha-Methylstyrene	20.01	118	784	No Calib		#
81) 2-Ethyltoluene	19.87	105	627	No Calib		#
82) 1,2,4-Trimethylbenzene	20.23	105	2012	N.D.		
83) n-Decane	20.12	58	488	No Calib		#
84) Benzyl Chloride	20.35	91	563	N.D.		
85) 1,3-Dichlorobenzene	20.36	146	224	N.D.		
86) 1,4-Dichlorobenzene	20.42	146	973	N.D.		
87) sec-Butylbenzene	20.47	105	190	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	2871	N.D.		
89) 1,2,3-Trimethylbenzene	20.61	105	683	No Calib		#
90) 1,2-Dichlorobenzene	20.73	146	317	N.D.		
91) d-Limonene	20.73	68	967	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	22.26	57	10127	No Calib		#
94) 1,2,4-Trichlorobenzene	22.24	180	1126	N.D.		
95) Naphthalene	22.34	128	7213	N.D.		
96) n-Dodecane	22.33	57	2061	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.35	55	195	No Calib		#
99) tert-Butylbenzene	20.23	119	380	N.D.		
100) n-Butylbenzene	20.97	91	1080	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092239.D Vial: 6
Acq On : 9 Jun 2022 22:53 Operator: WA/CG
Sample : P2202388-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 12 11:10:55 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092239.D Vial: 6
Acq On : 9 Jun 2022 22:53 Operator: WA/CG
Sample : P2202388-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 12 11:10:55 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 6/12/22

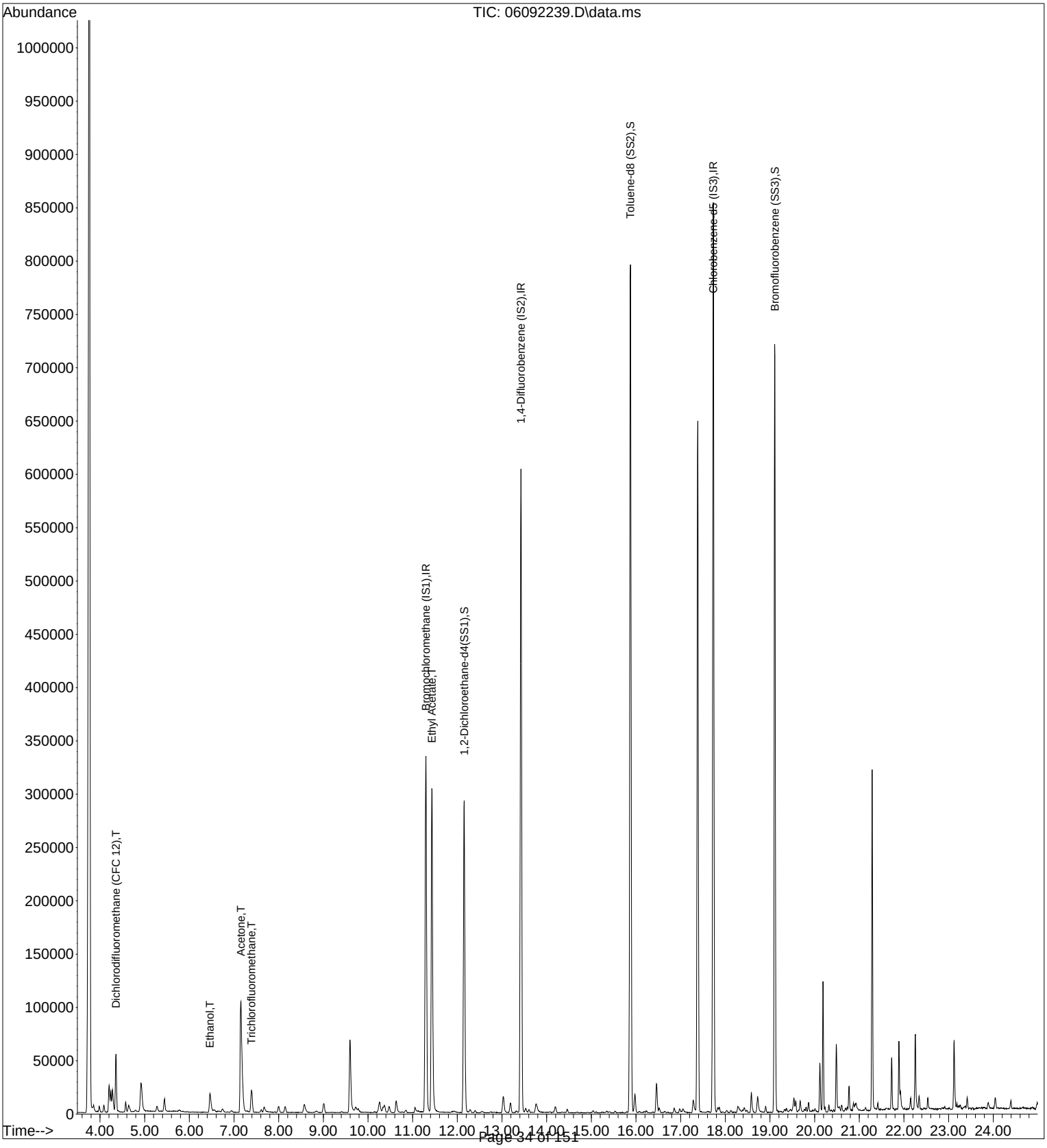
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	117529	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	518690	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	138979	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	220175	13.134	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%				
57) Toluene-d8 (SS2)	15.88	98	575283	10.935	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%				
73) Bromofluorobenzene (SS3)	19.11	174	201361	10.501	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.00%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.36	85	47163	1.787	ng		99
10) Ethanol	6.46	45	35179	2.495	ng		95
13) Acetone	7.15	58	47274	4.280	ng	#	76
14) Trichlorofluoromethane	7.39	101	20669	0.888	ng		96
30) Ethyl Acetate	11.43	61	47473	8.438	ng		89

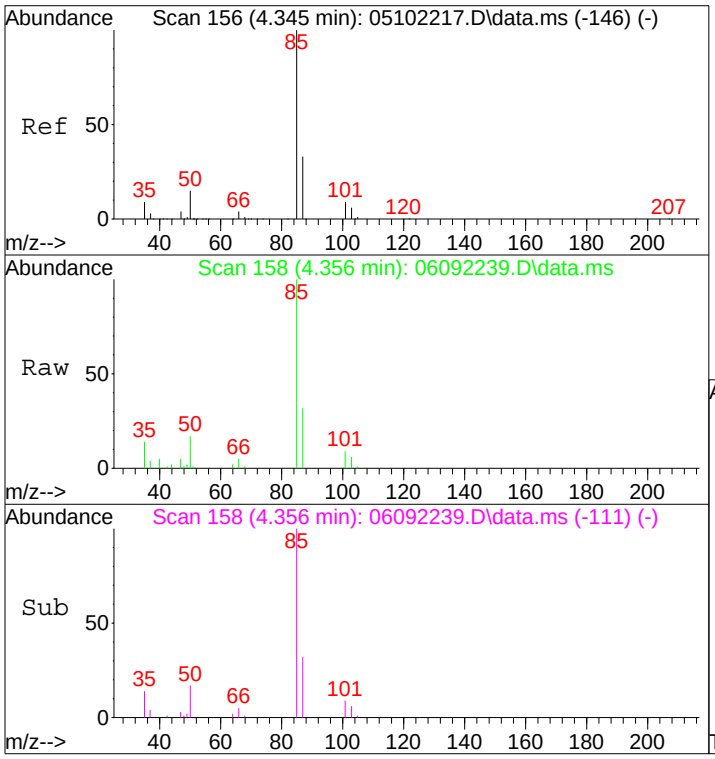
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092239.D Vial: 6
Acq On : 9 Jun 2022 22:53 Operator: WA/CG
Sample : P2202388-001 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 12 11:10:55 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

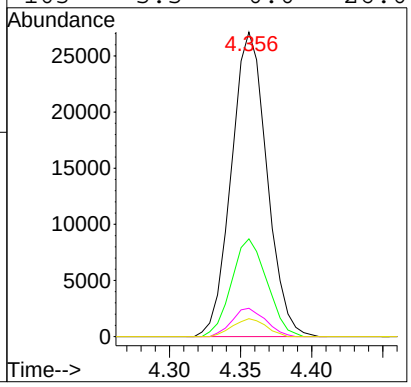


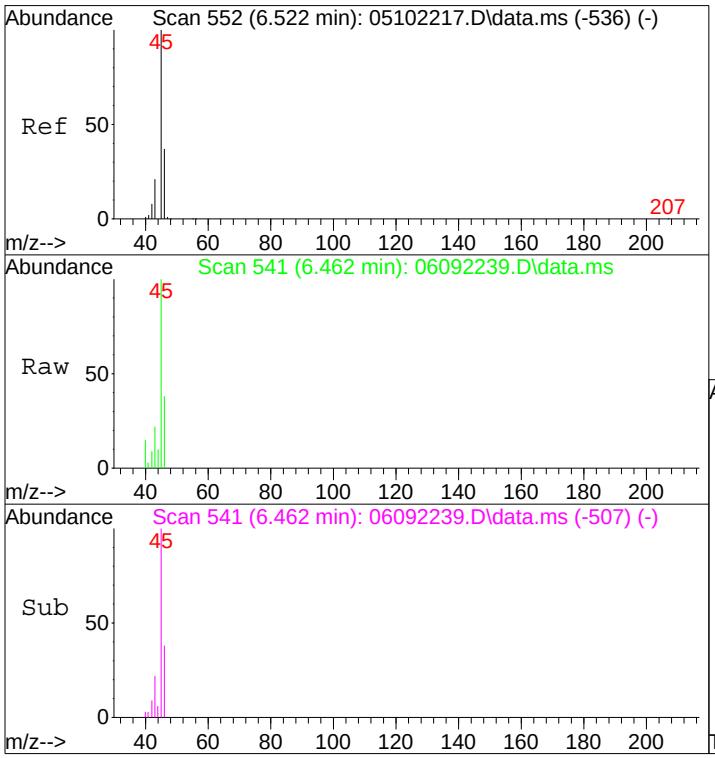


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.79 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.011 min
Lab File: 06092239.D
Acq: 9 Jun 2022 22:53

Tgt Ion: 85 Resp: 47163

Ion	Ratio	Lower	Upper
85	100		
87	32.0	12.9	52.9
101	8.8	0.0	29.3
103	5.5	0.0	26.0

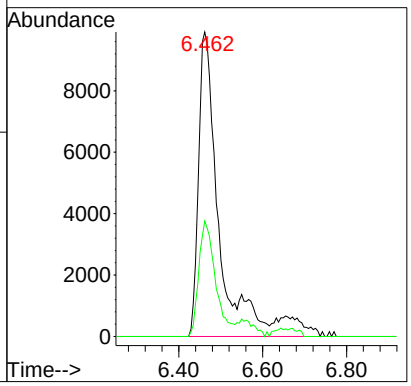


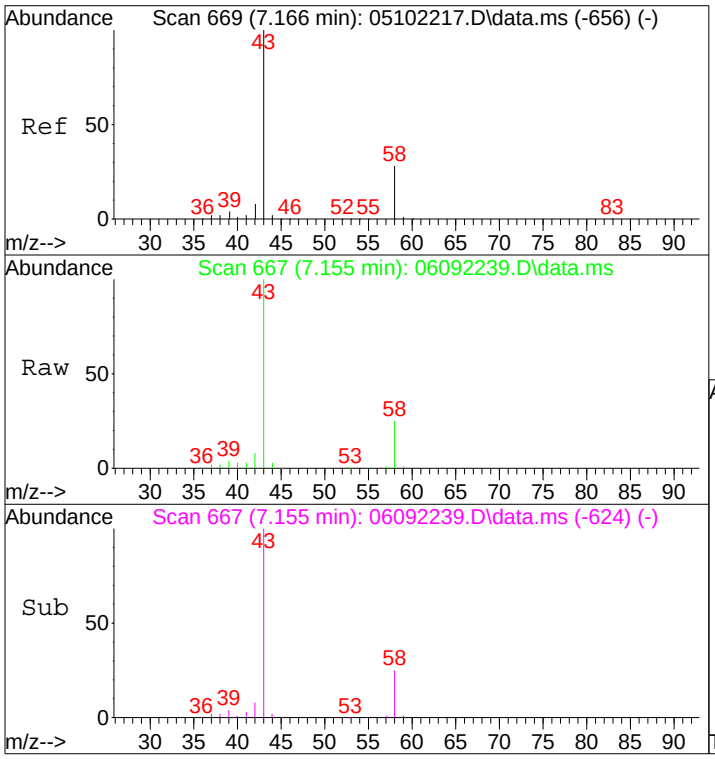


#10
Ethanol
Concen: 2.49 ng
RT: 6.46 min Scan# 541
Delta R.T. -0.060 min
Lab File: 06092239.D
Acq: 9 Jun 2022 22:53

Tgt Ion: 45 Resp: 35179

Ion	Ratio	Lower	Upper
45	100		
46	33.9	17.2	57.2

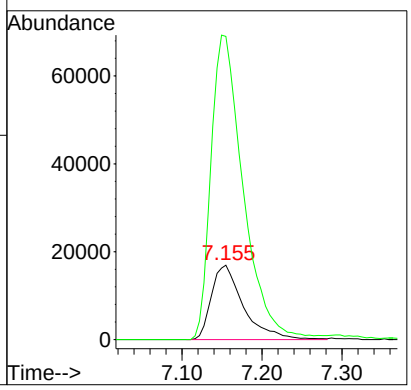


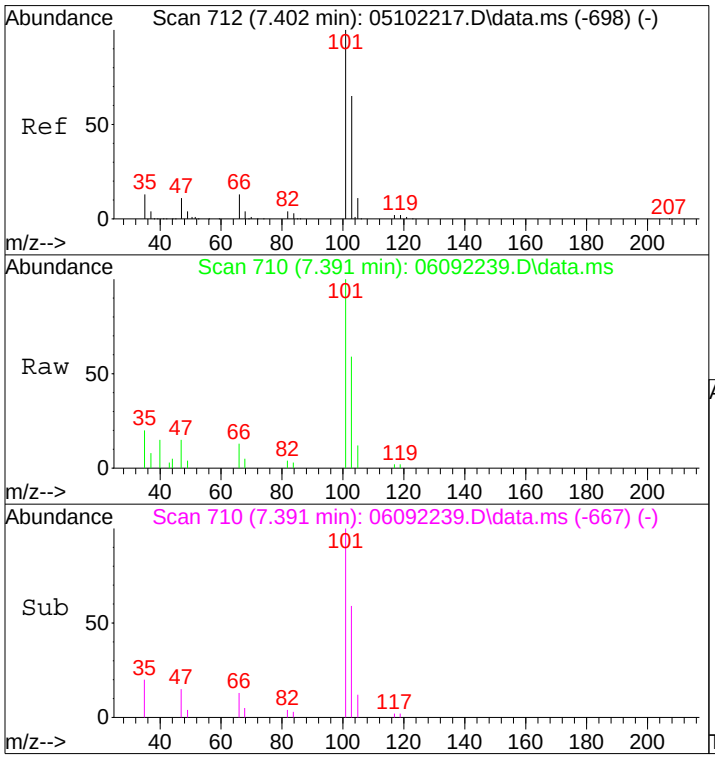


#13
Acetone
Concen: 4.28 ng
RT: 7.15 min Scan# 667
Delta R.T. -0.011 min
Lab File: 06092239.D
Acq: 9 Jun 2022 22:53

Tgt Ion: 58 Resp: 47274

Ion	Ratio	Lower	Upper
58	100		
43	417.9	334.7	394.7#

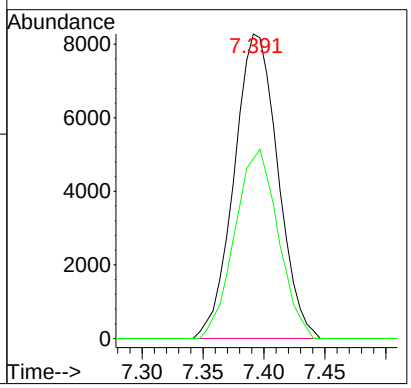


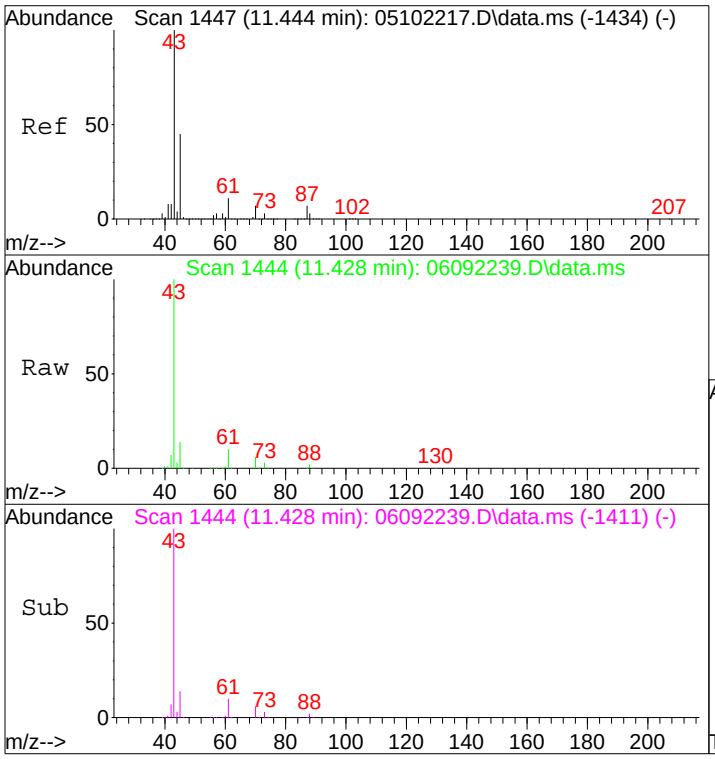


#14
Trichlorofluoromethane
Concen: 0.89 ng
RT: 7.39 min Scan# 710
Delta R.T. -0.011 min
Lab File: 06092239.D
Acq: 9 Jun 2022 22:53

Tgt Ion:101 Resp: 20669

Ion	Ratio	Lower	Upper
101	100		
103	61.5	44.5	84.5

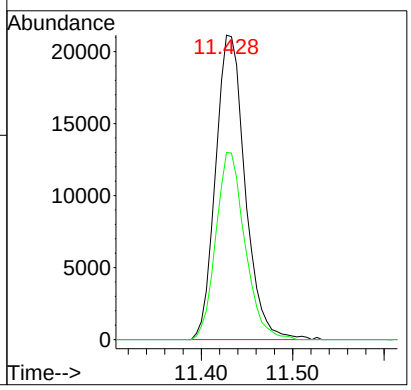




#30
Ethyl Acetate
Concen: 8.44 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.016 min
Lab File: 06092239.D
Acq: 9 Jun 2022 22:53

Tgt Ion: 61 Resp: 47473

Ion	Ratio	Lower	Upper
61	100		
70	60.5	49.4	89.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092240.D Vial: 7
Acq On : 9 Jun 2022 23:27 Operator: WA/CG
Sample : P2202388-002 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:25:57 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 6/12/22
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	115079	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	511873	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	137672	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	214672	13.078	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.64%				
57) Toluene-d8 (SS2)	15.88	98	564953	10.841	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
73) Bromofluorobenzene (SS3)	19.11	174	196999	10.371	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.96%				
Target Compounds							Qvalue
2) Propene	4.20	42	7202	N.D.			
3) Dichlorodifluoromethan...	4.35	85	46321	1.793	ng		99
4) Chloromethane	4.63	50	7853	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1068	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.77	94	377	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.46	45	36285	2.628	ng		95
11) Acetonitrile	6.74	41	4005	N.D.			
12) Acrolein	6.93	56	3538	N.D.			
13) Acetone	7.15	58	56621	5.235	ng		88
14) Trichlorofluoromethane	7.39	101	19845	0.871	ng		98
15) 2-Propanol (Isopropanol)	7.67	45	11105	N.D.			
16) Acrylonitrile	7.92	53	122	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.60	59	1639	N.D.			
19) Methylene Chloride	8.57	84	3008	N.D.			
20) 3-Chloro-1-propene (Al...	8.59	41	631	N.D.			
21) Trichlorotrifluoroethane	9.01	151	3646	N.D.			
22) Carbon Disulfide	8.84	76	4853	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.33	86	1845	0.937	ng	#	70
27) 2-Butanone (MEK)	10.62	72	3981	0.477	ng	#	49
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	372	N.D.			
30) Ethyl Acetate	11.43	61	32275	5.859	ng		88
31) n-Hexane	11.42	57	1746	N.D.			
32) Chloroform	11.46	83	1516	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	623	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	13.01	56	7573	No Calib		#	
41) Benzene	13.03	78	5990	N.D.			
42) Carbon Tetrachloride	13.19	117	5160	N.D.			
43) Cyclohexane	13.32	84	477	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	6405	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092240.D Vial: 7
Acq On : 9 Jun 2022 23:27 Operator: WA/CG
Sample : P2202388-002 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:25:57 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

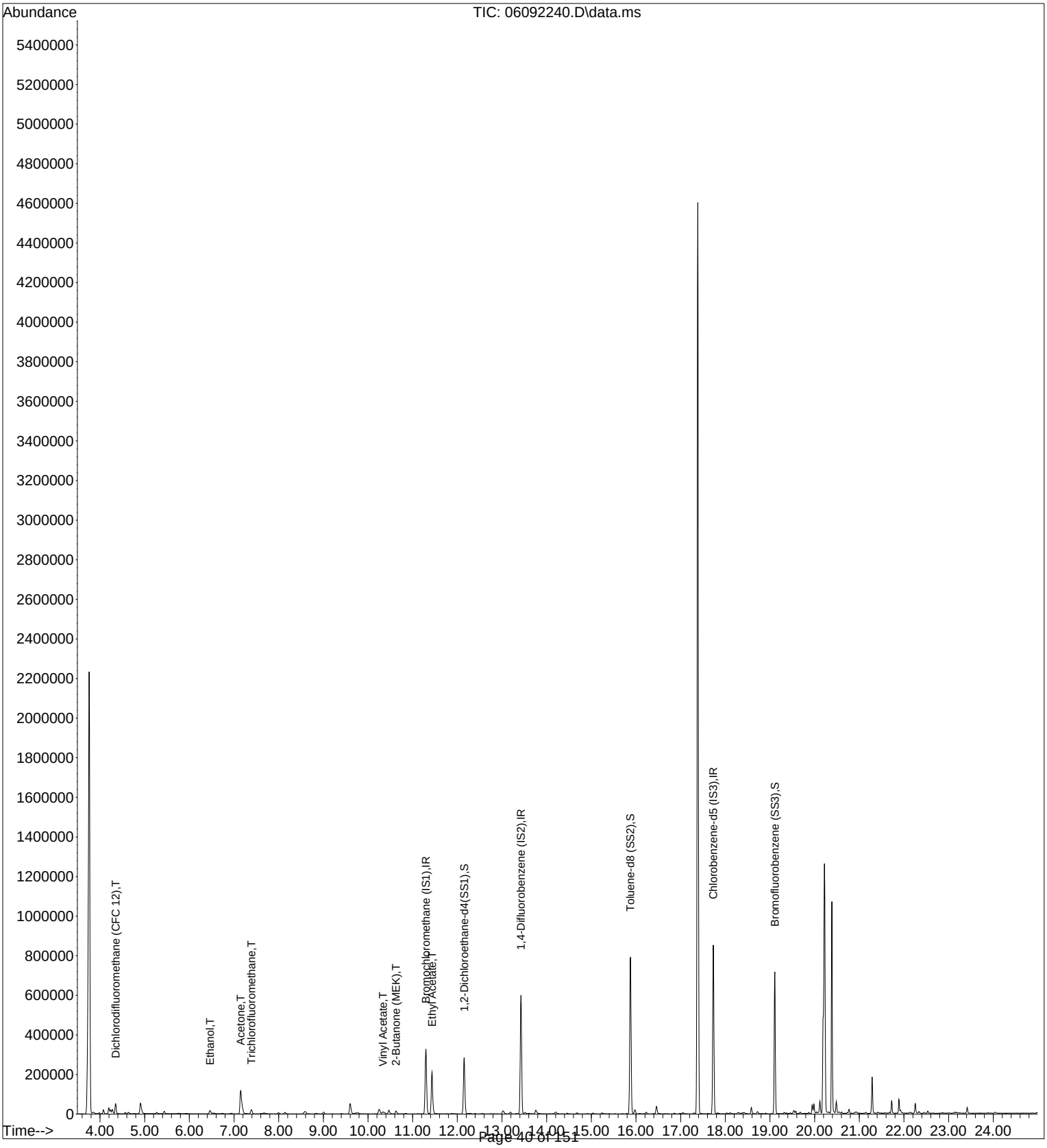
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	475	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	15.04	58	1162	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.98	91	14746	N.D.		
59) 2-Hexanone	16.23	43	4399	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.86	43	4496	N.D.		
63) n-Octane	16.98	57	432	N.D.		
64) Tetrachloroethene	17.12	166	285	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.13	91	2087	N.D.		
67) m- & p-Xylenes	18.28	91	4787	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.61	104	706	N.D.		
70) o-Xylene	18.71	91	2006	N.D.		
71) n-Nonane	18.91	43	1932	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.23	105	164	N.D.		
75) alpha-Pinene	19.58	93	4075	N.D.		
76) n-Propylbenzene	19.68	91	782	N.D.		
77) 3-Ethyltoluene	19.80	105	765	No Calib		#
78) 4-Ethyltoluene	19.80	105	765	N.D.		
79) 1,3,5-Trimethylbenzene	19.86	105	519	N.D.		
80) alpha-Methylstyrene	19.95	118	273	No Calib		#
81) 2-Ethyltoluene	19.86	105	519	No Calib		#
82) 1,2,4-Trimethylbenzene	20.23	105	2407	N.D.		
83) n-Decane	20.22	58	34505	No Calib		#
84) Benzyl Chloride	20.35	91	452	N.D.		
85) 1,3-Dichlorobenzene	20.37	146	113	N.D.		
86) 1,4-Dichlorobenzene	20.43	146	692	N.D.		
87) sec-Butylbenzene	20.37	105	236	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	2832	N.D.		
89) 1,2,3-Trimethylbenzene	20.61	105	769	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.74	68	1151	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	22.26	57	7591	No Calib		#
94) 1,2,4-Trichlorobenzene	22.23	180	759	N.D.		
95) Naphthalene	22.35	128	2538	N.D.		
96) n-Dodecane	22.33	57	2805	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.31	55	486	No Calib		#
99) tert-Butylbenzene	20.19	119	9714	N.D.		
100) n-Butylbenzene	20.96	91	1061	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092240.D Vial: 7
Acq On : 9 Jun 2022 23:27 Operator: WA/CG
Sample : P2202388-002 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:25:57 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092240.D Vial: 7
Acq On : 9 Jun 2022 23:27 Operator: WA/CG
Sample : P2202388-002 (1000mL) Inst : GCMS-16
Misc : S35-04032201

WA 6/12/22

Quant Time: Jun 10 03:25:57 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

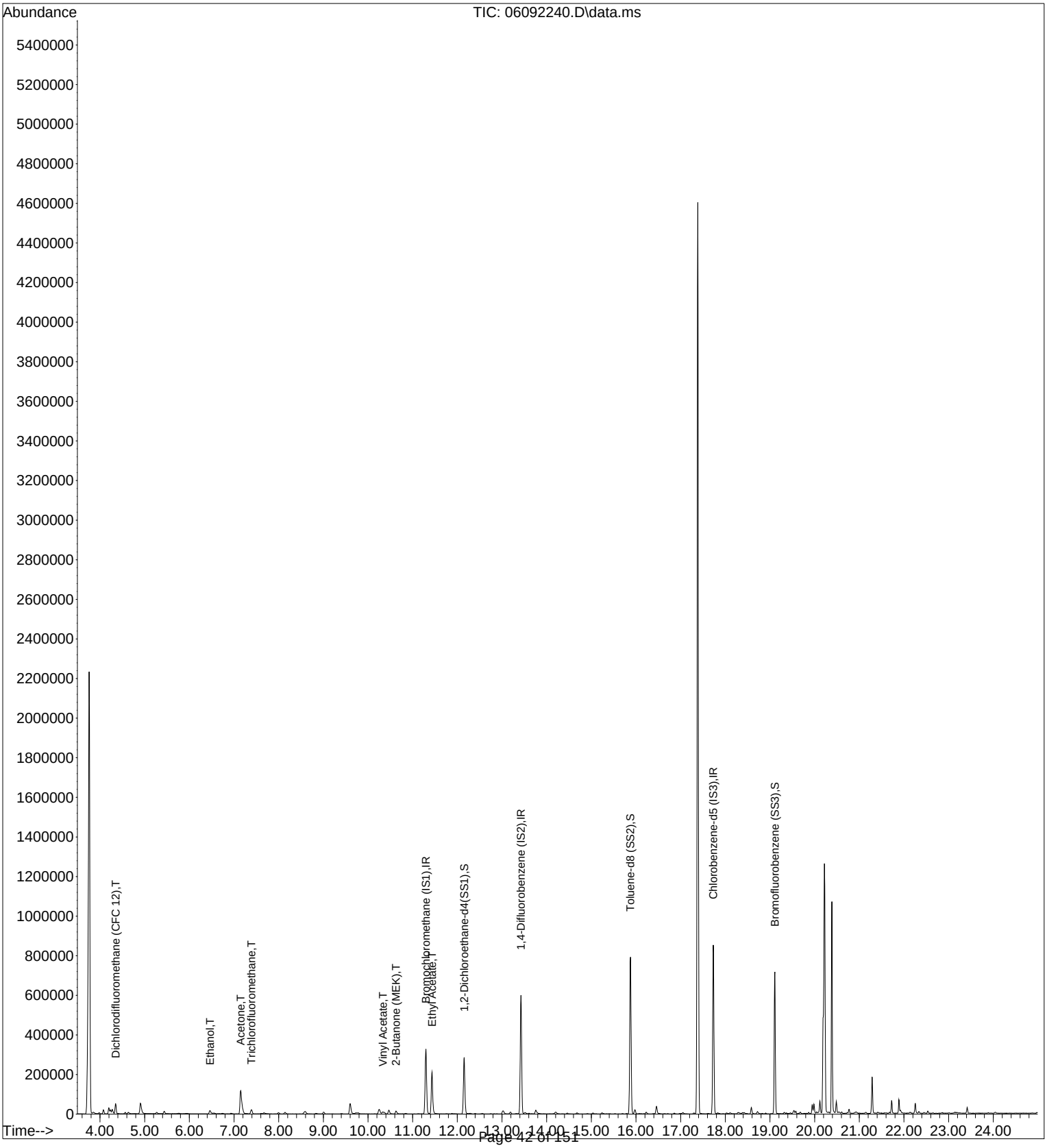
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	115079	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	511873	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	137672	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	214672	13.078	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.64%				
57) Toluene-d8 (SS2)	15.88	98	564953	10.841	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
73) Bromofluorobenzene (SS3)	19.11	174	196999	10.371	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.96%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.35	85	46321	1.793	ng		99
10) Ethanol	6.46	45	36285	2.628	ng		95
13) Acetone	7.15	58	56621	5.235	ng		88
14) Trichlorofluoromethane	7.39	101	19845	0.871	ng		98
26) Vinyl Acetate	10.33	86	1845	0.937	ng	#	70
27) 2-Butanone (MEK)	10.62	72	3981	0.477	ng	#	49
30) Ethyl Acetate	11.43	61	32275	5.859	ng		88

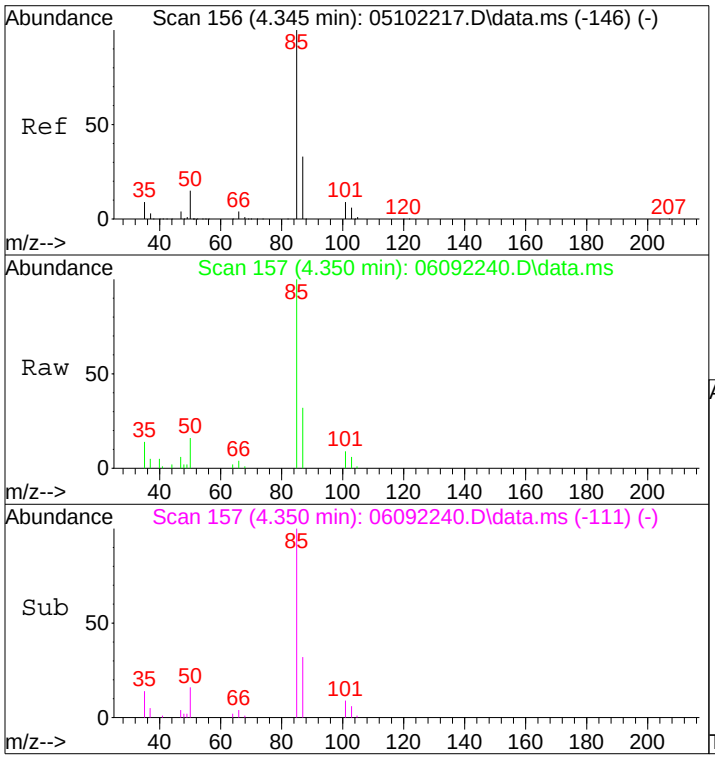
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092240.D Vial: 7
Acq On : 9 Jun 2022 23:27 Operator: WA/CG
Sample : P2202388-002 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:25:57 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

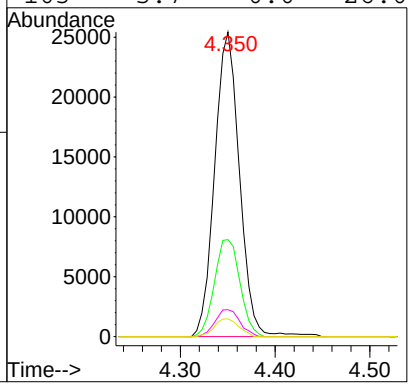


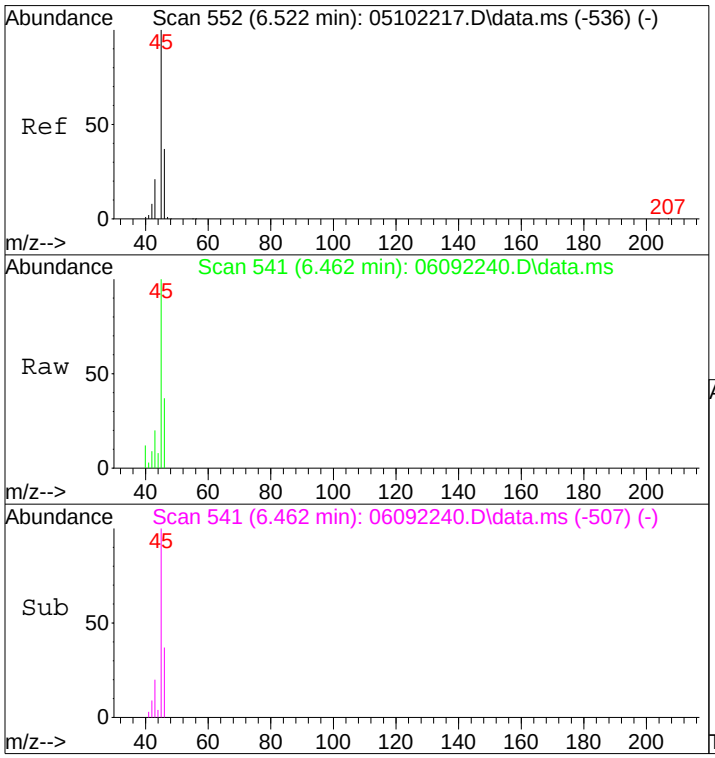


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.79 ng
RT: 4.35 min Scan# 157
Delta R.T. 0.006 min
Lab File: 06092240.D
Acq: 9 Jun 2022 23:27

Tgt Ion: 85 Resp: 46321

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.9	52.9
101	8.9	0.0	29.3
103	5.7	0.0	26.0

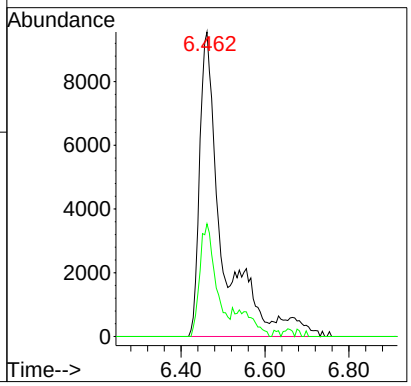


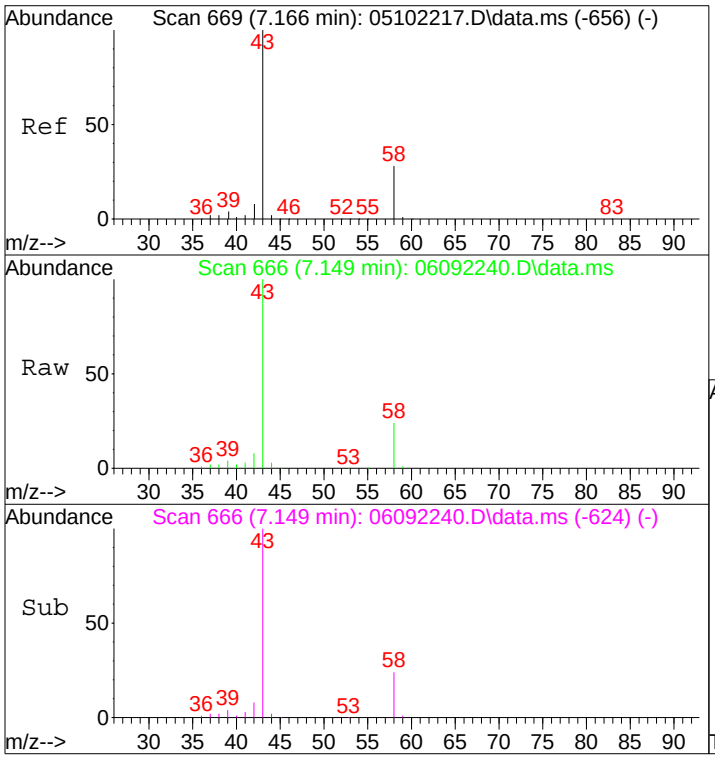


#10
Ethanol
Concen: 2.63 ng
RT: 6.46 min Scan# 541
Delta R.T. -0.060 min
Lab File: 06092240.D
Acq: 9 Jun 2022 23:27

Tgt Ion: 45 Resp: 36285

Ion	Ratio	Lower	Upper
45	100		
46	34.0	17.2	57.2

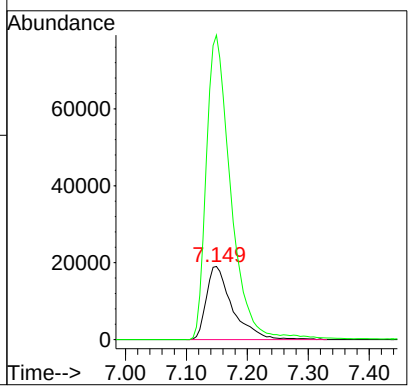


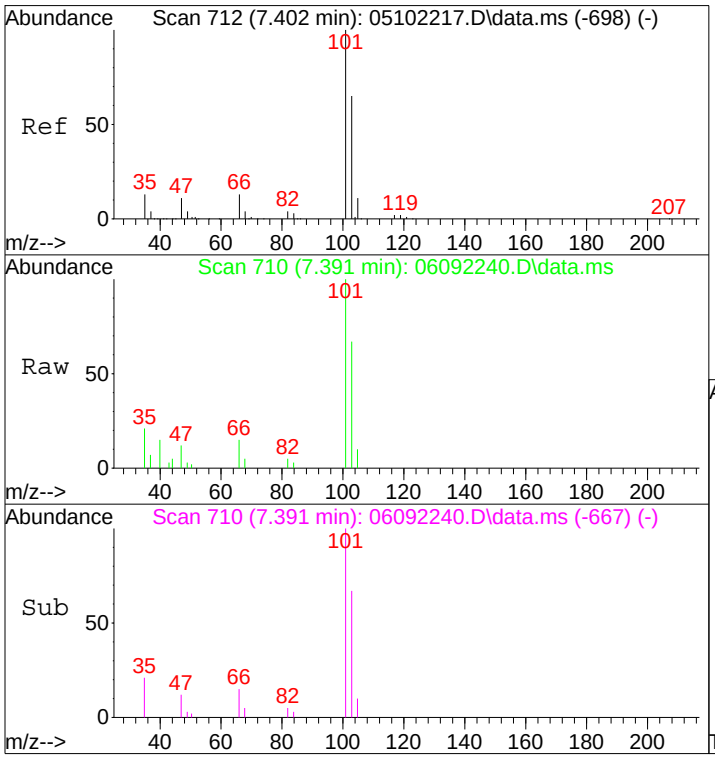


#13
Acetone
Concen: 5.24 ng
RT: 7.15 min Scan# 666
Delta R.T. -0.016 min
Lab File: 06092240.D
Acq: 9 Jun 2022 23:27

Tgt Ion: 58 Resp: 56621

Ion	Ratio	Lower	Upper
58	100		
43	392.0	334.7	394.7

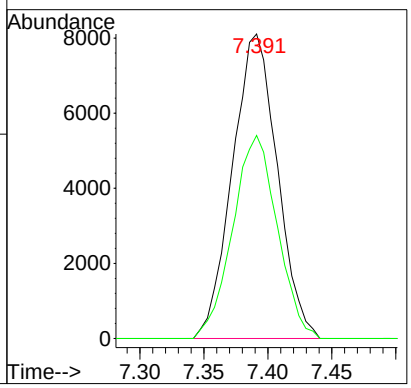


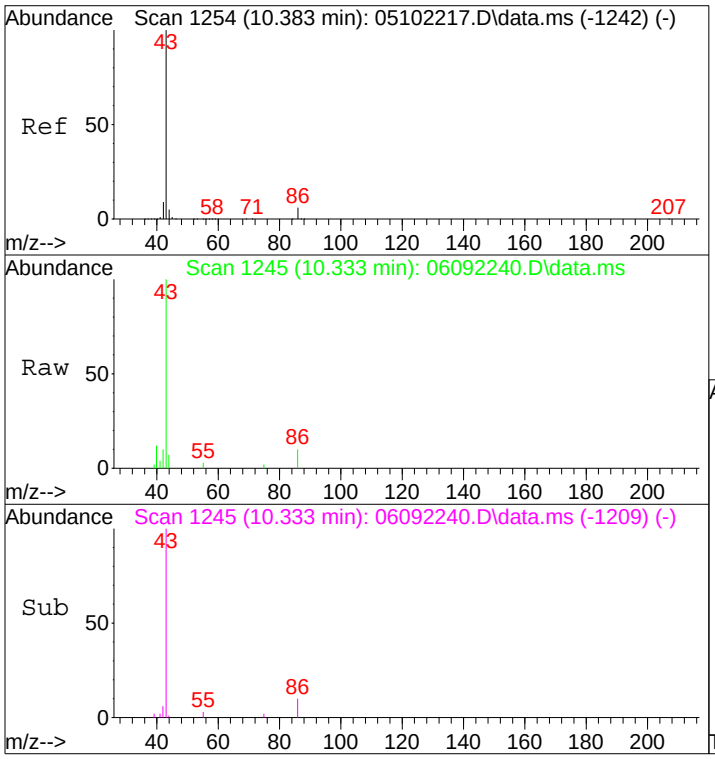


#14
Trichlorofluoromethane
Concen: 0.87 ng
RT: 7.39 min Scan# 710
Delta R.T. -0.011 min
Lab File: 06092240.D
Acq: 9 Jun 2022 23:27

Tgt Ion:101 Resp: 19845

Ion	Ratio	Lower	Upper
101	100		
103	66.2	44.5	84.5

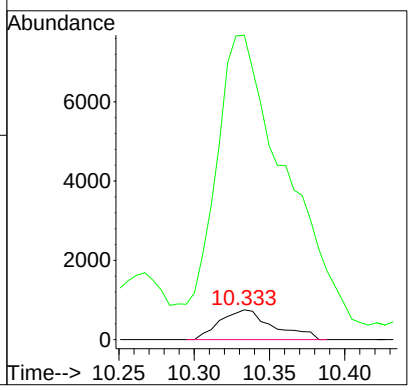


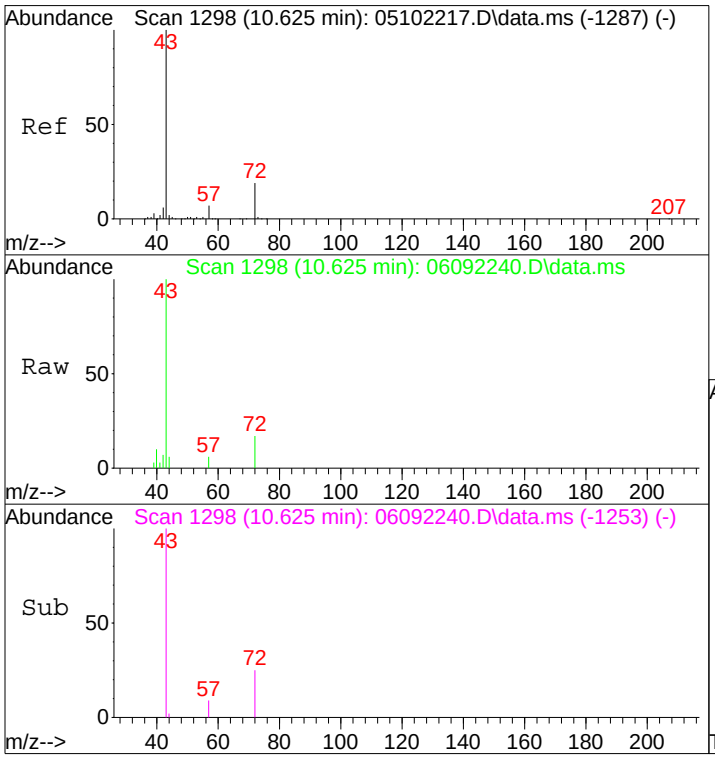


#26
Vinyl Acetate
Concen: 0.94 ng
RT: 10.33 min Scan# 1245
Delta R.T. -0.050 min
Lab File: 06092240.D
Acq: 9 Jun 2022 23:27

Tgt Ion: 86 Resp: 1845

Ion	Ratio	Lower	Upper
86	100		
43	1383.0	1551.4	1591.4#

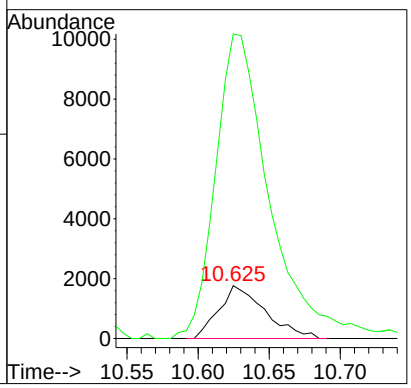


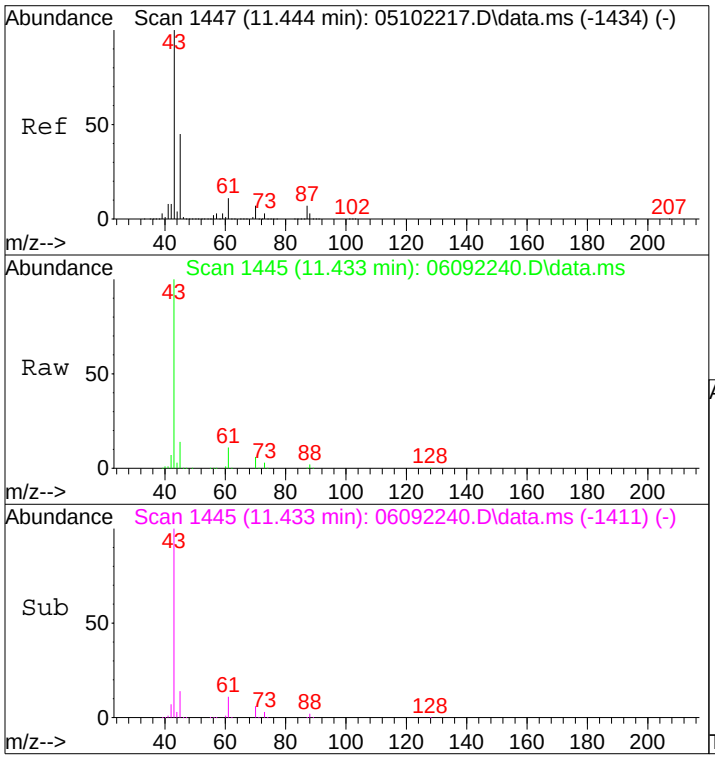


#27
2-Butanone (MEK)
Concen: 0.48 ng
RT: 10.62 min Scan# 1298
Delta R.T. 0.000 min
Lab File: 06092240.D
Acq: 9 Jun 2022 23:27

Tgt Ion: 72 Resp: 3981

Ion	Ratio	Lower	Upper
72	100		
43	692.9	523.8	563.8#

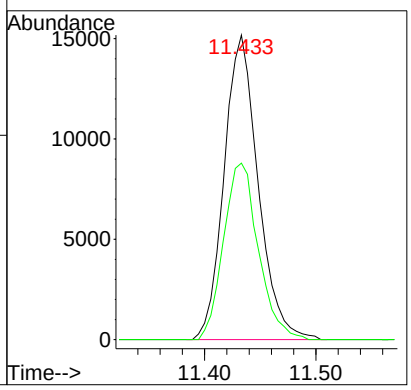




#30
Ethyl Acetate
Concen: 5.86 ng
RT: 11.43 min Scan# 1445
Delta R.T. -0.011 min
Lab File: 06092240.D
Acq: 9 Jun 2022 23:27

Tgt Ion: 61 Resp: 32275

Ion	Ratio	Lower	Upper
61	100		
70	59.2	49.4	89.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092241.D Vial: 8
Acq On : 10 Jun 2022 00:01 Operator: WA/CG
Sample : P2202388-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:25:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 6/12/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	114932	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	507342	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	138459	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	215901	13.170	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
57) Toluene-d8 (SS2)	15.88	98	567896	10.836	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
73) Bromofluorobenzene (SS3)	19.11	174	196107	10.266	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.16%				
Target Compounds							Qvalue
2) Propene	4.20	42	9932	N.D.			
3) Dichlorodifluoromethan...	4.36	85	47401	1.837	ng		99
4) Chloromethane	4.64	50	8116	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	1119	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.77	94	349	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.46	45	37527	2.721	ng		100
11) Acetonitrile	6.74	41	4593	N.D.			
12) Acrolein	6.93	56	4936	0.497	ng		95
13) Acetone	7.15	58	79923	7.399	ng		99
14) Trichlorofluoromethane	7.39	101	20238	0.890	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	17437	N.D.			
16) Acrylonitrile	7.92	53	123	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.59	59	800	N.D.			
19) Methylene Chloride	8.57	84	3062	N.D.			
20) 3-Chloro-1-propene (Al...	8.59	41	103	N.D.			
21) Trichlorotrifluoroethane	9.00	151	3919	N.D.			
22) Carbon Disulfide	8.84	76	15365	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.24	73	184	N.D.			
26) Vinyl Acetate	10.33	86	3577	1.819	ng	#	40
27) 2-Butanone (MEK)	10.62	72	6621	0.794	ng	#	71
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.44	87	385	N.D.			
30) Ethyl Acetate	11.44	61	31153	5.662	ng		87
31) n-Hexane	11.41	57	1847	N.D.			
32) Chloroform	11.46	83	1540	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.28	62	645	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	13.02	56	9343	No Calib		#	
41) Benzene	13.03	78	5965	N.D.			
42) Carbon Tetrachloride	13.19	117	5552	N.D.			
43) Cyclohexane	13.31	84	706	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.20	57	5200	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092241.D Vial: 8
Acq On : 10 Jun 2022 00:01 Operator: WA/CG
Sample : P2202388-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:25:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

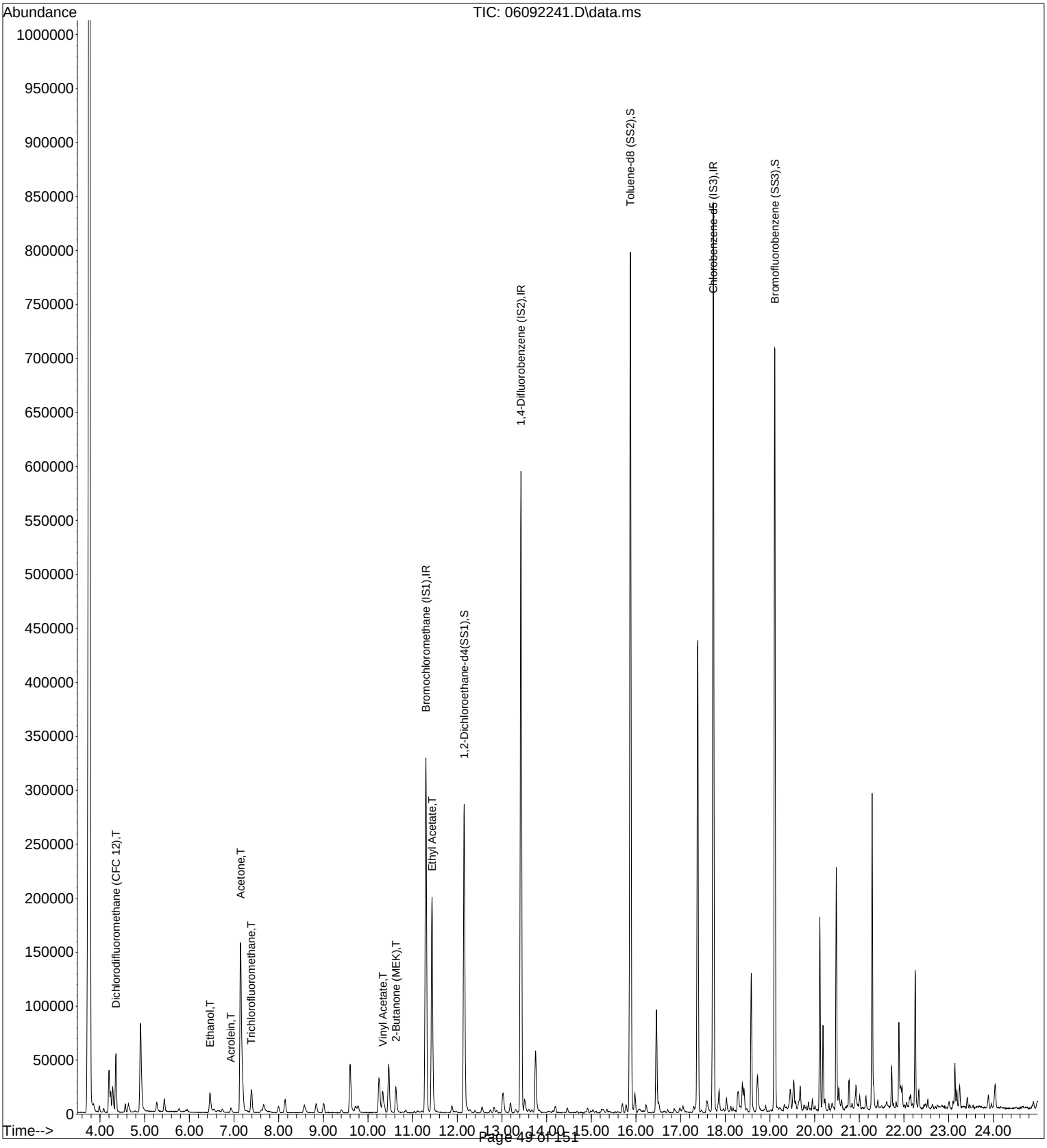
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	648	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	15.03	58	604	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.98	91	12528	N.D.		
59) 2-Hexanone	16.22	43	7292	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.85	43	3780	N.D.		
63) n-Octane	16.98	57	530	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.73	112	110	N.D.		
66) Ethylbenzene	18.12	91	4228	N.D.		
67) m- & p-Xylenes	18.28	91	12055	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.61	104	970	N.D.		
70) o-Xylene	18.71	91	3570	N.D.		
71) n-Nonane	18.91	43	2816	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.58	83	320	N.D.		
74) Cumene	19.23	105	170	N.D.		
75) alpha-Pinene	19.58	93	2804	N.D.		
76) n-Propylbenzene	19.68	91	869	N.D.		
77) 3-Ethyltoluene	19.80	105	756	No Calib		#
78) 4-Ethyltoluene	19.80	105	756	N.D.		
79) 1,3,5-Trimethylbenzene	19.87	105	422	N.D.		
80) alpha-Methylstyrene	20.01	118	694	No Calib		#
81) 2-Ethyltoluene	19.87	105	422	No Calib		#
82) 1,2,4-Trimethylbenzene	20.23	105	2348	N.D.		
83) n-Decane	20.22	58	331	No Calib		#
84) Benzyl Chloride	20.36	91	291	N.D.		
85) 1,3-Dichlorobenzene	20.42	146	581	N.D.		
86) 1,4-Dichlorobenzene	20.42	146	581	N.D.		
87) sec-Butylbenzene	20.61	105	686	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	2885	N.D.		
89) 1,2,3-Trimethylbenzene	20.61	105	686	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.73	68	1068	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	22.25	57	17114	No Calib		#
94) 1,2,4-Trichlorobenzene	22.24	180	564	N.D.		
95) Naphthalene	22.34	128	2616	N.D.		
96) n-Dodecane	22.33	57	4654	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.30	55	1150	No Calib		#
99) tert-Butylbenzene	20.23	119	252	N.D.		
100) n-Butylbenzene	20.96	91	1451	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092241.D Vial: 8
Acq On : 10 Jun 2022 00:01 Operator: WA/CG
Sample : P2202388-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:25:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092241.D Vial: 8
Acq On : 10 Jun 2022 00:01 Operator: WA/CG
Sample : P2202388-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:25:59 2022 6/12/22
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

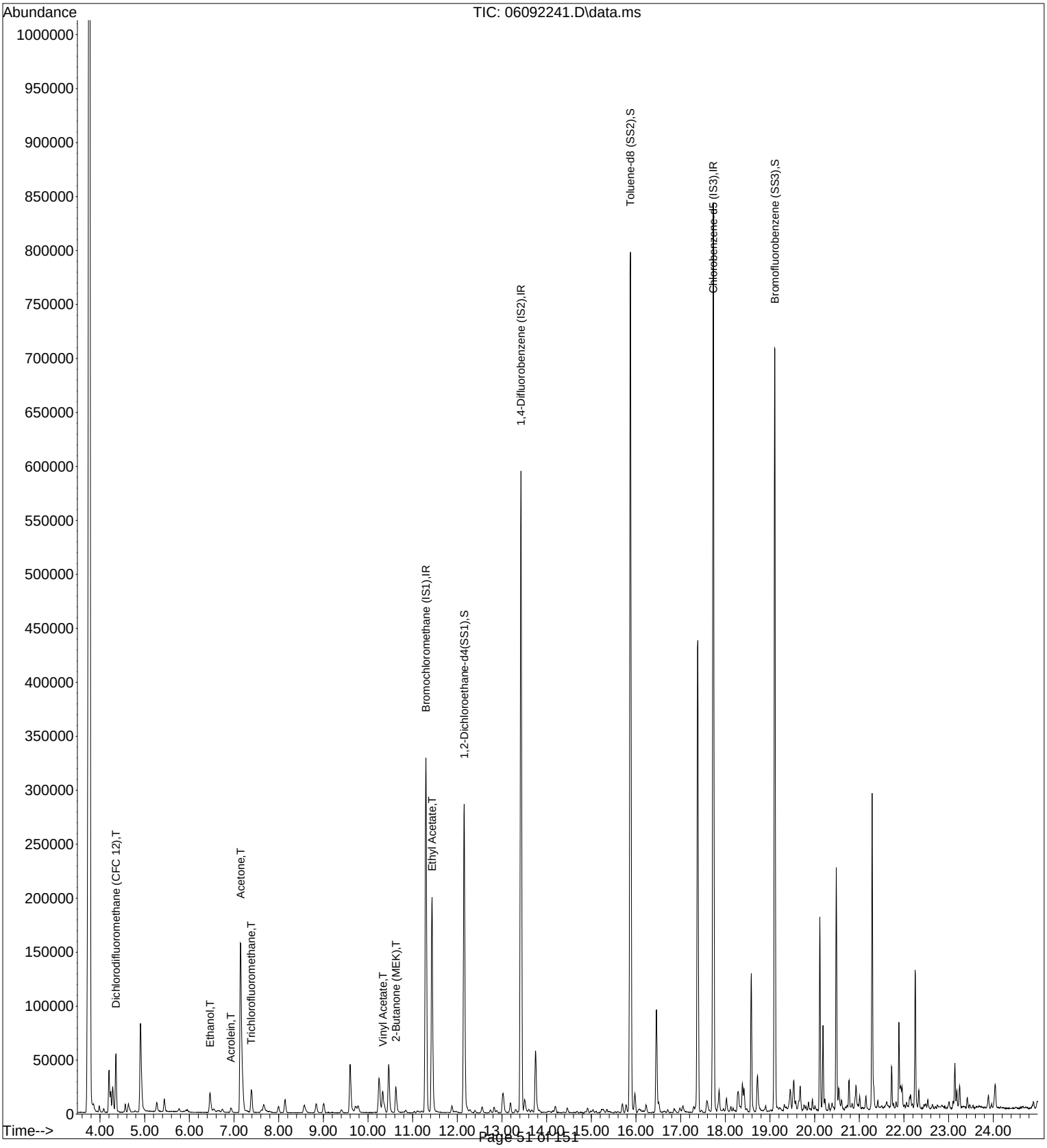
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	114932	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	507342	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	138459	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	215901	13.170	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
57) Toluene-d8 (SS2)	15.88	98	567896	10.836	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
73) Bromofluorobenzene (SS3)	19.11	174	196107	10.266	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.16%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.36	85	47401	1.837	ng		99
10) Ethanol	6.46	45	37527	2.721	ng		100
12) Acrolein	6.93	56	4936	0.497	ng		95
13) Acetone	7.15	58	79923	7.399	ng		99
14) Trichlorofluoromethane	7.39	101	20238	0.890	ng		100
26) Vinyl Acetate	10.33	86	3577	1.819	ng	#	40
27) 2-Butanone (MEK)	10.62	72	6621	0.794	ng	#	71
30) Ethyl Acetate	11.44	61	31153	5.662	ng		87

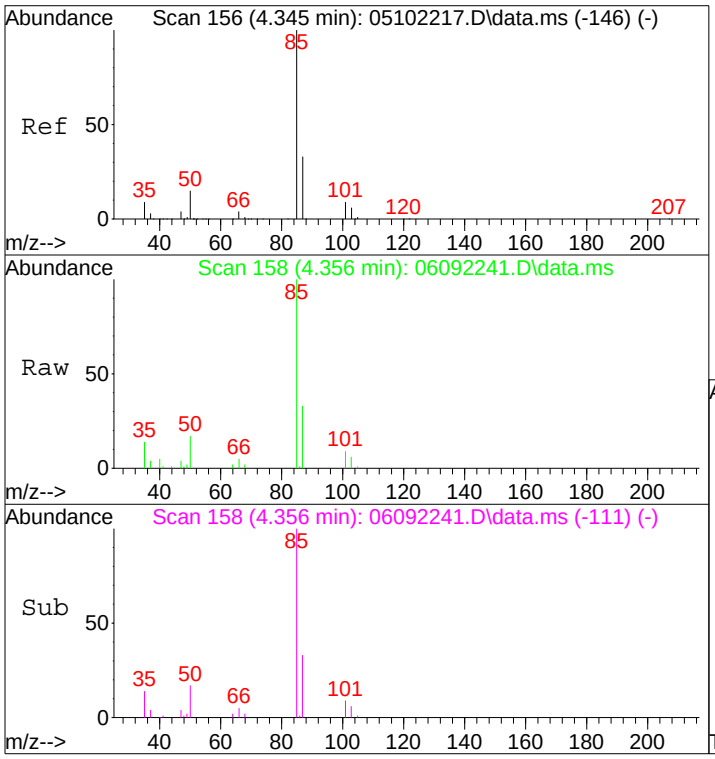
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092241.D Vial: 8
Acq On : 10 Jun 2022 00:01 Operator: WA/CG
Sample : P2202388-003 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:25:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

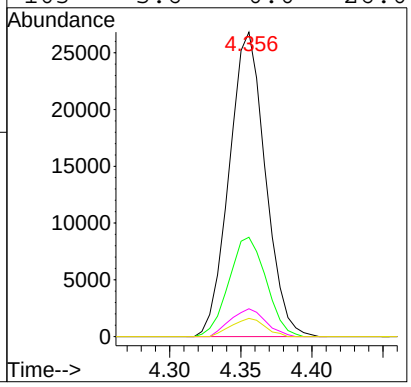


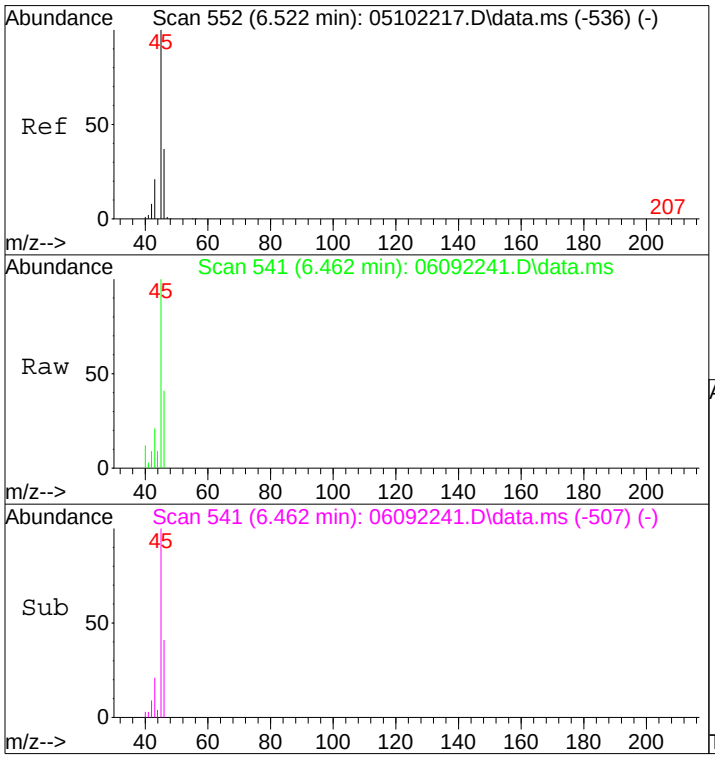


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.84 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.011 min
Lab File: 06092241.D
Acq: 10 Jun 2022 00:01

Tgt Ion: 85 Resp: 47401

Ion	Ratio	Lower	Upper
85	100		
87	33.7	12.9	52.9
101	8.9	0.0	29.3
103	5.6	0.0	26.0

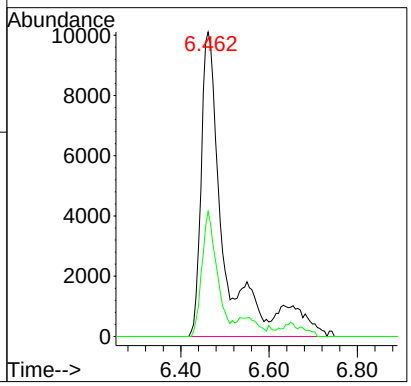


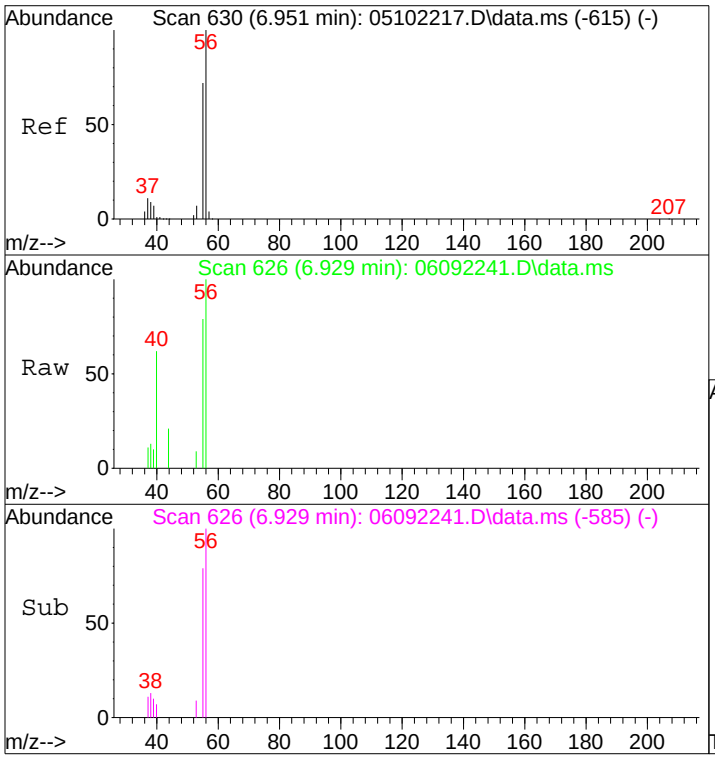


#10
Ethanol
Concen: 2.72 ng
RT: 6.46 min Scan# 541
Delta R.T. -0.061 min
Lab File: 06092241.D
Acq: 10 Jun 2022 00:01

Tgt Ion: 45 Resp: 37527

Ion	Ratio	Lower	Upper
45	100		
46	37.4	17.2	57.2

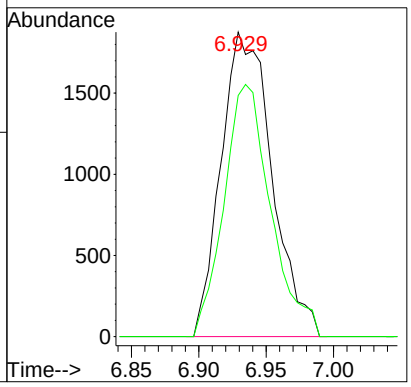


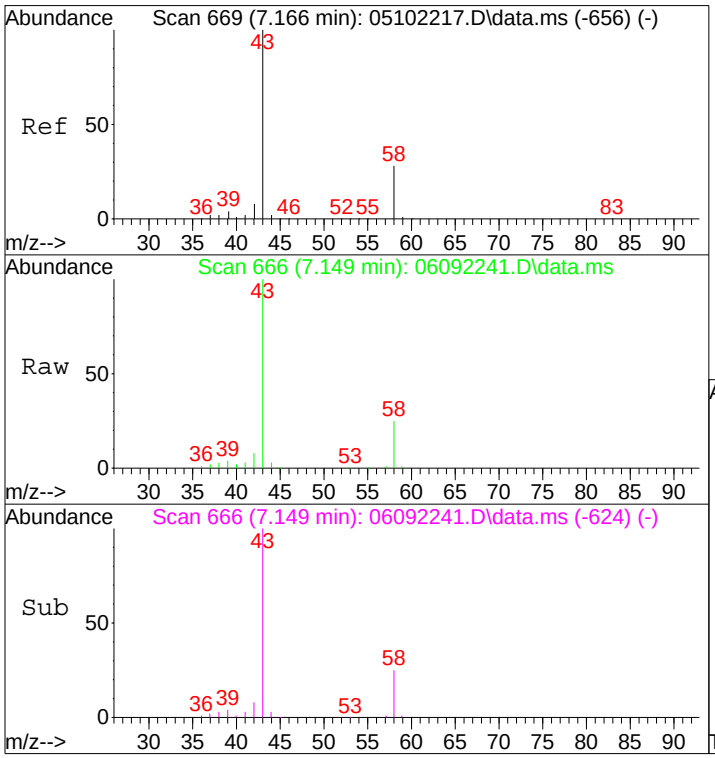


#12
Acrolein
Concen: 0.50 ng
RT: 6.93 min Scan# 626
Delta R.T. -0.022 min
Lab File: 06092241.D
Acq: 10 Jun 2022 00:01

Tgt Ion: 56 Resp: 4936

Ion	Ratio	Lower	Upper
56	100		
55	76.1	52.1	92.1

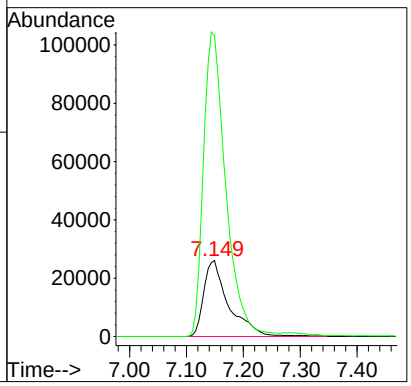


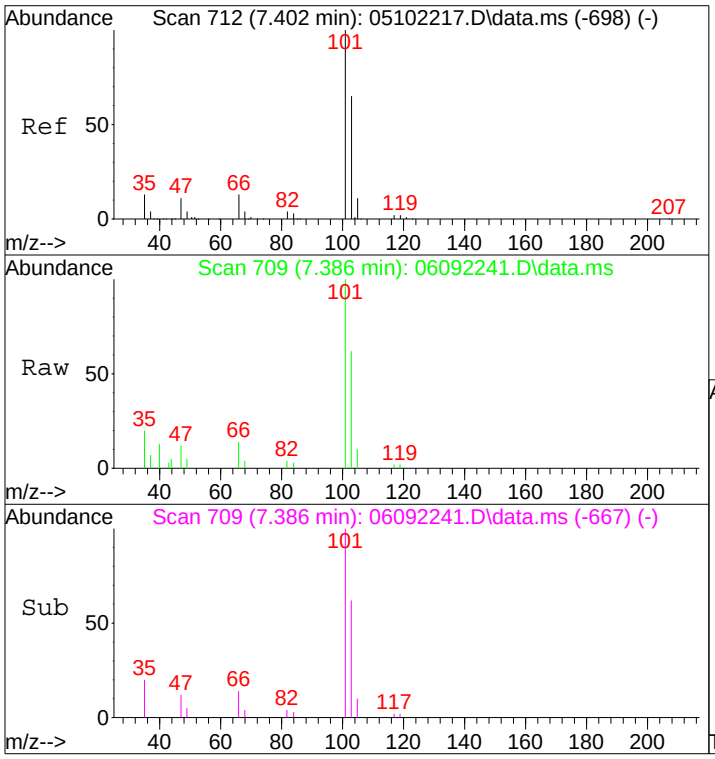


#13
Acetone
Concen: 7.40 ng
RT: 7.15 min Scan# 666
Delta R.T. -0.017 min
Lab File: 06092241.D
Acq: 10 Jun 2022 00:01

Tgt Ion: 58 Resp: 79923

Ion	Ratio	Lower	Upper
58	100		
43	362.4	334.7	394.7

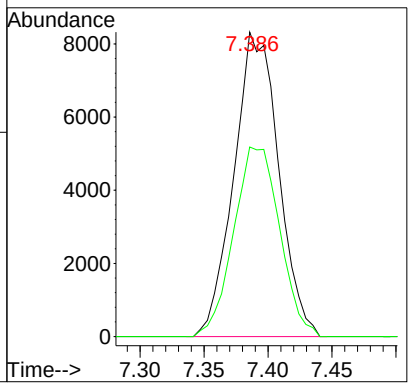


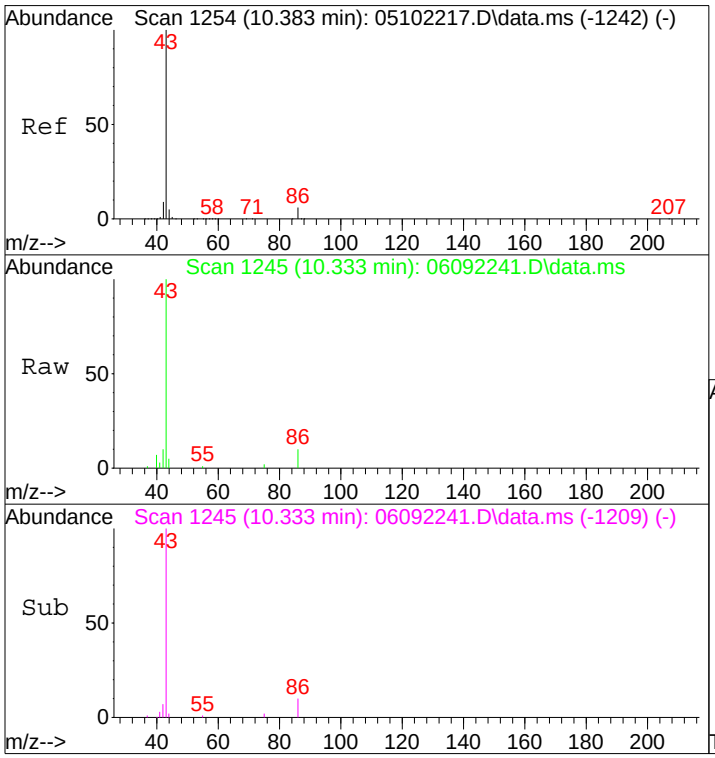


#14
Trichlorofluoromethane
Concen: 0.89 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.017 min
Lab File: 06092241.D
Acq: 10 Jun 2022 00:01

Tgt Ion:101 Resp: 20238

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.5	84.5

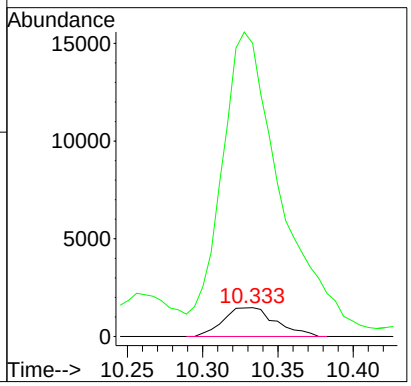


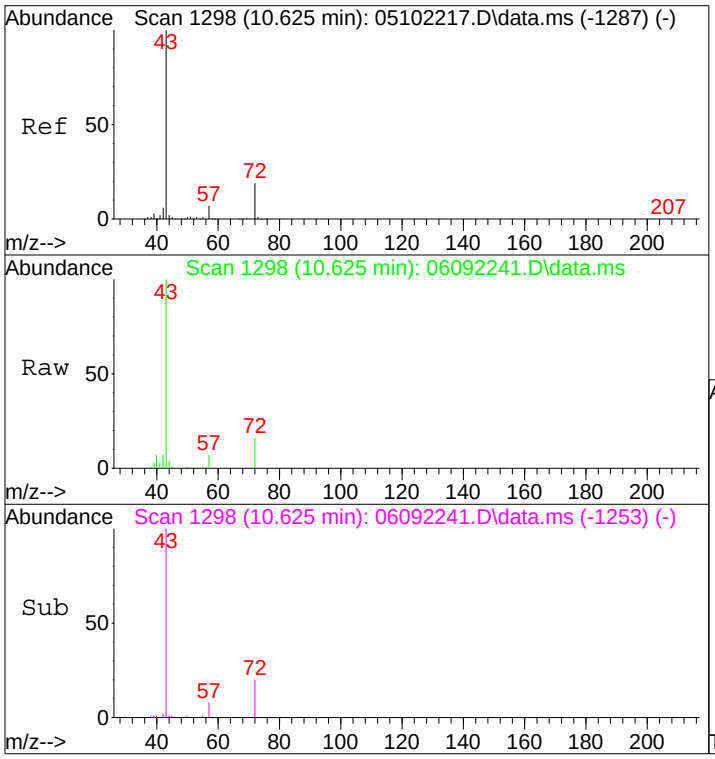


#26
Vinyl Acetate
Concen: 1.82 ng
RT: 10.33 min Scan# 1245
Delta R.T. -0.050 min
Lab File: 06092241.D
Acq: 10 Jun 2022 00:01

Tgt Ion: 86 Resp: 3577

Ion	Ratio	Lower	Upper
86	100		
43	1202.3	1551.4	1591.4#

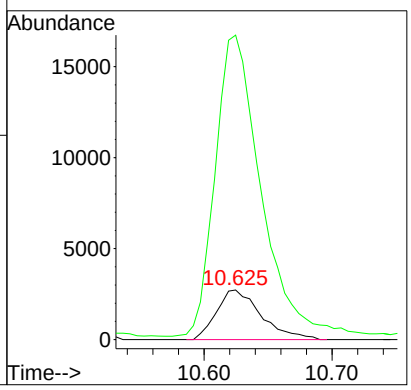


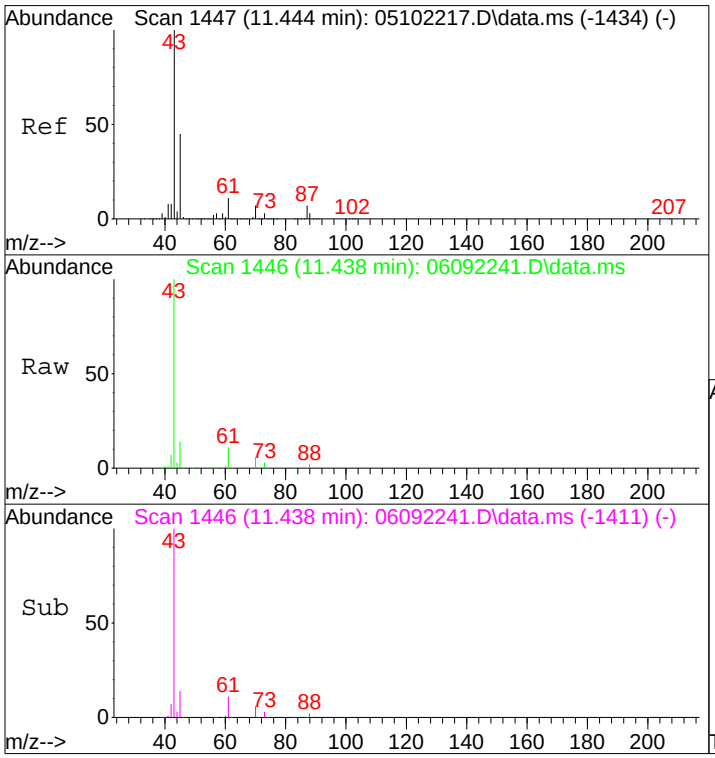


#27
2-Butanone (MEK)
Concen: 0.79 ng
RT: 10.62 min Scan# 1298
Delta R.T. -0.000 min
Lab File: 06092241.D
Acq: 10 Jun 2022 00:01

Tgt Ion: 72 Resp: 6621

Ion	Ratio	Lower	Upper
72	100		
43	627.0	523.8	563.8#

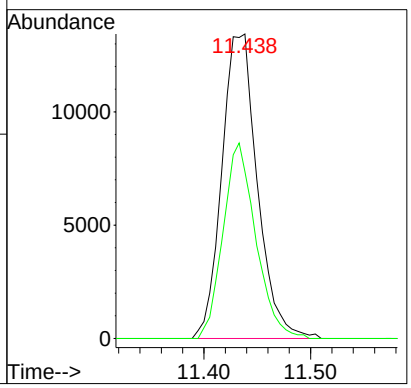




#30
Ethyl Acetate
Concen: 5.66 ng
RT: 11.44 min Scan# 1446
Delta R.T. -0.006 min
Lab File: 06092241.D
Acq: 10 Jun 2022 00:01

Tgt Ion: 61 Resp: 31153

Ion	Ratio	Lower	Upper
61	100		
70	59.1	49.4	89.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092242.D Vial: 9
Acq On : 10 Jun 2022 00:36 Operator: WA/CG
Sample : P2202388-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:26:01 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 6/12/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	112883	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	504441	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	136024	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	215115	13.360	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.88%				
57) Toluene-d8 (SS2)	15.88	98	563474	10.944	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%				
73) Bromofluorobenzene (SS3)	19.11	174	196026	10.445	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.52%				
Target Compounds							Qvalue
2) Propene	4.20	42	8371	N.D.			
3) Dichlorodifluoromethan...	4.35	85	45644	1.801	ng		99
4) Chloromethane	4.62	50	6464	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	948	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.26	54	1075	N.D.			
8) Bromomethane	5.78	94	205	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.46	45	39995	2.953	ng		100
11) Acetonitrile	6.74	41	5051	N.D.			
12) Acrolein	6.93	56	2948	N.D.			
13) Acetone	7.14	58	63411	5.977	ng	#	74
14) Trichlorofluoromethane	7.39	101	18889	0.845	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	12574	N.D.			
16) Acrylonitrile	7.91	53	550	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.60	59	1763	N.D.			
19) Methylene Chloride	8.57	84	2811	N.D.			
20) 3-Chloro-1-propene (Al...	8.67	41	594	N.D.			
21) Trichlorotrifluoroethane	9.01	151	3418	N.D.			
22) Carbon Disulfide	8.84	76	18184	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.24	73	288	N.D.			
26) Vinyl Acetate	10.33	86	2105	1.090	ng	#	78
27) 2-Butanone (MEK)	10.63	72	4341	0.530	ng	#	53
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	516	N.D.			
30) Ethyl Acetate	11.43	61	36093	6.679	ng		89
31) n-Hexane	11.42	57	2116	N.D.			
32) Chloroform	11.47	83	1594	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	510	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	13.02	56	8645	No Calib		#	
41) Benzene	13.03	78	5859	N.D.			
42) Carbon Tetrachloride	13.19	117	5137	N.D.			
43) Cyclohexane	13.32	84	370	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.13	130	162	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.20	57	6484	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092242.D Vial: 9
Acq On : 10 Jun 2022 00:36 Operator: WA/CG
Sample : P2202388-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:26:01 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

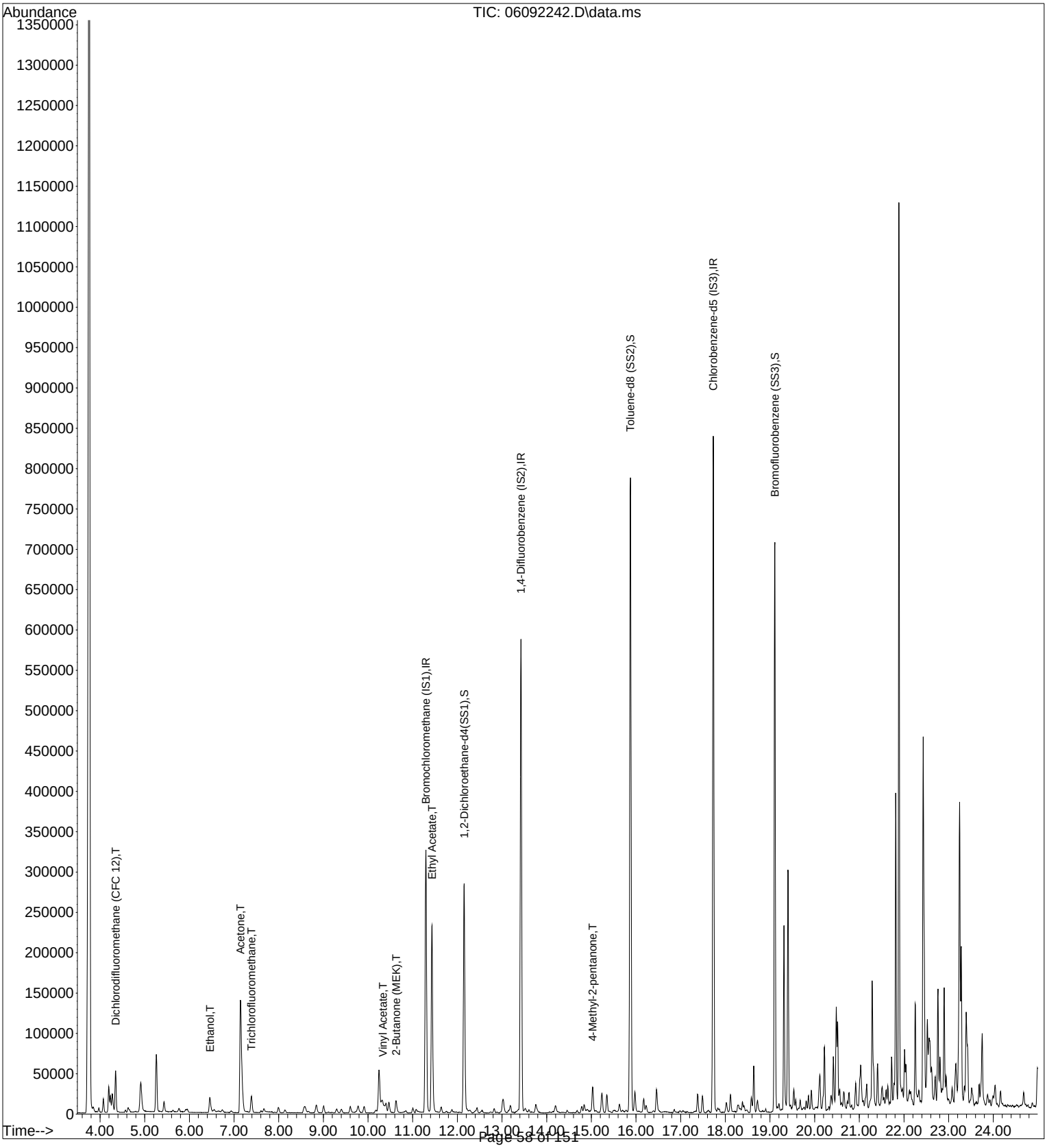
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	548	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.03	58	7745	0.570 ng #	42
54) trans-1,3-Dichloropropene	15.51	75	161	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.97	91	18354	N.D.	
59) 2-Hexanone	16.23	43	5466	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.85	43	3887	N.D.	
63) n-Octane	16.99	57	434	N.D.	
64) Tetrachloroethene	17.12	166	195	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.12	91	2409	N.D.	
67) m- & p-Xylenes	18.28	91	5386	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.61	104	1929	N.D.	
70) o-Xylene	18.71	91	2259	N.D.	
71) n-Nonane	18.91	43	2039	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.11	105	363	N.D.	
75) alpha-Pinene	19.58	93	4156	N.D.	
76) n-Propylbenzene	19.68	91	876	N.D.	
77) 3-Ethyltoluene	19.81	105	924	No Calib #	
78) 4-Ethyltoluene	19.81	105	924	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	483	N.D.	
80) alpha-Methylstyrene	20.01	118	485	No Calib #	
81) 2-Ethyltoluene	19.87	105	483	No Calib #	
82) 1,2,4-Trimethylbenzene	20.23	105	2262	N.D.	
83) n-Decane	20.21	58	1909	No Calib #	
84) Benzyl Chloride	20.35	91	997	N.D.	
85) 1,3-Dichlorobenzene	20.42	146	622	N.D.	
86) 1,4-Dichlorobenzene	20.42	146	622	N.D.	
87) sec-Butylbenzene	20.47	105	279	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	3374	N.D.	
89) 1,2,3-Trimethylbenzene	20.61	105	826	No Calib #	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	2189	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	22.25	57	17362	No Calib #	
94) 1,2,4-Trichlorobenzene	22.23	180	381	N.D.	
95) Naphthalene	22.34	128	4267	N.D.	
96) n-Dodecane	22.33	57	3978	No Calib #	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.31	55	1750	No Calib #	
99) tert-Butylbenzene	20.23	119	198	N.D.	
100) n-Butylbenzene	20.97	91	1107	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092242.D Vial: 9
Acq On : 10 Jun 2022 00:36 Operator: WA/CG
Sample : P2202388-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:26:01 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092242.D Vial: 9
Acq On : 10 Jun 2022 00:36 Operator: WA/CG
Sample : P2202388-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:26:01 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 6/12/22

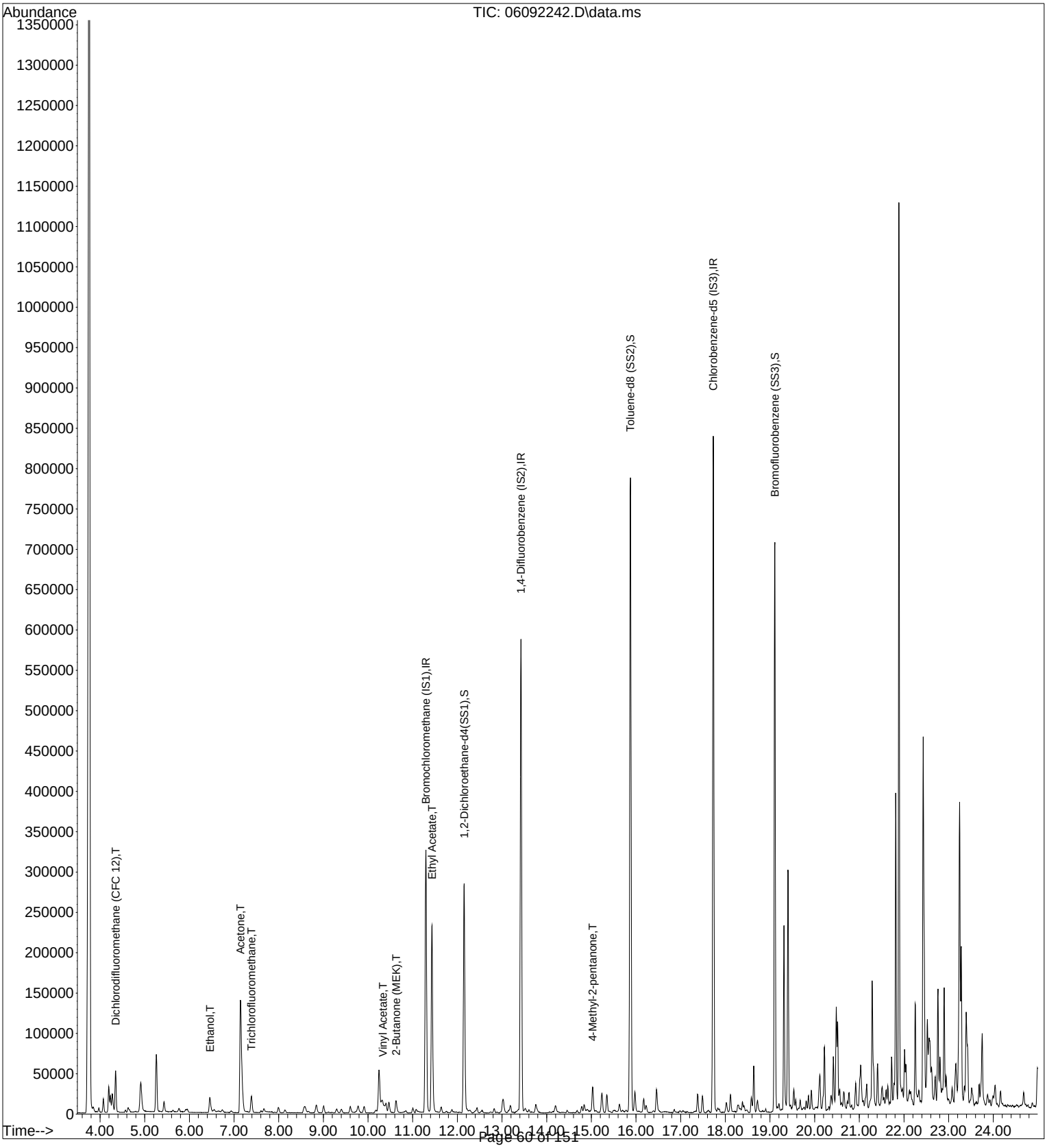
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	112883	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	504441	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	136024	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	215115	13.360	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.88%				
57) Toluene-d8 (SS2)	15.88	98	563474	10.944	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%				
73) Bromofluorobenzene (SS3)	19.11	174	196026	10.445	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.52%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.35	85	45644	1.801	ng		99
10) Ethanol	6.46	45	39995	2.953	ng		100
13) Acetone	7.14	58	63411	5.977	ng	#	74
14) Trichlorofluoromethane	7.39	101	18889	0.845	ng		100
26) Vinyl Acetate	10.33	86	2105	1.090	ng	#	78
27) 2-Butanone (MEK)	10.63	72	4341	0.530	ng	#	53
30) Ethyl Acetate	11.43	61	36093	6.679	ng		89
53) 4-Methyl-2-pentanone	15.03	58	7745	0.570	ng	#	42

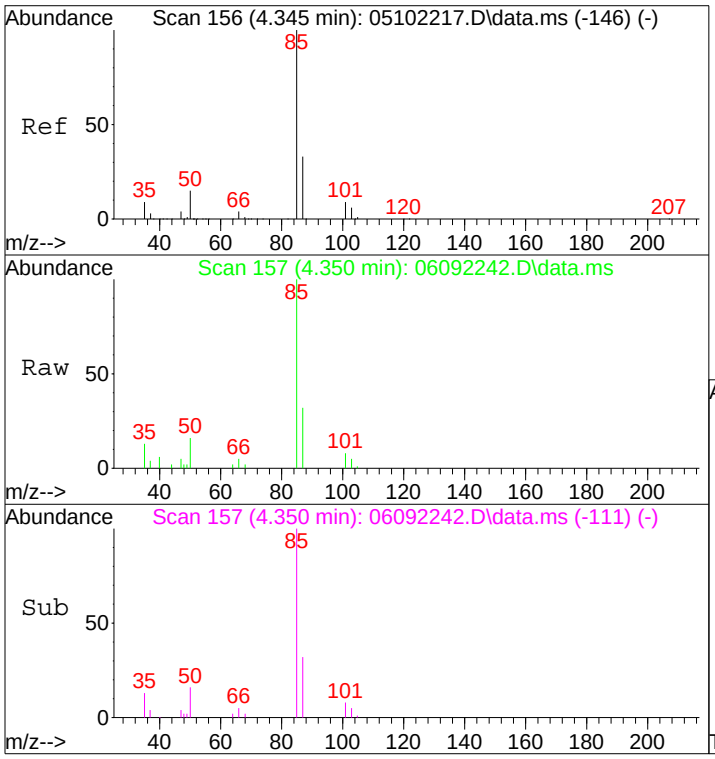
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092242.D Vial: 9
Acq On : 10 Jun 2022 00:36 Operator: WA/CG
Sample : P2202388-004 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:26:01 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

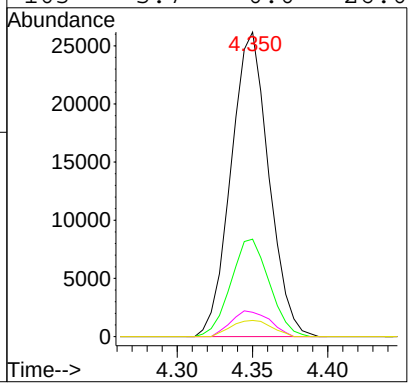


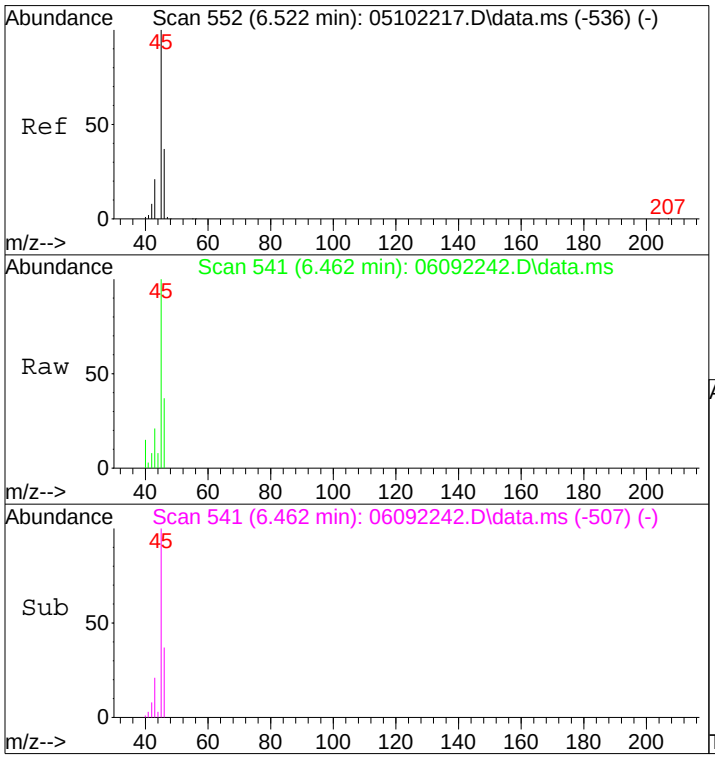


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.80 ng
RT: 4.35 min Scan# 157
Delta R.T. 0.005 min
Lab File: 06092242.D
Acq: 10 Jun 2022 00:36

Tgt Ion: 85 Resp: 45644

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.9	52.9
101	8.7	0.0	29.3
103	5.7	0.0	26.0

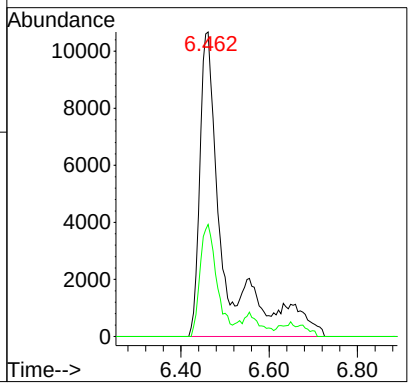


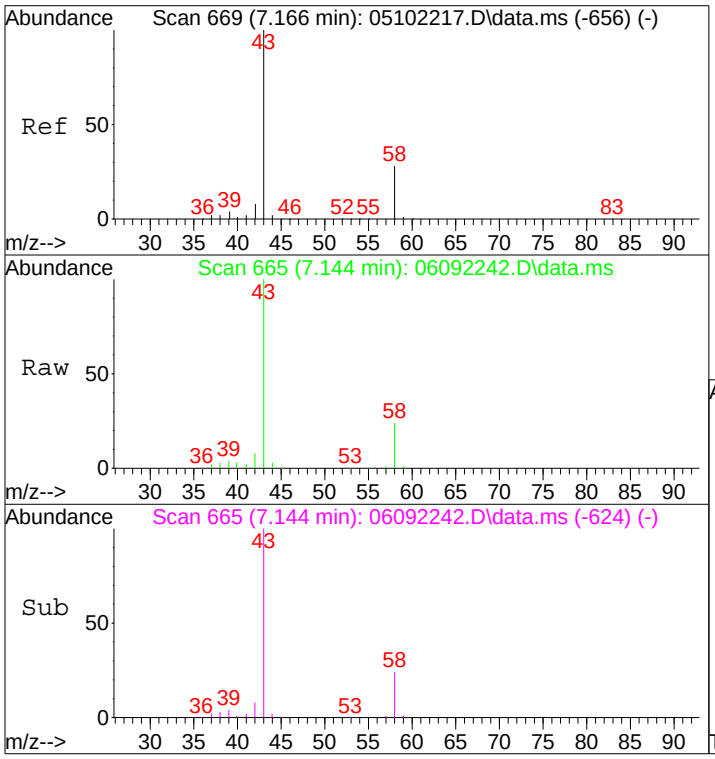


#10
Ethanol
Concen: 2.95 ng
RT: 6.46 min Scan# 541
Delta R.T. -0.061 min
Lab File: 06092242.D
Acq: 10 Jun 2022 00:36

Tgt Ion: 45 Resp: 39995

Ion	Ratio	Lower	Upper
45	100		
46	37.4	17.2	57.2

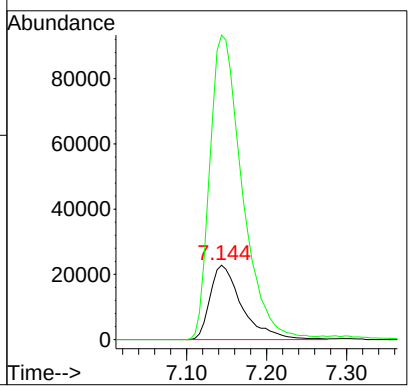


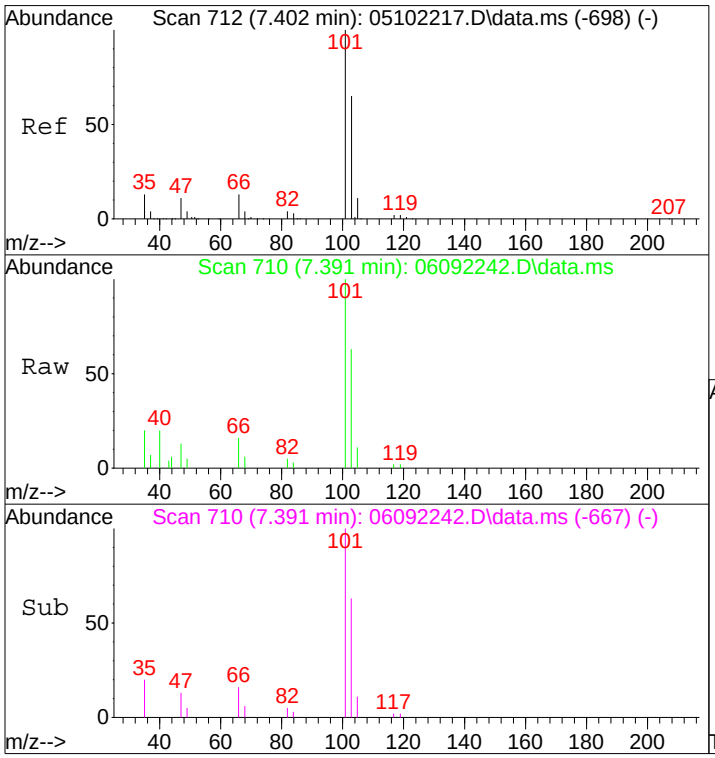


#13
Acetone
Concen: 5.98 ng
RT: 7.14 min Scan# 665
Delta R.T. -0.022 min
Lab File: 06092242.D
Acq: 10 Jun 2022 00:36

Tgt Ion: 58 Resp: 63411

Ion	Ratio	Lower	Upper
58	100		
43	422.7	334.7	394.7#

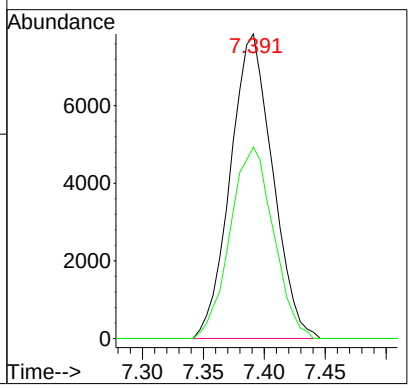


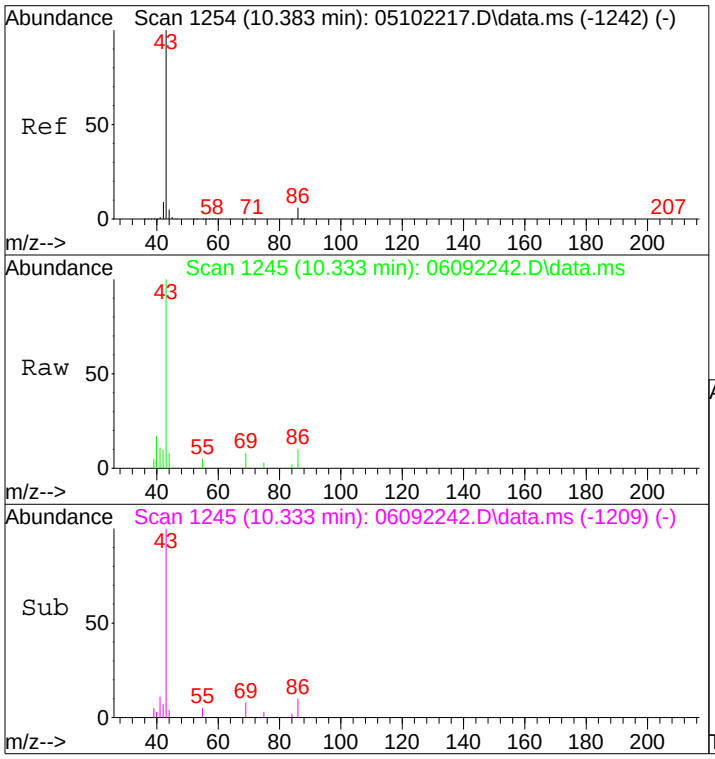


#14
Trichlorofluoromethane
Concen: 0.85 ng
RT: 7.39 min Scan# 710
Delta R.T. -0.011 min
Lab File: 06092242.D
Acq: 10 Jun 2022 00:36

Tgt Ion:101 Resp: 18889

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.5	84.5

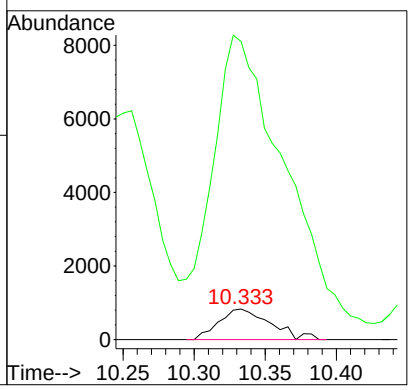


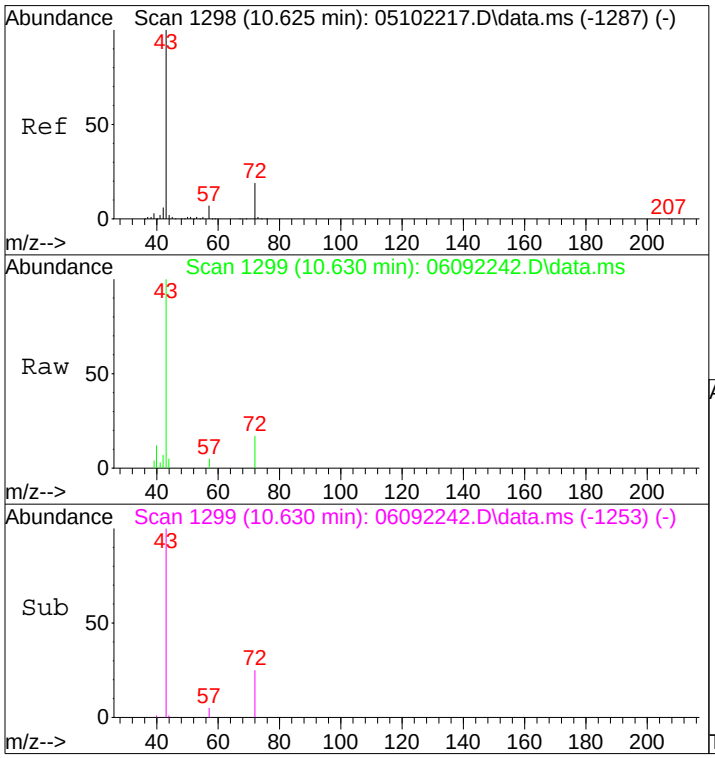


#26
Vinyl Acetate
Concen: 1.09 ng
RT: 10.33 min Scan# 1245
Delta R.T. -0.050 min
Lab File: 06092242.D
Acq: 10 Jun 2022 00:36

Tgt Ion: 86 Resp: 2105

Ion	Ratio	Lower	Upper
86	100		
43	1436.6	1551.4	1591.4#

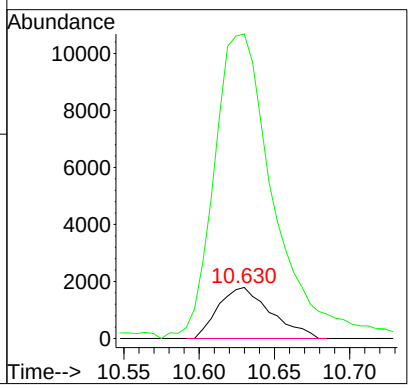


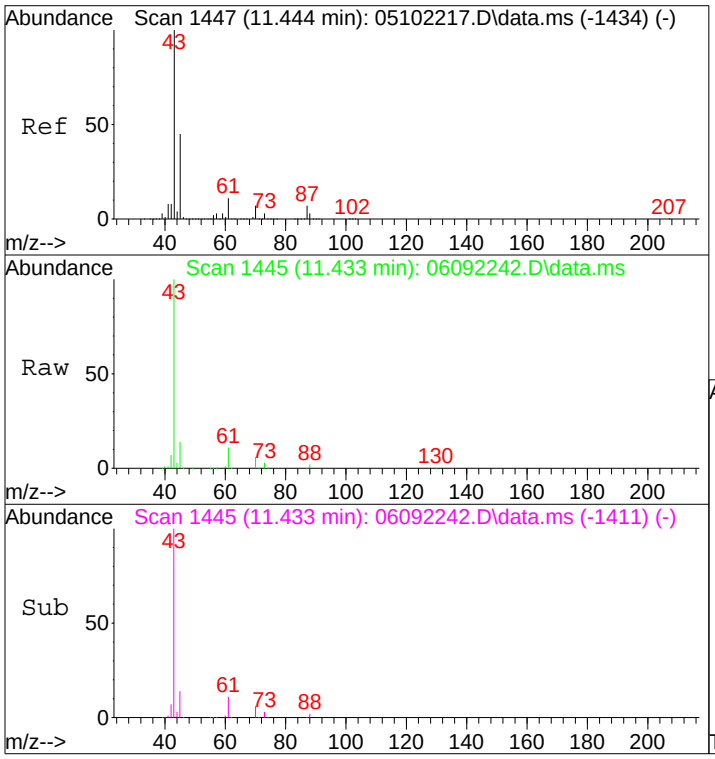


#27
2-Butanone (MEK)
Concen: 0.53 ng
RT: 10.63 min Scan# 1299
Delta R.T. 0.005 min
Lab File: 06092242.D
Acq: 10 Jun 2022 00:36

Tgt Ion: 72 Resp: 4341

Ion	Ratio	Lower	Upper
72	100		
43	680.4	523.8	563.8#

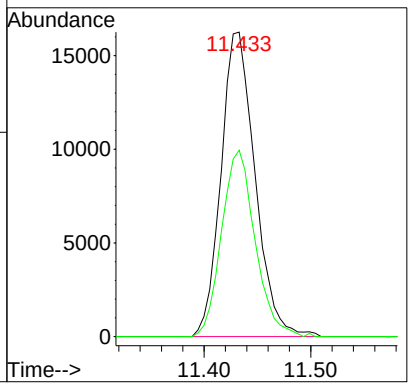


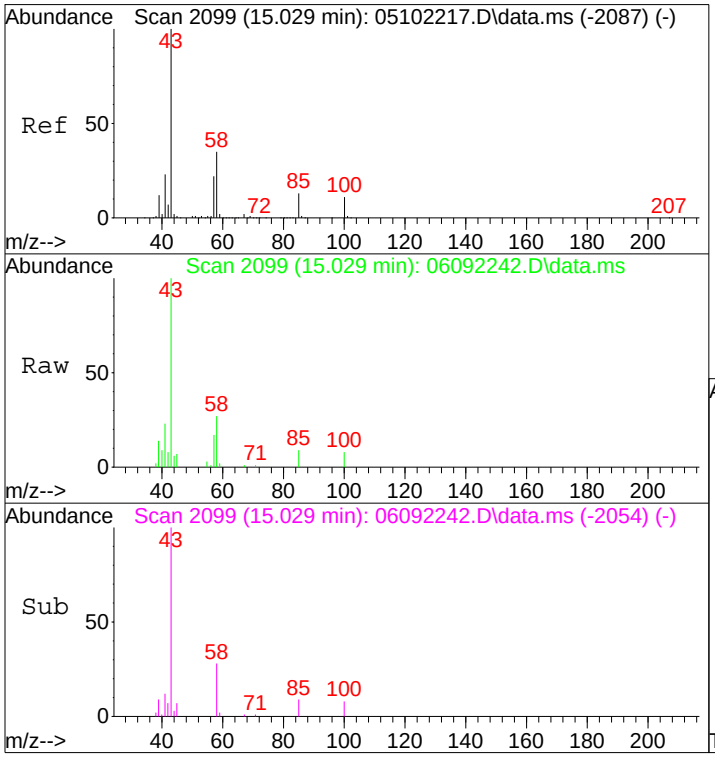


#30
Ethyl Acetate
Concen: 6.68 ng
RT: 11.43 min Scan# 1445
Delta R.T. -0.011 min
Lab File: 06092242.D
Acq: 10 Jun 2022 00:36

Tgt Ion: 61 Resp: 36093

Ion	Ratio	Lower	Upper
61	100		
70	60.2	49.4	89.4

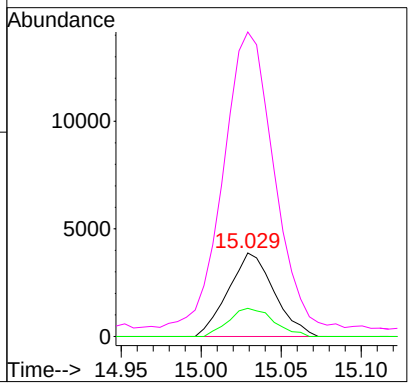




#53
4-Methyl-2-pentanone
Concen: 0.57 ng
RT: 15.03 min Scan# 2099
Delta R.T. -0.000 min
Lab File: 06092242.D
Acq: 10 Jun 2022 00:36

Tgt Ion: 58 Resp: 7745

Ion	Ratio	Lower	Upper
58	100		
85	33.1	29.7	44.5
43	408.1	227.9	341.9#



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092243.D Vial: 10
Acq On : 10 Jun 2022 1:10 Operator: WA/CG
Sample : P2202388-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:26:03 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) WA 6/12/22
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	115515	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	513104	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	135425	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	216224	13.123	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.96%				
57) Toluene-d8 (SS2)	15.88	98	563948	11.001	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%				
73) Bromofluorobenzene (SS3)	19.11	174	192148	10.284	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.24%				
Target Compounds							Qvalue
2) Propene	4.21	42	9521	N.D.			
3) Dichlorodifluoromethan...	4.36	85	48363	1.865	ng		99
4) Chloromethane	4.64	50	7870	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	993	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.78	94	366	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.47	45	48996	3.535	ng		100
11) Acetonitrile	6.74	41	5569	N.D.			
12) Acrolein	6.95	56	3270	N.D.			
13) Acetone	7.15	58	87497	8.060	ng	#	82
14) Trichlorofluoromethane	7.40	101	20258	0.886	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	16162	N.D.			
16) Acrylonitrile	7.92	53	105	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.60	59	886	N.D.			
19) Methylene Chloride	8.58	84	3043	N.D.			
20) 3-Chloro-1-propene (Al...	8.66	41	108	N.D.			
21) Trichlorotrifluoroethane	9.01	151	3805	N.D.			
22) Carbon Disulfide	8.84	76	3405	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.34	86	2132	1.079	ng	#	82
27) 2-Butanone (MEK)	10.63	72	6340	0.757	ng	#	58
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	636	N.D.			
30) Ethyl Acetate	11.43	61	80370	14.534	ng		89
31) n-Hexane	11.42	57	1660	N.D.			
32) Chloroform	11.46	83	1530	N.D.			
34) Tetrahydrofuran (THF)	11.93	72	367	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.28	62	736	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	13.02	56	23265	No Calib		#	
41) Benzene	13.03	78	6471	N.D.			
42) Carbon Tetrachloride	13.19	117	5709	N.D.			
43) Cyclohexane	13.32	84	122	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.20	57	4908	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092243.D Vial: 10
Acq On : 10 Jun 2022 1:10 Operator: WA/CG
Sample : P2202388-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:26:03 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

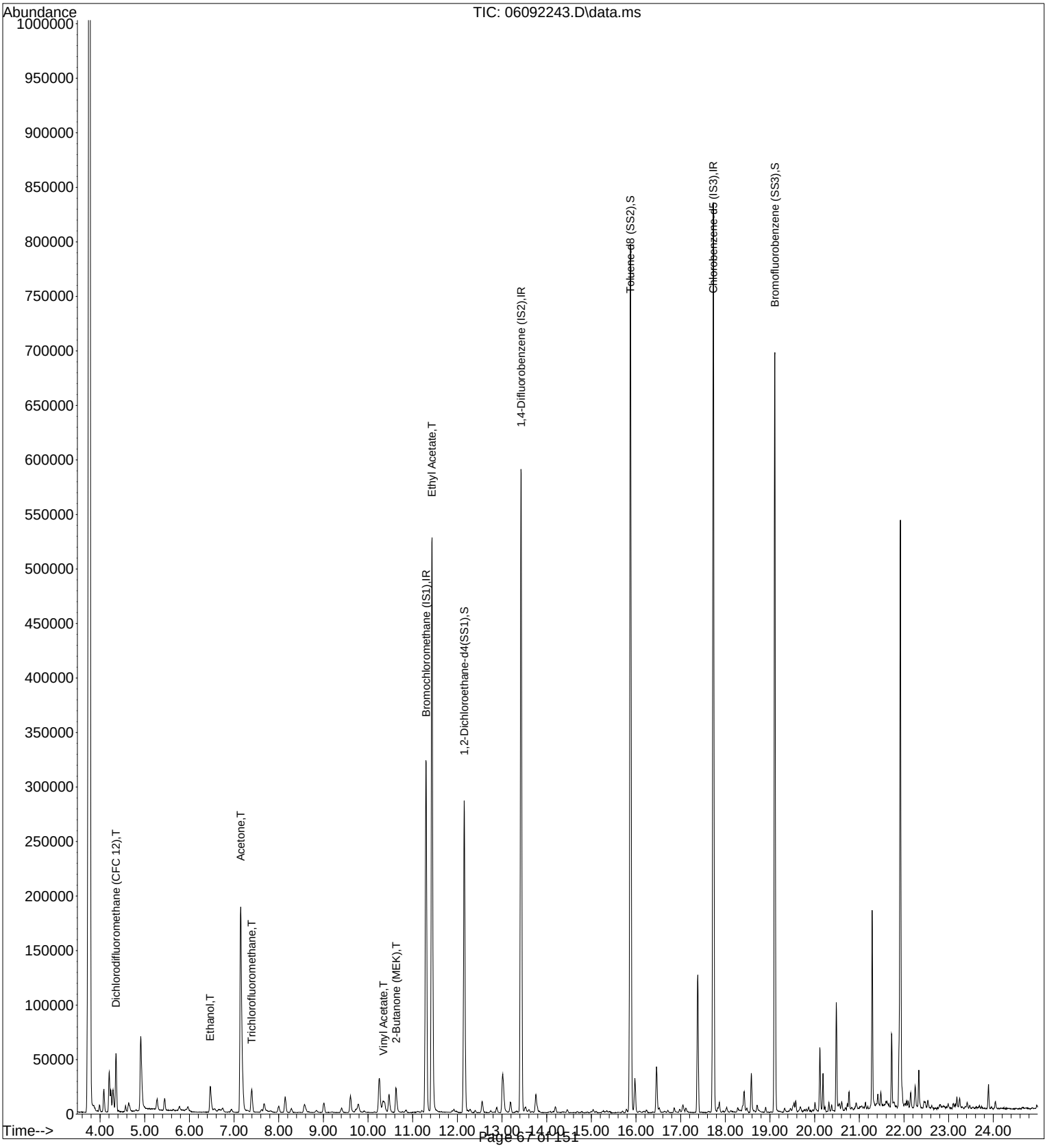
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	413	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	15.04	58	666	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.97	91	22763	N.D.		
59) 2-Hexanone	16.23	43	3099	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.85	43	5147	N.D.		
63) n-Octane	16.98	57	588	N.D.		
64) Tetrachloroethene	17.12	166	1085	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.13	91	1852	N.D.		
67) m- & p-Xylenes	18.28	91	3875	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.61	104	713	N.D.		
70) o-Xylene	18.71	91	2075	N.D.		
71) n-Nonane	18.91	43	2172	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	514	N.D.		
75) alpha-Pinene	19.58	93	3328	N.D.		
76) n-Propylbenzene	19.68	91	707	N.D.		
77) 3-Ethyltoluene	19.80	105	447	No Calib		#
78) 4-Ethyltoluene	19.80	105	447	N.D.		
79) 1,3,5-Trimethylbenzene	19.88	105	768	N.D.		
80) alpha-Methylstyrene	20.01	118	1853	No Calib		#
81) 2-Ethyltoluene	19.88	105	768	No Calib		#
82) 1,2,4-Trimethylbenzene	20.23	105	2368	N.D.		
83) n-Decane	20.12	58	794	No Calib		#
84) Benzyl Chloride	20.43	91	107	N.D.		
85) 1,3-Dichlorobenzene	20.43	146	181	N.D.		
86) 1,4-Dichlorobenzene	20.43	146	181	N.D.		
87) sec-Butylbenzene	20.61	105	894	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	3461	N.D.		
89) 1,2,3-Trimethylbenzene	20.61	105	894	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.73	68	1572	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	22.25	57	3137	No Calib		#
94) 1,2,4-Trichlorobenzene	22.24	180	360	N.D.		
95) Naphthalene	22.35	128	1179	N.D.		
96) n-Dodecane	22.33	57	9807	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.25	55	120	No Calib		#
99) tert-Butylbenzene	20.23	119	239	N.D.		
100) n-Butylbenzene	20.95	91	843	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092243.D Vial: 10
Acq On : 10 Jun 2022 1:10 Operator: WA/CG
Sample : P2202388-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:26:03 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092243.D Vial: 10
Acq On : 10 Jun 2022 1:10 Operator: WA/CG
Sample : P2202388-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:26:03 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 6/12/22

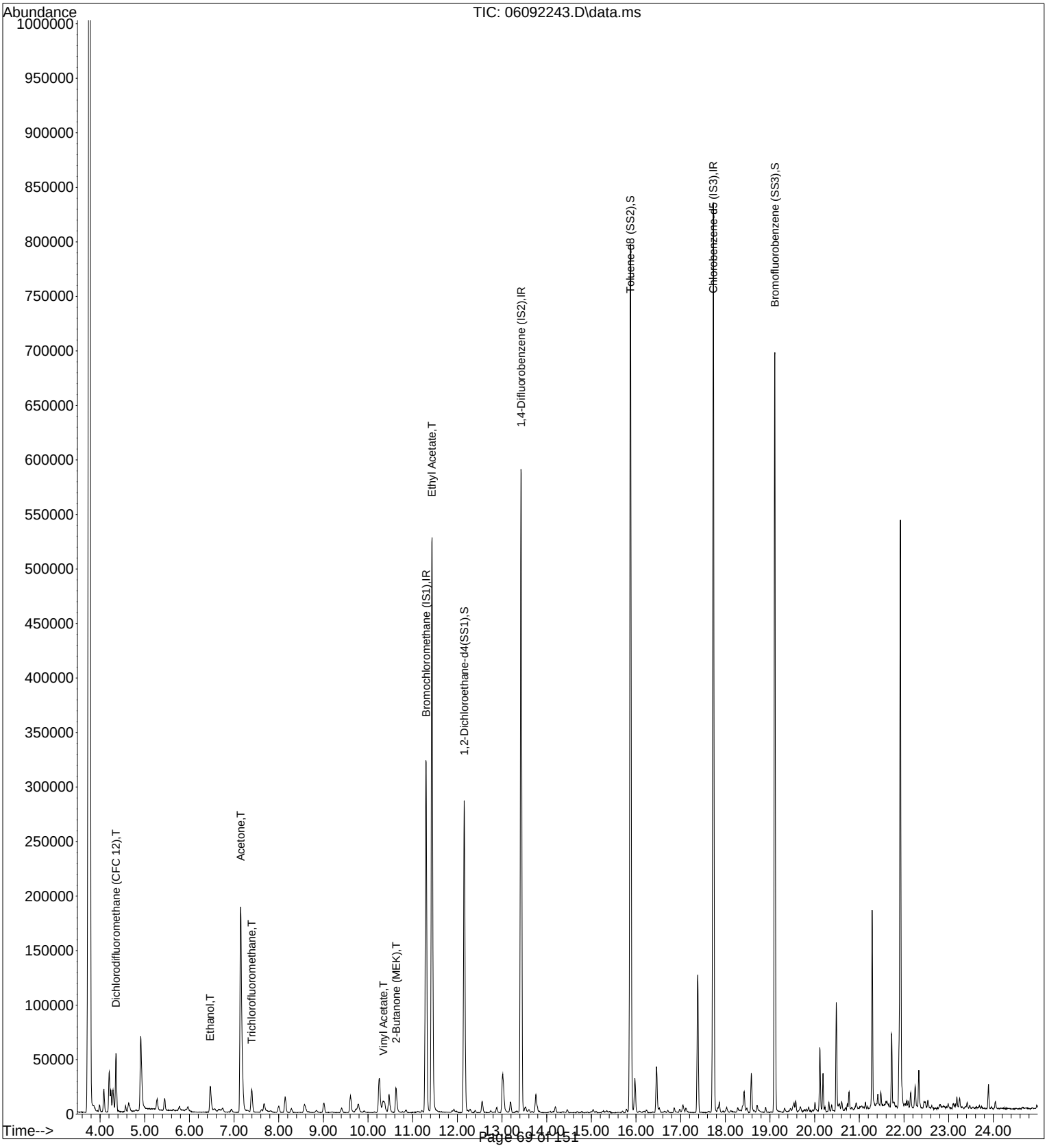
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	115515	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	513104	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	135425	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	216224	13.123	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.96%				
57) Toluene-d8 (SS2)	15.88	98	563948	11.001	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%				
73) Bromofluorobenzene (SS3)	19.11	174	192148	10.284	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.24%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.36	85	48363	1.865	ng		99
10) Ethanol	6.47	45	48996	3.535	ng		100
13) Acetone	7.15	58	87497	8.060	ng	#	82
14) Trichlorofluoromethane	7.40	101	20258	0.886	ng		100
26) Vinyl Acetate	10.34	86	2132	1.079	ng	#	82
27) 2-Butanone (MEK)	10.63	72	6340	0.757	ng	#	58
30) Ethyl Acetate	11.43	61	80370	14.534	ng		89

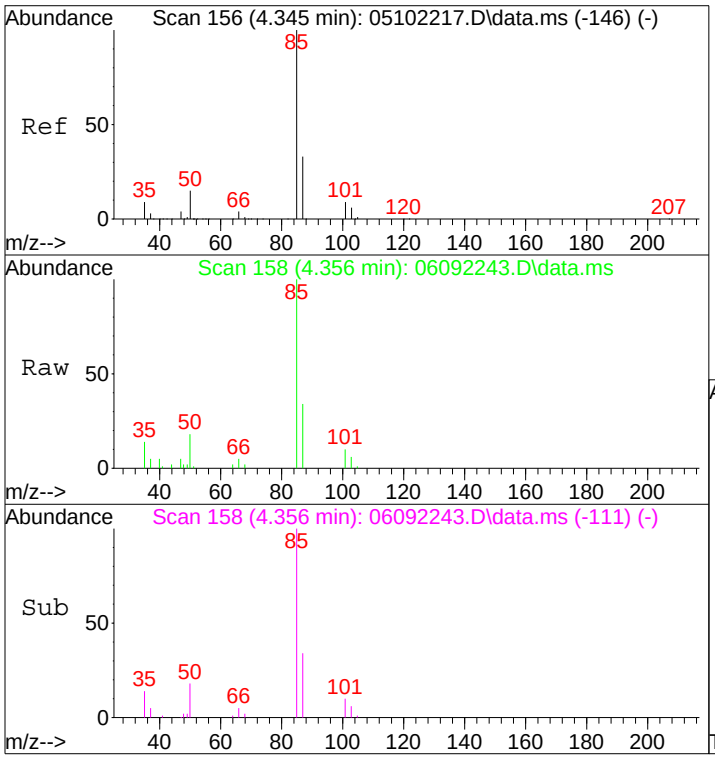
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092243.D Vial: 10
Acq On : 10 Jun 2022 1:10 Operator: WA/CG
Sample : P2202388-005 (1000mL) Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 03:26:03 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

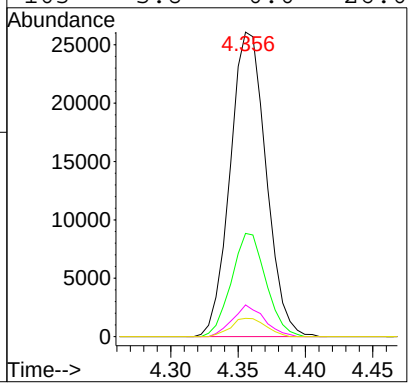


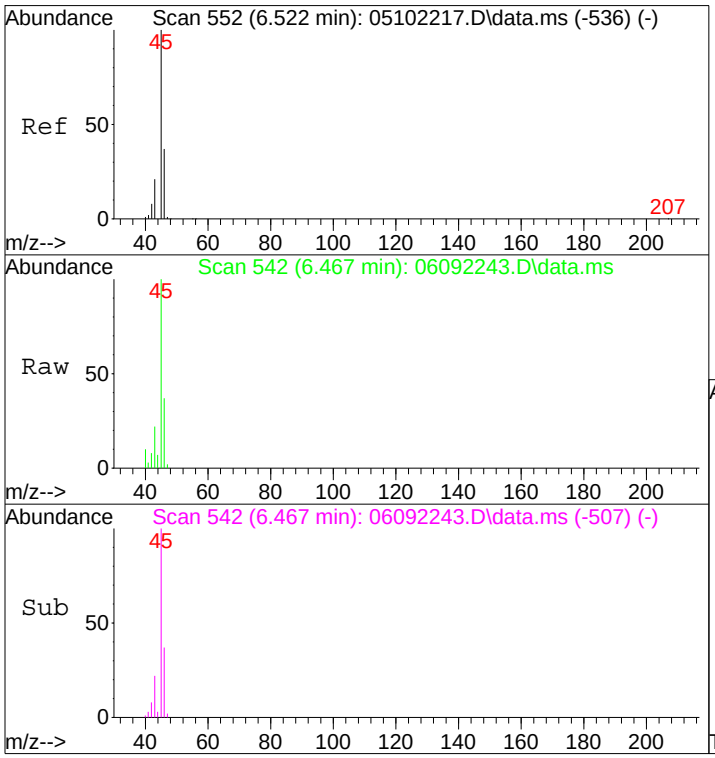


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.86 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.011 min
Lab File: 06092243.D
Acq: 10 Jun 2022 1:10

Tgt Ion: 85 Resp: 48363

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.9	52.9
101	9.2	0.0	29.3
103	5.8	0.0	26.0

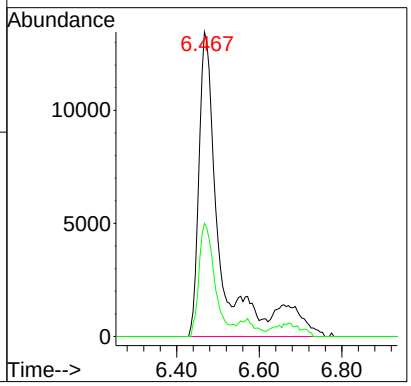


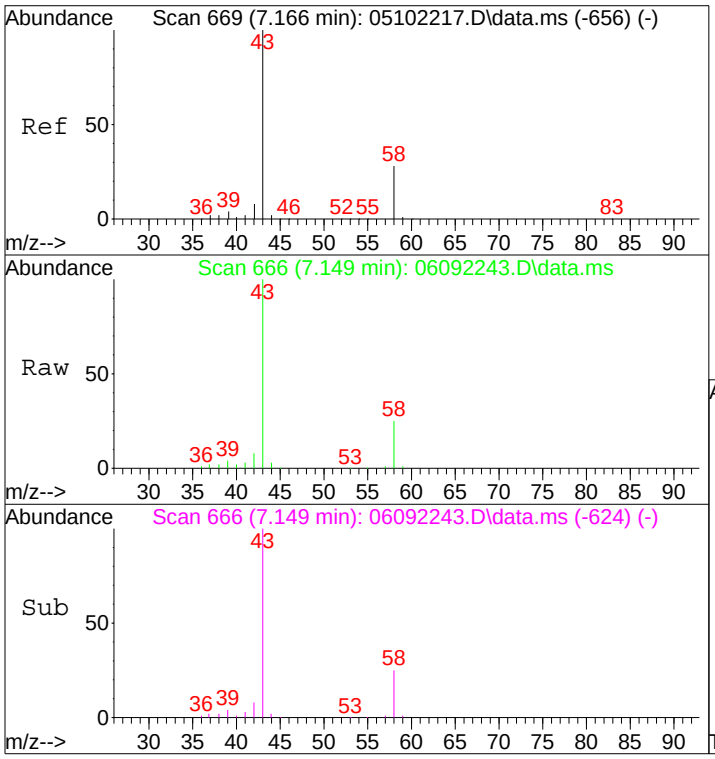


#10
Ethanol
Concen: 3.54 ng
RT: 6.47 min Scan# 542
Delta R.T. -0.055 min
Lab File: 06092243.D
Acq: 10 Jun 2022 1:10

Tgt Ion: 45 Resp: 48996

Ion	Ratio	Lower	Upper
45	100		
46	37.3	17.2	57.2

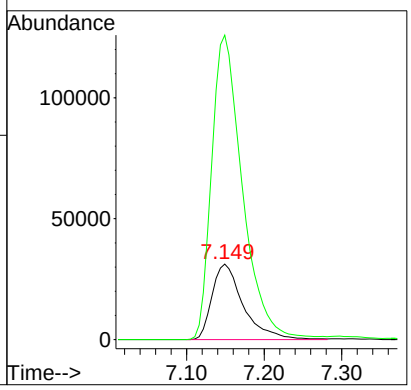


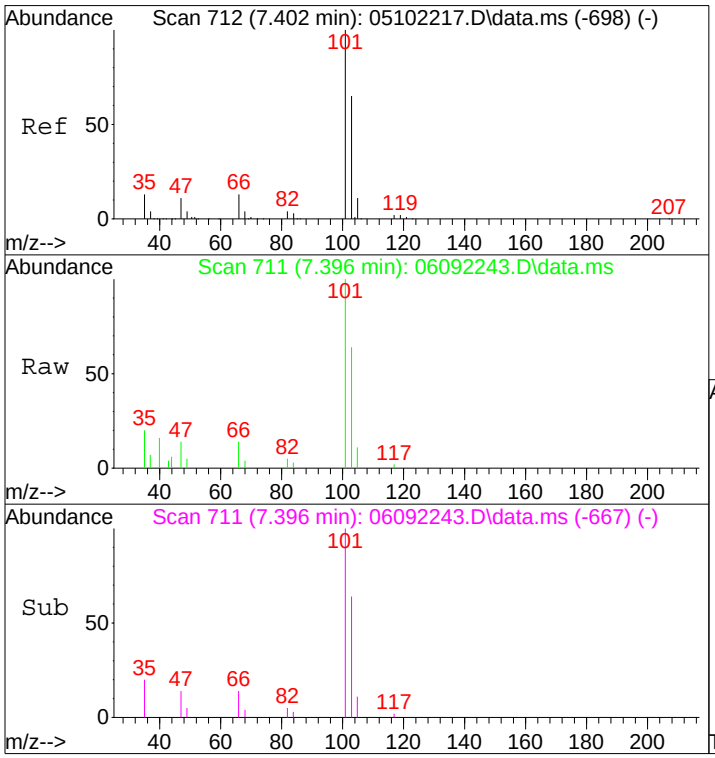


#13
Acetone
Concen: 8.06 ng
RT: 7.15 min Scan# 666
Delta R.T. -0.017 min
Lab File: 06092243.D
Acq: 10 Jun 2022 1:10

Tgt Ion: 58 Resp: 87497

Ion	Ratio	Lower	Upper
58	100		
43	403.9	334.7	394.7#

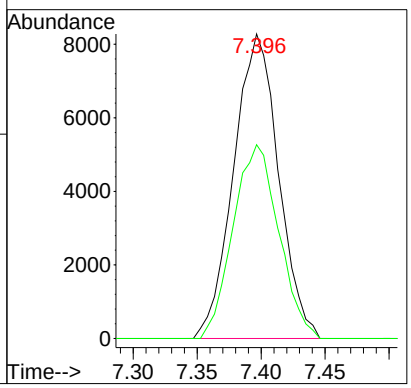


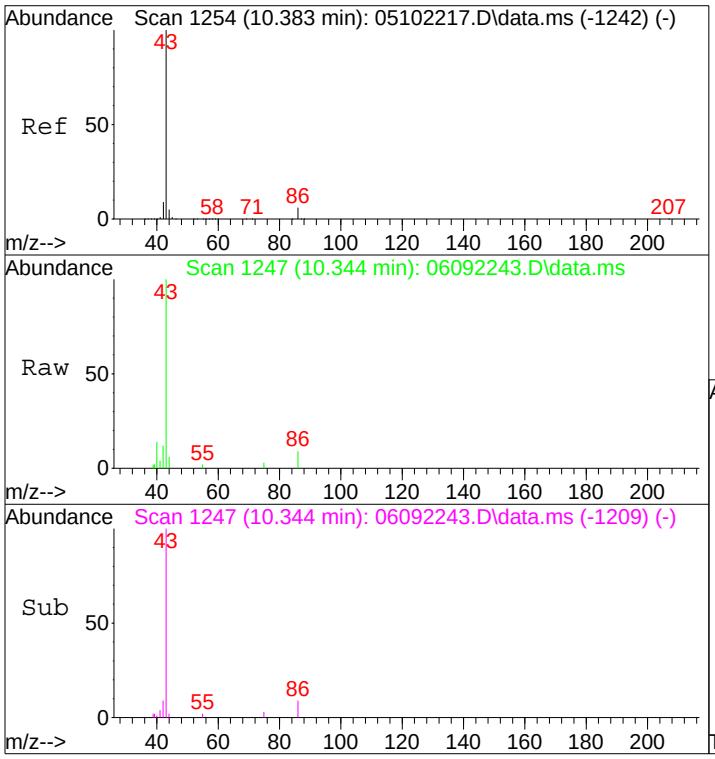


#14
Trichlorofluoromethane
Concen: 0.89 ng
RT: 7.40 min Scan# 711
Delta R.T. -0.006 min
Lab File: 06092243.D
Acq: 10 Jun 2022 1:10

Tgt Ion:101 Resp: 20258

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.5	84.5

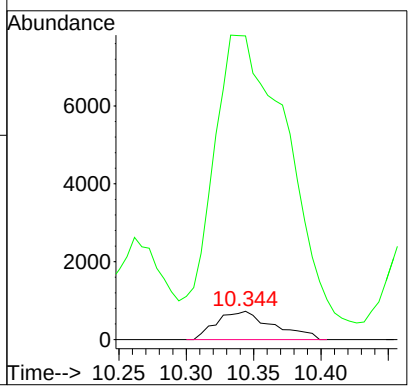


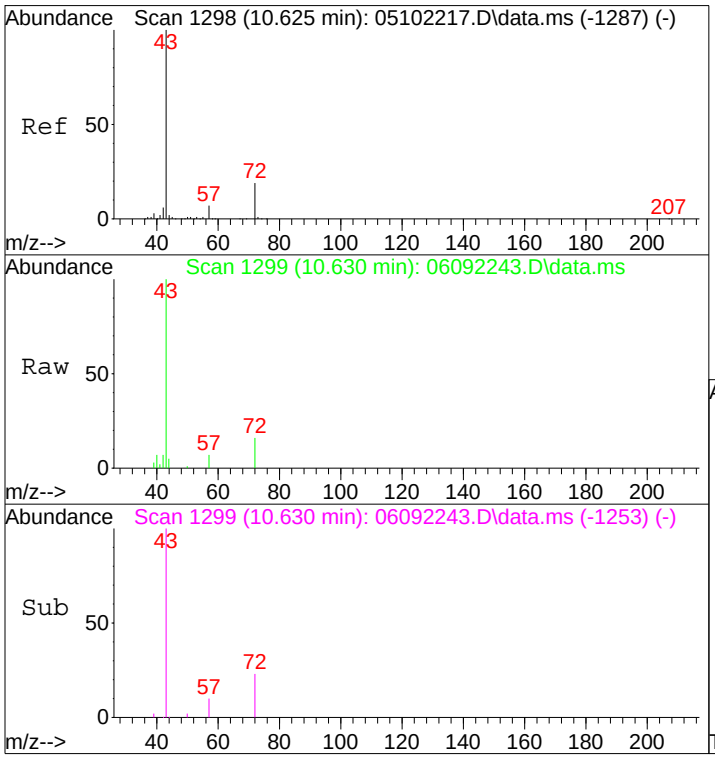


#26
Vinyl Acetate
Concen: 1.08 ng
RT: 10.34 min Scan# 1247
Delta R.T. -0.039 min
Lab File: 06092243.D
Acq: 10 Jun 2022 1:10

Tgt Ion: 86 Resp: 2132

Ion	Ratio	Lower	Upper
86	100		
43	1462.9	1551.4	1591.4#

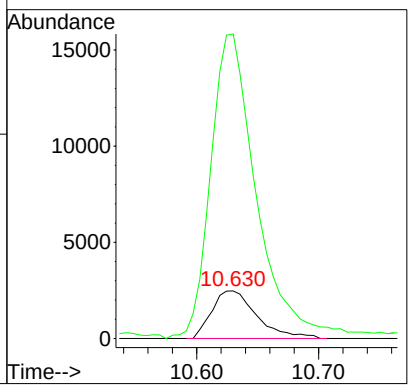


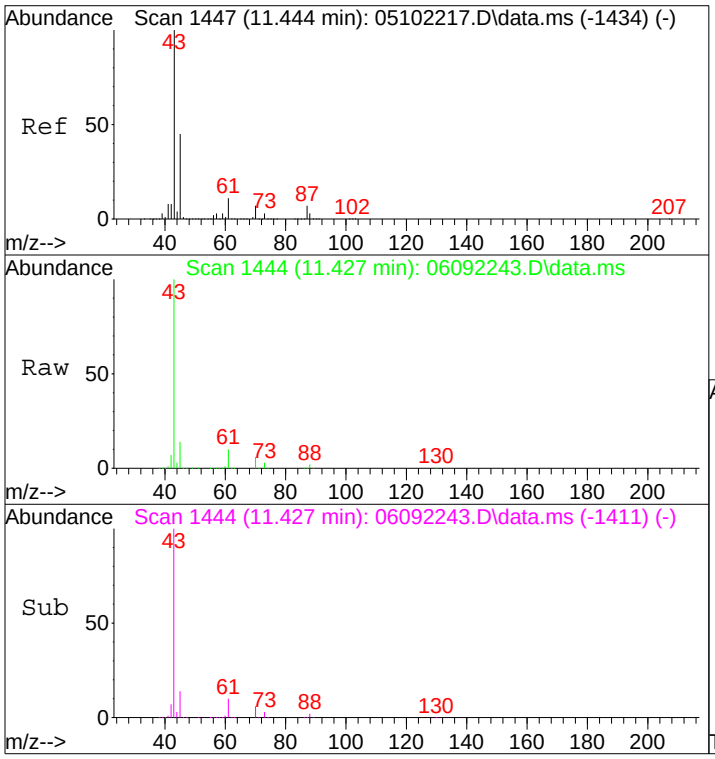


#27
2-Butanone (MEK)
Concen: 0.76 ng
RT: 10.63 min Scan# 1299
Delta R.T. 0.005 min
Lab File: 06092243.D
Acq: 10 Jun 2022 1:10

Tgt Ion: 72 Resp: 6340

Ion	Ratio	Lower	Upper
72	100		
43	666.2	523.8	563.8#

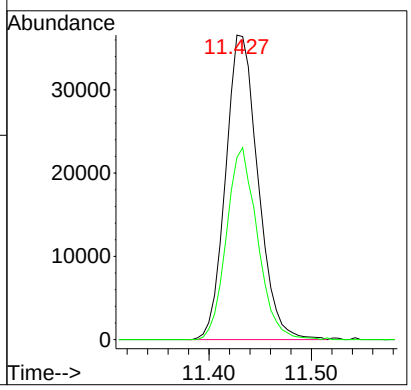




#30
Ethyl Acetate
Concen: 14.53 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.017 min
Lab File: 06092243.D
Acq: 10 Jun 2022 1:10

Tgt Ion: 61 Resp: 80370

Ion	Ratio	Lower	Upper
61	100		
70	60.4	49.4	89.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092236.D Vial: 2
Acq On : 9 Jun 2022 21:09 Operator: WA/CG
Sample : MB2 R16060922_1000mL Inst : GCMS-16
Misc : S35-04032201

WA 6/10/22

Quant Time: Jun 10 06:21:52 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	120449	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	530740	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	136043	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	225454	13.123	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.96%				
57) Toluene-d8 (SS2)	15.88	98	574782	11.162	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%				
73) Bromofluorobenzene (SS3)	19.11	174	197814	10.539	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.32%				
Target Compounds							Qvalue
2) Propene	4.23	42	363	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.49	45	3872	0.268	ng		84
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	6.97	56	56	N.D.			
13) Acetone	7.20	58	1664	0.147	ng	#	73
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.72	45	189	N.D.			
16) Acrylonitrile	7.92	53	796	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.86	76	605	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	607	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.43	84	511	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092236.D Vial: 2
Acq On : 9 Jun 2022 21:09 Operator: WA/CG
Sample : MB2 R16060922_1000mL Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 06:21:52 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

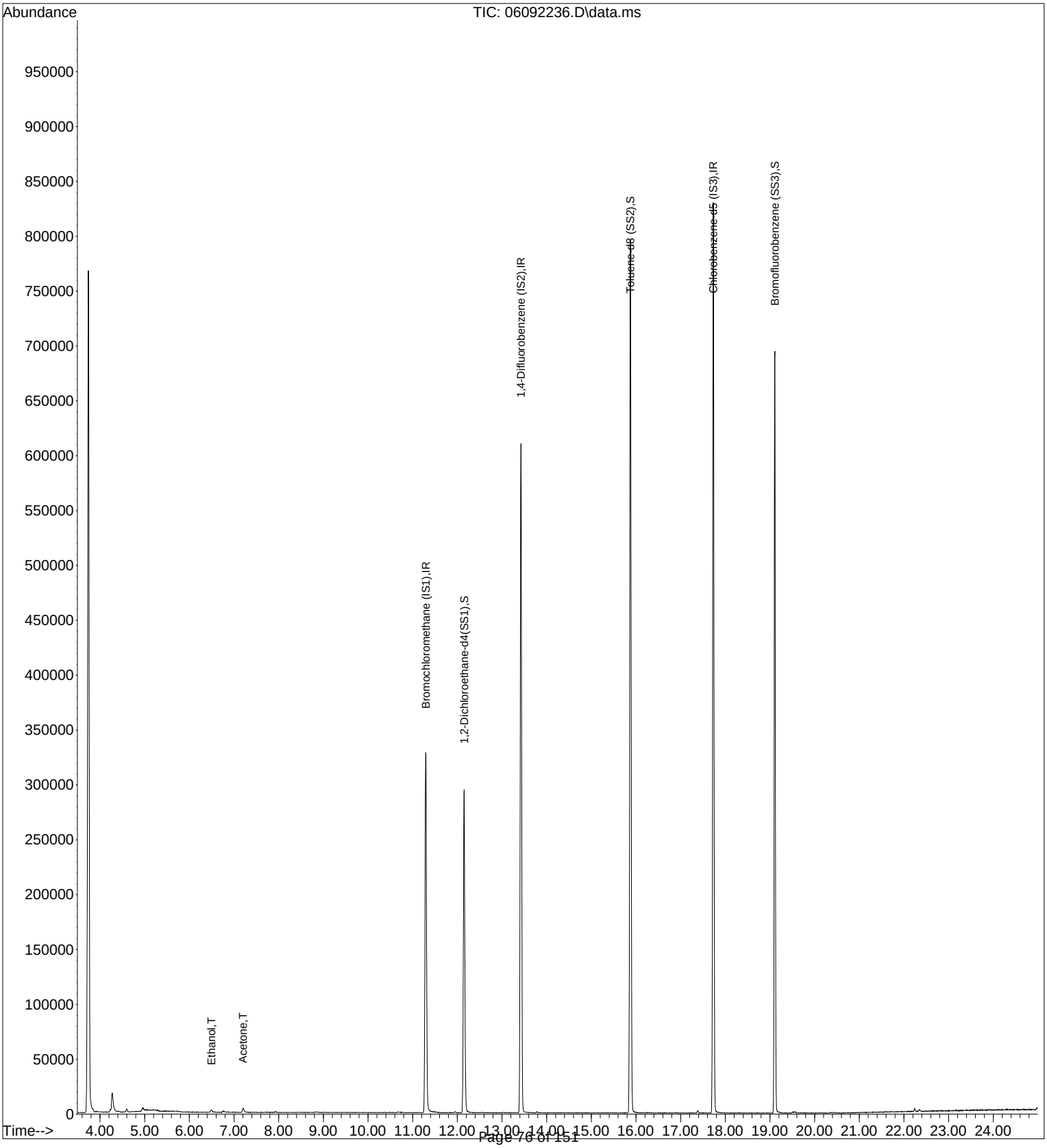
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	252	N.D.	
59) 2-Hexanone	16.25	43	675	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.88	43	580	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.28	91	326	N.D.	
67) m- & p-Xylenes	18.28	91	376	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	0.00	91	0	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.10	105	418	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.68	91	281	N.D.	
77) 3-Ethyltoluene	19.59	105	226	No Calib	#
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.36	91	276	N.D.	
85) 1,3-Dichlorobenzene	20.37	146	254	N.D.	
86) 1,4-Dichlorobenzene	20.43	146	377	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	20.73	146	202	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.24	180	1149	N.D.	
95) Naphthalene	22.35	128	2628	N.D.	
96) n-Dodecane	0.00	57	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	20.98	91	268	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092236.D Vial: 2
Acq On : 9 Jun 2022 21:09 Operator: WA/CG
Sample : MB2 R16060922_1000mL Inst : GCMS-16
Misc : S35-04032201

Quant Time: Jun 10 06:21:52 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092237.D Vial: 2
Acq On : 9 Jun 2022 21:43 Operator: WA/CG
Sample : LCS2 R16060922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05312201 (6/30)

Quant Time: Jun 10 03:25:51 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) WA 6/10/22
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	127251	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	561258	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	156604	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	239303	13.184	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%				
57) Toluene-d8 (SS2)	15.88	98	615065	10.376	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.04%				
73) Bromofluorobenzene (SS3)	19.11	174	229105	10.603	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.80%				
Target Compounds							Qvalue
2) Propene	4.19	42	761951	30.728	ng		99
3) Dichlorodifluoromethan...	4.34	85	730941	25.584	ng		100
4) Chloromethane	4.64	50	664741	26.543	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	383067	26.174	ng		100
6) Vinyl Chloride	5.06	62	640494	28.848	ng		99
7) 1,3-Butadiene	5.34	54	587476	29.474	ng		96
8) Bromomethane	5.78	94	276374	25.027	ng		100
9) Chloroethane	6.12	64	254126	26.835	ng		100
10) Ethanol	6.53	45	1742731	114.142	ng		99
11) Acetonitrile	6.78	41	929355	26.081	ng		100
12) Acrolein	6.95	56	557009	50.642	ng		99
13) Acetone	7.17	58	1695105	141.741	ng		87
14) Trichlorofluoromethane	7.40	101	638859	25.364	ng		99
15) 2-Propanol (Isopropanol)	7.68	45	2299235	53.099	ng		99
16) Acrylonitrile	7.94	53	1218998	54.754	ng		99
17) 1,1-Dichloroethene	8.37	96	336040	25.566	ng		93
18) 2-Methyl-2-Propanol (t...	8.55	59	2026893	51.903	ng		97
19) Methylene Chloride	8.61	84	344477	25.202	ng		85
20) 3-Chloro-1-propene (Al...	8.77	41	686768	28.710	ng		95
21) Trichlorotrifluoroethane	9.01	151	298370	24.961	ng		93
22) Carbon Disulfide	8.86	76	2523909	53.830	ng		100
23) trans-1,2-Dichloroethene	9.88	61	563812	27.152	ng		98
24) 1,1-Dichloroethane	10.13	63	685919	26.943	ng		100
25) Methyl tert-Butyl Ether	10.22	73	1078031	25.344	ng		98
26) Vinyl Acetate	10.38	86	352022	161.664	ng	#	53
27) 2-Butanone (MEK)	10.62	72	493847	53.517	ng	#	74
28) cis-1,2-Dichloroethene	11.15	61	549405	26.637	ng		96
29) Diisopropyl Ether	11.43	87	768090	65.064	ng	#	80
30) Ethyl Acetate	11.44	61	594376	97.572	ng		93
31) n-Hexane	11.42	57	899246	31.714	ng		99
32) Chloroform	11.49	83	646004	27.706	ng		100
34) Tetrahydrofuran (THF)	11.88	72	462479	52.717	ng	#	84
35) Ethyl tert-Butyl Ether	12.03	87	917294	55.415	ng		90
36) 1,2-Dichloroethane	12.29	62	553309	27.216	ng		100
38) 1,1,1-Trichloroethane	12.57	97	584268	25.755	ng		98
39) Isopropyl Acetate	13.00	61	10592	No Calib		#	
40) 1-Butanol	13.02	56	12046	No Calib		#	
41) Benzene	13.04	78	1432258	26.677	ng		100
42) Carbon Tetrachloride	13.20	117	477282	24.700	ng		100
43) Cyclohexane	13.33	84	1129964	54.549	ng		93
44) tert-Amyl Methyl Ether	13.68	73	2235206	55.994	ng		95
45) 1,2-Dichloropropane	13.89	63	399916	27.176	ng		100
46) Bromodichloromethane	14.08	83	527403	27.047	ng		100
47) Trichloroethene	14.14	130	392589	26.296	ng		99
48) 1,4-Dioxane	14.11	88	299579	26.732	ng		97
49) 2,2,4-Trimethylpentane...	14.20	57	1887801	28.100	ng		95
50) Methyl Methacrylate	14.34	100	304096	54.552	ng		90

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092237.D Vial: 2
Acq On : 9 Jun 2022 21:43 Operator: WA/CG
Sample : LCS2 R16060922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05312201 (6/30)

Quant Time: Jun 10 03:25:51 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

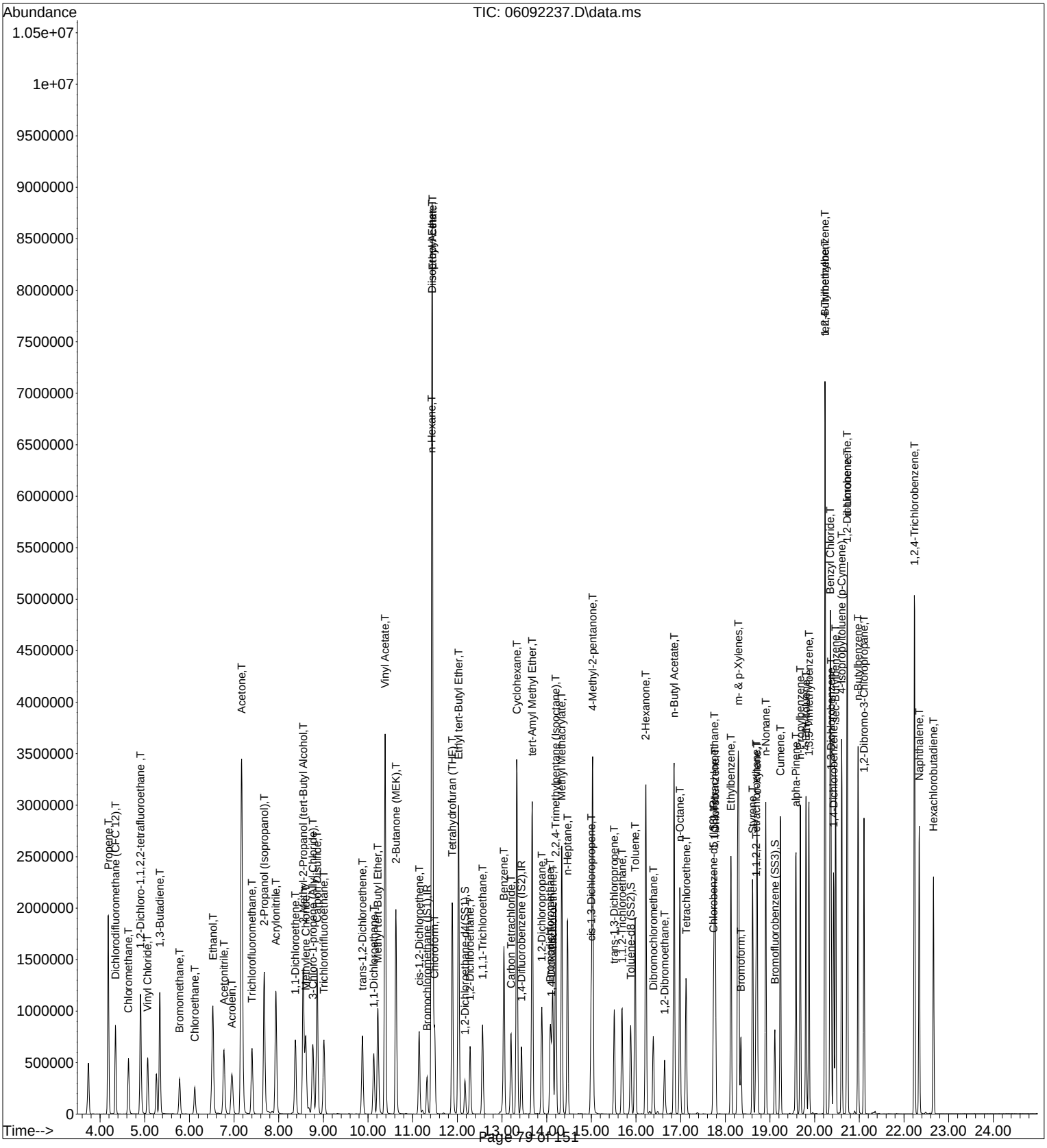
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.47	71	372129	26.438	ng		94
52) cis-1,3-Dichloropropene	15.00	75	596353	28.081	ng		100
53) 4-Methyl-2-pentanone	15.03	58	914949	60.556	ng		85
54) trans-1,3-Dichloropropene	15.51	75	535004	27.344	ng		100
55) 1,1,2-Trichloroethane	15.69	97	352746	26.363	ng		99
58) Toluene	15.98	91	1496403	21.587	ng		99
59) 2-Hexanone	16.22	43	2728286	51.799	ng		94
60) Dibromochloromethane	16.39	129	443308	21.106	ng		100
61) 1,2-Dibromoethane	16.64	107	404724	21.085	ng		99
62) n-Butyl Acetate	16.85	43	3061530	53.284	ng		95
63) n-Octane	16.98	57	406353	21.783	ng		93
64) Tetrachloroethene	17.12	166	403744	20.580	ng		100
65) Chlorobenzene	17.77	112	1006293	21.802	ng		100
66) Ethylbenzene	18.13	91	1776019	22.067	ng		99
67) m- & p-Xylenes	18.29	91	2896322	45.928	ng		99
68) Bromoform	18.35	173	375570	20.848	ng		100
69) Styrene	18.61	104	1042083	21.597	ng		99
70) o-Xylene	18.71	91	1438875	22.986	ng		99
71) n-Nonane	18.91	43	1189696	26.002	ng		92
72) 1,1,2,2-Tetrachloroethane	18.69	83	681080	23.323	ng		100
74) Cumene	19.24	105	1842668	22.602	ng		99
75) alpha-Pinene	19.58	93	899367	23.128	ng		97
76) n-Propylbenzene	19.68	91	2239127	23.147	ng		98
77) 3-Ethyltoluene	19.81	105	1851627	No Calib			
78) 4-Ethyltoluene	19.81	105	1851627	23.037	ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	1545527	23.116	ng		98
80) alpha-Methylstyrene	19.87	118	12086	No Calib		#	
81) 2-Ethyltoluene	19.87	105	1545527	No Calib			
82) 1,2,4-Trimethylbenzene	20.23	105	1792603	25.931	ng		99
83) n-Decane	20.23	58	114913	No Calib		#	
84) Benzyl Chloride	20.35	91	2725429	54.550	ng		97
85) 1,3-Dichlorobenzene	20.37	146	931335	23.637	ng		100
86) 1,4-Dichlorobenzene	20.42	146	873611	21.824	ng		100
87) sec-Butylbenzene	20.47	105	2107493	23.706	ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	1814895	22.950	ng		99
89) 1,2,3-Trimethylbenzene	20.61	105	70594	No Calib			
90) 1,2-Dichlorobenzene	20.73	146	909435	23.927	ng		99
91) d-Limonene	20.73	68	681279	26.651	ng		96
92) 1,2-Dibromo-3-Chloropr...	21.11	157	667482	43.407	ng	#	85
93) n-Undecane	22.33	57	2097	No Calib		#	
94) 1,2,4-Trichlorobenzene	22.24	180	1427203	44.641	ng		100
95) Naphthalene	22.34	128	2047435	22.184	ng		100
96) n-Dodecane	22.33	57	2097	No Calib		#	
97) Hexachlorobutadiene	22.66	225	394248	19.312	ng		100
98) Cyclohexanone	18.28	55	3002	No Calib			
99) tert-Butylbenzene	20.23	119	1701656	25.635	ng		99
100) n-Butylbenzene	20.97	91	1733280	23.661	ng		97
101) 1,1,1,2-Tetrachloroethane	17.76	131	387097	21.159	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092237.D Vial: 2
Acq On : 9 Jun 2022 21:43 Operator: WA/CG
Sample : LCS2 R16060922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05312201 (6/30)

Quant Time: Jun 10 03:25:51 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092244.D Vial: 2
Acq On : 10 Jun 2022 1:45 Operator: WA/CG
Sample : LCSD2 R16060922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05312201 (6/30)

Quant Time: Jun 10 03:26:06 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 6/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	125069	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	552592	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	154439	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	236436	13.254	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%				
57) Toluene-d8 (SS2)	15.88	98	611443	10.459	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.68%				
73) Bromofluorobenzene (SS3)	19.11	174	225252	10.571	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.56%				
Target Compounds							Qvalue
2) Propene	4.18	42	779546	31.986	ng		100
3) Dichlorodifluoromethan...	4.34	85	734439	26.155	ng		100
4) Chloromethane	4.64	50	690133	28.038	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	375341	26.094	ng		100
6) Vinyl Chloride	5.06	62	642802	29.457	ng		99
7) 1,3-Butadiene	5.33	54	587199	29.974	ng		95
8) Bromomethane	5.78	94	274099	25.254	ng		100
9) Chloroethane	6.12	64	251866	27.061	ng		99
10) Ethanol	6.52	45	1781218	118.699	ng		99
11) Acetonitrile	6.77	41	946744	27.032	ng		99
12) Acrolein	6.95	56	558818	51.693	ng		99
13) Acetone	7.17	58	1695133	144.216	ng	#	86
14) Trichlorofluoromethane	7.40	101	623750	25.196	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	2380151	55.927	ng		99
16) Acrylonitrile	7.94	53	1222988	55.891	ng		99
17) 1,1-Dichloroethene	8.37	96	331955	25.696	ng		93
18) 2-Methyl-2-Propanol (t...	8.55	59	2057278	53.600	ng		96
19) Methylene Chloride	8.60	84	342798	25.517	ng		83
20) 3-Chloro-1-propene (Al...	8.76	41	700189	29.782	ng		93
21) Trichlorotrifluoroethane	9.01	151	292623	24.907	ng		91
22) Carbon Disulfide	8.86	76	2500796	54.268	ng		100
23) trans-1,2-Dichloroethene	9.87	61	558984	27.389	ng		98
24) 1,1-Dichloroethane	10.12	63	687450	27.474	ng		99
25) Methyl tert-Butyl Ether	10.22	73	1073241	25.671	ng		97
26) Vinyl Acetate	10.38	86	349812	163.452	ng	#	48
27) 2-Butanone (MEK)	10.62	72	491222	54.161	ng	#	71
28) cis-1,2-Dichloroethene	11.14	61	547857	27.025	ng		96
29) Diisopropyl Ether	11.43	87	752467	64.853	ng	#	82
30) Ethyl Acetate	11.44	61	589928	98.531	ng		93
31) n-Hexane	11.42	57	891250	31.980	ng		99
32) Chloroform	11.49	83	640542	27.951	ng		100
34) Tetrahydrofuran (THF)	11.88	72	460585	53.417	ng	#	82
35) Ethyl tert-Butyl Ether	12.03	87	912232	56.071	ng	#	89
36) 1,2-Dichloroethane	12.29	62	548161	27.433	ng		100
38) 1,1,1-Trichloroethane	12.56	97	576131	25.794	ng		97
39) Isopropyl Acetate	12.99	61	10542	No Calib		#	
40) 1-Butanol	13.02	56	11936	No Calib		#	
41) Benzene	13.04	78	1428366	27.022	ng		100
42) Carbon Tetrachloride	13.20	117	469098	24.657	ng		100
43) Cyclohexane	13.33	84	1124863	55.155	ng		92
44) tert-Amyl Methyl Ether	13.68	73	2243044	57.071	ng		95
45) 1,2-Dichloropropane	13.89	63	400611	27.650	ng		99
46) Bromodichloromethane	14.08	83	529612	27.586	ng		99
47) Trichloroethene	14.13	130	386302	26.280	ng		100
48) 1,4-Dioxane	14.11	88	297506	26.964	ng		96
49) 2,2,4-Trimethylpentane...	14.20	57	1889984	28.574	ng		95
50) Methyl Methacrylate	14.34	100	301363	54.909	ng	#	88

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092244.D Vial: 2
Acq On : 10 Jun 2022 1:45 Operator: WA/CG
Sample : LCSD2 R16060922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05312201 (6/30)

Quant Time: Jun 10 03:26:06 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

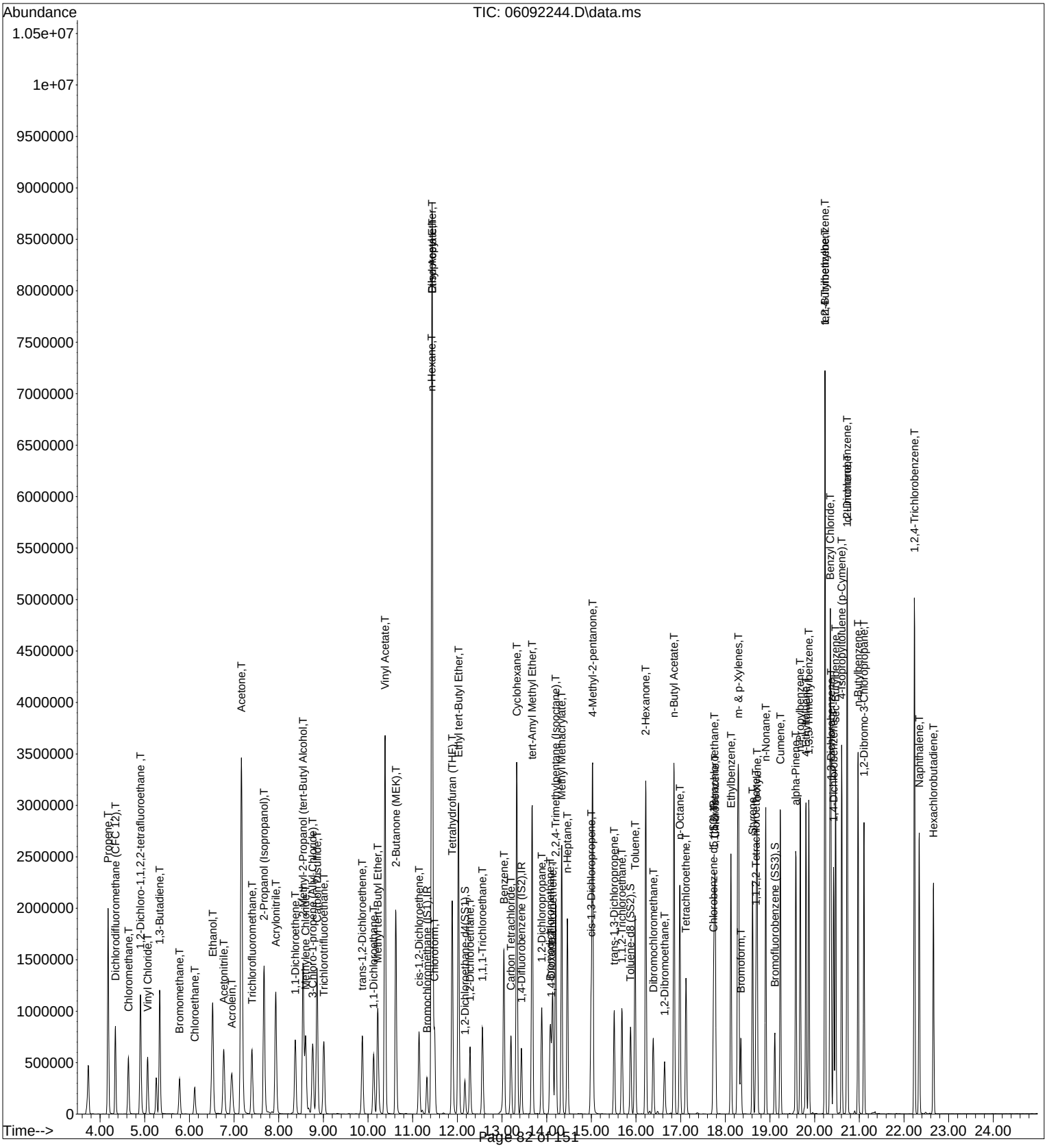
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	368056	26.558 ng		93
52) cis-1,3-Dichloropropene	15.00	75	598313	28.615 ng		99
53) 4-Methyl-2-pentanone	15.03	58	912206	61.321 ng		84
54) trans-1,3-Dichloropropene	15.51	75	532540	27.645 ng		100
55) 1,1,2-Trichloroethane	15.68	97	348569	26.460 ng		99
58) Toluene	15.98	91	1490282	21.800 ng		99
59) 2-Hexanone	16.22	43	2737449	52.702 ng		93
60) Dibromochloromethane	16.39	129	436135	21.055 ng		99
61) 1,2-Dibromoethane	16.64	107	400380	21.151 ng		100
62) n-Butyl Acetate	16.85	43	3072571	54.226 ng		94
63) n-Octane	16.98	57	409164	22.241 ng		92
64) Tetrachloroethene	17.12	166	398954	20.621 ng		100
65) Chlorobenzene	17.77	112	998494	21.936 ng		100
66) Ethylbenzene	18.13	91	1767187	22.265 ng		99
67) m- & p-Xylenes	18.29	91	2866218	46.088 ng		99
68) Bromoform	18.35	173	367993	20.714 ng		100
69) Styrene	18.61	104	1035877	21.769 ng		100
70) o-Xylene	18.71	91	1427175	23.118 ng		99
71) n-Nonane	18.91	43	1201924	26.637 ng		91
72) 1,1,2,2-Tetrachloroethane	18.69	83	681677	23.671 ng		99
74) Cumene	19.23	105	1830265	22.765 ng		99
75) alpha-Pinene	19.58	93	903613	23.563 ng		97
76) n-Propylbenzene	19.68	91	2234976	23.428 ng		98
77) 3-Ethyltoluene	19.81	105	1847430	No Calib		
78) 4-Ethyltoluene	19.81	105	1847430	23.307 ng		98
79) 1,3,5-Trimethylbenzene	19.87	105	1542586	23.395 ng		98
80) alpha-Methylstyrene	19.87	118	12272	No Calib	#	
81) 2-Ethyltoluene	19.87	105	1542586	No Calib		
82) 1,2,4-Trimethylbenzene	20.23	105	1782886	26.152 ng		99
83) n-Decane	20.23	58	116573	No Calib	#	
84) Benzyl Chloride	20.35	91	2756693	55.950 ng		97
85) 1,3-Dichlorobenzene	20.37	146	927279	23.864 ng		100
86) 1,4-Dichlorobenzene	20.42	146	871734	22.083 ng		100
87) sec-Butylbenzene	20.47	105	2099059	23.942 ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	1804115	23.134 ng		99
89) 1,2,3-Trimethylbenzene	20.61	105	68536	No Calib		
90) 1,2-Dichlorobenzene	20.73	146	902968	24.090 ng		99
91) d-Limonene	20.73	68	685130	27.178 ng		96
92) 1,2-Dibromo-3-Chloropr...	21.11	157	662086	43.660 ng	#	84
93) n-Undecane	22.26	57	100	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.23	180	1415740	44.904 ng		100
95) Naphthalene	22.34	128	2039715	22.410 ng		100
96) n-Dodecane	22.33	57	2080	No Calib	#	
97) Hexachlorobutadiene	22.66	225	391616	19.452 ng		99
98) Cyclohexanone	18.28	55	3179	No Calib		
99) tert-Butylbenzene	20.23	119	1693608	25.871 ng		99
100) n-Butylbenzene	20.97	91	1727988	23.919 ng		98
101) 1,1,1,2-Tetrachloroethane	17.76	131	379997	21.062 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092244.D Vial: 2
Acq On : 10 Jun 2022 1:45 Operator: WA/CG
Sample : LCSD2 R16060922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05312201 (6/30)

Quant Time: Jun 10 03:26:06 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16051022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue May 10 19:05:32 2022
Response Via : Initial Calibration

WA 5/10/22

Calibration Files
0.1 =05102212.D 0.2 =05102213.D 0.5 =05102214.D 1.0 =05102215.D 5.0 =05102216.D 25 =05102217.D 50 =05102218.D
100 =05102219.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	----------	ISTD	----------	----------	----------	----------	----------		
2)	T	Propene	2.375	2.174	2.504	2.145	2.482	2.403	2.496	2.906	2.436	9.69
3)	T	Dichlorodifluo...	3.485	2.952	2.680	2.924	2.672	2.710	2.564	2.465	2.806	11.38
4)	T	Chloromethane	3.065	2.786	2.442	2.769	2.281	2.483	2.267	1.587	2.460	18.18
5)	T	1,2-Dichloro-1...	1.674	1.501	1.406	1.488	1.368	1.394	1.379	1.291	1.438	8.11
6)	T	Vinyl Chloride	2.440	2.239	2.108	2.297	2.134	2.146	2.101	1.982	2.181	6.45
7)	T	1,3-Butadiene	2.389	2.031	1.838	1.958	1.790	1.945	1.916	1.797	1.958	9.87
8)	T	Bromomethane	1.238	1.139	1.026	1.090	1.058	1.056	1.039	1.033	1.085	6.64
9)	T	Chloroethane	1.006	0.922	0.888	0.987	0.902	0.925	0.917	0.895	0.930	4.65
10)	T	Ethanol	2.087	1.714	1.482	1.399	1.278	1.362	1.358	1.319	1.500	18.20
11)	T	Acetonitrile	4.307	3.614	3.293	3.463	3.268	3.418	3.367	3.273	3.500	9.89
12)	T	Acrolein	1.415	1.137	0.996	1.144	0.971	1.019	0.995	0.966	1.080	14.10
13)	T	Acetone	1.448	1.259	1.110	1.186	1.090	1.160	1.115	1.031	1.175	11.02
14)	T	Trichlorofluor...	2.765	2.553	2.409	2.566	2.376	2.454	2.384	2.285	2.474	6.06
15)	T	2-Propanol (Is...	6.083	5.170	3.825	4.945	3.592	4.106	3.673	2.634	4.253	25.56
16)	T	Acrylonitrile	2.473	2.170	2.064	2.193	2.081	2.226	2.197	2.092	2.187	5.97
17)	T	1,1-Dichloroet...	1.612	1.325	1.215	1.312	1.188	1.255	1.225	1.197	1.291	10.78
18)	T	2-Methyl-2-Pro...	4.453	4.091	3.703	4.214	3.785	4.182	3.934	2.325	3.836	17.13
19)	T	Methylene Chlo...	1.668	1.457	1.274	1.353	1.236	1.284	1.254	1.214	1.343	11.37
20)	T	3-Chloro-1-pro...	2.385	2.161	2.137	2.386	2.293	2.547	2.483	2.405	2.350	6.15
21)	T	Trichlorotrifl...	1.275	1.208	1.100	1.235	1.135	1.192	1.153	1.095	1.174	5.49
22)	T	Carbon Disulfide	5.381	4.666	4.329	4.692	4.372	4.640	4.503	4.262	4.606	7.67
23)	T	trans-1,2-Dich...	2.195	1.987	1.914	2.117	1.983	2.086	2.039	1.996	2.040	4.38
24)	T	1,1-Dichloroet...	2.800	2.548	2.361	2.633	2.396	2.507	2.424	2.337	2.501	6.28
25)	T	Methyl tert-Bu...	4.829	4.310	3.960	4.319	3.989	4.131	4.007	3.883	4.178	7.36
26)	T	Vinyl Acetate	0.157	0.182	0.181	0.211	0.217	0.260	0.257	0.246	0.214	18.08
27)	T	2-Butanone (MEK)	0.972	0.895	0.869	0.923	0.871	0.931	0.919	0.872	0.906	4.04
28)	T	cis-1,2-Dichlo...	2.191	2.040	1.953	2.083	1.958	2.055	1.998	1.930	2.026	4.24
29)	T	Diisopropyl Ether	1.312	1.207	1.127	1.258	1.185	1.194	1.092	0.903	1.160	10.72
30)	T	Ethyl Acetate	0.631	0.560	0.571	0.621	0.611	0.688	0.618	0.488	0.598	9.87
31)	T	n-Hexane	3.461	2.969	2.588	2.800	2.601	2.871	2.682	2.310	2.785	12.20
32)	T	Chloroform	2.724	2.396	2.197	2.386	2.224	2.263	2.155	1.978	2.290	9.60
33)	S	1,2-Dichloroet...	1.821	1.814	1.823	1.818	1.815	1.768	1.731	1.675	1.783	3.05
34)	T	Tetrahydrofura...	0.987	0.889	0.796	0.871	0.819	0.868	0.853	0.811	0.862	6.97
35)	T	Ethyl tert-But...	1.764	1.603	1.522	1.652	1.573	1.690	1.663	1.541	1.626	5.02
36)	T	1,2-Dichloroet...	2.176	2.072	1.928	2.105	1.953	2.000	1.929	1.813	1.997	5.81
37)	IR	1,4-Difluorobenzen...	----------	----------	ISTD	----------	----------	----------	----------	----------		
38)	T	1,1,1-Trichlor...	0.574	0.524	0.474	0.509	0.475	0.505	0.496	0.485	0.505	6.46
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.405	1.221	1.120	1.189	1.110	1.193	1.179	1.149	1.196	7.75
42)	T	Carbon Tetrach...	0.467	0.428	0.399	0.434	0.404	0.442	0.438	0.431	0.430	5.01

Method Path : I:\MS16\METHODS\
Method File : R16051022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

43)	T	Cyclohexane	0.536	0.457	0.430	0.466	0.430	0.469	0.466	0.437	0.461	7.44
44)	T	tert-Amyl Meth...	0.948	0.927	0.842	0.872	0.840	0.919	0.912	0.853	0.889	4.77
45)	T	1,2-Dichloropr...	0.364	0.330	0.308	0.330	0.310	0.331	0.326	0.321	0.328	5.27
46)	T	Bromodichlorom...	0.492	0.435	0.405	0.440	0.408	0.441	0.433	0.422	0.434	6.23
47)	T	Trichloroethene	0.364	0.333	0.312	0.333	0.316	0.339	0.338	0.325	0.333	4.79
48)	T	1,4-Dioxane	0.260	0.260	0.227	0.252	0.236	0.256	0.254	0.251	0.250	4.71
49)	T	2,2,4-Trimethy...	1.750	1.572	1.399	1.521	1.411	1.495	1.454	1.367	1.496	8.24
50)	T	Methyl Methacr...	0.124	0.116	0.115	0.124	0.121	0.135	0.133	0.125	0.124	5.79
51)	T	n-Heptane	0.380	0.321	0.287	0.310	0.291	0.313	0.308	0.298	0.313	9.33
52)	T	cis-1,3-Dichlo...	0.466	0.442	0.427	0.472	0.460	0.508	0.507	0.502	0.473	6.46
53)	T	4-Methyl-2-pen...	0.354	0.332	0.309	0.336	0.321	0.358	0.351	0.331	0.337	5.07
54)	T	trans-1,3-Dich...	0.388	0.387	0.394	0.428	0.431	0.488	0.486	0.483	0.436	10.28
55)	T	1,1,2-Trichlor...	0.332	0.303	0.282	0.298	0.280	0.300	0.296	0.293	0.298	5.38
56)	IR	Chlorobenzene-d5 (...	----------	----------	ISTD	----------	----------					
57)	S	Toluene-d8 (SS2)	4.833	4.799	4.753	4.750	4.702	4.701	4.706	4.610	4.732	1.45
58)	T	Toluene	6.754	5.654	5.207	5.561	5.147	5.458	5.399	5.084	5.533	9.63
59)	T	2-Hexanone	4.785	4.232	3.951	4.245	4.122	4.376	4.226	3.697	4.204	7.51
60)	T	Dibromochlorom...	1.931	1.637	1.537	1.673	1.581	1.711	1.719	1.623	1.677	7.15
61)	T	1,2-Dibromoethane	1.642	1.555	1.445	1.554	1.463	1.570	1.563	1.465	1.532	4.43
62)	T	n-Butyl Acetate	4.913	4.671	4.230	4.672	4.513	4.852	4.721	4.117	4.586	6.18
63)	T	n-Octane	2.074	1.623	1.351	1.423	1.316	1.405	1.404	1.316	1.489	17.18
64)	T	Tetrachloroethene	1.736	1.605	1.488	1.601	1.473	1.576	1.569	1.478	1.566	5.60
65)	T	Chlorobenzene	4.192	3.788	3.457	3.673	3.459	3.735	3.745	3.424	3.684	6.84
66)	T	Ethylbenzene	7.654	6.609	5.993	6.387	6.008	6.449	6.400	5.891	6.424	8.71
67)	T	m- & p-Xylenes	5.889	5.391	4.777	4.973	4.714	5.075	5.009	4.440	5.034	8.84
68)	T	Bromoform	1.558	1.412	1.351	1.446	1.397	1.513	1.489	1.337	1.438	5.43
69)	T	Styrene	4.070	3.919	3.571	3.816	3.701	4.050	4.013	3.673	3.851	4.93
70)	T	o-Xylene	5.896	5.242	4.771	5.037	4.756	4.999	4.901	4.371	4.997	8.89
71)	T	n-Nonane	4.124	3.822	3.454	3.710	3.542	3.772	3.630	3.163	3.652	7.75
72)	T	1,1,2,2-Tetrac...	2.701	2.395	2.161	2.315	2.219	2.376	2.341	2.139	2.331	7.64
73)	S	Bromofluoroben...	1.738	1.734	1.726	1.712	1.717	1.726	1.728	1.715	1.725	0.52
74)	T	Cumene	7.410	6.717	6.028	6.598	6.189	6.667	6.575	5.874	6.507	7.41
75)	T	alpha-Pinene	3.084	3.138	2.914	3.097	3.024	3.283	3.278	3.014	3.104	4.12
76)	T	n-Propylbenzene	8.967	8.093	7.186	7.793	7.405	7.906	7.693	6.725	7.721	8.63
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	7.330	6.660	5.963	6.429	6.133	6.648	6.476	5.685	6.415	7.84
79)	T	1,3,5-Trimethy...	6.153	5.571	5.033	5.327	5.119	5.485	5.344	4.661	5.337	8.20
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	6.211	5.633	5.130	5.568	5.325	5.972	5.696	4.607	5.518	9.07
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	3.471	3.314	3.373	3.771	4.152	5.014	4.896	3.913	3.988	16.57
85)	T	1,3-Dichlorobe...	3.741	3.334	2.995	3.152	3.034	3.311	3.123	2.469	3.145	11.46
86)	T	1,4-Dichlorobe...	3.946	3.391	2.995	3.141	2.999	3.278	3.127	2.685	3.195	11.57
87)	T	sec-Butylbenzene	8.293	7.434	6.810	7.338	6.978	7.364	6.898	5.653	7.096	10.51
88)	T	4-Isopropyltol...	7.505	6.590	5.923	6.367	6.045	6.603	6.271	5.192	6.312	10.48
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	3.569	3.247	2.907	3.015	2.936	3.199	3.012	2.386	3.034	11.18
91)	T	d-Limonene	2.111	2.009	1.916	2.043	2.019	2.259	2.183	1.783	2.040	7.32
92)	T	1,2-Dibromo-3-...	1.339	1.226	1.130	1.210	1.193	1.338	1.297	1.086	1.227	7.57
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	3.171	2.611	2.375	2.322	2.304	2.778	2.679	2.175	2.552	12.76

Method Path : I:\MS16\METHODS\
Method File : R16051022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95)	T	Naphthalene	8.191	7.104	6.596	6.573	8.189	8.037	6.877	7.367	10.12
96)	T	n-Dodecane								0.000	-1.00
97)	T	Hexachlorobuta...	1.859	1.710	1.554	1.565	1.507	1.663	1.666	1.512	1.629	7.34
98)	T	Cyclohexanone								0.000	-1.00
99)	T	tert-Butylbenzene	6.166	5.470	4.994	5.340	5.129	5.715	5.337	4.237	5.298	10.60
100)	T	n-Butylbenzene	6.800	6.090	5.450	5.795	5.625	6.033	5.864	5.122	5.847	8.52
101)	T	1,1,1,2-Tetrac...	1.679	1.480	1.386	1.450	1.362	1.479	1.480	1.365	1.460	7.00

(#) = Out of Range

Primary Source Standards Concentrations (Working & Initial Calibration)

5/11/22

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-05102204 | 200ng/L Std. ID: S35-05102202
20ng/L Std. ID: S35-05102203 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.1250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S35-05102204
20ng/L Std. ID: S35-05102203
40ng/L Std. ID:
200ng/L Std. ID: S35-05102202
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.1250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16051022.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration

VOA 5/10/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2022_05\10\05102212.D
2	0.2	0	13	I:\MS16\DATA\2022_05\10\05102213.D
3	0.5	1	13	I:\MS16\DATA\2022_05\10\05102214.D
4	1.0	1	13	I:\MS16\DATA\2022_05\10\05102215.D
5	5.0	5	13	I:\MS16\DATA\2022_05\10\05102216.D
6	25	26	13	I:\MS16\DATA\2022_05\10\05102217.D
7	50	52	13	I:\MS16\DATA\2022_05\10\05102218.D
8	100	104	13	I:\MS16\DATA\2022_05\10\05102219.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	May 10 18:16 2022	May 10 17:40 2022	10 May 2022 13:46
2	0.2	May 10 18:16 2022	May 10 17:45 2022	10 May 2022 14:20
3	0.5	May 10 18:16 2022	May 10 17:59 2022	10 May 2022 14:54
4	1.0	May 10 18:17 2022	May 10 18:03 2022	10 May 2022 15:28
5	5.0	May 10 18:17 2022	May 10 18:08 2022	10 May 2022 16:02
6	25	May 10 18:17 2022	May 10 18:10 2022	10 May 2022 16:36
7	50	May 10 18:17 2022	May 10 18:12 2022	10 May 2022 17:10
8	100	May 10 19:05 2022	May 10 18:15 2022	10 May 2022 17:44

R16051022.M Tue May 10 20:28:03 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:40:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/11/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	164400	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	744343	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	166054	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	299319	13.254	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%				
57) Toluene-d8 (SS2)	15.88	98	802500	10.001	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.00%				
73) Bromofluorobenzene (SS3)	19.11	174	288607	11.285	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%				
Target Compounds							Qvalue
2) Propene	4.22	42	3248m	0.130	ng		
3) Dichlorodifluoromethan...	4.37	85	4813	0.116	ng		96
4) Chloromethane	4.66	50	4112	0.137	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.93	135	2378	0.107	ng		95
6) Vinyl Chloride	5.08	62	3337	0.108	ng		99
7) 1,3-Butadiene	5.35	54	3268	0.153	ng		90
8) Bromomethane	5.79	94	1661	0.099	ng		80
9) Chloroethane	6.13	64	1350	0.099	ng		89
10) Ethanol	6.47	45	9935	0.642	ng		86
11) Acetonitrile	6.75	41	5268	0.127	ng		77
12) Acrolein	6.95	56	3723m	0.326	ng		
13) Acetone	7.17	58	9881	0.638	ng		90
14) Trichlorofluoromethane	7.41	101	3746	0.106	ng		96
15) 2-Propanol (Isopropanol)	7.67	45	16162	0.306	ng		90
16) Acrylonitrile	7.91	53	6603	0.243	ng		95
17) 1,1-Dichloroethene	8.37	96	2269	0.123	ng		86
18) 2-Methyl-2-Propanol (t...	8.58	59	12300	0.253	ng		90
19) Methylene Chloride	8.57	84	2282	0.113	ng		95
20) 3-Chloro-1-propene (Al...	8.74	41	3294	0.117	ng		94
21) Trichlorotrifluoroethane	9.01	151	1811	0.113	ng		98
22) Carbon Disulfide	8.85	76	14862	0.216	ng		99
23) trans-1,2-Dichloroethene	9.85	61	3060	0.112	ng		84
24) 1,1-Dichloroethane	10.10	63	3867	0.115	ng		97
25) Methyl tert-Butyl Ether	10.25	73	6668	0.119	ng		84
26) Vinyl Acetate	10.38	86	701	0.179	ng	#	45
27) 2-Butanone (MEK)	10.64	72	2634	0.185	ng	#	82
28) cis-1,2-Dichloroethene	11.12	61	2997	0.113	ng		88
29) Diisopropyl Ether	11.44	87	3657	0.220	ng	#	89
30) Ethyl Acetate	11.44	61	3384	0.463	ng		95
31) n-Hexane	11.41	57	4780	0.172	ng	#	85
32) Chloroform	11.46	83	3834	0.115	ng		95
34) Tetrahydrofuran (THF)	11.91	72	2556	0.196	ng	#	71
35) Ethyl tert-Butyl Ether	12.03	87	4872	0.229	ng	#	93
36) 1,2-Dichloroethane	12.27	62	3033	0.117	ng		97
38) 1,1,1-Trichloroethane	12.55	97	3552	0.118	ng		96
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	8701	0.112	ng		99
42) Carbon Tetrachloride	13.19	117	2920	0.119	ng		97
43) Cyclohexane	13.32	84	6606	0.232	ng		95
44) tert-Amyl Methyl Ether	13.68	73	11801	0.234	ng		96
45) 1,2-Dichloropropane	13.89	63	2235	0.118	ng		98
46) Bromodichloromethane	14.07	83	3075	0.121	ng		96
47) Trichloroethene	14.13	130	2230	0.108	ng		100
48) 1,4-Dioxane	14.12	88	1608	0.094	ng		92
49) 2,2,4-Trimethylpentane...	14.20	57	11049	0.147	ng		93
50) Methyl Methacrylate	14.34	100	1542	0.192	ng	#	80

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:40:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

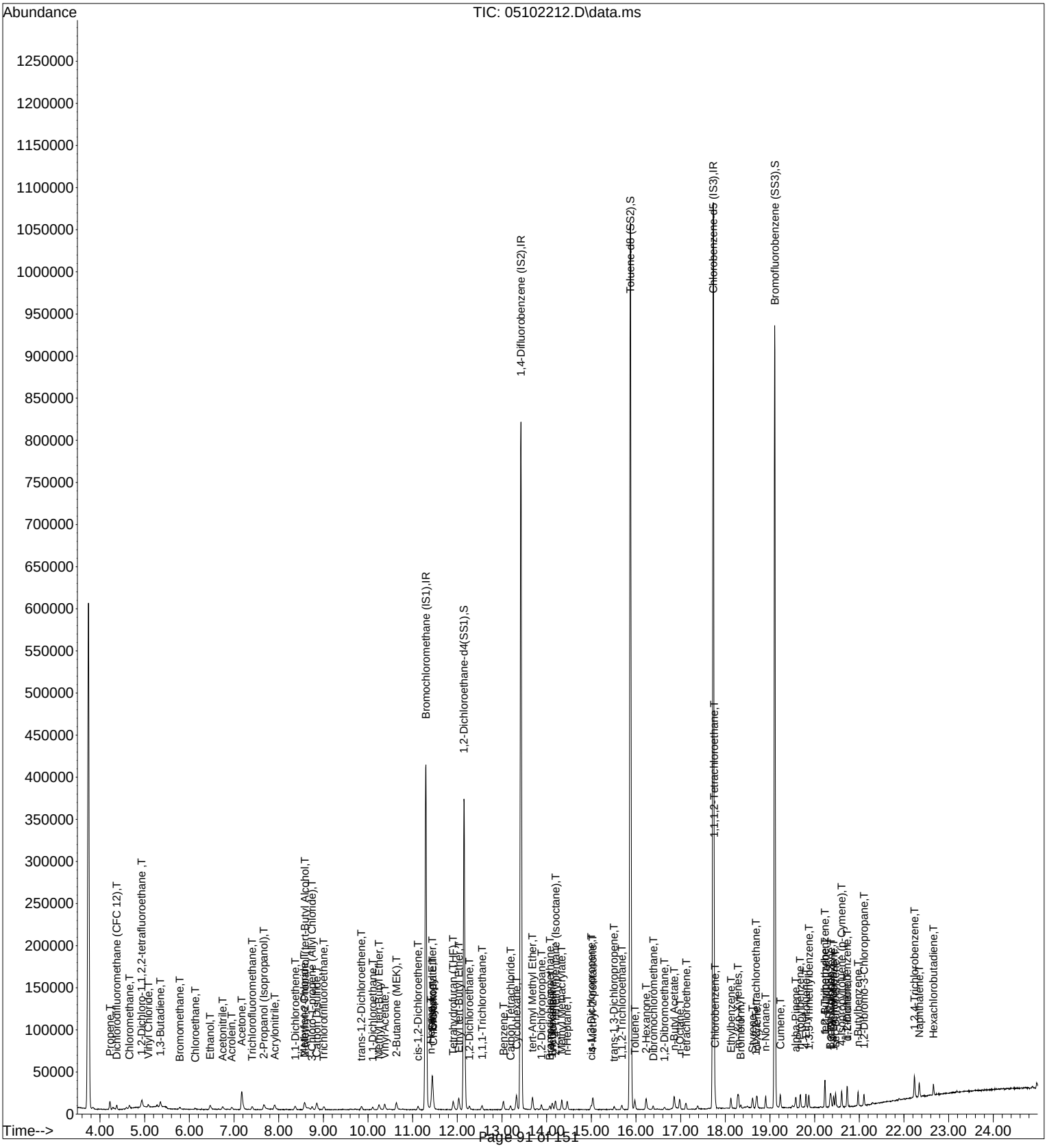
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	2377	0.124 ng	#	80
52) cis-1,3-Dichloropropene	15.00	75	2911	0.098 ng		96
53) 4-Methyl-2-pentanone	15.03	58	4386	0.254 ng		93
54) trans-1,3-Dichloropropene	15.51	75	2336	0.086 ng		93
55) 1,1,2-Trichloroethane	15.68	97	2056	0.111 ng		90
58) Toluene	15.98	91	9242	0.095 ng		94
59) 2-Hexanone	16.23	43	13031	0.238 ng		93
60) Dibromochloromethane	16.39	129	2693	0.105 ng		95
61) 1,2-Dibromoethane	16.64	107	2269	0.086 ng		99
62) n-Butyl Acetate	16.86	43	13314	0.222 ng		84
63) n-Octane	16.98	57	2893	0.149 ng		85
64) Tetrachloroethene	17.12	166	2398	0.092 ng		100
65) Chlorobenzene	17.77	112	5791	0.090 ng		98
66) Ethylbenzene	18.13	91	10473	0.097 ng		94
67) m- & p-Xylenes	18.28	91	16117	0.196 ng		95
68) Bromoform	18.35	173	2152	0.098 ng		96
69) Styrene	18.61	104	5569	0.083 ng		96
70) o-Xylene	18.71	91	8146	0.099 ng		95
71) n-Nonane	18.90	43	5697	0.132 ng		91
72) 1,1,2,2-Tetrachloroethane	18.69	83	3732	0.097 ng		97
74) Cumene	19.23	105	10238	0.095 ng		99
75) alpha-Pinene	19.58	93	4424	0.087 ng	#	48
76) n-Propylbenzene	19.68	91	12508	0.098 ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.81	105	10321	0.099 ng		96
79) 1,3,5-Trimethylbenzene	19.87	105	8501	0.099 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.23	105	8499	0.104 ng		98
83) n-Decane	0.00	58	0	N.D. d		
84) Benzyl Chloride	20.35	91	9498	0.145 ng		96
85) 1,3-Dichlorobenzene	20.37	146	5168	0.105 ng		95
86) 1,4-Dichlorobenzene	20.42	146	5452	0.106 ng		93
87) sec-Butylbenzene	20.47	105	11457	0.100 ng		95
88) 4-Isopropyltoluene (p-...	20.61	119	10368	0.104 ng		98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.73	146	4978	0.107 ng		91
91) d-Limonene	20.73	68	2945	0.101 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.11	157	3557	0.202 ng	#	37
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.23	180	8593	0.233 ng		97
95) Naphthalene	22.34	128	13681	0.112 ng		100
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.66	225	2543	0.113 ng		93
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.23	119	8519	0.106 ng		98
100) n-Butylbenzene	20.97	91	9394	0.102 ng		95
101) 1,1,1,2-Tetrachloroethane	17.75	131	2319	0.103 ng	#	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

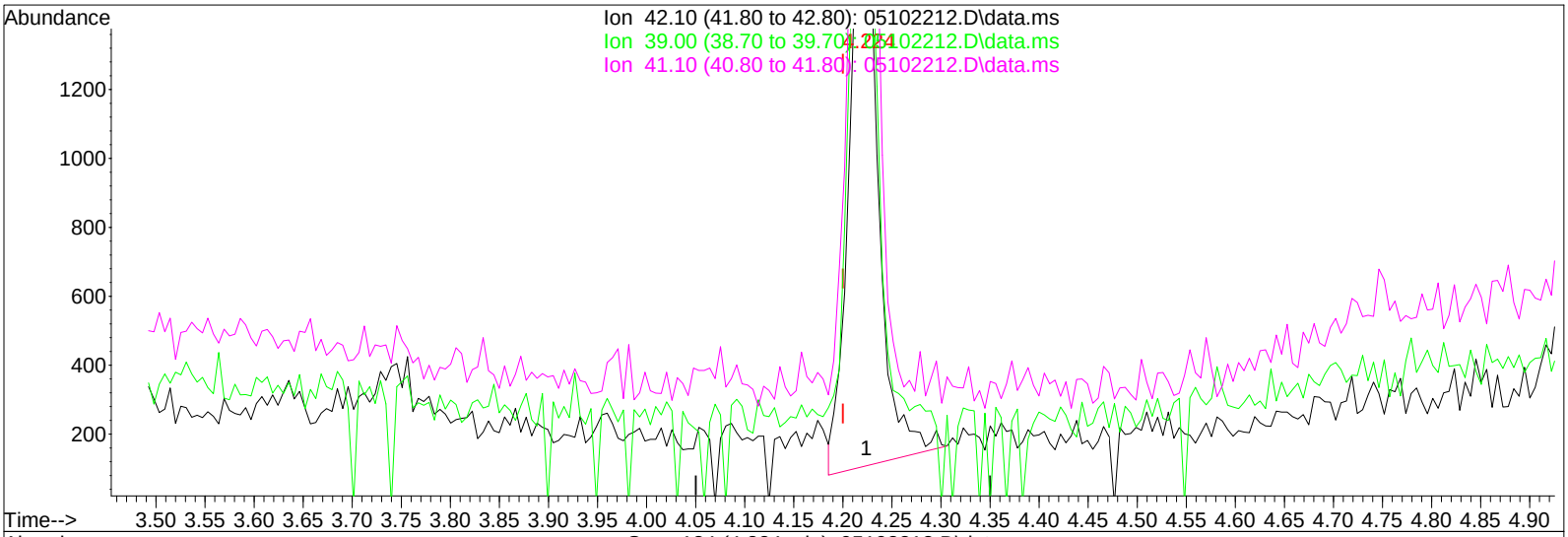
Quant Time: May 10 17:40:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

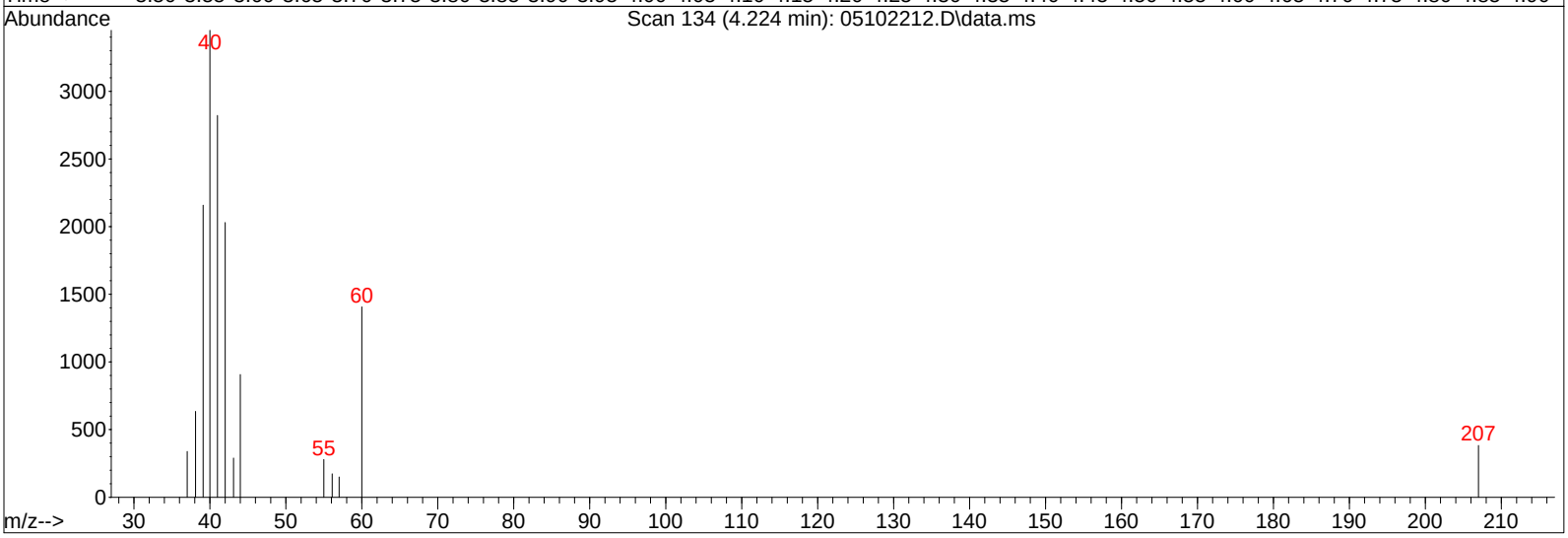


Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05052204 (6/09)

Quant Time: May 10 17:36:12 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102212.D\data.ms

(2) Propene (T)

4.224min (+0.024) 0.15ng

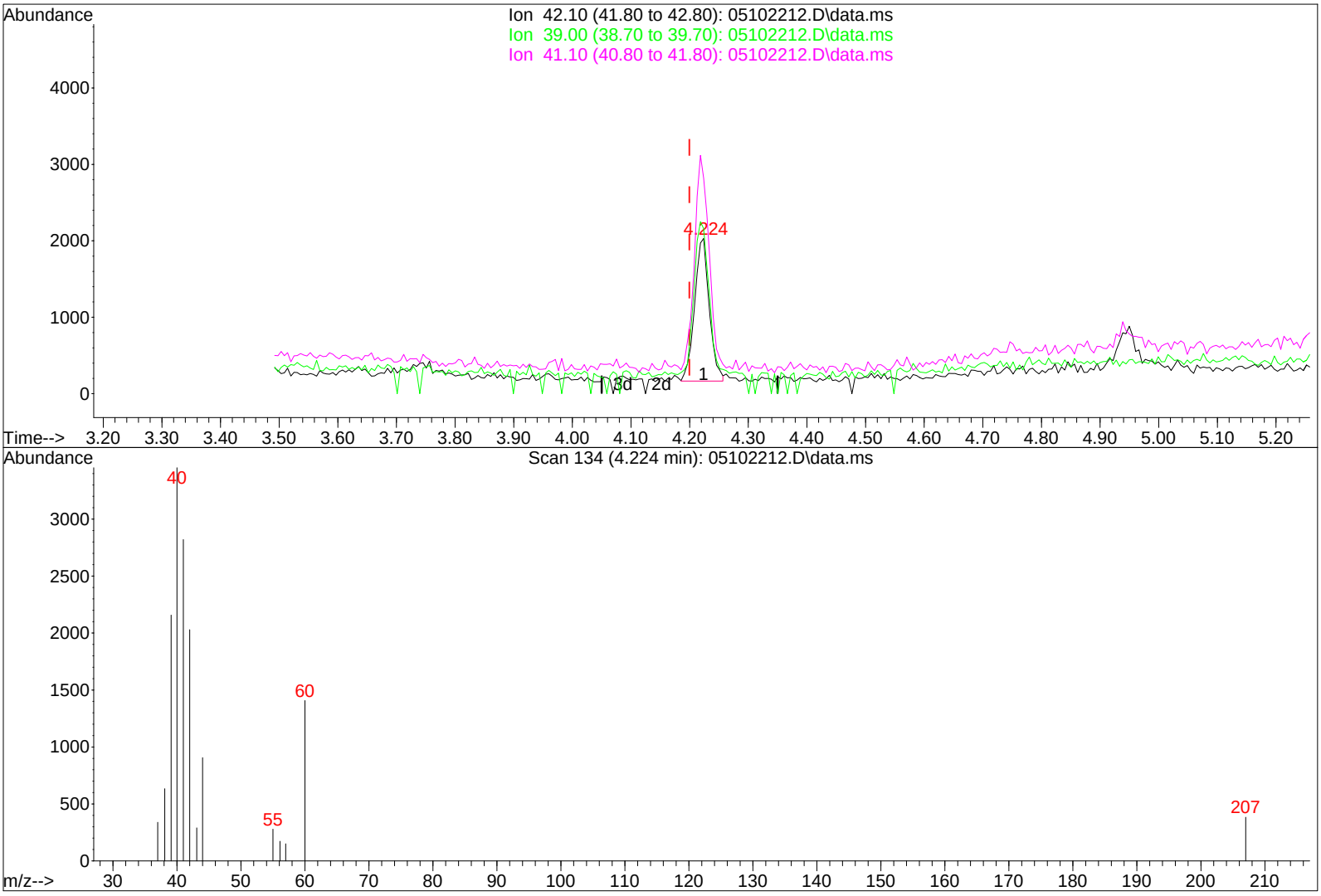
response 3642

Ion	Exp%	Act%
42.10	100	100
39.00	114.30	145.47#
41.10	152.50	134.24
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:40:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05102212.D\data.ms

(2) Propene (T)

4.224min (+0.024) 0.13ng m

response 3248

Ion	Exp%	Act%
42.10	100	100
39.00	114.30	163.12#
41.10	152.50	150.52
0.00	0.00	0.00

BLC

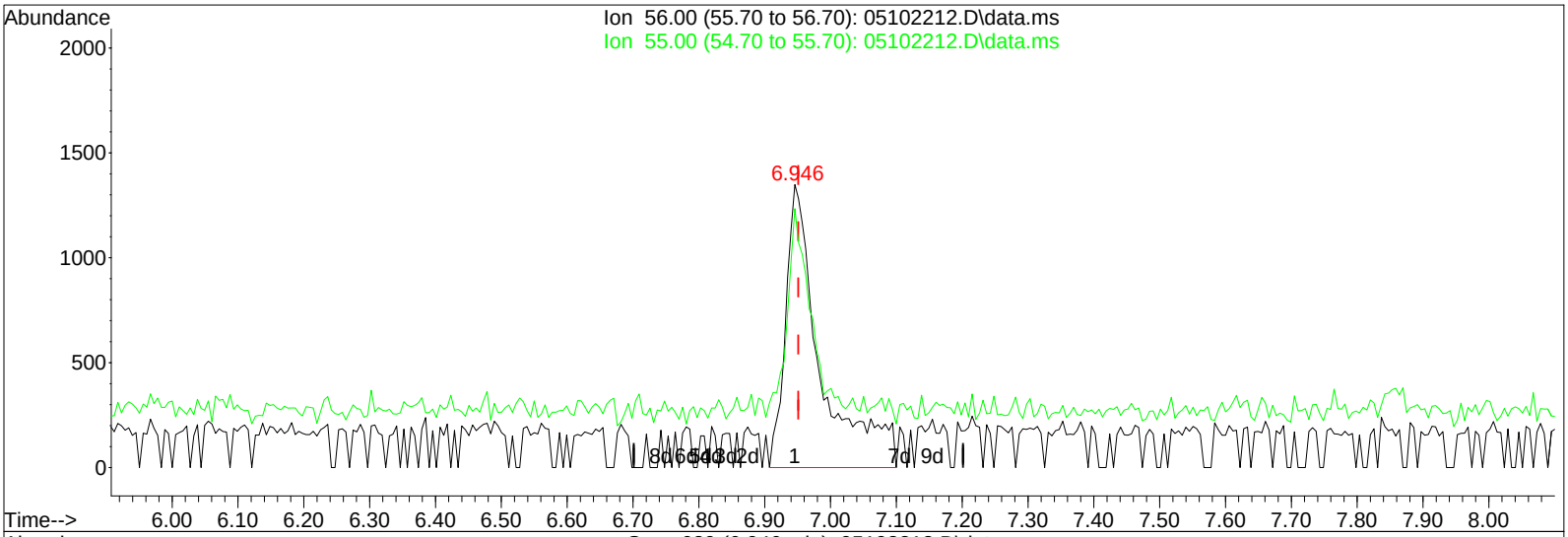
5/11/22

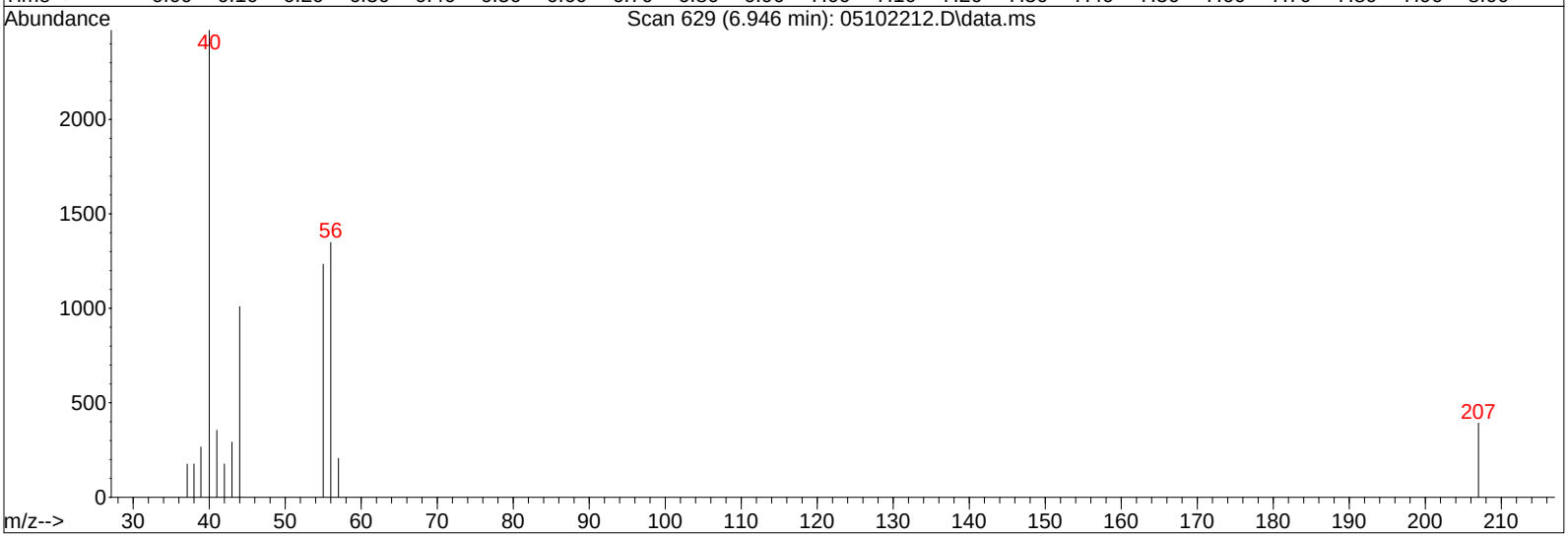
TZ 5/16/22

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05052204 (6/09)

Quant Time: May 10 17:36:12 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102212.D\data.ms

(12) Acrolein (T)

6.946min (-0.005) 0.43ng

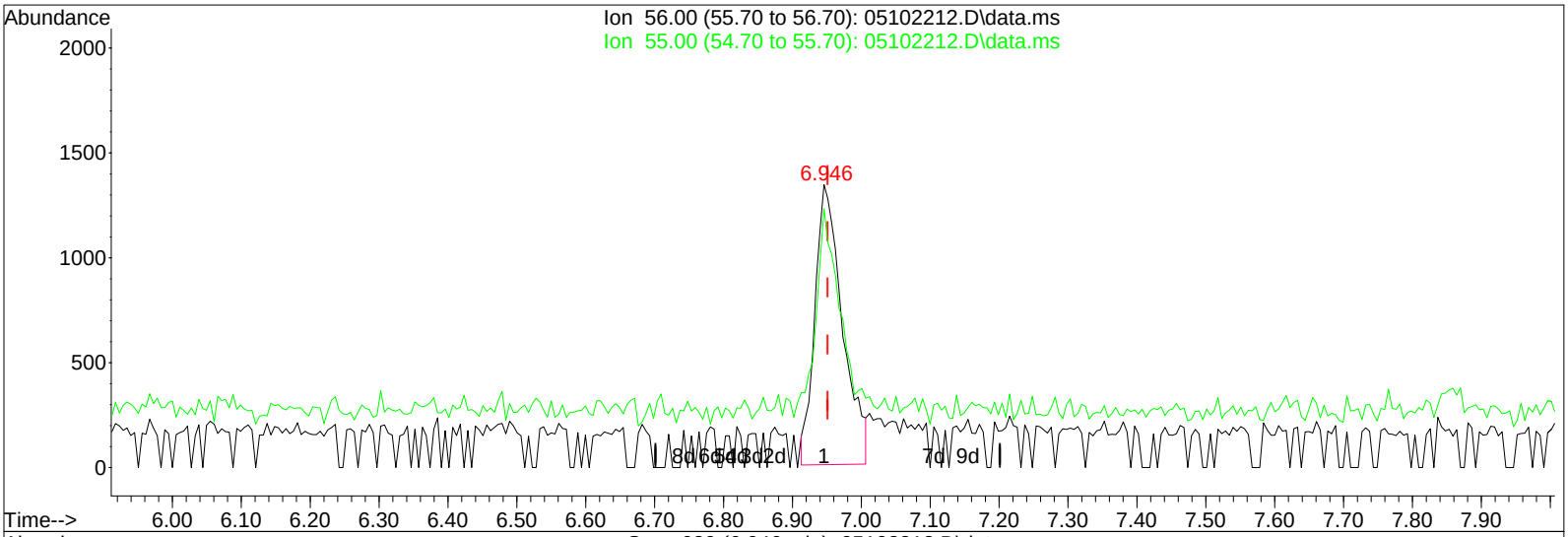
response 4964

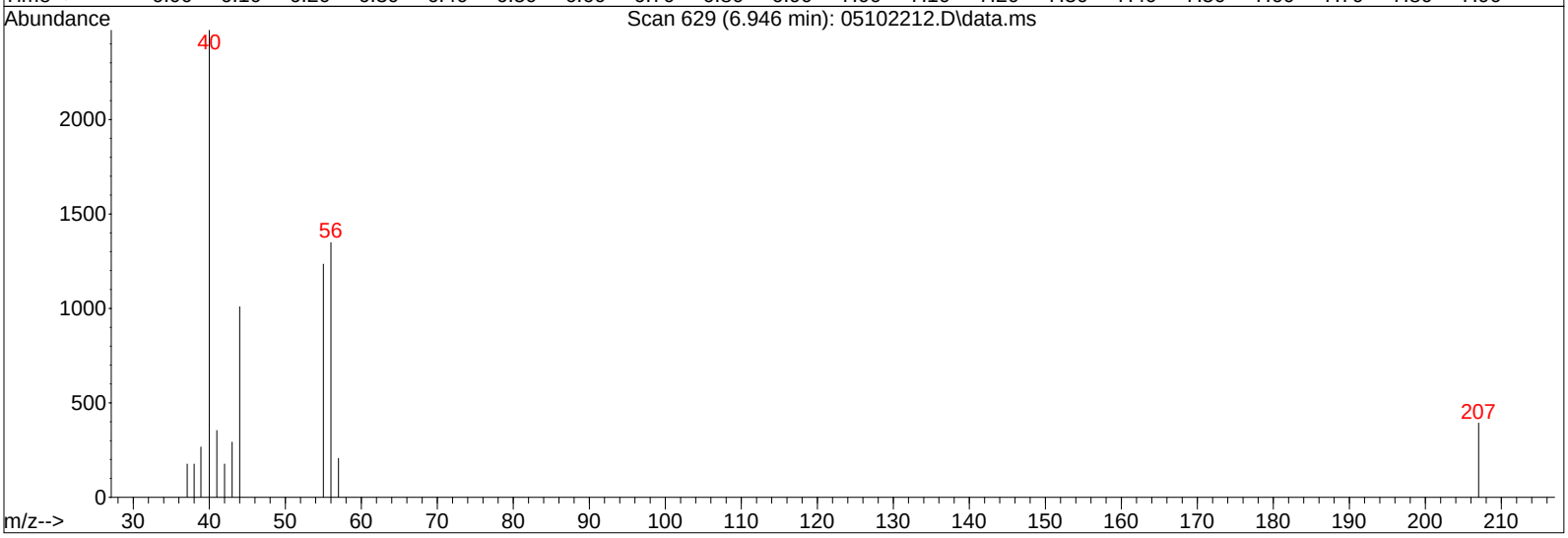
Ion	Exp%	Act%
56.00	100	100
55.00	72.10	62.37
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102212.D Vial: 13
Acq On : 10 May 2022 13:46 Operator: TZ/CG
Sample : 0.1ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:40:59 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102212.D\data.ms

(12) Acrolein (T)

6.946min (-0.005) 0.33ng m

response 3723

Ion	Exp%	Act%
56.00	100	100
55.00	72.10	83.16
0.00	0.00	0.00
0.00	0.00	0.00

BLC

5/11/22

TZ 5/16/22

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:45:45 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/11/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	161132	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	727640	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	160388	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	292238	13.203	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%				
57) Toluene-d8 (SS2)	15.88	98	769761	9.932	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.44%				
73) Bromofluorobenzene (SS3)	19.11	174	278036	11.255	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.08%				
Target Compounds							Qvalue
2) Propene	4.21	42	5830m	0.238	ng		
3) Dichlorodifluoromethan...	4.37	85	7990	0.197	ng		97
4) Chloromethane	4.65	50	7326	0.248	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	4179	0.193	ng		98
6) Vinyl Chloride	5.08	62	6003	0.198	ng		100
7) 1,3-Butadiene	5.34	54	5445	0.261	ng		90
8) Bromomethane	5.77	94	2994	0.182	ng		95
9) Chloroethane	6.12	64	2425	0.182	ng		92
10) Ethanol	6.46	45	15995	1.054	ng		86
11) Acetonitrile	6.73	41	8666	0.214	ng		85
12) Acrolein	6.94	56	5863m	0.523	ng		
13) Acetone	7.16	58	16842	1.109	ng		95
14) Trichlorofluoromethane	7.40	101	6780	0.197	ng		99
15) 2-Propanol (Isopropanol)	7.65	45	26923	0.520	ng		96
16) Acrylonitrile	7.90	53	11359	0.426	ng		99
17) 1,1-Dichloroethene	8.36	96	3656	0.202	ng		92
18) 2-Methyl-2-Propanol (t...	8.57	59	22151	0.464	ng		90
19) Methylene Chloride	8.57	84	3907	0.197	ng		90
20) 3-Chloro-1-propene (Al...	8.74	41	5851	0.212	ng		95
21) Trichlorotrifluoroethane	9.01	151	3364	0.215	ng		99
22) Carbon Disulfide	8.85	76	25264	0.375	ng		100
23) trans-1,2-Dichloroethene	9.85	61	5431	0.203	ng		93
24) 1,1-Dichloroethane	10.10	63	6898	0.210	ng		100
25) Methyl tert-Butyl Ether	10.23	73	11666	0.213	ng		90
26) Vinyl Acetate	10.37	86	1591	0.415	ng		99
27) 2-Butanone (MEK)	10.62	72	4752	0.340	ng	#	84
28) cis-1,2-Dichloroethene	11.12	61	5471	0.211	ng		93
29) Diisopropyl Ether	11.43	87	6595	0.405	ng	#	88
30) Ethyl Acetate	11.44	61	5889	0.822	ng		88
31) n-Hexane	11.42	57	8038	0.295	ng		91
32) Chloroform	11.45	83	6609	0.203	ng		97
34) Tetrahydrofuran (THF)	11.90	72	4516	0.354	ng		97
35) Ethyl tert-Butyl Ether	12.03	87	8679	0.417	ng		97
36) 1,2-Dichloroethane	12.27	62	5663	0.224	ng		100
38) 1,1,1-Trichloroethane	12.55	97	6350	0.215	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	14786	0.196	ng		99
42) Carbon Tetrachloride	13.19	117	5232	0.218	ng		99
43) Cyclohexane	13.32	84	11018	0.396	ng		92
44) tert-Amyl Methyl Ether	13.68	73	22553	0.457	ng		98
45) 1,2-Dichloropropane	13.87	63	3962	0.215	ng		95
46) Bromodichloromethane	14.07	83	5316	0.215	ng		95
47) Trichloroethene	14.12	130	3994	0.198	ng		99
48) 1,4-Dioxane	14.12	88	3149	0.188	ng		99
49) 2,2,4-Trimethylpentane...	14.19	57	19403	0.265	ng		100
50) Methyl Methacrylate	14.34	100	2807	0.357	ng	#	84

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:45:45 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

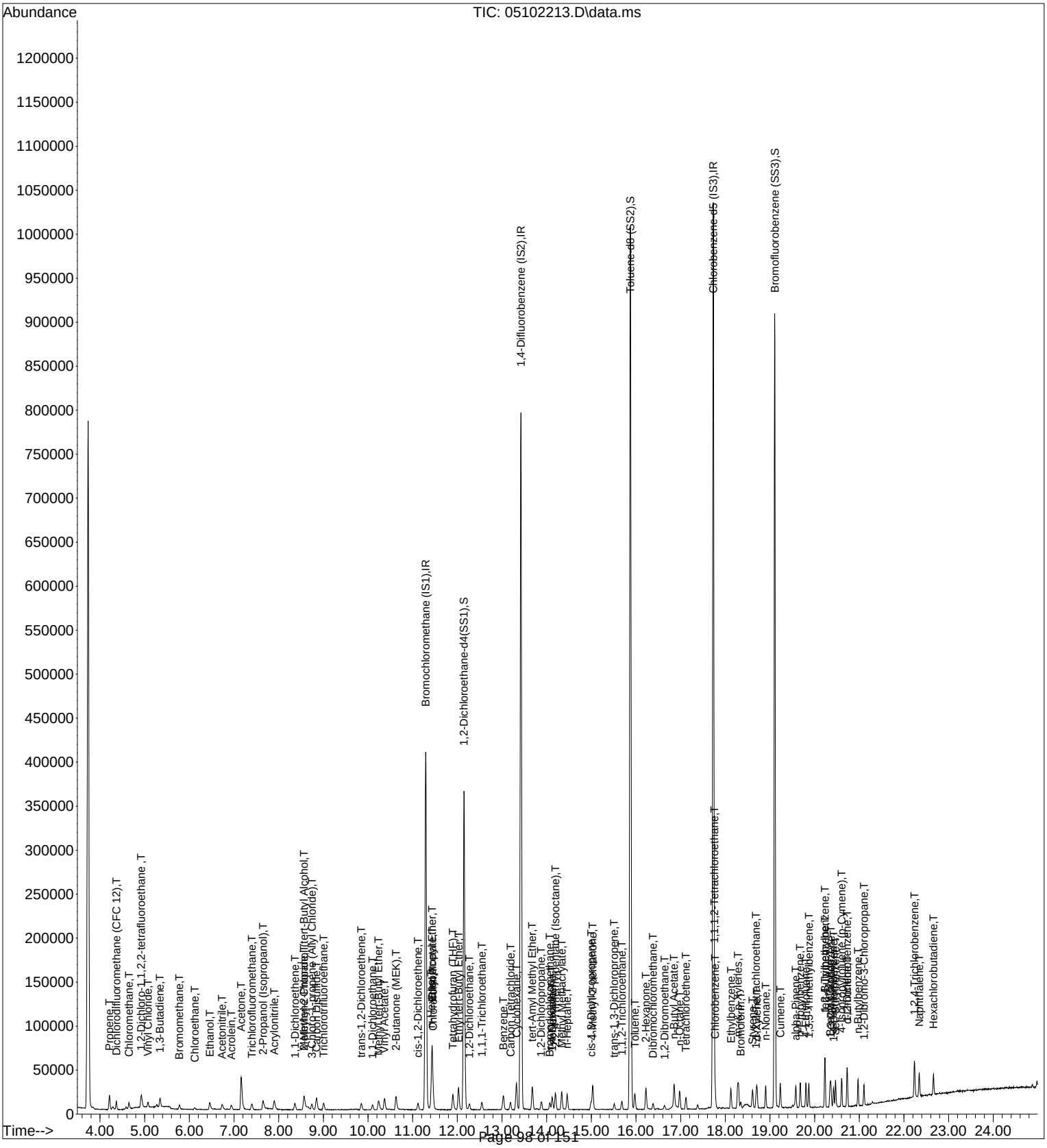
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	3929	0.209 ng	91
52) cis-1,3-Dichloropropene	15.00	75	5404	0.186 ng	97
53) 4-Methyl-2-pentanone	15.03	58	8034	0.476 ng	94
54) trans-1,3-Dichloropropene	15.51	75	4546	0.170 ng	100
55) 1,1,2-Trichloroethane	15.68	97	3667	0.203 ng	100
58) Toluene	15.98	91	14945	0.159 ng	100
59) 2-Hexanone	16.22	43	22261	0.421 ng	97
60) Dibromochloromethane	16.38	129	4412	0.178 ng	99
61) 1,2-Dibromoethane	16.64	107	4149	0.163 ng	96
62) n-Butyl Acetate	16.85	43	24452	0.422 ng	95
63) n-Octane	16.98	57	4373	0.234 ng	93
64) Tetrachloroethene	17.12	166	4283	0.170 ng	100
65) Chlorobenzene	17.77	112	10109	0.163 ng	96
66) Ethylbenzene	18.13	91	17470	0.167 ng	99
67) m- & p-Xylenes	18.28	91	28500	0.359 ng	95
68) Bromoform	18.35	173	3769	0.177 ng	99
69) Styrene	18.61	104	10358	0.160 ng	99
70) o-Xylene	18.71	91	13990	0.175 ng	97
71) n-Nonane	18.91	43	10200	0.244 ng	94
72) 1,1,2,2-Tetrachloroethane	18.69	83	6393	0.173 ng	97
74) Cumene	19.23	105	17926	0.173 ng	99
75) alpha-Pinene	19.58	93	8697	0.178 ng	66
76) n-Propylbenzene	19.68	91	21808	0.177 ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.80	105	18116	0.180 ng	98
79) 1,3,5-Trimethylbenzene	19.87	105	14869	0.179 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.23	105	14890	0.188 ng	99
83) n-Decane	0.00	58	0	N.D. d	
84) Benzyl Chloride	20.35	91	17518	0.277 ng	97
85) 1,3-Dichlorobenzene	20.36	146	8899	0.186 ng	96
86) 1,4-Dichlorobenzene	20.42	146	9049	0.182 ng	95
87) sec-Butylbenzene	20.47	105	19839	0.180 ng	96
88) 4-Isopropyltoluene (p-...	20.61	119	17587	0.182 ng	97
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.73	146	8750	0.194 ng	94
91) d-Limonene	20.73	68	5413	0.191 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	6291	0.369 ng	82
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.23	180	13670	0.383 ng	100
95) Naphthalene	22.34	128	21860	0.186 ng	99
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	22.66	225	4520	0.208 ng	98
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.23	119	14599	0.187 ng	100
100) n-Butylbenzene	20.97	91	16254	0.183 ng	96
101) 1,1,1,2-Tetrachloroethane	17.76	131	3950	0.182 ng	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

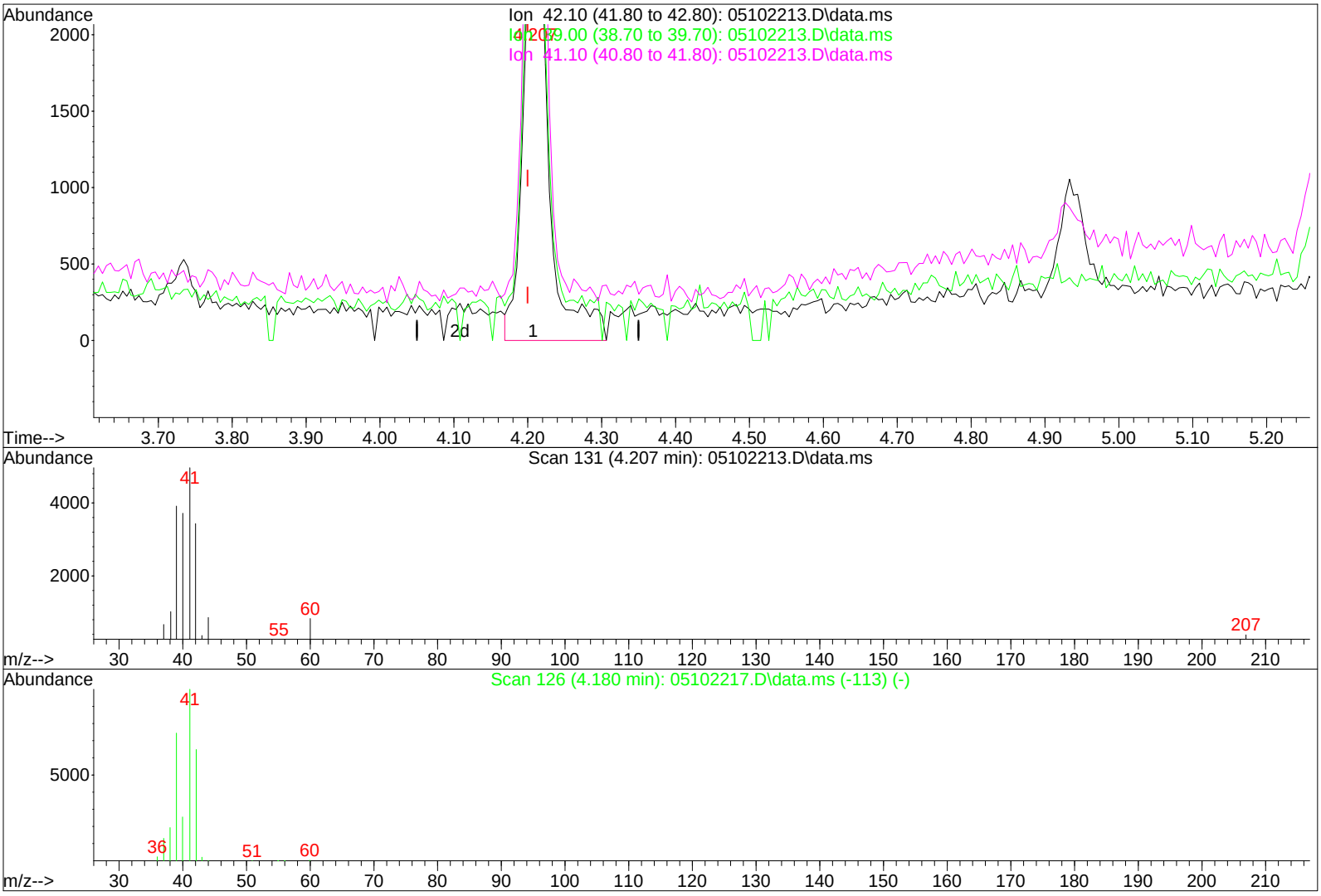
Quant Time: May 10 17:45:45 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05052204 (6/09)

Quant Time: May 10 17:35:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05102213.D\data.ms

(2) Propene (T)

4.207min (+0.007) 0.29ng

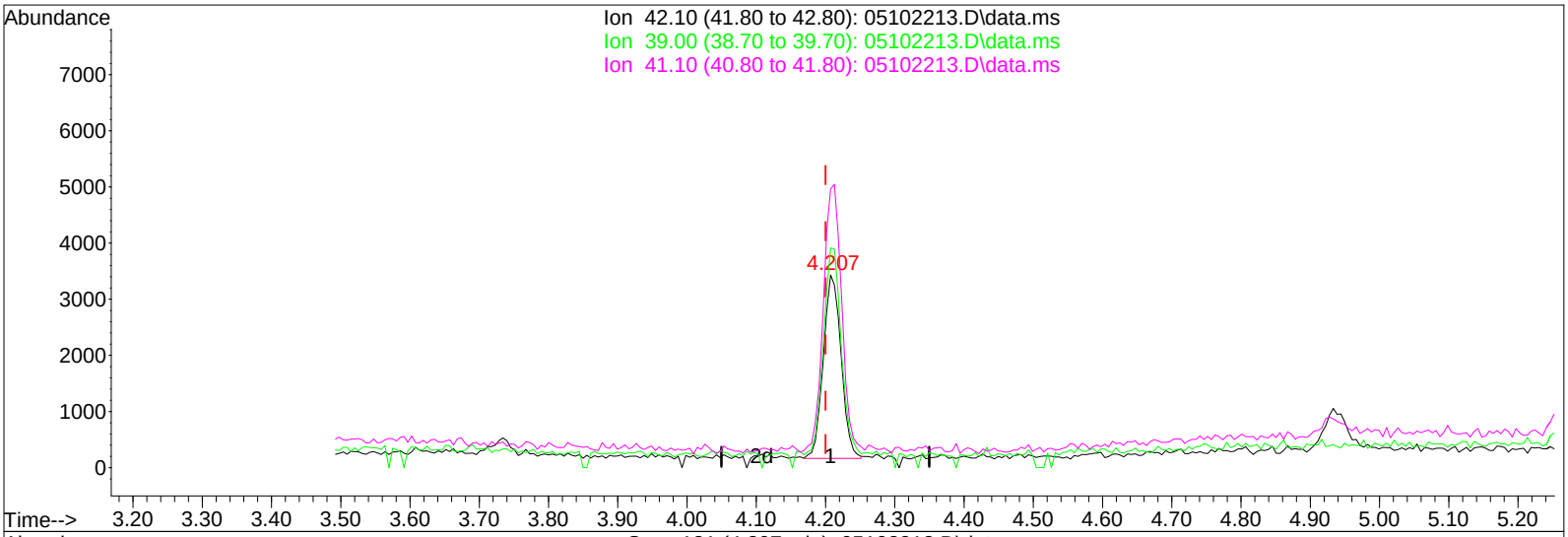
response 7216

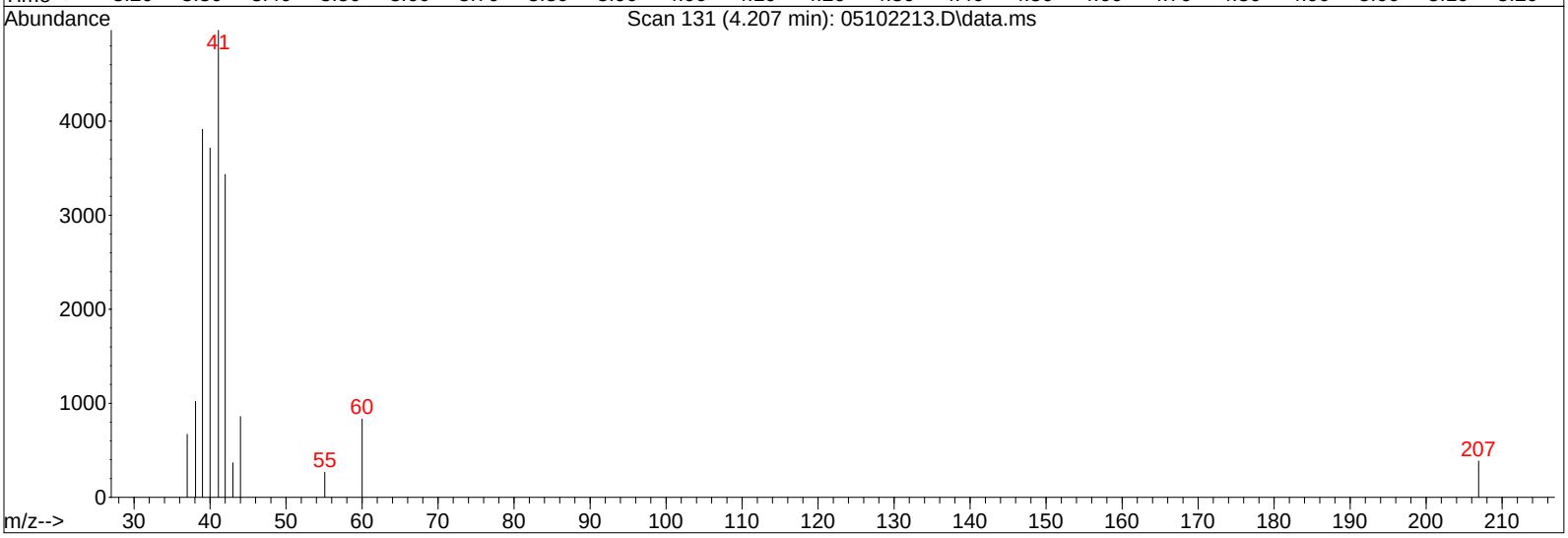
Ion	Exp%	Act%
42.10	100	100
39.00	114.30	116.38
41.10	152.50	122.59#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:45:45 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102213.D\data.ms

(2) Propene (T)

4.207min (+0.007) 0.24ng m

response 5830

Ion	Exp%	Act%
42.10	100	100
39.00	114.30	144.05#
41.10	152.50	151.73
0.00	0.00	0.00

BLC

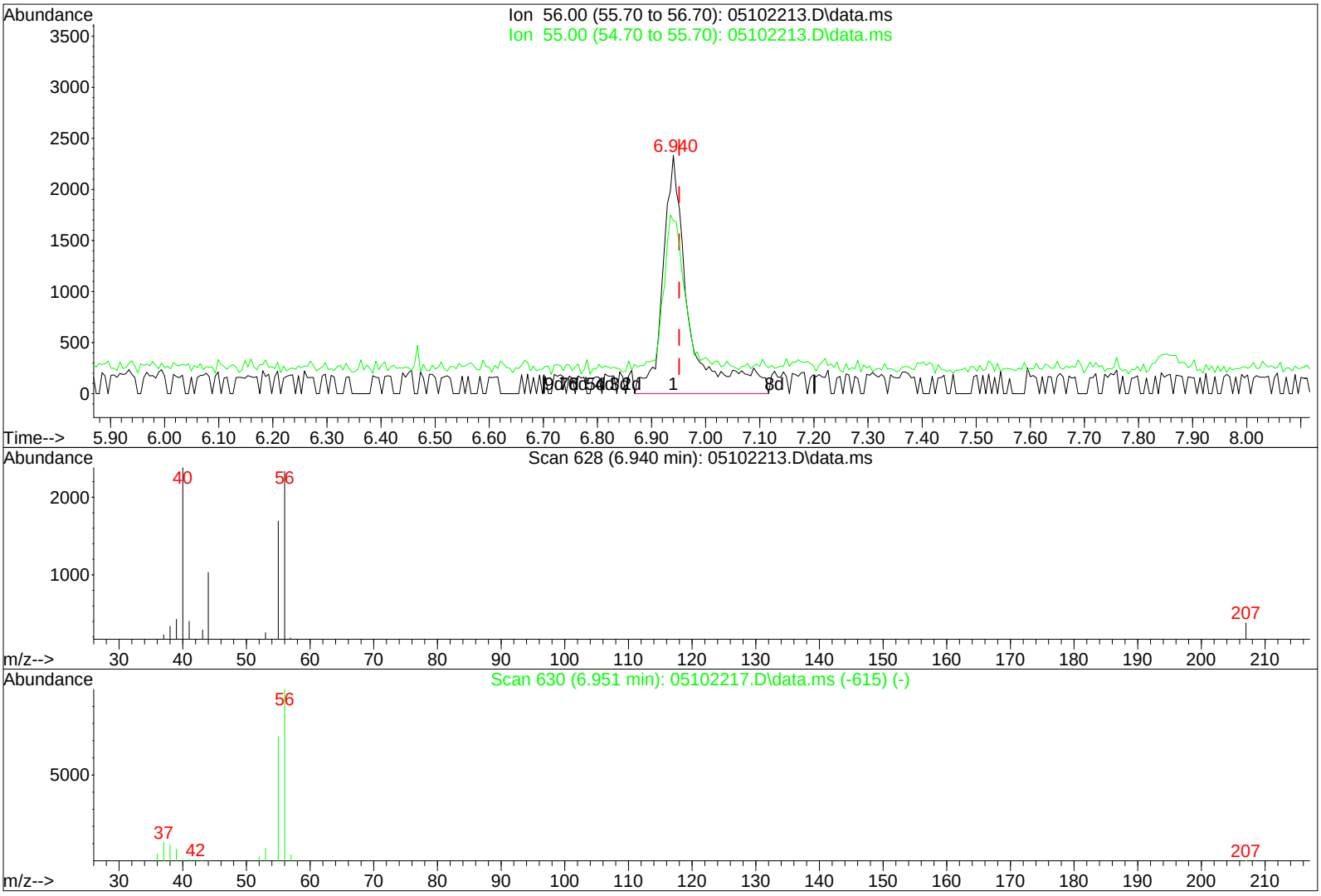
5/11/22

Tz 5/16/22

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05052204 (6/09)

Quant Time: May 10 17:35:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05102213.D\data.ms

(12) Acrolein (T)

6.940min (-0.011) 0.70ng

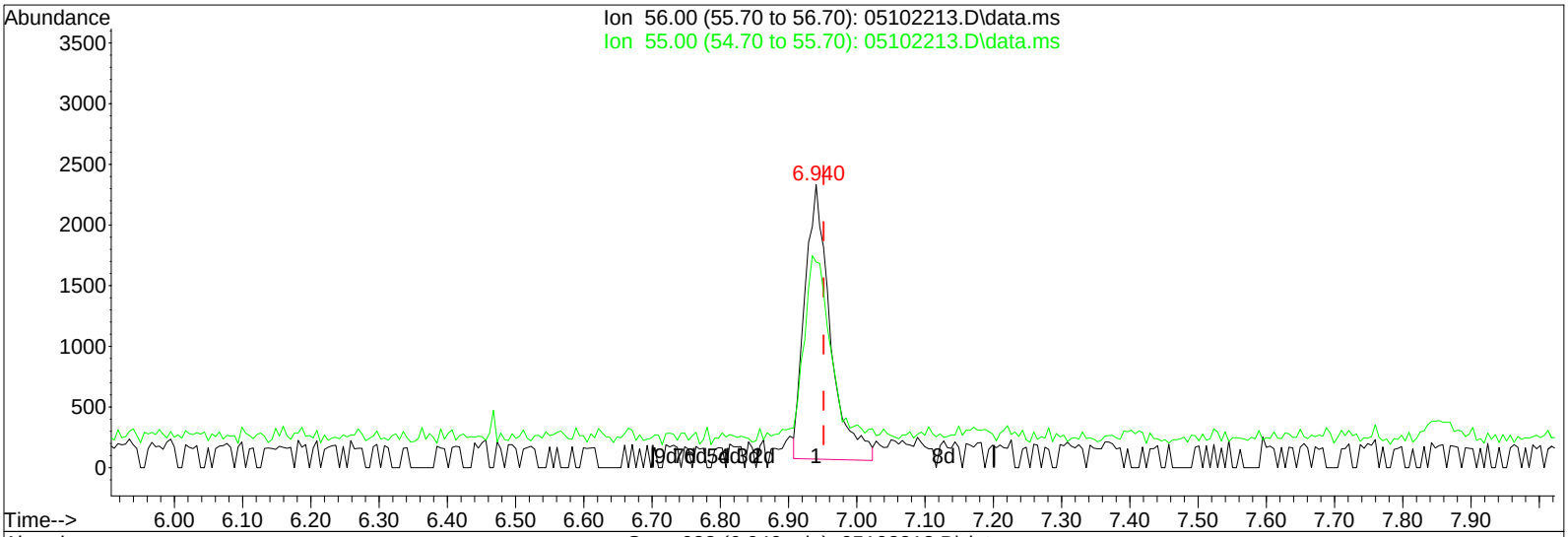
response 7799

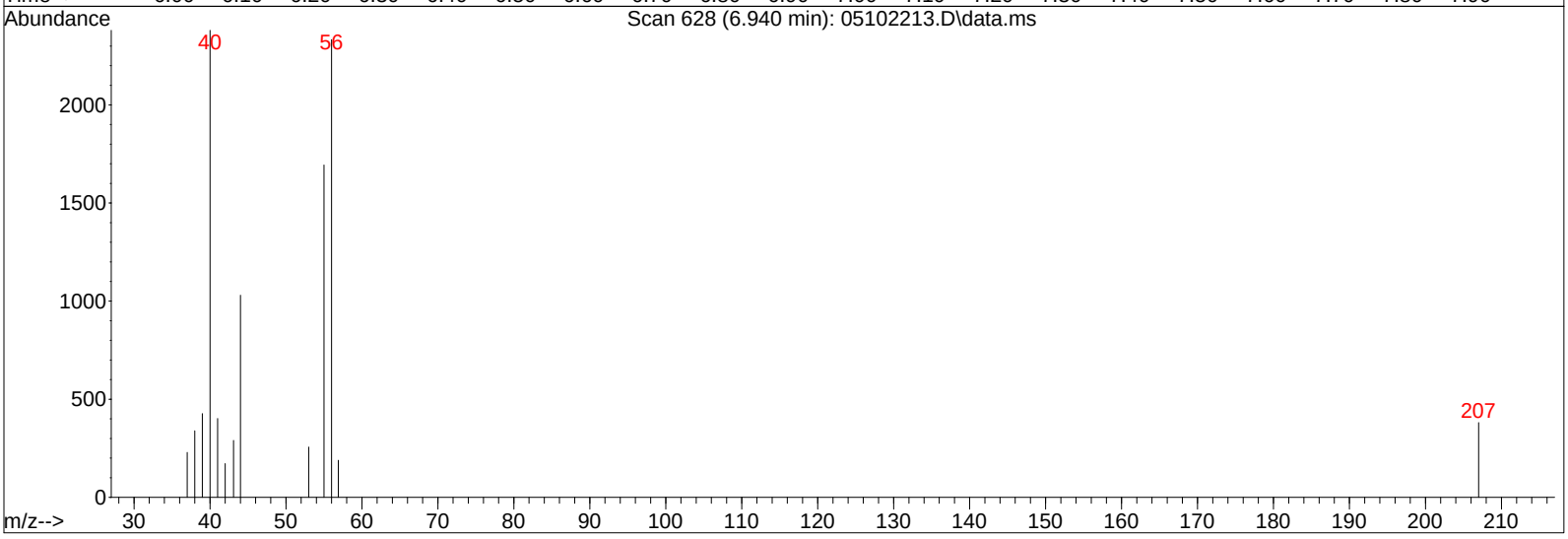
Ion	Exp%	Act%
56.00	100	100
55.00	72.10	53.58
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102213.D Vial: 13
Acq On : 10 May 2022 14:20 Operator: TZ/CG
Sample : 0.2ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:45:45 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102213.D\data.ms

(12) Acrolein (T)

6.940min (-0.011) 0.52ng m

response 5863

Ion	Exp%	Act%
56.00	100	100
55.00	72.10	71.28
0.00	0.00	0.00
0.00	0.00	0.00

BLC

5/11/22

Tz 5/16/22

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102214.D Vial: 13
Acq On : 10 May 2022 14:54 Operator: TZ/CG
Sample : 0.5ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:59:03 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/11/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	160991	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	728369	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	164807	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	293414	13.268	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
57) Toluene-d8 (SS2)	15.88	98	783320	9.835	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.72%				
73) Bromofluorobenzene (SS3)	19.11	174	284457	11.207	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.68%				
Target Compounds							Qvalue
2) Propene	4.21	42	16770	0.684	ng		95
3) Dichlorodifluoromethan...	4.37	85	18123	0.447	ng		98
4) Chloromethane	4.65	50	16041	0.544	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	9779	0.451	ng		96
6) Vinyl Chloride	5.07	62	14121	0.467	ng		99
7) 1,3-Butadiene	5.35	54	12309	0.590	ng		95
8) Bromomethane	5.77	94	6736	0.409	ng		95
9) Chloroethane	6.12	64	5831	0.439	ng		98
10) Ethanol	6.46	45	34541	2.278	ng		91
11) Acetonitrile	6.73	41	19719	0.487	ng		93
12) Acrolein	6.93	56	12824m	1.146	ng		
13) Acetone	7.15	58	37113	2.447	ng		92
14) Trichlorofluoromethane	7.40	101	15981	0.464	ng		99
15) 2-Propanol (Isopropanol)	7.64	45	49752	0.962	ng		97
16) Acrylonitrile	7.90	53	26978	1.012	ng		96
17) 1,1-Dichloroethene	8.36	96	8371	0.462	ng		99
18) 2-Methyl-2-Propanol (t...	8.55	59	50078	1.050	ng		94
19) Methylene Chloride	8.57	84	8534	0.432	ng		97
20) 3-Chloro-1-propene (Al...	8.74	41	14452	0.523	ng		98
21) Trichlorotrifluoroethane	9.01	151	7652	0.489	ng		97
22) Carbon Disulfide	8.85	76	58548	0.870	ng		100
23) trans-1,2-Dichloroethene	9.85	61	13068	0.488	ng		96
24) 1,1-Dichloroethane	10.10	63	15964	0.486	ng		99
25) Methyl tert-Butyl Ether	10.23	73	26776	0.490	ng		95
26) Vinyl Acetate	10.37	86	3960	1.033	ng	#	93
27) 2-Butanone (MEK)	10.62	72	11530	0.826	ng		96
28) cis-1,2-Dichloroethene	11.12	61	13083	0.504	ng		97
29) Diisopropyl Ether	11.43	87	15382	0.946	ng	#	90
30) Ethyl Acetate	11.43	61	15013	2.096	ng		99
31) n-Hexane	11.42	57	17499	0.644	ng		94
32) Chloroform	11.47	83	15136	0.465	ng		97
34) Tetrahydrofuran (THF)	11.89	72	10096	0.793	ng		97
35) Ethyl tert-Butyl Ether	12.02	87	20577	0.990	ng		98
36) 1,2-Dichloroethane	12.27	62	13163	0.520	ng		99
38) 1,1,1-Trichloroethane	12.55	97	14369	0.486	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	33929	0.448	ng		100
42) Carbon Tetrachloride	13.19	117	12194	0.507	ng		99
43) Cyclohexane	13.32	84	25922	0.931	ng		98
44) tert-Amyl Methyl Ether	13.68	73	51244	1.037	ng		99
45) 1,2-Dichloropropane	13.88	63	9251	0.501	ng		97
46) Bromodichloromethane	14.07	83	12382	0.499	ng		96
47) Trichloroethene	14.13	130	9377	0.463	ng		98
48) 1,4-Dioxane	14.11	88	6883	0.410	ng		94
49) 2,2,4-Trimethylpentane...	14.19	57	43213	0.589	ng		97
50) Methyl Methacrylate	14.34	100	6960	0.885	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102214.D Vial: 13
Acq On : 10 May 2022 14:54 Operator: TZ/CG
Sample : 0.5ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:59:03 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

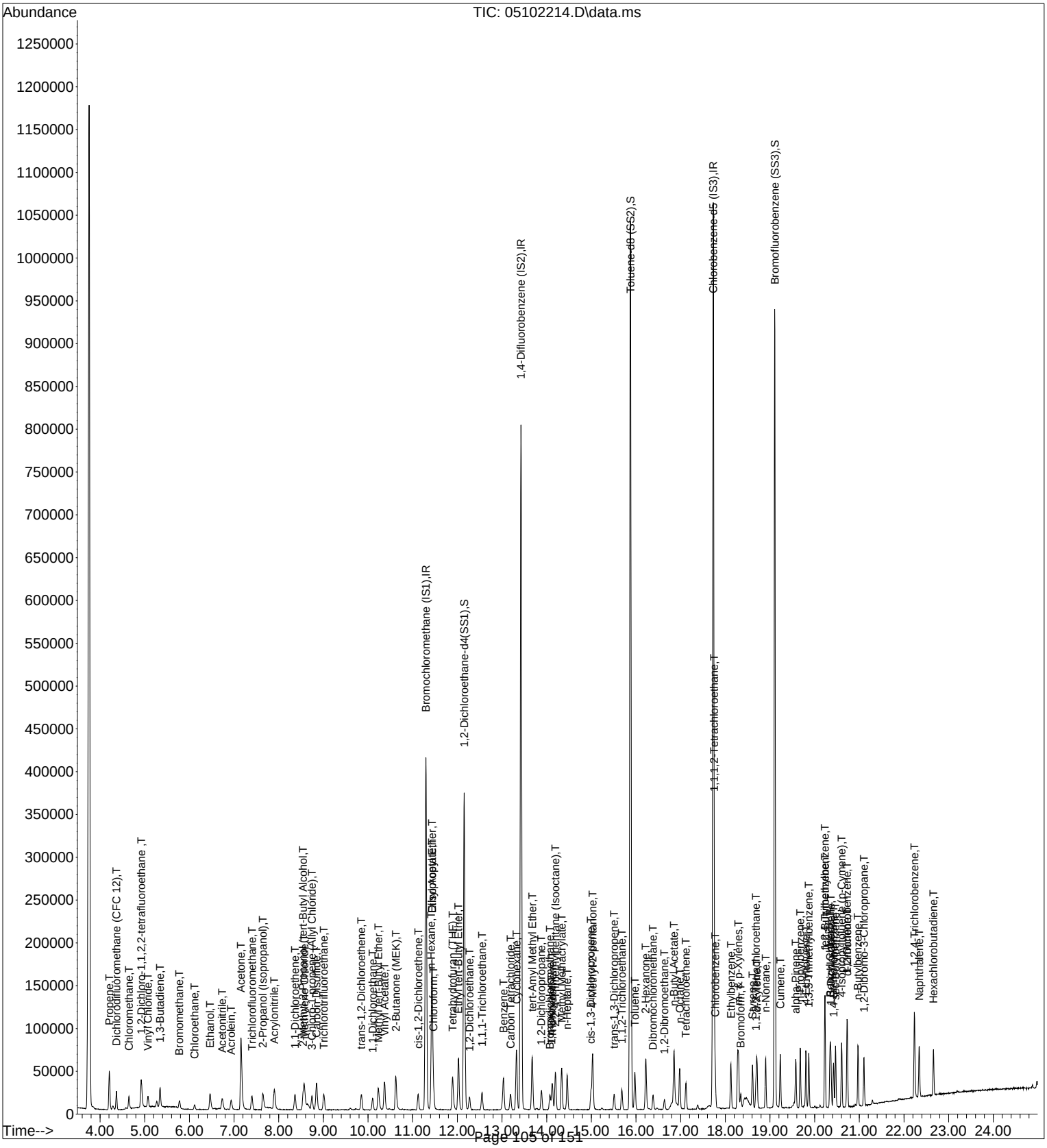
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	8786	0.467 ng		95
52) cis-1,3-Dichloropropene	14.99	75	13060	0.449 ng		99
53) 4-Methyl-2-pentanone	15.03	58	18715	1.109 ng		95
54) trans-1,3-Dichloropropene	15.51	75	11585	0.434 ng		100
55) 1,1,2-Trichloroethane	15.68	97	8531	0.472 ng		95
58) Toluene	15.98	91	35357	0.367 ng		99
59) 2-Hexanone	16.22	43	53391	0.982 ng		97
60) Dibromochloromethane	16.38	129	10641	0.417 ng		98
61) 1,2-Dibromoethane	16.63	107	9908	0.379 ng		98
62) n-Butyl Acetate	16.85	43	56890	0.955 ng		98
63) n-Octane	16.98	57	9354	0.486 ng		97
64) Tetrachloroethene	17.12	166	10205	0.395 ng		99
65) Chlorobenzene	17.77	112	23702	0.372 ng		99
66) Ethylbenzene	18.13	91	40696	0.380 ng		98
67) m- & p-Xylenes	18.29	91	64870	0.795 ng		96
68) Bromoform	18.35	173	9262	0.424 ng		99
69) Styrene	18.61	104	24247	0.364 ng		99
70) o-Xylene	18.71	91	32709	0.399 ng		97
71) n-Nonane	18.91	43	23678	0.551 ng		98
72) 1,1,2,2-Tetrachloroethane	18.69	83	14815	0.390 ng		99
74) Cumene	19.23	105	41327	0.387 ng		100
75) alpha-Pinene	19.58	93	20744	0.412 ng		96
76) n-Propylbenzene	19.68	91	49742	0.393 ng		97
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.80	105	41670	0.403 ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	34508	0.405 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.23	105	34831	0.429 ng		100
83) n-Decane	0.00	58	0	N.D. d		
84) Benzyl Chloride	20.35	91	45804	0.704 ng		97
85) 1,3-Dichlorobenzene	20.36	146	20534	0.419 ng		99
86) 1,4-Dichlorobenzene	20.42	146	20533	0.403 ng		97
87) sec-Butylbenzene	20.47	105	46692	0.411 ng		98
88) 4-Isopropyltoluene (p-...	20.61	119	40611	0.410 ng		98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.73	146	20122	0.435 ng		97
91) d-Limonene	20.73	68	13259	0.456 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	14894	0.851 ng	#	81
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.23	180	31935	0.871 ng		99
95) Naphthalene	22.34	128	48707	0.403 ng		100
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.66	225	10549	0.472 ng		99
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.23	119	34236	0.428 ng		99
100) n-Butylbenzene	20.97	91	37365	0.409 ng		98
101) 1,1,1,2-Tetrachloroethane	17.75	131	9502	0.425 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102214.D Vial: 13
Acq On : 10 May 2022 14:54 Operator: TZ/CG
Sample : 0.5ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

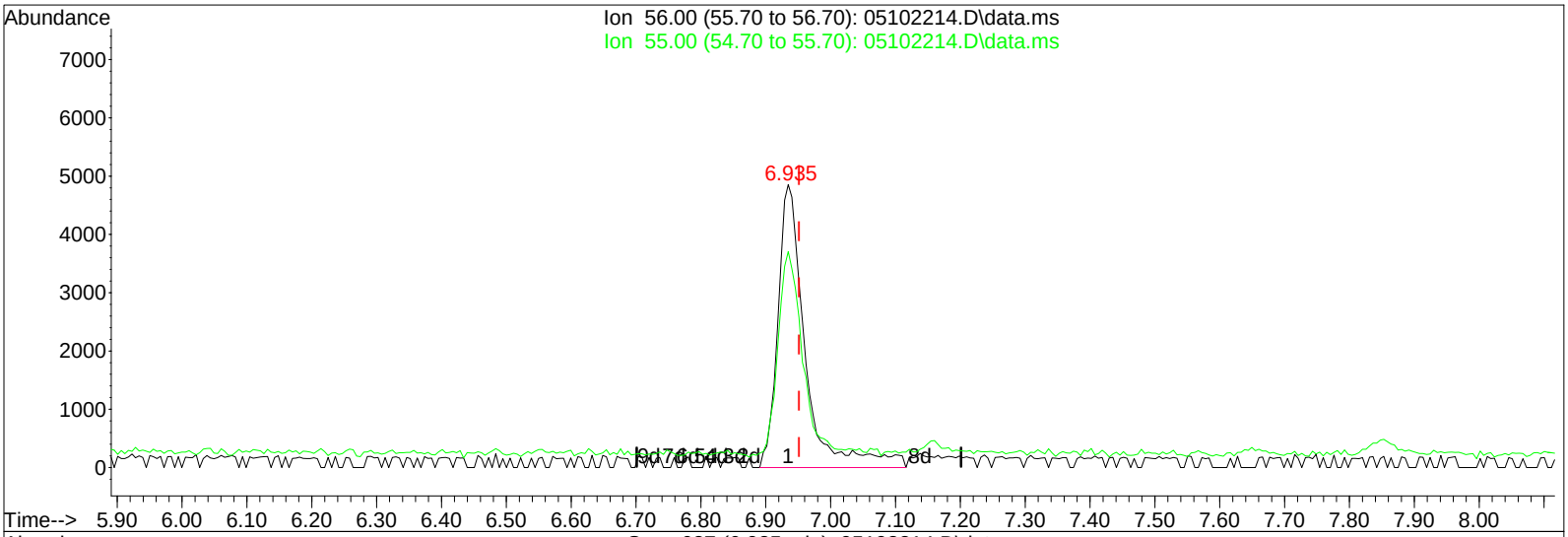
Quant Time: May 10 17:59:03 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

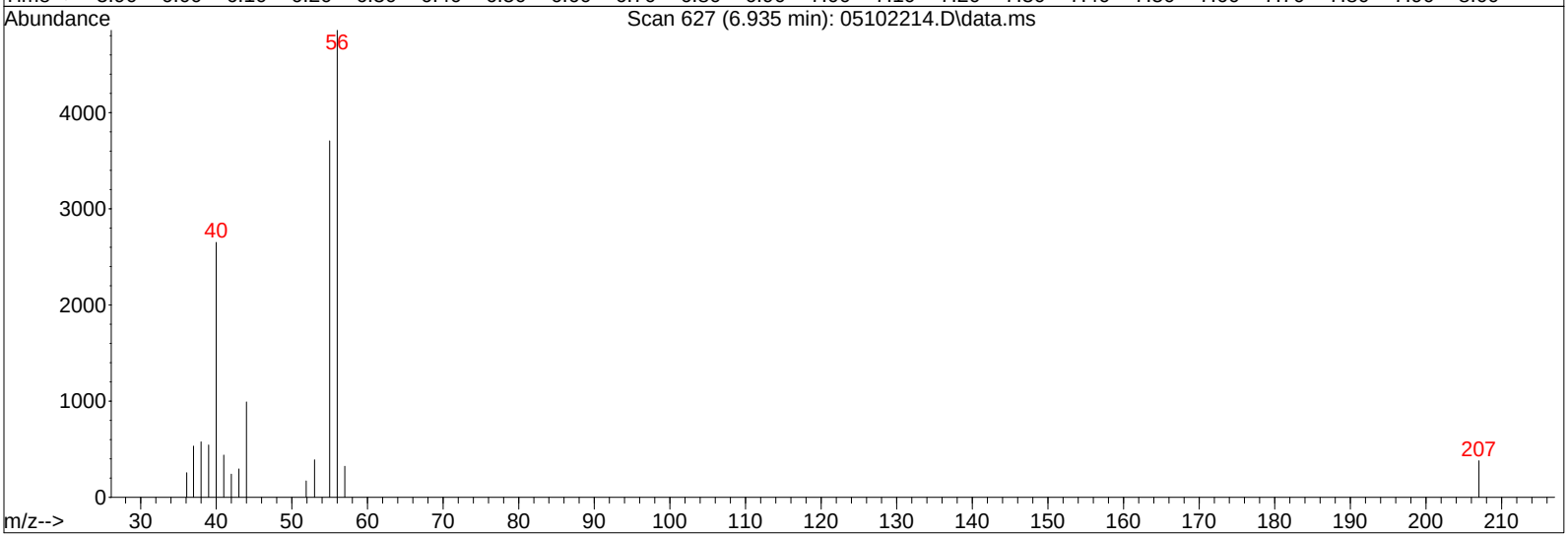


Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102214.D Vial: 13
Acq On : 10 May 2022 14:54 Operator: TZ/CG
Sample : 0.5ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05052204 (6/09)

Quant Time: May 10 17:35:17 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102214.D\data.ms

(12) Acrolein (T)

6.935min (-0.017) 1.27ng

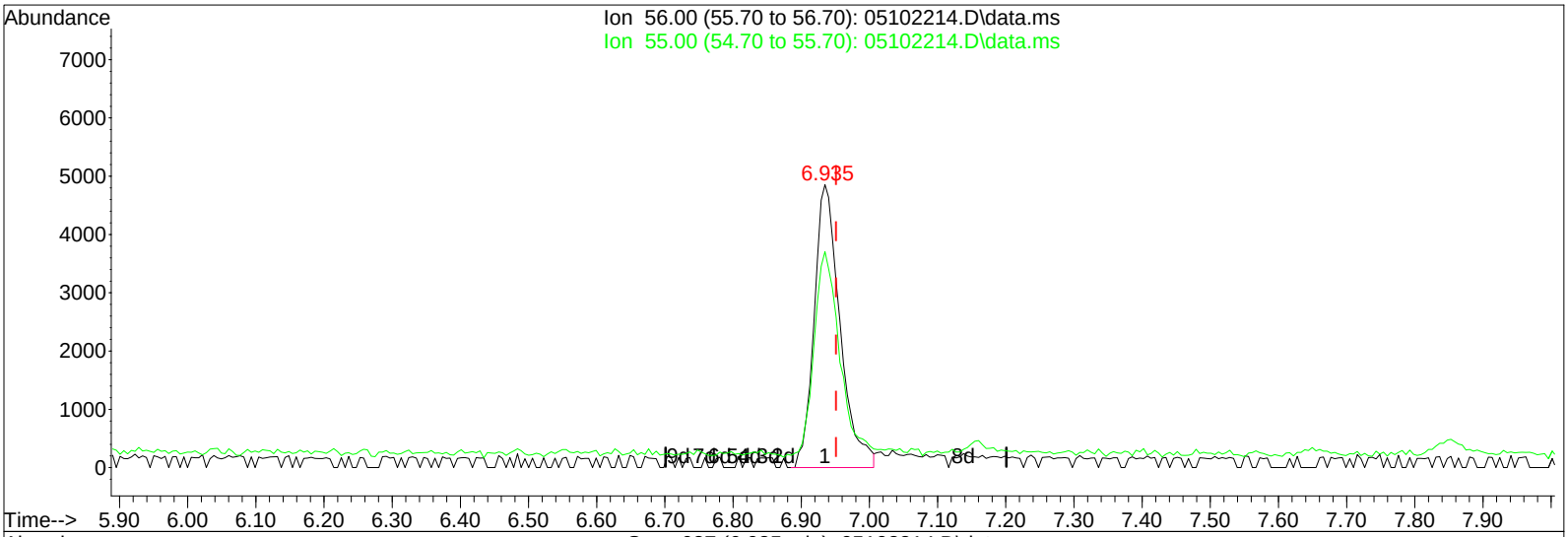
response 14197

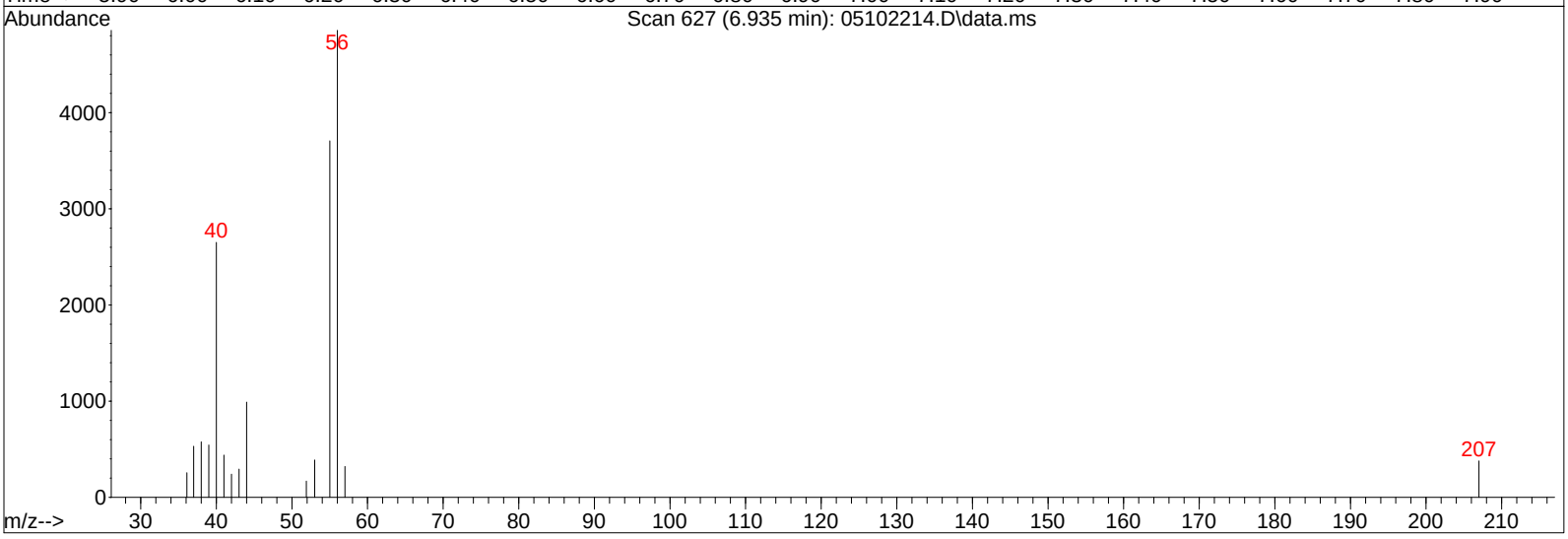
Ion	Exp%	Act%
56.00	100	100
55.00	72.10	70.89
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 05\10\05102214.D Vial: 13
Acq On : 10 May 2022 14:54 Operator: TZ/CG
Sample : 0.5ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102204 (6/09)

Quant Time: May 10 17:59:03 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 05102214.D\data.ms

(12) Acrolein (T)

6.935min (-0.017) 1.15ng m

response 12824

Ion	Exp%	Act%
56.00	100	100
55.00	72.10	78.48
0.00	0.00	0.00
0.00	0.00	0.00

5/11/22

BLC

5/16/22

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102215.D Vial: 14
Acq On : 10 May 2022 15:28 Operator: TZ/CG
Sample : 1.0ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102203 (6/09)

Quant Time: May 10 18:03:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022 5/10/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	162687	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	736519	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	165921	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	295715	13.233	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
57) Toluene-d8 (SS2)	15.88	98	788105	9.829	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.64%				
73) Bromofluorobenzene (SS3)	19.11	174	284122	11.118	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.96%				
Target Compounds							Qvalue
2) Propene	4.20	42	29032	1.171	ng		97
3) Dichlorodifluoromethan...	4.36	85	39956	0.976	ng		99
4) Chloromethane	4.64	50	36765	1.235	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	20918	0.955	ng		99
6) Vinyl Chloride	5.06	62	31096	1.018	ng		99
7) 1,3-Butadiene	5.33	54	26502	1.258	ng		99
8) Bromomethane	5.77	94	14473	0.870	ng		97
9) Chloroethane	6.11	64	13099	0.975	ng		98
10) Ethanol	6.46	45	65917	4.302	ng		99
11) Acetonitrile	6.73	41	41912	1.024	ng		98
12) Acrolein	6.92	56	29768	2.632	ng		95
13) Acetone	7.14	58	80083	5.224	ng		92
14) Trichlorofluoromethane	7.40	101	34392	0.988	ng		99
15) 2-Propanol (Isopropanol)	7.64	45	130016	2.488	ng		98
16) Acrylonitrile	7.90	53	57941	2.151	ng		99
17) 1,1-Dichloroethene	8.36	96	18265	0.998	ng		99
18) 2-Methyl-2-Propanol (t...	8.53	59	115183	2.390	ng		98
19) Methylene Chloride	8.57	84	18317	0.917	ng		99
20) 3-Chloro-1-propene (Al...	8.74	41	32603	1.168	ng		100
21) Trichlorotrifluoroethane	9.01	151	17365	1.099	ng		99
22) Carbon Disulfide	8.85	76	128243	1.886	ng		99
23) trans-1,2-Dichloroethene	9.85	61	29210	1.080	ng		99
24) 1,1-Dichloroethane	10.11	63	35980	1.084	ng		100
25) Methyl tert-Butyl Ether	10.22	73	59016	1.068	ng		99
26) Vinyl Acetate	10.37	86	9344	2.412	ng	#	90
27) 2-Butanone (MEK)	10.61	72	24749	1.754	ng		99
28) cis-1,2-Dichloroethene	11.12	61	28197	1.075	ng		98
29) Diisopropyl Ether	11.43	87	34706	2.112	ng	#	85
30) Ethyl Acetate	11.43	61	32968	4.555	ng		99
31) n-Hexane	11.42	57	38258	1.392	ng		97
32) Chloroform	11.47	83	33230	1.010	ng		97
34) Tetrahydrofuran (THF)	11.89	72	22333	1.735	ng		96
35) Ethyl tert-Butyl Ether	12.02	87	45162	2.150	ng		98
36) 1,2-Dichloroethane	12.27	62	29040	1.136	ng		100
38) 1,1,1-Trichloroethane	12.55	97	31213	1.044	ng		100
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	72874	0.952	ng		100
42) Carbon Tetrachloride	13.19	117	26846	1.103	ng		99
43) Cyclohexane	13.32	84	56834	2.019	ng		100
44) tert-Amyl Methyl Ether	13.67	73	107327	2.148	ng		98
45) 1,2-Dichloropropane	13.89	63	20012	1.071	ng		100
46) Bromodichloromethane	14.07	83	27195	1.085	ng		99
47) Trichloroethene	14.13	130	20239	0.989	ng		99
48) 1,4-Dioxane	14.11	88	15424	0.908	ng		99
49) 2,2,4-Trimethylpentane...	14.19	57	94999	1.280	ng		98
50) Methyl Methacrylate	14.34	100	15229	1.914	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102215.D Vial: 14
Acq On : 10 May 2022 15:28 Operator: TZ/CG
Sample : 1.0ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102203 (6/09)

Quant Time: May 10 18:03:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

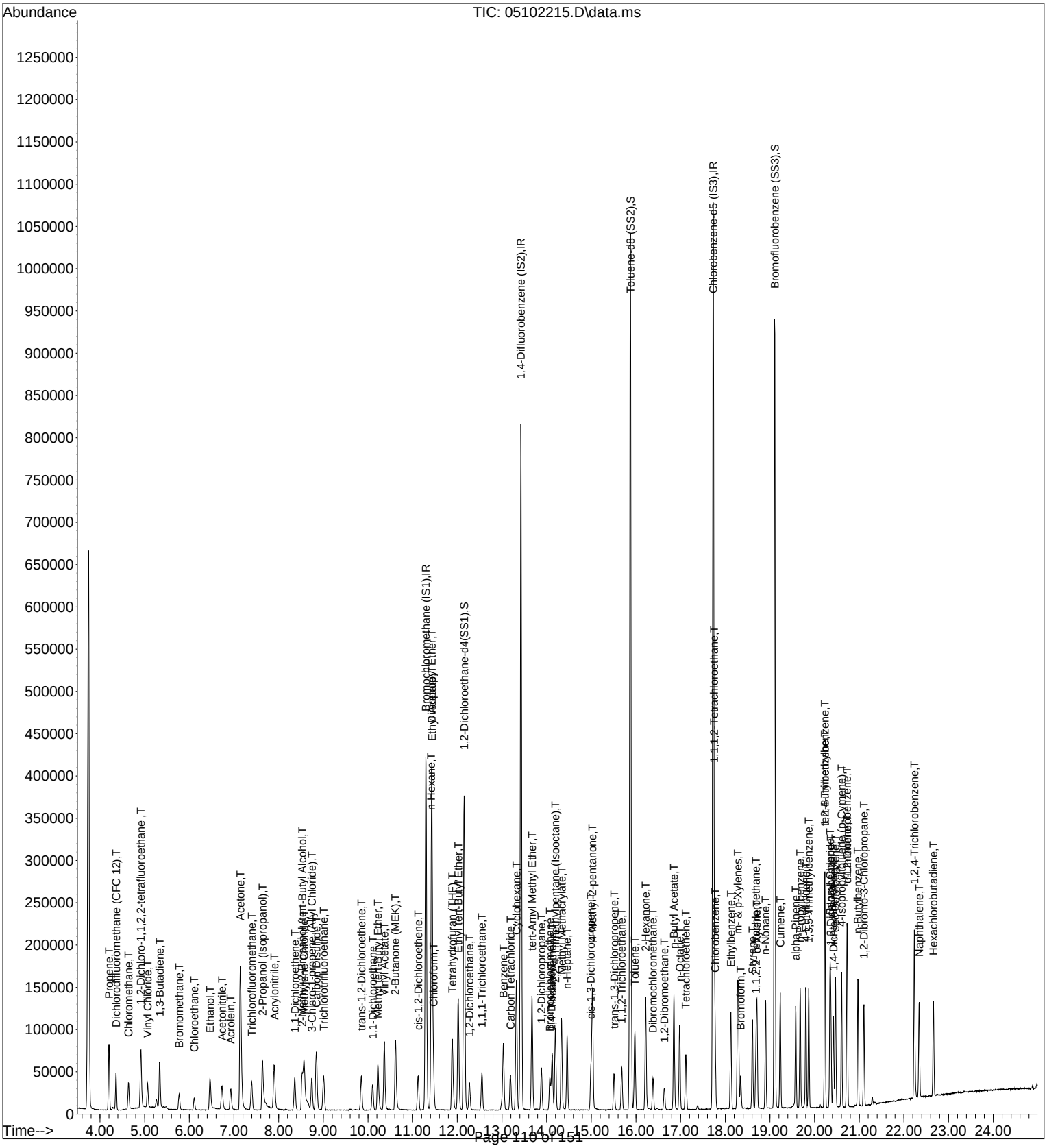
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	19151	1.008 ng	97
52) cis-1,3-Dichloropropene	14.99	75	29189	0.993 ng	99
53) 4-Methyl-2-pentanone	15.02	58	41170	2.412 ng	96
54) trans-1,3-Dichloropropene	15.51	75	25497	0.944 ng	98
55) 1,1,2-Trichloroethane	15.68	97	18249	0.999 ng	99
58) Toluene	15.98	91	76036	0.784 ng	99
59) 2-Hexanone	16.22	43	115524	2.110 ng	98
60) Dibromochloromethane	16.38	129	23311	0.907 ng	99
61) 1,2-Dibromoethane	16.63	107	21449	0.814 ng	99
62) n-Butyl Acetate	16.85	43	126521	2.110 ng	100
63) n-Octane	16.98	57	19839	1.024 ng	98
64) Tetrachloroethene	17.12	166	22101	0.849 ng	99
65) Chlorobenzene	17.77	112	50702	0.790 ng	99
66) Ethylbenzene	18.13	91	87325	0.809 ng	99
67) m- & p-Xylenes	18.28	91	135990	1.656 ng	99
68) Bromoform	18.35	173	19960	0.907 ng	99
69) Styrene	18.61	104	52168	0.778 ng	100
70) o-Xylene	18.71	91	69531	0.842 ng	98
71) n-Nonane	18.90	43	51221	1.184 ng	100
72) 1,1,2,2-Tetrachloroethane	18.69	83	31953	0.835 ng	99
74) Cumene	19.23	105	91083	0.848 ng	99
75) alpha-Pinene	19.58	93	44398	0.876 ng	91
76) n-Propylbenzene	19.68	91	108609	0.852 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.80	105	90457	0.869 ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	73534	0.858 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.23	105	76121	0.931 ng	99
83) n-Decane	0.00	58	0	N.D. d	
84) Benzyl Chloride	20.35	91	103116	1.573 ng	98
85) 1,3-Dichlorobenzene	20.36	146	43510	0.881 ng	98
86) 1,4-Dichlorobenzene	20.42	146	43358	0.845 ng	98
87) sec-Butylbenzene	20.47	105	101296	0.886 ng	99
88) 4-Isopropyltoluene (p-...	20.61	119	87899	0.881 ng	98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.73	146	42028	0.903 ng	97
91) d-Limonene	20.73	68	28470	0.972 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	32135	1.823 ng	89
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.23	180	62871	1.704 ng	99
95) Naphthalene	22.34	128	91053	0.749 ng	100
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	22.66	225	21396	0.950 ng	100
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.23	119	73721	0.915 ng	99
100) n-Butylbenzene	20.97	91	79995	0.871 ng	98
101) 1,1,1,2-Tetrachloroethane	17.75	131	20022	0.890 ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102215.D Vial: 14
Acq On : 10 May 2022 15:28 Operator: TZ/CG
Sample : 1.0ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102203 (6/09)

Quant Time: May 10 18:03:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102216.D Vial: 14
Acq On : 10 May 2022 16:02 Operator: TZ/CG
Sample : 5.0ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102203 (6/09)

Quant Time: May 10 18:08:49 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	161199	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	727569	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	165374	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	292598	13.214	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%				
57) Toluene-d8 (SS2)	15.88	98	777514	9.729	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 77.84%				
73) Bromofluorobenzene (SS3)	19.11	174	284011	11.151	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.20%				
Target Compounds							Qvalue
2) Propene	4.17	42	166473	6.779	ng		99
3) Dichlorodifluoromethan...	4.34	85	180887	4.459	ng		99
4) Chloromethane	4.63	50	149993	5.085	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	95263	4.390	ng		100
6) Vinyl Chloride	5.05	62	143115	4.727	ng		100
7) 1,3-Butadiene	5.32	54	120044	5.749	ng		100
8) Bromomethane	5.76	94	69580	4.219	ng		99
9) Chloroethane	6.10	64	59307	4.457	ng		100
10) Ethanol	6.48	45	298411	19.655	ng		100
11) Acetonitrile	6.74	41	195953	4.831	ng		98
12) Acrolein	6.93	56	125234	11.177	ng		99
13) Acetone	7.14	58	364769	24.015	ng		94
14) Trichlorofluoromethane	7.39	101	157831	4.575	ng		99
15) 2-Propanol (Isopropanol)	7.64	45	467807	9.036	ng		99
16) Acrylonitrile	7.91	53	272368	10.203	ng		100
17) 1,1-Dichloroethene	8.36	96	81991	4.522	ng		99
18) 2-Methyl-2-Propanol (t...	8.52	59	512554	10.735	ng		98
19) Methylene Chloride	8.58	84	82881	4.186	ng		99
20) 3-Chloro-1-propene (Al...	8.74	41	155246	5.614	ng		99
21) Trichlorotrifluoroethane	9.00	151	79042	5.047	ng		99
22) Carbon Disulfide	8.84	76	592026	8.788	ng		100
23) trans-1,2-Dichloroethene	9.86	61	135533	5.056	ng		99
24) 1,1-Dichloroethane	10.11	63	162197	4.931	ng		100
25) Methyl tert-Butyl Ether	10.21	73	270070	4.933	ng		100
26) Vinyl Acetate	10.37	86	47682	12.421	ng	#	94
27) 2-Butanone (MEK)	10.61	72	115628	8.272	ng		97
28) cis-1,2-Dichloroethene	11.13	61	131268	5.052	ng		100
29) Diisopropyl Ether	11.43	87	161998	9.947	ng	#	90
30) Ethyl Acetate	11.43	61	160781	22.421	ng		100
31) n-Hexane	11.42	57	176113	6.469	ng		99
32) Chloroform	11.48	83	153433	4.708	ng		100
34) Tetrahydrofuran (THF)	11.88	72	104077	8.160	ng		99
35) Ethyl tert-Butyl Ether	12.02	87	213015	10.233	ng		99
36) 1,2-Dichloroethane	12.27	62	133509	5.269	ng		100
38) 1,1,1-Trichloroethane	12.55	97	143621	4.861	ng		100
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.03	78	336056	4.445	ng		100
42) Carbon Tetrachloride	13.19	117	123484	5.137	ng		99
43) Cyclohexane	13.32	84	258834	9.310	ng		100
44) tert-Amyl Methyl Ether	13.67	73	510832	10.350	ng		99
45) 1,2-Dichloropropane	13.89	63	93014	5.040	ng		99
46) Bromodichloromethane	14.07	83	124591	5.030	ng		100
47) Trichloroethene	14.13	130	94618	4.681	ng		100
48) 1,4-Dioxane	14.10	88	71498	4.260	ng		99
49) 2,2,4-Trimethylpentane...	14.20	57	435149	5.936	ng		98
50) Methyl Methacrylate	14.33	100	72954	9.283	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102216.D Vial: 14
Acq On : 10 May 2022 16:02 Operator: TZ/CG
Sample : 5.0ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102203 (6/09)

Quant Time: May 10 18:08:49 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

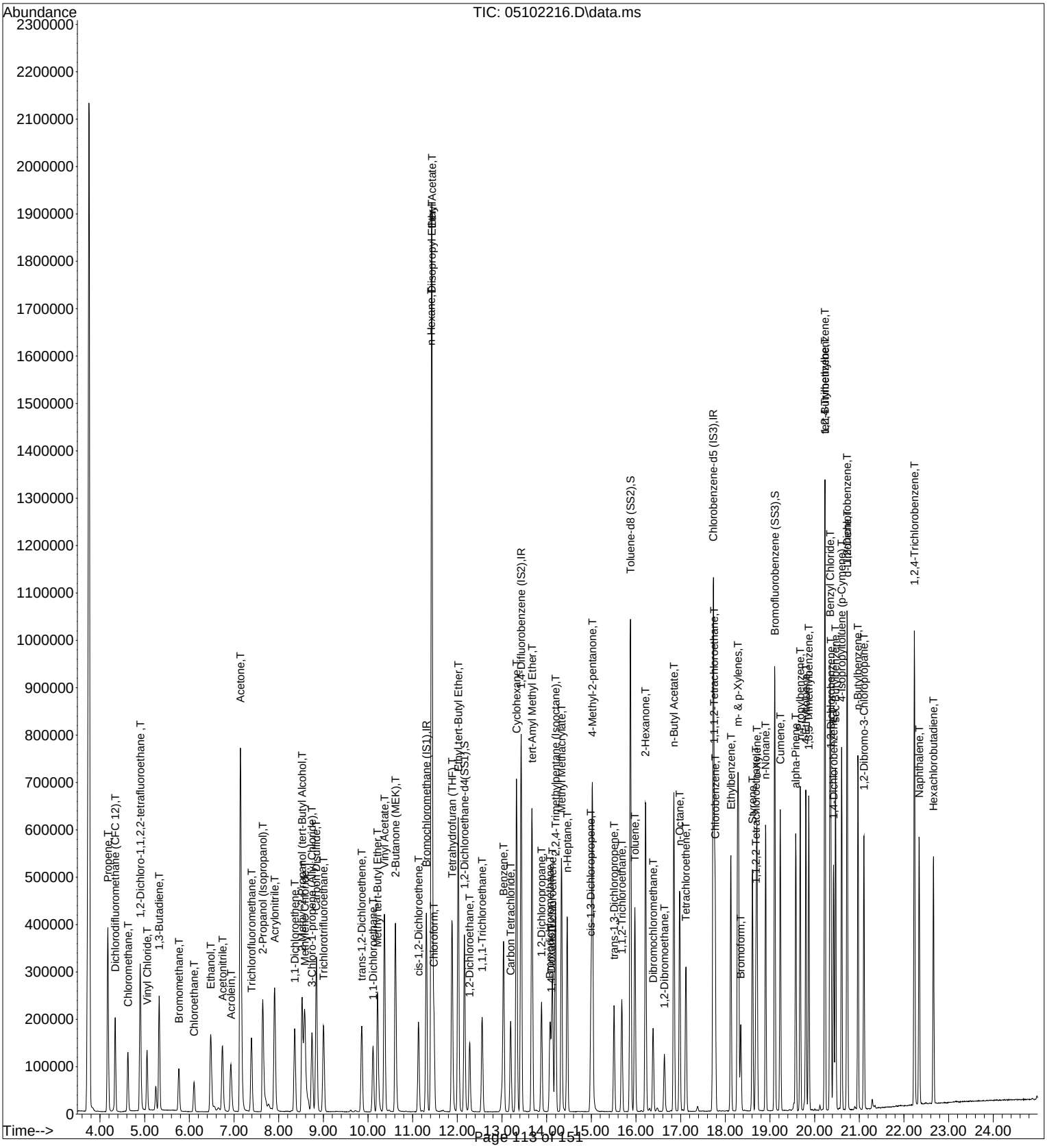
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	88895	4.735	ng	100
52) cis-1,3-Dichloropropene	14.99	75	140645	4.844	ng	100
53) 4-Methyl-2-pentanone	15.02	58	194506	11.534	ng	95
54) trans-1,3-Dichloropropene	15.51	75	126817	4.754	ng	99
55) 1,1,2-Trichloroethane	15.68	97	84818	4.700	ng	100
58) Toluene	15.98	91	350678	3.629	ng	100
59) 2-Hexanone	16.21	43	558946	10.241	ng	97
60) Dibromochloromethane	16.38	129	109839	4.287	ng	99
61) 1,2-Dibromoethane	16.64	107	100645	3.832	ng	99
62) n-Butyl Acetate	16.85	43	609015	10.192	ng	99
63) n-Octane	16.98	57	91371	4.733	ng	100
64) Tetrachloroethene	17.12	166	101363	3.906	ng	99
65) Chlorobenzene	17.77	112	237964	3.722	ng	100
66) Ethylbenzene	18.13	91	409343	3.804	ng	99
67) m- & p-Xylenes	18.28	91	642406	7.850	ng	99
68) Bromoform	18.35	173	96118	4.382	ng	100
69) Styrene	18.61	104	252145	3.771	ng	100
70) o-Xylene	18.71	91	327162	3.974	ng	98
71) n-Nonane	18.90	43	243688	5.653	ng	99
72) 1,1,2,2-Tetrachloroethane	18.69	83	152659	4.003	ng	99
74) Cumene	19.23	105	425799	3.976	ng	99
75) alpha-Pinene	19.58	93	216015	4.278	ng	96
76) n-Propylbenzene	19.68	91	514355	4.047	ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.80	105	430042	4.145	ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	352169	4.122	ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.23	105	362798	4.450	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	565734	8.660	ng	99
85) 1,3-Dichlorobenzene	20.36	146	208712	4.241	ng	99
86) 1,4-Dichlorobenzene	20.42	146	206302	4.033	ng	99
87) sec-Butylbenzene	20.47	105	480039	4.214	ng	99
88) 4-Isopropyltoluene (p-...	20.61	119	415860	4.184	ng	99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	203913	4.395	ng	99
91) d-Limonene	20.73	68	140258	4.806	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	157853	8.984	ng	92
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.23	180	310883	8.454	ng	99
95) Naphthalene	22.34	128	452213	3.731	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.66	225	102645	4.574	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.23	119	352832	4.395	ng	100
100) n-Butylbenzene	20.97	91	386954	4.225	ng	99
101) 1,1,1,2-Tetrachloroethane	17.75	131	93684	4.180	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102216.D Vial: 14
Acq On : 10 May 2022 16:02 Operator: TZ/CG
Sample : 5.0ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102203 (6/09)

Quant Time: May 10 18:08:49 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102217.D Vial: 15
Acq On : 10 May 2022 16:36 Operator: TZ/CG
Sample : 25ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:10:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	169128	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	748374	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	172826	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.17	65	298966	12.869	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%			
57) Toluene-d8 (SS2)	15.88	98	812433	9.728	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 77.84%			
73) Bromofluorobenzene (SS3)	19.11	174	298373	11.209	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.68%			
Target Compounds						Qvalue
2) Propene	4.18	42	845342	32.811	ng	100
3) Dichlorodifluoromethan...	4.34	85	962455	22.611	ng	100
4) Chloromethane	4.64	50	856715	27.680	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	509321	22.370	ng	100
6) Vinyl Chloride	5.07	62	754854	23.764	ng	100
7) 1,3-Butadiene	5.33	54	684091	31.225	ng	100
8) Bromomethane	5.78	94	364401	21.060	ng	100
9) Chloroethane	6.12	64	319182	22.861	ng	100
10) Ethanol	6.52	45	1667593	104.689	ng	100
11) Acetonitrile	6.77	41	1075335	25.270	ng	100
12) Acrolein	6.95	56	689163	58.624	ng	100
13) Acetone	7.17	58	2036328	127.780	ng	100
14) Trichlorofluoromethane	7.40	101	855126	23.626	ng	100
15) 2-Propanol (Isopropanol)	7.67	45	2805508	51.649	ng	100
16) Acrylonitrile	7.94	53	1528378	54.569	ng	100
17) 1,1-Dichloroethene	8.38	96	454280	23.882	ng	100
18) 2-Methyl-2-Propanol (t...	8.55	59	2970531	59.301	ng	100
19) Methylene Chloride	8.61	84	451815	21.747	ng	100
20) 3-Chloro-1-propene (Al...	8.77	41	904705	31.180	ng	100
21) Trichlorotrifluoroethane	9.01	151	435379	26.497	ng	100
22) Carbon Disulfide	8.86	76	3296246	46.636	ng	100
23) trans-1,2-Dichloroethene	9.88	61	747833	26.592	ng	100
24) 1,1-Dichloroethane	10.13	63	890334	25.800	ng	100
25) Methyl tert-Butyl Ether	10.22	73	1467192	25.541	ng	100
26) Vinyl Acetate	10.38	86	298951	74.222	ng	100
27) 2-Butanone (MEK)	10.62	72	649024	44.256	ng	100
28) cis-1,2-Dichloroethene	11.14	61	722860	26.518	ng	100
29) Diisopropyl Ether	11.43	87	856144	50.104	ng	100
30) Ethyl Acetate	11.44	61	948868	126.115	ng	100
31) n-Hexane	11.42	57	1019731	35.699	ng	100
32) Chloroform	11.49	83	819143	23.958	ng	100
34) Tetrahydrofuran (THF)	11.88	72	578505	43.229	ng	100
35) Ethyl tert-Butyl Ether	12.03	87	1200699	54.978	ng	100
36) 1,2-Dichloroethane	12.29	62	717219	26.977	ng	100
38) 1,1,1-Trichloroethane	12.56	97	785702	25.852	ng	100
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	13.04	78	1856401	23.872	ng	100
42) Carbon Tetrachloride	13.20	117	694500	28.089	ng	100
43) Cyclohexane	13.33	84	1452726	50.800	ng	100
44) tert-Amyl Methyl Ether	13.67	73	2873357	56.598	ng	100
45) 1,2-Dichloropropane	13.89	63	510196	26.877	ng	100
46) Bromodichloromethane	14.08	83	692397	27.178	ng	100
47) Trichloroethene	14.13	130	522651	25.140	ng	100
48) 1,4-Dioxane	14.11	88	399089	23.120	ng	100
49) 2,2,4-Trimethylpentane...	14.20	57	2371921	31.455	ng	100
50) Methyl Methacrylate	14.34	100	419971	51.954	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102217.D Vial: 15
Acq On : 10 May 2022 16:36 Operator: TZ/CG
Sample : 25ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:10:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

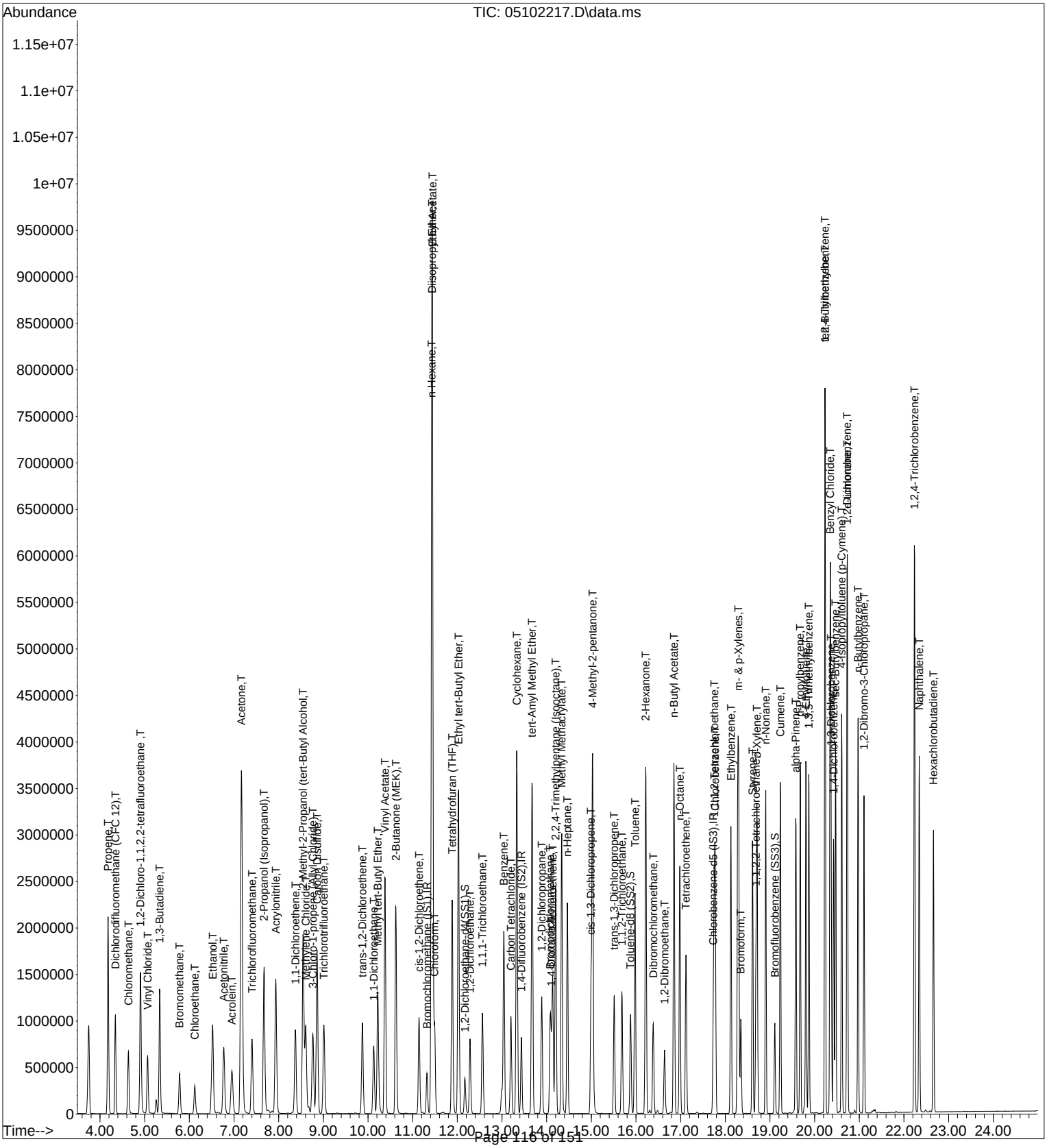
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	491380	25.447	ng	100
52) cis-1,3-Dichloropropene	14.99	75	799066	26.754	ng	100
53) 4-Methyl-2-pentanone	15.03	58	1115216	64.293	ng	100
54) trans-1,3-Dichloropropene	15.51	75	738348	26.908	ng	100
55) 1,1,2-Trichloroethane	15.68	97	467273	25.175	ng	100
58) Toluene	15.98	91	1942996	19.238	ng	100
59) 2-Hexanone	16.22	43	3100707	54.362	ng	100
60) Dibromochloromethane	16.39	129	621068	23.198	ng	100
61) 1,2-Dibromoethane	16.64	107	564399	20.564	ng	100
62) n-Butyl Acetate	16.85	43	3421097	54.783	ng	100
63) n-Octane	16.98	57	510079	25.284	ng	100
64) Tetrachloroethene	17.12	166	566686	20.896	ng	100
65) Chlorobenzene	17.77	112	1342582	20.091	ng	100
66) Ethylbenzene	18.13	91	2296082	20.420	ng	100
67) m- & p-Xylenes	18.29	91	3613702	42.253	ng	100
68) Bromoform	18.35	173	544006	23.733	ng	100
69) Styrene	18.61	104	1441748	20.632	ng	100
70) o-Xylene	18.71	91	1797188	20.888	ng	100
71) n-Nonane	18.91	43	1355992	30.100	ng	100
72) 1,1,2,2-Tetrachloroethane	18.69	83	854137	21.431	ng	100
74) Cumene	19.23	105	2396765	21.417	ng	100
75) alpha-Pinene	19.58	93	1225664	23.229	ng	100
76) n-Propylbenzene	19.68	91	2869460	21.605	ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	2435670	22.461	ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	1971831	22.087	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.23	105	2126158	24.957	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	3570170	52.296	ng	100
85) 1,3-Dichlorobenzene	20.37	146	1190248	23.144	ng	100
86) 1,4-Dichlorobenzene	20.42	146	1178321	22.041	ng	100
87) sec-Butylbenzene	20.47	105	2647078	22.238	ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	2373776	22.853	ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	1160911	23.941	ng	100
91) d-Limonene	20.73	68	819741	26.879	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	924798	50.365	ng	100
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.24	180	1959079	50.975	ng	100
95) Naphthalene	22.34	128	2943786	23.238	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.66	225	592149	25.249	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.23	119	2054297	24.485	ng	100
100) n-Butylbenzene	20.97	91	2168582	22.656	ng	100
101) 1,1,1,2-Tetrachloroethane	17.76	131	531837	22.704	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102217.D Vial: 15
Acq On : 10 May 2022 16:36 Operator: TZ/CG
Sample : 25ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:10:42 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102218.D Vial: 15
Acq On : 10 May 2022 17:10 Operator: TZ/CG
Sample : 50ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:12:40 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 5/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.33	130	176011	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.44	114	771444	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	176942	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.18	65	304686	12.602	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	15.88	98	832633	9.738	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 77.92%				
73) Bromofluorobenzene (SS3)	19.11	174	305821	11.222	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.76%				
Target Compounds							Qvalue
2) Propene	4.19	42	1827832	68.170	ng		99
3) Dichlorodifluoromethan...	4.35	85	1895439	42.788	ng		99
4) Chloromethane	4.64	50	1628078	50.545	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	1048202	44.238	ng		100
6) Vinyl Chloride	5.07	62	1538337	46.535	ng		100
7) 1,3-Butadiene	5.35	54	1402790	61.526	ng		100
8) Bromomethane	5.79	94	745790	41.415	ng		100
9) Chloroethane	6.13	64	658259	45.304	ng		100
10) Ethanol	6.55	45	3460777	208.766	ng		100
11) Acetonitrile	6.79	41	2204420	49.778	ng		100
12) Acrolein	6.97	56	1401745	114.577	ng		99
13) Acetone	7.19	58	4072386	245.550	ng		93
14) Trichlorofluoromethane	7.41	101	1728861	45.898	ng		100
15) 2-Propanol (Isopropanol)	7.69	45	5223219	92.399	ng		99
16) Acrylonitrile	7.96	53	3139847	107.721	ng		99
17) 1,1-Dichloroethene	8.39	96	922599	46.606	ng		99
18) 2-Methyl-2-Propanol (t...	8.57	59	5816899	111.583	ng		99
19) Methylene Chloride	8.62	84	918296	42.472	ng		98
20) 3-Chloro-1-propene (Al...	8.78	41	1835230	60.776	ng		100
21) Trichlorotrifluoroethane	9.02	151	876505	51.257	ng		99
22) Carbon Disulfide	8.87	76	6657059	90.501	ng		100
23) trans-1,2-Dichloroethene	9.88	61	1521842	51.999	ng		99
24) 1,1-Dichloroethane	10.14	63	1792275	49.906	ng		100
25) Methyl tert-Butyl Ether	10.22	73	2962431	49.554	ng		100
26) Vinyl Acetate	10.39	86	615362	146.805	ng	#	93
27) 2-Butanone (MEK)	10.63	72	1332559	87.312	ng		95
28) cis-1,2-Dichloroethene	11.15	61	1463186	51.578	ng		99
29) Diisopropyl Ether	11.44	87	1629659	91.643	ng	#	87
30) Ethyl Acetate	11.46	61	1774024	226.566	ng		99
31) n-Hexane	11.42	57	1982904	66.703	ng		100
32) Chloroform	11.50	83	1623420	45.625	ng		100
34) Tetrahydrofuran (THF)	11.89	72	1183767	84.998	ng		98
35) Ethyl tert-Butyl Ether	12.03	87	2458044	108.149	ng		99
36) 1,2-Dichloroethane	12.29	62	1439345	52.022	ng		100
38) 1,1,1-Trichloroethane	12.57	97	1592758	50.839	ng		100
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.04	78	3783740	47.200	ng		100
42) Carbon Tetrachloride	13.20	117	1419289	55.686	ng		100
43) Cyclohexane	13.34	84	2975926	100.953	ng		100
44) tert-Amyl Methyl Ether	13.68	73	5884558	112.445	ng		99
45) 1,2-Dichloropropane	13.89	63	1037523	53.021	ng		100
46) Bromodichloromethane	14.08	83	1404289	53.474	ng		100
47) Trichloroethene	14.14	130	1073083	50.072	ng		100
48) 1,4-Dioxane	14.11	88	815827	45.849	ng		99
49) 2,2,4-Trimethylpentane...	14.20	57	4757511	61.205	ng		98
50) Methyl Methacrylate	14.34	100	853405	102.415	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102218.D Vial: 15
Acq On : 10 May 2022 17:10 Operator: TZ/CG
Sample : 50ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:12:40 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

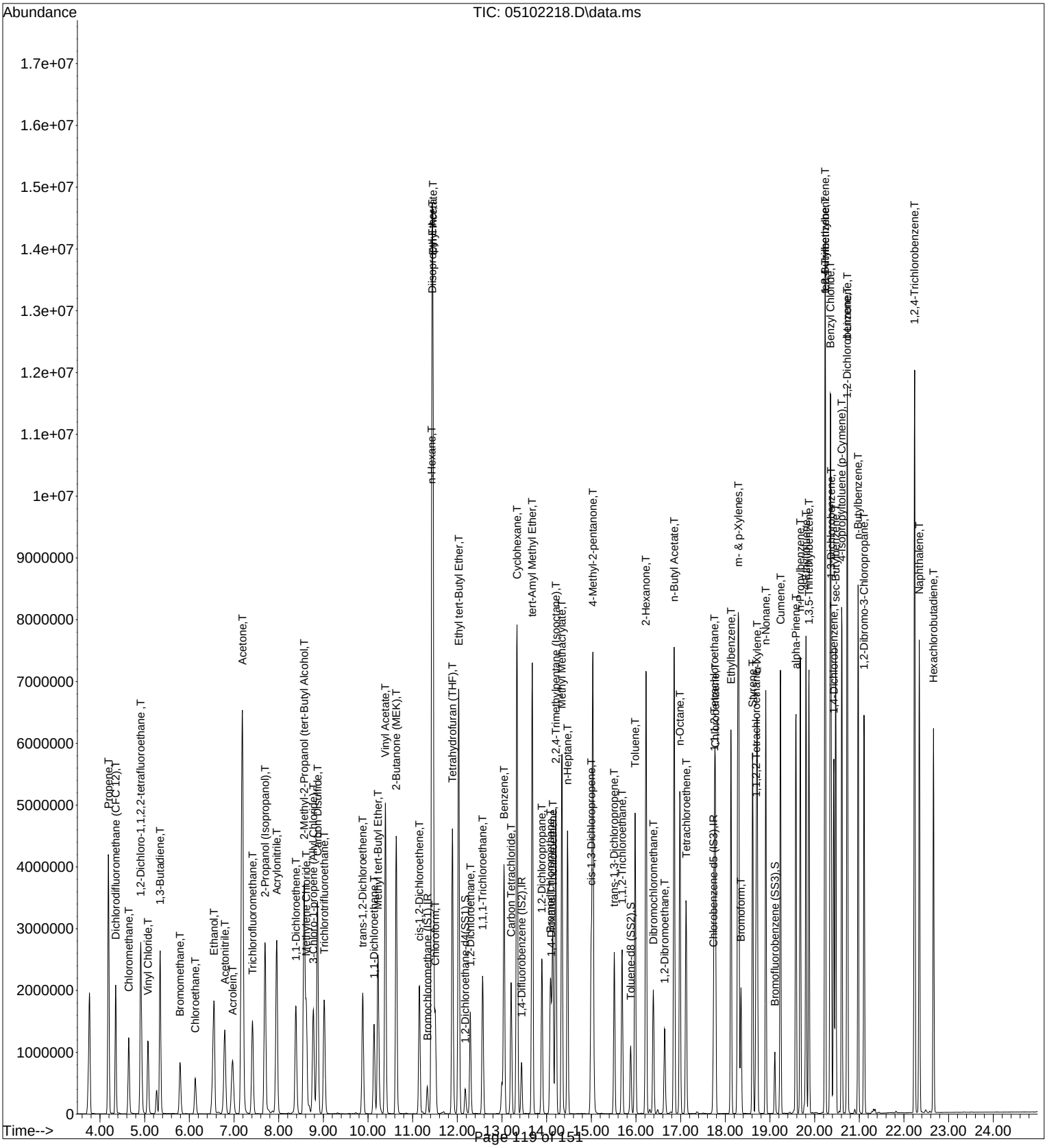
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	996365	50.055	ng	100
52) cis-1,3-Dichloropropene	15.00	75	1642476	53.348	ng	100
53) 4-Methyl-2-pentanone	15.03	58	2251857	125.939	ng	97
54) trans-1,3-Dichloropropene	15.51	75	1516161	53.602	ng	100
55) 1,1,2-Trichloroethane	15.69	97	951159	49.713	ng	99
58) Toluene	15.98	91	3935746	38.062	ng	100
59) 2-Hexanone	16.22	43	6130959	104.988	ng	98
60) Dibromochloromethane	16.39	129	1277401	46.603	ng	100
61) 1,2-Dibromoethane	16.64	107	1150307	40.936	ng	99
62) n-Butyl Acetate	16.86	43	6816142	106.609	ng	98
63) n-Octane	16.98	57	1043121	50.503	ng	100
64) Tetrachloroethene	17.12	166	1155179	41.605	ng	99
65) Chlorobenzene	17.78	112	2756804	40.295	ng	100
66) Ethylbenzene	18.13	91	4665520	40.527	ng	100
67) m- & p-Xylenes	18.29	91	7302596	83.399	ng	99
68) Bromoform	18.35	173	1095947	46.700	ng	100
69) Styrene	18.61	104	2925626	40.893	ng	100
70) o-Xylene	18.71	91	3607338	40.952	ng	100
71) n-Nonane	18.91	43	2672042	57.934	ng	98
72) 1,1,2,2-Tetrachloroethane	18.69	83	1722797	42.221	ng	100
74) Cumene	19.24	105	4839949	42.243	ng	100
75) alpha-Pinene	19.58	93	2505381	46.377	ng	100
76) n-Propylbenzene	19.68	91	5717356	42.046	ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	4858806	43.765	ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	3933692	43.037	ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	4152744	47.611	ng	98
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	7138659	102.136	ng	100
85) 1,3-Dichlorobenzene	20.37	146	2298991	43.663	ng	100
86) 1,4-Dichlorobenzene	20.43	146	2301765	42.055	ng	100
87) sec-Butylbenzene	20.47	105	5077836	41.666	ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	4615978	43.405	ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	2238096	45.082	ng	100
91) d-Limonene	20.73	68	1622490	51.963	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1836355	97.682	ng	97
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.24	180	3868542	98.317	ng	99
95) Naphthalene	22.34	128	5916022	45.614	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.66	225	1214862	50.597	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	3928579	45.735	ng	99
100) n-Butylbenzene	20.97	91	4316217	44.044	ng	100
101) 1,1,1,2-Tetrachloroethane	17.76	131	1089720	45.439	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102218.D Vial: 15
Acq On : 10 May 2022 17:10 Operator: TZ/CG
Sample : 50ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:12:40 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102219.D Vial: 15
Acq On : 10 May 2022 17:44 Operator: TZ/CG
Sample : 100ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:15:08 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.34	130	186418	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.44	114	799420	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	189901	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.19	65	312270	12.195	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.52%				
57) Toluene-d8 (SS2)	15.89	98	875368	9.539	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 76.32%				
73) Bromofluorobenzene (SS3)	19.11	174	325697	11.136	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.12%				
Target Compounds							Qvalue
2) Propene	4.20	42	4507895	158.739	ng		98
3) Dichlorodifluoromethan...	4.36	85	3860524	82.284	ng		99
4) Chloromethane	4.65	50	2414019	70.762	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	2079564	82.867	ng		100
6) Vinyl Chloride	5.08	62	3074764	87.820	ng		100
7) 1,3-Butadiene	5.35	54	2787467	115.433	ng		98
8) Bromomethane	5.80	94	1571560	82.400	ng		100
9) Chloroethane	6.14	64	1362077	88.510	ng		100
10) Ethanol	6.59	45	7119509	405.497	ng		100
11) Acetonitrile	6.82	41	4539787	96.791	ng		99
12) Acrolein	6.98	56	2882532	222.462	ng		100
13) Acetone	7.21	58	7982801	454.463	ng	#	85
14) Trichlorofluoromethane	7.42	101	3510410	87.992	ng		100
15) 2-Propanol (Isopropanol)	7.73	45	7935130	132.536	ng		99
16) Acrylonitrile	7.98	53	6332528	205.126	ng		100
17) 1,1-Dichloroethene	8.39	96	1910035	91.101	ng		98
18) 2-Methyl-2-Propanol (t...	8.60	59	7281537	131.880	ng		99
19) Methylene Chloride	8.63	84	1882668	82.214	ng		97
20) 3-Chloro-1-propene (Al...	8.79	41	3766387	117.765	ng		98
21) Trichlorotrifluoroethane	9.03	151	1764028	97.400	ng		99
22) Carbon Disulfide	8.88	76	13346795	171.318	ng		100
23) trans-1,2-Dichloroethene	9.89	61	3155589	101.801	ng		99
24) 1,1-Dichloroethane	10.15	63	3659812	96.219	ng		100
25) Methyl tert-Butyl Ether	10.23	73	6081042	96.041	ng		100
26) Vinyl Acetate	10.40	86	1249269	281.395	ng	#	77
27) 2-Butanone (MEK)	10.65	72	2678301	165.691	ng	#	89
28) cis-1,2-Dichloroethene	11.16	61	2992999	99.614	ng		99
29) Diisopropyl Ether	11.44	87	2856247	151.653	ng	#	66
30) Ethyl Acetate	11.48	61	2969817	358.111	ng		94
31) n-Hexane	11.43	57	3617171	114.885	ng		99
32) Chloroform	11.52	83	3156526	83.759	ng		100
34) Tetrahydrofuran (THF)	11.90	72	2381604	161.460	ng		95
35) Ethyl tert-Butyl Ether	12.04	87	4826644	200.508	ng		96
36) 1,2-Dichloroethane	12.30	62	2866063	97.805	ng		99
38) 1,1,1-Trichloroethane	12.57	97	3224623	99.324	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.05	78	7640435	91.975	ng		100
42) Carbon Tetrachloride	13.21	117	2896077	109.651	ng		100
43) Cyclohexane	13.34	84	5790312	189.553	ng		99
44) tert-Amyl Methyl Ether	13.68	73	11406888	210.341	ng		98
45) 1,2-Dichloropropane	13.90	63	2117417	104.421	ng		100
46) Bromodichloromethane	14.09	83	2830814	104.022	ng		100
47) Trichloroethene	14.14	130	2141764	96.442	ng		99
48) 1,4-Dioxane	14.12	88	1671286	90.639	ng		99
49) 2,2,4-Trimethylpentane...	14.21	57	9264212	115.012	ng		96
50) Methyl Methacrylate	14.35	100	1666785	193.027	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102219.D Vial: 15
Acq On : 10 May 2022 17:44 Operator: TZ/CG
Sample : 100ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:15:08 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

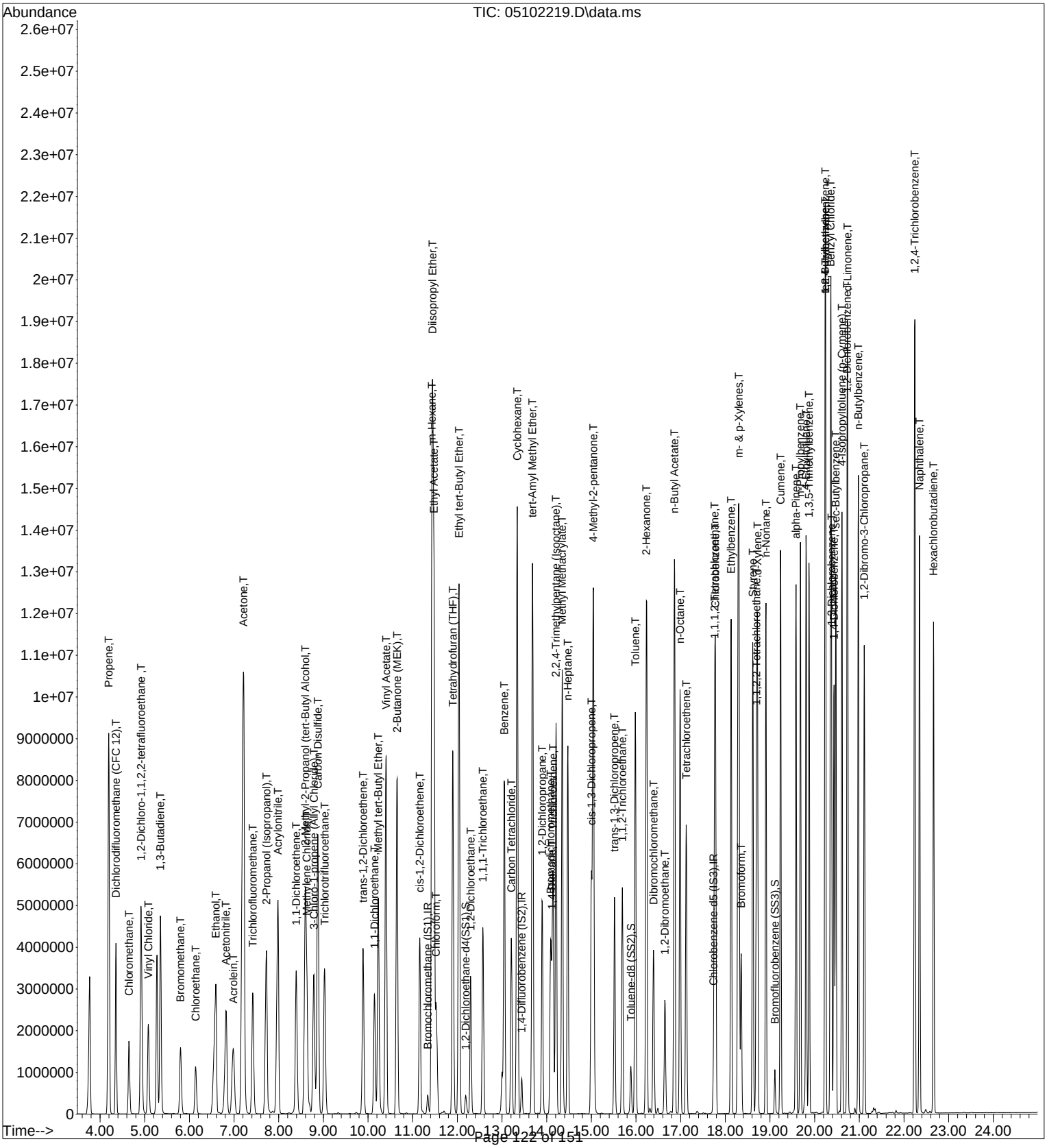
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	2004247	97.166	ng	100
52) cis-1,3-Dichloropropene	15.00	75	3369991	105.628	ng	100
53) 4-Methyl-2-pentanone	15.05	58	4403306	237.645	ng	92
54) trans-1,3-Dichloropropene	15.52	75	3117107	106.345	ng	99
55) 1,1,2-Trichloroethane	15.69	97	1948545	98.278	ng	100
58) Toluene	15.99	91	7954691	71.679	ng	99
59) 2-Hexanone	16.23	43	11513050	183.699	ng	95
60) Dibromochloromethane	16.39	129	2588744	87.998	ng	99
61) 1,2-Dibromoethane	16.65	107	2315407	76.775	ng	100
62) n-Butyl Acetate	16.86	43	12759019	185.941	ng	96
63) n-Octane	16.99	57	2098988	94.689	ng	100
64) Tetrachloroethene	17.12	166	2335690	78.382	ng	99
65) Chlorobenzene	17.78	112	5410461	73.686	ng	100
66) Ethylbenzene	18.13	91	9217632	74.605	ng	99
67) m- & p-Xylenes	18.30	91	13894983	147.858	ng	98
68) Bromoform	18.36	173	2112668	83.881	ng	100
69) Styrene	18.61	104	5746974	74.847	ng	99
70) o-Xylene	18.72	91	6906306	73.053	ng	99
71) n-Nonane	18.91	43	4997484	100.958	ng	95
72) 1,1,2,2-Tetrachloroethane	18.70	83	3379742	77.176	ng	100
74) Cumene	19.24	105	9281082	75.477	ng	100
75) alpha-Pinene	19.58	93	4945368	85.297	ng	100
76) n-Propylbenzene	19.68	91	10728101	73.511	ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	9154960	76.835	ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	7364621	75.075	ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	7208924	77.009	ng	96
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.36	91	12245521	163.246	ng	99
85) 1,3-Dichlorobenzene	20.38	146	3901616	69.043	ng	100
86) 1,4-Dichlorobenzene	20.43	146	4241783	72.212	ng	100
87) sec-Butylbenzene	20.47	105	8931967	68.289	ng	98
88) 4-Isopropyltoluene (p-...	20.61	119	8203808	71.878	ng	98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	3806371	71.440	ng	100
91) d-Limonene	20.74	68	2844737	84.891	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	3300869	163.603	ng	92
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.24	180	6740013	159.605	ng	99
95) Naphthalene	22.35	128	10865528	78.059	ng	99
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.66	225	2366297	91.827	ng	99
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	6694702	72.619	ng	98
100) n-Butylbenzene	20.98	91	8092639	76.944	ng	99
101) 1,1,1,2-Tetrachloroethane	17.76	131	2157184	83.811	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102219.D Vial: 15
Acq On : 10 May 2022 17:44 Operator: TZ/CG
Sample : 100ng R16051022 ICAL Std Inst : GCMS-16
Misc : S35-04032201/S35-05102202 (6/09)

Quant Time: May 10 18:15:08 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 17:29:58 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102221.D Vial: 2
Acq On : 10 May 2022 18:52 Operator: TZ/CG
Sample : 25ng R16051022 ICV Inst : GCMS-16
Misc : S35-04032201/S35-05062202 (6/5)

Quant Time: May 10 20:37:58 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 5/11/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	181873	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	811497	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	181873	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	318751	12.287	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
57) Toluene-d8 (SS2)	15.88	98	869410	12.629	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	19.11	174	314084	12.517	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
Target Compounds							Qvalue
2) Propene	4.18	42	883284	24.923	ng		99
3) Dichlorodifluoromethan...	4.34	85	997533	24.429	ng		100
4) Chloromethane	4.64	50	936285	26.158	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	535347	25.593	ng		100
6) Vinyl Chloride	5.06	62	811034	25.558	ng		100
7) 1,3-Butadiene	5.33	54	730876	25.656	ng		99
8) Bromomethane	5.78	94	408839	25.903	ng		100
9) Chloroethane	6.12	64	353776	26.138	ng		100
10) Ethanol	6.52	45	2143265	98.217	ng		100
11) Acetonitrile	6.77	41	1133100	22.248	ng		100
12) Acrolein	6.95	56	750973	47.771	ng		100
13) Acetone	7.17	58	2120479	124.058	ng		97
14) Trichlorofluoromethane	7.40	101	898714	24.965	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	3029882	48.958	ng		100
16) Acrylonitrile	7.94	53	1549984	48.711	ng		100
17) 1,1-Dichloroethene	8.37	96	481082	25.608	ng		99
18) 2-Methyl-2-Propanol (t...	8.55	59	3066599	54.943	ng		100
19) Methylene Chloride	8.61	84	477138	24.424	ng		99
20) 3-Chloro-1-propene (Al...	8.77	41	888325	25.983	ng		100
21) Trichlorotrifluoroethane	9.01	151	459436	26.892	ng		100
22) Carbon Disulfide	8.86	76	3370594	50.298	ng		100
23) trans-1,2-Dichloroethene	9.87	61	776737	26.172	ng		99
24) 1,1-Dichloroethane	10.12	63	946968	26.025	ng		100
25) Methyl tert-Butyl Ether	10.22	73	1500840	24.687	ng		100
26) Vinyl Acetate	10.38	86	471721	151.573	ng	#	96
27) 2-Butanone (MEK)	10.62	72	662618	50.240	ng		99
28) cis-1,2-Dichloroethene	11.14	61	742912	25.201	ng		99
29) Diisopropyl Ether	11.43	87	932525	55.269	ng	#	49
30) Ethyl Acetate	11.44	61	666556	76.559	ng		98
31) n-Hexane	11.42	57	1035469	25.550	ng		100
32) Chloroform	11.49	83	858606	25.764	ng		100
34) Tetrahydrofuran (THF)	11.88	72	622368	49.636	ng		99
35) Ethyl tert-Butyl Ether	12.03	87	1235375	52.217	ng		100
36) 1,2-Dichloroethane	12.29	62	732268	25.201	ng		100
38) 1,1,1-Trichloroethane	12.57	97	818933	24.967	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.04	78	1958349	25.228	ng		100
42) Carbon Tetrachloride	13.20	117	683307	24.457	ng		100
43) Cyclohexane	13.33	84	1502997	50.183	ng		100
44) tert-Amyl Methyl Ether	13.68	73	2958013	51.250	ng		100
45) 1,2-Dichloropropane	13.89	63	537752	25.274	ng		100
46) Bromodichloromethane	14.08	83	721389	25.587	ng		100
47) Trichloroethene	14.13	130	553602	25.646	ng		100
48) 1,4-Dioxane	14.11	88	412929	25.485	ng		100
49) 2,2,4-Trimethylpentane...	14.20	57	2411419	24.826	ng		99
50) Methyl Methacrylate	14.34	100	429336	53.269	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102221.D Vial: 2
Acq On : 10 May 2022 18:52 Operator: TZ/CG
Sample : 25ng R16051022 ICV Inst : GCMS-16
Misc : S35-04032201/S35-05062202 (6/5)

Quant Time: May 10 20:37:58 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

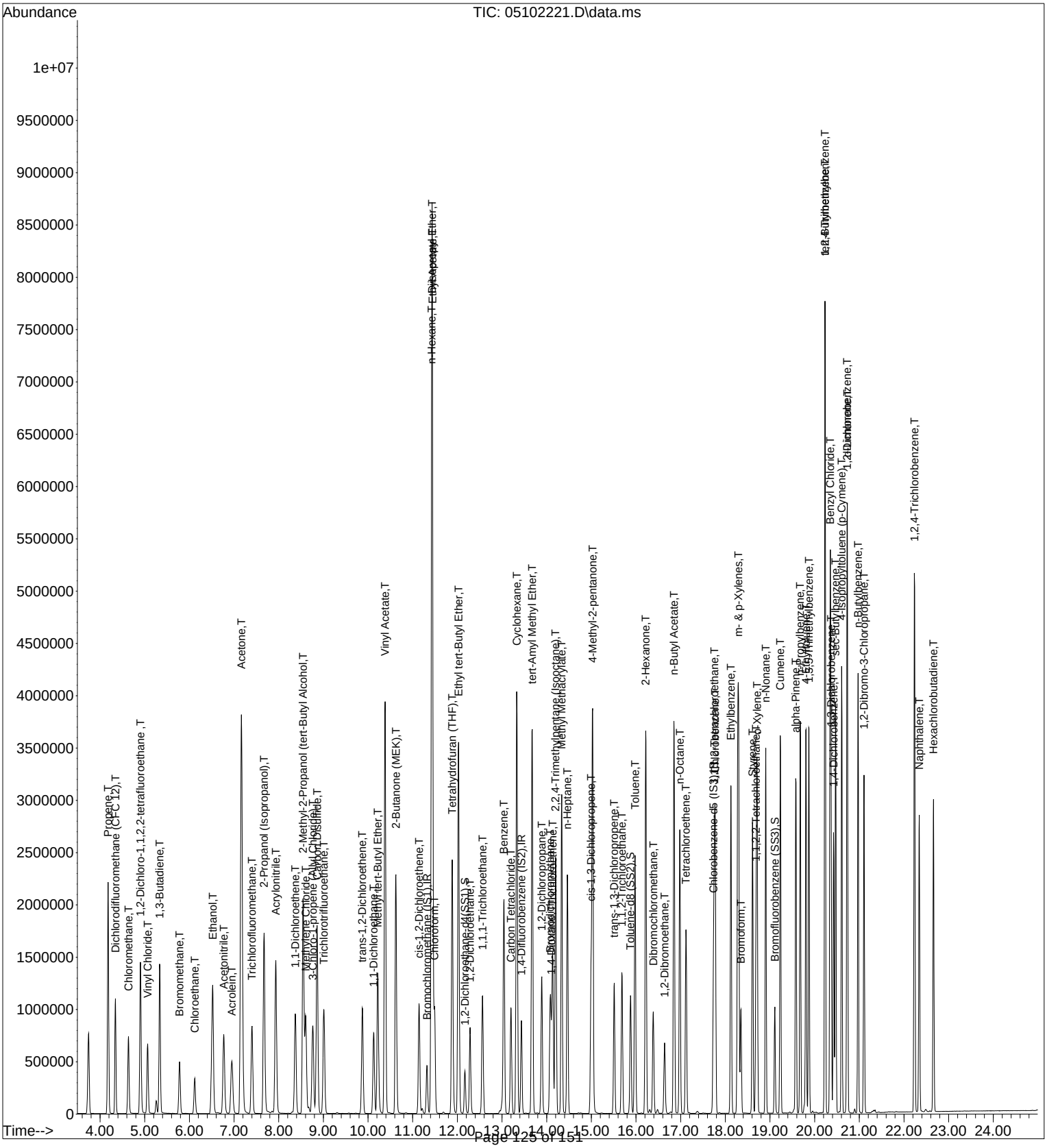
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	500353	24.586	ng	100
52) cis-1,3-Dichloropropene	15.00	75	817864	26.636	ng	100
53) 4-Methyl-2-pentanone	15.03	58	1130022	51.727	ng	99
54) trans-1,3-Dichloropropene	15.51	75	727180	25.705	ng	100
55) 1,1,2-Trichloroethane	15.68	97	488469	25.249	ng	99
58) Toluene	15.98	91	2007889	24.941	ng	100
59) 2-Hexanone	16.22	43	3050984	49.878	ng	100
60) Dibromochloromethane	16.39	129	620432	25.434	ng	100
61) 1,2-Dibromoethane	16.64	107	564725	25.333	ng	99
62) n-Butyl Acetate	16.85	43	3447273	51.662	ng	100
63) n-Octane	16.98	57	523030	24.142	ng	100
64) Tetrachloroethene	17.12	166	589864	25.889	ng	100
65) Chlorobenzene	17.77	112	1346808	25.126	ng	100
66) Ethylbenzene	18.13	91	2353882	25.184	ng	100
67) m- & p-Xylenes	18.29	91	3681249	50.264	ng	100
68) Bromoform	18.35	173	543643	25.985	ng	100
69) Styrene	18.61	104	1372715	24.496	ng	100
70) o-Xylene	18.71	91	1841739	25.334	ng	100
71) n-Nonane	18.91	43	1379636	25.963	ng	100
72) 1,1,2,2-Tetrachloroethane	18.69	83	878788	25.912	ng	99
74) Cumene	19.23	105	2430342	25.669	ng	100
75) alpha-Pinene	19.58	93	1232506	27.292	ng	99
76) n-Propylbenzene	19.68	91	2865797	25.509	ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	2406219	25.778	ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	2009092	25.874	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.23	105	2135399	26.598	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	3259097	56.169	ng	100
85) 1,3-Dichlorobenzene	20.37	146	1123247	24.547	ng	100
86) 1,4-Dichlorobenzene	20.42	146	1071777	23.055	ng	100
87) sec-Butylbenzene	20.47	105	2637708	25.548	ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	2329526	25.365	ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	1111478	25.179	ng	99
91) d-Limonene	20.73	68	804659	27.105	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	894286	50.076	ng	99
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.24	180	1659233	44.688	ng	100
95) Naphthalene	22.34	128	2238463	20.884	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	22.66	225	589374	24.859	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.23	119	2061443	26.740	ng	100
100) n-Butylbenzene	20.97	91	2128679	25.021	ng	100
101) 1,1,1,2-Tetrachloroethane	17.76	131	535696	25.214	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 05\10\05102221.D Vial: 2
Acq On : 10 May 2022 18:52 Operator: TZ/CG
Sample : 25ng R16051022 ICV Inst : GCMS-16
Misc : S35-04032201/S35-05062202 (6/5)

Quant Time: May 10 20:37:58 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

5/11/22

Data File Name: **05102221.D** Acq. Method File: **TO15.M**

Data File Path: **I:\MS16\DATA\2022_05\10** Sample Name: **25ng R16051022 ICV**

Operator: **TZ/CG** Misc Info: **S35-04032201/S35-05062202 (**

Date Acquired: **5/10/2022 18:52** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.18**	**24.9**	**25.75**	97	**56**	**128**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.34**	**24.4**	**26.00**	94	**71**	**112**	*	*
4)	**Chloromethane**	**4.64**	**26.2**	**25.75**	102	**53**	**126**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.91**	**25.6**	**26.00**	98	**62**	**121**	*	*
6)	**Vinyl Chloride**	**5.06**	**25.6**	**26.00**	98	**63**	**123**	*	*
7)	**1,3-Butadiene**	**5.33**	**25.7**	**25.75**	100	**63**	**135**	*	*
8)	**Bromomethane**	**5.78**	**25.9**	**25.75**	101	**71**	**112**	*	*
9)	**Chloroethane**	**6.12**	**26.1**	**25.75**	101	**66**	**117**	*	*
10)	**Ethanol**	**6.52**	**98**	**104.00**	94	**57**	**117**	*	*
11)	**Acetonitrile**	**6.77**	**22.2**	**25.25**	88	**59**	**131**	*	*
12)	**Acrolein**	**6.95**	**47.8**	**52.00**	92	**71**	**123**	*	*
13)	**Acetone**	**7.17**	**124**	**128.00**	97	**60**	**117**	*	*
14)	**Trichlorofluoromethane**	**7.40**	**25.0**	**25.25**	99	**71**	**114**	*	*
15)	**2-Propanol (Isopropanol)**	**7.67**	**49.0**	**50.00**	98	**61**	**124**	*	*
16)	**Acrylonitrile**	**7.94**	**48.7**	**50.25**	97	**65**	**130**	*	*
17)	**1,1-Dichloroethene**	**8.37**	**25.6**	**26.25**	98	**74**	**114**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.55	54.9	51.00	108	56	135	*	*
19)	**Methylene Chloride**	**8.61**	**24.4**	**26.00**	94	**75**	**112**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.77**	**26.0**	**25.50**	102	**57**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**9.01**	**26.9**	**27.00**	100	**73**	**114**	*	*
22)	**Carbon Disulfide**	**8.86**	**50.3**	**51.75**	97	**70**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.87**	**26.2**	**26.00**	101	**76**	**119**	*	*
24)	**1,1-Dichloroethane**	**10.12**	**26.0**	**26.75**	97	**70**	**114**	*	*
25)	**Methyl tert-Butyl Ether**	**10.22**	**24.7**	**25.75**	96	**72**	**118**	*	*
26)	**Vinyl Acetate**	**10.38**	**152**	**117.75**	129	**56**	**137**	*	*
27)	**2-Butanone (MEK)**	**10.62**	**50.2**	**51.00**	98	**74**	**121**	*	*
28)	**cis-1,2-Dichloroethene**	**11.14**	**25.2**	**25.75**	98	**73**	**117**	*	*
29)	Diisopropyl Ether	11.43	55.3	52.25	106	58	124	*	*
30)	**Ethyl Acetate**	**11.44**	**76.6**	**72.50**	106	**59**	**161**	*	*
31)	**n-Hexane**	**11.42**	**25.6**	**26.00**	98	**55**	**130**	*	*
32)	**Chloroform**	**11.49**	**25.8**	**26.25**	98	**71**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.88**	**49.6**	**50.50**	98	**73**	**114**	*	*
35)	Ethyl tert-Butyl Ether	12.03	52.2	51.75	101	76	119	*	*
36)	**1,2-Dichloroethane**	**12.29**	**25.2**	**26.25**	96	**71**	**119**	*	*
38)	**1,1,1-Trichloroethane**	**12.57**	**25.0**	**26.00**	96	**73**	**119**	*	*
41)	**Benzene**	**13.04**	**25.2**	**26.00**	97	**72**	**113**	*	*
42)	**Carbon Tetrachloride**	**13.20**	**24.5**	**25.25**	97	**67**	**123**	*	*
43)	**Cyclohexane**	**13.33**	**50.2**	**51.50**	97	**70**	**119**	*	*
44)	tert-Amyl Methyl Ether	13.68	51.3	**51.50**	100	74	120	*	*
45)	**1,2-Dichloropropane**	**13.89**	**25.3**	**25.75**	98	**70**	**118**	*	*
46)	**Bromodichloromethane**	**14.08**	**25.6**	**26.00**	98	**74**	**119**	*	*
47)	**Trichloroethene**	**14.13**	**25.6**	**25.50**	100	**74**	**115**	*	*
48)	**1,4-Dioxane**	**14.11**	**25.5**	**25.75**	99	**77**	**124**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.20	24.8	26.25	94	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05102221.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2022_05\10** Sample Name: **25ng R16051022 ICV**
Operator: **TZ/CG** Misc Info: **S35-04032201/S35-05062202 (**
Date Acquired: **5/10/2022 18:52** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.34**	**53.3**	**51.25**	104	**78**	**126**	*	*
51)	**n-Heptane**	**14.46**	**24.6**	**25.75**	96	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**15.00**	**26.6**	**26.00**	102	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**15.03**	**51.7**	**51.50**	100	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**15.51**	**25.7**	**25.00**	103	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**15.68**	**25.2**	**26.00**	97	**78**	**117**	*	*
58)	**Toluene**	**15.98**	**24.9**	**25.75**	97	**70**	**118**	*	*
59)	**2-Hexanone**	**16.22**	**49.9**	**50.75**	98	**74**	**132**	*	*
60)	**Dibromochloromethane**	**16.39**	**25.4**	**26.25**	97	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**16.64**	**25.3**	**26.00**	97	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**16.85**	**51.7**	**50.75**	102	**75**	**134**	*	*
63)	**n-Octane**	**16.98**	**24.1**	**26.00**	93	**68**	**120**	*	*
64)	**Tetrachloroethene**	**17.12**	**25.9**	**26.50**	98	**63**	**130**	*	*
65)	**Chlorobenzene**	**17.77**	**25.1**	**25.75**	97	**70**	**118**	*	*
66)	**Ethylbenzene**	**18.13**	**25.2**	**25.75**	98	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**18.29**	**50.3**	**52.00**	97	**67**	**127**	*	*
68)	**Bromoform**	**18.35**	**26.0**	**26.25**	99	**65**	**149**	*	*
69)	**Styrene**	**18.61**	**24.5**	**25.25**	97	**76**	**132**	*	*
70)	**o-Xylene**	**18.71**	**25.3**	**26.00**	97	**69**	**124**	*	*
71)	**n-Nonane**	**18.91**	**26.0**	**26.00**	100	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.69**	**25.9**	**26.00**	100	**69**	**128**	*	*
74)	**Cumene**	**19.23**	**25.7**	**25.75**	100	**69**	**125**	*	*
75)	**alpha-Pinene**	**19.58**	**27.3**	**26.25**	104	**68**	**129**	*	*
76)	**n-Propylbenzene**	**19.68**	**25.5**	**26.00**	98	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**19.81**	**25.8**	**26.00**	**99**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.87**	**25.9**	**26.00**	**100**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**20.23**	**26.6**	**25.75**	**103**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**20.35**	**56.2**	**52.00**	**108**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**20.37**	**24.5**	**26.00**	**94**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**20.42**	**23.1**	**26.25**	**88**	**63**	**134**	*	*
87)	sec-Butylbenzene	20.47	25.5	25.50	**100**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.61	25.4	25.75	**99**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**20.73**	**25.2**	**26.25**	**96**	**64**	**139**	*	*
91)	**d-Limonene**	**20.73**	**27.1**	**25.75**	**105**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.11**	**50.1**	**50.50**	**99**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**22.24**	**44.7**	**52.50**	**85**	**62**	**154**	*	*
95)	**Naphthalene**	**22.34**	**20.9**	**26.25**	**80**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**22.66**	**24.9**	**26.50**	**94**	55	142	*	*
99)	tert-Butylbenzene	20.23	26.7	25.75	104	61	140	*	*
100)	n-Butylbenzene	20.97	25.0	26.00	96	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	17.76	25.2	25.75	98	70	130	*	*

Bold = 75 Compound List
*** = Pass**

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 06\09\06092234.D Vial: 2
Acq On : 9 Jun 2022 20:01 Operator: WA/CG
Sample : CCV2 R16060922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05242205 (6/23)

Quant Time: Jun 09 20:26:38 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 6/10/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	78	0.00
2	T	Propene	2.436	2.935	-20.5	96	0.00
3	T	Dichlorodifluoromethane (CF	2.806	2.904	-3.5	84	0.00
4	T	Chloromethane	2.460	2.770	-12.6	88	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.438	1.548	-7.6	87	0.00
6	T	Vinyl Chloride	2.181	2.517	-15.4	92	0.00
7	T	1,3-Butadiene	1.958	2.359	-20.5	95	0.00
8	T	Bromomethane	1.085	1.112	-2.5	83	0.00
9	T	Chloroethane	0.930	0.992	-6.7	84	0.00
10	T	Ethanol	1.500	1.617	-7.8	93	0.00
11	T	Acetonitrile	3.500	4.020	-14.9	92	0.00
12	T	Acrolein	1.080	1.089	-0.8	84	0.00
13	T	Acetone	1.175	1.339	-14.0	91	0.00
14	T	Trichlorofluoromethane	2.474	2.549	-3.0	81	0.00
15	T	2-Propanol (Isopropanol)	4.253	4.462	-4.9	85	0.00
16	T	Acrylonitrile	2.187	2.472	-13.0	87	0.00
17	T	1,1-Dichloroethene	1.291	1.288	0.2	81	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.836	4.123	-7.5	77	0.00
19	T	Methylene Chloride	1.343	1.345	-0.1	82	0.00
20	T	3-Chloro-1-propene (Allyl C	2.350	2.831	-20.5	87	0.00
21	T	Trichlorotrifluoroethane	1.174	1.163	0.9	77	0.00
22	T	Carbon Disulfide	4.606	5.013	-8.8	85	0.00
23	T	trans-1,2-Dichloroethene	2.040	2.193	-7.5	83	0.00
24	T	1,1-Dichloroethane	2.501	2.621	-4.8	82	0.00
25	T	Methyl tert-Butyl Ether	4.178	4.315	-3.3	82	0.00
26	T	Vinyl Acetate	0.214	0.268	-25.2	81	0.00
27	T	2-Butanone (MEK)	0.906	0.989	-9.2	83	0.00
28	T	cis-1,2-Dichloroethene	2.026	2.147	-6.0	82	0.00
29	T	Diisopropyl Ether	1.160	1.464	-26.2	96	0.00
30	T	Ethyl Acetate	0.598	0.896	-49.8#	102	0.00
31	T	n-Hexane	2.785	3.581	-28.6	98	0.00
32	T	Chloroform	2.290	2.470	-7.9	86	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.783	1.861	-4.4	83	0.00
34	T	Tetrahydrofuran (THF)	0.862	0.920	-6.7	83	0.00
35	T	Ethyl tert-Butyl Ether	1.626	1.820	-11.9	84	0.00
36	T	1,2-Dichloroethane	1.997	2.141	-7.2	84	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	78	0.00
38	T	1,1,1-Trichloroethane	0.505	0.525	-4.0	81	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	0#	0.00
40	T	1-Butanol	0.000	0.000	0.0	0#	0.00
41	T	Benzene	1.196	1.251	-4.6	82	0.00
42	T	Carbon Tetrachloride	0.430	0.448	-4.2	79	0.00
43	T	Cyclohexane	0.461	0.507	-10.0	85	0.00
44	T	tert-Amyl Methyl Ether	0.889	1.009	-13.5	86	0.00
45	T	1,2-Dichloropropane	0.328	0.354	-7.9	84	0.00
46	T	Bromodichloromethane	0.434	0.470	-8.3	83	0.00
47	T	Trichloroethene	0.333	0.349	-4.8	80	0.00
48	T	1,4-Dioxane	0.250	0.269	-7.6	82	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.496	1.664	-11.2	87	0.00
50	T	Methyl Methacrylate	0.124	0.138	-11.3	80	0.00
51	T	n-Heptane	0.313	0.329	-5.1	82	0.00
52	T	cis-1,3-Dichloropropene	0.473	0.525	-11.0	81	0.00
53	T	4-Methyl-2-pentanone	0.337	0.408	-21.1	89	0.00
54	T	trans-1,3-Dichloropropene	0.436	0.490	-12.4	78	0.00
55	T	1,1,2-Trichloroethane	0.298	0.311	-4.4	81	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 06\09\06092234.D Vial: 2
Acq On : 9 Jun 2022 20:01 Operator: WA/CG
Sample : CCV2 R16060922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05242205 (6/23)

Quant Time: Jun 09 20:26:38 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	89	0.00
57	S	Toluene-d8 (SS2)	4.732	4.081	13.8	77	0.00
58	T	Toluene	5.533	5.052	8.7	82	0.00
59	T	2-Hexanone	4.204	4.621	-9.9	94	0.00
60	T	Dibromochloromethane	1.677	1.542	8.1	80	0.00
61	T	1,2-Dibromoethane	1.532	1.381	9.9	78	0.00
62	T	n-Butyl Acetate	4.586	5.089	-11.0	93	0.00
63	T	n-Octane	1.489	1.362	8.5	86	0.00
64	T	Tetrachloroethene	1.566	1.376	12.1	78	0.00
65	T	Chlorobenzene	3.684	3.388	8.0	81	0.00
66	T	Ethylbenzene	6.424	5.993	6.7	83	0.00
67	T	m- & p-Xylenes	5.034	4.879	3.1	86	0.00
68	T	Bromoform	1.438	1.315	8.6	77	0.00
69	T	Styrene	3.851	3.589	6.8	79	0.00
70	T	o-Xylene	4.997	4.777	4.4	85	0.00
71	T	n-Nonane	3.652	3.872	-6.0	91	0.00
72	T	1,1,2,2-Tetrachloroethane	2.331	2.271	2.6	85	0.00
73	S	Bromofluorobenzene (SS3)	1.725	1.458	15.5	75	0.00
74	T	Cumene	6.507	6.260	3.8	84	0.00
75	T	alpha-Pinene	3.104	2.984	3.9	81	0.00
76	T	n-Propylbenzene	7.721	7.539	2.4	85	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	0#	0.00
78	T	4-Ethyltoluene	6.415	6.235	2.8	83	0.00
79	T	1,3,5-Trimethylbenzene	5.337	5.175	3.0	84	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	0#	0.00
82	T	1,2,4-Trimethylbenzene	5.518	6.084	-10.3	91	0.00
83	T	n-Decane	0.000	0.000	0.0	0#	0.00
84	T	Benzyl Chloride	3.988	4.628	-16.0	82	0.00
85	T	1,3-Dichlorobenzene	3.145	3.090	1.7	83	0.00
86	T	1,4-Dichlorobenzene	3.195	2.890	9.5	78	0.00
87	T	sec-Butylbenzene	7.096	7.176	-1.1	87	0.00
88	T	4-Isopropyltoluene (p-Cymen	6.312	6.167	2.3	83	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	0#	0.00
90	T	1,2-Dichlorobenzene	3.034	3.059	-0.8	85	0.00
91	T	d-Limonene	2.040	2.258	-10.7	89	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.227	1.188	3.2	79	0.00
93	T	n-Undecane	0.000	0.000	0.0	0#	0.08
94	T	1,2,4-Trichlorobenzene	2.552	2.293	10.1	73	0.00
95	T	Naphthalene	7.367	6.257	15.1	68	0.00
96	T	n-Dodecane	0.000	0.000	0.0	0#	0.00
97	T	Hexachlorobutadiene	1.629	1.363	16.3	73	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-0.01
99	T	tert-Butylbenzene	5.298	5.781	-9.1	90	0.00
100	T	n-Butylbenzene	5.847	5.772	1.3	85	0.00
101	T	1,1,1,2-Tetrachloroethane	1.460	1.343	8.0	81	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092234.D Vial: 2
Acq On : 9 Jun 2022 20:01 Operator: WA/CG
Sample : CCV2 R16060922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05242205 (6/23)

Quant Time: Jun 09 20:26:38 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 6/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	132734	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	584758	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	153744	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	247058	13.049	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.40%				
57) Toluene-d8 (SS2)	15.88	98	627444	10.782	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.24%				
73) Bromofluorobenzene (SS3)	19.11	174	224097	10.564	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.48%				
Target Compounds							Qvalue
2) Propene	4.17	42	810257	31.327	ng		99
3) Dichlorodifluoromethan...	4.34	85	809458	27.162	ng		100
4) Chloromethane	4.63	50	750185	28.718	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	443828	29.073	ng		99
6) Vinyl Chloride	5.06	62	695020	30.011	ng		99
7) 1,3-Butadiene	5.33	54	651171	31.320	ng		96
8) Bromomethane	5.78	94	301142	26.143	ng		100
9) Chloroethane	6.12	64	268647	27.197	ng		99
10) Ethanol	6.52	45	1554182	97.588	ng		100
11) Acetonitrile	6.77	41	992371	26.699	ng		100
12) Acrolein	6.95	56	578047	50.384	ng		99
13) Acetone	7.17	58	1845263	147.923	ng	#	86
14) Trichlorofluoromethane	7.40	101	696900	26.525	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	2392777	52.977	ng		99
16) Acrylonitrile	7.94	53	1332350	57.373	ng		99
17) 1,1-Dichloroethene	8.37	96	365774	26.678	ng		95
18) 2-Methyl-2-Propanol (t...	8.55	59	2298236	56.420	ng		97
19) Methylene Chloride	8.61	84	371467	26.054	ng		87
20) 3-Chloro-1-propene (Al...	8.76	41	789100	31.626	ng		94
21) Trichlorotrifluoroethane	9.01	151	333341	26.735	ng		94
22) Carbon Disulfide	8.86	76	2794881	57.147	ng		100
23) trans-1,2-Dichloroethene	9.87	61	617234	28.497	ng		99
24) 1,1-Dichloroethane	10.12	63	730533	27.510	ng		99
25) Methyl tert-Butyl Ether	10.22	73	1202769	27.108	ng		98
26) Vinyl Acetate	10.38	86	241572	106.358	ng	#	63
27) 2-Butanone (MEK)	10.62	72	541027	56.207	ng	#	78
28) cis-1,2-Dichloroethene	11.14	61	592765	27.552	ng		98
29) Diisopropyl Ether	11.43	87	823837	66.904	ng	#	63
30) Ethyl Acetate	11.44	61	970955	152.807	ng		93
31) n-Hexane	11.42	57	998187	33.749	ng		100
32) Chloroform	11.49	83	701510	28.843	ng		100
34) Tetrahydrofuran (THF)	11.88	72	481180	52.583	ng	#	87
35) Ethyl tert-Butyl Ether	12.03	87	1014364	58.748	ng		92
36) 1,2-Dichloroethane	12.29	62	602556	28.414	ng		100
38) 1,1,1-Trichloroethane	12.57	97	638455	27.012	ng		98
39) Isopropyl Acetate	12.99	61	37168	No Calib	#		
40) 1-Butanol	13.01	56	24273	No Calib	#		
41) Benzene	13.04	78	1522071	27.210	ng		100
42) Carbon Tetrachloride	13.20	117	550445	27.341	ng		100
43) Cyclohexane	13.33	84	1228415	56.919	ng		94
44) tert-Amyl Methyl Ether	13.68	73	2466708	59.310	ng		96
45) 1,2-Dichloropropane	13.89	63	426266	27.802	ng		100
46) Bromodichloromethane	14.08	83	576994	28.401	ng		99
47) Trichloroethene	14.14	130	420529	27.035	ng		100
48) 1,4-Dioxane	14.11	88	327041	28.010	ng		97
49) 2,2,4-Trimethylpentane...	14.20	57	2063015	29.474	ng		95
50) Methyl Methacrylate	14.34	100	335643	57.791	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092234.D Vial: 2
Acq On : 9 Jun 2022 20:01 Operator: WA/CG
Sample : CCV2 R16060922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05242205 (6/23)

Quant Time: Jun 09 20:26:38 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

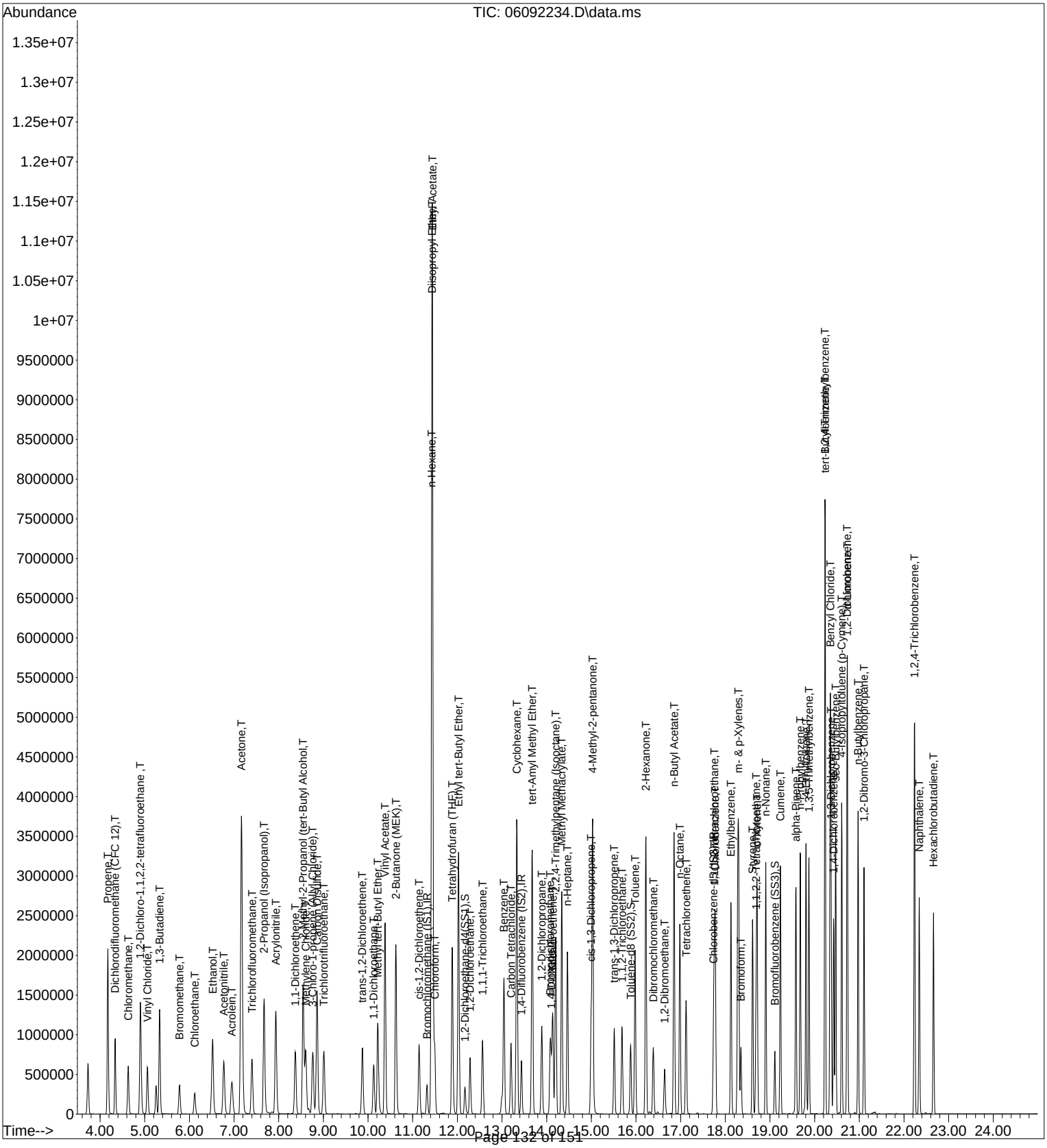
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	404071	27.553 ng		95
52) cis-1,3-Dichloropropene	15.00	75	644110	29.111 ng		99
53) 4-Methyl-2-pentanone	15.03	58	991897	63.010 ng		87
54) trans-1,3-Dichloropropene	15.51	75	579358	28.421 ng		100
55) 1,1,2-Trichloroethane	15.69	97	378721	27.167 ng		100
58) Toluene	15.98	91	1600147	23.513 ng		99
59) 2-Hexanone	16.22	43	2912767	56.331 ng		95
60) Dibromochloromethane	16.39	129	497864	24.144 ng		100
61) 1,2-Dibromoethane	16.64	107	441726	23.441 ng		99
62) n-Butyl Acetate	16.85	43	3192348	56.595 ng		95
63) n-Octane	16.98	57	439646	24.006 ng		93
64) Tetrachloroethene	17.12	166	439931	22.841 ng		100
65) Chlorobenzene	17.77	112	1083559	23.913 ng		100
66) Ethylbenzene	18.13	91	1898040	24.022 ng		99
67) m- & p-Xylenes	18.29	91	3090166	49.913 ng		99
68) Bromoform	18.35	173	420573	23.781 ng		100
69) Styrene	18.61	104	1136740	23.996 ng		99
70) o-Xylene	18.71	91	1527672	24.858 ng		99
71) n-Nonane	18.91	43	1238370	27.569 ng		93
72) 1,1,2,2-Tetrachloroethane	18.69	83	726208	25.331 ng		99
74) Cumene	19.24	105	2002007	25.013 ng		99
75) alpha-Pinene	19.58	93	991093	25.961 ng		97
76) n-Propylbenzene	19.68	91	2434140	25.631 ng		98
77) 3-Ethyltoluene	19.81	105	2032077	No Calib		
78) 4-Ethyltoluene	19.81	105	2032077	25.753 ng		98
79) 1,3,5-Trimethylbenzene	19.87	105	1654788	25.210 ng		98
80) alpha-Methylstyrene	19.87	118	12941	No Calib	#	
81) 2-Ethyltoluene	19.87	105	1654788	No Calib		
82) 1,2,4-Trimethylbenzene	20.23	105	1926733	28.390 ng		98
83) n-Decane	20.23	58	121348	No Calib	#	
84) Benzyl Chloride	20.35	91	2931311	59.763 ng		97
85) 1,3-Dichlorobenzene	20.37	146	988130	25.545 ng		100
86) 1,4-Dichlorobenzene	20.42	146	924131	23.516 ng		100
87) sec-Butylbenzene	20.47	105	2294703	26.292 ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	1972067	25.402 ng		99
89) 1,2,3-Trimethylbenzene	20.61	105	76166	No Calib		
90) 1,2-Dichlorobenzene	20.73	146	987688	26.469 ng		100
91) d-Limonene	20.73	68	729136	29.054 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.11	157	730794	48.408 ng		87
93) n-Undecane	22.34	57	773	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	1438184	45.822 ng		100
95) Naphthalene	22.34	128	2000976	22.084 ng		100
96) n-Dodecane	22.34	57	773	No Calib	#	
97) Hexachlorobutadiene	22.66	225	431687	21.540 ng		100
98) Cyclohexanone	18.28	55	3294	No Calib		
99) tert-Butylbenzene	20.24	119	1848697	28.368 ng		100
100) n-Butylbenzene	20.97	91	1845745	25.665 ng		98
101) 1,1,1,2-Tetrachloroethane	17.76	131	429426	23.910 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 06\09\06092234.D Vial: 2
Acq On : 9 Jun 2022 20:01 Operator: WA/CG
Sample : CCV2 R16060922 25ng Inst : GCMS-16
Misc : S35-04032201/S35-05242205 (6/23)

Quant Time: Jun 09 20:26:38 2022
Quant Method : I:\MS16\METHODS\R16051022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue May 10 19:05:32 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

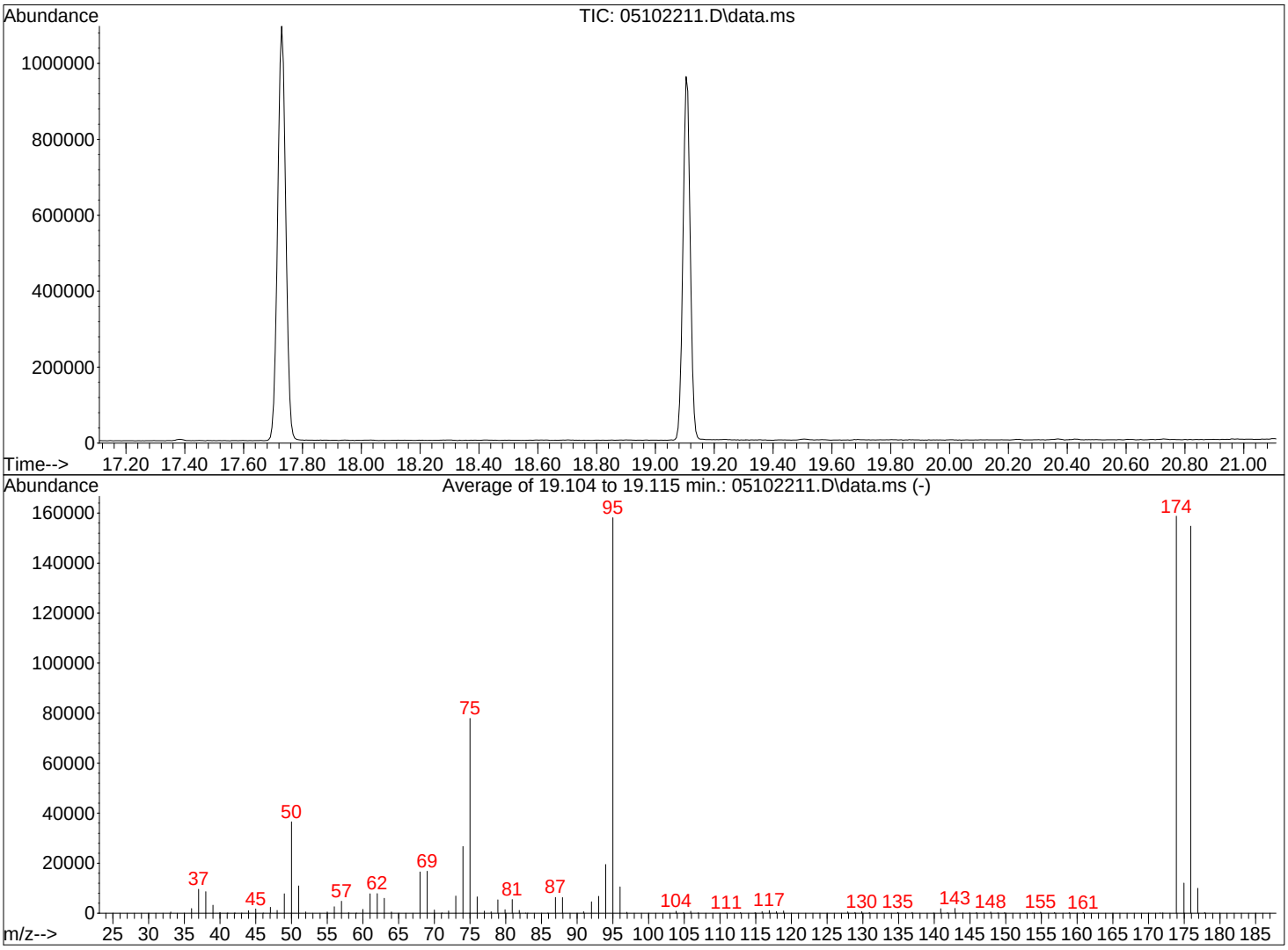


BFB

Data Path : I:\MS16\DATA\2022 05\10\
Data File : 05102211.D
Acq On : 10 May 2022 13:12
Operator : TZ/CG
Sample : R16051022 BFB Std
Misc : S35-04032201
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16051022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue May 10 19:05:32 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2831

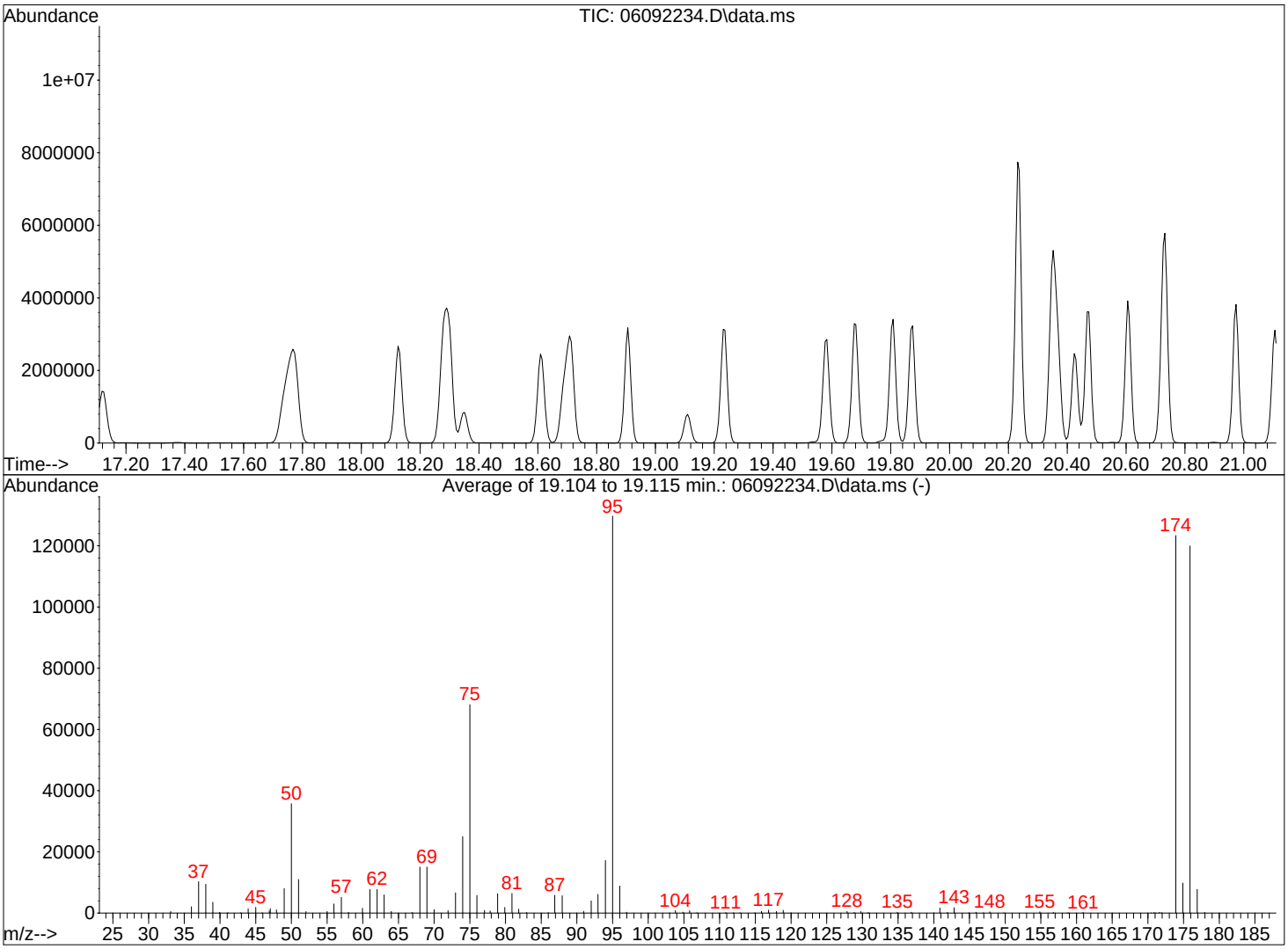
5/10/22

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.1	36512	PASS
75	95	30	66	49.2	77896	PASS
95	95	100	100	100.0	158197	PASS
96	95	5	9	6.6	10511	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	100.4	158784	PASS
175	174	4	9	7.6	12026	PASS
176	174	93	101	97.5	154795	PASS
177	176	5	9	6.4	9945	PASS

Data Path : I:\MS16\DATA\2022 06\09\
Data File : 06092234.D
Acq On : 9 Jun 2022 20:01
Operator : WA/CG
Sample : CCV2 R16060922 25ng
Misc : S35-04032201/S35-05242205 (6/23)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16051022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue May 10 19:05:32 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2832

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	27.5	35736	PASS
75	95	30	66	52.5	68115	PASS
95	95	100	100	100.0	129723	PASS
96	95	5	9	6.8	8841	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	95.1	123397	PASS
175	174	4	9	7.9	9808	PASS
176	174	93	101	97.2	119987	PASS
177	176	5	9	6.4	7710	PASS

TZ 6/10/22

Injection Log

Directory: J:\MS16\DATA\2022_05\10\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
11	5/10/22 13:12	05102211.D	R16051022_BFB Std	S35-04032201	TZ/CG	2	*Pass*
12	5/10/22 13:46	05102212.D	0.1ng R16051022 ICAL Std	S35-04032201/S35-05102204 (6/09)	TZ/CG	13	
14	5/10/22 14:20	05102213.D	0.2ng R16051022 ICAL Std	S35-04032201/S35-05102204 (6/09)	TZ/CG	13	
16	5/10/22 14:54	05102214.D	0.5ng R16051022 ICAL Std	S35-04032201/S35-05102204 (6/09)	TZ/CG	13	
18	5/10/22 15:28	05102215.D	1.0ng R16051022 ICAL Std	S35-04032201/S35-05102203 (6/09)	TZ/CG	14	***R16051022.M***
19	5/10/22 16:02	05102216.D	5.0ng R16051022 ICAL Std	S35-04032201/S35-05102203 (6/09)	TZ/CG	14	
20	5/10/22 16:36	05102217.D	25ng R16051022 ICAL Std	S35-04032201/S35-05102202 (6/09)	TZ/CG	15	
22	5/10/22 17:10	05102218.D	50ng R16051022 ICAL Std	S35-04032201/S35-05102202 (6/09)	TZ/CG	15	
23	5/10/22 17:44	05102219.D	100ng R16051022 ICAL Std	S35-04032201/S35-05102202 (6/09)	TZ/CG	15	
24	5/10/22 18:18	05102220.D	Blank	S35-04032201	TZ/CG	2	
25	5/10/22 18:52	05102221.D	25ng R16051022 ICV	S35-04032201/S35-05062202 (6/5)	TZ/CG	2	*Pass*
26	5/10/22 19:26	05102222.D	25ng R16051022 ICV	S35-04032201/S35-05062202 (6/5)	TZ/CG	2	*Pass*
	R16051022.M : good for low level compounds and DoD; ranges from 0.1ng --> 100ng, except: naphthalene: from 0.2ng --> 100ng						

5/11/22

Injection Log

Directory: I:\MS16\DATA\2022_06\09\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	6/9/22 20:01	06092234.D	CCV2 R16060922_25ng	S35-04032201/S35-05242205 (6/23)	WA/CG	2	passed
2	6/9/22 20:35	06092235.D	CCV2 C6060922_2.5ng	S35-04032201/S35-05272206 (6/26)	WA/CG	16	passed
3	6/9/22 21:09	06092236.D	MB2 R16060922_1000mL	S35-04032201	WA/CG	2	passed
4	6/9/22 21:43	06092237.D	LCS2 R16060922_25ng	S35-04032201/S35-05312201 (6/30)	WA/CG	2	passed
5	6/9/22 22:17	06092238.D	P2202506-001 (1000mL)	S35-04032201	WA/CG	11	
6	6/9/22 22:53	06092239.D	P2202388-001 (1000mL)	S35-04032201	WA/CG	6	
7	6/9/22 23:27	06092240.D	P2202388-002 (1000mL)	S35-04032201	WA/CG	7	
8	6/10/22 0:01	06092241.D	P2202388-003 (1000mL)	S35-04032201	WA/CG	8	
9	6/10/22 0:36	06092242.D	P2202388-004 (1000mL)	S35-04032201	WA/CG	9	
10	6/10/22 1:10	06092243.D	P2202388-005 (1000mL)	S35-04032201	WA/CG	10	
11	6/10/22 1:45	06092244.D	LCSD2 R16060922_25ng	S35-04032201/S35-05312201 (6/30)	WA/CG	2	passed
12	6/10/22 2:19	06092245.D	P2202506-002 (1000mL)	S35-04032201	WA/CG	12	
13	6/10/22 2:53	06092246.D	P2202506-003 (1000mL)	S35-04032201	WA/CG	13	
14	6/10/22 3:27	06092247.D	P2202506-003dup (1000mL)	S35-04032201	WA/CG	13	passed
15	6/10/22 4:01	06092248.D	P2202506-004 (1000mL)	S35-04032201	WA/CG	14	
16	6/10/22 4:35	06092249.D	P2202401-001 (1000mL)	S35-04032201	WA/CG	1	
17	6/10/22 6:54	06092250.D	P2202506-005 (1000mL)	S35-04032201	WA/CG	5	
18	6/10/22 7:28	06092251.D	P2202542-001dil (2.0mL)	S35-04032201	WA/CG	1	
19	6/10/22 8:15	06092252.D	P2202542-001 (7.5mL)	S35-04032201	WA/CG	2	
20	6/10/22 8:49	06092253.D	P2202542-002 (0.75mL)	S35-04032201	WA/CG	1	overdiluted
21	6/10/22 9:23	06092254.D	P2202542-003 (7.5mL)	S35-04032201	WA/CG	1	
22	6/10/22 9:57	06092255.D	P2202542-002 (1.5mL)	S35-04032201	WA/CG	1	
23	6/10/22 10:32	06092256.D	P2202489-001 (40mL)	S35-04032201	WA/CG	3	
24	6/10/22 11:05	06092257.D	P2202489-003 (400mL)	S35-04032201	WA/CG	5	
25	6/10/22 11:39	06092258.D	P2202489-002 (100mL)	S35-04032201	WA/CG	4	
26	6/10/22 12:13	06092259.D	P2202489-004 (400mL)	S35-04032201	WA/CG	6	
	CCV: ethyl acetate out high						
	LCS/LCSD: vinyl acetate passed 70-130%		CG 6/10/22		WA 6/10/22		

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-03
Cycles: 30
Batch: 29397

Batch Started By: on 5/17/22 0400
Finished Cleaning By: ALESAICHERRE on 5/19/22 0516

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS01468	5/17/22	5/18/22	Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE				ms21-05/18/22
AC00812	5/17/22		Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE	-14.0	5/20/22 0802		
AS00754	5/17/22		Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE	-14.0	5/25/22 0812		
AC01851	5/17/22		Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE	-14.0	5/19/22 1059		
AC02228	5/17/22		Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE	-14.0	5/20/22 0734		
AS01278	5/17/22		Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE	-14.0	5/20/22 0801		
AC00641	5/17/22		Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE	-14.0	5/20/22 0734		
AS01398	5/17/22		Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE				
AS01654	5/17/22		Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE	-14.0	5/20/22 0734		
AC01947	5/17/22		Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE				
AC01183	5/17/22		Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE	-14.0	5/20/22 0802		
AC01217	5/17/22		Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE				
AS00356	5/17/22		Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE	-14.0	5/20/22 0734		
AS01302	5/17/22		Pass w/ Conditions	-14.3	5/19/22 0516	ALESAICHERRE	-14.0	5/20/22 0802		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 05\18\
Data File : 05182213.D
Acq On : 18 May 2022 18:52
Operator : RVT/KM
Sample : 051822 AS01468 29397 (Sig #1); 051822 AS0146829397 (Sig #2)
Misc : SIM + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

5/19/22

Quant Time: May 19 04:36:53 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration

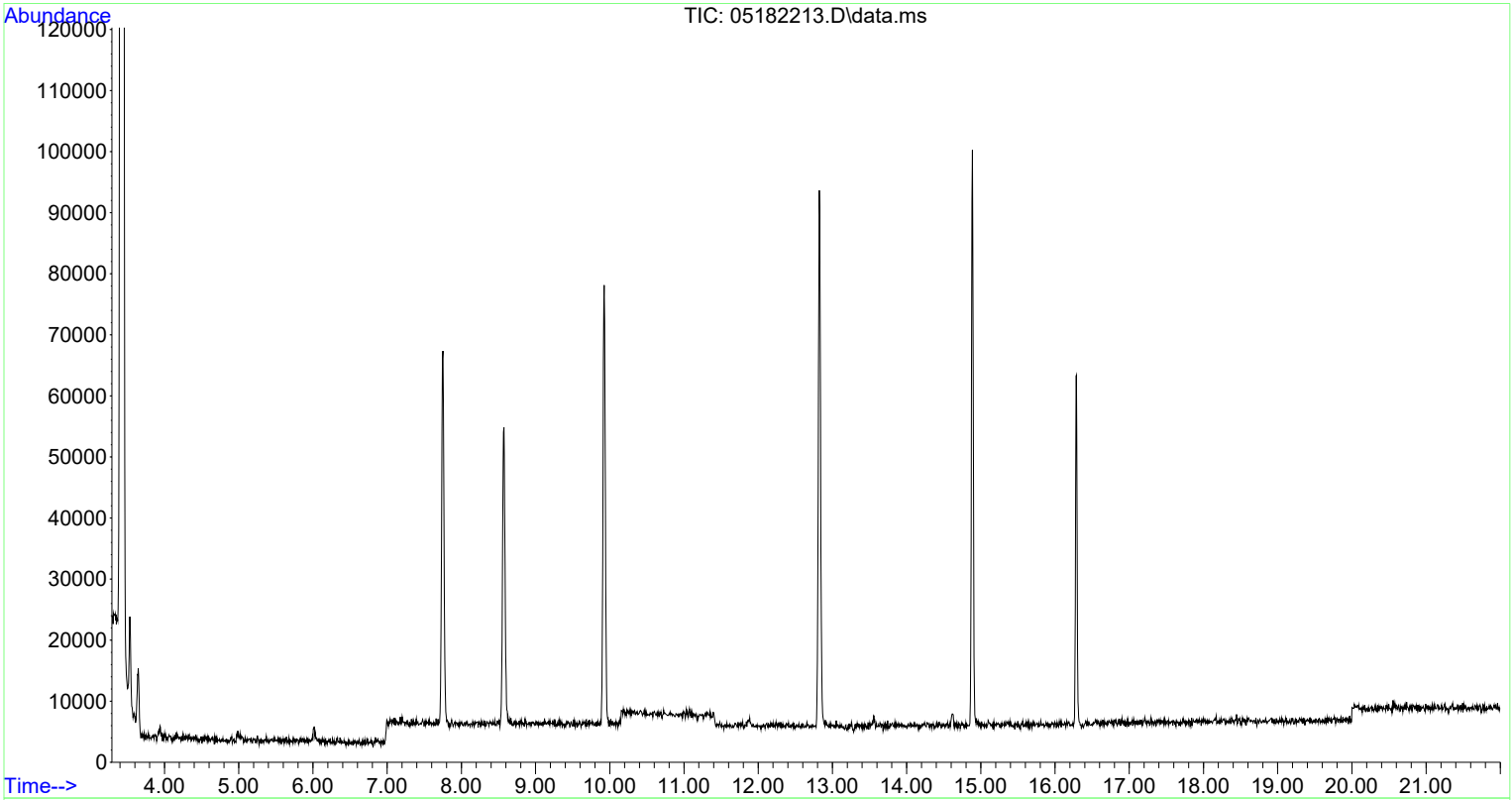
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.75	130	27101	1000.000	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.93	114	74247	1000.000	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.88	54	12419	1000.000	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.57	65	44507	924.160	pg		0.00
Spiked Amount 1000.000			Recovery = 92.42%				
57) Toluene-d8 (SS2)	12.83	98	72852	1139.767	pg		0.00
Spiked Amount 1000.000			Recovery = 113.98%				
74) Bromofluorobenzene (SS3)	16.29	174	19009	911.852	pg		0.00
Spiked Amount 1000.000			Recovery = 91.19%				
Target Compounds							Qvalue
2) * Propene	3.65	42	229	5.504	pg		98
10) * Ethanol	4.59	45	537	25.146	pg		98
12) * Acrolein	4.87	56	121	5.666	pg	#	80
13) * Acetone	5.01	58	1282	37.715	pg	#	50
19) * Methylene Chloride	5.74	84	138	3.367	pg		93
22) * Carbon Disulfide	6.02	76	3753	23.934	pg		99
27) * 2-Butanone (MEK)	7.19	72	298	15.887	pg	#	27
39) * Benzene	9.51	78	481	4.606	pg		96
53) * 4-Methyl-2-pentanone	11.88	58	590	31.680	pg		97
58) * Toluene	12.95	91	307	3.930	pg		96

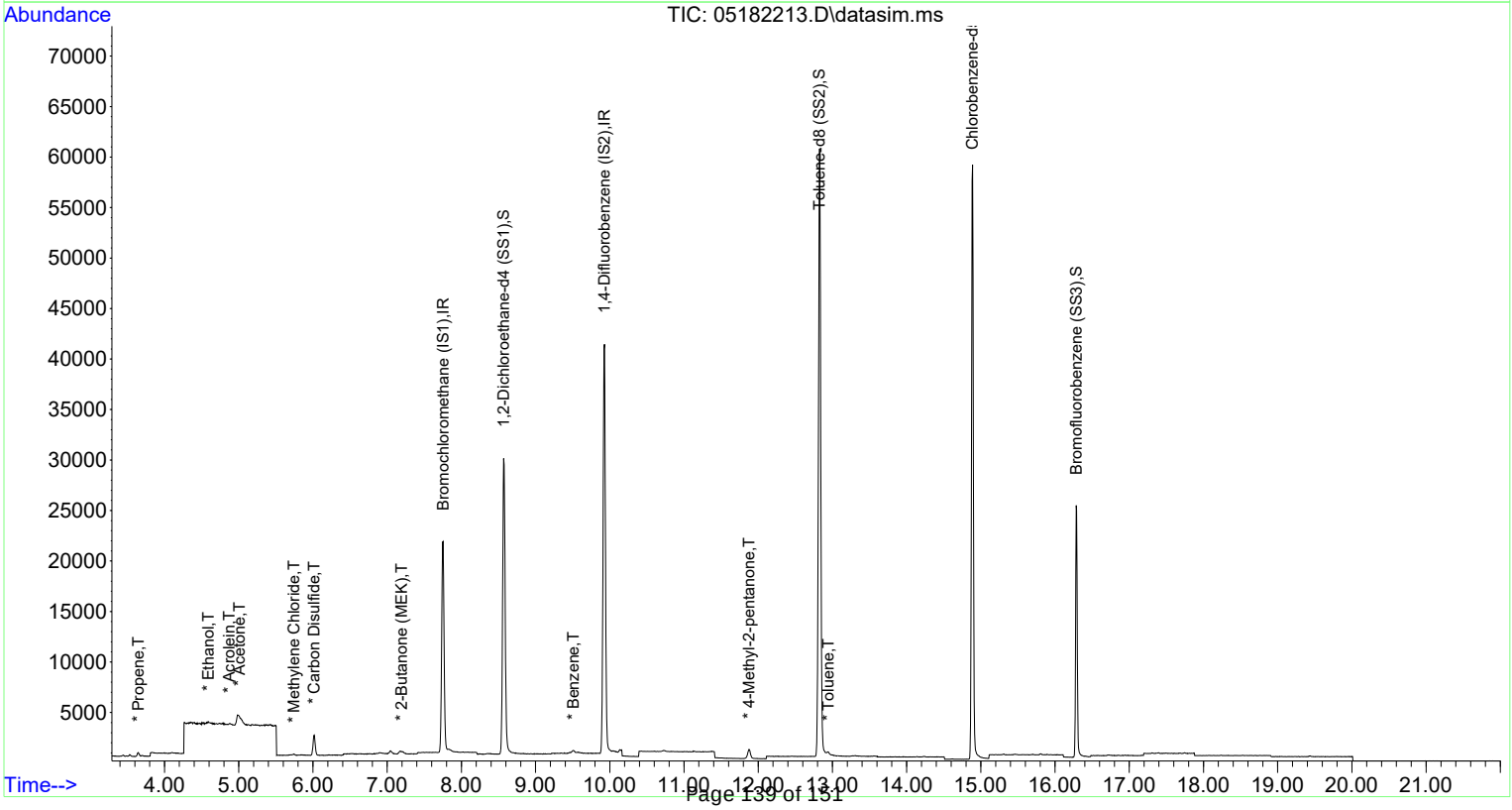
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 05\18\
Data File : 05182213.D
Acq On : 18 May 2022 18:52
Operator : RVT/KM
Sample : 051822 AS01468 29397 (Sig #1); 051822 AS0146829397 (Sig #2)
Misc : SIM + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 19 04:36:53 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 29398

Batch Started By: **on 5/17/22 0406**
Finished Cleaning By: **on 5/25/22 0812**

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02210	5/17/22	5/18/22	Pass w/ Conditions	-14.3	5/25/22 0812					ms21-05/18/22
AS00283	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812					
AS01529	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812					
AC02144	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812					
AC02271	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812					
AS01396	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812					
AS00903	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812		-14.0	5/25/22 0812		
AC01076	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812					
AS01506	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812		-14.0	5/19/22 1059		
AC02305	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812		-14.0	5/19/22 1059		
AS01321	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812		-14.0	5/19/22 1059		
AC02066	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812		-14.0	5/19/22 1059		
AS00781	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812		-14.0	5/19/22 1059		
AS00372	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812		-14.0	5/19/22 1059		
AS01010	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812		-14.0	5/19/22 1059		
AC01986	5/17/22		Pass w/ Conditions	-14.3	5/25/22 0812		-14.0	5/19/22 1059		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 05\18\
Data File : 05182214.D
Acq On : 18 May 2022 19:32
Operator : RVT/KM
Sample : 051822 AC02210 29398
Misc : SIM + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

5/19/22

Quant Time: May 19 04:44:37 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration

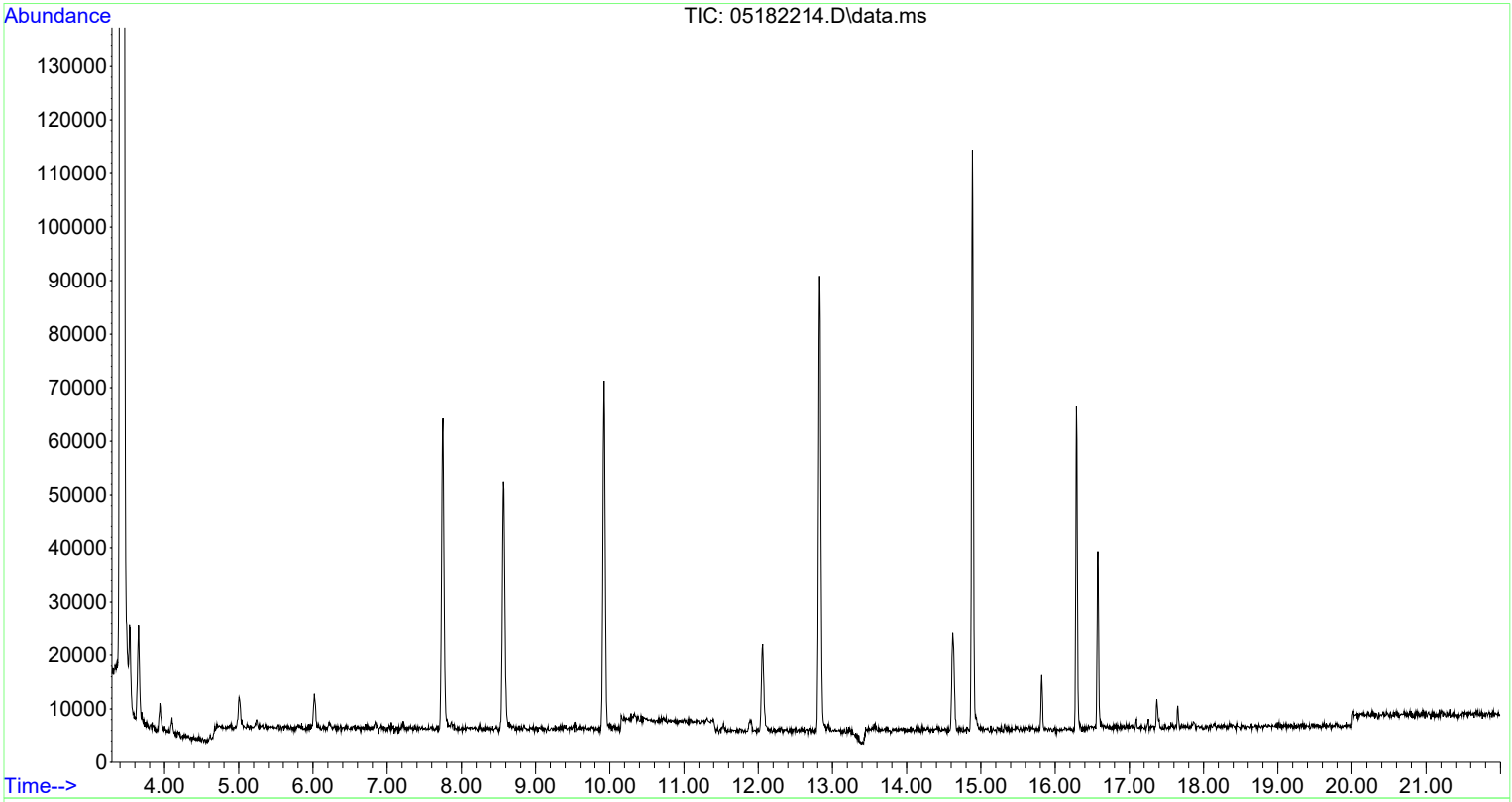
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.75	130	27106	1000.000	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.92	114	67277	1000.000	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.89	54	14718	1000.000	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.57	65	45222	938.833	pg		0.00
Spiked Amount 1000.000			Recovery = 93.88%				
57) Toluene-d8 (SS2)	12.83	98	74353	981.546	pg		0.00
Spiked Amount 1000.000			Recovery = 98.15%				
74) Bromofluorobenzene (SS3)	16.29	174	19777	800.503	pg		0.00
Spiked Amount 1000.000			Recovery = 80.05%				
Target Compounds							Qvalue
2) * Propene	3.64	42	273	6.561	pg	#	76
4) * Chloromethane	3.83	50	210	3.358	pg		98
10) * Ethanol	4.61	45	1106	51.781	pg		96
12) * Acrolein	4.88	56	188	8.802	pg		85
13) * Acetone	5.01	58	3169	93.211	pg	#	64
15) * 2-Propanol (Isopropa...	5.24	45	1673	17.977	pg	#	82
18) tert-Butanol	5.80	59	556	8.340	pg	#	80
19) * Methylene Chloride	5.74	84	147	3.586	pg	#	68
22) * Carbon Disulfide	6.02	76	11164	71.183	pg		100
26) * Vinyl Acetate	6.91	86	112	23.600	pg	#	14
27) * 2-Butanone (MEK)	7.21	72	409	21.800	pg		77
30) * Ethyl Acetate	7.86	61	272	23.559	pg	#	82
39) * Benzene	9.51	78	542	5.727	pg	#	87
53) * 4-Methyl-2-pentanone	11.89	58	767	45.451	pg		98
58) * Toluene	12.95	91	725	7.831	pg		97
64) * Tetrachloroethene	14.24	166	237	6.871	pg		93
66) * Ethylbenzene	15.30	91	247	3.346	pg		96
67) * m- & p-Xylenes	15.46	91	471	8.368	pg		94
71) * o-Xylene	15.89	91	156	2.796	pg	#	84
83) tert-Butylbenzene	17.39	134	62	5.343	pg	#	2
84) * 1,2,4-Trimethylbenzene	17.39	105	460	9.339	pg		93
86) * 1,3-Dichlorobenzene	17.56	146	560	13.106	pg		97
87) * 1,4-Dichlorobenzene	17.56	146	575	15.753	pg		96
91) p-Isopropyltoluene	17.75	134	98	6.671	pg	#	16
93) * D-Limonene	17.86	68	337	17.449	pg	#	68

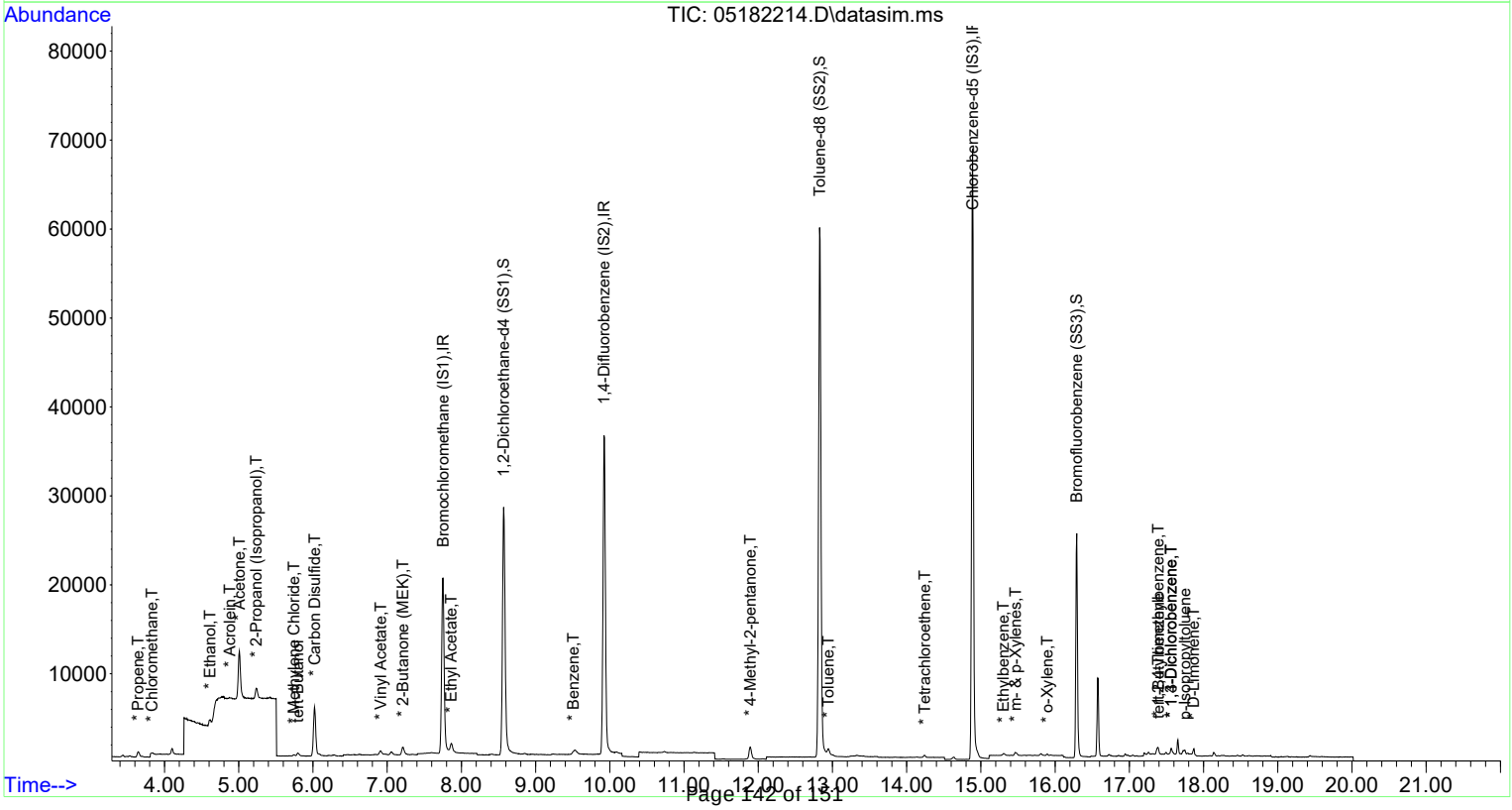
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 05\18\
Data File : 05182214.D
Acq On : 18 May 2022 19:32
Operator : RVT/KM
Sample : 051822 AC02210 29398
Misc : SIM + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 19 04:44:37 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-07
Cycles: 30
Batch: 29401

Batch Started By: ANAKLOWYCZ on 5/18/22 0836
Finished Cleaning By: EVAN.GARCIA on 5/23/22 0409

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS01189	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/23/22 0409	EVAN.GARCIA				ms21-05/18/22
AC02314	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/23/22 0409	EVAN.GARCIA	-14.0	5/23/22 0842		
AS00748	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/23/22 0409	EVAN.GARCIA	-14.0	5/23/22 0410		
AS00857	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/23/22 0409	EVAN.GARCIA	-14.0	5/23/22 0410		
AS00601	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/23/22 0409	EVAN.GARCIA	-8.0	6/1/22 0839		gc13_052322
AS01573	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/23/22 0409	EVAN.GARCIA	-14.0	5/23/22 0410		
AC01149	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/23/22 0409	EVAN.GARCIA	-14.0	5/25/22 0812		
AS00470	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/23/22 0409	EVAN.GARCIA	-14.0	5/31/22 0856		
AS01269	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/23/22 0409	EVAN.GARCIA	-14.0	5/23/22 0410		
AC02327	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/23/22 0409	EVAN.GARCIA	-14.0	5/23/22 0842		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 05\18\
Data File : 05182218.D
Acq On : 18 May 2022 21:58
Operator : RVT/KM
Sample : 051822 AS01189 29401
Misc : LL + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 6 Sample Multiplier: 1

5/19/22

Quant Time: May 19 05:05:08 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration

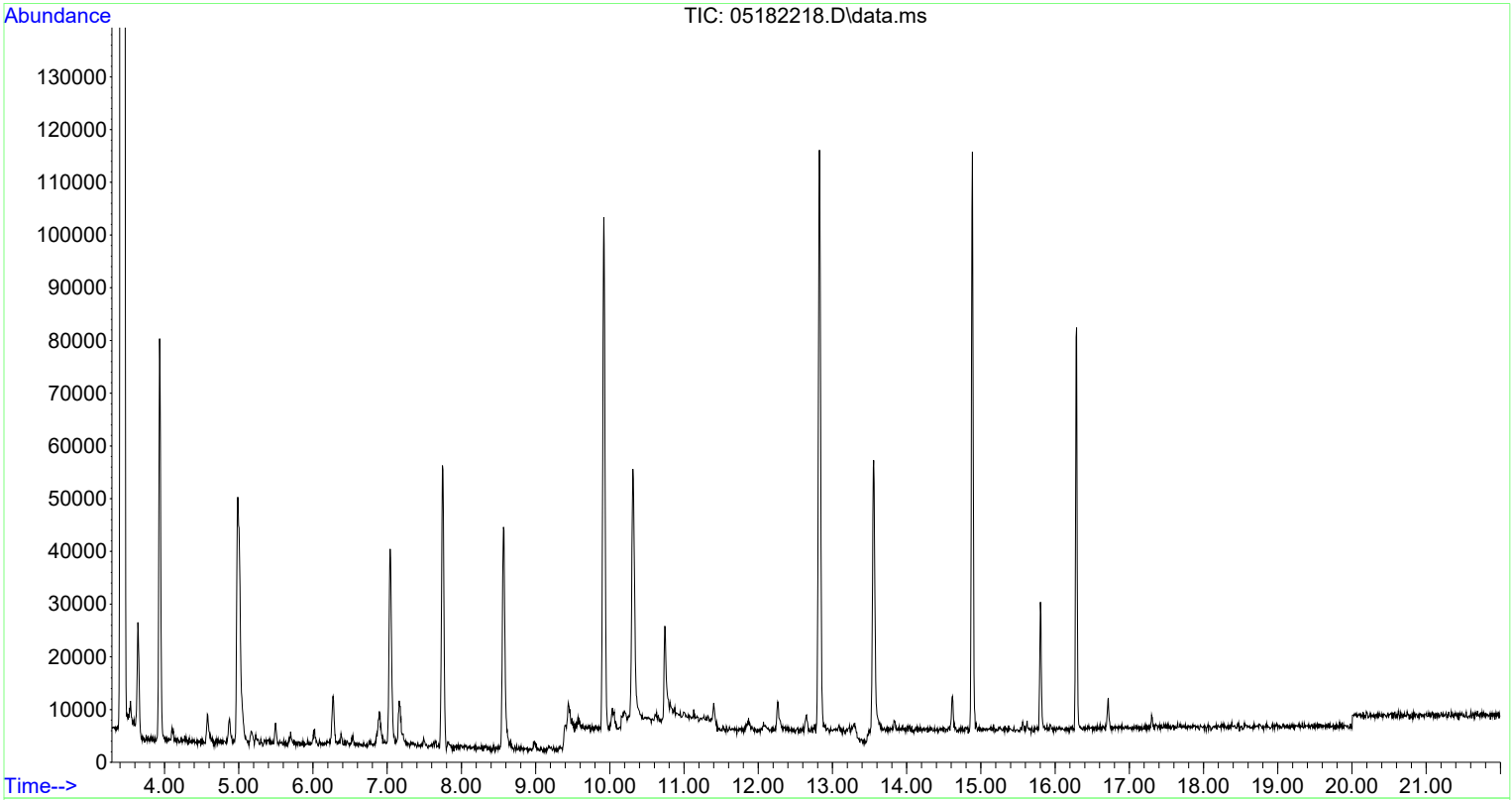
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.75	130	27894	1000.000	pg		-0.01
37) 1,4-Difluorobenzene (IS2)	9.92	114	97670	1000.000	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.88	54	13893	1000.000	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.57	65	39639	799.680	pg		0.00
Spiked Amount 1000.000			Recovery = 79.97%				
57) Toluene-d8 (SS2)	12.83	98	90020	1258.937	pg		0.00
Spiked Amount 1000.000			Recovery = 125.89%				
74) Bromofluorobenzene (SS3)	16.29	174	23847	1022.561	pg		0.00
Spiked Amount 1000.000			Recovery = 102.26%				
Target Compounds							Qvalue
2) * Propene	3.64	42	1071	25.011	pg		99
3) * Dichlorodifluoromethane	3.70	85	241	2.744	pg	#	86
4) * Chloromethane	3.84	50	443	6.883	pg		95
9) * Chloroethane	4.50	64	198	8.841	pg		98
10) * Ethanol	4.58	45	6540	297.540	pg		96
12) * Acrolein	4.87	56	3875	176.299	pg		96
14) * Trichlorofluoromethane	5.12	101	99	1.274	pg	#	83
16) * Acrylonitrile	5.36	53	60	1.323	pg		93
18) tert-Butanol	5.86	59	918	13.381	pg	#	67
19) * Methylene Chloride	5.74	84	342	8.107	pg		98
22) * Carbon Disulfide	6.02	76	4257	26.376	pg		100
26) * Vinyl Acetate	6.90	86	1887	386.388	pg	#	1
27) * 2-Butanone (MEK)	7.16	72	4308	223.133	pg	#	42
30) * Ethyl Acetate	7.83	61	156	13.130	pg		86
39) * Benzene	9.50	78	732	5.328	pg		94
49) Isooctane	10.83	56	97	1.635	pg		82
53) * 4-Methyl-2-pentanone	11.87	58	910	37.144	pg		97
58) * Toluene	12.94	91	254	2.907	pg		94
59) * 2-Hexanone	13.30	58	1362	59.225	pg		98
63) * n-Octane	14.13	85	56	3.872	pg	#	67
98) * Naphthalene	19.43	128	264	6.971	pg	#	84

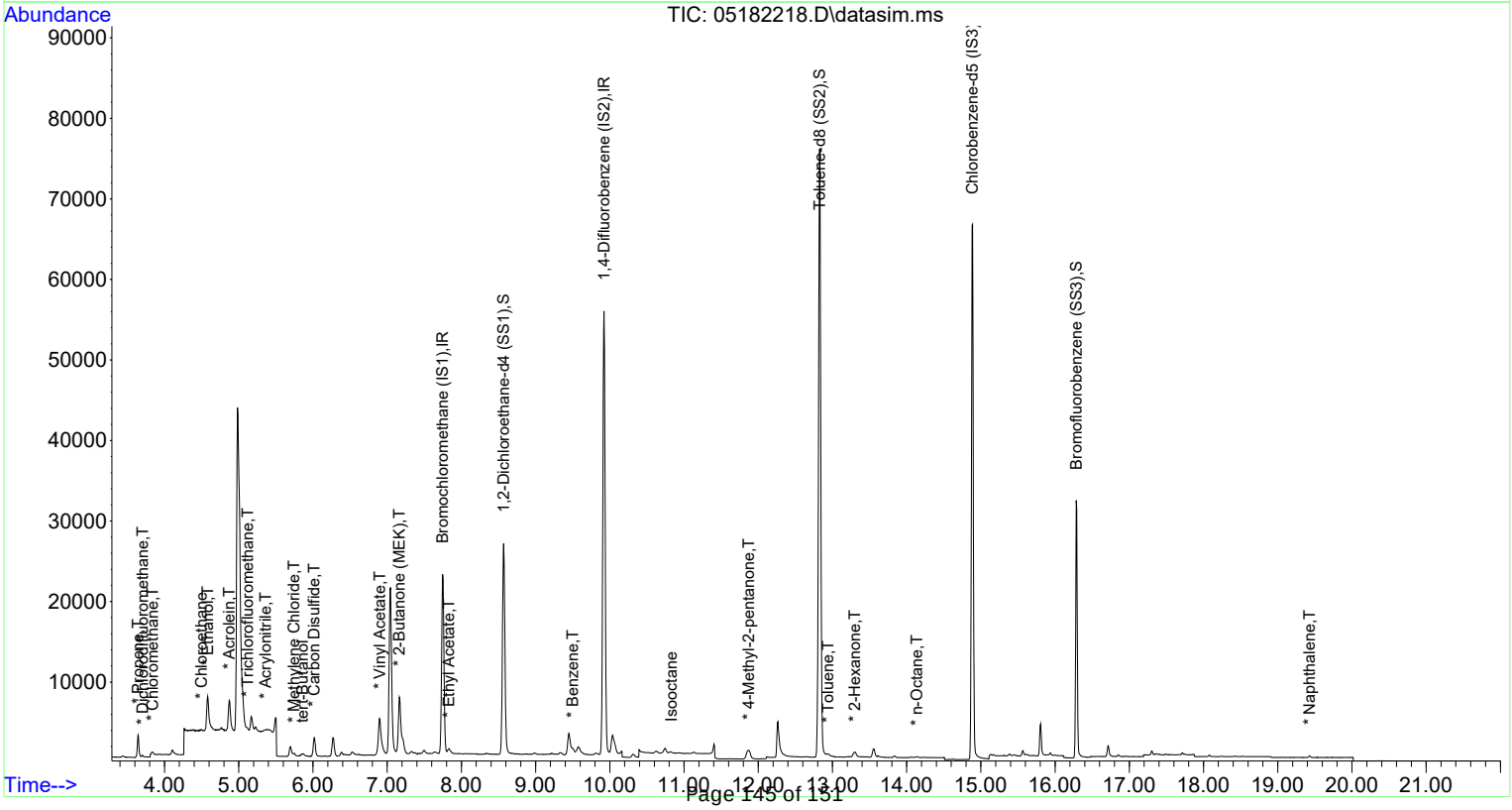
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 05\18\
Data File : 05182218.D
Acq On : 18 May 2022 21:58
Operator : RVT/KM
Sample : 051822 AS01189 29401
Misc : LL + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 19 05:05:08 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-09
Cycles: 30
Batch: 29402

Batch Started By: ANAKLOWYCZ on 5/18/22 0843
Finished Cleaning By: ALESAICHERRE on 5/20/22 0714

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC00593	5/18/22	5/18/22	Fail	-14.3	5/20/22 0714	ALESAICHERRE				High Propene, Acetone & Large Peak
Passed For: Fail										
AS01236	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/20/22 0714	ALESAICHERRE				
AC02346	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/20/22 0714	ALESAICHERRE				gc22 05/23/22
AS00764	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/20/22 0714	ALESAICHERRE				ms21-05/19/22
AS01009	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/20/22 0714	ALESAICHERRE	-8.0	6/1/22 0839		
AS01483	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/20/22 0714	ALESAICHERRE	-8.0	6/1/22 0839		
AC02304	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/20/22 0714	ALESAICHERRE				
AS00943	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/20/22 0714	ALESAICHERRE	-8.0	5/31/22 0906		
AC01306	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/20/22 0714	ALESAICHERRE	-14.0	5/25/22 0812		
AS01663	5/18/22	5/18/22	Pass w/ Conditions	-14.3	5/20/22 0714	ALESAICHERRE	-14.0	5/31/22 0856		
Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)										

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 05\19\
Data File : 05192209.D
Acq On : 19 May 2022 16:40
Operator : RVT/KM
Sample : 051922 AS00764 29402
Misc : SIM + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

5/20/22

Quant Time: May 20 07:12:05 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration

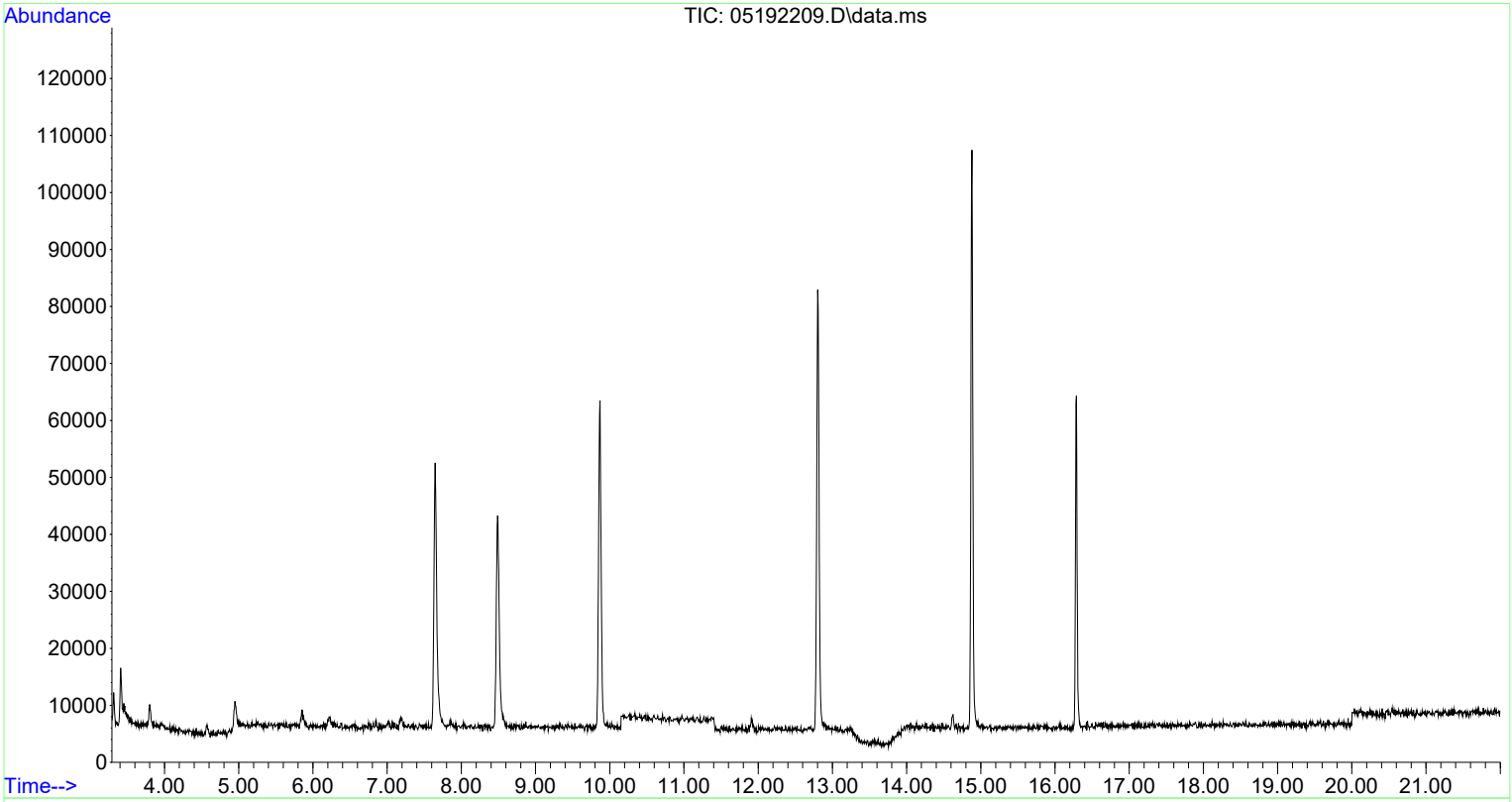
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.65	130	25489m	1000.000	pg		-0.11
37) 1,4-Difluorobenzene (IS2)	9.86	114	65656m	1000.000	pg		-0.06
56) Chlorobenzene-d5 (IS3)	14.88	54	14573	1000.000	pg		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.49	65	42436m	936.884	pg		-0.09
Spiked Amount 1000.000			Recovery = 93.69%				
57) Toluene-d8 (SS2)	12.81	98	69350	924.610	pg		-0.03
Spiked Amount 1000.000			Recovery = 92.46%				
74) Bromofluorobenzene (SS3)	16.29	174	20269	828.581	pg		0.00
Spiked Amount 1000.000			Recovery = 82.86%				
Target Compounds							Qvalue
10) * Ethanol	4.57	45	2247m	111.874	pg		
13) * Acetone	4.95	58	3112m	97.341	pg		
15) * 2-Propanol (Isopropa...	5.23	45	658	7.519	pg	#	53
27) * 2-Butanone (MEK)	7.19	72	791	44.836	pg		96
30) * Ethyl Acetate	7.85	61	294	27.080	pg		93
43) * Cyclohexane	9.87	84	447	18.665	pg	#	1
53) * 4-Methyl-2-pentanone	11.90	58	588	35.704	pg		92
58) * Toluene	12.92	91	196	2.138	pg		97
93) * D-Limonene	17.87	68	63	3.294	pg	#	72

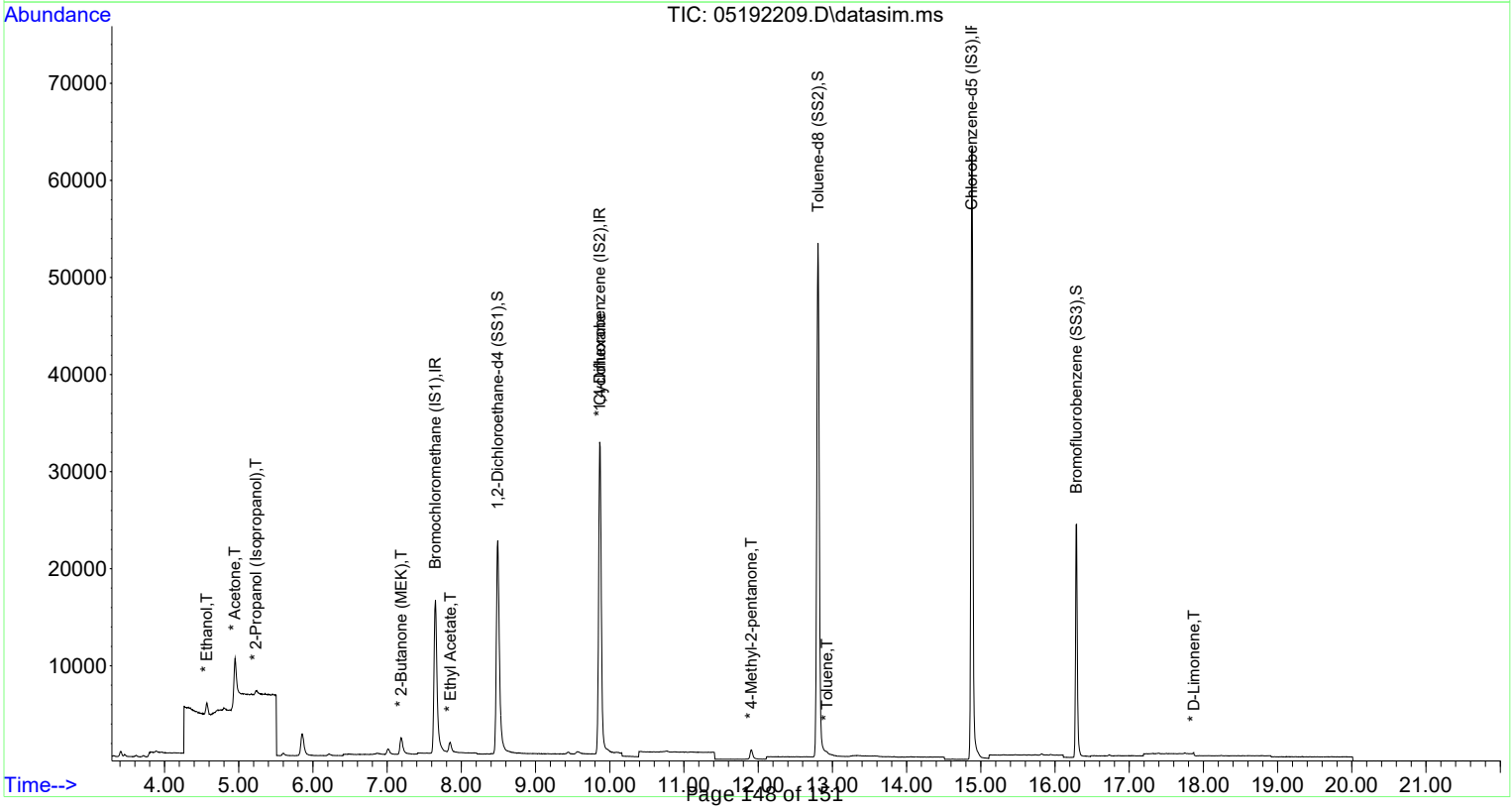
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 05\19\
Data File : 05192209.D
Acq On : 19 May 2022 16:40
Operator : RVT/KM
Sample : 051922 AS00764 29402
Misc : SIM + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 20 07:12:05 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-09
Cycles: 30
Batch: 29407

Batch Started By: ANAKLOWYCZ on 5/19/22 0816
Finished Cleaning By: ALESAICHERRE on 5/20/22 0721

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02238	5/19/22	5/19/22	Pass w/ Conditions	-14.3	5/20/22 0721	ALESAICHERRE				ms21-05/19/22
AS01539	5/19/22		Pass w/ Conditions	-14.3	5/20/22 0721	ALESAICHERRE	-14.0	5/25/22 0813		
AS01660	5/19/22		Pass w/ Conditions	-14.3	5/20/22 0721	ALESAICHERRE	-14.0	5/23/22 0842		
AC02136	5/19/22		Pass w/ Conditions	-14.3	5/20/22 0721	ALESAICHERRE	-14.0	5/23/22 0842		
AS01001	5/19/22		Pass w/ Conditions	-14.3	5/20/22 0721	ALESAICHERRE	-14.0	5/23/22 0842		
AS01284	5/19/22		Pass w/ Conditions	-14.3	5/20/22 0721	ALESAICHERRE	-14.0	5/24/22 0834		
AS00940	5/19/22		Pass w/ Conditions	-14.3	5/20/22 0721	ALESAICHERRE	-14.0	5/23/22 0842		
AC02266	5/19/22		Pass w/ Conditions	-14.3	5/20/22 0721	ALESAICHERRE	-14.0	5/23/22 0842		
AC02467	5/19/22		Pass w/ Conditions	-14.3	5/20/22 0721	ALESAICHERRE	-14.0	5/25/22 0812		
AC02097	5/19/22		Pass w/ Conditions	-14.3	5/20/22 0721	ALESAICHERRE	-14.0	5/23/22 0842		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 05\19\
Data File : 05192210.D
Acq On : 19 May 2022 17:20
Operator : RVT/KM
Sample : 051922 AC02238 29407
Misc : SIM + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

AR 5/20/22

Quant Time: May 20 07:19:30 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration

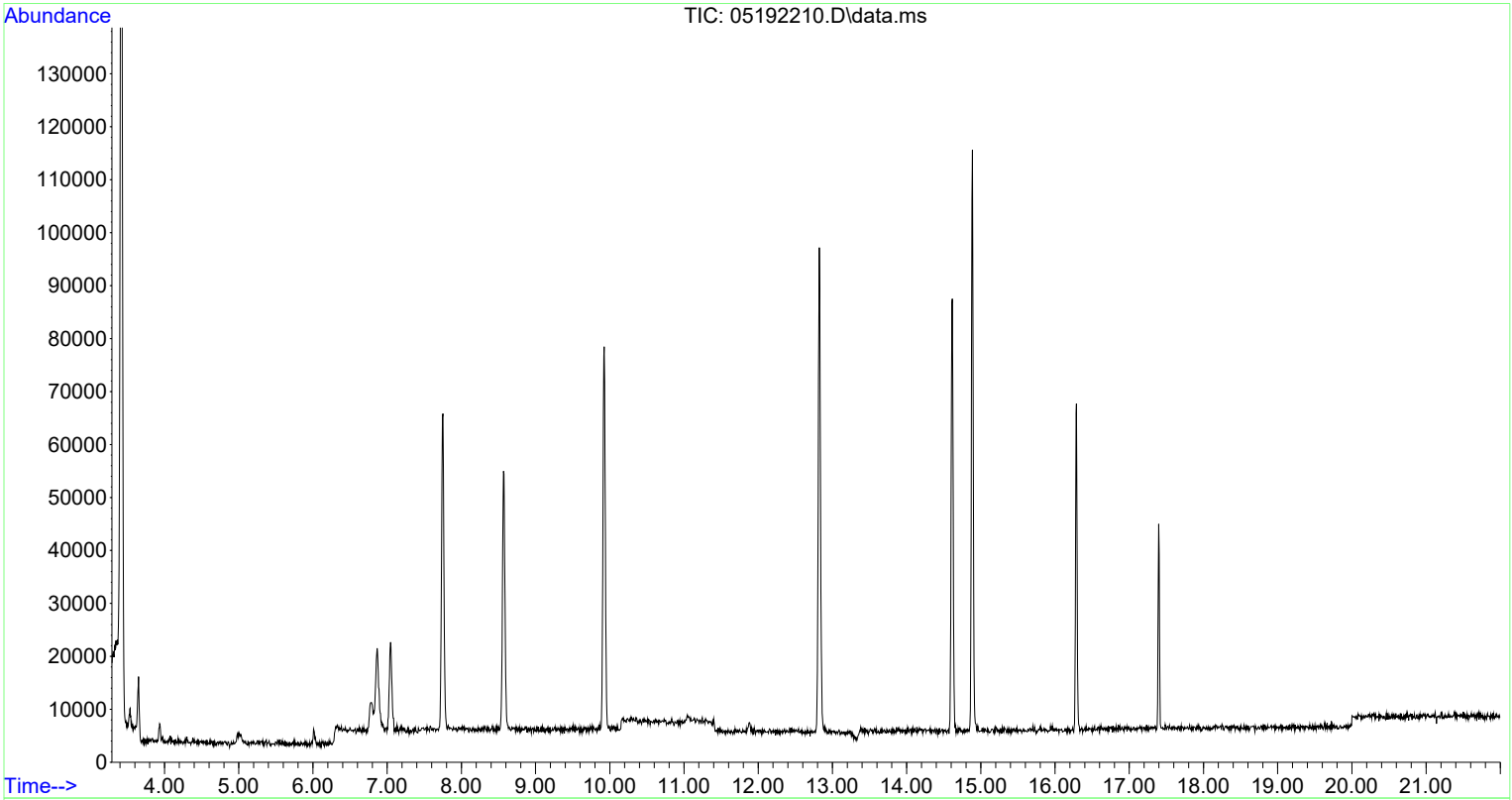
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.75	130	26772	1000.000 pg		-0.01
37) 1,4-Difluorobenzene (IS2)	9.93	114	75473	1000.000 pg		0.00
56) Chlorobenzene-d5 (IS3)	14.88	54	14584	1000.000 pg		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4 ...	8.57	65	44028	925.449 pg		0.00
Spiked Amount 1000.000			Recovery = 92.55%			
57) Toluene-d8 (SS2)	12.83	98	74229	988.913 pg		0.00
Spiked Amount 1000.000			Recovery = 98.89%			
74) Bromofluorobenzene (SS3)	16.29	174	19956	815.170 pg		0.00
Spiked Amount 1000.000			Recovery = 81.52%			
Target Compounds						Qvalue
2) * Propene	3.64	42	228	5.548 pg		96
4) * Chloromethane	3.83	50	280	4.533 pg		92
8) * Bromomethane	4.35	94	290	9.280 pg		99
10) * Ethanol	4.59	45	241	11.424 pg		100
12) * Acrolein	4.88	56	176	8.343 pg		85
13) * Acetone	5.00	58	2232	66.470 pg	#	45
16) * Acrylonitrile	5.36	53	79	1.815 pg		93
22) * Carbon Disulfide	6.02	76	4305	27.792 pg		100
26) * Vinyl Acetate	6.91	86	70	14.934 pg		87
27) * 2-Butanone (MEK)	7.21	72	424	22.882 pg	#	1
39) * Benzene	9.51	78	429	4.041 pg		96
53) * 4-Methyl-2-pentanone	11.88	58	617	32.592 pg		100
58) * Toluene	12.94	91	146	1.592 pg		100
84) * 1,2,4-Trimethylbenzene	17.39	105	255	5.225 pg	#	85

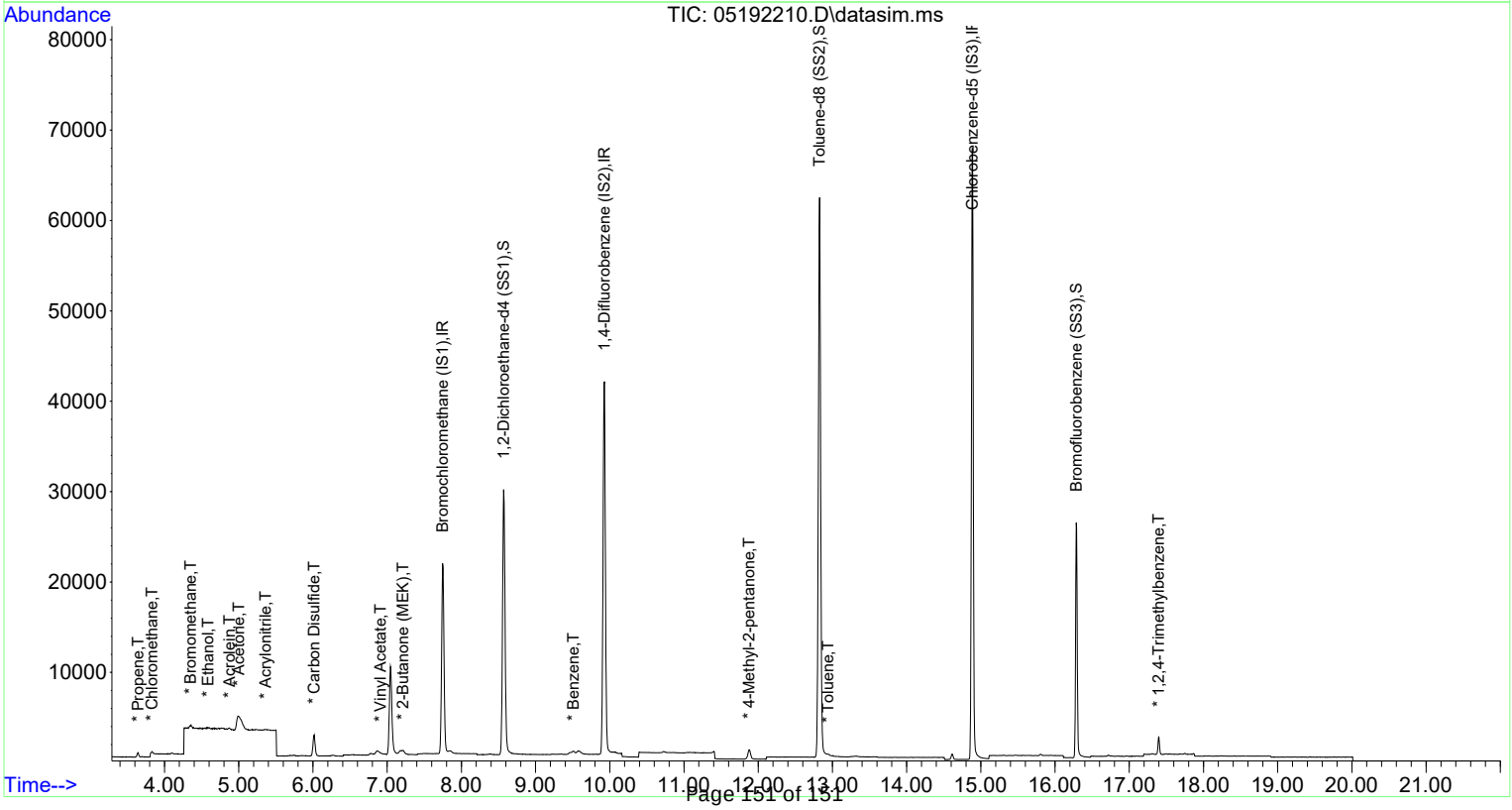
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 05\19\
Data File : 05192210.D
Acq On : 19 May 2022 17:20
Operator : RVT/KM
Sample : 051922 AC02238 29407
Misc : SIM + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 20 07:19:30 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

June 29, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.007.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on June 9, 2022. For your reference, these analyses have been assigned our service request number P2202566.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 4:33 pm, Jun 29, 2022

Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2202566
Project: DOE Perimeter Air / 080153.007.15

CASE NARRATIVE

The samples were received intact under chain of custody on June 9, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2202566

Project ID: DOE Perimeter Air / 080153.007.15

Date Received: 6/9/2022

Time Received: 13:43

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_060622_S	P2202566-001	Air	6/9/2022	11:00	AC02074	-2.86	3.59	X
DOE-2_060622_S	P2202566-002	Air	6/9/2022	11:15	AC02385	-3.67	3.52	X
DOE-3_060622_S	P2202566-003	Air	6/9/2022	11:30	AS00863	-2.21	3.61	X
DOE-4_060622_S	P2202566-004	Air	6/9/2022	11:45	AC02451	-3.07	3.69	X
DOE-4_060622_D	P2202566-005	Air	6/9/2022	11:46	AC02295	-2.24	3.64	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. R2207526

Company Name & Address (Reporting Information) North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304				Project Name DOE Perimeter Air Project Number 080153.015.15					ALS Contact: Hayden Akers **Analysis Method**		**Comments** e.g. Actual **Preservative or** specific instructions
Project Manager Trina Cesnik				P.O. # / Billing Information PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com							
Phone 805-587-0691	Fax										
Email Address for Result Reporting cchristensen@northwindgrp.com; denise.gonzalez@northwindg				Sampler (Print & Sign) T. Stewart Williford							
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TO-15		
DOE-1_060922_S	1	6/9/2022	1100	AC02074	FCR00042	-28.5	-3.5		X		
DOE-2_060922_S	2	6/9/2022	1115	AC02385	FCR00325	-29.0	-5.0		X		
DOE-3_060922_S	3	6/9/2022	1130	AS00863	FCR00046	-28.0	-2.5		X		
DOE-4_060922_S	4	6/9/2022	1145	AC02451	FCR00465	-29.5	-2.5		X		
DOE-4_060922_D	1	6/9/2022	1146	AC02295	FCR00333	-28.0	-2.5		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) 10% Surcharge ____

EDD required Yes / No
Type: EQuIS Units:

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
T. Stewart Williford	6/9/22	1343			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
				6-9-22	1343

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2202566

Project: DOE Perimeter Air / 080153.007.15

Sample(s) received on: 6/9/22 Date opened: 6/9/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2202566-001.01	6.0 L Ambient Can					
P2202566-002.01	6.0 L Ambient Can					
P2202566-003.01	6.0 L Silonite Can					
P2202566-004.01	6.0 L Ambient Can					
P2202566-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_060622_S** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-001

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02074

Initial Pressure (psig): -2.86 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.82	**0.46**	0.17	
74-87-3	Chloromethane	ND	0.79	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.83	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.79	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
107-02-8	Acrolein	ND	1.5	ND	0.67	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.80	**0.19**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.63	
107-13-1	Acrylonitrile	ND	1.5	ND	0.71	
75-35-4	1,1-Dichloroethene	ND	0.83	ND	0.21	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.83	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.82	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.82	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.7	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
141-78-6	Ethyl Acetate	**12**	3.2	**3.3**	0.90	
110-54-3	n-Hexane	ND	0.82	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_060622_S** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-001

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02074

Initial Pressure (psig): -2.86 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.83	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.52	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
142-82-5	n-Heptane	ND	0.82	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.77	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.79	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	ND	0.80	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.82	ND	0.096	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
111-65-9	n-Octane	ND	0.82	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_060622_S** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-001

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02074

Initial Pressure (psig): -2.86 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.82	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.80	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.80	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.82	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	
104-51-8	n-Butylbenzene	ND	0.80	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.82	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_060622_S** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-002

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02385

Initial Pressure (psig): -3.67 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.87	**0.45**	0.18	
74-87-3	Chloromethane	ND	0.84	ND	0.41	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.89	ND	0.13	
75-01-4	Vinyl Chloride	ND	0.86	ND	0.34	
106-99-0	1,3-Butadiene	ND	0.86	ND	0.39	
74-83-9	Bromomethane	ND	0.84	ND	0.22	
75-00-3	Chloroethane	ND	0.84	ND	0.32	
107-02-8	Acrolein	ND	1.7	ND	0.72	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.86	**0.19**	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.7	ND	0.67	
107-13-1	Acrylonitrile	ND	1.7	ND	0.76	
75-35-4	1,1-Dichloroethene	ND	0.89	ND	0.22	
75-09-2	Methylene Chloride	ND	0.86	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.89	ND	0.12	
75-15-0	Carbon Disulfide	ND	1.8	ND	0.58	
156-60-5	trans-1,2-Dichloroethene	ND	0.87	ND	0.22	
75-34-3	1,1-Dichloroethane	ND	0.87	ND	0.22	
1634-04-4	Methyl tert-Butyl Ether	ND	0.87	ND	0.24	
108-05-4	Vinyl Acetate	ND	8.3	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.7	ND	0.56	
156-59-2	cis-1,2-Dichloroethene	ND	0.86	ND	0.22	
141-78-6	Ethyl Acetate	**13**	3.5	**3.7**	0.96	
110-54-3	n-Hexane	ND	0.87	ND	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_060622_S** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-002

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02385

Initial Pressure (psig): -3.67 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.89	ND	0.18	
109-99-9	Tetrahydrofuran (THF)	ND	1.7	ND	0.56	
107-06-2	1,2-Dichloroethane	ND	0.87	ND	0.22	
71-55-6	1,1,1-Trichloroethane	ND	0.86	ND	0.16	
71-43-2	Benzene	ND	0.83	ND	0.26	
56-23-5	Carbon Tetrachloride	ND	0.83	ND	0.13	
110-82-7	Cyclohexane	ND	1.8	ND	0.53	
78-87-5	1,2-Dichloropropane	ND	0.83	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.87	ND	0.13	
79-01-6	Trichloroethene	ND	0.86	ND	0.16	
123-91-1	1,4-Dioxane	ND	0.86	ND	0.24	
142-82-5	n-Heptane	ND	0.87	ND	0.21	
10061-01-5	cis-1,3-Dichloropropene	ND	0.83	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	1.8	ND	0.44	
10061-02-6	trans-1,3-Dichloropropene	ND	0.84	ND	0.19	
79-00-5	1,1,2-Trichloroethane	ND	0.86	ND	0.16	
108-88-3	Toluene	ND	0.86	ND	0.23	
591-78-6	2-Hexanone	ND	1.8	ND	0.44	
124-48-1	Dibromochloromethane	ND	0.87	ND	0.10	
106-93-4	1,2-Dibromoethane	ND	0.86	ND	0.11	
111-65-9	n-Octane	ND	0.87	ND	0.19	
127-18-4	Tetrachloroethene	ND	0.86	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_060622_S** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-002

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02385

Initial Pressure (psig): -3.67 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.86	ND	0.20	
179601-23-1	m,p-Xylenes	ND	1.8	ND	0.42	
75-25-2	Bromoform	ND	0.86	ND	0.083	
100-42-5	Styrene	ND	0.83	ND	0.19	
95-47-6	o-Xylene	ND	0.86	ND	0.20	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.86	ND	0.12	
98-82-8	Cumene	ND	0.86	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.87	ND	0.18	
622-96-8	4-Ethyltoluene	ND	0.87	ND	0.18	
108-67-8	1,3,5-Trimethylbenzene	ND	0.86	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.86	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.8	ND	0.35	
541-73-1	1,3-Dichlorobenzene	ND	0.86	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.86	ND	0.14	
135-98-8	sec-Butylbenzene	ND	0.86	ND	0.16	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.86	ND	0.16	
95-50-1	1,2-Dichlorobenzene	ND	0.87	ND	0.15	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	ND	0.24	
91-20-3	Naphthalene	ND	0.86	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.86	ND	0.080	
104-51-8	n-Butylbenzene	ND	0.86	ND	0.16	
1330-20-7	Xylenes, Total	ND	0.87	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_060622_S** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-003

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00863

Initial Pressure (psig): -2.21 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.78	**0.46**	0.16	
74-87-3	Chloromethane	ND	0.75	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.76	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.76	ND	0.35	
74-83-9	Bromomethane	ND	0.75	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.28	
107-02-8	Acrolein	ND	1.5	ND	0.64	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.76	**0.19**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.60	
107-13-1	Acrylonitrile	ND	1.5	ND	0.68	
75-35-4	1,1-Dichloroethene	ND	0.79	ND	0.20	
75-09-2	Methylene Chloride	ND	0.76	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.79	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.78	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.4	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	
156-59-2	cis-1,2-Dichloroethene	ND	0.76	ND	0.19	
141-78-6	Ethyl Acetate	**6.0**	3.1	**1.7**	0.86	
110-54-3	n-Hexane	ND	0.78	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_060622_S** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-003

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00863

Initial Pressure (psig): -2.21 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.79	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.50	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.76	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.74	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.76	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.76	ND	0.21	
142-82-5	n-Heptane	ND	0.78	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.74	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.76	ND	0.14	
108-88-3	Toluene	ND	0.76	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.78	ND	0.091	
106-93-4	1,2-Dibromoethane	ND	0.76	ND	0.10	
111-65-9	n-Octane	ND	0.78	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.76	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_060622_S** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-003

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00863

Initial Pressure (psig): -2.21 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.76	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.76	ND	0.074	
100-42-5	Styrene	ND	0.74	ND	0.17	
95-47-6	o-Xylene	ND	0.76	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.76	ND	0.11	
98-82-8	Cumene	ND	0.76	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.78	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.78	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.76	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.76	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.76	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.76	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.76	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.76	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.78	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.76	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.76	ND	0.072	
104-51-8	n-Butylbenzene	ND	0.76	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.78	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_060622_S** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-004

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02451

Initial Pressure (psig): -3.07 Final Pressure (psig): 3.69

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.84	**0.47**	0.17	
74-87-3	Chloromethane	ND	0.81	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.85	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.82	ND	0.37	
74-83-9	Bromomethane	ND	0.81	ND	0.21	
75-00-3	Chloroethane	ND	0.81	ND	0.31	
107-02-8	Acrolein	ND	1.6	ND	0.69	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.82	**0.20**	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.64	
107-13-1	Acrylonitrile	ND	1.6	ND	0.73	
75-35-4	1,1-Dichloroethene	ND	0.85	ND	0.22	
75-09-2	Methylene Chloride	ND	0.82	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.85	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.56	
156-60-5	trans-1,2-Dichloroethene	ND	0.84	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.84	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.84	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.9	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.54	
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
141-78-6	Ethyl Acetate	**8.1**	3.3	**2.2**	0.92	
110-54-3	n-Hexane	ND	0.84	ND	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_060622_S** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-004

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02451

Initial Pressure (psig): -3.07 Final Pressure (psig): 3.69

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.85	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.54	
107-06-2	1,2-Dichloroethane	ND	0.84	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.82	ND	0.15	
71-43-2	Benzene	ND	0.79	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.79	ND	0.13	
110-82-7	Cyclohexane	ND	1.7	ND	0.51	
78-87-5	1,2-Dichloropropane	ND	0.79	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.84	ND	0.13	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.82	ND	0.23	
142-82-5	n-Heptane	ND	0.84	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.79	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.42	
10061-02-6	trans-1,3-Dichloropropene	ND	0.81	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.82	ND	0.15	
108-88-3	Toluene	ND	0.82	ND	0.22	
591-78-6	2-Hexanone	ND	1.7	ND	0.42	
124-48-1	Dibromochloromethane	ND	0.84	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.82	ND	0.11	
111-65-9	n-Octane	ND	0.84	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.82	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_060622_S** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-004

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02451

Initial Pressure (psig): -3.07 Final Pressure (psig): 3.69

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.82	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.40	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.79	ND	0.19	
95-47-6	o-Xylene	ND	0.82	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
98-82-8	Cumene	ND	0.82	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.84	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.84	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.82	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.82	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.34	
541-73-1	1,3-Dichlorobenzene	ND	0.82	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.82	ND	0.14	
135-98-8	sec-Butylbenzene	ND	0.82	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.82	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.84	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.82	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.82	ND	0.077	
104-51-8	n-Butylbenzene	ND	0.82	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.84	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_060622_D** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-005

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02295

Initial Pressure (psig): -2.24 Final Pressure (psig): 3.64

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.78	**0.45**	0.16	
74-87-3	Chloromethane	ND	0.75	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.76	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.76	ND	0.35	
74-83-9	Bromomethane	ND	0.75	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.28	
107-02-8	Acrolein	ND	1.5	ND	0.64	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.76	**0.19**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.60	
107-13-1	Acrylonitrile	ND	1.5	ND	0.68	
75-35-4	1,1-Dichloroethene	ND	0.79	ND	0.20	
75-09-2	Methylene Chloride	ND	0.76	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.79	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.78	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.4	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	
156-59-2	cis-1,2-Dichloroethene	ND	0.76	ND	0.19	
141-78-6	Ethyl Acetate	**15**	3.1	**4.2**	0.86	
110-54-3	n-Hexane	ND	0.78	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_060622_D** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-005

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02295

Initial Pressure (psig): -2.24 Final Pressure (psig): 3.64

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.79	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.50	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.76	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.74	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.76	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.76	ND	0.21	
142-82-5	n-Heptane	ND	0.78	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.74	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.76	ND	0.14	
108-88-3	Toluene	ND	0.76	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.78	ND	0.091	
106-93-4	1,2-Dibromoethane	ND	0.76	ND	0.10	
111-65-9	n-Octane	ND	0.78	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.76	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_060622_D** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P2202566-005

Test Code: EPA TO-15 Date Collected: 6/9/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 6/9/22
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02295

Initial Pressure (psig): -2.24 Final Pressure (psig): 3.64

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.76	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.76	ND	0.074	
100-42-5	Styrene	ND	0.74	ND	0.17	
95-47-6	o-Xylene	ND	0.76	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.76	ND	0.11	
98-82-8	Cumene	ND	0.76	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.78	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.78	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.76	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.76	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.76	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.76	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.76	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.76	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.78	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.76	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.76	ND	0.072	
104-51-8	n-Butylbenzene	ND	0.76	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.78	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P220613-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P220613-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P2202566

Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P220613-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA

Analyst: Simon Cao Date Analyzed: 6/13/22

Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Project ID: P2202566

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 6/9/22
Analyst: Simon Cao Date(s) Received: 6/9/22
Sample Type: 6.0 L Summa Canister(s) / 6.0 L Silonite Canister(s) Date(s) Analyzed: 6/13/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220613-MB	**114**	**95**	**83**	70-130	
Lab Control Sample	P220613-LCS	**111**	**94**	**85**	70-130	
Duplicate Lab Control Sample	P220613-DLCS	**111**	**94**	**85**	70-130	
DOE-1_060622_S	P2202566-001	**117**	**91**	**81**	70-130	
DOE-2_060622_S	P2202566-002	**116**	**90**	**81**	70-130	
DOE-3_060622_S	P2202566-003	**117**	**91**	**81**	70-130	
DOE-4_060622_S	P2202566-004	**117**	**90**	**81**	70-130	
DOE-4_060622_D	P2202566-005	**115**	**90**	**81**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P220613-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	187	189	**90**	**91**	71-112	1	25	
74-87-3	Chloromethane	206	196	196	**95**	**95**	53-126	0	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	176	177	**85**	**85**	62-121	0	25	
75-01-4	Vinyl Chloride	208	204	203	**98**	**98**	63-123	0	25	
106-99-0	1,3-Butadiene	206	199	199	**97**	**97**	63-135	0	25	
74-83-9	Bromomethane	206	182	184	**88**	**89**	71-112	1	25	
75-00-3	Chloroethane	206	185	186	**90**	**90**	66-117	0	25	
107-02-8	Acrolein	416	382	391	**92**	**94**	71-123	2	25	
75-69-4	Trichlorofluoromethane (CFC 11)	202	180	182	**89**	**90**	71-114	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	402	407	**101**	**102**	61-124	1	25	
107-13-1	Acrylonitrile	402	379	381	**94**	**95**	65-130	1	25	
75-35-4	1,1-Dichloroethene	210	181	184	**86**	**88**	74-114	2	25	
75-09-2	Methylene Chloride	208	181	182	**87**	**88**	75-112	1	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	169	172	**78**	**80**	73-114	3	25	
75-15-0	Carbon Disulfide	414	382	385	**92**	**93**	70-113	1	25	
156-60-5	trans-1,2-Dichloroethene	208	194	197	**93**	**95**	76-119	2	25	
75-34-3	1,1-Dichloroethane	214	192	194	**90**	**91**	70-114	1	25	
1634-04-4	Methyl tert-Butyl Ether	206	138	136	**67**	**66**	72-118	2	25	**L**
108-05-4	Vinyl Acetate	942	1120	1140	**119**	**121**	56-137	2	25	
78-93-3	2-Butanone (MEK)	408	384	390	**94**	**96**	74-121	2	25	
156-59-2	cis-1,2-Dichloroethene	206	191	193	**93**	**94**	73-117	1	25	
141-78-6	Ethyl Acetate	580	583	584	**101**	**101**	59-161	0	25	
110-54-3	n-Hexane	208	204	204	**98**	**98**	55-130	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P220613-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	210	191	193	**91**	**92**	71-114	1	25	
109-99-9	Tetrahydrofuran (THF)	404	380	384	**94**	**95**	73-114	1	25	
107-06-2	1,2-Dichloroethane	210	193	195	**92**	**93**	71-119	1	25	
71-55-6	1,1,1-Trichloroethane	208	186	187	**89**	**90**	73-119	1	25	
71-43-2	Benzene	208	177	178	**85**	**86**	72-113	1	25	
56-23-5	Carbon Tetrachloride	202	175	177	**87**	**88**	67-123	1	25	
110-82-7	Cyclohexane	412	357	357	**87**	**87**	70-119	0	25	
78-87-5	1,2-Dichloropropane	206	187	188	**91**	**91**	70-118	0	25	
75-27-4	Bromodichloromethane	208	195	194	**94**	**93**	74-119	1	25	
79-01-6	Trichloroethene	204	163	164	**80**	**80**	74-115	0	25	
123-91-1	1,4-Dioxane	206	201	203	**98**	**99**	77-124	1	25	
142-82-5	n-Heptane	206	184	184	**89**	**89**	70-119	0	25	
10061-01-5	cis-1,3-Dichloropropene	208	200	202	**96**	**97**	81-126	1	25	
108-10-1	4-Methyl-2-pentanone	412	421	421	**102**	**102**	73-129	0	25	
10061-02-6	trans-1,3-Dichloropropene	200	193	195	**97**	**98**	80-127	1	25	
79-00-5	1,1,2-Trichloroethane	208	182	182	**88**	**88**	78-117	0	25	
108-88-3	Toluene	206	161	162	**78**	**79**	70-118	1	25	
591-78-6	2-Hexanone	406	402	404	**99**	**100**	74-132	1	25	
124-48-1	Dibromochloromethane	210	169	170	**80**	**81**	69-137	1	25	
106-93-4	1,2-Dibromoethane	208	167	168	**80**	**81**	76-128	1	25	
111-65-9	n-Octane	208	174	176	**84**	**85**	68-120	1	25	
127-18-4	Tetrachloroethene	212	144	145	**68**	**68**	63-130	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2202566
Client Project ID: **DOE Perimeter Air / 080153.007.15** ALS Sample ID: P220613-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 6/13/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	206	167	167	**81**	**81**	71-123	0	25	
179601-23-1	m,p-Xylenes	416	341	340	**82**	**82**	67-127	0	25	
75-25-2	Bromoform	210	174	174	**83**	**83**	65-149	0	25	
100-42-5	Styrene	202	168	168	**83**	**83**	76-132	0	25	
95-47-6	o-Xylene	208	170	170	**82**	**82**	69-124	0	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	181	181	**87**	**87**	69-128	0	25	
98-82-8	Cumene	206	164	163	**80**	**79**	69-125	1	25	
103-65-1	n-Propylbenzene	208	170	170	**82**	**82**	70-127	0	25	
622-96-8	4-Ethyltoluene	208	169	166	**81**	**80**	69-127	1	25	
108-67-8	1,3,5-Trimethylbenzene	208	169	170	**81**	**82**	66-129	1	25	
95-63-6	1,2,4-Trimethylbenzene	206	175	176	**85**	**85**	63-142	0	25	
100-44-7	Benzyl Chloride	416	442	451	**106**	**108**	73-145	2	25	
541-73-1	1,3-Dichlorobenzene	208	156	157	**75**	**75**	67-136	0	25	
106-46-7	1,4-Dichlorobenzene	210	152	153	**72**	**73**	63-134	1	25	
135-98-8	sec-Butylbenzene	204	165	165	**81**	**81**	68-130	0	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	157	156	**76**	**76**	60-139	0	25	
95-50-1	1,2-Dichlorobenzene	210	152	153	**72**	**73**	64-139	1	25	
120-82-1	1,2,4-Trichlorobenzene	420	319	328	**76**	**78**	62-154	3	25	
91-20-3	Naphthalene	210	172	177	**82**	**84**	62-156	2	25	
87-68-3	Hexachlorobutadiene	212	147	151	**69**	**71**	55-142	3	25	
104-51-8	n-Butylbenzene	208	175	175	**84**	**84**	70-131	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2202566

Client Project ID: **DOE Perimeter Air / 080153.007.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 06132201.D

Analyst: Simon Cao Date Analyzed: 6/13/22

Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 07:20

Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	133350		7.21		590576		9.27		167277		14.81	
	Upper Limit	186690		7.54		826806		9.60		234188		15.14	
	Lower Limit	80010		6.88		354346		8.94		100366		14.48	
	Client Sample ID												
01	Method Blank	120419		7.19		544123		9.26		152907		14.81	
02	Lab Control Sample	131028		7.23		576645		9.29		163685		14.82	
03	Duplicate Lab Control Sample	132599		7.23		586151		9.29		166047		14.82	
04	DOE-1_060622_S	118518		7.19		532282		9.26		161349		14.81	
05	DOE-2_060622_S	118824		7.19		534447		9.26		162451		14.81	
06	DOE-3_060622_S	117158		7.19		528966		9.26		161838		14.81	
07	DOE-4_060622_S	114667		7.19		516147		9.26		158641		14.81	
08	DOE-4_060622_D	116908		7.19		521051		9.26		160407		14.81	
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132226.D Vial: 12
Acq On : 13 Jun 2022 21:04 Operator: SC
Sample : P2202566-001 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:08:28 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/14/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	118518	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	532282	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	161349	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	287834	14.587	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.72%				
57) Toluene-d8 (SS2)	12.39	98	668844	11.334	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%				
73) Bromofluorobenzene (SS3)	16.79	174	192222	10.159	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.28%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.32	85	39540	1.477	ng		96
4) Chloromethane	3.47	50	5222	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	661	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	109	N.D.			
8) Bromomethane	3.98	94	132	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.24	45	60863	4.467	ng		80
11) Acetonitrile	4.40	41	4584	N.D.			
12) Acrolein	4.49	56	4734	0.554	ng		91
13) Acetone	4.59	58	78377	8.121	ng	#	88
14) Trichlorofluoromethane	4.72	101	17421	0.692	ng		98
15) 2-Propanol (Isopropanol)	4.80	45	36263	0.835	ng		96
16) Acrylonitrile	4.96	53	135	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.29	59	1004	N.D.			
19) Methylene Chloride	5.32	84	2862	N.D.			
20) 3-Chloro-1-propene (Al...	5.36	41	306	N.D.			
21) Trichlorotrifluoroethane	5.54	151	2804	N.D.			
22) Carbon Disulfide	5.56	76	746	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.63	72	7427	0.978	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d			
29) Diisopropyl Ether	7.23	87	264	N.D.			
30) Ethyl Acetate	7.24	61	41158	7.721	ng		97
31) n-Hexane	7.26	57	3564	N.D.			
32) Chloroform	7.32	83	1510	N.D.			
34) Tetrahydrofuran (THF)	7.75	72	181	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.07	62	543	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	21423	No Calib			
40) 1-Butanol	9.18	56	1281	No Calib		#	
41) Benzene	8.86	78	9374	N.D.			
42) Carbon Tetrachloride	9.02	117	4228	N.D.			
43) Cyclohexane	9.18	84	622	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	10544	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132226.D Vial: 12
Acq On : 13 Jun 2022 21:04 Operator: SC
Sample : P2202566-001 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:08:28 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

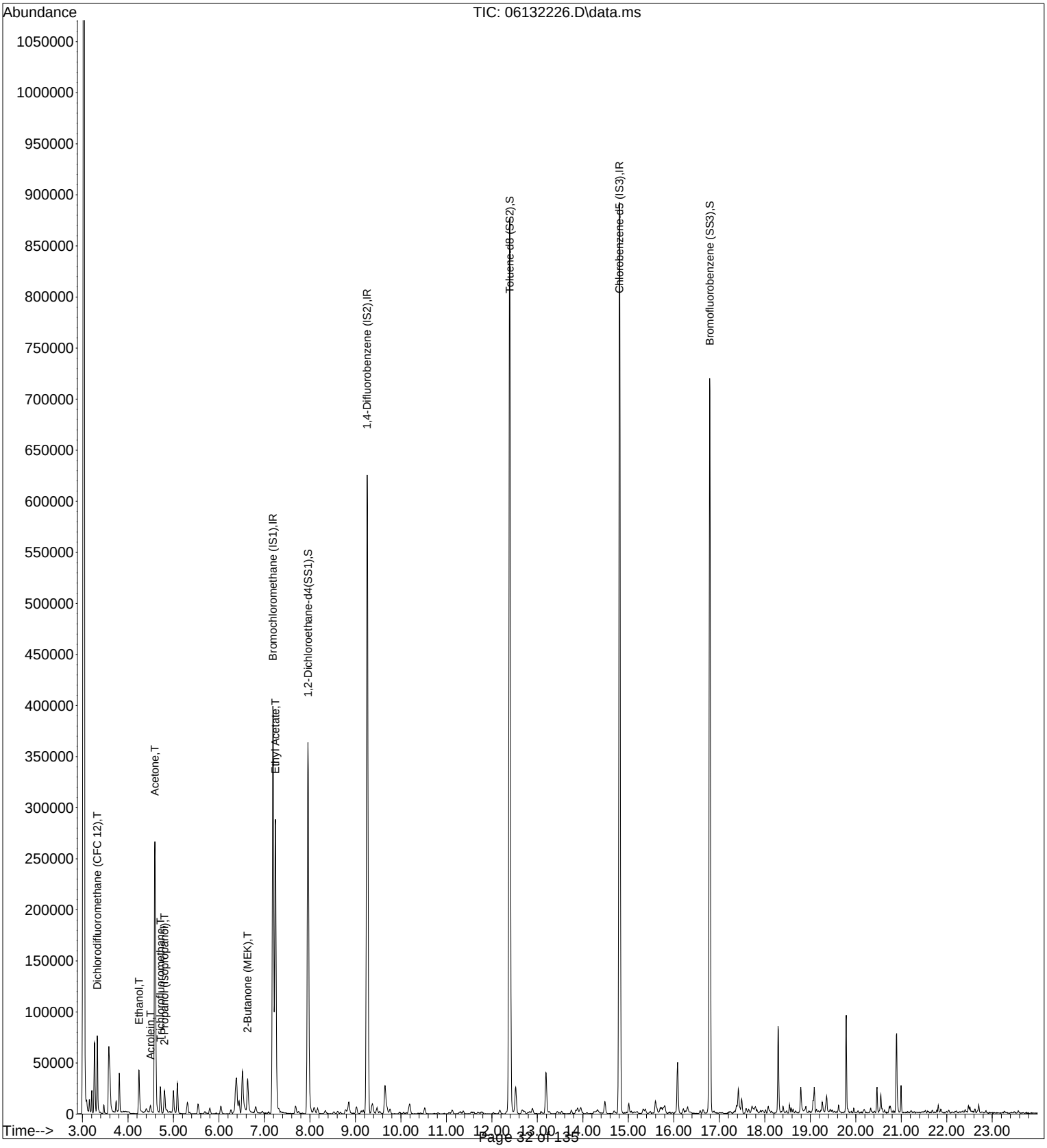
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	1094	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.30	58	371	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	19386	N.D.	
59) 2-Hexanone	12.89	43	6034	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.74	43	4006	N.D.	
63) n-Octane	13.88	57	635	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.37	91	3410	N.D.	
67) m- & p-Xylenes	15.60	91	7947	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	1503	N.D.	
70) o-Xylene	16.21	91	3129	N.D.	
71) n-Nonane	16.58	43	1396	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.80	105	445	N.D.	
75) alpha-Pinene	17.49	93	5469	N.D.	
76) n-Propylbenzene	17.65	91	1132	N.D.	
77) 3-Ethyltoluene	16.80	105	445	No Calib	#
78) 4-Ethyltoluene	17.83	105	1123	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	646	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.42	105	7797	No Calib	#
82) 1,2,4-Trimethylbenzene	18.40	105	2589	N.D.	
83) n-Decane	16.79	58	468	No Calib	#
84) Benzyl Chloride	18.54	91	628	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	667	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	667	N.D.	
87) sec-Butylbenzene	18.71	105	174	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	3299	N.D.	
89) 1,2,3-Trimethylbenzene	18.40	105	2589	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	2975	N.D.	
92) 1,2-Dibromo-3-Chloropr...	19.50	157	175	N.D.	
93) n-Undecane	18.08	58	2657	No Calib	#
94) 1,2,4-Trichlorobenzene	20.82	180	613	N.D.	
95) Naphthalene	20.92	128	3754	N.D.	
96) n-Dodecane	18.80	58	416	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.61	55	319	No Calib	#
99) tert-Butylbenzene	18.41	119	312	N.D.	
100) n-Butylbenzene	19.37	91	1475	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132226.D Vial: 12
Acq On : 13 Jun 2022 21:04 Operator: SC
Sample : P2202566-001 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:08:28 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132226.D Vial: 12
Acq On : 13 Jun 2022 21:04 Operator: SC
Sample : P2202566-001 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:08:28 2022 6/14/22
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

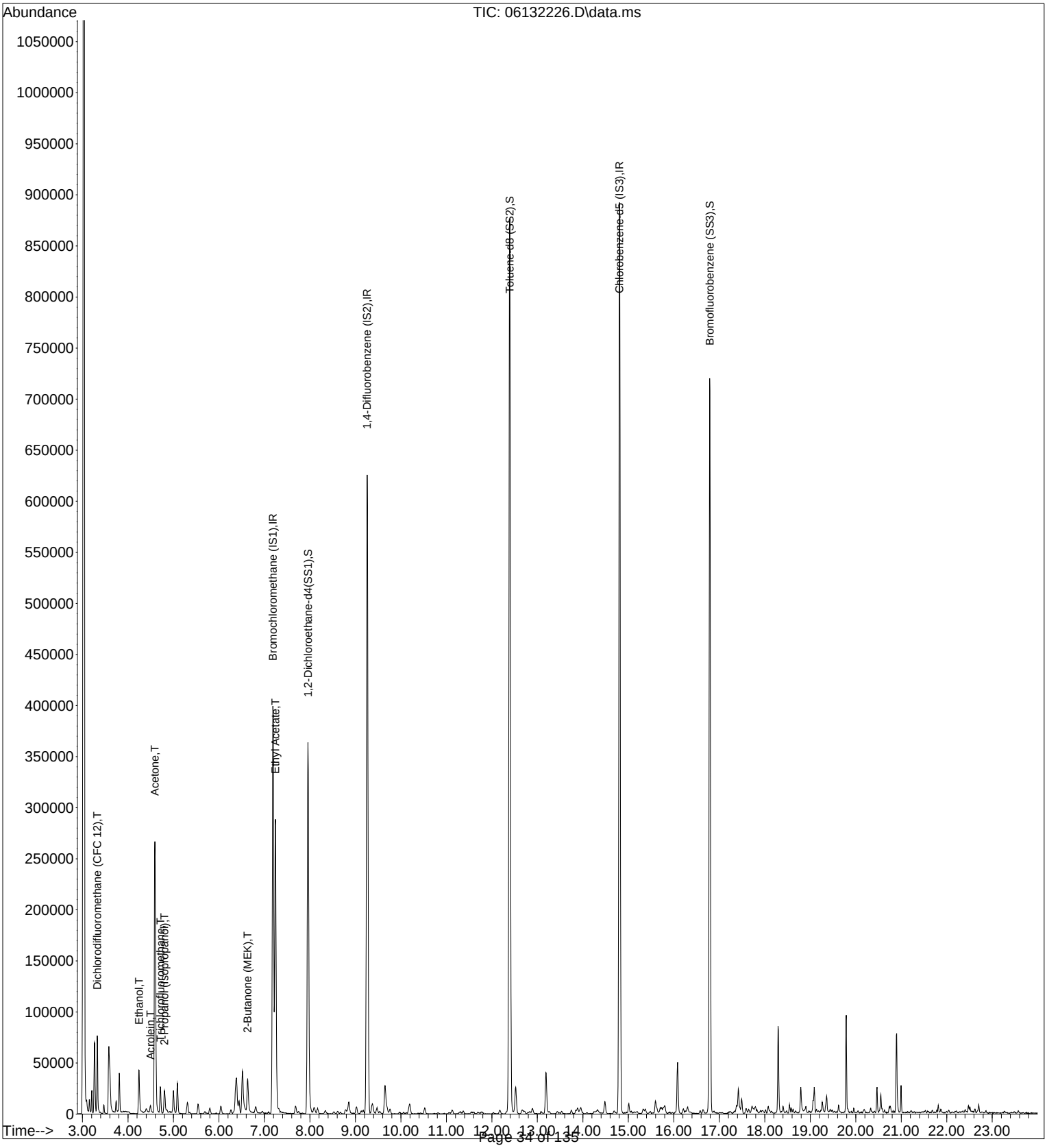
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	118518	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	532282	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	161349	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	287834	14.587	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.72%				
57) Toluene-d8 (SS2)	12.39	98	668844	11.334	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%				
73) Bromofluorobenzene (SS3)	16.79	174	192222	10.159	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.28%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.32	85	39540	1.477	ng		96
10) Ethanol	4.24	45	60863	4.467	ng		80
12) Acrolein	4.49	56	4734	0.554	ng		91
13) Acetone	4.59	58	78377	8.121	ng	#	88
14) Trichlorofluoromethane	4.72	101	17421	0.692	ng		98
15) 2-Propanol (Isopropanol)	4.80	45	36263	0.835	ng		96
27) 2-Butanone (MEK)	6.63	72	7427	0.978	ng		95
30) Ethyl Acetate	7.24	61	41158	7.721	ng		97

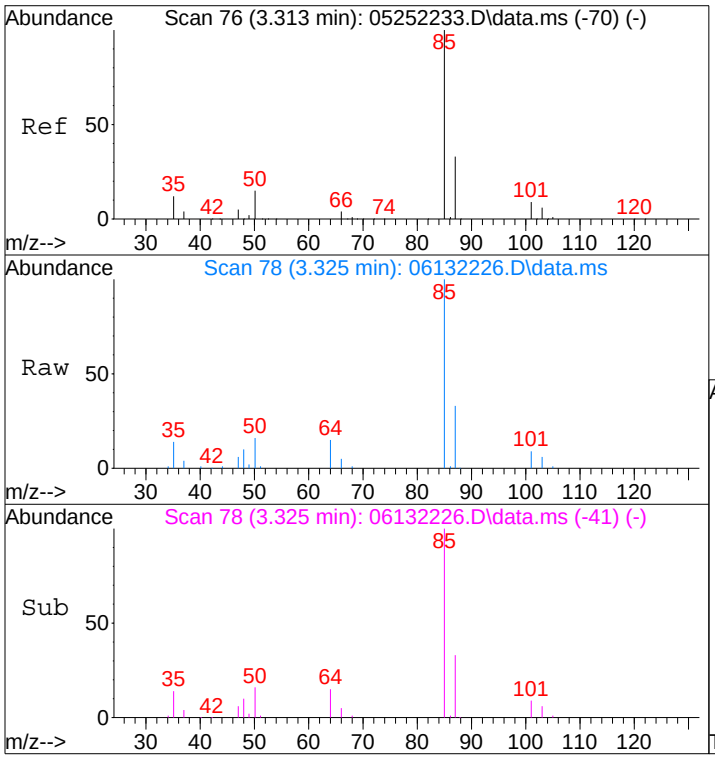
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132226.D Vial: 12
Acq On : 13 Jun 2022 21:04 Operator: SC
Sample : P2202566-001 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:08:28 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

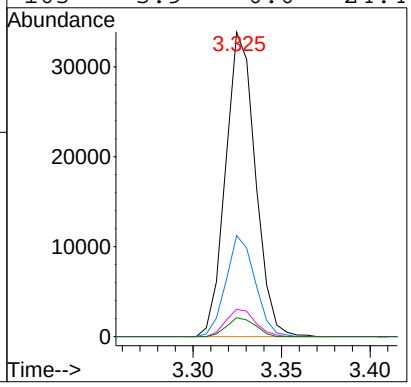


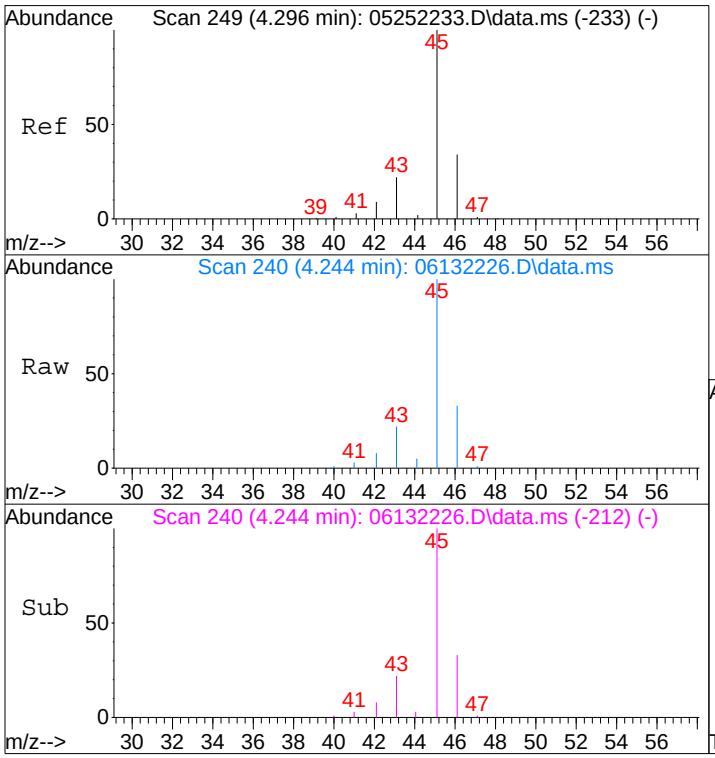


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.48 ng
RT: 3.32 min Scan# 78
Delta R.T. -0.037 min
Lab File: 06132226.D
Acq: 13 Jun 2022 21:04

Tgt Ion: 85 Resp: 39540

Ion	Ratio	Lower	Upper
85	100		
87	32.5	10.3	50.3
101	8.9	0.0	27.6
103	5.9	0.0	24.4

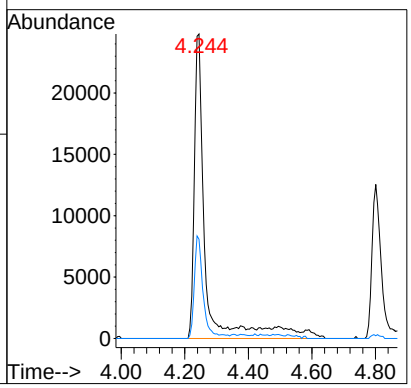


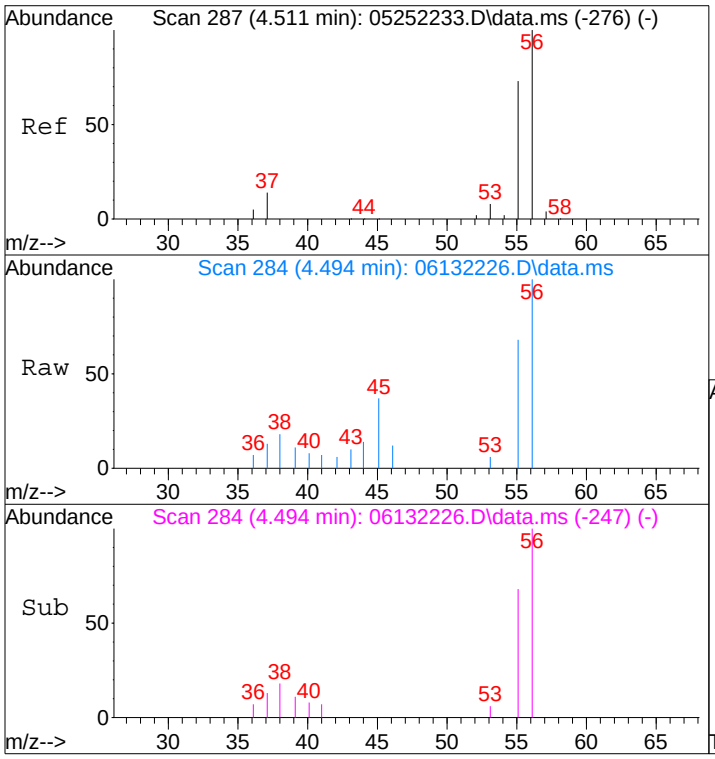


#10
Ethanol
Concen: 4.47 ng
RT: 4.24 min Scan# 240
Delta R.T. -0.091 min
Lab File: 06132226.D
Acq: 13 Jun 2022 21:04

Tgt Ion: 45 Resp: 60863

Ion	Ratio	Lower	Upper
45	100		
46	32.6	3.1	43.1

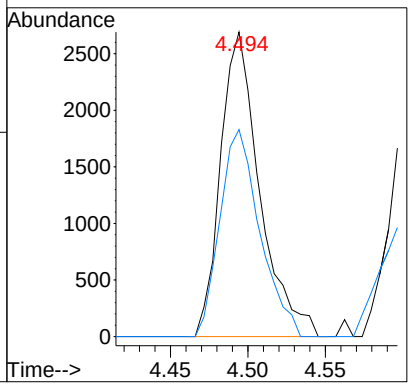


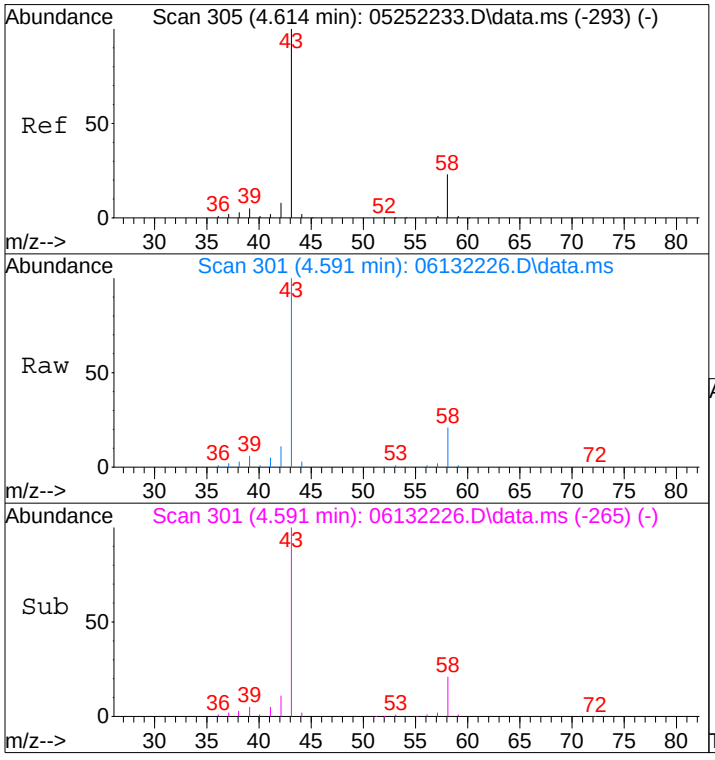


#12
Acrolein
Concen: 0.55 ng
RT: 4.49 min Scan# 284
Delta R.T. -0.040 min
Lab File: 06132226.D
Acq: 13 Jun 2022 21:04

Tgt Ion: 56 Resp: 4734

Ion	Ratio	Lower	Upper
56	100		
55	69.3	56.8	96.8

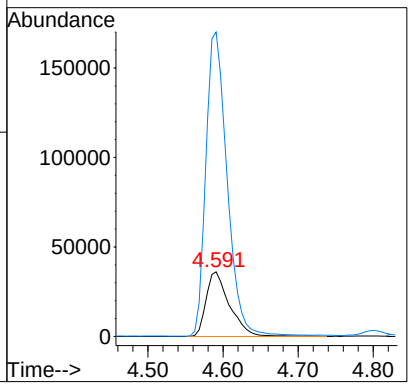


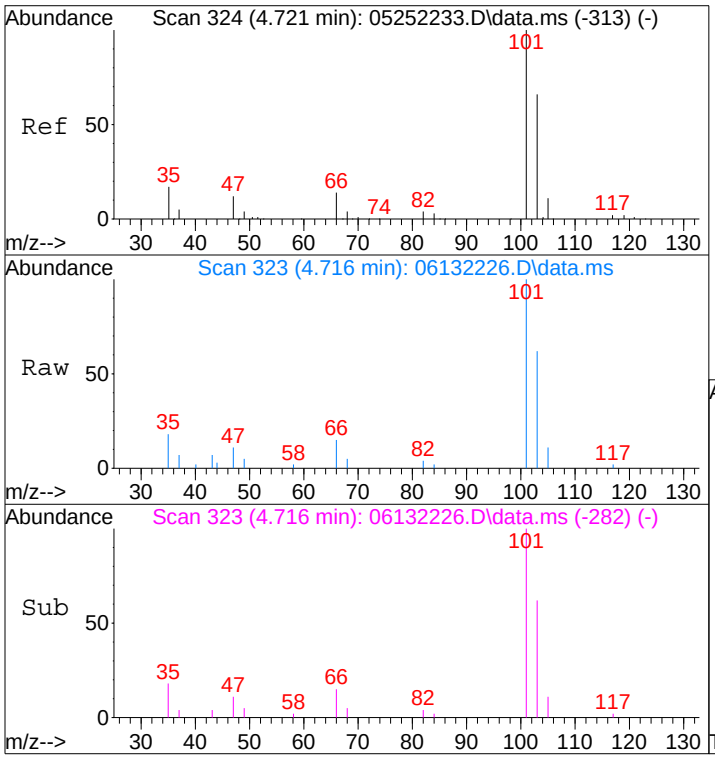


#13
Acetone
Concen: 8.12 ng
RT: 4.59 min Scan# 301
Delta R.T. -0.045 min
Lab File: 06132226.D
Acq: 13 Jun 2022 21:04

Tgt Ion: 58 Resp: 78377

Ion	Ratio	Lower	Upper
58	100		
43	427.9	428.3	488.3#

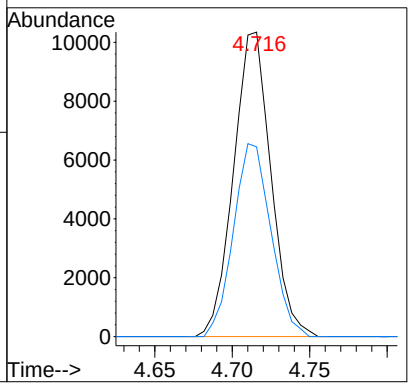


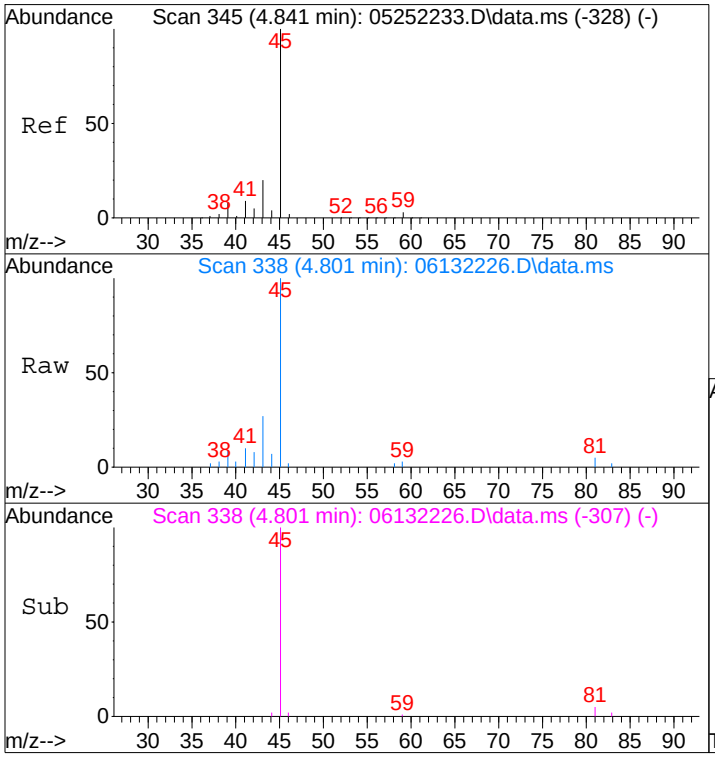


#14
Trichlorofluoromethane
Concen: 0.69 ng
RT: 4.72 min Scan# 323
Delta R.T. -0.017 min
Lab File: 06132226.D
Acq: 13 Jun 2022 21:04

Tgt Ion:101 Resp: 17421

Ion	Ratio	Lower	Upper
101	100		
103	63.5	41.6	81.6

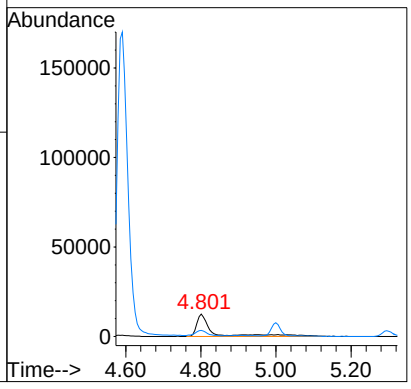


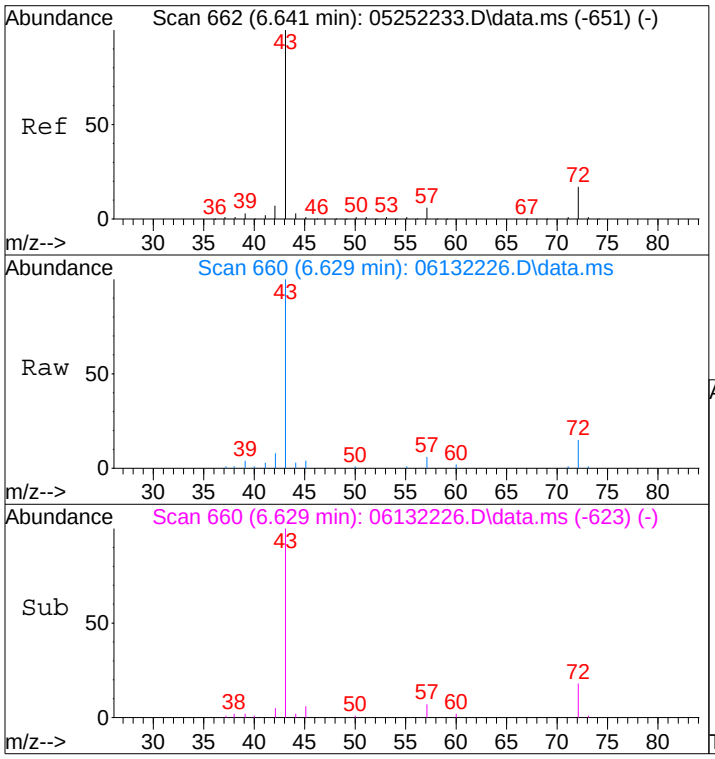


#15
2-Propanol (Isopropanol)
Concen: 0.83 ng
RT: 4.80 min Scan# 338
Delta R.T. -0.074 min
Lab File: 06132226.D
Acq: 13 Jun 2022 21:04

Tgt Ion: 45 Resp: 36263

Ion	Ratio	Lower	Upper
45	100		
43	21.3	3.4	43.4

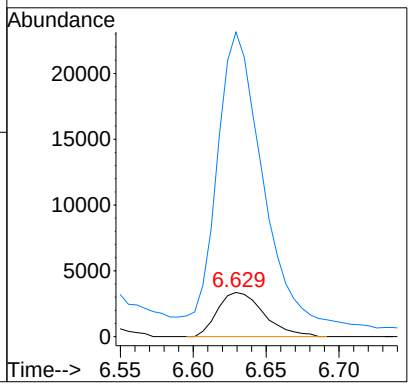


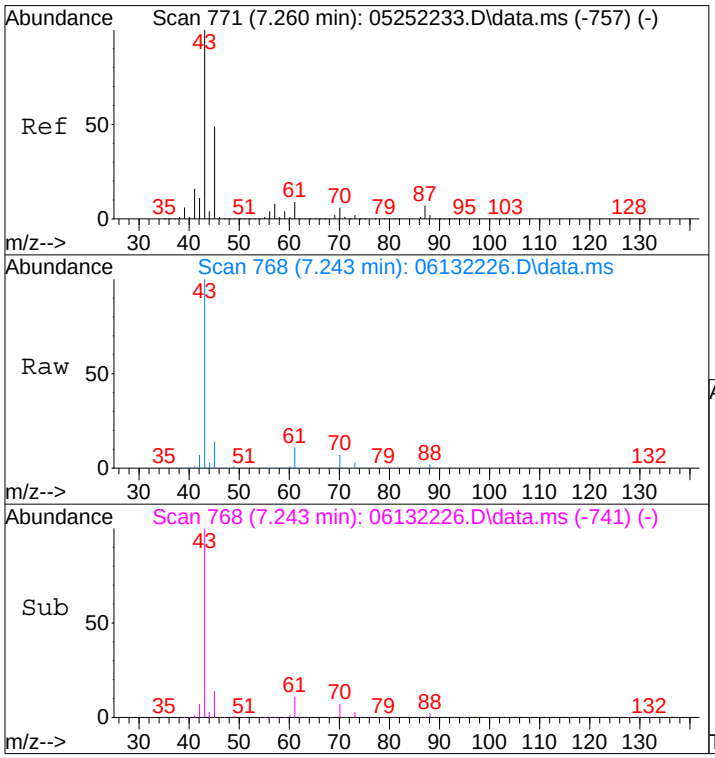


#27
2-Butanone (MEK)
Concen: 0.98 ng
RT: 6.63 min Scan# 660
Delta R.T. -0.040 min
Lab File: 06132226.D
Acq: 13 Jun 2022 21:04

Tgt Ion: 72 Resp: 7427

Ion	Ratio	Lower	Upper
72	100		
43	691.3	688.2	728.2

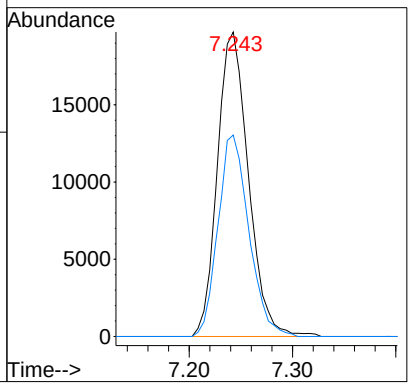




#30
Ethyl Acetate
Concen: 7.72 ng
RT: 7.24 min Scan# 768
Delta R.T. -0.045 min
Lab File: 06132226.D
Acq: 13 Jun 2022 21:04

Tgt Ion: 61 Resp: 41158

Ion	Ratio	Lower	Upper
61	100		
70	65.9	48.3	88.3



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132227.D Vial: 13
Acq On : 13 Jun 2022 21:36 Operator: SC
Sample : P2202566-002 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:11:19 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/14/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	118824	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	534447	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	162451	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	286714	14.493	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.92%				
57) Toluene-d8 (SS2)	12.39	98	670972	11.293	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.32%				
73) Bromofluorobenzene (SS3)	16.79	174	194008	10.184	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.44%				
Target Compounds							Qvalue
2) Propene	3.26	42	7671	N.D.			
3) Dichlorodifluoromethan...	3.32	85	36050	1.343	ng		96
4) Chloromethane	3.47	50	5105	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	682	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.24	45	56213	4.115	ng		79
11) Acetonitrile	4.40	41	3391	N.D.			
12) Acrolein	4.49	56	1502	N.D.			
13) Acetone	4.58	58	101263	10.465	ng		97
14) Trichlorofluoromethane	4.71	101	16427	0.650	ng		96
15) 2-Propanol (Isopropanol)	4.80	45	30898	0.709	ng		96
16) Acrylonitrile	4.99	53	65	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.29	59	612	N.D.			
19) Methylene Chloride	5.31	84	2592	N.D.			
20) 3-Chloro-1-propene (Al...	5.36	41	303	N.D.			
21) Trichlorotrifluoroethane	5.54	151	2386	N.D.			
22) Carbon Disulfide	5.57	76	1538	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.63	72	4145	0.544	ng	#	85
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d			
29) Diisopropyl Ether	7.24	87	305	N.D.			
30) Ethyl Acetate	7.24	61	43667	8.171	ng		96
31) n-Hexane	7.26	57	3346	N.D.			
32) Chloroform	7.31	83	1461	N.D.			
34) Tetrahydrofuran (THF)	7.74	72	108	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.07	62	462	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	21274	No Calib			
40) 1-Butanol	9.17	56	1264	No Calib		#	
41) Benzene	8.86	78	9662	N.D.			
42) Carbon Tetrachloride	9.02	117	4061	N.D.			
43) Cyclohexane	9.18	84	703	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.19	57	11067	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132227.D Vial: 13
Acq On : 13 Jun 2022 21:36 Operator: SC
Sample : P2202566-002 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:11:19 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

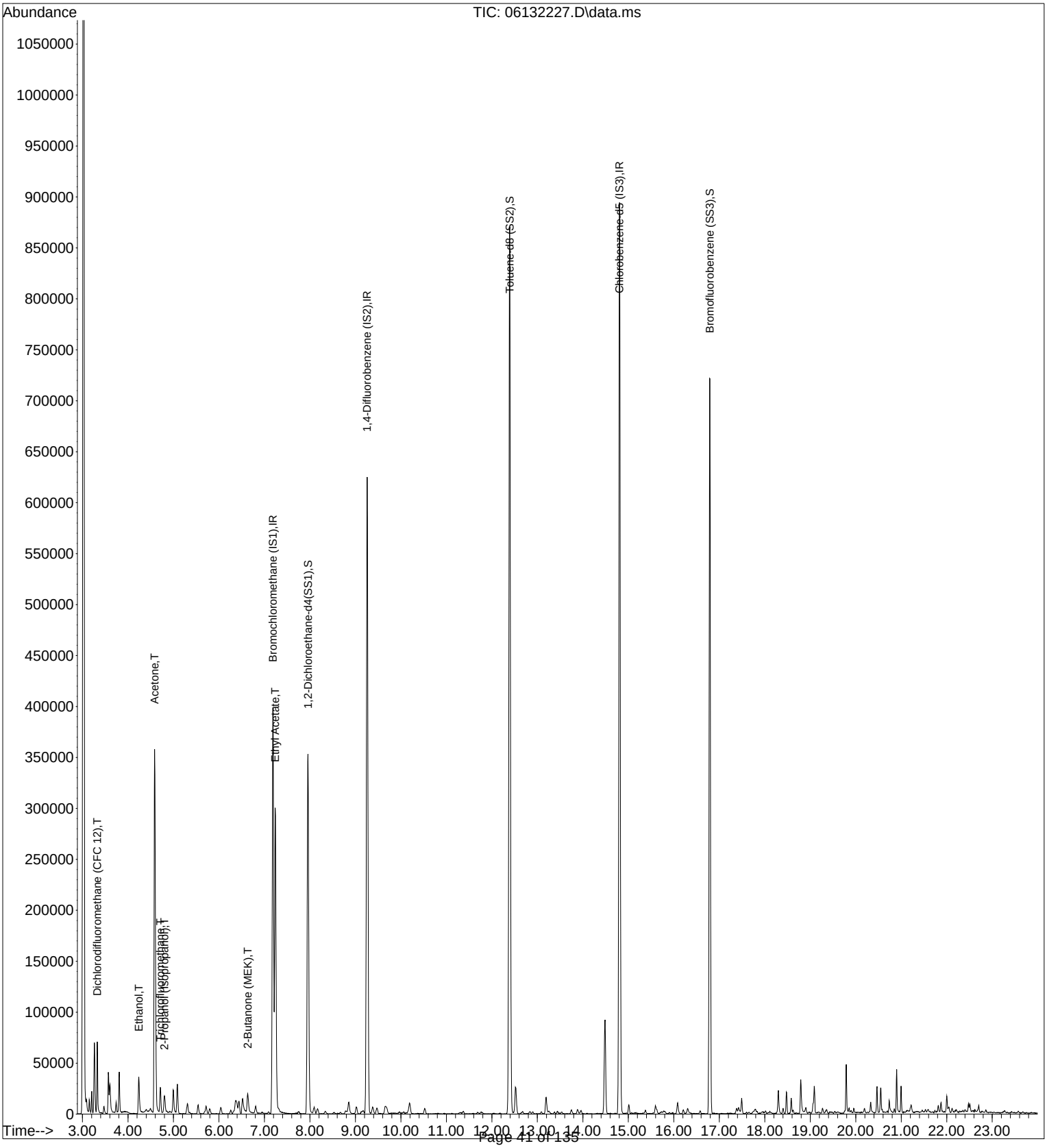
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	1080	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.30	58	118	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	19829	N.D.	
59) 2-Hexanone	12.89	43	2191	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.74	43	4426	N.D.	
63) n-Octane	13.89	57	628	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.37	91	3252	N.D.	
67) m- & p-Xylenes	15.60	91	7600	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.08	104	976	N.D.	
70) o-Xylene	16.21	91	3069	N.D.	
71) n-Nonane	16.58	43	1967	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	329	N.D.	
75) alpha-Pinene	17.49	93	5815	N.D.	
76) n-Propylbenzene	17.66	91	1013	N.D.	
77) 3-Ethyltoluene	16.79	105	329	No Calib	#
78) 4-Ethyltoluene	17.83	105	916	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	557	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.42	105	1904	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	2291	N.D.	
83) n-Decane	16.79	58	339	No Calib	#
84) Benzyl Chloride	18.41	91	112	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	393	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	393	N.D.	
87) sec-Butylbenzene	18.88	105	653	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	3007	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	2291	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	2750	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.07	58	264	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	713	N.D.	
96) n-Dodecane	18.79	58	524	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.78	55	1456	No Calib	#
99) tert-Butylbenzene	18.41	119	119	N.D.	
100) n-Butylbenzene	19.36	91	583	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132227.D Vial: 13
Acq On : 13 Jun 2022 21:36 Operator: SC
Sample : P2202566-002 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:11:19 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132227.D Vial: 13
Acq On : 13 Jun 2022 21:36 Operator: SC
Sample : P2202566-002 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:11:19 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/14/22

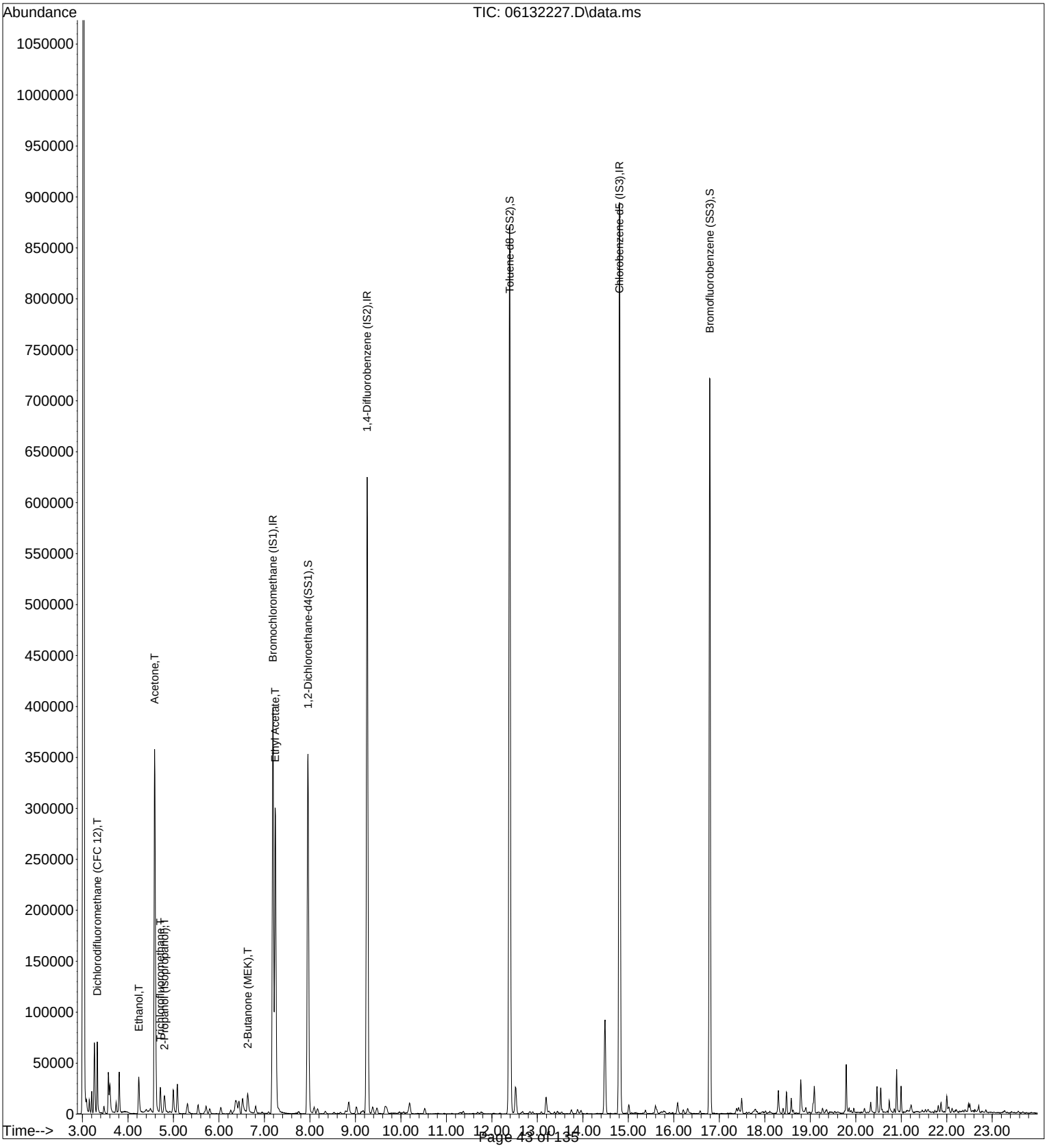
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	118824	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	534447	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	162451	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	286714	14.493	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.92%				
57) Toluene-d8 (SS2)	12.39	98	670972	11.293	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.32%				
73) Bromofluorobenzene (SS3)	16.79	174	194008	10.184	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.44%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.32	85	36050	1.343	ng		96
10) Ethanol	4.24	45	56213	4.115	ng		79
13) Acetone	4.58	58	101263	10.465	ng		97
14) Trichlorofluoromethane	4.71	101	16427	0.650	ng		96
15) 2-Propanol (Isopropanol)	4.80	45	30898	0.709	ng		96
27) 2-Butanone (MEK)	6.63	72	4145	0.544	ng	#	85
30) Ethyl Acetate	7.24	61	43667	8.171	ng		96

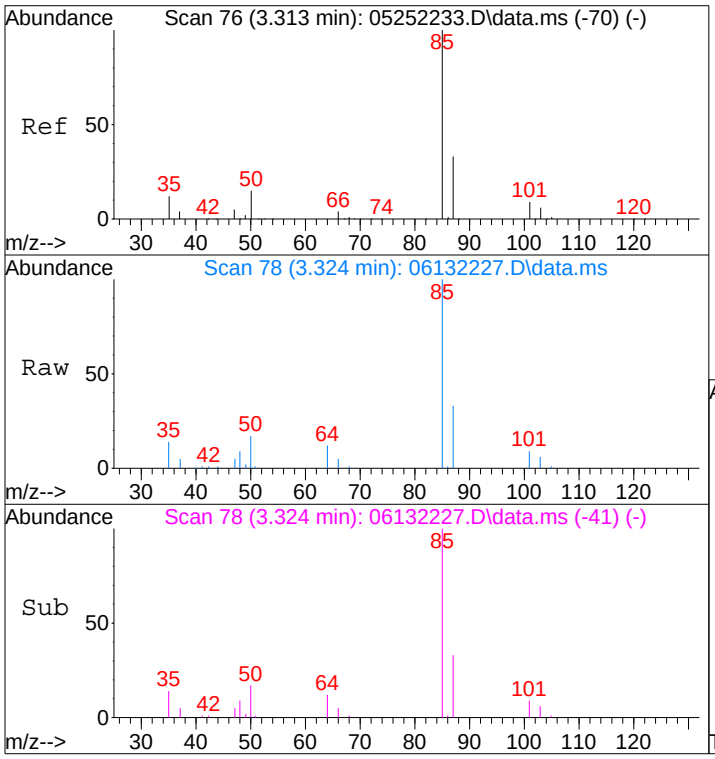
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132227.D Vial: 13
Acq On : 13 Jun 2022 21:36 Operator: SC
Sample : P2202566-002 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:11:19 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

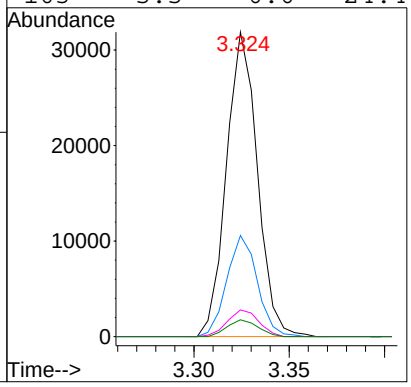


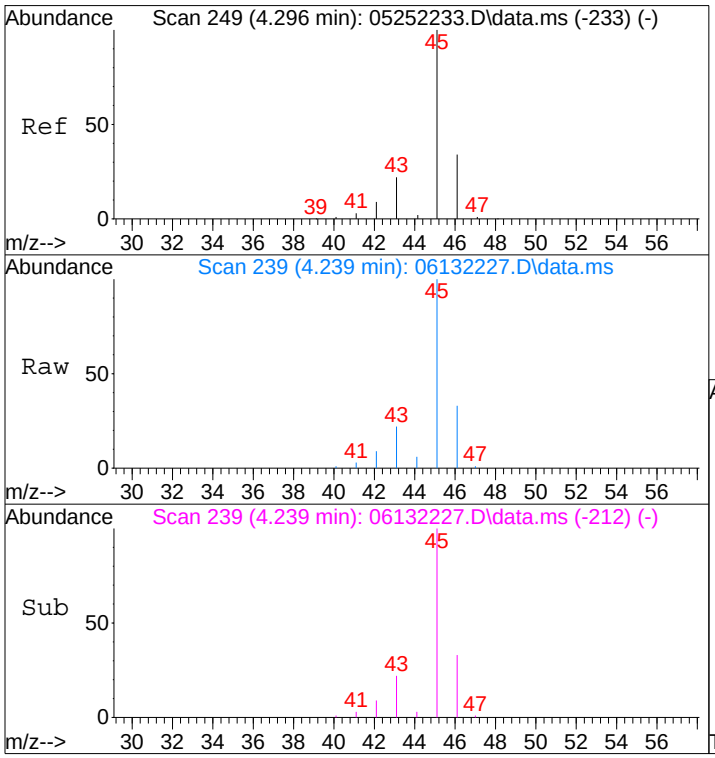


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.34 ng
RT: 3.32 min Scan# 78
Delta R.T. -0.038 min
Lab File: 06132227.D
Acq: 13 Jun 2022 21:36

Tgt Ion: 85 Resp: 36050

Ion	Ratio	Lower	Upper
85	100		
87	32.7	10.3	50.3
101	8.9	0.0	27.6
103	5.5	0.0	24.4

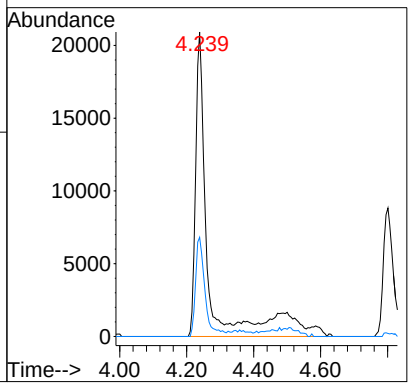


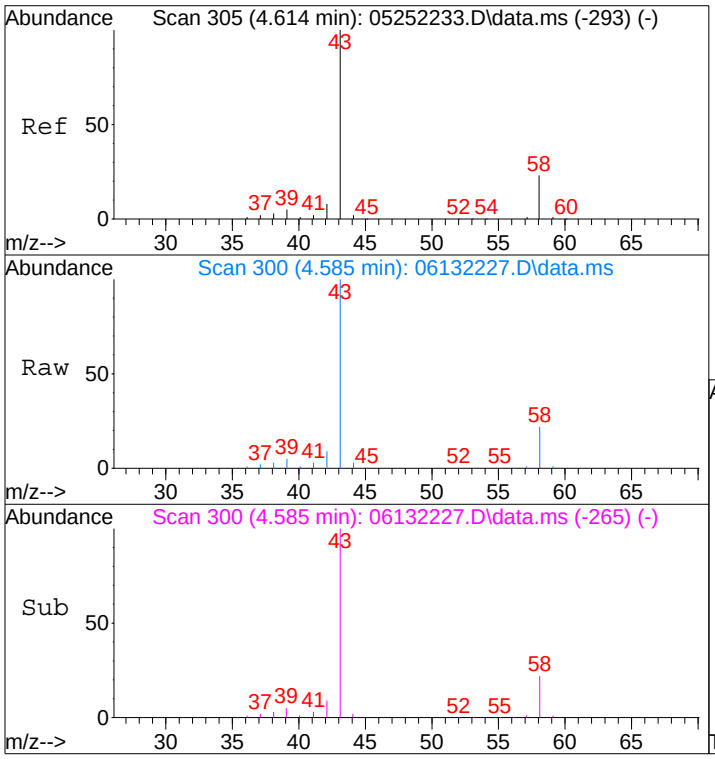


#10
Ethanol
Concen: 4.12 ng
RT: 4.24 min Scan# 239
Delta R.T. -0.097 min
Lab File: 06132227.D
Acq: 13 Jun 2022 21:36

Tgt Ion: 45 Resp: 56213

Ion	Ratio	Lower	Upper
45	100		
46	33.1	3.1	43.1

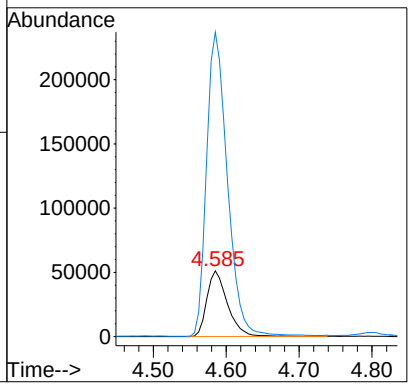


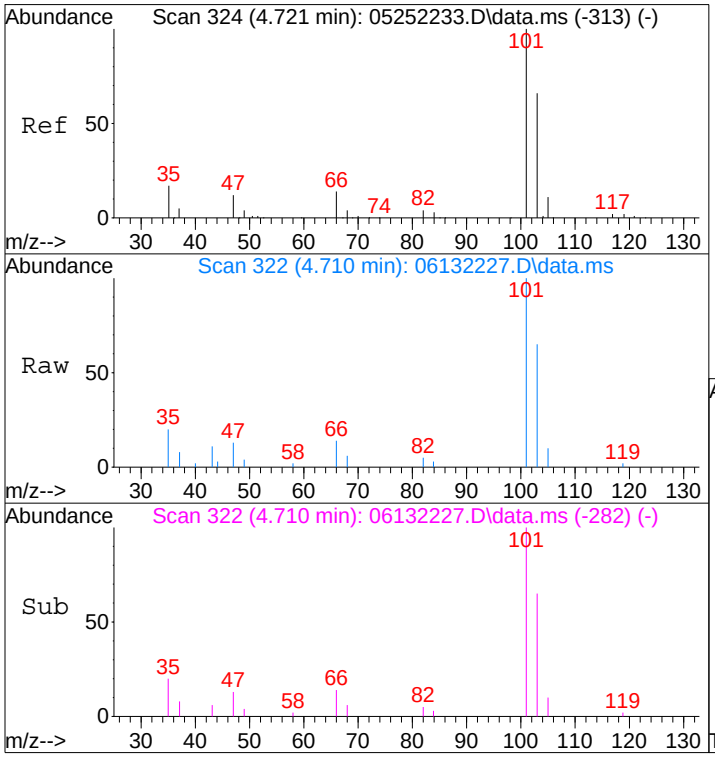


#13
Acetone
Concen: 10.47 ng
RT: 4.58 min Scan# 300
Delta R.T. -0.051 min
Lab File: 06132227.D
Acq: 13 Jun 2022 21:36

Tgt Ion: 58 Resp: 101263

Ion	Ratio	Lower	Upper
58	100		
43	465.1	428.3	488.3

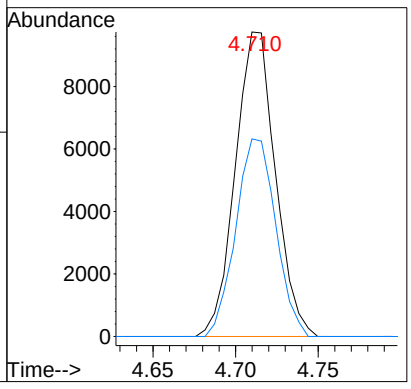


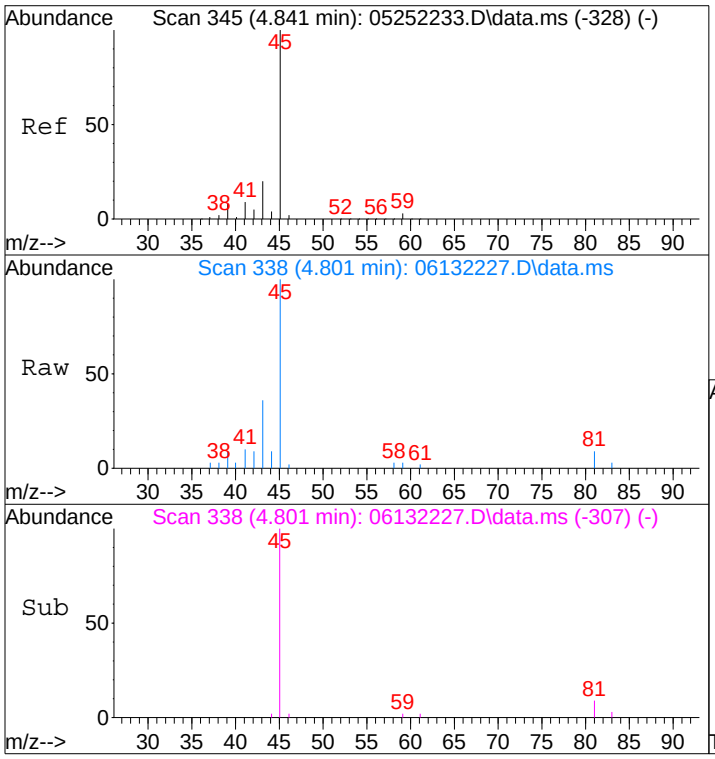


#14
Trichlorofluoromethane
Concen: 0.65 ng
RT: 4.71 min Scan# 322
Delta R.T. -0.023 min
Lab File: 06132227.D
Acq: 13 Jun 2022 21:36

Tgt Ion:101 Resp: 16427

Ion	Ratio	Lower	Upper
101	100		
103	64.8	41.6	81.6

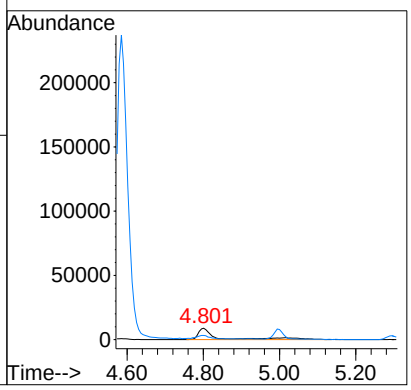


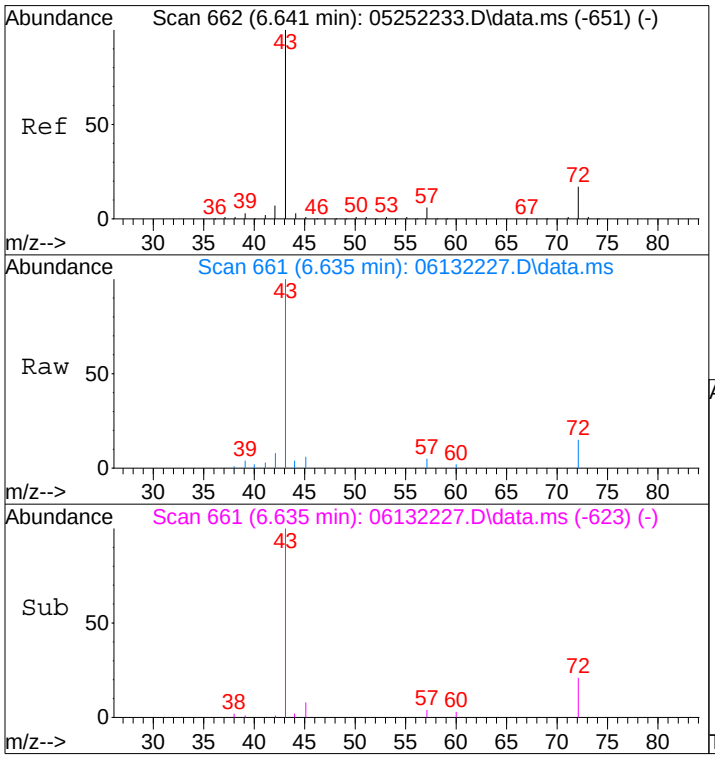


#15
2-Propanol (Isopropanol)
Concen: 0.71 ng
RT: 4.80 min Scan# 338
Delta R.T. -0.074 min
Lab File: 06132227.D
Acq: 13 Jun 2022 21:36

Tgt Ion: 45 Resp: 30898

Ion	Ratio	Lower	Upper
45	100		
43	25.3	3.4	43.4

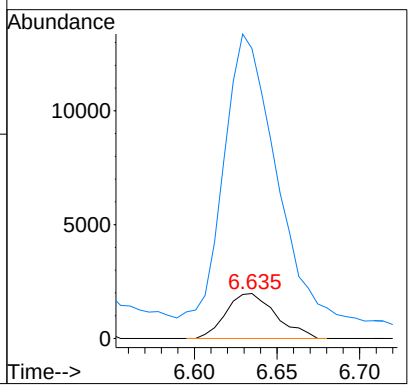


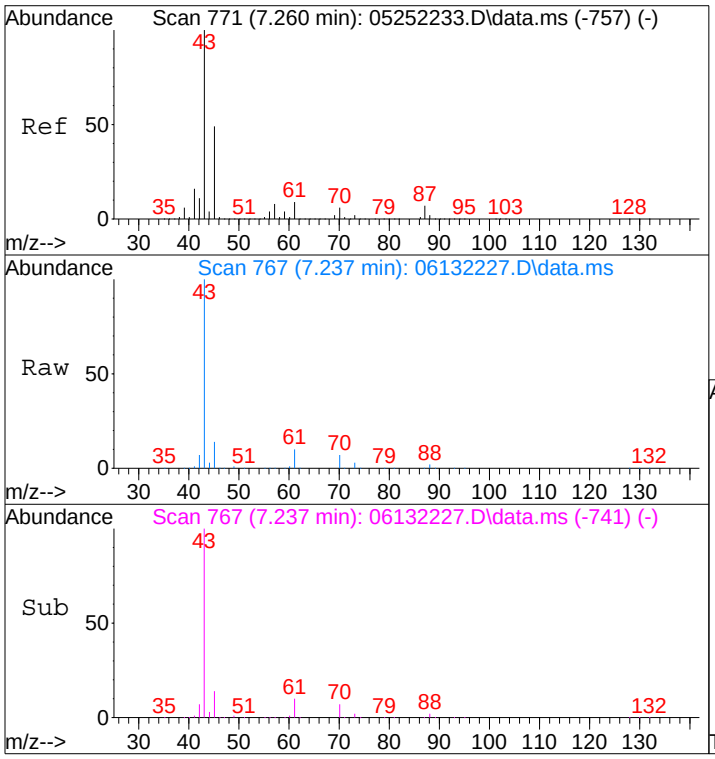


#27
2-Butanone (MEK)
Concen: 0.54 ng
RT: 6.63 min Scan# 661
Delta R.T. -0.034 min
Lab File: 06132227.D
Acq: 13 Jun 2022 21:36

Tgt Ion: 72 Resp: 4145

Ion	Ratio	Lower	Upper
72	100		
43	759.4	688.2	728.2#

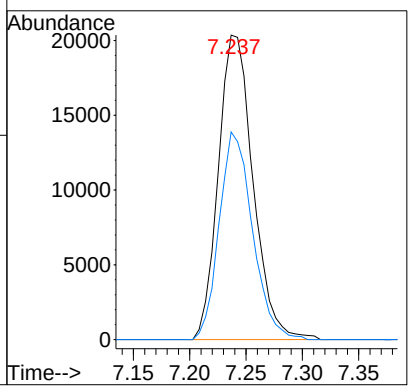




#30
Ethyl Acetate
Concen: 8.17 ng
RT: 7.24 min Scan# 767
Delta R.T. -0.051 min
Lab File: 06132227.D
Acq: 13 Jun 2022 21:36

Tgt Ion: 61 Resp: 43667

Ion	Ratio	Lower	Upper
61	100		
70	65.4	48.3	88.3



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132228.D Vial: 14
Acq On : 13 Jun 2022 22:09 Operator: SC
Sample : P2202566-003 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:20:41 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 6/14/22
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	117158	12.500	ng	-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	528966	12.500	ng	-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	161838	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	285179	14.620	ng	-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.96%			
57) Toluene-d8 (SS2)	12.39	98	670509	11.328	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%			
73) Bromofluorobenzene (SS3)	16.79	174	192677	10.152	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.20%			
Target Compounds						Qvalue
2) Propene	3.26	42	7735	N.D.		
3) Dichlorodifluoromethan...	3.32	85	41001	1.549	ng	96
4) Chloromethane	3.47	50	5233	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	728	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	3.98	94	180	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.24	45	62785	4.662	ng	79
11) Acetonitrile	4.40	41	6096	N.D.		
12) Acrolein	4.49	56	1457	N.D.		
13) Acetone	4.59	58	64082	6.717	ng	93
14) Trichlorofluoromethane	4.71	101	18001	0.723	ng	95
15) 2-Propanol (Isopropanol)	4.80	45	29598	0.689	ng	94
16) Acrylonitrile	4.99	53	113	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.31	59	628	N.D.		
19) Methylene Chloride	5.31	84	2933	N.D.		
20) 3-Chloro-1-propene (Al...	5.36	41	424	N.D.		
21) Trichlorotrifluoroethane	5.54	151	2891	N.D.		
22) Carbon Disulfide	5.56	76	14182	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.63	72	5368	0.715	ng	99
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d		
29) Diisopropyl Ether	7.24	87	113	N.D.		
30) Ethyl Acetate	7.24	61	21521	4.084	ng	96
31) n-Hexane	7.25	57	3472	N.D.		
32) Chloroform	7.32	83	1638	N.D.		
34) Tetrahydrofuran (THF)	7.75	72	125	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.07	62	590	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	21871	No Calib		
40) 1-Butanol	9.17	56	1273	No Calib	#	
41) Benzene	8.86	78	9680	N.D.		
42) Carbon Tetrachloride	9.03	117	4765	N.D.		
43) Cyclohexane	9.17	84	881	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	10.11	88	735	N.D.		
49) 2,2,4-Trimethylpentane...	10.19	57	11355	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132228.D Vial: 14
Acq On : 13 Jun 2022 22:09 Operator: SC
Sample : P2202566-003 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:20:41 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

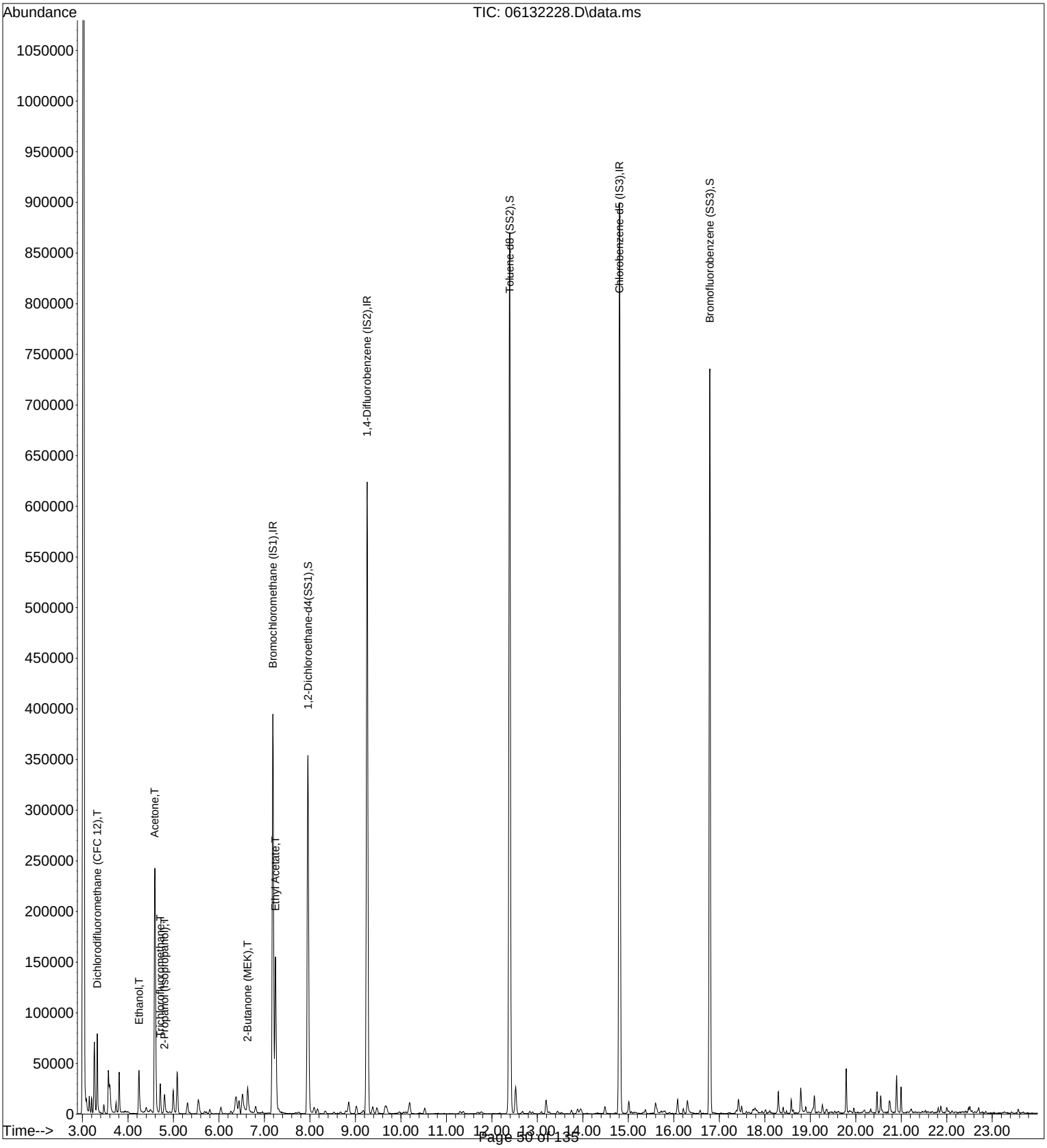
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	1114	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.30	58	472	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	18907	N.D.	
59) 2-Hexanone	12.90	43	2101	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.75	43	4199	N.D.	
63) n-Octane	13.88	57	726	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.38	91	3529	N.D.	
67) m- & p-Xylenes	15.60	91	8269	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	1003	N.D.	
70) o-Xylene	16.21	91	3445	N.D.	
71) n-Nonane	16.58	43	2513	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	400	N.D.	
75) alpha-Pinene	17.49	93	2872	N.D.	
76) n-Propylbenzene	17.65	91	971	N.D.	
77) 3-Ethyltoluene	16.79	105	400	No Calib	#
78) 4-Ethyltoluene	17.83	105	1131	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	551	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.42	105	5320	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	2661	N.D.	
83) n-Decane	16.79	58	279	No Calib	#
84) Benzyl Chloride	18.41	91	189	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	517	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	517	N.D.	
87) sec-Butylbenzene	18.88	105	755	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	3043	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	2661	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	1687	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.08	58	488	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	1189	N.D.	
96) n-Dodecane	18.79	58	329	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.77	55	1235	No Calib	#
99) tert-Butylbenzene	18.41	119	277	N.D.	
100) n-Butylbenzene	19.37	91	711	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132228.D Vial: 14
Acq On : 13 Jun 2022 22:09 Operator: SC
Sample : P2202566-003 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:20:41 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132228.D Vial: 14
Acq On : 13 Jun 2022 22:09 Operator: SC
Sample : P2202566-003 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:20:41 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/14/22

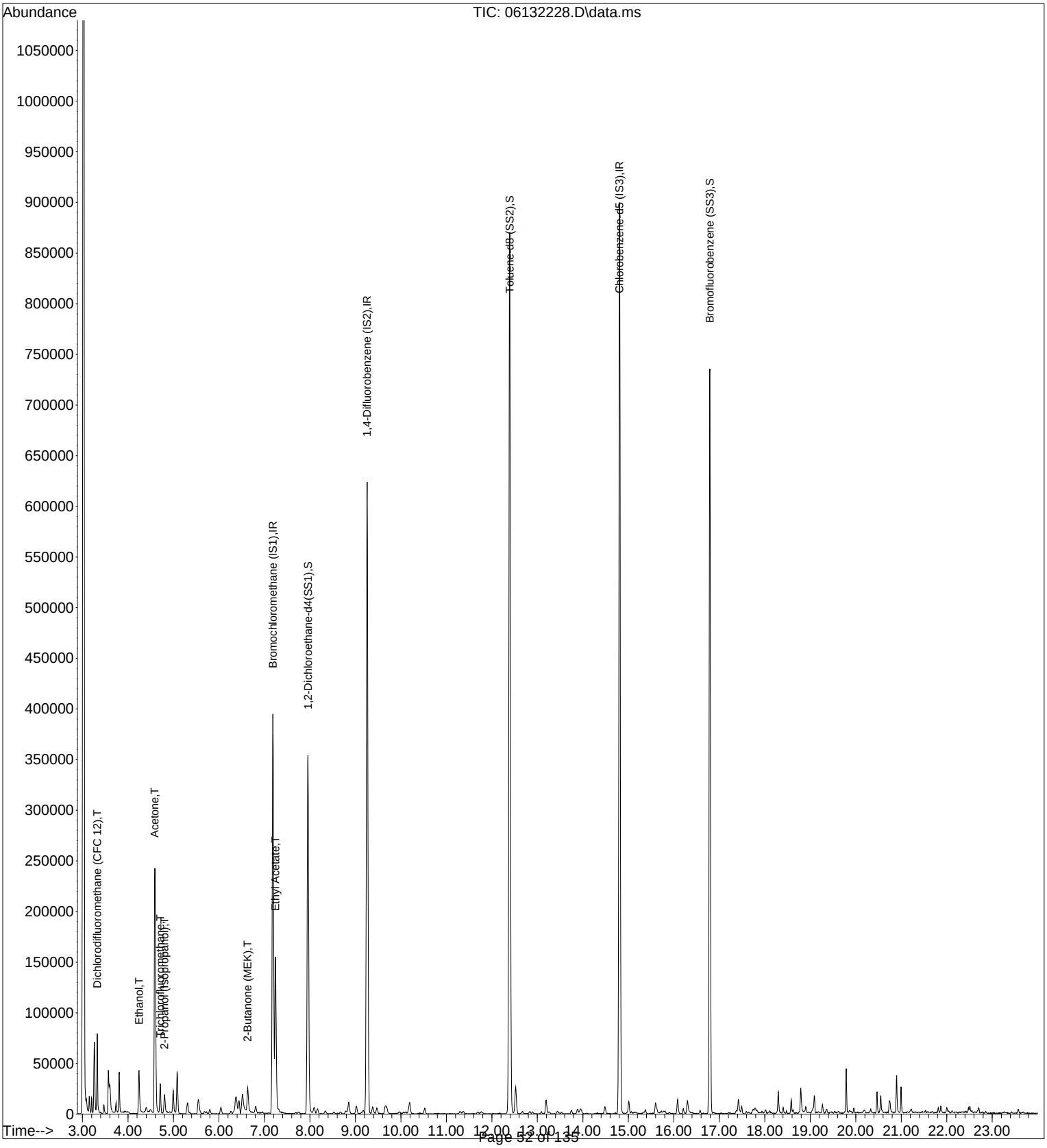
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	117158	12.500	ng	-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	528966	12.500	ng	-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	161838	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	285179	14.620	ng	-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.96%			
57) Toluene-d8 (SS2)	12.39	98	670509	11.328	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%			
73) Bromofluorobenzene (SS3)	16.79	174	192677	10.152	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.20%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.32	85	41001	1.549	ng	96
10) Ethanol	4.24	45	62785	4.662	ng	79
13) Acetone	4.59	58	64082	6.717	ng	93
14) Trichlorofluoromethane	4.71	101	18001	0.723	ng	95
15) 2-Propanol (Isopropanol)	4.80	45	29598	0.689	ng	94
27) 2-Butanone (MEK)	6.63	72	5368	0.715	ng	99
30) Ethyl Acetate	7.24	61	21521	4.084	ng	96

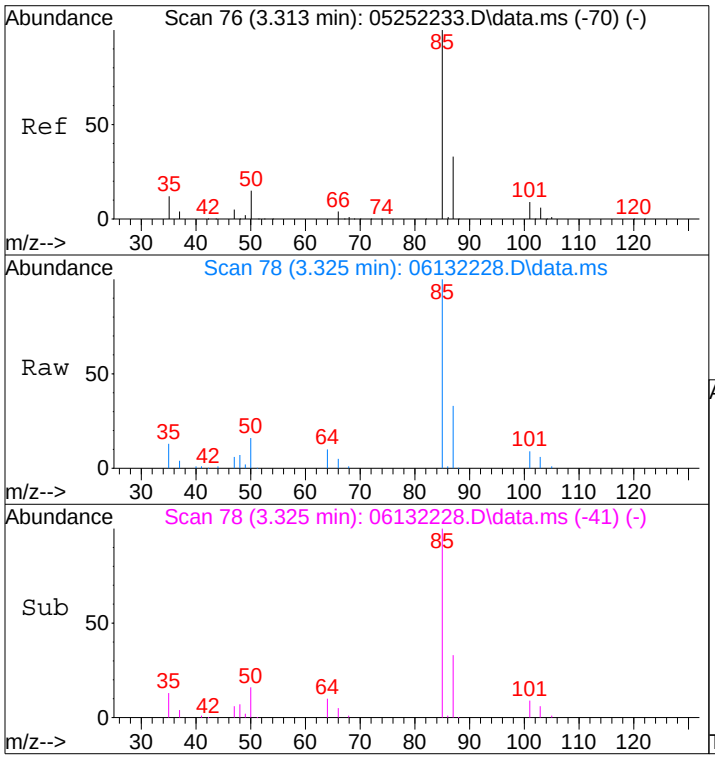
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132228.D Vial: 14
Acq On : 13 Jun 2022 22:09 Operator: SC
Sample : P2202566-003 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:20:41 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

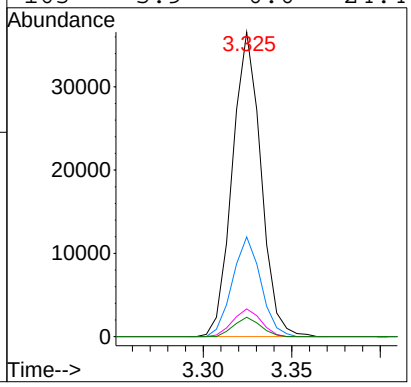


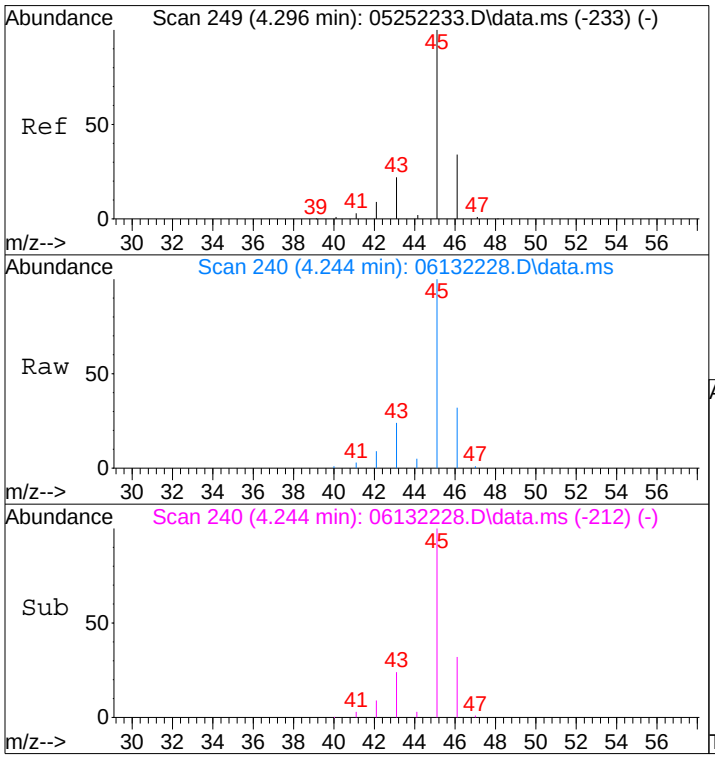


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.55 ng
RT: 3.32 min Scan# 78
Delta R.T. -0.038 min
Lab File: 06132228.D
Acq: 13 Jun 2022 22:09

Tgt Ion: 85 Resp: 41001

Ion	Ratio	Lower	Upper
85	100		
87	32.6	10.3	50.3
101	9.0	0.0	27.6
103	5.9	0.0	24.4

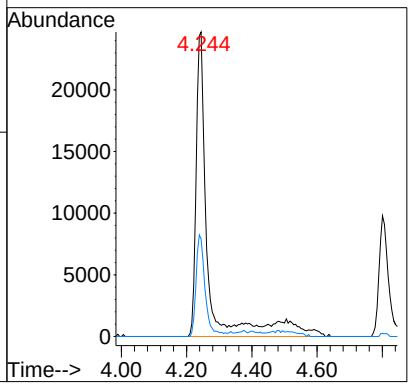


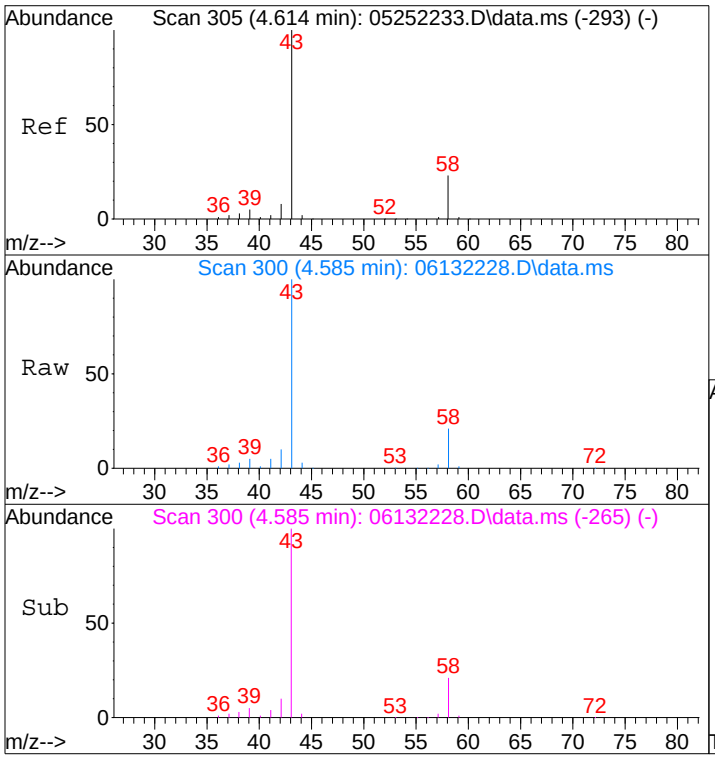


#10
Ethanol
Concen: 4.66 ng
RT: 4.24 min Scan# 240
Delta R.T. -0.091 min
Lab File: 06132228.D
Acq: 13 Jun 2022 22:09

Tgt Ion: 45 Resp: 62785

Ion	Ratio	Lower	Upper
45	100		
46	33.4	3.1	43.1

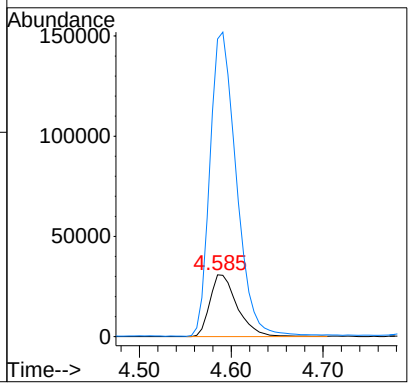


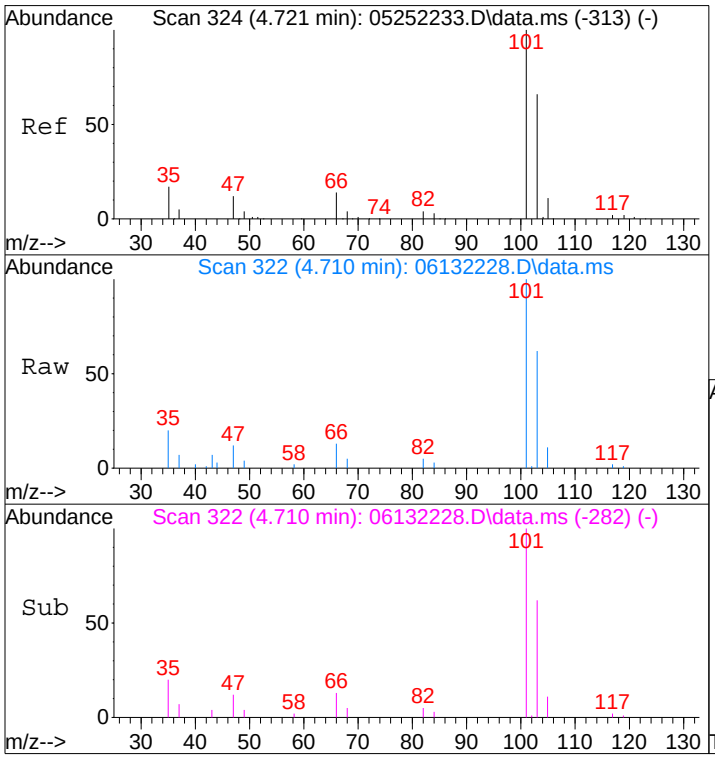


#13
Acetone
Concen: 6.72 ng
RT: 4.59 min Scan# 300
Delta R.T. -0.051 min
Lab File: 06132228.D
Acq: 13 Jun 2022 22:09

Tgt Ion: 58 Resp: 64082

Ion	Ratio	Lower	Upper
58	100		
43	476.8	428.3	488.3

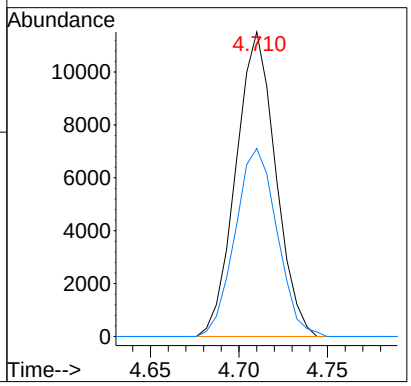


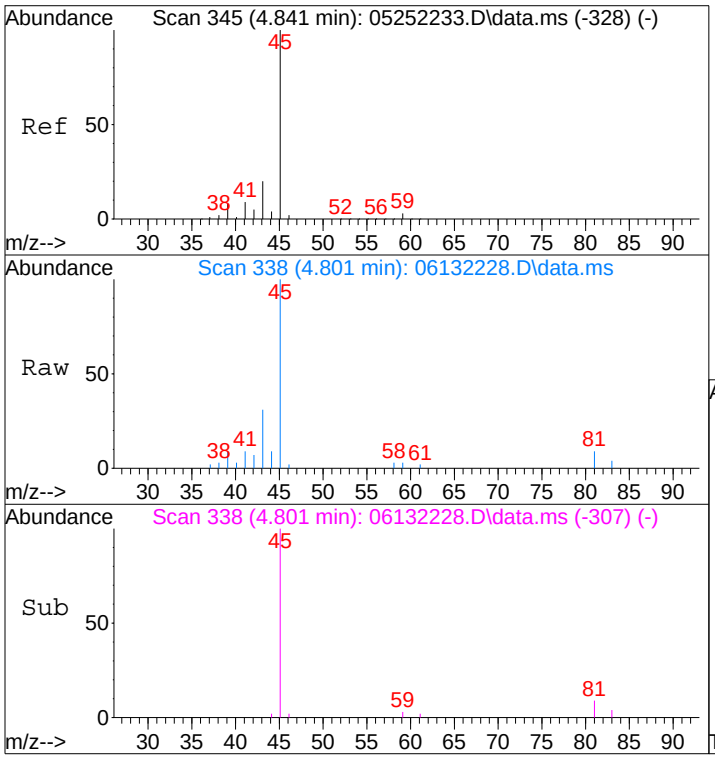


#14
Trichlorofluoromethane
Concen: 0.72 ng
RT: 4.71 min Scan# 322
Delta R.T. -0.023 min
Lab File: 06132228.D
Acq: 13 Jun 2022 22:09

Tgt Ion:101 Resp: 18001

Ion	Ratio	Lower	Upper
101	100		
103	65.1	41.6	81.6

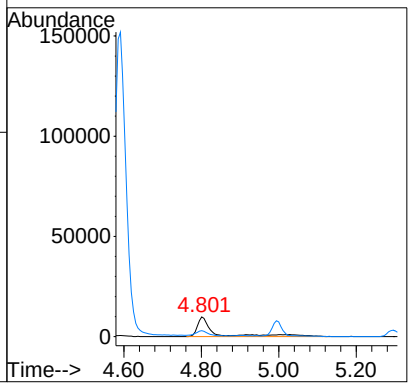


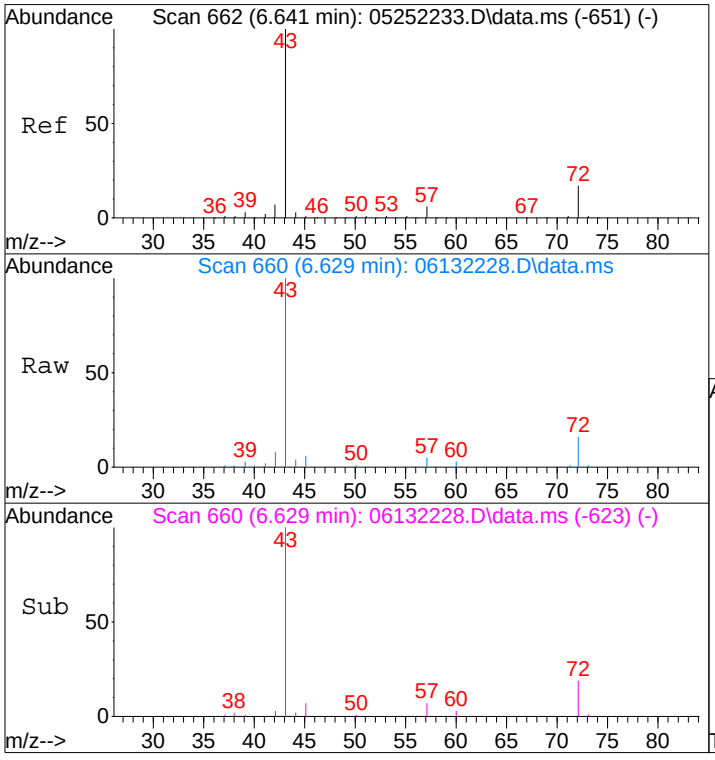


#15
2-Propanol (Isopropanol)
Concen: 0.69 ng
RT: 4.80 min Scan# 338
Delta R.T. -0.074 min
Lab File: 06132228.D
Acq: 13 Jun 2022 22:09

Tgt Ion: 45 Resp: 29598

Ion	Ratio	Lower	Upper
45	100		
43	20.4	3.4	43.4

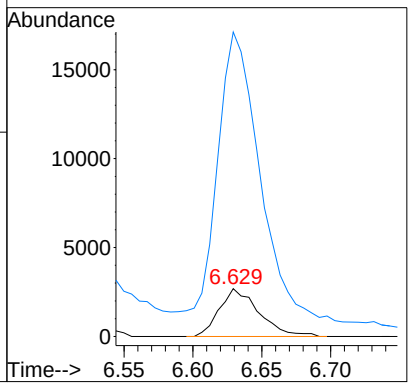


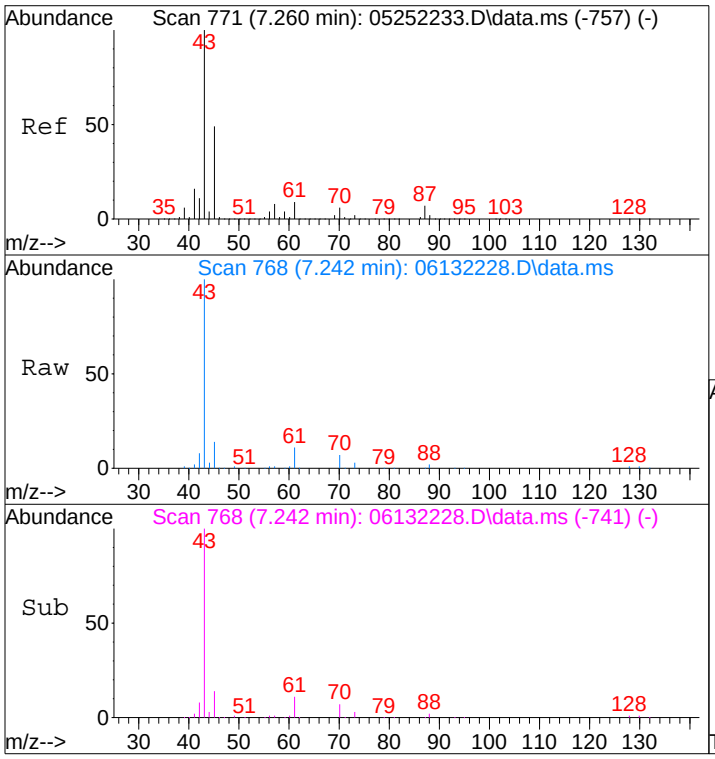


#27
2-Butanone (MEK)
Concen: 0.71 ng
RT: 6.63 min Scan# 660
Delta R.T. -0.040 min
Lab File: 06132228.D
Acq: 13 Jun 2022 22:09

Tgt Ion: 72 Resp: 5368

Ion	Ratio	Lower	Upper
72	100		
43	710.0	688.2	728.2

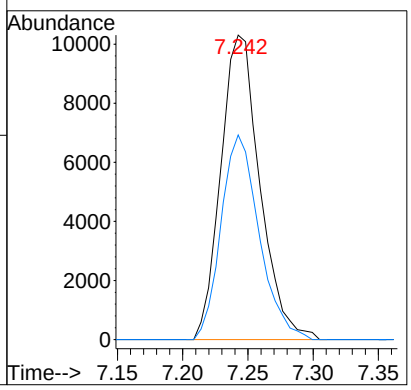




#30
Ethyl Acetate
Concen: 4.08 ng
RT: 7.24 min Scan# 768
Delta R.T. -0.046 min
Lab File: 06132228.D
Acq: 13 Jun 2022 22:09

Tgt Ion: 61 Resp: 21521

Ion	Ratio	Lower	Upper
61	100		
70	65.4	48.3	88.3



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132229.D Vial: 15
Acq On : 13 Jun 2022 22:41 Operator: SC
Sample : P2202566-004 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:24:14 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/14/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	114667	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	516147	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	158641	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	279375	14.634	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.04%				
57) Toluene-d8 (SS2)	12.39	98	653283	11.259	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.08%				
73) Bromofluorobenzene (SS3)	16.79	174	188053	10.108	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.88%				
Target Compounds							Qvalue
2) Propene	3.26	42	7234	N.D.			
3) Dichlorodifluoromethan...	3.33	85	38371	1.481	ng		96
4) Chloromethane	3.47	50	5139	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	674	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.24	45	60033	4.554	ng		79
11) Acetonitrile	4.40	41	4410	N.D.			
12) Acrolein	4.49	56	1497	N.D.			
13) Acetone	4.59	58	58552	6.271	ng		97
14) Trichlorofluoromethane	4.72	101	16919	0.694	ng		96
15) 2-Propanol (Isopropanol)	4.80	45	28217	0.671	ng		99
16) Acrylonitrile	5.00	53	57	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.31	59	327	N.D.			
19) Methylene Chloride	5.32	84	2728	N.D.			
20) 3-Chloro-1-propene (Al...	5.36	41	256	N.D.			
21) Trichlorotrifluoroethane	5.54	151	2457	N.D.			
22) Carbon Disulfide	5.57	76	2649	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.63	72	4449	0.605	ng	#	92
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d			
29) Diisopropyl Ether	7.24	87	126	N.D.			
30) Ethyl Acetate	7.24	61	26369	5.113	ng		97
31) n-Hexane	7.26	57	3161	N.D.			
32) Chloroform	7.32	83	1454	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.07	62	435	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	21318	No Calib			
40) 1-Butanol	9.17	56	979	No Calib		#	
41) Benzene	8.86	78	8931	N.D.			
42) Carbon Tetrachloride	9.03	117	4305	N.D.			
43) Cyclohexane	9.17	84	709	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.19	57	10189	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132229.D Vial: 15
Acq On : 13 Jun 2022 22:41 Operator: SC
Sample : P2202566-004 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:24:14 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

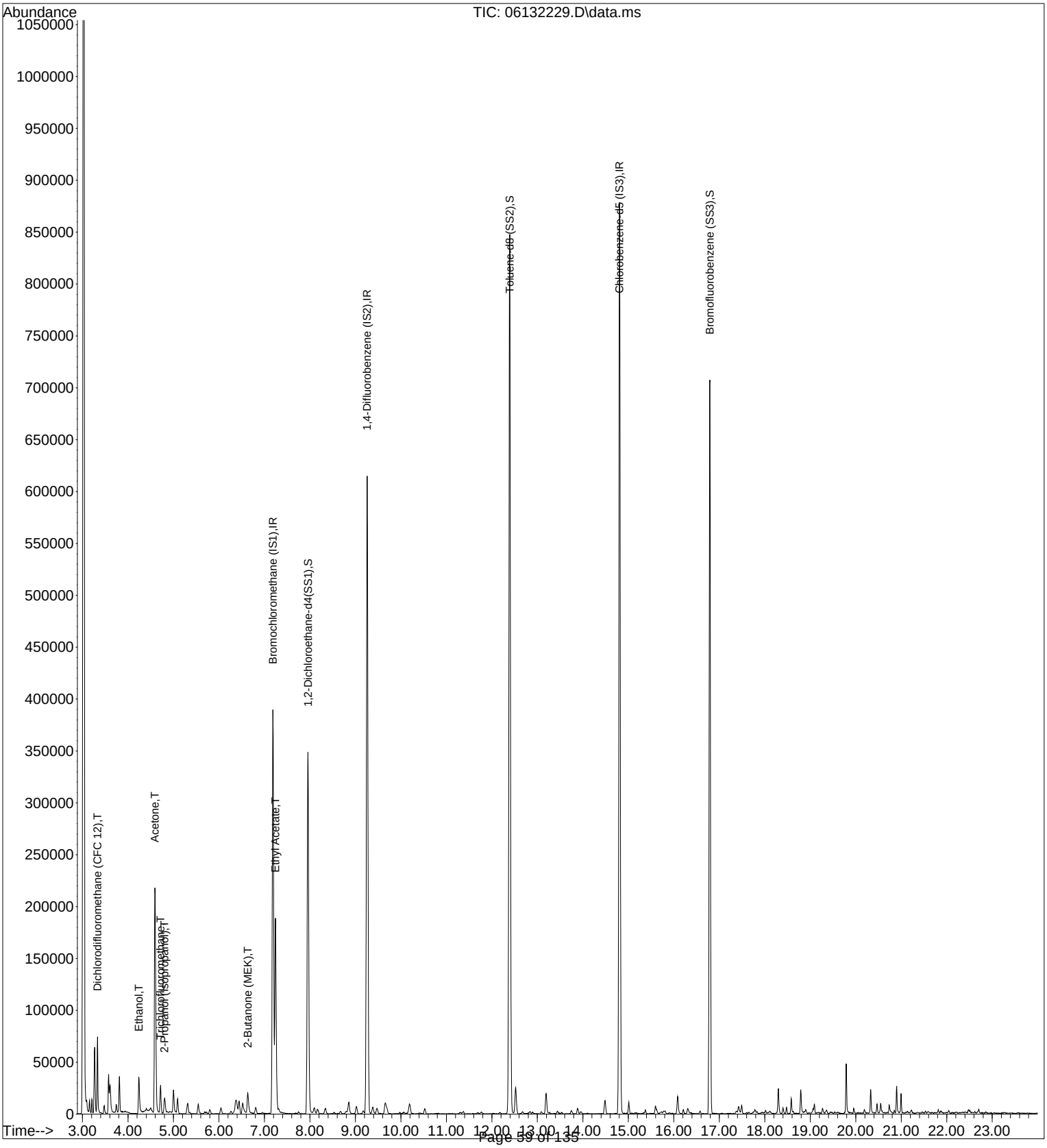
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.53	71	1133	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.31	58	120	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.52	91	18058	N.D.		
59) 2-Hexanone	12.90	43	2162	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.75	43	3876	N.D.		
63) n-Octane	13.88	57	764	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.37	91	3257	N.D.		
67) m- & p-Xylenes	15.60	91	7163	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.07	104	1035	N.D.		
70) o-Xylene	16.21	91	2854	N.D.		
71) n-Nonane	16.58	43	1762	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.79	105	320	N.D.		
75) alpha-Pinene	17.49	93	3362	N.D.		
76) n-Propylbenzene	17.65	91	833	N.D.		
77) 3-Ethyltoluene	16.79	105	320	No Calib		#
78) 4-Ethyltoluene	17.83	105	867	N.D.		
79) 1,3,5-Trimethylbenzene	17.93	105	414	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.42	105	2350	No Calib		#
82) 1,2,4-Trimethylbenzene	18.40	105	2186	N.D.		
83) n-Decane	16.79	58	307	No Calib		#
84) Benzyl Chloride	18.41	91	200	N.D.		
85) 1,3-Dichlorobenzene	18.63	146	267	N.D.		
86) 1,4-Dichlorobenzene	18.63	146	267	N.D.		
87) sec-Butylbenzene	18.88	105	519	N.D.		
88) 4-Isopropyltoluene (p-...	18.91	119	1964	N.D.		
89) 1,2,3-Trimethylbenzene	18.40	105	2186	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.06	68	1355	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.09	58	273	No Calib		#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.92	128	384	N.D.		
96) n-Dodecane	18.79	58	331	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.48	55	350	No Calib		#
99) tert-Butylbenzene	18.41	119	185	N.D.		
100) n-Butylbenzene	19.35	91	609	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132229.D Vial: 15
Acq On : 13 Jun 2022 22:41 Operator: SC
Sample : P2202566-004 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:24:14 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132229.D Vial: 15
Acq On : 13 Jun 2022 22:41 Operator: SC
Sample : P2202566-004 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:24:14 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/14/22

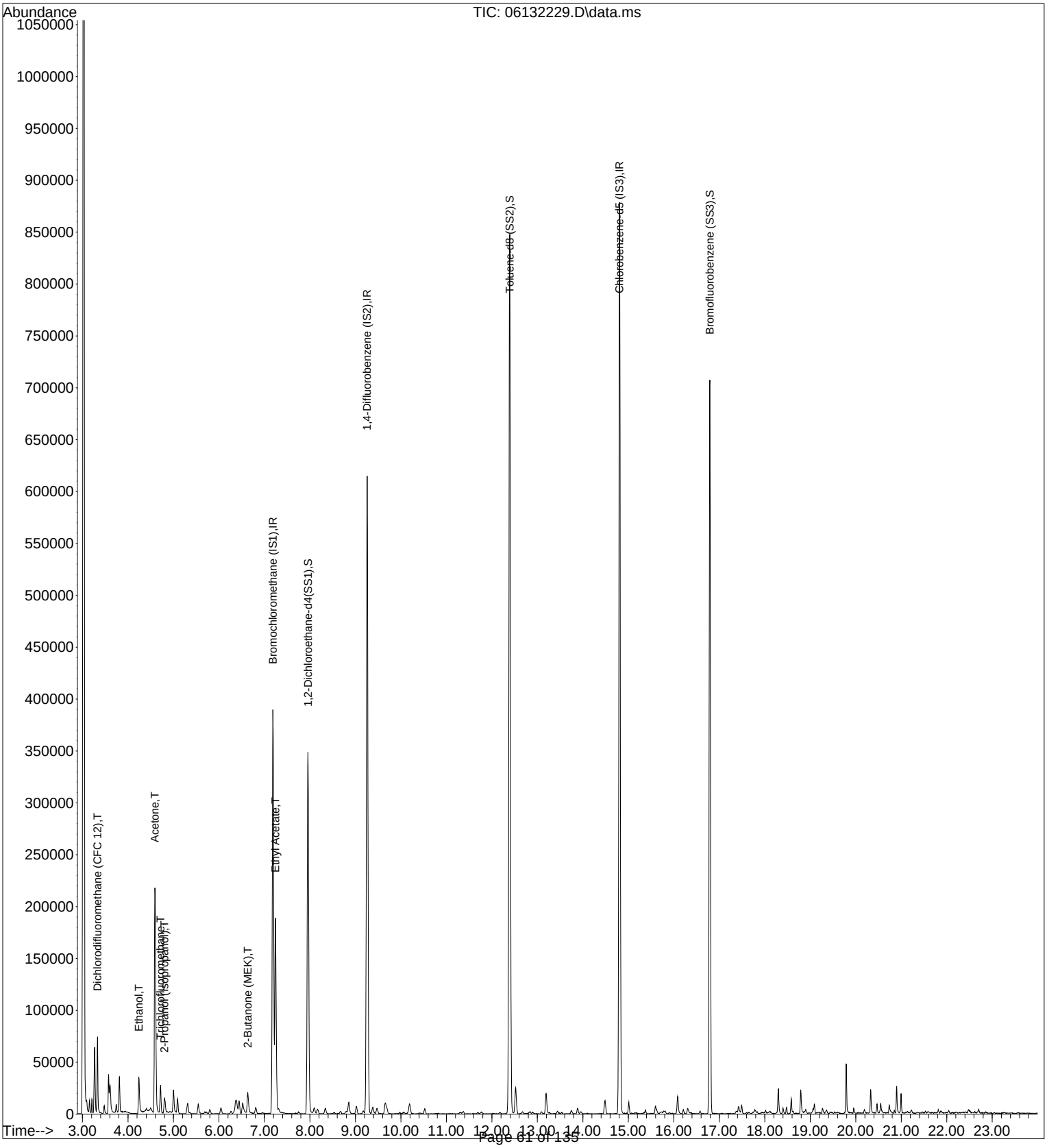
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	114667	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	516147	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	158641	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	279375	14.634	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.04%				
57) Toluene-d8 (SS2)	12.39	98	653283	11.259	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.08%				
73) Bromofluorobenzene (SS3)	16.79	174	188053	10.108	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.88%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.33	85	38371	1.481	ng		96
10) Ethanol	4.24	45	60033	4.554	ng		79
13) Acetone	4.59	58	58552	6.271	ng		97
14) Trichlorofluoromethane	4.72	101	16919	0.694	ng		96
15) 2-Propanol (Isopropanol)	4.80	45	28217	0.671	ng		99
27) 2-Butanone (MEK)	6.63	72	4449	0.605	ng	#	92
30) Ethyl Acetate	7.24	61	26369	5.113	ng		97

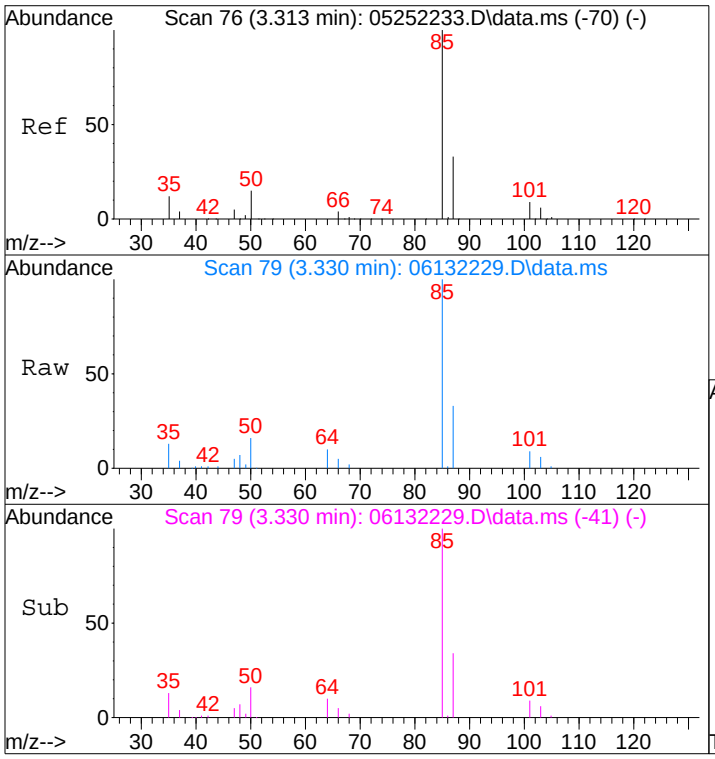
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132229.D Vial: 15
Acq On : 13 Jun 2022 22:41 Operator: SC
Sample : P2202566-004 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:24:14 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

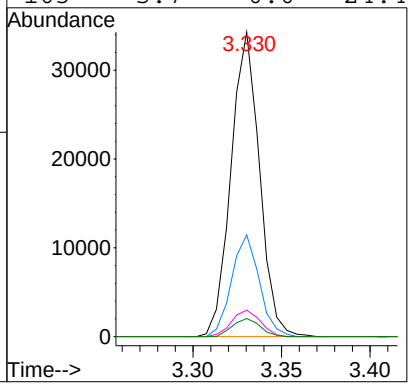


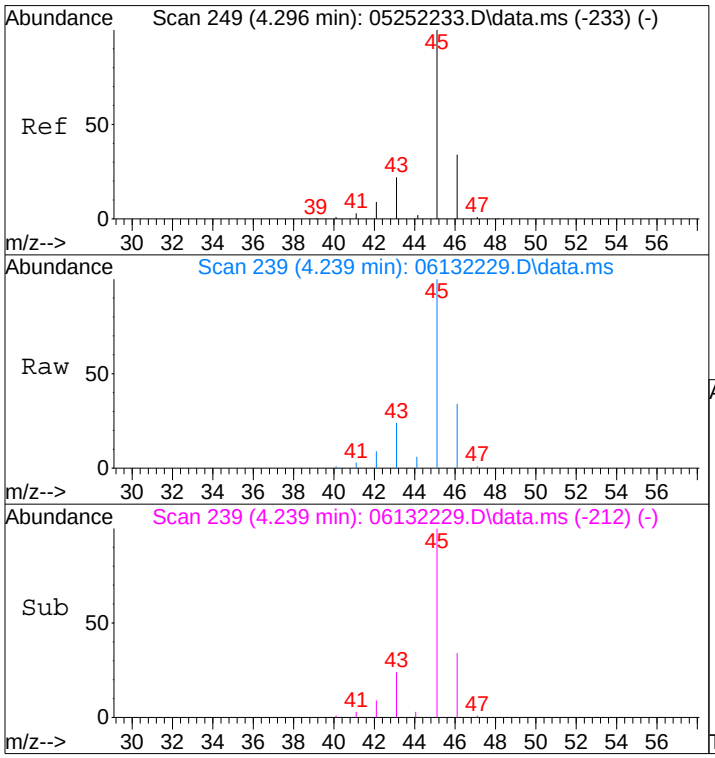


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.48 ng
RT: 3.33 min Scan# 79
Delta R.T. -0.032 min
Lab File: 06132229.D
Acq: 13 Jun 2022 22:41

Tgt Ion: 85 Resp: 38371

Ion	Ratio	Lower	Upper
85	100		
87	32.4	10.3	50.3
101	8.8	0.0	27.6
103	5.7	0.0	24.4

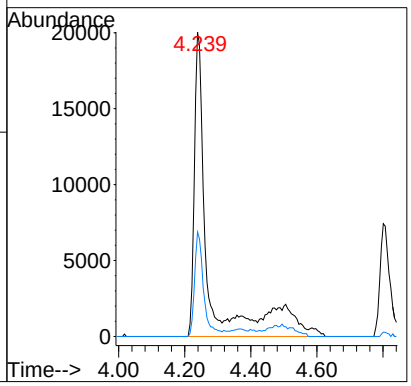


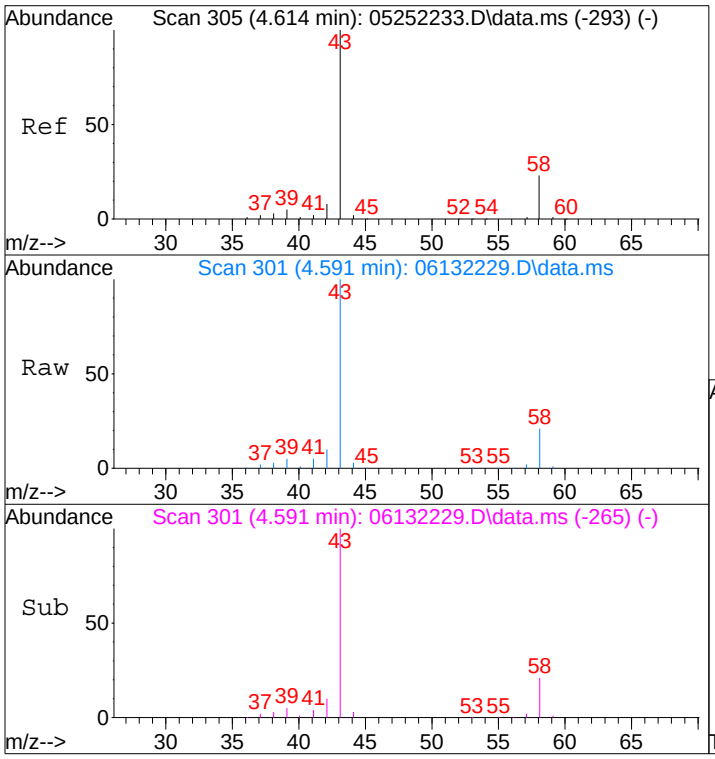


#10
Ethanol
Concen: 4.55 ng
RT: 4.24 min Scan# 239
Delta R.T. -0.097 min
Lab File: 06132229.D
Acq: 13 Jun 2022 22:41

Tgt Ion: 45 Resp: 60033

Ion	Ratio	Lower	Upper
45	100		
46	33.3	3.1	43.1

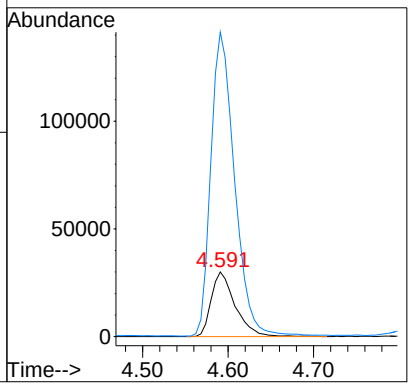


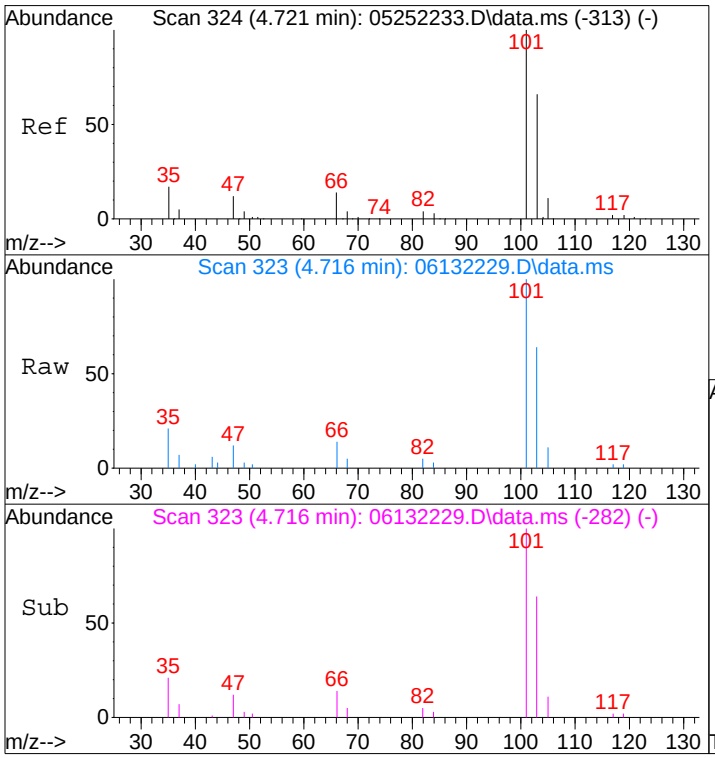


#13
Acetone
Concen: 6.27 ng
RT: 4.59 min Scan# 301
Delta R.T. -0.045 min
Lab File: 06132229.D
Acq: 13 Jun 2022 22:41

Tgt Ion: 58 Resp: 58552

Ion	Ratio	Lower	Upper
58	100		
43	466.0	428.3	488.3

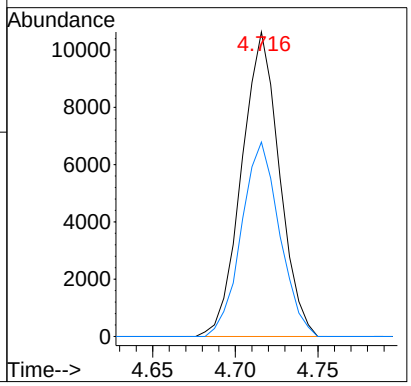


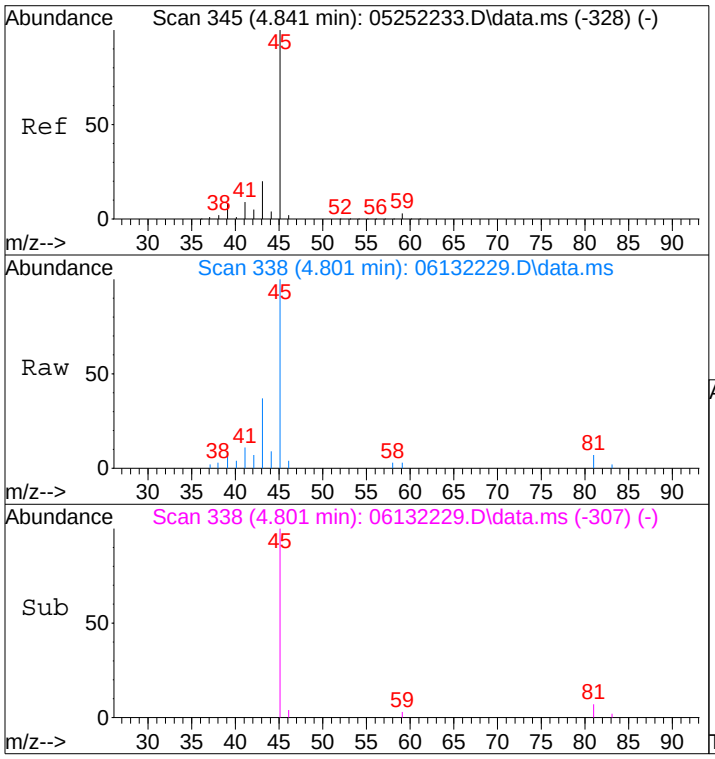


#14
Trichlorofluoromethane
Concen: 0.69 ng
RT: 4.72 min Scan# 323
Delta R.T. -0.017 min
Lab File: 06132229.D
Acq: 13 Jun 2022 22:41

Tgt Ion:101 Resp: 16919

Ion	Ratio	Lower	Upper
101	100		
103	64.4	41.6	81.6

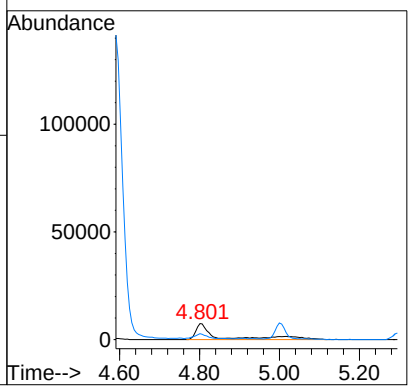


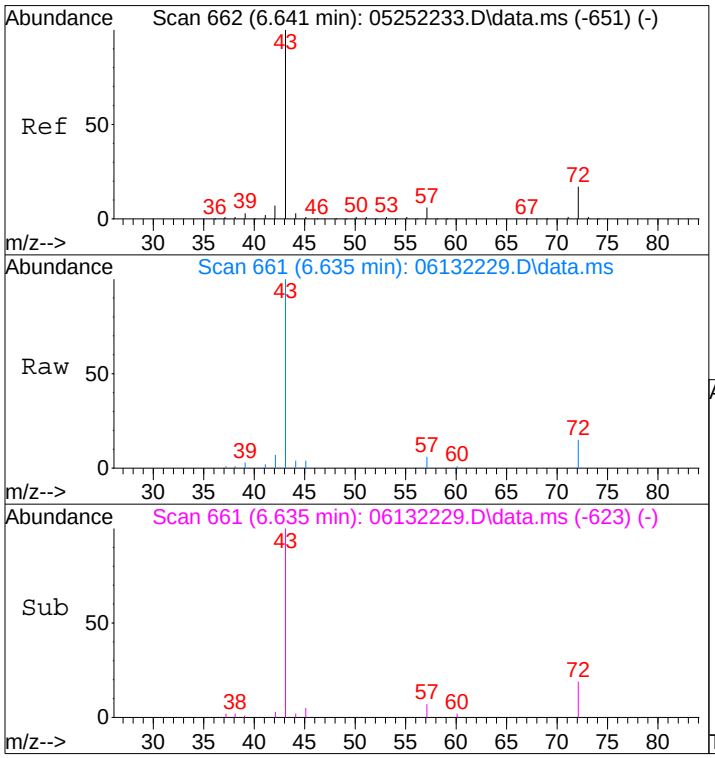


#15
2-Propanol (Isopropanol)
Concen: 0.67 ng
RT: 4.80 min Scan# 338
Delta R.T. -0.074 min
Lab File: 06132229.D
Acq: 13 Jun 2022 22:41

Tgt Ion: 45 Resp: 28217

Ion	Ratio	Lower	Upper
45	100		
43	23.9	3.4	43.4

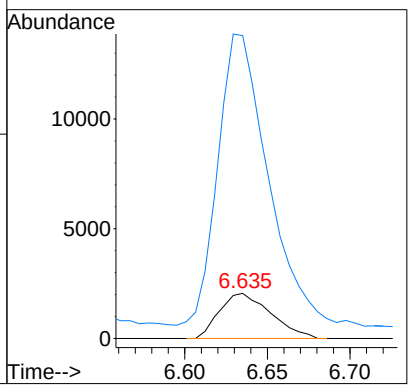


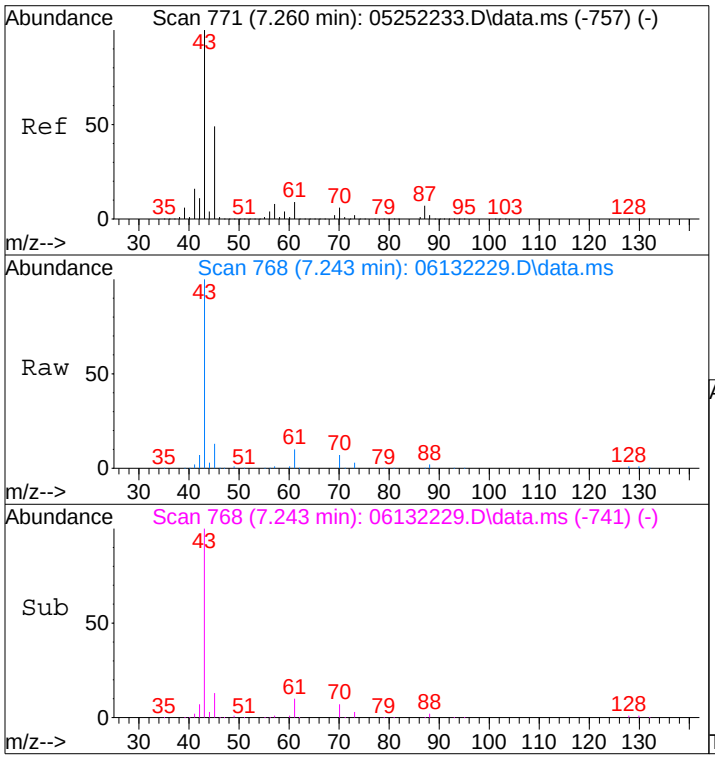


#27
2-Butanone (MEK)
Concen: 0.61 ng
RT: 6.63 min Scan# 661
Delta R.T. -0.034 min
Lab File: 06132229.D
Acq: 13 Jun 2022 22:41

Tgt Ion: 72 Resp: 4449

Ion	Ratio	Lower	Upper
72	100		
43	681.9	688.2	728.2#

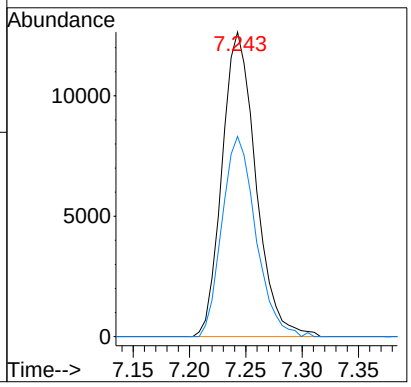




#30
Ethyl Acetate
Concen: 5.11 ng
RT: 7.24 min Scan# 768
Delta R.T. -0.045 min
Lab File: 06132229.D
Acq: 13 Jun 2022 22:41

Tgt Ion: 61 Resp: 26369

Ion	Ratio	Lower	Upper
61	100		
70	65.7	48.3	88.3



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132230.D Vial: 16
Acq On : 13 Jun 2022 23:13 Operator: SC
Sample : P2202566-005 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:25:48 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/14/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	116908	12.500	ng	-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	521051	12.500	ng	-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	160407	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	279691	14.370	ng	-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%			
57) Toluene-d8 (SS2)	12.39	98	659759	11.246	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%			
73) Bromofluorobenzene (SS3)	16.79	174	190230	10.113	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.88%			
Target Compounds						Qvalue
2) Propene	3.26	42	7853	N.D.		
3) Dichlorodifluoromethan...	3.32	85	40292	1.526	ng	97
4) Chloromethane	3.47	50	5441	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	691	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	3.98	94	166	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.24	45	72780	5.415	ng	78
11) Acetonitrile	4.40	41	4740	N.D.		
12) Acrolein	4.49	56	1439	N.D.		
13) Acetone	4.59	58	61529	6.463	ng	95
14) Trichlorofluoromethane	4.72	101	18032	0.726	ng	94
15) 2-Propanol (Isopropanol)	4.80	45	32390	0.756	ng	99
16) Acrylonitrile	5.01	53	161	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.29	59	724	N.D.		
19) Methylene Chloride	5.31	84	2983	N.D.		
20) 3-Chloro-1-propene (Al...	5.36	41	443	N.D.		
21) Trichlorotrifluoroethane	5.54	151	2617	N.D.		
22) Carbon Disulfide	5.57	76	631	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.63	72	4757	0.635	ng	95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d		
29) Diisopropyl Ether	7.24	87	505	N.D.		
30) Ethyl Acetate	7.24	61	54231	10.314	ng	96
31) n-Hexane	7.26	57	3299	N.D.		
32) Chloroform	7.32	83	1513	N.D.		
34) Tetrahydrofuran (THF)	7.75	72	185	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.08	62	531	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	20919	No Calib		
40) 1-Butanol	9.18	56	1134	No Calib	#	
41) Benzene	8.86	78	9798	N.D.		
42) Carbon Tetrachloride	9.02	117	4599	N.D.		
43) Cyclohexane	9.17	84	852	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.10	130	2213	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.20	57	11377	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132230.D Vial: 16
Acq On : 13 Jun 2022 23:13 Operator: SC
Sample : P2202566-005 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:25:48 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

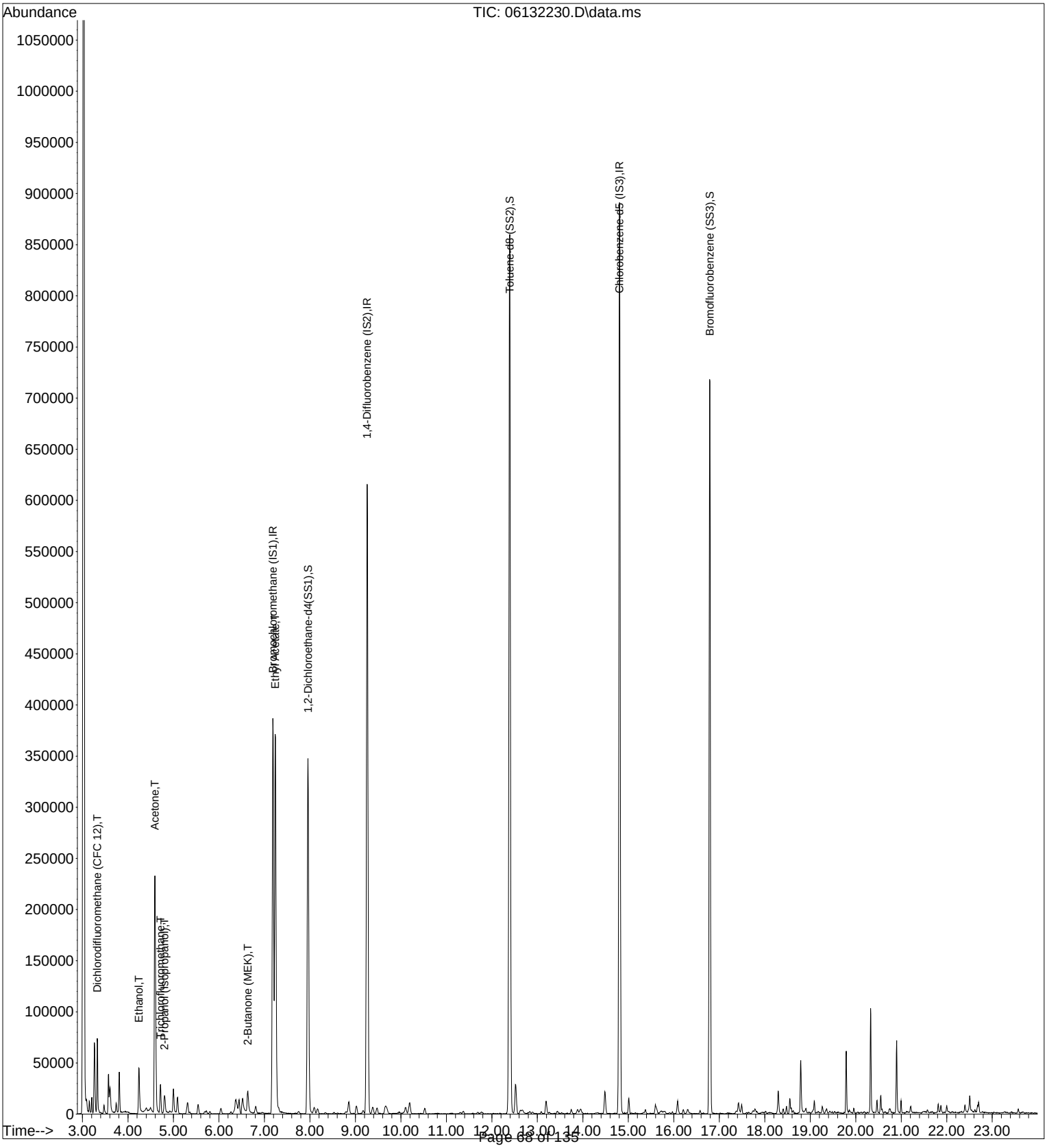
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.52	71	1089	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.31	58	114	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.52	91	21477	N.D.		
59) 2-Hexanone	12.90	43	2257	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.74	43	4691	N.D.		
63) n-Octane	13.88	57	580	N.D.		
64) Tetrachloroethene	14.01	166	231	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.38	91	3666	N.D.		
67) m- & p-Xylenes	15.60	91	7945	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.07	104	1143	N.D.		
70) o-Xylene	16.21	91	3098	N.D.		
71) n-Nonane	16.58	43	2010	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.79	105	312	N.D.		
75) alpha-Pinene	17.49	93	3591	N.D.		
76) n-Propylbenzene	17.64	91	1023	N.D.		
77) 3-Ethyltoluene	16.79	105	312	No Calib		#
78) 4-Ethyltoluene	17.83	105	957	N.D.		
79) 1,3,5-Trimethylbenzene	17.92	105	522	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.42	105	3676	No Calib		#
82) 1,2,4-Trimethylbenzene	18.41	105	2616	N.D.		
83) n-Decane	16.79	58	340	No Calib		#
84) Benzyl Chloride	18.40	91	246	N.D.		
85) 1,3-Dichlorobenzene	18.55	146	4610	N.D.		
86) 1,4-Dichlorobenzene	18.63	146	593	N.D.		
87) sec-Butylbenzene	18.88	105	681	N.D.		
88) 4-Isopropyltoluene (p-...	18.90	119	2483	N.D.		
89) 1,2,3-Trimethylbenzene	18.41	105	2616	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.06	68	676	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.08	58	284	No Calib		#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.92	128	1611	N.D.		
96) n-Dodecane	18.79	58	861	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.78	55	1243	No Calib		#
99) tert-Butylbenzene	18.41	119	147	N.D.		
100) n-Butylbenzene	19.36	91	766	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132230.D Vial: 16
Acq On : 13 Jun 2022 23:13 Operator: SC
Sample : P2202566-005 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:25:48 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132230.D Vial: 16
Acq On : 13 Jun 2022 23:13 Operator: SC
Sample : P2202566-005 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:25:48 2022 6/14/22
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

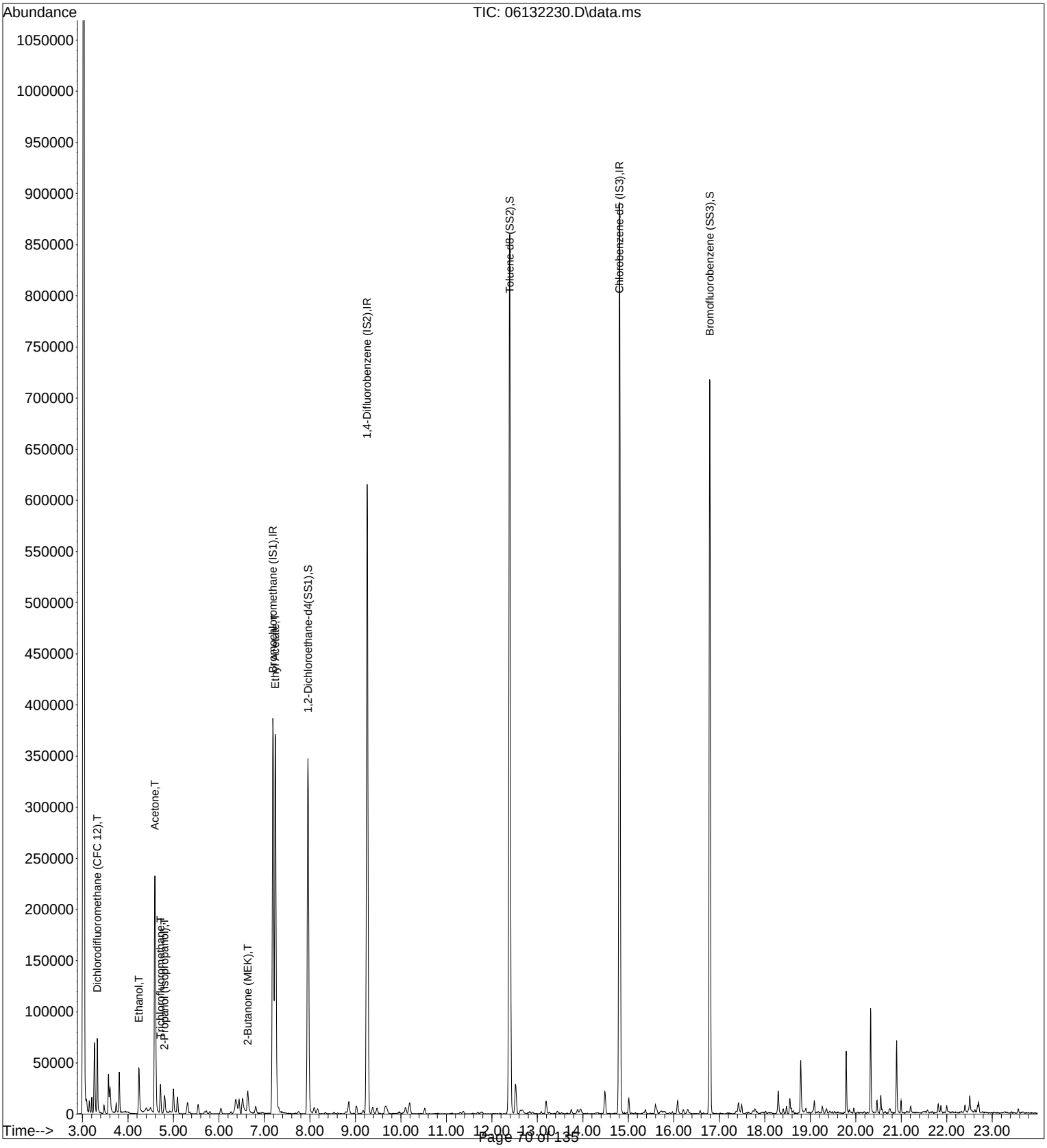
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	116908	12.500	ng	-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	521051	12.500	ng	-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	160407	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	279691	14.370	ng	-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%			
57) Toluene-d8 (SS2)	12.39	98	659759	11.246	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%			
73) Bromofluorobenzene (SS3)	16.79	174	190230	10.113	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.88%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.32	85	40292	1.526	ng	97
10) Ethanol	4.24	45	72780	5.415	ng	78
13) Acetone	4.59	58	61529	6.463	ng	95
14) Trichlorofluoromethane	4.72	101	18032	0.726	ng	94
15) 2-Propanol (Isopropanol)	4.80	45	32390	0.756	ng	99
27) 2-Butanone (MEK)	6.63	72	4757	0.635	ng	95
30) Ethyl Acetate	7.24	61	54231	10.314	ng	96

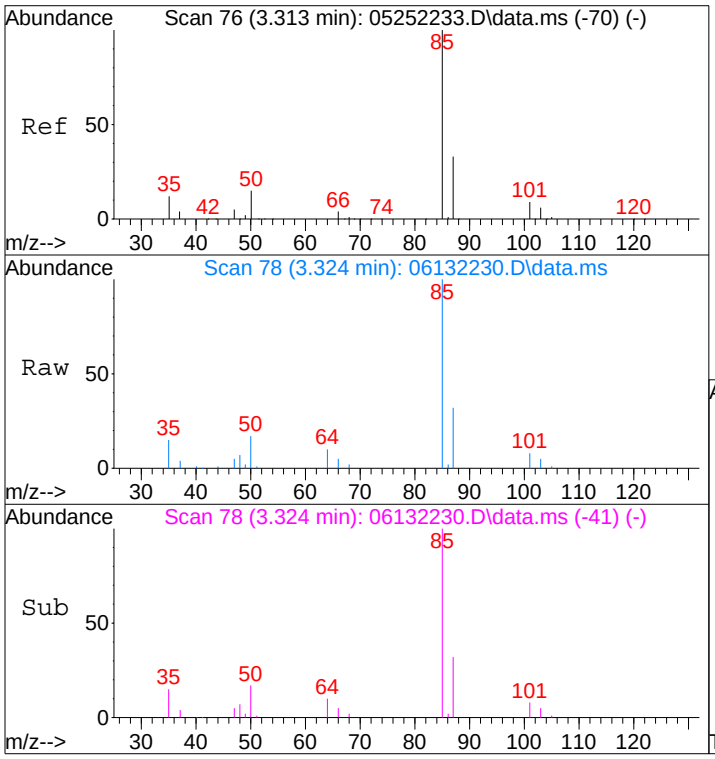
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132230.D Vial: 16
Acq On : 13 Jun 2022 23:13 Operator: SC
Sample : P2202566-005 (1000mL) Inst : MS09
Misc : S35-05132201

Quant Time: Jun 14 09:25:48 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

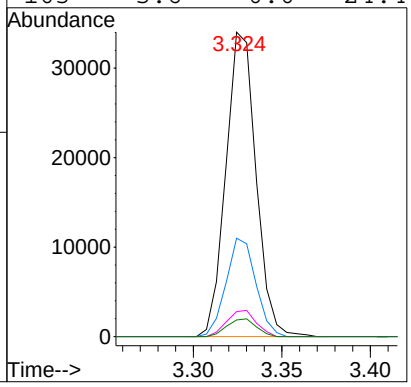


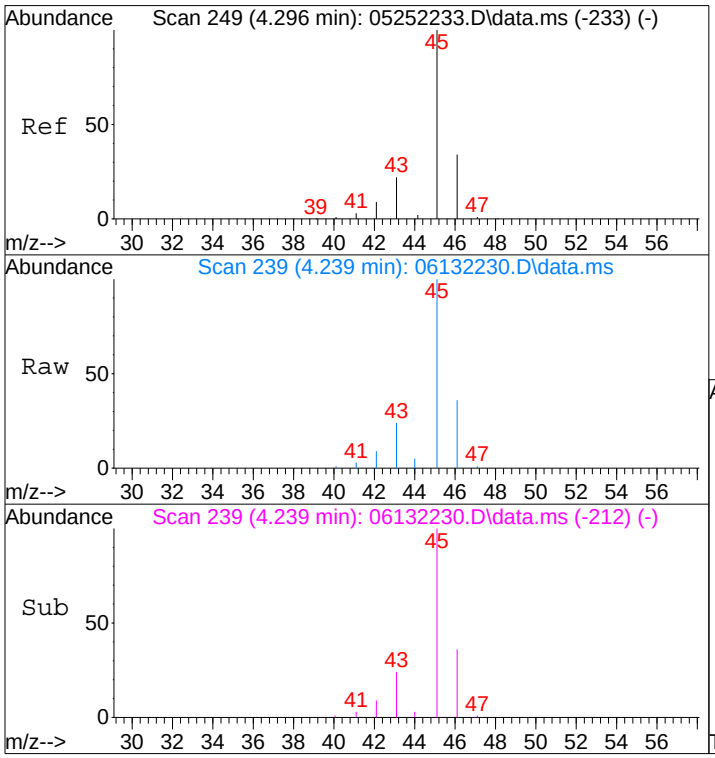


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.53 ng
RT: 3.32 min Scan# 78
Delta R.T. -0.038 min
Lab File: 06132230.D
Acq: 13 Jun 2022 23:13

Tgt Ion: 85 Resp: 40292

Ion	Ratio	Lower	Upper
85	100		
87	31.9	10.3	50.3
101	8.4	0.0	27.6
103	5.6	0.0	24.4

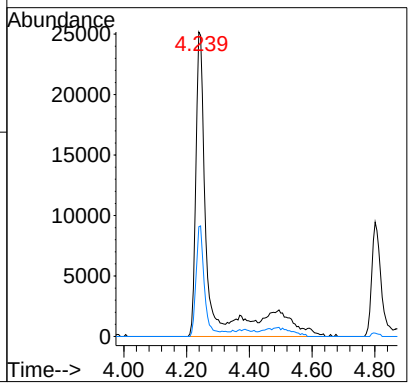


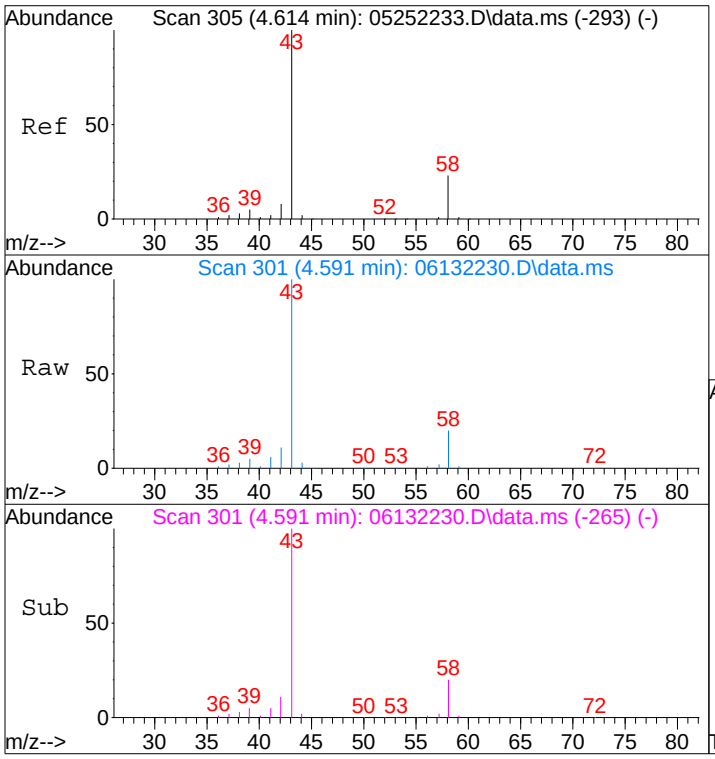


#10
Ethanol
Concen: 5.42 ng
RT: 4.24 min Scan# 239
Delta R.T. -0.097 min
Lab File: 06132230.D
Acq: 13 Jun 2022 23:13

Tgt Ion: 45 Resp: 72780

Ion	Ratio	Lower	Upper
45	100		
46	33.9	3.1	43.1

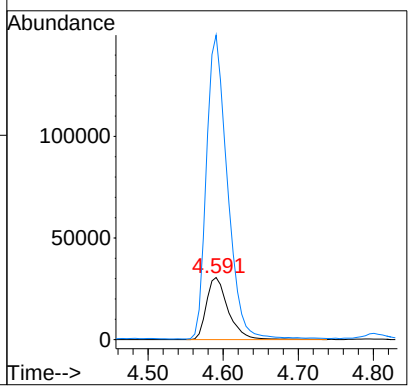


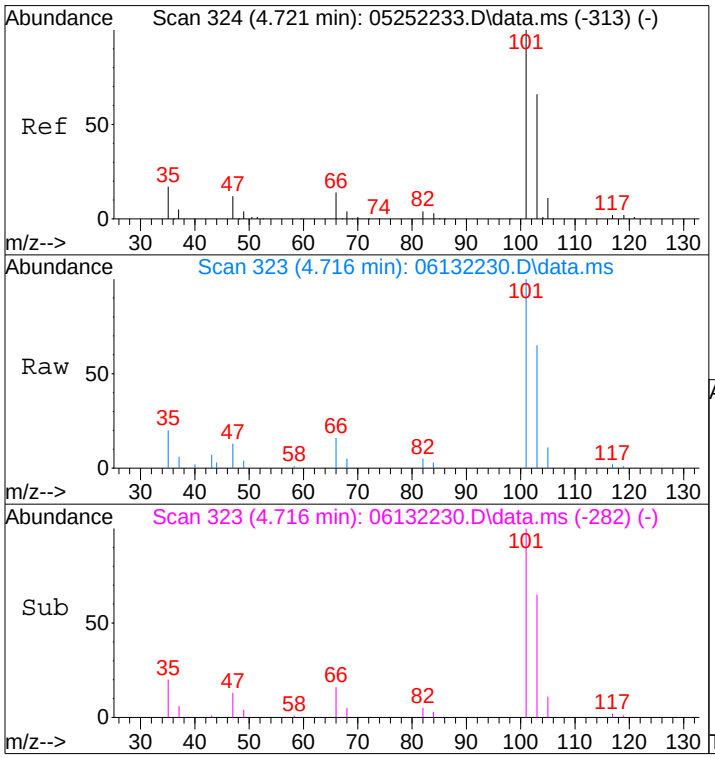


#13
Acetone
Concen: 6.46 ng
RT: 4.59 min Scan# 301
Delta R.T. -0.046 min
Lab File: 06132230.D
Acq: 13 Jun 2022 23:13

Tgt Ion: 58 Resp: 61529

Ion	Ratio	Lower	Upper
58	100		
43	470.3	428.3	488.3

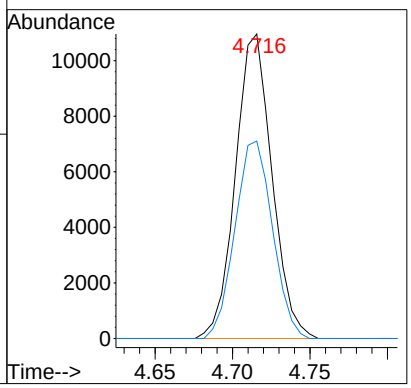


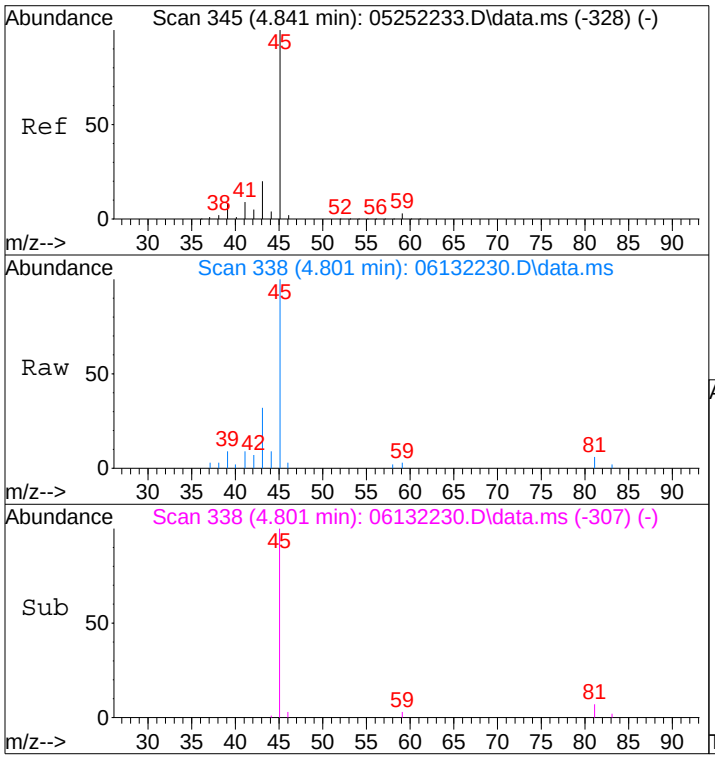


#14
Trichlorofluoromethane
Concen: 0.73 ng
RT: 4.72 min Scan# 323
Delta R.T. -0.017 min
Lab File: 06132230.D
Acq: 13 Jun 2022 23:13

Tgt Ion:101 Resp: 18032

Ion	Ratio	Lower	Upper
101	100		
103	66.5	41.6	81.6

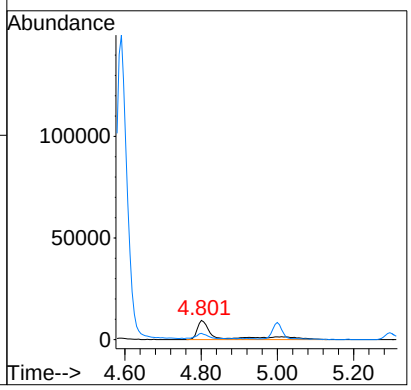


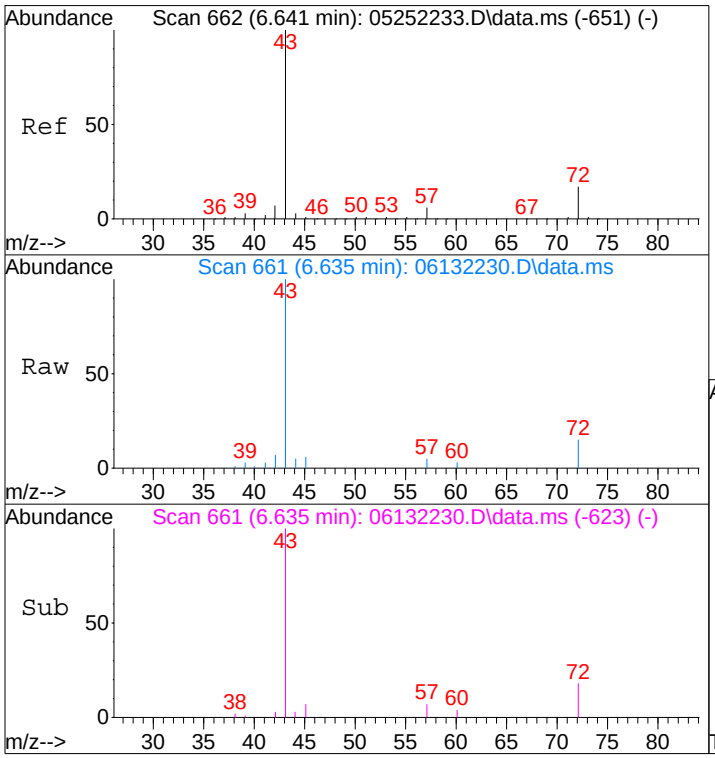


#15
2-Propanol (Isopropanol)
Concen: 0.76 ng
RT: 4.80 min Scan# 338
Delta R.T. -0.074 min
Lab File: 06132230.D
Acq: 13 Jun 2022 23:13

Tgt Ion: 45 Resp: 32390

Ion	Ratio	Lower	Upper
45	100		
43	23.0	3.4	43.4

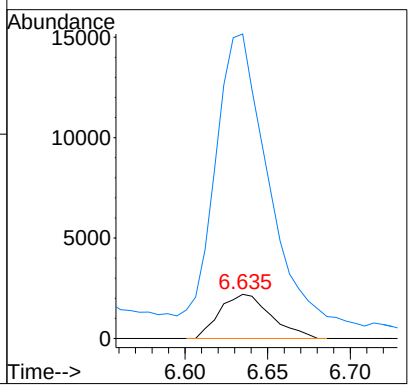


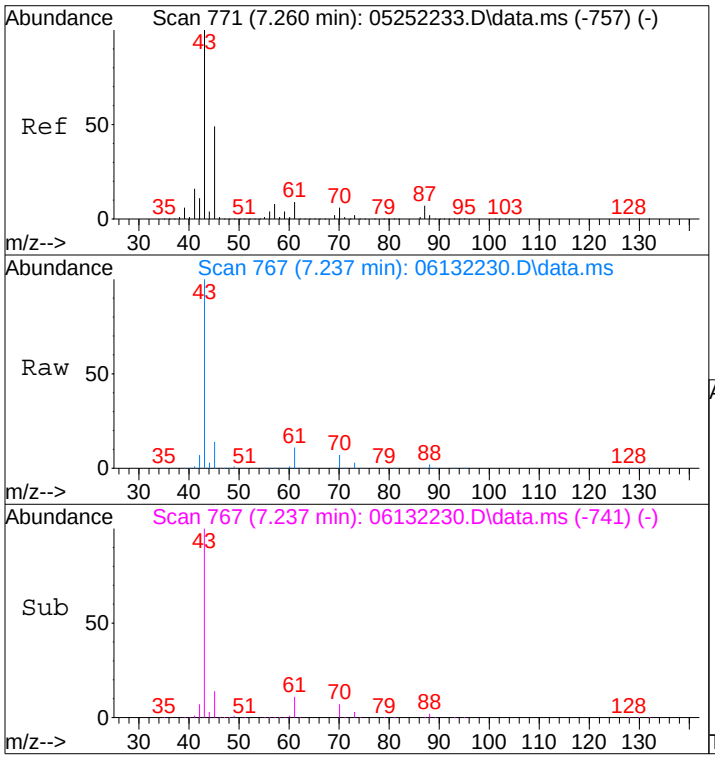


#27
2-Butanone (MEK)
Concen: 0.63 ng
RT: 6.63 min Scan# 661
Delta R.T. -0.034 min
Lab File: 06132230.D
Acq: 13 Jun 2022 23:13

Tgt Ion: 72 Resp: 4757

Ion	Ratio	Lower	Upper
72	100		
43	725.5	688.2	728.2

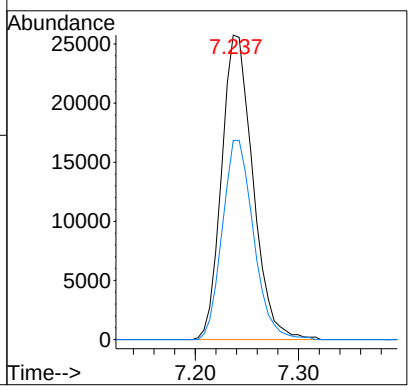




#30
Ethyl Acetate
Concen: 10.31 ng
RT: 7.24 min Scan# 767
Delta R.T. -0.051 min
Lab File: 06132230.D
Acq: 13 Jun 2022 23:13

Tgt Ion: 61 Resp: 54231

Ion	Ratio	Lower	Upper
61	100		
70	65.2	48.3	88.3



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132203.D Vial: 2
Acq On : 13 Jun 2022 8:24 Operator: SC
Sample : MB R9061322 1000mL Inst : MS09
Misc : S35-05132201

Quant Time: Jun 13 08:49:02 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/13/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	120419	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	544123	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	152907	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	284878	14.209	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.68%				
57) Toluene-d8 (SS2)	12.39	98	661837	11.834	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
73) Bromofluorobenzene (SS3)	16.79	174	185685	10.355	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.88%				
Target Compounds							Qvalue
2) Propene	3.28	42	441	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	3.33	50	196	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	1274	0.092	ng		91
11) Acetonitrile	4.42	41	1060	N.D.			
12) Acrolein	4.51	56	938	0.108	ng		94
13) Acetone	4.62	58	8968	0.915	ng	#	62
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	4.84	45	395	N.D.			
16) Acrylonitrile	4.97	53	138	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.58	76	343	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.66	72	791	0.102	ng	#	49
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.25	61	21751	No Calib			
40) 1-Butanol	9.26	56	17005	No Calib		#	
41) Benzene	8.86	78	1882	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.26	84	433	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132203.D Vial: 2
Acq On : 13 Jun 2022 8:24 Operator: SC
Sample : MB R9061322 1000mL Inst : MS09
Misc : S35-05132201

Quant Time: Jun 13 08:49:02 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

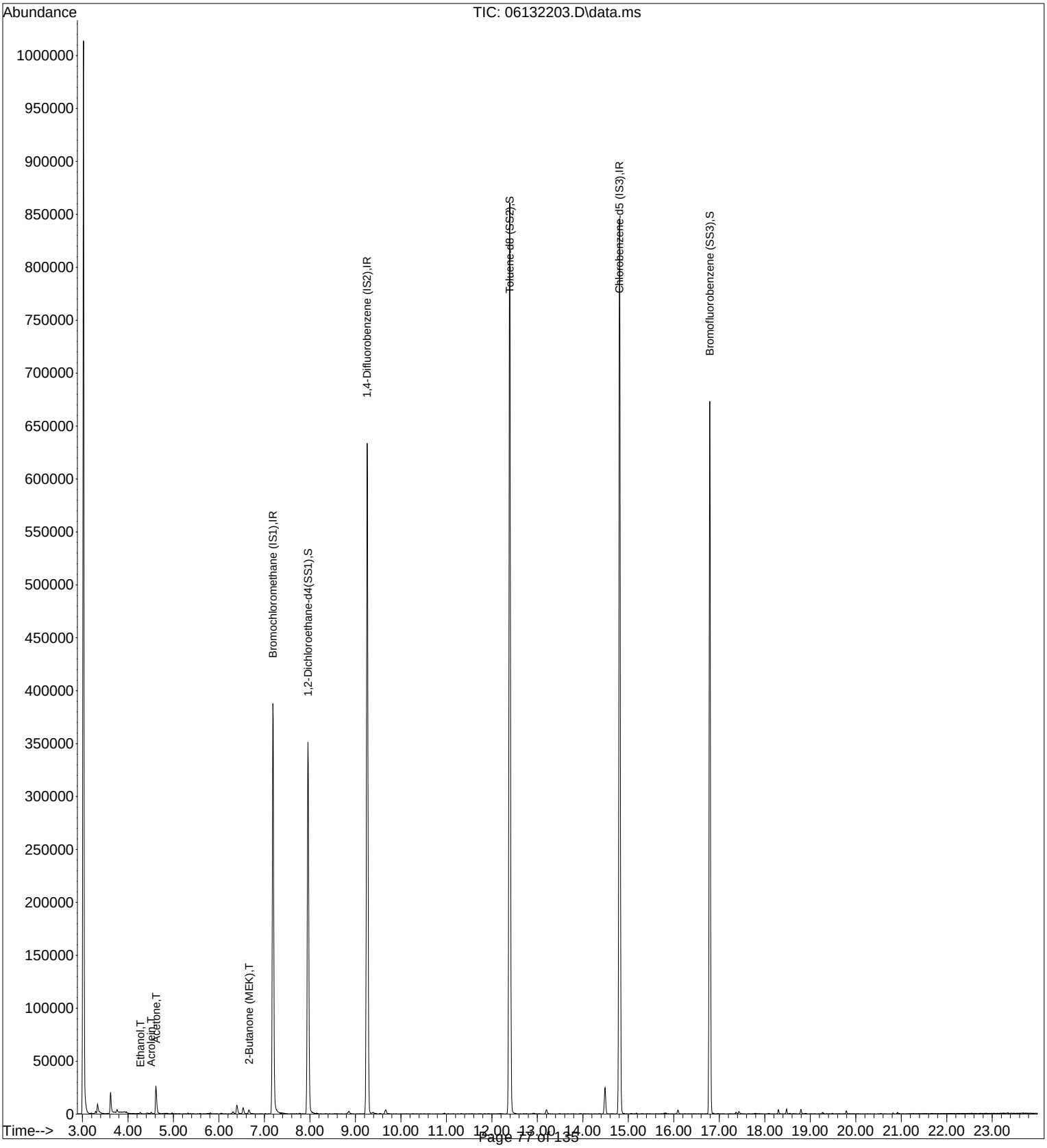
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.53	91	113	N.D.		
59) 2-Hexanone	12.92	43	1050	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	0.00	91	0	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.79	105	292	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	16.79	105	292	No Calib		#
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.43	105	890	No Calib		#
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
83) n-Decane	16.79	58	276	No Calib		#
84) Benzyl Chloride	18.54	91	338	N.D.		
85) 1,3-Dichlorobenzene	18.55	146	116	N.D.		
86) 1,4-Dichlorobenzene	18.63	146	140	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.81	180	340	N.D.		
95) Naphthalene	20.93	128	1240	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.78	55	117	No Calib		#
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	19.37	91	156	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132203.D Vial: 2
Acq On : 13 Jun 2022 8:24 Operator: SC
Sample : MB R9061322 1000mL Inst : MS09
Misc : S35-05132201

Quant Time: Jun 13 08:49:02 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132204.D Vial: 2
Acq On : 13 Jun 2022 8:56 Operator: SC
Sample : LCS R9061322 25ng Inst : MS09
Misc : S35-05132201/S35-06022204 (7/2)

Quant Time: Jun 13 09:20:46 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/13/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	131028	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.29	114	576645	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.82	54	163685	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	303463	13.911	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.28%				
57) Toluene-d8 (SS2)	12.40	98	705698	11.788	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
73) Bromofluorobenzene (SS3)	16.80	174	203984	10.627	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.04%				
Target Compounds							Qvalue
2) Propene	3.23	42	490016	23.308	ng		97
3) Dichlorodifluoromethan...	3.31	85	692126	23.382	ng		95
4) Chloromethane	3.46	50	563023	24.461	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.56	135	276807	22.015	ng		95
6) Vinyl Chloride	3.64	62	478257	25.469	ng		95
7) 1,3-Butadiene	3.76	54	372405	24.863	ng	#	82
8) Bromomethane	3.98	94	260830	22.790	ng		98
9) Chloroethane	4.12	64	207770	23.162	ng		87
10) Ethanol	4.31	45	1491163	98.995	ng		78
11) Acetonitrile	4.44	41	841828	21.250	ng	#	58
12) Acrolein	4.52	56	450595	47.702	ng		98
13) Acetone	4.62	58	1274355	119.435	ng		95
14) Trichlorofluoromethane	4.72	101	627650	22.536	ng		95
15) 2-Propanol (Isopropanol)	4.85	45	2414855	50.273	ng		96
16) Acrylonitrile	4.99	53	978799	47.341	ng		95
17) 1,1-Dichloroethene	5.23	96	284231	22.618	ng		87
18) 2-Methyl-2-Propanol (t...	5.32	59	1599485	53.861	ng	#	86
19) Methylene Chloride	5.35	84	302616	22.606	ng		93
20) 3-Chloro-1-propene (Al...	5.43	41	729136	20.678	ng		85
21) Trichlorotrifluoroethane	5.55	151	232502	21.153	ng		88
22) Carbon Disulfide	5.57	76	2250791	47.781	ng		93
23) trans-1,2-Dichloroethene	6.13	61	523326	24.207	ng		96
24) 1,1-Dichloroethane	6.31	63	618039	24.018	ng		99
25) Methyl tert-Butyl Ether	6.35	73	632449	17.201	ng		97
26) Vinyl Acetate	6.44	86	247509	140.193	ng	#	30
27) 2-Butanone (MEK)	6.65	72	402678	47.941	ng	#	78
28) cis-1,2-Dichloroethene	7.07	61	503379	23.828	ng		99
29) Diisopropyl Ether	7.26	87	475346	46.858	ng	#	84
30) Ethyl Acetate	7.27	61	429689	72.912	ng		99
31) n-Hexane	7.27	57	606699	25.445	ng	#	98
32) Chloroform	7.36	83	604360	23.925	ng		100
34) Tetrahydrofuran (THF)	7.73	72	388572	47.444	ng	#	89
35) Ethyl tert-Butyl Ether	7.80	87	717346	49.310	ng		97
36) 1,2-Dichloroethane	8.11	62	530766	24.092	ng		91
38) 1,1,1-Trichloroethane	8.38	97	539706	23.249	ng		98
39) Isopropyl Acetate	9.28	61	23241	No Calib			
40) 1-Butanol	9.19	56	1253951	No Calib			
41) Benzene	8.88	78	1206694	22.153	ng		97
42) Carbon Tetrachloride	9.05	117	440987	21.914	ng		98
43) Cyclohexane	9.19	84	849918	44.563	ng		95
44) tert-Amyl Methyl Ether	9.57	73	1850856	50.582	ng		97
45) 1,2-Dichloropropane	9.84	63	331411	23.373	ng		97
46) Bromodichloromethane	10.06	83	494943	24.342	ng		94
47) Trichloroethene	10.13	130	288628	20.409	ng		98
48) 1,4-Dioxane	10.09	88	241502	25.087	ng		78
49) 2,2,4-Trimethylpentane...	10.21	57	1413411	22.942	ng		99
50) Methyl Methacrylate	10.38	100	218426	46.263	ng	#	88

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132204.D Vial: 2
Acq On : 13 Jun 2022 8:56 Operator: SC
Sample : LCS R9061322 25ng Inst : MS09
Misc : S35-05132201/S35-06022204 (7/2)

Quant Time: Jun 13 09:20:46 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

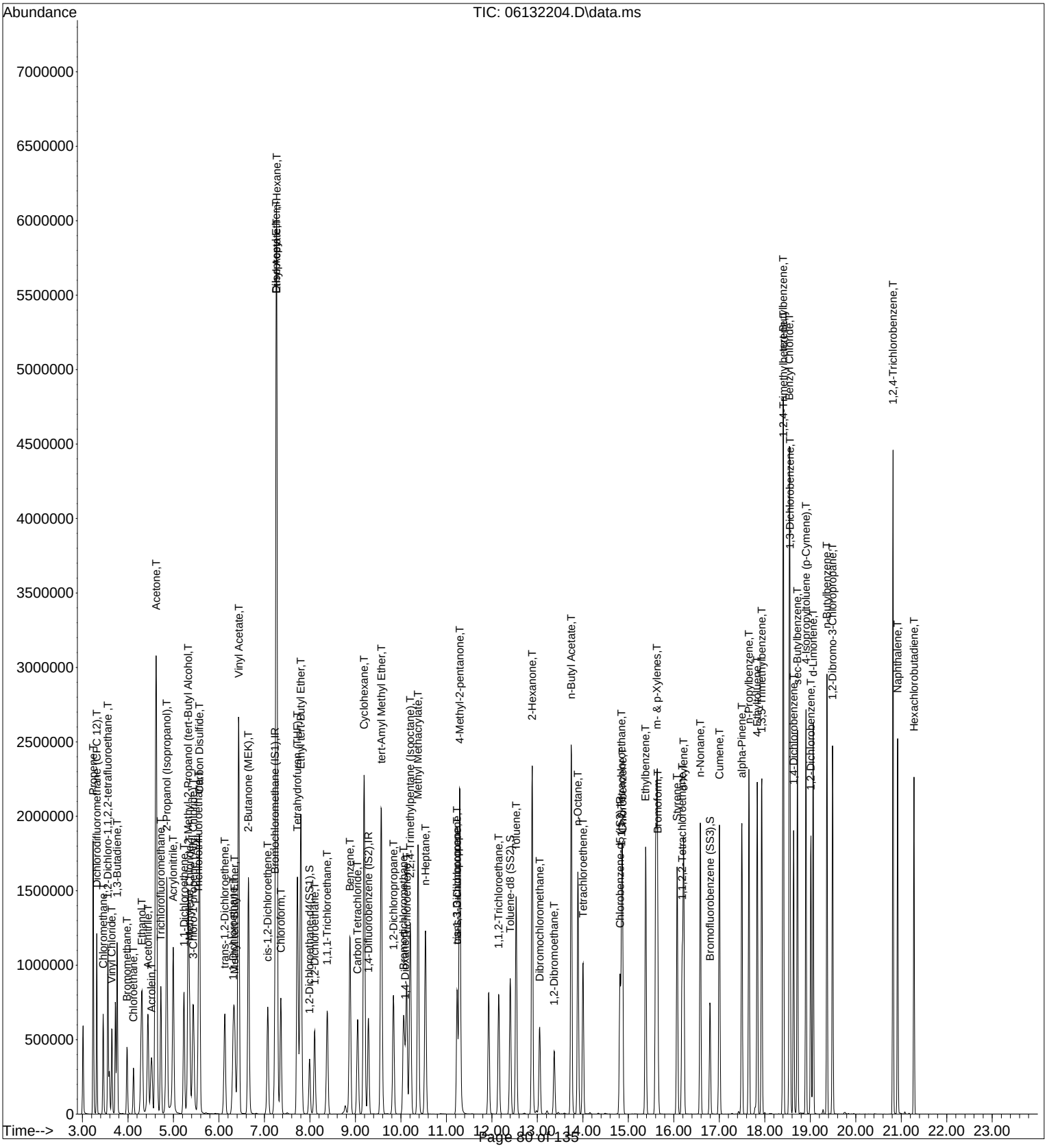
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	293578	22.965 ng		96
52) cis-1,3-Dichloropropene	11.23	75	517679	25.025 ng		95
53) 4-Methyl-2-pentanone	11.30	58	670290	52.683 ng		84
54) trans-1,3-Dichloropropene	11.23	75	517679	24.072 ng		95
55) 1,1,2-Trichloroethane	12.15	97	293663	22.703 ng		95
58) Toluene	12.53	91	1211337	20.105 ng		98
59) 2-Hexanone	12.89	43	2224031	50.242 ng		99
60) Dibromochloromethane	13.05	129	364575	21.131 ng		100
61) 1,2-Dibromoethane	13.37	107	348568	20.907 ng		96
62) n-Butyl Acetate	13.74	43	2486995	51.169 ng		98
63) n-Octane	13.89	57	300890	21.783 ng		96
64) Tetrachloroethene	14.01	166	294460	17.999 ng		95
65) Chlorobenzene	14.87	112	756631	19.496 ng		96
66) Ethylbenzene	15.38	91	1445357	20.828 ng		97
67) m- & p-Xylenes	15.63	91	2404538	42.642 ng		96
68) Bromoform	15.65	173	297004	21.714 ng		94
69) Styrene	16.07	104	813724	21.045 ng		98
70) o-Xylene	16.21	91	1177472	21.207 ng		96
71) n-Nonane	16.58	43	954451	22.857 ng		96
72) 1,1,2,2-Tetrachloroethane	16.19	83	570131	22.578 ng		99
74) Cumene	17.00	105	1357649	20.444 ng		99
75) alpha-Pinene	17.50	93	748607	23.765 ng		91
76) n-Propylbenzene	17.65	91	1777305	21.263 ng		98
77) 3-Ethyltoluene	17.00	105	1357649	No Calib		
78) 4-Ethyltoluene	17.83	105	1357662	21.185 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	1165282	21.094 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.42	105	5289	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1238291	21.898 ng		95
83) n-Decane	17.00	58	11909	No Calib	#	
84) Benzyl Chloride	18.54	91	2226502	55.228 ng		98
85) 1,3-Dichlorobenzene	18.55	146	636840	19.530 ng		98
86) 1,4-Dichlorobenzene	18.63	146	615550	18.990 ng		99
87) sec-Butylbenzene	18.72	105	1521002	20.569 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	1284769	19.567 ng		95
89) 1,2,3-Trimethylbenzene	18.41	105	1238291	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	596240	18.985 ng		98
91) d-Limonene	19.06	68	509067	24.548 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.49	157	455659	41.946 ng		94
93) n-Undecane	17.93	58	28388	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	960127	39.870 ng		99
95) Naphthalene	20.92	128	1413061	21.476 ng		96
96) n-Dodecane	18.72	58	11579	No Calib	#	
97) Hexachlorobutadiene	21.28	225	304906	18.370 ng		97
98) Cyclohexanone	15.63	55	2156	No Calib		
99) tert-Butylbenzene	18.41	119	1118923	20.590 ng		98
100) n-Butylbenzene	19.37	91	1383988	21.815 ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	290573	20.686 ng		87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132204.D Vial: 2
Acq On : 13 Jun 2022 8:56 Operator: SC
Sample : LCS R9061322 25ng Inst : MS09
Misc : S35-05132201/S35-06022204 (7/2)

Quant Time: Jun 13 09:20:46 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132205.D Vial: 2
Acq On : 13 Jun 2022 9:28 Operator: SC
Sample : LCSD R9061322 25ng Inst : MS09
Misc : S35-05132201/S35-06022204 (7/2)

Quant Time: Jun 13 09:51:58 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/13/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	132599	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.29	114	586151	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.82	54	166047	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	306904	13.902	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.20%				
57) Toluene-d8 (SS2)	12.40	98	712731	11.736	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
73) Bromofluorobenzene (SS3)	16.80	174	205690	10.563	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.48%				
Target Compounds							Qvalue
2) Propene	3.24	42	509232	23.935	ng		96
3) Dichlorodifluoromethan...	3.32	85	707287	23.611	ng		95
4) Chloromethane	3.46	50	570792	24.504	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.56	135	281751	22.142	ng		96
6) Vinyl Chloride	3.65	62	482246	25.378	ng		95
7) 1,3-Butadiene	3.77	54	377603	24.912	ng	#	81
8) Bromomethane	3.98	94	266287	22.991	ng		99
9) Chloroethane	4.13	64	211528	23.301	ng		88
10) Ethanol	4.31	45	1476562	96.864	ng		77
11) Acetonitrile	4.44	41	860472	21.463	ng	#	58
12) Acrolein	4.52	56	466772	48.829	ng		97
13) Acetone	4.62	58	1292479	119.698	ng		95
14) Trichlorofluoromethane	4.73	101	642322	22.790	ng		95
15) 2-Propanol (Isopropanol)	4.86	45	2471092	50.834	ng		96
16) Acrylonitrile	5.00	53	996986	47.649	ng		95
17) 1,1-Dichloroethene	5.23	96	292119	22.971	ng		87
18) 2-Methyl-2-Propanol (t...	5.33	59	1604882	53.403	ng	#	85
19) Methylene Chloride	5.35	84	308919	22.803	ng		93
20) 3-Chloro-1-propene (Al...	5.44	41	736346	20.635	ng		84
21) Trichlorotrifluoroethane	5.56	151	239621	21.543	ng		89
22) Carbon Disulfide	5.58	76	2296831	48.181	ng		93
23) trans-1,2-Dichloroethene	6.13	61	537495	24.567	ng		95
24) 1,1-Dichloroethane	6.32	63	632698	24.296	ng		100
25) Methyl tert-Butyl Ether	6.35	73	633235	17.018	ng		96
26) Vinyl Acetate	6.44	86	253551	141.914	ng	#	29
27) 2-Butanone (MEK)	6.65	72	414337	48.745	ng	#	77
28) cis-1,2-Dichloroethene	7.07	61	516614	24.165	ng		99
29) Diisopropyl Ether	7.27	87	481152	46.868	ng	#	84
30) Ethyl Acetate	7.27	61	435464	73.017	ng		100
31) n-Hexane	7.27	57	616600	25.554	ng	#	98
32) Chloroform	7.36	83	615959	24.095	ng		100
34) Tetrahydrofuran (THF)	7.73	72	397456	47.954	ng	#	89
35) Ethyl tert-Butyl Ether	7.80	87	736848	50.050	ng		97
36) 1,2-Dichloroethane	8.11	62	542376	24.327	ng		92
38) 1,1,1-Trichloroethane	8.38	97	552286	23.405	ng		97
39) Isopropyl Acetate	9.29	61	23050	No Calib			
40) 1-Butanol	9.20	56	1278996	No Calib			
41) Benzene	8.88	78	1232406	22.258	ng		98
42) Carbon Tetrachloride	9.05	117	451981	22.096	ng		98
43) Cyclohexane	9.20	84	865256	44.631	ng		95
44) tert-Amyl Methyl Ether	9.57	73	1898879	51.053	ng		97
45) 1,2-Dichloropropane	9.84	63	339095	23.527	ng		97
46) Bromodichloromethane	10.06	83	502236	24.300	ng		93
47) Trichloroethene	10.13	130	295191	20.535	ng		98
48) 1,4-Dioxane	10.09	88	248127	25.357	ng		79
49) 2,2,4-Trimethylpentane...	10.21	57	1446238	23.094	ng		100
50) Methyl Methacrylate	10.38	100	223581	46.586	ng	#	88

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132205.D Vial: 2
Acq On : 13 Jun 2022 9:28 Operator: SC
Sample : LCSD R9061322 25ng Inst : MS09
Misc : S35-05132201/S35-06022204 (7/2)

Quant Time: Jun 13 09:51:58 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

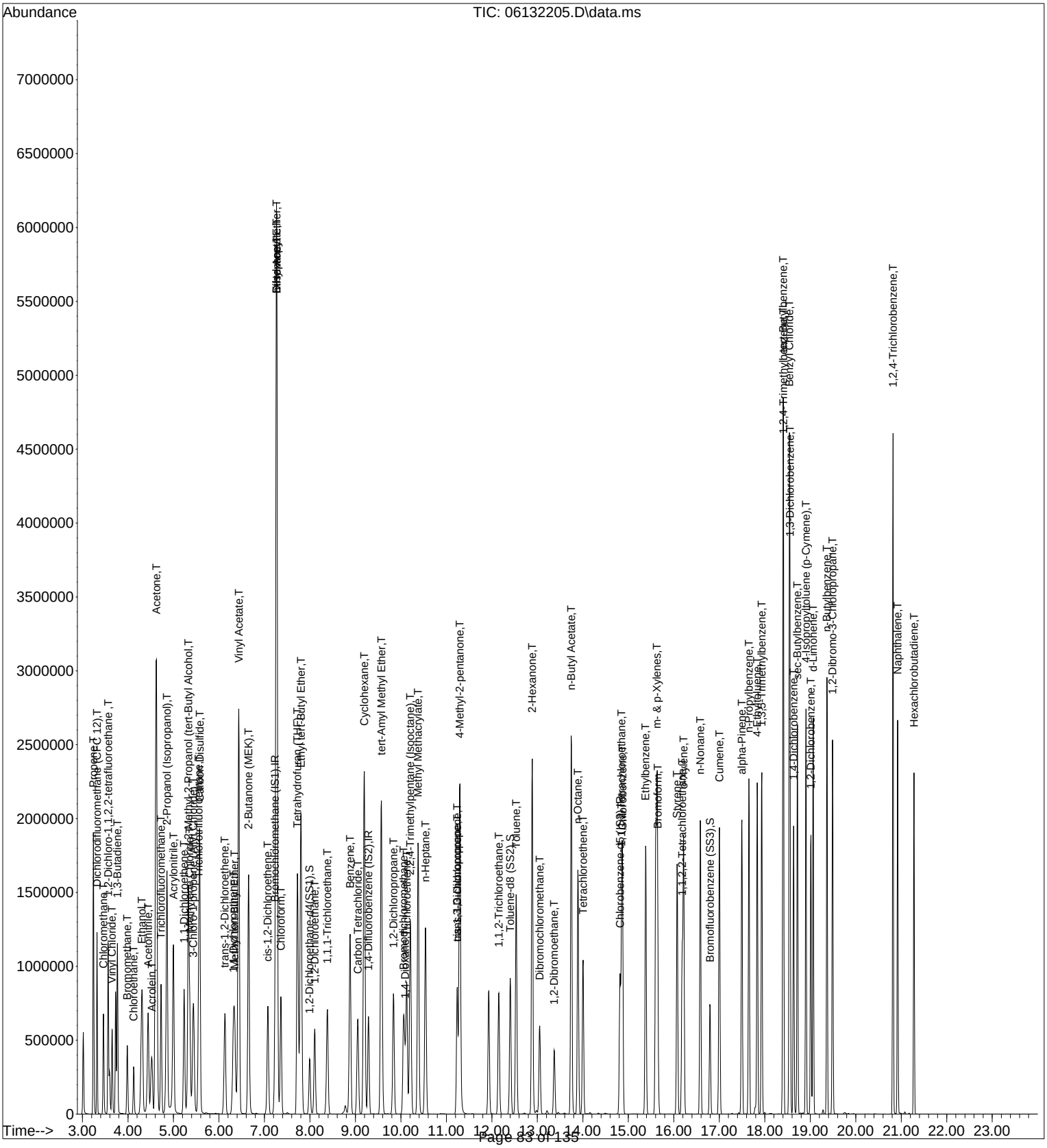
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	299428	23.042 ng		96
52) cis-1,3-Dichloropropene	11.24	75	532110	25.306 ng		95
53) 4-Methyl-2-pentanone	11.30	58	680533	52.621 ng		84
54) trans-1,3-Dichloropropene	11.24	75	532110	24.342 ng		95
55) 1,1,2-Trichloroethane	12.15	97	299874	22.808 ng		95
58) Toluene	12.53	91	1235596	20.216 ng		99
59) 2-Hexanone	12.89	43	2267009	50.484 ng		99
60) Dibromochloromethane	13.05	129	370971	21.196 ng		100
61) 1,2-Dibromoethane	13.37	107	354808	20.978 ng		96
62) n-Butyl Acetate	13.74	43	2534211	51.399 ng		98
63) n-Octane	13.89	57	307685	21.958 ng		96
64) Tetrachloroethene	14.01	166	301468	18.165 ng		96
65) Chlorobenzene	14.87	112	771584	19.599 ng		96
66) Ethylbenzene	15.38	91	1467865	20.851 ng		97
67) m- & p-Xylenes	15.63	91	2434118	42.552 ng		96
68) Bromoform	15.65	173	302097	21.773 ng		94
69) Styrene	16.07	104	825358	21.042 ng		98
70) o-Xylene	16.21	91	1194736	21.212 ng		97
71) n-Nonane	16.58	43	966913	22.826 ng		96
72) 1,1,2,2-Tetrachloroethane	16.19	83	578796	22.595 ng		99
74) Cumene	17.00	105	1374140	20.398 ng		100
75) alpha-Pinene	17.50	93	763242	23.885 ng		91
76) n-Propylbenzene	17.65	91	1799069	21.217 ng		98
77) 3-Ethyltoluene	17.00	105	1374140	No Calib		
78) 4-Ethyltoluene	17.83	105	1352204	20.800 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	1188177	21.203 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.42	105	2918	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	1260055	21.966 ng		95
83) n-Decane	17.00	58	12092	No Calib	#	
84) Benzyl Chloride	18.54	91	2303359	56.322 ng		98
85) 1,3-Dichlorobenzene	18.55	146	650309	19.659 ng		98
86) 1,4-Dichlorobenzene	18.63	146	628349	19.110 ng		100
87) sec-Butylbenzene	18.72	105	1548346	20.641 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	1302710	19.558 ng		95
89) 1,2,3-Trimethylbenzene	18.41	105	1260055	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	609576	19.133 ng		97
91) d-Limonene	19.06	68	521032	24.768 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.49	157	470475	42.694 ng		94
93) n-Undecane	17.93	58	28893	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1002389	41.032 ng		98
95) Naphthalene	20.92	128	1475672	22.108 ng		96
96) n-Dodecane	18.72	58	11875	No Calib	#	
97) Hexachlorobutadiene	21.28	225	317294	18.844 ng		97
98) Cyclohexanone	15.62	55	2264	No Calib		
99) tert-Butylbenzene	18.41	119	1133921	20.569 ng		98
100) n-Butylbenzene	19.37	91	1408009	21.878 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	296143	20.782 ng		87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132205.D Vial: 2
Acq On : 13 Jun 2022 9:28 Operator: SC
Sample : LCSD R9061322 25ng Inst : MS09
Misc : S35-05132201/S35-06022204 (7/2)

Quant Time: Jun 13 09:51:58 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9052522.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu May 26 09:07:35 2022
Response Via : Initial Calibration

5/26/22

Calibration Files
0.1 =05252228.D 0.2 =05252229.D 0.5 =05252230.D 1.0 =05252231.D 5.0 =05252232.D 25 =05252
100 =05252235.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	2.615	2.036	2.309	2.003	1.743	1.750	1.722	1.866	2.006	15.75
3)	T	Dichlorodifluo...	3.579	2.934	3.404	2.937	2.532	2.502	2.386	2.317	2.824	16.77
4)	T	Chloromethane	2.816	2.376	2.760	2.405	1.873	2.033	1.872	1.432	2.196	21.75
5)	T	1,2-Dichloro-1...	1.439	1.271	1.456	1.260	1.078	1.075	1.013	1.004	1.200	15.30
6)	T	Vinyl Chloride	2.057	1.833	2.216	1.953	1.674	1.636	1.526	1.437	1.791	15.10
7)	T	1,3-Butadiene	1.683	1.380	1.728	1.523	1.302	1.311	1.250	1.254	1.429	13.43
8)	T	Bromomethane	1.301	1.054	1.345	1.157	0.969	1.008	0.955	0.947	1.092	14.48
9)	T	Chloroethane	1.032	0.869	1.016	0.896	0.767	0.776	0.745	0.744	0.856	13.80
10)	T	Ethanol	1.924	1.549	1.673	1.480	1.229	1.253	1.200	1.187	1.437	18.66
11)	T	Acetonitrile	4.755	3.934	4.475	3.915	3.311	3.375	3.238	3.232	3.779	15.67
12)	T	Acrolein	1.043	0.923	1.056	0.955	0.832	0.830	0.789	0.782	0.901	12.17
13)	T	Acetone	1.322	1.081	1.202	1.039	0.906	0.919	0.861	0.814	1.018	17.39
14)	T	Trichlorofluor...	3.338	2.716	3.196	2.767	2.364	2.379	2.255	2.239	2.657	16.03
15)	T	2-Propanol (Is...	5.830	4.720	5.428	4.850	4.063	4.280	3.993	3.497	4.583	17.00
16)	T	Acrylonitrile	2.244	1.965	2.337	2.091	1.814	1.834	1.755	1.739	1.972	11.61
17)	T	1,1-Dichloroet...	1.573	1.211	1.416	1.238	1.051	1.064	1.016	1.020	1.199	17.09
18)	T	2-Methyl-2-Pro...			3.878	3.417	2.482	3.016	2.544	1.661	2.833	27.56
19)	T	Methylene Chlo...	1.583	1.297	1.537	1.331	1.139	1.149	1.097	1.084	1.277	15.38
20)	T	3-Chloro-1-pro...	4.258	3.648	4.442	3.756	2.976	2.791	2.567	2.473	3.364	22.76
21)	T	Trichlorotrifl...	1.236	1.117	1.263	1.077	0.922	0.940	0.909	0.923	1.049	13.94
22)	T	Carbon Disulfide	5.244	4.534	5.357	4.664	4.127	4.239	4.008	3.778	4.494	12.72
23)	T	trans-1,2-Dich...	2.445	2.047	2.411	2.126	1.875	1.915	1.842	1.839	2.062	11.98
24)	T	1,1-Dichloroet...	2.990	2.557	2.906	2.566	2.166	2.218	2.121	2.114	2.455	14.43
25)	T	Methyl tert-Bu...	4.302	3.859	4.479	3.978	3.038	2.715	2.182		3.508	24.76
26)	T	Vinyl Acetate	0.124	0.135	0.182	0.172	0.174	0.191	0.185	0.185	0.168	14.81
27)	T	2-Butanone (MEK)	0.888	0.786	0.936	0.833	0.750	0.762	0.732	0.724	0.801	9.67
28)	T	cis-1,2-Dichlo...	2.378	2.020	2.406	2.100	1.824	1.848	1.772	1.775	2.015	12.90
29)	T	Diisopropyl Ether	1.275	0.967	1.126	1.014	0.871	0.893	0.825	0.770	0.968	17.30
30)	T	Ethyl Acetate	0.634	0.552	0.653	0.596	0.541	0.562	0.507	0.454	0.562	11.59
31)	T	n-Hexane	2.799	2.370	2.725	2.393	2.106	2.165	1.944	1.696	2.275	16.50
32)	T	Chloroform	2.925	2.485	2.850	2.541	2.180	2.181	2.066	2.051	2.410	14.32
33)	S	1,2-Dichloroet...	2.070	2.090	2.073	2.087	2.090	2.077	2.067	2.095	2.081	0.51
34)	T	Tetrahydrofura...	0.918	0.759	0.917	0.812	0.714	0.730	0.702	0.699	0.781	11.75
35)	T	Ethyl tert-But...	1.476	1.359	1.593	1.478	1.299	1.340	1.289	1.269	1.388	8.30
36)	T	1,2-Dichloroet...	2.602	2.176	2.476	2.199	1.899	1.881	1.792	1.788	2.102	14.93
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.558	0.503	0.597	0.534	0.460	0.477	0.455	0.441	0.503	11.03
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.591	1.245	1.394	1.204	1.020	1.042	0.988	0.961	1.181	18.92
42)	T	Carbon Tetrach...	0.509	0.434	0.510	0.445	0.394	0.412	0.398	0.388	0.436	11.28
43)	T	Cyclohexane	0.504	0.435	0.489	0.429	0.370	0.379	0.360	0.341	0.413	14.68
44)	T	tert-Amyl Meth...	0.869	0.759	0.913	0.811	0.729	0.786	0.756	0.722	0.793	8.56
45)	T	1,2-Dichloropr...	0.367	0.305	0.367	0.315	0.276	0.285	0.274	0.270	0.307	12.96
46)	T	Bromodichlorom...	0.503	0.431	0.500	0.452	0.404	0.425	0.410	0.401	0.441	9.26
47)	T	Trichloroethene	0.395	0.324	0.369	0.309	0.270	0.271	0.260	0.254	0.307	17.26
48)	T	1,4-Dioxane	0.196	0.185	0.250	0.226	0.197	0.211	0.204	0.200	0.209	9.86
49)	T	2,2,4-Trimethy...	1.670	1.372	1.581	1.374	1.189	1.215	1.161	1.122	1.336	15.17
50)	T	Methyl Methacr...	0.109	0.095	0.118	0.106	0.096	0.102	0.098	0.095	0.102	8.09
51)	T	n-Heptane	0.326	0.292	0.324	0.286	0.247	0.256	0.245	0.241	0.277	12.55
52)	T	cis-1,3-Dichlo...	0.457	0.393	0.531	0.467	0.421	0.453	0.436	0.430	0.448	9.04
53)	T	4-Methyl-2-pen...	0.270	0.250	0.328	0.285	0.259	0.280	0.272	0.262	0.276	8.71
54)	T	trans-1,3-Dich...	0.475	0.409	0.552	0.486	0.437	0.471	0.454	0.447	0.466	9.04

55)	T	1,1,2-Trichlor...	0.322	0.280	0.329	0.298	0.254	0.263	0.251	0.246	0.280	11.67
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	4.646	4.608	4.607	4.647	4.611	4.532	4.499	4.424	4.572	1.73
58)	T	Toluene	5.934	4.834	5.510	4.812	4.123	4.089	3.861	3.646	4.601	17.72
59)	T	2-Hexanone	3.409	3.165	4.083	3.578	3.231	3.407	3.221	2.951	3.380	10.08
60)	T	Dibromochlorom...	1.431	1.249	1.530	1.349	1.228	1.298	1.242	1.213	1.318	8.55
61)	T	1,2-Dibromoethane	1.412	1.178	1.549	1.351	1.203	1.218	1.156	1.119	1.273	11.71
62)	T	n-Butyl Acetate	3.811	3.375	4.453	3.898	3.570	3.777	3.573	3.236	3.712	10.07
63)	T	n-Octane	1.276	1.057	1.240	1.101	0.948	0.971	0.941	0.906	1.055	13.37
64)	T	Tetrachloroethene	1.628	1.300	1.480	1.278	1.092	1.105	1.060	1.050	1.249	17.14
65)	T	Chlorobenzene	3.775	3.086	3.547	3.061	2.636	2.661	2.526	2.418	2.964	16.69
66)	T	Ethylbenzene	6.597	5.414	6.261	5.511	4.835	4.876	4.601	4.301	5.299	15.21
67)	T	m- & p-Xylenes	5.170	4.366	5.129	4.474	3.925	4.028	3.839	3.520	4.306	13.91
68)	T	Bromoform	1.008	0.871	1.142	1.021	0.993	1.112	1.105	1.102	1.045	8.54
69)	T	Styrene	3.279	2.774	3.434	3.083	2.806	2.884	2.756	2.607	2.953	9.68
70)	T	o-Xylene	5.097	4.334	5.005	4.473	3.884	3.902	3.720	3.505	4.240	13.91
71)	T	n-Nonane	3.906	3.251	3.719	3.300	2.922	2.956	2.822	2.634	3.189	13.92
72)	T	1,1,2,2-Tetrac...	2.180	1.811	2.239	2.021	1.806	1.856	1.789	1.724	1.928	10.05
73)	S	Bromofluoroben...	1.456	1.446	1.451	1.459	1.467	1.468	1.486	1.493	1.466	1.13
74)	T	Cumene	6.176	5.221	6.092	5.313	4.663	4.660	4.387	4.059	5.071	15.23
75)	T	alpha-Pinene	2.614	2.334	2.722	2.500	2.277	2.374	2.278	2.146	2.406	8.00
76)	T	n-Propylbenzene	7.732	6.423	7.689	6.777	5.948	5.914	5.554	5.027	6.383	15.23
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	5.667	4.893	5.919	5.262	4.513	4.632	4.275	3.990	4.894	13.81
79)	T	1,3,5-Trimethy...	5.002	4.224	5.071	4.419	3.913	3.938	3.735	3.448	4.219	13.82
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	4.938	4.259	5.171	4.551	4.083	4.205	3.907	3.433	4.318	12.95
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	2.321	2.163	3.205	3.121	3.311	3.846	3.611	3.052	3.079	18.84
85)	T	1,3-Dichlorobe...	2.960	2.498	2.927	2.589	2.252	2.349	2.260	2.085	2.490	12.83
86)	T	1,4-Dichlorobe...	2.995	2.489	2.903	2.556	2.230	2.301	2.213	2.115	2.475	13.21
87)	T	sec-Butylbenzene	6.855	5.712	6.920	5.962	5.233	5.241	4.886	4.365	5.647	16.04
88)	T	4-Isopropyltol...	6.468	5.193	6.057	5.245	4.534	4.553	4.243	3.821	5.014	18.07
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.917	2.358	2.918	2.516	2.155	2.194	2.112	2.016	2.398	14.82
91)	T	d-Limonene	1.608	1.400	1.727	1.642	1.560	1.640	1.596	1.495	1.584	6.32
92)	T	1,2-Dibromo-3-...	0.754	0.676	0.946	0.849	0.808	0.888	0.872	0.844	0.830	10.11
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	1.903	1.658	2.197	1.885	1.680	1.897	1.861	1.630	1.839	10.07
95)	T	Naphthalene	4.534	4.222	6.182	5.270	4.906	5.372	5.131	4.582	5.025	12.19
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.480	1.286	1.502	1.245	1.088	1.194	1.192	1.154	1.268	11.83
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	5.191	4.238	4.977	4.347	3.822	3.869	3.581	3.175	4.150	16.48
100)	T	n-Butylbenzene	5.530	4.689	5.960	5.173	4.596	4.640	4.331	3.842	4.845	14.00
101)	T	1,1,1,2-Tetrac...	1.100	1.064	1.270	1.134	0.999	1.043	1.005	0.968	1.073	8.99

(#) = Out of Range

R9052522.M Thu May 26 09:13:40 2022

Primary Source Standards Concentrations (Working & Initial Calibration)

6/6/22

1ng/L Std. ID:
4ng/L Std. ID: S35-05252202
20ng/L Std. ID: S35-05252201
40ng/L Std. ID:
200ng/L Std. ID: S35-04242207
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Last Updated: 05/18/2022

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | **40ng/L Std. ID:**
4ng/L Std. ID: S35-05252202 | **200ng/L Std. ID:** S35-04242207
20ng/L Std. ID: S35-05252201 | **1000ng/L Std. ID:**

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.			Primary Working Standards				Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Uncontrolled Copy

Calibration Status Report MS09

Method   : I:\MS09\Methods\R9052522.M (RTE Integrator)
Title   : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration

6/6/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\DATA\2022_05\25\05252228.D
2	0.2	0	13	I:\MS09\DATA\2022_05\25\05252229.D
3	0.5	1	13	I:\MS09\DATA\2022_05\25\05252230.D
4	1.0	1	13	I:\MS09\DATA\2022_05\25\05252231.D
5	5.0	5	13	I:\MS09\DATA\2022_05\25\05252232.D
6	25	26	13	I:\MS09\DATA\2022_05\25\05252233.D
7	50	52	13	I:\MS09\DATA\2022_05\25\05252234.D
8	100	104	13	I:\MS09\DATA\2022_05\25\05252235.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	May 26 09:04 2022	May 26 08:58 2022	25 May 2022 21:40
2	0.2	May 26 09:04 2022	May 26 08:51 2022	25 May 2022 22:12
3	0.5	May 26 09:05 2022	May 26 08:50 2022	25 May 2022 22:44
4	1.0	May 26 09:06 2022	May 26 08:47 2022	25 May 2022 23:17
5	5.0	May 26 09:06 2022	May 26 08:37 2022	25 May 2022 23:48
6	25	May 26 09:07 2022	May 26 08:35 2022	26 May 2022 00:20
7	50	May 26 09:07 2022	May 26 09:01 2022	26 May 2022 00:52
8	100	May 26 09:07 2022	May 26 09:02 2022	26 May 2022 1:25

R9052522.M Mon Jun 06 10:03:15 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252228.D Vial: 14
Acq On : 25 May 2022 21:40 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252202 (6/23)

Quant Time: May 26 08:58:31 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/26/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	166602	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	718361	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	185704	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.95	65	344870	11.271	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.16%				
57) Toluene-d8 (SS2)	12.39	98	862760	12.364	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
73) Bromofluorobenzene (SS3)	16.79	174	270324	15.016	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 120.16%				
Target Compounds							Qvalue
2) Propene	3.28	42	3625	0.112	ng		96
3) Dichlorodifluoromethan...	3.35	85	5009	0.126	ng		95
4) Chloromethane	3.50	50	3828	0.104	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	2072	0.139	ng		95
6) Vinyl Chloride	3.68	62	2851	0.111	ng		95
7) 1,3-Butadiene	3.79	54	2333	0.126	ng	#	77
8) Bromomethane	4.01	94	1768	0.106	ng		99
9) Chloroethane	4.15	64	1403	0.092	ng		90
10) Ethanol	4.26	45	9285	0.390	ng		81
11) Acetonitrile	4.42	41	5894	0.100	ng	#	44
12) Acrolein	4.51	56	2780	0.172	ng		98
13) Acetone	4.61	58	9145	0.526	ng		89
14) Trichlorofluoromethane	4.73	101	4583	0.138	ng		95
15) 2-Propanol (Isopropanol)	4.83	45	15697	0.224	ng		95
16) Acrylonitrile	4.96	53	6071	0.180	ng		95
17) 1,1-Dichloroethene	5.24	96	2243	0.126	ng		96
18) 2-Methyl-2-Propanol (t...	5.36	59	10323	0.201	ng	#	77
19) Methylene Chloride	5.32	84	2194	0.108	ng		98
20) 3-Chloro-1-propene (Al...	5.42	41	5959	0.123	ng		85
21) Trichlorotrifluoroethane	5.55	151	1779	0.141	ng		98
22) Carbon Disulfide	5.58	76	14677	0.199	ng		93
23) trans-1,2-Dichloroethene	6.10	61	3454	0.104	ng		92
24) 1,1-Dichloroethane	6.27	63	4184	0.105	ng		99
25) Methyl tert-Butyl Ether	6.37	73	6021	0.125	ng		97
26) Vinyl Acetate	6.41	86	561	0.204	ng	#	1
27) 2-Butanone (MEK)	6.65	72	2439	0.179	ng	#	64
28) cis-1,2-Dichloroethene	7.03	61	3296	0.103	ng		97
29) Diisopropyl Ether	7.26	87	3603	0.255	ng	#	73
30) Ethyl Acetate	7.25	61	3446	0.389	ng		98
31) n-Hexane	7.27	57	3917	0.109	ng	#	97
32) Chloroform	7.32	83	4171	0.120	ng		100
34) Tetrahydrofuran (THF)	7.75	72	2411	0.179	ng	#	89
35) Ethyl tert-Butyl Ether	7.80	87	4132	0.193	ng		95
36) 1,2-Dichloroethane	8.07	62	3676	0.124	ng		91
38) 1,1,1-Trichloroethane	8.36	97	3337	0.123	ng		97
39) Isopropyl Acetate	9.26	61	25147	No Calib			
40) 1-Butanol	9.17	56	8408	No Calib			
41) Benzene	8.86	78	9512	0.127	ng		98
42) Carbon Tetrachloride	9.02	117	3071	0.146	ng		98
43) Cyclohexane	9.17	84	5996	0.233	ng		98
44) tert-Amyl Methyl Ether	9.58	73	10438	0.200	ng		97
45) 1,2-Dichloropropane	9.81	63	2171	0.102	ng		98
46) Bromodichloromethane	10.04	83	3033	0.118	ng		93
47) Trichloroethene	10.10	130	2341	0.147	ng		98
48) 1,4-Dioxane	10.13	88	1172	0.090	ng		84
49) 2,2,4-Trimethylpentane...	10.20	57	10176	0.112	ng		98
50) Methyl Methacrylate	10.39	100	1304	0.221	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252228.D Vial: 14
Acq On : 25 May 2022 21:40 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252202 (6/23)

Quant Time: May 26 08:58:31 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

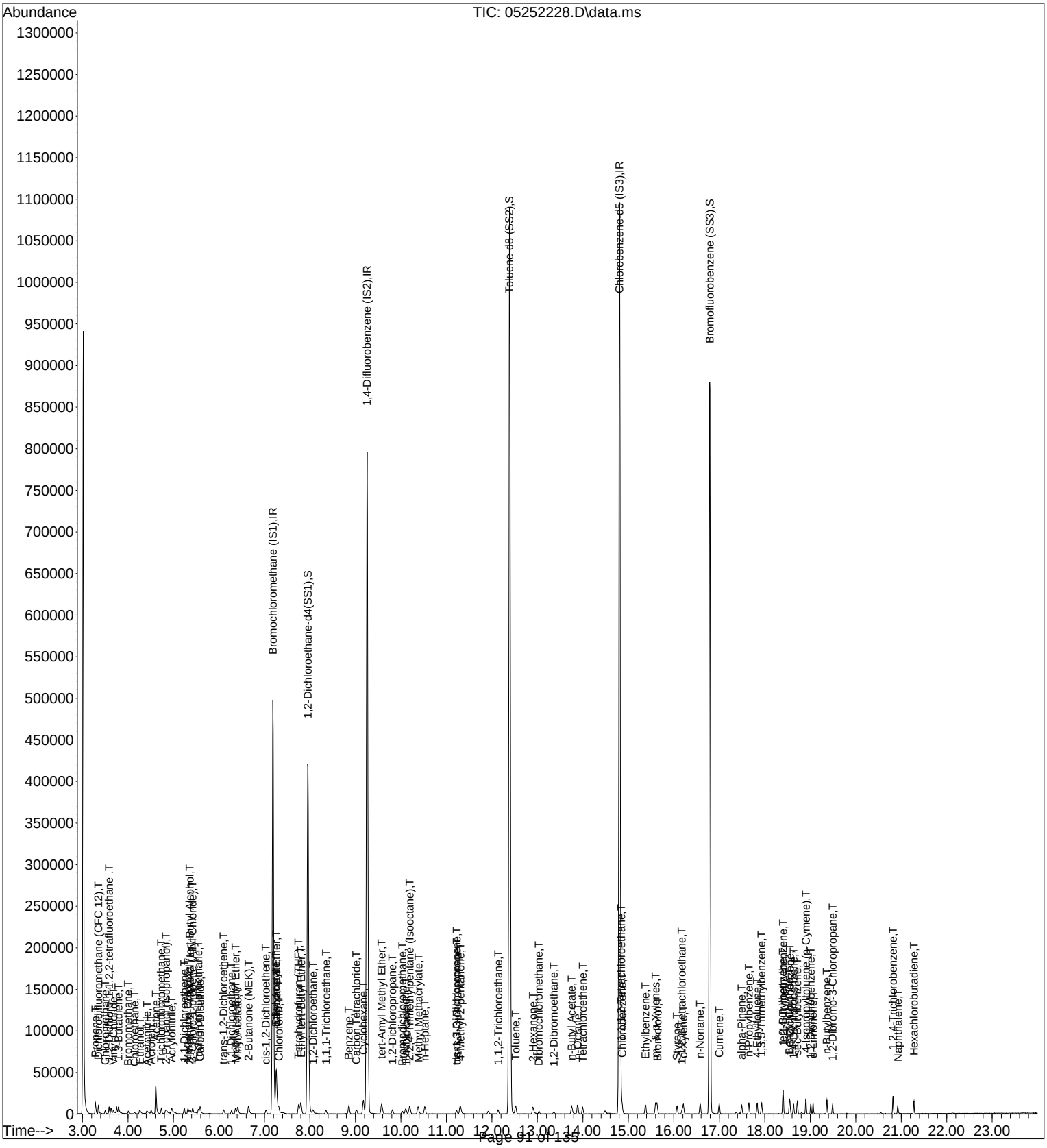
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.52	71	1965	0.104 ng		97
52) cis-1,3-Dichloropropene	11.23	75	2756	0.092 ng		95
53) 4-Methyl-2-pentanone	11.31	58	3227	0.167 ng		77
54) trans-1,3-Dichloropropene	11.23	75	2756	0.088 ng		95
55) 1,1,2-Trichloroethane	12.14	97	1924	0.115 ng		97
58) Toluene	12.52	91	9080	0.127 ng		98
59) 2-Hexanone	12.90	43	10382	0.191 ng		98
60) Dibromochloromethane	13.03	129	2233	0.126 ng		100
61) 1,2-Dibromoethane	13.36	107	2181	0.117 ng		96
62) n-Butyl Acetate	13.76	43	11551	0.197 ng		96
63) n-Octane	13.89	57	1991	0.104 ng		98
64) Tetrachloroethene	14.00	166	2515	0.164 ng		96
65) Chlorobenzene	14.86	112	5833	0.138 ng		96
66) Ethylbenzene	15.37	91	10095	0.124 ng		96
67) m- & p-Xylenes	15.60	91	15821	0.244 ng		98
68) Bromoform	15.64	173	1558	0.122 ng		95
69) Styrene	16.07	104	5018	0.110 ng		99
70) o-Xylene	16.21	91	7875	0.121 ng		98
71) n-Nonane	16.58	43	6035	0.118 ng		99
72) 1,1,2,2-Tetrachloroethane	16.17	83	3368	0.105 ng		98
74) Cumene	17.00	105	9543	0.128 ng		99
75) alpha-Pinene	17.49	93	4194	0.109 ng		88
76) n-Propylbenzene	17.65	91	12061	0.124 ng		97
77) 3-Ethyltoluene	17.00	105	9543	No Calib		
78) 4-Ethyltoluene	17.83	105	8925	0.124 ng		97
79) 1,3,5-Trimethylbenzene	17.93	105	7728	0.125 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.45	105	552	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	7556	0.122 ng		97
83) n-Decane	16.80	58	433	No Calib	#	
84) Benzyl Chloride	18.54	91	7103	0.145 ng		95
85) 1,3-Dichlorobenzene	18.55	146	4573	0.148 ng		98
86) 1,4-Dichlorobenzene	18.63	146	4628	0.144 ng		99
87) sec-Butylbenzene	18.72	105	10592	0.127 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	9993	0.148 ng		98
89) 1,2,3-Trimethylbenzene	18.41	105	7556	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	4551	0.148 ng		98
91) d-Limonene	19.06	68	2509	0.088 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.50	157	2241	0.208 ng	#	82
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.82	180	5767	0.275 ng		99
95) Naphthalene	20.93	128	7005	0.102 ng		96
96) n-Dodecane	18.91	58	233	No Calib	#	
97) Hexachlorobutadiene	21.28	225	2265	0.154 ng		97
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	8021	0.143 ng		97
100) n-Butylbenzene	19.37	91	8544	0.117 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	1699	0.118 ng		87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252228.D Vial: 14
Acq On : 25 May 2022 21:40 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252202 (6/23)

Quant Time: May 26 08:58:31 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252229.D Vial: 14
Acq On : 25 May 2022 22:12 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252202 (6/23)

Quant Time: May 26 08:51:59 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/26/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	164317	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	714517	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	185547	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	343353	11.377	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.04%				
57) Toluene-d8 (SS2)	12.39	98	854998	12.263	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
73) Bromofluorobenzene (SS3)	16.79	174	268380	14.921	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 119.36%				
Target Compounds							Qvalue
2) Propene	3.28	42	5566	0.174	ng		96
3) Dichlorodifluoromethan...	3.35	85	8100	0.207	ng		98
4) Chloromethane	3.49	50	6371	0.175	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	3610	0.245	ng		99
6) Vinyl Chloride	3.67	62	5012	0.198	ng		98
7) 1,3-Butadiene	3.78	54	3774	0.207	ng		92
8) Bromomethane	4.00	94	2826	0.172	ng		97
9) Chloroethane	4.14	64	2330	0.155	ng		100
10) Ethanol	4.24	45	14741	0.628	ng		84
11) Acetonitrile	4.41	41	9619	0.165	ng	#	67
12) Acrolein	4.51	56	4851	0.304	ng		87
13) Acetone	4.61	58	14744	0.859	ng	#	86
14) Trichlorofluoromethane	4.73	101	7355	0.224	ng		99
15) 2-Propanol (Isopropanol)	4.82	45	25064	0.362	ng		85
16) Acrylonitrile	4.96	53	10489	0.315	ng		92
17) 1,1-Dichloroethene	5.23	96	3408	0.194	ng		99
18) 2-Methyl-2-Propanol (t...	5.36	59	17810m	0.352	ng		
19) Methylene Chloride	5.31	84	3547	0.177	ng		99
20) 3-Chloro-1-propene (Al...	5.42	41	10071	0.211	ng		88
21) Trichlorotrifluoroethane	5.54	151	3172	0.256	ng		98
22) Carbon Disulfide	5.58	76	25033	0.344	ng		96
23) trans-1,2-Dichloroethene	6.10	61	5705	0.173	ng		95
24) 1,1-Dichloroethane	6.28	63	7060	0.179	ng		97
25) Methyl tert-Butyl Ether	6.36	73	10653	0.224	ng		100
26) Vinyl Acetate	6.41	86	1210	0.447	ng	#	63
27) 2-Butanone (MEK)	6.64	72	4255	0.317	ng	#	81
28) cis-1,2-Dichloroethene	7.03	61	5523	0.174	ng		98
29) Diisopropyl Ether	7.26	87	5392	0.387	ng		98
30) Ethyl Acetate	7.25	61	5921	0.678	ng		98
31) n-Hexane	7.27	57	6542	0.185	ng		99
32) Chloroform	7.32	83	6991	0.204	ng		97
34) Tetrahydrofuran (THF)	7.74	72	3929	0.296	ng	#	89
35) Ethyl tert-Butyl Ether	7.79	87	7504	0.355	ng		97
36) 1,2-Dichloroethane	8.07	62	6064	0.207	ng		95
38) 1,1,1-Trichloroethane	8.36	97	5982	0.222	ng		96
39) Isopropyl Acetate	9.26	61	25387	No Calib			
40) 1-Butanol	9.17	56	13752	No Calib			
41) Benzene	8.86	78	14805	0.199	ng		99
42) Carbon Tetrachloride	9.03	117	5210	0.250	ng		99
43) Cyclohexane	9.18	84	10284	0.402	ng		94
44) tert-Amyl Methyl Ether	9.57	73	18140	0.349	ng		97
45) 1,2-Dichloropropane	9.82	63	3588	0.170	ng		100
46) Bromodichloromethane	10.04	83	5173	0.202	ng		97
47) Trichloroethene	10.10	130	3818	0.241	ng		99
48) 1,4-Dioxane	10.12	88	2205	0.170	ng		98
49) 2,2,4-Trimethylpentane...	10.19	57	16626	0.184	ng		99
50) Methyl Methacrylate	10.37	100	2254	0.384	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252229.D Vial: 14
Acq On : 25 May 2022 22:12 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252202 (6/23)

Quant Time: May 26 08:51:59 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

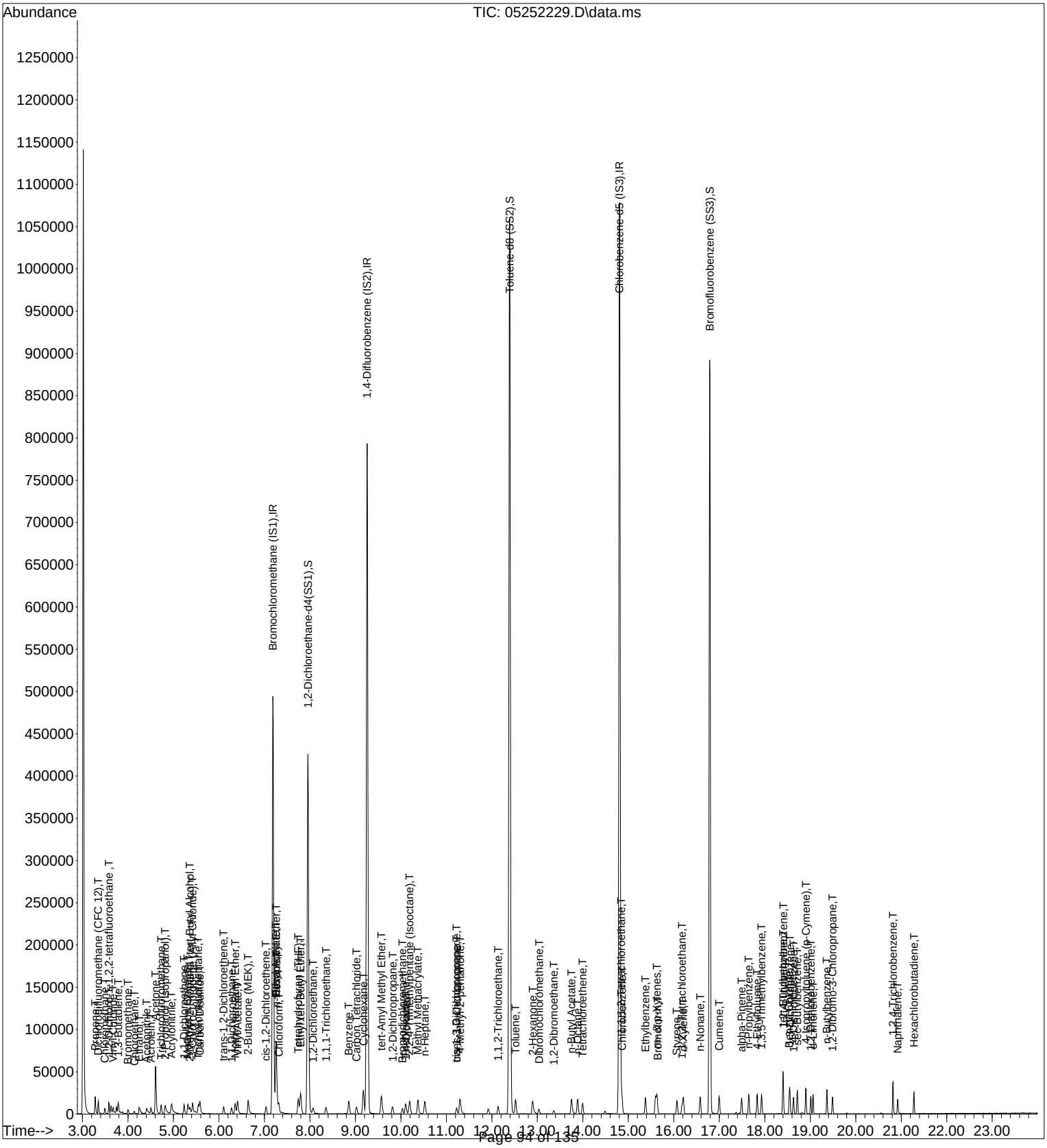
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.52	71	3503	0.187 ng		97
52) cis-1,3-Dichloropropene	11.22	75	4718	0.158 ng		98
53) 4-Methyl-2-pentanone	11.30	58	5945	0.309 ng		88
54) trans-1,3-Dichloropropene	11.22	75	4718	0.152 ng		98
55) 1,1,2-Trichloroethane	12.14	97	3332	0.201 ng		99
58) Toluene	12.52	91	14781	0.207 ng		96
59) 2-Hexanone	12.90	43	19260	0.354 ng		97
60) Dibromochloromethane	13.04	129	3893	0.220 ng		96
61) 1,2-Dibromoethane	13.36	107	3636	0.195 ng		98
62) n-Butyl Acetate	13.75	43	20440	0.348 ng		99
63) n-Octane	13.89	57	3294	0.172 ng		92
64) Tetrachloroethene	13.99	166	4015	0.261 ng		96
65) Chlorobenzene	14.86	112	9527	0.226 ng		100
66) Ethylbenzene	15.37	91	16554	0.203 ng		99
67) m- & p-Xylenes	15.62	91	26701	0.412 ng		99
68) Bromoform	15.65	173	2690	0.210 ng		99
69) Styrene	16.07	104	8482	0.186 ng		98
70) o-Xylene	16.21	91	13382	0.206 ng		99
71) n-Nonane	16.58	43	10038	0.196 ng		97
72) 1,1,2,2-Tetrachloroethane	16.18	83	5593	0.175 ng		96
74) Cumene	17.00	105	16119	0.217 ng		100
75) alpha-Pinene	17.49	93	7484	0.194 ng		89
76) n-Propylbenzene	17.65	91	20022	0.206 ng		99
77) 3-Ethyltoluene	17.00	105	16119	No Calib		
78) 4-Ethyltoluene	17.83	105	15398	0.214 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	13041	0.212 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.44	105	502	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	13022	0.211 ng		96
83) n-Decane	16.78	58	252	No Calib	#	
84) Benzyl Chloride	18.54	91	13230	0.270 ng		97
85) 1,3-Dichlorobenzene	18.55	146	7714	0.251 ng		99
86) 1,4-Dichlorobenzene	18.63	146	7686	0.240 ng		97
87) sec-Butylbenzene	18.72	105	17635	0.212 ng		100
88) 4-Isopropyltoluene (p-...	18.91	119	16032	0.238 ng		97
89) 1,2,3-Trimethylbenzene	18.41	105	13022	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	7350	0.239 ng		97
91) d-Limonene	19.06	68	4364	0.154 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.49	157	4012	0.373 ng	#	81
93) n-Undecane	17.93	58	212	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	10043	0.480 ng		98
95) Naphthalene	20.92	128	13034	0.190 ng		96
96) n-Dodecane	18.90	58	496	No Calib	#	
97) Hexachlorobutadiene	21.28	225	3932	0.267 ng		98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	13084	0.234 ng		99
100) n-Butylbenzene	19.37	91	14476	0.199 ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	3285	0.227 ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252229.D Vial: 14
Acq On : 25 May 2022 22:12 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252202 (6/23)

Quant Time: May 26 08:51:59 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252230.D Vial: 15
Acq On : 25 May 2022 22:44 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252201 (6/23)

Quant Time: May 26 08:50:14 2022 5/26/22
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	164715	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	710649	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	184148	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	341535	11.290	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.32%				
57) Toluene-d8 (SS2)	12.39	98	848423	12.261	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
73) Bromofluorobenzene (SS3)	16.79	174	267160	14.966	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 119.76%				
Target Compounds							Qvalue
2) Propene	3.27	42	15825	0.494	ng		98
3) Dichlorodifluoromethan...	3.34	85	23551	0.599	ng		100
4) Chloromethane	3.48	50	18548	0.507	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	10362	0.701	ng		100
6) Vinyl Chloride	3.66	62	15184	0.598	ng		100
7) 1,3-Butadiene	3.77	54	11840	0.646	ng		94
8) Bromomethane	3.99	94	9038	0.550	ng		98
9) Chloroethane	4.13	64	6831	0.452	ng		99
10) Ethanol	4.24	45	39904	1.695	ng		98
11) Acetonitrile	4.40	41	27422	0.469	ng		95
12) Acrolein	4.49	56	13920	0.870	ng		96
13) Acetone	4.60	58	41100	2.389	ng		93
14) Trichlorofluoromethane	4.72	101	21691	0.659	ng		100
15) 2-Propanol (Isopropanol)	4.80	45	72237	1.042	ng		90
16) Acrylonitrile	4.95	53	31262	0.938	ng		99
17) 1,1-Dichloroethene	5.23	96	9985	0.566	ng		98
18) 2-Methyl-2-Propanol (t...	5.28	59	53659	1.058	ng		92
19) Methylene Chloride	5.31	84	10535	0.523	ng		98
20) 3-Chloro-1-propene (Al...	5.41	41	30728	0.642	ng		87
21) Trichlorotrifluoroethane	5.54	151	8990	0.723	ng		98
22) Carbon Disulfide	5.57	76	74121	1.016	ng		99
23) trans-1,2-Dichloroethene	6.10	61	16838	0.510	ng		99
24) 1,1-Dichloroethane	6.28	63	20101	0.509	ng		99
25) Methyl tert-Butyl Ether	6.35	73	30986	0.651	ng		99
26) Vinyl Acetate	6.40	86	4078	1.503	ng	#	83
27) 2-Butanone (MEK)	6.63	72	12703	0.944	ng	#	89
28) cis-1,2-Dichloroethene	7.03	61	16488	0.519	ng		99
29) Diisopropyl Ether	7.25	87	15733	1.127	ng		98
30) Ethyl Acetate	7.24	61	17543	2.004	ng		97
31) n-Hexane	7.26	57	18850	0.531	ng		99
32) Chloroform	7.32	83	20090	0.585	ng		100
34) Tetrahydrofuran (THF)	7.73	72	11908	0.894	ng		98
35) Ethyl tert-Butyl Ether	7.79	87	22042	1.042	ng		98
36) 1,2-Dichloroethane	8.07	62	17295	0.589	ng		100
38) 1,1,1-Trichloroethane	8.36	97	17651	0.659	ng		99
39) Isopropyl Acetate	9.26	61	25292	No Calib			
40) 1-Butanol	9.17	56	40256	No Calib			
41) Benzene	8.86	78	41216	0.557	ng		99
42) Carbon Tetrachloride	9.03	117	15212	0.733	ng		100
43) Cyclohexane	9.18	84	28794	1.133	ng		98
44) tert-Amyl Methyl Ether	9.56	73	54252	1.049	ng		99
45) 1,2-Dichloropropane	9.81	63	10741	0.511	ng		99
46) Bromodichloromethane	10.04	83	14922	0.585	ng		100
47) Trichloroethene	10.10	130	10793	0.685	ng		97
48) 1,4-Dioxane	10.10	88	7394	0.573	ng		94
49) 2,2,4-Trimethylpentane...	10.19	57	47623	0.529	ng		99
50) Methyl Methacrylate	10.37	100	7000	1.198	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252230.D Vial: 15
Acq On : 25 May 2022 22:44 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252201 (6/23)

Quant Time: May 26 08:50:14 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

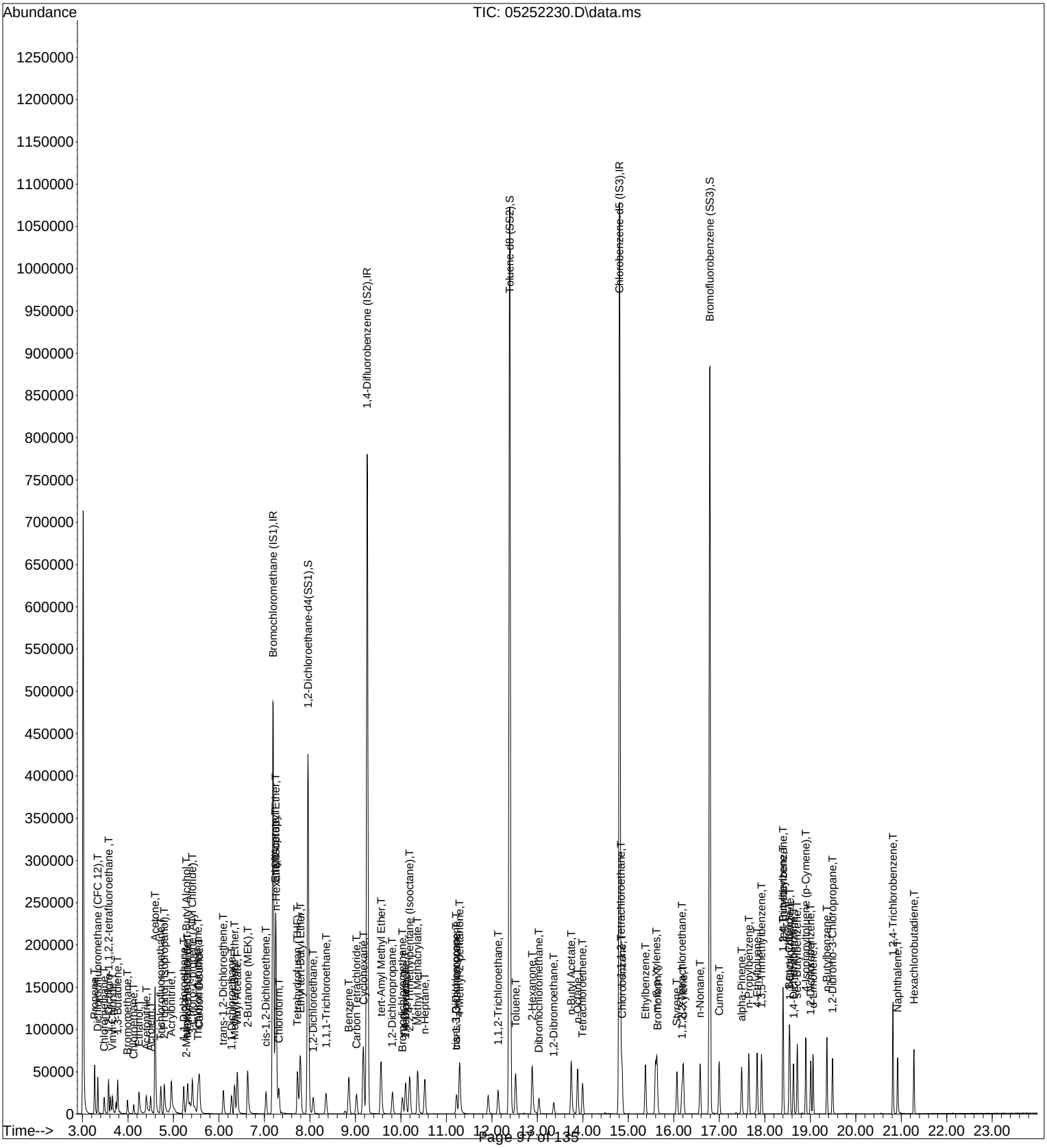
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.52	71	9657	0.518 ng		99
52) cis-1,3-Dichloropropene	11.22	75	15836	0.532 ng		97
53) 4-Methyl-2-pentanone	11.29	58	19409	1.014 ng		97
54) trans-1,3-Dichloropropene	11.22	75	15836	0.512 ng		97
55) 1,1,2-Trichloroethane	12.14	97	9738	0.589 ng		99
58) Toluene	12.52	91	41803	0.591 ng		99
59) 2-Hexanone	12.89	43	61647	1.143 ng		97
60) Dibromochloromethane	13.03	129	11834	0.675 ng		99
61) 1,2-Dibromoethane	13.36	107	11866	0.640 ng		98
62) n-Butyl Acetate	13.74	43	66910	1.149 ng		99
63) n-Octane	13.89	57	9588	0.505 ng		95
64) Tetrachloroethene	13.99	166	11340	0.743 ng		97
65) Chlorobenzene	14.86	112	27175	0.648 ng		98
66) Ethylbenzene	15.37	91	47503	0.587 ng		100
67) m- & p-Xylenes	15.62	91	77827	1.209 ng		100
68) Bromoform	15.64	173	8752	0.690 ng		100
69) Styrene	16.07	104	26051	0.576 ng		100
70) o-Xylene	16.21	91	38343	0.596 ng		99
71) n-Nonane	16.58	43	28493	0.562 ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	17151	0.540 ng		98
74) Cumene	17.00	105	46667	0.632 ng		99
75) alpha-Pinene	17.49	93	21653	0.566 ng		95
76) n-Propylbenzene	17.65	91	59471	0.617 ng		99
77) 3-Ethyltoluene	17.00	105	46667	No Calib		
78) 4-Ethyltoluene	17.83	105	46214	0.648 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	38843	0.635 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.49	105	3013	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	39230	0.641 ng		100
83) n-Decane	17.00	58	285	No Calib	#	
84) Benzyl Chloride	18.54	91	48629	1.000 ng		97
85) 1,3-Dichlorobenzene	18.55	146	22423	0.734 ng		99
86) 1,4-Dichlorobenzene	18.63	146	22236	0.699 ng		99
87) sec-Butylbenzene	18.71	105	53009	0.641 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	46402	0.694 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	39230	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	22572	0.739 ng		99
91) d-Limonene	19.06	68	13358	0.473 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.49	157	13940	1.305 ng		90
93) n-Undecane	17.92	58	1050	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	33017	1.589 ng		100
95) Naphthalene	20.92	128	47354	0.694 ng		99
96) n-Dodecane	18.72	58	398	No Calib	#	
97) Hexachlorobutadiene	21.28	225	11395	0.779 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	38123	0.687 ng		100
100) n-Butylbenzene	19.37	91	45657	0.633 ng		97
101) 1,1,1,2-Tetrachloroethane	14.84	131	9726	0.678 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252230.D Vial: 15
Acq On : 25 May 2022 22:44 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252201 (6/23)

Quant Time: May 26 08:50:14 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252231.D Vial: 15
Acq On : 25 May 2022 23:17 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252201 (6/23)

Quant Time: May 26 08:47:39 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/26/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	159802	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	694561	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	180161	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	333451	11.361	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%				
57) Toluene-d8 (SS2)	12.39	98	837215	12.367	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
73) Bromofluorobenzene (SS3)	16.79	174	262929	15.055	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 120.40%				
Target Compounds							Qvalue
2) Propene	3.26	42	26631	0.857	ng		99
3) Dichlorodifluoromethan...	3.33	85	39419	1.034	ng		99
4) Chloromethane	3.47	50	31356	0.884	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	17395	1.214	ng		100
6) Vinyl Chloride	3.65	62	25960	1.055	ng		99
7) 1,3-Butadiene	3.77	54	20250	1.140	ng		97
8) Bromomethane	3.98	94	15082	0.946	ng		99
9) Chloroethane	4.12	64	11688	0.798	ng		99
10) Ethanol	4.24	45	68505	2.999	ng		99
11) Acetonitrile	4.40	41	46543	0.820	ng		100
12) Acrolein	4.49	56	24409	1.572	ng		100
13) Acetone	4.59	58	68937	4.131	ng		90
14) Trichlorofluoromethane	4.72	101	36436	1.141	ng		99
15) 2-Propanol (Isopropanol)	4.79	45	125237	1.861	ng		91
16) Acrylonitrile	4.95	53	54270	1.678	ng		99
17) 1,1-Dichloroethene	5.22	96	16931	0.989	ng		99
18) 2-Methyl-2-Propanol (t...	5.27	59	91725	1.864	ng		94
19) Methylene Chloride	5.31	84	17692	0.905	ng		99
20) 3-Chloro-1-propene (Al...	5.41	41	50424	1.086	ng		90
21) Trichlorotrifluoroethane	5.54	151	14875	1.233	ng		97
22) Carbon Disulfide	5.56	76	125207	1.770	ng		99
23) trans-1,2-Dichloroethene	6.10	61	28810	0.900	ng		99
24) 1,1-Dichloroethane	6.27	63	34444	0.899	ng		100
25) Methyl tert-Butyl Ether	6.33	73	53404	1.156	ng		99
26) Vinyl Acetate	6.40	86	7456	2.832	ng	#	92
27) 2-Butanone (MEK)	6.62	72	21948	1.682	ng		98
28) cis-1,2-Dichloroethene	7.03	61	27915	0.906	ng		99
29) Diisopropyl Ether	7.24	87	27488	2.030	ng		98
30) Ethyl Acetate	7.24	61	31073	3.658	ng		98
31) n-Hexane	7.25	57	32123	0.932	ng		100
32) Chloroform	7.32	83	34762	1.043	ng		99
34) Tetrahydrofuran (THF)	7.71	72	20443	1.581	ng		98
35) Ethyl tert-Butyl Ether	7.79	87	39669	1.932	ng		97
36) 1,2-Dichloroethane	8.07	62	29794	1.045	ng		98
38) 1,1,1-Trichloroethane	8.36	97	30885	1.180	ng		99
39) Isopropyl Acetate	9.26	61	24871	No Calib			
40) 1-Butanol	9.17	56	68647	No Calib			
41) Benzene	8.86	78	69578	0.962	ng		100
42) Carbon Tetrachloride	9.02	117	25979	1.281	ng		100
43) Cyclohexane	9.17	84	49368	1.987	ng		98
44) tert-Amyl Methyl Ether	9.56	73	94156	1.863	ng		98
45) 1,2-Dichloropropane	9.81	63	18039	0.878	ng		99
46) Bromodichloromethane	10.03	83	26390	1.058	ng		99
47) Trichloroethene	10.10	130	17681	1.148	ng		98
48) 1,4-Dioxane	10.09	88	13070	1.036	ng		93
49) 2,2,4-Trimethylpentane...	10.19	57	80953	0.920	ng		100
50) Methyl Methacrylate	10.37	100	12205	2.138	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252231.D Vial: 15
Acq On : 25 May 2022 23:17 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252201 (6/23)

Quant Time: May 26 08:47:39 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

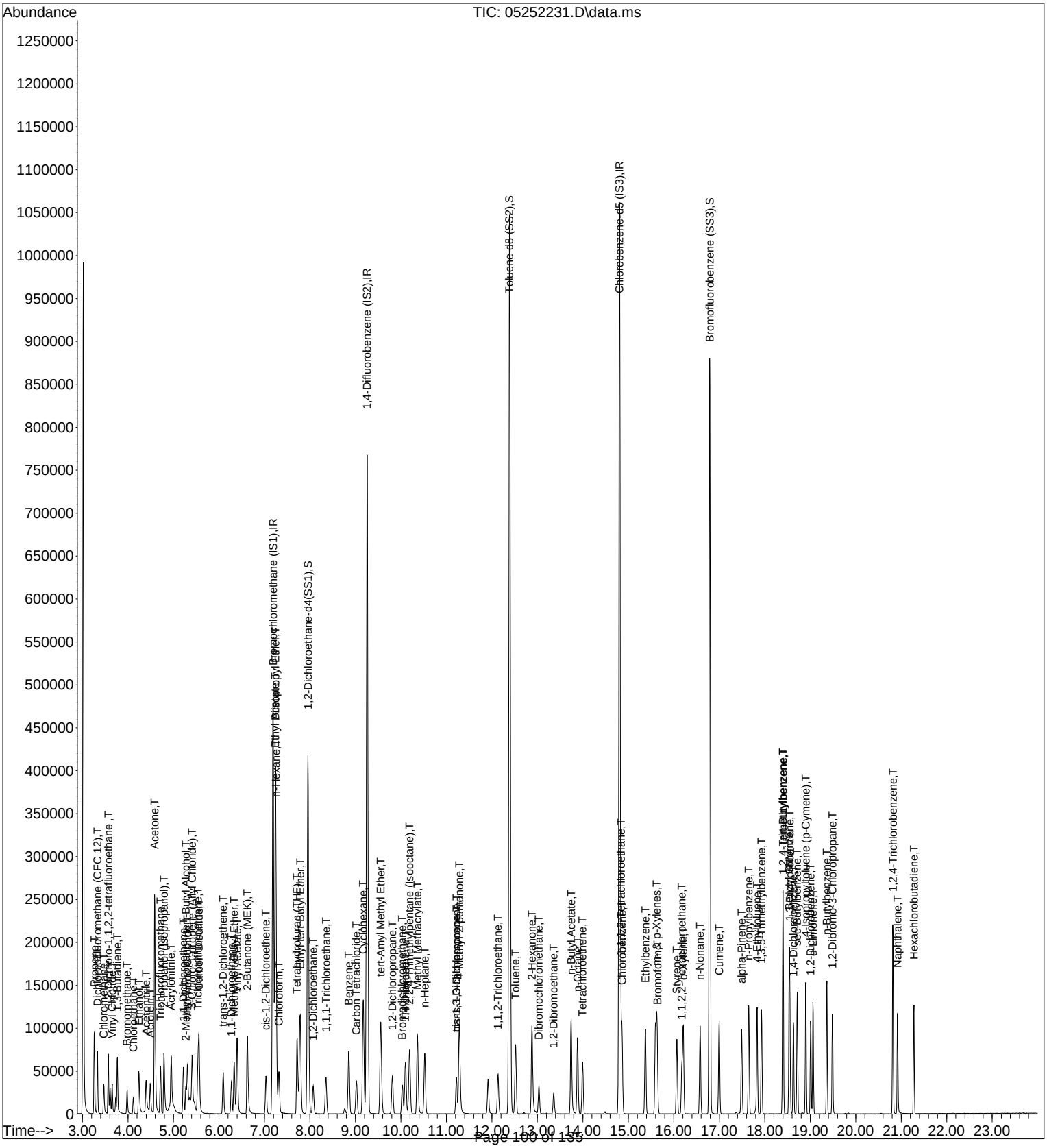
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.52	71	16705	0.917 ng		99
52) cis-1,3-Dichloropropene	11.22	75	27247	0.937 ng		99
53) 4-Methyl-2-pentanone	11.29	58	32987	1.764 ng		96
54) trans-1,3-Dichloropropene	11.22	75	27247	0.901 ng		99
55) 1,1,2-Trichloroethane	12.13	97	17219	1.066 ng		98
58) Toluene	12.52	91	71433	1.032 ng		98
59) 2-Hexanone	12.88	43	105723	2.003 ng		98
60) Dibromochloromethane	13.03	129	20418	1.190 ng		100
61) 1,2-Dibromoethane	13.36	107	20250	1.117 ng		98
62) n-Butyl Acetate	13.74	43	114614	2.012 ng		99
63) n-Octane	13.89	57	16664	0.897 ng		98
64) Tetrachloroethene	13.99	166	19163	1.284 ng		99
65) Chlorobenzene	14.86	112	45881	1.119 ng		99
66) Ethylbenzene	15.37	91	81805	1.033 ng		99
67) m- & p-Xylenes	15.62	91	132827	2.110 ng		100
68) Bromoform	15.64	173	15310	1.234 ng		99
69) Styrene	16.07	104	45770	1.034 ng		98
70) o-Xylene	16.21	91	67045	1.065 ng		99
71) n-Nonane	16.58	43	49462	0.996 ng		100
72) 1,1,2,2-Tetrachloroethane	16.17	83	30293	0.976 ng		99
74) Cumene	17.00	105	79639	1.103 ng		100
75) alpha-Pinene	17.49	93	38917	1.039 ng		96
76) n-Propylbenzene	17.65	91	102565	1.088 ng		99
77) 3-Ethyltoluene	17.00	105	79639	No Calib		
78) 4-Ethyltoluene	17.83	105	80392	1.152 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	66238	1.107 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.44	105	444	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	67568	1.129 ng		99
83) n-Decane	16.99	58	602	No Calib	#	
84) Benzyl Chloride	18.54	91	92667	1.947 ng		99
85) 1,3-Dichlorobenzene	18.55	146	38815	1.298 ng		99
86) 1,4-Dichlorobenzene	18.63	146	38312	1.231 ng		99
87) sec-Butylbenzene	18.71	105	89374	1.104 ng		99
88) 4-Isopropyltoluene (p-...	18.90	119	78620	1.202 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	67568	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	38076	1.275 ng		98
91) d-Limonene	19.06	68	24847	0.900 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	24468	2.341 ng		92
93) n-Undecane	17.93	58	1529	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	55429	2.727 ng		99
95) Naphthalene	20.92	128	78999	1.183 ng		99
96) n-Dodecane	18.71	58	507	No Calib	#	
97) Hexachlorobutadiene	21.28	225	18480	1.292 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	65164	1.201 ng		99
100) n-Butylbenzene	19.37	91	77542	1.099 ng		98
101) 1,1,1,2-Tetrachloroethane	14.84	131	16995	1.212 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252231.D Vial: 15
Acq On : 25 May 2022 23:17 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252201 (6/23)

Quant Time: May 26 08:47:39 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252232.D Vial: 15
Acq On : 25 May 2022 23:48 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252201 (6/23)

Quant Time: May 26 08:37:30 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/26/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	162356	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	709142	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	183548	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	339401	11.382	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.04%				
57) Toluene-d8 (SS2)	12.39	98	846392	12.272	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	16.79	174	269310	15.136	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 121.12%				
Target Compounds							Qvalue
2) Propene	3.24	42	117742	3.728	ng		99
3) Dichlorodifluoromethan...	3.32	85	172672	4.458	ng		99
4) Chloromethane	3.46	50	124037	3.442	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.56	135	75575	5.189	ng		99
6) Vinyl Chloride	3.64	62	113054	4.520	ng		99
7) 1,3-Butadiene	3.76	54	87906	4.869	ng		97
8) Bromomethane	3.97	94	64193	3.962	ng		99
9) Chloroethane	4.11	64	50830	3.415	ng		99
10) Ethanol	4.26	45	289000	12.454	ng		100
11) Acetonitrile	4.40	41	199955	3.468	ng		100
12) Acrolein	4.49	56	108044	6.848	ng		95
13) Acetone	4.59	58	305509	18.019	ng		95
14) Trichlorofluoromethane	4.71	101	158140	4.875	ng		100
15) 2-Propanol (Isopropanol)	4.81	45	533060	7.798	ng		98
16) Acrylonitrile	4.96	53	239086	7.274	ng		99
17) 1,1-Dichloroethene	5.22	96	73056	4.201	ng		98
18) 2-Methyl-2-Propanol (t...	5.28	59	338514	6.771	ng		96
19) Methylene Chloride	5.32	84	76896	3.874	ng		99
20) 3-Chloro-1-propene (Al...	5.41	41	202952	4.304	ng		95
21) Trichlorotrifluoroethane	5.54	151	64651	5.274	ng		100
22) Carbon Disulfide	5.56	76	562890	7.831	ng		99
23) trans-1,2-Dichloroethene	6.10	61	129081	3.969	ng		99
24) 1,1-Dichloroethane	6.29	63	147698	3.796	ng		99
25) Methyl tert-Butyl Ether	6.33	73	207178	4.415	ng		100
26) Vinyl Acetate	6.41	86	38422	14.364	ng		100
27) 2-Butanone (MEK)	6.62	72	100372	7.569	ng		99
28) cis-1,2-Dichloroethene	7.04	61	123170	3.935	ng		100
29) Diisopropyl Ether	7.24	87	119921	8.719	ng	#	95
30) Ethyl Acetate	7.24	61	143223	16.595	ng		100
31) n-Hexane	7.26	57	143603	4.102	ng		99
32) Chloroform	7.33	83	151514	4.476	ng		100
34) Tetrahydrofuran (THF)	7.71	72	91398	6.958	ng		100
35) Ethyl tert-Butyl Ether	7.78	87	177093	8.490	ng		99
36) 1,2-Dichloroethane	8.08	62	130707	4.514	ng		99
38) 1,1,1-Trichloroethane	8.36	97	135683	5.078	ng		100
39) Isopropyl Acetate	9.26	61	25281	No Calib			
40) 1-Butanol	9.18	56	301576	No Calib			
41) Benzene	8.86	78	300853	4.072	ng		100
42) Carbon Tetrachloride	9.03	117	117464	5.671	ng		99
43) Cyclohexane	9.18	84	216971	8.552	ng		97
44) tert-Amyl Methyl Ether	9.55	73	432410	8.381	ng		99
45) 1,2-Dichloropropane	9.82	63	80588	3.841	ng		100
46) Bromodichloromethane	10.04	83	120425	4.730	ng		100
47) Trichloroethene	10.11	130	78796	5.011	ng		100
48) 1,4-Dioxane	10.08	88	58029	4.504	ng		98
49) 2,2,4-Trimethylpentane...	10.20	57	357554	3.981	ng		100
50) Methyl Methacrylate	10.37	100	56739	9.733	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252232.D Vial: 15
Acq On : 25 May 2022 23:48 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252201 (6/23)

Quant Time: May 26 08:37:30 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

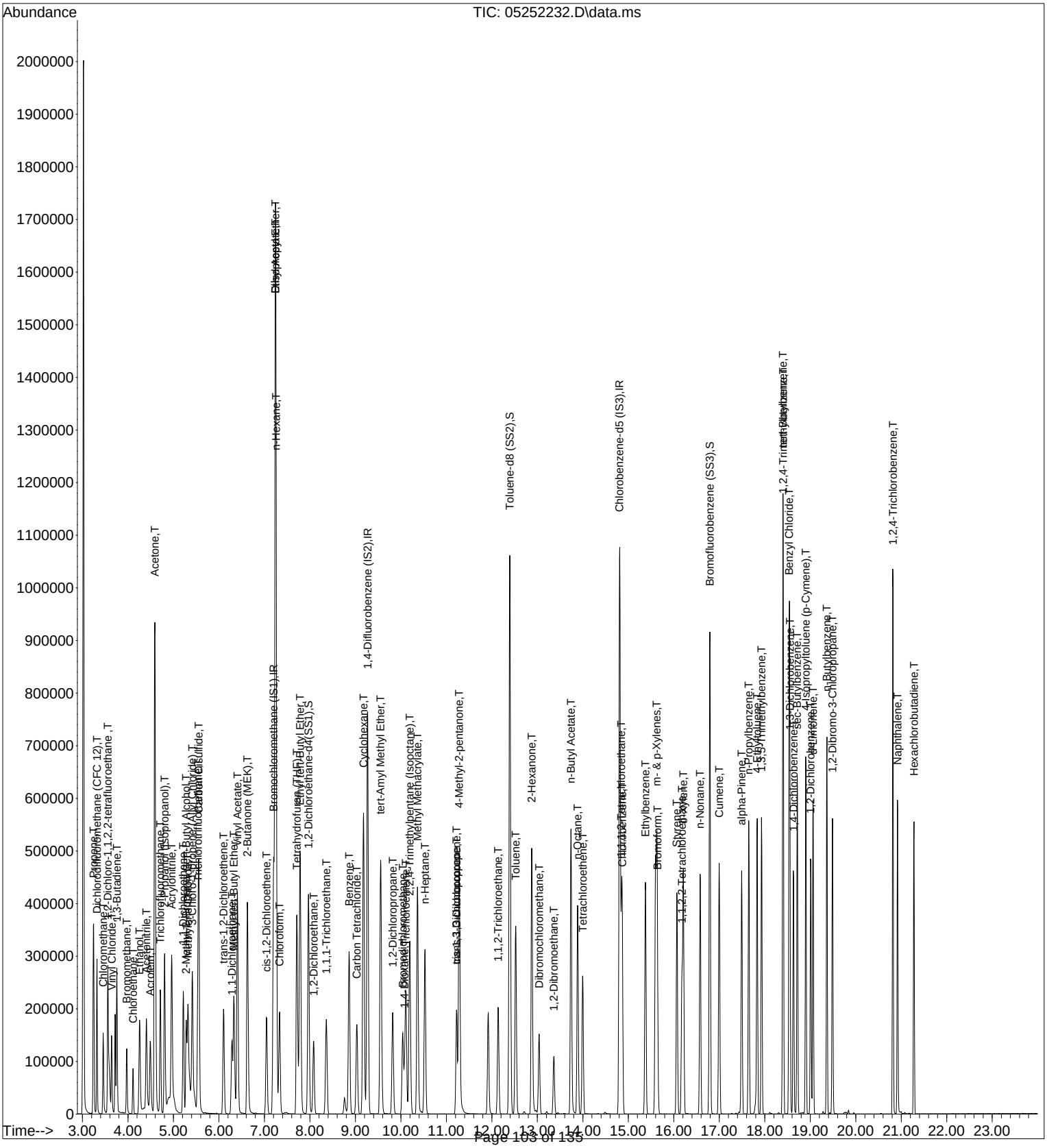
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	73696	3.961 ng		100
52) cis-1,3-Dichloropropene	11.22	75	125292	4.221 ng		99
53) 4-Methyl-2-pentanone	11.28	58	153006	8.012 ng		98
54) trans-1,3-Dichloropropene	11.22	75	125292	4.060 ng		99
55) 1,1,2-Trichloroethane	12.14	97	74855	4.539 ng		100
58) Toluene	12.52	91	311768	4.421 ng		99
59) 2-Hexanone	12.88	43	486302	9.043 ng		99
60) Dibromochloromethane	13.04	129	94685	5.415 ng		99
61) 1,2-Dibromoethane	13.36	107	91819	4.972 ng		100
62) n-Butyl Acetate	13.74	43	534719	9.214 ng		100
63) n-Octane	13.89	57	73054	3.861 ng		98
64) Tetrachloroethene	14.00	166	83408	5.486 ng		99
65) Chlorobenzene	14.87	112	201238	4.816 ng		100
66) Ethylbenzene	15.37	91	365656	4.534 ng		100
67) m- & p-Xylenes	15.62	91	593621	9.255 ng		99
68) Bromoform	15.64	173	75821	5.998 ng		100
69) Styrene	16.07	104	212171	4.705 ng		99
70) o-Xylene	16.21	91	296578	4.625 ng		100
71) n-Nonane	16.58	43	223105	4.412 ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	137928	4.361 ng		99
74) Cumene	17.00	105	356032	4.841 ng		100
75) alpha-Pinene	17.49	93	180547	4.733 ng		100
76) n-Propylbenzene	17.64	91	458565	4.773 ng		99
77) 3-Ethyltoluene	17.00	105	356032	No Calib		
78) 4-Ethyltoluene	17.83	105	351258	4.940 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	298796	4.901 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.43	105	1411	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	308736	5.063 ng		99
83) n-Decane	16.99	58	3322	No Calib	#	
84) Benzyl Chloride	18.54	91	500711	10.325 ng		98
85) 1,3-Dichlorobenzene	18.55	146	171967	5.646 ng		100
86) 1,4-Dichlorobenzene	18.63	146	170279	5.368 ng		100
87) sec-Butylbenzene	18.71	105	399564	4.847 ng		99
88) 4-Isopropyltoluene (p-...	18.90	119	346204	5.196 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	308736	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	166149	5.460 ng		100
91) d-Limonene	19.06	68	120253	4.276 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	118622	11.139 ng		97
93) n-Undecane	17.93	58	6576	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	251646	12.153 ng		99
95) Naphthalene	20.92	128	374574	5.506 ng		99
96) n-Dodecane	18.71	58	2836	No Calib	#	
97) Hexachlorobutadiene	21.28	225	82279	5.645 ng		99
98) Cyclohexanone	15.62	55	119	No Calib	#	
99) tert-Butylbenzene	18.40	119	291803	5.278 ng		99
100) n-Butylbenzene	19.37	91	350901	4.881 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	76268	5.337 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252232.D Vial: 15
Acq On : 25 May 2022 23:48 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05252201 (6/23)

Quant Time: May 26 08:37:30 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252233.D Vial: 16
Acq On : 26 May 2022 00:20 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05242207 (6/22)

Quant Time: May 26 08:35:11 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:34:57 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/26/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	166758	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.28	114	714910	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	189203	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	346284	11.306	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.48%			
57) Toluene-d8 (SS2)	12.40	98	857395	12.060	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%			
73) Bromofluorobenzene (SS3)	16.79	174	277830	15.148	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 121.20%			
Target Compounds						Qvalue
2) Propene	3.24	42	606956	18.708	ng	100
3) Dichlorodifluoromethan...	3.31	85	876062	22.020	ng	100
4) Chloromethane	3.46	50	691722	18.687	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.56	135	387129	25.880	ng	100
6) Vinyl Chloride	3.65	62	567438	22.090	ng	100
7) 1,3-Butadiene	3.76	54	454801	24.526	ng	100
8) Bromomethane	3.98	94	342819	20.602	ng	100
9) Chloroethane	4.12	64	264083	17.273	ng	100
10) Ethanol	4.30	45	1513219	63.487	ng	100
11) Acetonitrile	4.43	41	1046722	17.675	ng	100
12) Acrolein	4.51	56	553564	34.159	ng	100
13) Acetone	4.61	58	1590090	91.310	ng	100
14) Trichlorofluoromethane	4.72	101	817289	24.531	ng	100
15) 2-Propanol (Isopropanol)	4.84	45	2883443	41.067	ng	100
16) Acrylonitrile	4.99	53	1241828	36.786	ng	100
17) 1,1-Dichloroethene	5.23	96	379874	21.268	ng	100
18) 2-Methyl-2-Propanol (t...	5.31	59	2112297	41.138	ng	100
19) Methylene Chloride	5.35	84	398566	19.548	ng	100
20) 3-Chloro-1-propene (Al...	5.43	41	977426	20.179	ng	100
21) Trichlorotrifluoroethane	5.55	151	338613	26.894	ng	100
22) Carbon Disulfide	5.57	76	2968607	40.208	ng	100
23) trans-1,2-Dichloroethene	6.12	61	676875	20.265	ng	100
24) 1,1-Dichloroethane	6.31	63	776816	19.436	ng	100
25) Methyl tert-Butyl Ether	6.34	73	950643	19.725	ng	100
26) Vinyl Acetate	6.42	86	216352	78.748	ng	100
27) 2-Butanone (MEK)	6.64	72	523228	38.414	ng	100
28) cis-1,2-Dichloroethene	7.07	61	640975	19.938	ng	100
29) Diisopropyl Ether	7.26	87	631179	44.677	ng	100
30) Ethyl Acetate	7.26	61	764893	86.285	ng	100
31) n-Hexane	7.27	57	758071	21.082	ng	100
32) Chloroform	7.36	83	778152	22.381	ng	100
34) Tetrahydrofuran (THF)	7.72	72	479514	35.542	ng	100
35) Ethyl tert-Butyl Ether	7.80	87	938211	43.792	ng	100
36) 1,2-Dichloroethane	8.10	62	665031	22.362	ng	100
38) 1,1,1-Trichloroethane	8.38	97	708970	26.321	ng	100
39) Isopropyl Acetate	9.28	61	25505	No Calib		
40) 1-Butanol	9.19	56	1596060	No Calib		
41) Benzene	8.88	78	1549548	20.805	ng	100
42) Carbon Tetrachloride	9.05	117	618888	29.637	ng	100
43) Cyclohexane	9.19	84	1121592	43.853	ng	100
44) tert-Amyl Methyl Ether	9.56	73	2349209	45.164	ng	100
45) 1,2-Dichloropropane	9.83	63	420187	19.867	ng	100
46) Bromodichloromethane	10.05	83	637943	24.853	ng	100
47) Trichloroethene	10.12	130	399525	25.204	ng	100
48) 1,4-Dioxane	10.09	88	313812	24.159	ng	100
49) 2,2,4-Trimethylpentane...	10.21	57	1840818	20.332	ng	100
50) Methyl Methacrylate	10.38	100	302088	51.402	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252233.D Vial: 16
Acq On : 26 May 2022 00:20 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05242207 (6/22)

Quant Time: May 26 08:35:11 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:34:57 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

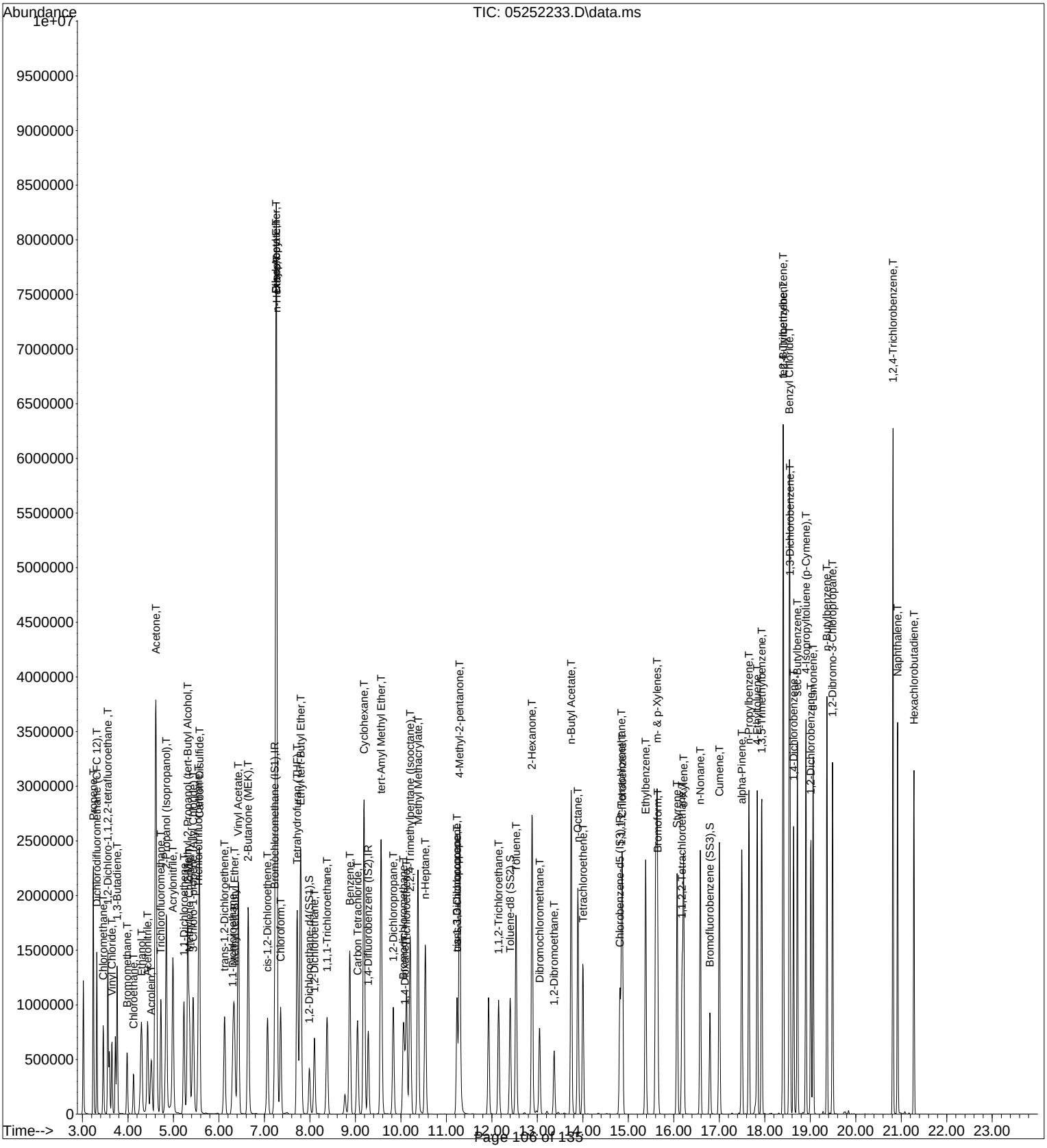
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	384141	20.479 ng		100
52) cis-1,3-Dichloropropene	11.23	75	679977	22.722 ng		100
53) 4-Methyl-2-pentanone	11.29	58	832495	43.243 ng		100
54) trans-1,3-Dichloropropene	11.23	75	679977	21.856 ng		100
55) 1,1,2-Trichloroethane	12.15	97	390741	23.503 ng		100
58) Toluene	12.53	91	1593679	21.922 ng		100
59) 2-Hexanone	12.88	43	2642786	47.675 ng		100
60) Dibromochloromethane	13.05	129	515543	28.603 ng		100
61) 1,2-Dibromoethane	13.37	107	479518	25.188 ng		100
62) n-Butyl Acetate	13.74	43	2915665	48.741 ng		100
63) n-Octane	13.89	57	385824	19.779 ng		100
64) Tetrachloroethene	14.01	166	434966	27.754 ng		100
65) Chlorobenzene	14.87	112	1047283	24.315 ng		100
66) Ethylbenzene	15.38	91	1900337	22.858 ng		100
67) m- & p-Xylenes	15.63	91	3139806	47.487 ng		100
68) Bromoform	15.65	173	437767	33.593 ng		100
69) Styrene	16.07	104	1123897	24.176 ng		100
70) o-Xylene	16.21	91	1535542	23.231 ng		100
71) n-Nonane	16.58	43	1163401	22.318 ng		100
72) 1,1,2,2-Tetrachloroethane	16.18	83	730353	22.400 ng		100
74) Cumene	17.00	105	1833763	24.187 ng		100
75) alpha-Pinene	17.50	93	970267	24.675 ng		100
76) n-Propylbenzene	17.65	91	2349970	23.728 ng		100
77) 3-Ethyltoluene	17.00	105	1833763	No Calib		
78) 4-Ethyltoluene	17.83	105	1857893	25.346 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1549806	24.660 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.43	105	3143	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1639018	26.077 ng		100
83) n-Decane	17.00	58	15290	No Calib	#	
84) Benzyl Chloride	18.54	91	2997984	59.974 ng		100
85) 1,3-Dichlorobenzene	18.55	146	924585	29.448 ng		100
86) 1,4-Dichlorobenzene	18.63	146	905507	27.695 ng		100
87) sec-Butylbenzene	18.72	105	2062692	24.273 ng		100
88) 4-Isopropyltoluene (p-...	18.91	119	1791840	26.088 ng		100
89) 1,2,3-Trimethylbenzene	18.41	105	1639018	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	871618	27.786 ng		100
91) d-Limonene	19.06	68	651712	22.481 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	672125	61.230 ng		100
93) n-Undecane	17.93	58	35265	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1464540	68.617 ng		100
95) Naphthalene	20.92	128	2114077	30.147 ng		100
96) n-Dodecane	18.72	58	14660	No Calib	#	
97) Hexachlorobutadiene	21.28	225	465255	30.965 ng		100
98) Cyclohexanone	15.62	55	2874	No Calib		
99) tert-Butylbenzene	18.41	119	1522797	26.721 ng		100
100) n-Butylbenzene	19.37	91	1825921	24.641 ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	410343	27.857 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252233.D Vial: 16
Acq On : 26 May 2022 00:20 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05242207 (6/22)

Quant Time: May 26 08:35:11 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:34:57 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252234.D Vial: 16
Acq On : 26 May 2022 00:52 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05242207 (6/22)

Quant Time: May 26 09:01:01 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/26/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	170664	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	730713	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	195089	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	352736	11.253	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
57) Toluene-d8 (SS2)	12.40	98	877801	11.974	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	16.80	174	289921	15.330	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 122.64%				
Target Compounds							Qvalue
2) Propene	3.23	42	1222786	36.827	ng		99
3) Dichlorodifluoromethan...	3.31	85	1710579	42.012	ng		100
4) Chloromethane	3.46	50	1303826	34.417	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.56	135	746881	48.788	ng		99
6) Vinyl Chloride	3.65	62	1083149	41.201	ng		100
7) 1,3-Butadiene	3.76	54	887732	46.778	ng		98
8) Bromomethane	3.98	94	664785	39.037	ng		100
9) Chloroethane	4.13	64	518501	33.138	ng		100
10) Ethanol	4.31	45	2964444	121.526	ng		100
11) Acetonitrile	4.44	41	2055681	33.917	ng		100
12) Acrolein	4.52	56	1076964	64.937	ng		100
13) Acetone	4.62	58	3048757	171.067	ng		97
14) Trichlorofluoromethane	4.73	101	1585504	46.501	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	5505633	76.618	ng		100
16) Acrylonitrile	5.00	53	2432526	70.408	ng		99
17) 1,1-Dichloroethene	5.24	96	742138	40.599	ng		100
18) 2-Methyl-2-Propanol (t...	5.33	59	3647627	69.413	ng		99
19) Methylene Chloride	5.36	84	778495	37.307	ng		99
20) 3-Chloro-1-propene (Al...	5.44	41	1839843	37.114	ng		99
21) Trichlorotrifluoroethane	5.56	151	670509	52.037	ng		98
22) Carbon Disulfide	5.57	76	5746209	76.047	ng		100
23) trans-1,2-Dichloroethene	6.13	61	1332632	38.985	ng		99
24) 1,1-Dichloroethane	6.32	63	1520635	37.176	ng		100
25) Methyl tert-Butyl Ether	6.35	73	1563862	31.706	ng		99
26) Vinyl Acetate	6.44	86	428793	152.501	ng	#	96
27) 2-Butanone (MEK)	6.65	72	1028766	73.801	ng		98
28) cis-1,2-Dichloroethene	7.08	61	1257969	38.235	ng		99
29) Diisopropyl Ether	7.27	87	1194350	82.606	ng	#	85
30) Ethyl Acetate	7.27	61	1412380	155.679	ng		98
31) n-Hexane	7.27	57	1393282	37.860	ng		100
32) Chloroform	7.37	83	1509005	42.409	ng		99
34) Tetrahydrofuran (THF)	7.73	72	943947	68.365	ng	#	93
35) Ethyl tert-Butyl Ether	7.80	87	1848236	84.294	ng		100
36) 1,2-Dichloroethane	8.11	62	1297077	42.617	ng		100
38) 1,1,1-Trichloroethane	8.38	97	1382548	50.217	ng		100
39) Isopropyl Acetate	9.29	61	26008	No Calib			
40) 1-Butanol	9.20	56	3138684	No Calib			
41) Benzene	8.88	78	3004800	39.471	ng		100
42) Carbon Tetrachloride	9.05	117	1220397	57.177	ng		99
43) Cyclohexane	9.20	84	2180265	83.403	ng		99
44) tert-Amyl Methyl Ether	9.57	73	4619883	86.898	ng		100
45) 1,2-Dichloropropane	9.84	63	825108	38.168	ng		100
46) Bromodichloromethane	10.06	83	1257240	47.920	ng		100
47) Trichloroethene	10.13	130	782669	48.306	ng		100
48) 1,4-Dioxane	10.09	88	618889	46.614	ng		99
49) 2,2,4-Trimethylpentane...	10.21	57	3597804	38.879	ng		100
50) Methyl Methacrylate	10.38	100	595318	99.107	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252234.D Vial: 16
Acq On : 26 May 2022 00:52 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05242207 (6/22)

Quant Time: May 26 09:01:01 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

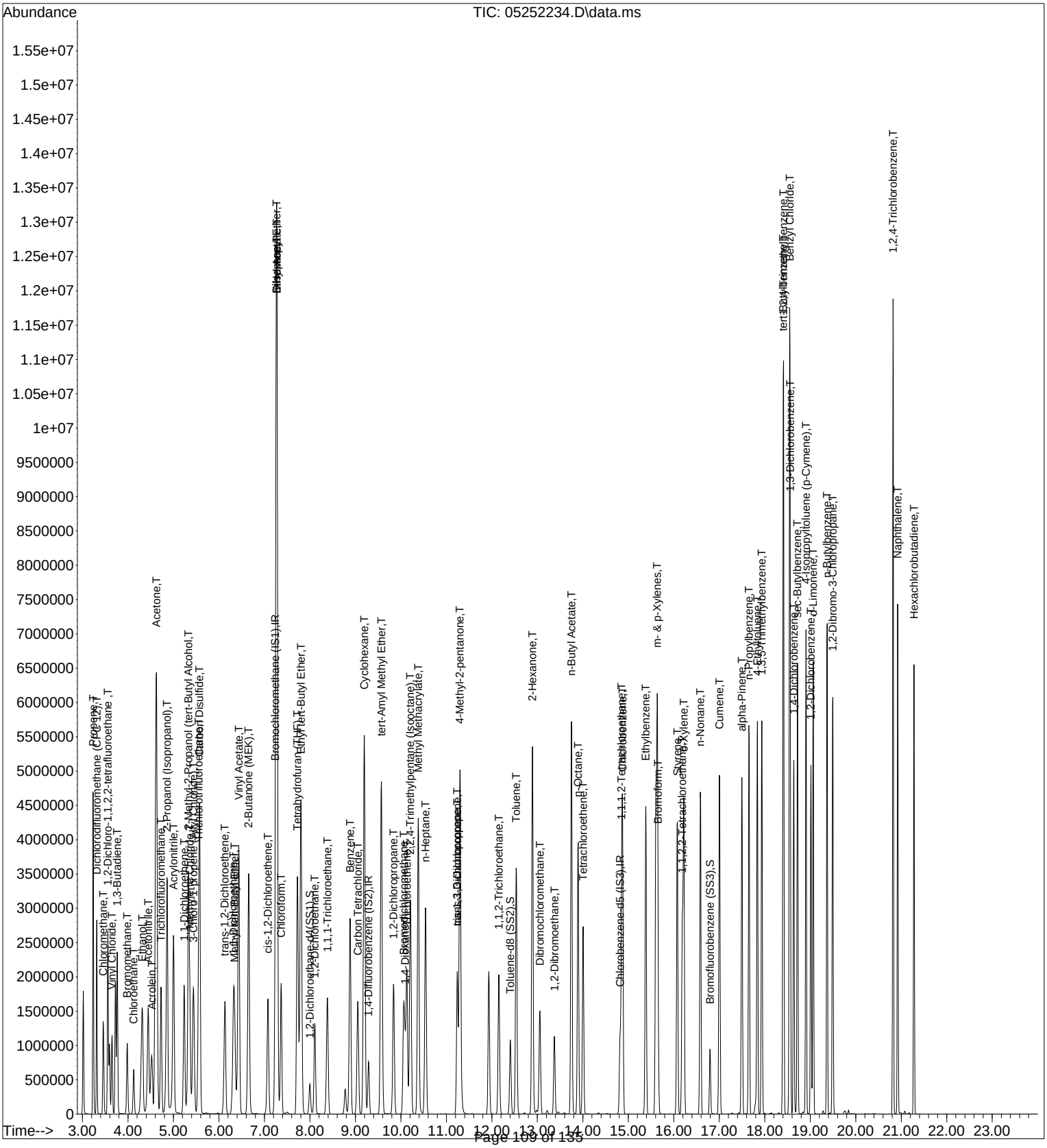
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	753209	39.286	ng		99
52) cis-1,3-Dichloropropene	11.24	75	1339219	43.783	ng		100
53) 4-Methyl-2-pentanone	11.30	58	1650650	83.887	ng		98
54) trans-1,3-Dichloropropene	11.24	75	1339219	42.115	ng		100
55) 1,1,2-Trichloroethane	12.15	97	762307	44.860	ng		99
58) Toluene	12.53	91	3103306	41.399	ng		100
59) 2-Hexanone	12.89	43	5152770	90.150	ng		99
60) Dibromochloromethane	13.06	129	1018064	54.780	ng		100
61) 1,2-Dibromoethane	13.37	107	938286	47.799	ng		100
62) n-Butyl Acetate	13.75	43	5687199	92.204	ng		99
63) n-Octane	13.90	57	770747	38.320	ng		99
64) Tetrachloroethene	14.01	166	860599	53.257	ng		99
65) Chlorobenzene	14.87	112	2049937	46.157	ng		100
66) Ethylbenzene	15.39	91	3698153	43.140	ng		99
67) m- & p-Xylenes	15.63	91	6170657	90.510	ng		100
68) Bromoform	15.65	173	896969	66.755	ng		99
69) Styrene	16.08	104	2215460	46.219	ng		99
70) o-Xylene	16.22	91	3019275	44.300	ng		100
71) n-Nonane	16.58	43	2290515	42.615	ng		100
72) 1,1,2,2-Tetrachloroethane	16.19	83	1452299	43.198	ng		100
74) Cumene	17.00	105	3560251	45.543	ng		99
75) alpha-Pinene	17.50	93	1919515	47.343	ng		99
76) n-Propylbenzene	17.65	91	4551198	44.568	ng		99
77) 3-Ethyltoluene	17.00	105	3560251	No Calib			
78) 4-Ethyltoluene	17.84	105	3536525	46.790	ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	3031064	46.774	ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.43	105	5394	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.41	105	3140554	48.459	ng		100
83) n-Decane	17.00	58	31805	No Calib		#	
84) Benzyl Chloride	18.55	91	5804111	112.606	ng		98
85) 1,3-Dichlorobenzene	18.56	146	1834222	56.657	ng		99
86) 1,4-Dichlorobenzene	18.64	146	1796213	53.280	ng		100
87) sec-Butylbenzene	18.72	105	3965458	45.256	ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	3443314	48.619	ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	3140554	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	1730339	53.497	ng		100
91) d-Limonene	19.06	68	1308014	43.759	ng		98
92) 1,2-Dibromo-3-Chloropr...	19.50	157	1360968	120.242	ng		98
93) n-Undecane	17.93	58	71116	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	2963001	134.636	ng		99
95) Naphthalene	20.92	128	4164402	57.593	ng		99
96) n-Dodecane	18.72	58	30208	No Calib		#	
97) Hexachlorobutadiene	21.28	225	958149	61.846	ng		99
98) Cyclohexanone	15.63	55	5647	No Calib			
99) tert-Butylbenzene	18.41	119	2906534	49.463	ng		99
100) n-Butylbenzene	19.37	91	3514792	46.002	ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	815356	53.682	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252234.D Vial: 16
Acq On : 26 May 2022 00:52 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05242207 (6/22)

Quant Time: May 26 09:01:01 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252235.D Vial: 16
Acq On : 26 May 2022 1:25 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05242207 (6/22)

Quant Time: May 26 09:02:18 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/26/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	170692	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.30	114	746533	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.82	54	201487	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	357652	11.408	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
57) Toluene-d8 (SS2)	12.41	98	891351	11.773	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
73) Bromofluorobenzene (SS3)	16.80	174	300835	15.402	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 123.20%				
Target Compounds							Qvalue
2) Propene	3.24	42	2650623	79.818	ng		99
3) Dichlorodifluoromethan...	3.32	85	3321672	81.568	ng		99
4) Chloromethane	3.47	50	1994991	52.652	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	1480671	96.704	ng		99
6) Vinyl Chloride	3.66	62	2041141	77.628	ng		100
7) 1,3-Butadiene	3.77	54	1780559	93.808	ng	#	84
8) Bromomethane	3.99	94	1319407	77.464	ng		100
9) Chloroethane	4.14	64	1036562	66.236	ng		100
10) Ethanol	4.34	45	5868147	240.523	ng		100
11) Acetonitrile	4.46	41	4104297	67.707	ng		100
12) Acrolein	4.53	56	2136146	128.780	ng		100
13) Acetone	4.64	58	5769921	323.700	ng	#	88
14) Trichlorofluoromethane	4.73	101	3149516	92.356	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	9646112	134.216	ng		100
16) Acrylonitrile	5.02	53	4819661	139.479	ng		100
17) 1,1-Dichloroethene	5.24	96	1490962	81.551	ng		100
18) 2-Methyl-2-Propanol (t...	5.35	59	4762373	90.611	ng		97
19) Methylene Chloride	5.37	84	1539786	73.778	ng		99
20) 3-Chloro-1-propene (Al...	5.45	41	3546066	71.521	ng		97
21) Trichlorotrifluoroethane	5.56	151	1361727	105.663	ng		95
22) Carbon Disulfide	5.58	76	10834123	143.359	ng		99
23) trans-1,2-Dichloroethene	6.14	61	2662342	77.872	ng		99
24) 1,1-Dichloroethane	6.33	63	3031510	74.101	ng		100
25) Methyl tert-Butyl Ether	6.35	73	2255229	45.715	ng		99
26) Vinyl Acetate	6.45	86	859508	305.636	ng	#	85
27) 2-Butanone (MEK)	6.67	72	2035810	146.019	ng	#	92
28) cis-1,2-Dichloroethene	7.09	61	2521463	76.625	ng		99
29) Diisopropyl Ether	7.27	87	2229244	154.157	ng	#	59
30) Ethyl Acetate	7.29	61	2528966	278.708	ng		95
31) n-Hexane	7.28	57	2431668	66.065	ng		99
32) Chloroform	7.38	83	2997405	84.225	ng		99
34) Tetrahydrofuran (THF)	7.74	72	1879133	136.073	ng		98
35) Ethyl tert-Butyl Ether	7.81	87	3639948	165.983	ng		98
36) 1,2-Dichloroethane	8.12	62	2588686	85.040	ng		100
38) 1,1,1-Trichloroethane	8.39	97	2740806	97.443	ng		99
39) Isopropyl Acetate	9.29	61	26946	No Calib		#	
40) 1-Butanol	9.20	56	6080123	No Calib			
41) Benzene	8.89	78	5968152	76.735	ng		99
42) Carbon Tetrachloride	9.06	117	2430862	111.475	ng		99
43) Cyclohexane	9.20	84	4221372	158.060	ng		98
44) tert-Amyl Methyl Ether	9.58	73	9006162	165.812	ng		99
45) 1,2-Dichloropropane	9.85	63	1661750	75.241	ng		100
46) Bromodichloromethane	10.07	83	2516456	93.883	ng		100
47) Trichloroethene	10.14	130	1563983	94.483	ng		100
48) 1,4-Dioxane	10.10	88	1243798	91.697	ng		97
49) 2,2,4-Trimethylpentane...	10.22	57	7100953	75.109	ng		99
50) Methyl Methacrylate	10.39	100	1183120	192.788	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252235.D Vial: 16
Acq On : 26 May 2022 1:25 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05242207 (6/22)

Quant Time: May 26 09:02:18 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

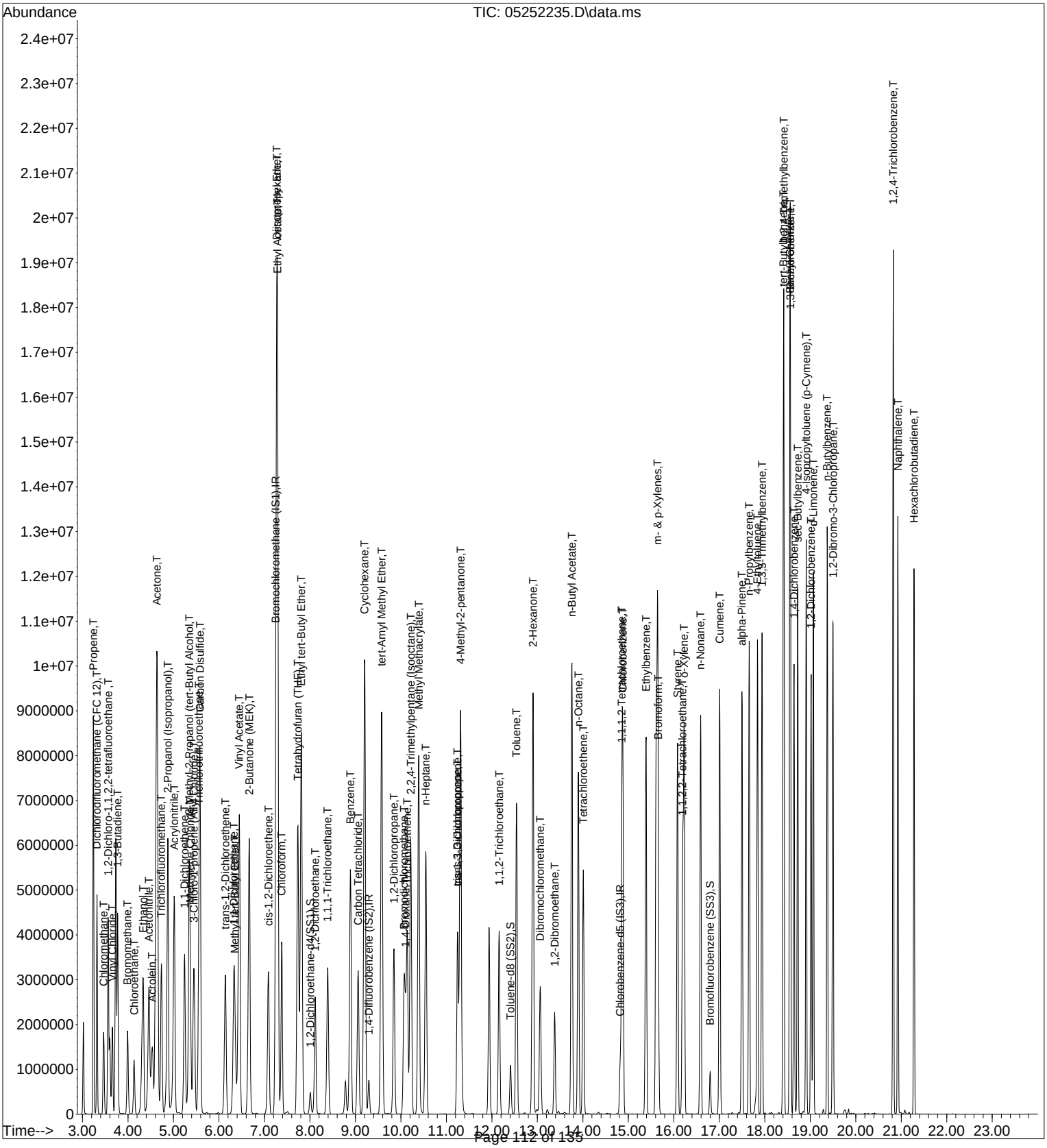
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.55	71	1510604	77.121	ng		99
52) cis-1,3-Dichloropropene	11.25	75	2696740	86.296	ng		99
53) 4-Methyl-2-pentanone	11.31	58	3254342	161.883	ng		93
54) trans-1,3-Dichloropropene	11.25	75	2696740	83.008	ng		99
55) 1,1,2-Trichloroethane	12.16	97	1529697	88.112	ng		99
58) Toluene	12.54	91	6053812	78.195	ng		99
59) 2-Hexanone	12.90	43	9749998	165.163	ng		97
60) Dibromochloromethane	13.06	129	2052211	106.919	ng		100
61) 1,2-Dibromoethane	13.38	107	1876547	92.562	ng		100
62) n-Butyl Acetate	13.76	43	10641557	167.048	ng		97
63) n-Octane	13.90	57	1532923	73.794	ng		99
64) Tetrachloroethene	14.01	166	1759696	105.438	ng		99
65) Chlorobenzene	14.88	112	4053480	88.371	ng		99
66) Ethylbenzene	15.39	91	7141422	80.661	ng		98
67) m- & p-Xylenes	15.64	91	11689120	166.010	ng		99
68) Bromoform	15.66	173	1847412	133.124	ng		99
69) Styrene	16.08	104	4328177	87.428	ng		98
70) o-Xylene	16.23	91	5876176	83.481	ng		100
71) n-Nonane	16.59	43	4416169	79.554	ng		98
72) 1,1,2,2-Tetrachloroethane	16.19	83	2890588	83.250	ng		99
74) Cumene	17.01	105	6803689	84.269	ng		98
75) alpha-Pinene	17.50	93	3735110	89.198	ng		98
76) n-Propylbenzene	17.66	91	8508225	80.671	ng		97
77) 3-Ethyltoluene	17.01	105	6803689	No Calib			
78) 4-Ethyltoluene	17.84	105	6816588	87.323	ng		98
79) 1,3,5-Trimethylbenzene	17.94	105	5779748	86.358	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.43	105	9935	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.42	105	5698912	85.142	ng		98
83) n-Decane	17.01	58	63277	No Calib			
84) Benzyl Chloride	18.55	91	10134694	190.380	ng		94
85) 1,3-Dichlorobenzene	18.57	146	3495455	104.541	ng		99
86) 1,4-Dichlorobenzene	18.64	146	3545249	101.822	ng		100
87) sec-Butylbenzene	18.72	105	7317813	80.862	ng		97
88) 4-Isopropyltoluene (p-...	18.91	119	6405367	87.572	ng		97
89) 1,2,3-Trimethylbenzene	18.42	105	5698912	No Calib			
90) 1,2-Dichlorobenzene	19.02	146	3412852	102.166	ng		99
91) d-Limonene	19.07	68	2530555	81.970	ng		98
92) 1,2-Dibromo-3-Chloropr...	19.50	157	2719297	232.623	ng		93
93) n-Undecane	17.94	58	141509	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	5359823	235.811	ng		99
95) Naphthalene	20.93	128	7680930	102.852	ng		97
96) n-Dodecane	18.72	58	59311	No Calib		#	
97) Hexachlorobutadiene	21.28	225	1915223	119.697	ng		99
98) Cyclohexanone	15.64	55	11101	No Calib			
99) tert-Butylbenzene	18.41	119	5321936	87.692	ng		98
100) n-Butylbenzene	19.37	91	6439897	81.609	ng		97
101) 1,1,1,2-Tetrachloroethane	14.86	131	1623539	103.498	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252235.D Vial: 16
Acq On : 26 May 2022 1:25 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-05132201/S35-05242207 (6/22)

Quant Time: May 26 09:02:18 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 08:35:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252237.D Vial: 2
Acq On : 26 May 2022 2:29 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-05132201/S35-05192203 (6/18)

Quant Time: May 26 09:14:52 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/26/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	179964	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.28	114	774424	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	204016	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	367656	12.271	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
57) Toluene-d8 (SS2)	12.40	98	926426	12.416	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
73) Bromofluorobenzene (SS3)	16.79	174	310643	12.984	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
Target Compounds							Qvalue
2) Propene	3.23	42	613869	21.259	ng		96
3) Dichlorodifluoromethan...	3.31	85	891300	21.923	ng		94
4) Chloromethane	3.44	50	720970	22.805	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.55	135	396131	22.938	ng		95
6) Vinyl Chloride	3.64	62	598032	23.188	ng		95
7) 1,3-Butadiene	3.75	54	455787	22.155	ng	#	79
8) Bromomethane	3.97	94	358935	22.834	ng		98
9) Chloroethane	4.11	64	278990	22.644	ng		88
10) Ethanol	4.29	45	1906870	92.170	ng		78
11) Acetonitrile	4.43	41	1072798	19.717	ng	#	58
12) Acrolein	4.51	56	582121	44.868	ng		97
13) Acetone	4.61	58	1633893	111.492	ng	#	86
14) Trichlorofluoromethane	4.72	101	833508	21.790	ng		95
15) 2-Propanol (Isopropanol)	4.84	45	3051219	46.248	ng		95
16) Acrylonitrile	4.98	53	1258078	44.303	ng		95
17) 1,1-Dichloroethene	5.22	96	391844	22.703	ng		97
18) 2-Methyl-2-Propanol (t...	5.31	59	2257205	55.341	ng		91
19) Methylene Chloride	5.34	84	405920	22.077	ng		98
20) 3-Chloro-1-propene (Al...	5.43	41	935943	19.325	ng		83
21) Trichlorotrifluoroethane	5.54	151	348287	23.071	ng		99
22) Carbon Disulfide	5.56	76	2962695	45.792	ng		93
23) trans-1,2-Dichloroethene	6.12	61	687689	23.160	ng		91
24) 1,1-Dichloroethane	6.30	63	805547	22.792	ng		100
25) Methyl tert-Butyl Ether	6.33	73	996529	19.733	ng		97
26) Vinyl Acetate	6.42	86	339363	139.952	ng	#	9
27) 2-Butanone (MEK)	6.64	72	534917	46.368	ng	#	67
28) cis-1,2-Dichloroethene	7.06	61	655242	22.583	ng		97
29) Diisopropyl Ether	7.25	87	641366	46.032	ng	#	74
30) Ethyl Acetate	7.26	61	545908	67.444	ng		97
31) n-Hexane	7.27	57	769444	23.496	ng	#	97
32) Chloroform	7.35	83	796394	22.954	ng		99
34) Tetrahydrofuran (THF)	7.71	72	514857	45.769	ng	#	88
35) Ethyl tert-Butyl Ether	7.79	87	968449	48.468	ng		94
36) 1,2-Dichloroethane	8.09	62	678238	22.415	ng		91
38) 1,1,1-Trichloroethane	8.37	97	730741	23.439	ng		97
39) Isopropyl Acetate	9.28	61	27598	No Calib			
40) 1-Butanol	9.18	56	1627721	No Calib			
41) Benzene	8.87	78	1619468	22.138	ng		98
42) Carbon Tetrachloride	9.04	117	606559	22.444	ng		98
43) Cyclohexane	9.18	84	1151134	44.942	ng		99
44) tert-Amyl Methyl Ether	9.56	73	2414787	49.140	ng		97
45) 1,2-Dichloropropane	9.83	63	437347	22.967	ng		98
46) Bromodichloromethane	10.05	83	654122	23.955	ng		93
47) Trichloroethene	10.12	130	419306	22.077	ng		97
48) 1,4-Dioxane	10.08	88	332864	25.747	ng		83
49) 2,2,4-Trimethylpentane...	10.20	57	1842913	22.274	ng		97
50) Methyl Methacrylate	10.37	100	310223	48.925	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252237.D Vial: 2
Acq On : 26 May 2022 2:29 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-05132201/S35-05192203 (6/18)

Quant Time: May 26 09:14:52 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

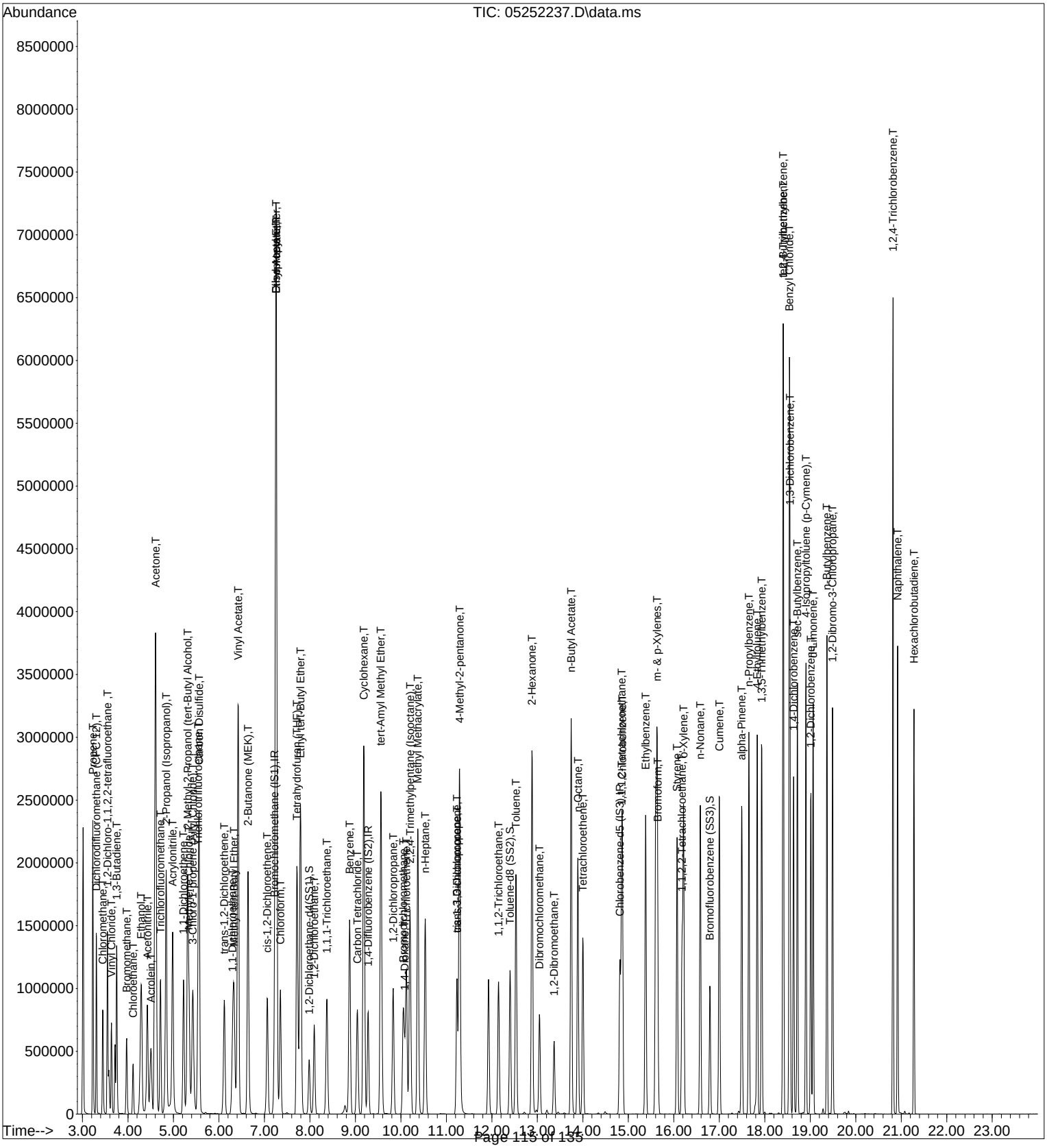
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	390490	22.744 ng		98
52) cis-1,3-Dichloropropene	11.23	75	697573	25.109 ng		95
53) 4-Methyl-2-pentanone	11.29	58	866441	50.708 ng		77
54) trans-1,3-Dichloropropene	11.23	75	697573	24.153 ng		95
55) 1,1,2-Trichloroethane	12.15	97	400029	23.028 ng		97
58) Toluene	12.53	91	1646017	21.919 ng		98
59) 2-Hexanone	12.88	43	2760208	50.028 ng		98
60) Dibromochloromethane	13.05	129	515668	23.980 ng		99
61) 1,2-Dibromoethane	13.37	107	483717	23.277 ng		95
62) n-Butyl Acetate	13.74	43	3085935	50.941 ng		96
63) n-Octane	13.89	57	390846	22.701 ng		98
64) Tetrachloroethene	14.00	166	451687	22.152 ng		96
65) Chlorobenzene	14.87	112	1066144	22.041 ng		96
66) Ethylbenzene	15.38	91	1952022	22.568 ng		95
67) m- & p-Xylenes	15.63	91	3248210	46.216 ng		98
68) Bromoform	15.65	173	442455	25.954 ng		94
69) Styrene	16.07	104	1137294	23.598 ng		100
70) o-Xylene	16.21	91	1583390	22.880 ng		99
71) n-Nonane	16.58	43	1182409	22.718 ng		100
72) 1,1,2,2-Tetrachloroethane	16.18	83	750096	23.832 ng		98
74) Cumene	17.00	105	1867317	22.561 ng		99
75) alpha-Pinene	17.49	93	989534	25.204 ng		89
76) n-Propylbenzene	17.65	91	2378220	22.827 ng		97
77) 3-Ethyltoluene	17.00	105	1867317	No Calib		
78) 4-Ethyltoluene	17.83	105	1874264	23.465 ng		96
79) 1,3,5-Trimethylbenzene	17.93	105	1606494	23.332 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.42	105	7883	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1688832	23.962 ng		97
83) n-Decane	17.00	58	15832	No Calib	#	
84) Benzyl Chloride	18.54	91	3018886	60.080 ng		94
85) 1,3-Dichlorobenzene	18.55	146	951489	23.411 ng		99
86) 1,4-Dichlorobenzene	18.63	146	936541	23.182 ng		100
87) sec-Butylbenzene	18.72	105	2086610	22.640 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	1797576	21.965 ng		98
89) 1,2,3-Trimethylbenzene	18.41	105	1688832	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	894498	22.851 ng		98
91) d-Limonene	19.06	68	657050	25.421 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	686890	50.732 ng	#	82
93) n-Undecane	17.93	58	36653	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1540176	51.313 ng		98
95) Naphthalene	20.92	128	2187807	26.677 ng		95
96) n-Dodecane	18.72	58	14738	No Calib	#	
97) Hexachlorobutadiene	21.28	225	474033	22.914 ng		98
98) Cyclohexanone	15.62	55	2622	No Calib		
99) tert-Butylbenzene	18.41	119	1556971	22.987 ng		97
100) n-Butylbenzene	19.37	91	1846832	23.355 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	416309	23.778 ng	#	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 05\25\05252237.D Vial: 2
Acq On : 26 May 2022 2:29 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-05132201/S35-05192203 (6/18)

Quant Time: May 26 09:14:52 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05252237.D** Acq. Method File: **TO15.M** *5/26/22*

Data File Path: **I:\MS09\DATA\2022_05\25** Sample Name: **25ng TO-15 ICV STD**

Operator: **SC** Misc Info: **S35-05132201/S35-05192203 (**

Date Acquired: **5/26/2022 2:29** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**3.23**	**21.3**	**25.75**	83	**56**	**128**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**3.31**	**21.9**	**26.00**	84	**71**	**112**	*	*
4)	**Chloromethane**	**3.44**	**22.8**	**25.75**	89	**53**	**126**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**3.55**	**22.9**	**26.00**	88	**62**	**121**	*	*
6)	**Vinyl Chloride**	**3.64**	**23.2**	**26.00**	89	**63**	**123**	*	*
7)	**1,3-Butadiene**	**3.75**	**22.2**	**25.75**	86	**63**	**135**	*	*
8)	**Bromomethane**	**3.97**	**22.8**	**25.75**	89	**71**	**112**	*	*
9)	**Chloroethane**	**4.11**	**22.6**	**25.75**	88	**66**	**117**	*	*
10)	**Ethanol**	**4.29**	**92**	**104.00**	88	**57**	**117**	*	*
11)	**Acetonitrile**	**4.43**	**19.7**	**25.25**	78	**59**	**131**	*	*
12)	**Acrolein**	**4.51**	**44.9**	**52.00**	86	**71**	**123**	*	*
13)	**Acetone**	**4.61**	**111**	**128.00**	87	**60**	**117**	*	*
14)	**Trichlorofluoromethane**	**4.72**	**21.8**	**25.25**	86	**71**	**114**	*	*
15)	**2-Propanol (Isopropanol)**	**4.84**	**46.2**	**50.00**	92	**61**	**124**	*	*
16)	**Acrylonitrile**	**4.98**	**44.3**	**50.25**	88	**65**	**130**	*	*
17)	**1,1-Dichloroethene**	**5.22**	**22.7**	**26.25**	86	**74**	**114**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	5.31	55.3	51.00	108	56	135	*	*
19)	**Methylene Chloride**	**5.34**	**22.1**	**26.00**	85	**75**	**112**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**5.43**	**19.3**	**25.50**	76	**57**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**5.54**	**23.1**	**27.00**	86	**73**	**114**	*	*
22)	**Carbon Disulfide**	**5.56**	**45.8**	**51.75**	89	**70**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**6.12**	**23.2**	**26.00**	89	**76**	**119**	*	*
24)	**1,1-Dichloroethane**	**6.30**	**22.8**	**26.75**	85	**70**	**114**	*	*
25)	**Methyl tert-Butyl Ether**	**6.33**	**19.7**	**25.75**	77	**72**	**118**	*	*
26)	**Vinyl Acetate**	**6.42**	**140**	**117.75**	119	**56**	**137**	*	*
27)	**2-Butanone (MEK)**	**6.64**	**46.4**	**51.00**	91	**74**	**121**	*	*
28)	**cis-1,2-Dichloroethene**	**7.06**	**22.6**	**25.75**	88	**73**	**117**	*	*
29)	Diisopropyl Ether	7.25	46.0	52.25	88	58	124	*	*
30)	**Ethyl Acetate**	**7.26**	**67.4**	**72.50**	93	**59**	**161**	*	*
31)	**n-Hexane**	**7.27**	**23.5**	**26.00**	90	**55**	**130**	*	*
32)	**Chloroform**	**7.35**	**23.0**	**26.25**	88	**71**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**7.71**	**45.8**	**50.50**	91	**73**	**114**	*	*
35)	Ethyl tert-Butyl Ether	7.79	48.5	51.75	94	76	119	*	*
36)	**1,2-Dichloroethane**	**8.09**	**22.4**	**26.25**	85	**71**	**119**	*	*
38)	**1,1,1-Trichloroethane**	**8.37**	**23.4**	**26.00**	90	**73**	**119**	*	*
41)	**Benzene**	**8.87**	**22.1**	**26.00**	85	**72**	**113**	*	*
42)	**Carbon Tetrachloride**	**9.04**	**22.4**	**25.25**	89	**67**	**123**	*	*
43)	**Cyclohexane**	**9.18**	**44.9**	**51.50**	87	**70**	**119**	*	*
44)	tert-Amyl Methyl Ether	9.56	49.1	**51.50**	95	74	120	*	*
45)	**1,2-Dichloropropane**	**9.83**	**23.0**	**25.75**	89	**70**	**118**	*	*
46)	**Bromodichloromethane**	**10.05**	**24.0**	**26.00**	92	**74**	**119**	*	*
47)	**Trichloroethene**	**10.12**	**22.1**	**25.50**	87	**74**	**115**	*	*
48)	**1,4-Dioxane**	**10.08**	**25.7**	**25.75**	100	**77**	**124**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	10.20	22.3	26.25	85	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05252237.D** **TO15.M**
Data File Path: **I:\MS09\DATA\2022_05\25** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S35-05132201/S35-05192203 (**
Date Acquired: **5/26/2022 2:29** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**10.37**	**48.9**	**51.25**	95	**78**	**126**	*	*
51)	**n-Heptane**	**10.54**	**22.7**	**25.75**	88	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**11.23**	**25.1**	**26.00**	97	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**11.29**	**50.7**	**51.50**	98	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**11.23**	**24.2**	**25.00**	97	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**12.15**	**23.0**	**26.00**	88	**78**	**117**	*	*
58)	**Toluene**	**12.53**	**21.9**	**25.75**	85	**70**	**118**	*	*
59)	**2-Hexanone**	**12.88**	**50.0**	**50.75**	99	**74**	**132**	*	*
60)	**Dibromochloromethane**	**13.05**	**24.0**	**26.25**	91	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**13.37**	**23.3**	**26.00**	90	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**13.74**	**50.9**	**50.75**	100	**75**	**134**	*	*
63)	**n-Octane**	**13.89**	**22.7**	**26.00**	87	**68**	**120**	*	*
64)	**Tetrachloroethene**	**14.00**	**22.2**	**26.50**	84	**63**	**130**	*	*
65)	**Chlorobenzene**	**14.87**	**22.0**	**25.75**	85	**70**	**118**	*	*
66)	**Ethylbenzene**	**15.38**	**22.6**	**25.75**	88	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**15.63**	**46.2**	**52.00**	89	**67**	**127**	*	*
68)	**Bromoform**	**15.65**	**26.0**	**26.25**	99	**65**	**149**	*	*
69)	**Styrene**	**16.07**	**23.6**	**25.25**	93	**76**	**132**	*	*
70)	**o-Xylene**	**16.21**	**22.9**	**26.00**	88	**69**	**124**	*	*
71)	**n-Nonane**	**16.58**	**22.7**	**26.00**	87	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**16.18**	**23.8**	**26.00**	92	**69**	**128**	*	*
74)	**Cumene**	**17.00**	**22.6**	**25.75**	88	**69**	**125**	*	*
75)	**alpha-Pinene**	**17.49**	**25.2**	**26.25**	96	**68**	**129**	*	*
76)	**n-Propylbenzene**	**17.65**	**22.8**	**26.00**	88	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**17.83**	**23.5**	**26.00**	**90**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**17.93**	**23.3**	**26.00**	**90**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**18.41**	**24.0**	**25.75**	**93**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**18.54**	**60.1**	**52.00**	**116**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**18.55**	**23.4**	**26.00**	**90**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**18.63**	**23.2**	**26.25**	**88**	**63**	**134**	*	*
87)	sec-Butylbenzene	18.72	22.6	25.50	**89**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	18.91	22.0	25.75	**85**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**19.01**	**22.9**	**26.25**	**87**	**64**	**139**	*	*
91)	**d-Limonene**	**19.06**	**25.4**	**25.75**	**99**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**19.49**	**50.7**	**50.50**	**100**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**20.82**	**51.3**	**52.50**	**98**	**62**	**154**	*	*
95)	**Naphthalene**	**20.92**	**26.7**	**26.25**	**102**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**21.28**	**22.9**	**26.50**	**86**	55	142	*	*
99)	tert-Butylbenzene	18.41	23.0	25.75	89	61	140	*	*
100)	n-Butylbenzene	19.37	23.4	26.00	90	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	14.85	23.8	25.75	92	70	130	*	*

Bold = 75 Compound List
*** = Pass**

ICV/LCS Standard Concentrations (Secondary Source)

4ng/L Working Std. ID:
20ng/L Working Std. ID:
200ng/L Working Std. ID: S35-05192203
1000ng/L Working Std. ID:

6/6/22

Dilution Factor:	1	5	50	250
Working Std. Conc. Utilized:	200			
Working Std. Injection Amounts (L):				0.125

Compounds	mg/m^3	Secondary Working Std. Conc. 1000ng/L	200ng/L	20ng/L	4ng/L	ICV / LCS Actual Conc.(ng)
Propene	1.03	1030	206	20.6	4.12	25.75
Dichlorodifluoromethane(12)	1.04	1040	208	20.8	4.16	26.00
Chloromethane	1.03	1030	206	20.6	4.12	25.75
Freon-114	1.04	1040	208	20.8	4.16	26.00
Vinyl Chloride	1.04	1040	208	20.8	4.16	26.00
1,3-Butadiene	1.03	1030	206	20.6	4.12	25.75
Bromomethane	1.03	1030	206	20.6	4.12	25.75
Chloroethane	1.03	1030	206	20.6	4.12	25.75
Ethanol	4.16	4160	832	83.2	16.64	104.00
Acetonitrile	1.01	1010	202	20.2	4.04	25.25
Acrolein	2.08	2080	416	41.6	8.32	52.00
Acetone	5.12	5120	1024	102.4	20.48	128.00
Trichlorofluoromethane(11)	1.01	1010	202	20.2	4.04	25.25
Isopropanol	2.00	2000	400	40.0	8.00	50.00
Acrylonitrile	2.01	2010	402	40.2	8.04	50.25
1,1-Dichloroethene	1.05	1050	210	21.0	4.20	26.25
tert-Butanol	2.04	2040	408	40.8	8.16	51.00
Methylene Chloride	1.04	1040	208	20.8	4.16	26.00
Allyl Chloride	1.02	1020	204	20.4	4.08	25.50
Trichlorotrifluoroethane(113)	1.08	1080	216	21.6	4.32	27.00
Carbon Disulfide	2.07	2070	414	41.4	8.28	51.75
trans-1,2-Dichloroethene	1.04	1040	208	20.8	4.16	26.00
1,1-Dichloroethane	1.07	1070	214	21.4	4.28	26.75
Methyl tert-Butyl Ether	1.03	1030	206	20.6	4.12	25.75
Vinyl Acetate	4.71	4710	942	94.2	18.84	117.75
2-Butanone	2.04	2040	408	40.8	8.16	51.00
cis-1,2-Dichloroethene	1.03	1030	206	20.6	4.12	25.75
Diisopropyl Ether	2.09	2090	418	41.8	8.36	52.25
Ethyl Acetate	2.90	2900	580	58.0	11.60	72.50
n-Hexane	1.04	1040	208	20.8	4.16	26.00
Chloroform	1.05	1050	210	21.0	4.20	26.25
Tetrahydrofuran	2.02	2020	404	40.4	8.08	50.50
Ethyl tert-Butyl Ether	2.07	2070	414	41.4	8.28	51.75
1,2-Dichloroethane	1.05	1050	210	21.0	4.20	26.25
1,1,1-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Benzene	1.04	1040	208	20.8	4.16	26.00
Carbon Tetrachloride	1.01	1010	202	20.2	4.04	25.25
Cyclohexane	2.06	2060	412	41.2	8.24	51.50
tert-Amyl Methyl Ether	2.06	2060	412	41.2	8.24	51.50
1,2-Dichloropropane	1.03	1030	206	20.6	4.12	25.75
Bromodichloromethane	1.04	1040	208	20.8	4.16	26.00
Trichloroethene	1.02	1020	204	20.4	4.08	25.50
1,4-Dioxane	1.03	1030	206	20.6	4.12	25.75
Isooctane	1.05	1050	210	21.0	4.20	26.25

Compounds	mg/m^3	Secondary Working Std. Conc. 1000ng/L	200ng/L	20ng/L	4ng/L	ICV / LCS Actual Conc.(ng)
Methyl Methacrylate	2.05	2050	410	41.0	8.20	51.25
n-Heptane	1.03	1030	206	20.6	4.12	25.75
cis-1,3-Dichloropropene	1.04	1040	208	20.8	4.16	26.00
4-Methyl-2-pentanone	2.06	2060	412	41.2	8.24	51.50
trans-1,3-Dichloropropene	1.00	1000	200	20.0	4.00	25.00
1,1,2-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Toluene	1.03	1030	206	20.6	4.12	25.75
2-Hexanone	2.03	2030	406	40.6	8.12	50.75
Dibromochloromethane	1.05	1050	210	21.0	4.20	26.25
1,2-Dibromoethane	1.04	1040	208	20.8	4.16	26.00
n-Butyl Acetate	2.03	2030	406	40.6	8.12	50.75
n-Octane	1.04	1040	208	20.8	4.16	26.00
Tetrachloroethene	1.06	1060	212	21.2	4.24	26.50
Chlorobenzene	1.03	1030	206	20.6	4.12	25.75
Ethylbenzene	1.03	1030	206	20.6	4.12	25.75
m-,p-Xylene	2.08	2080	416	41.6	8.32	52.00
Bromoform	1.05	1050	210	21.0	4.20	26.25
Styrene	1.01	1010	202	20.2	4.04	25.25
o-Xylene	1.04	1040	208	20.8	4.16	26.00
n-Nonane	1.04	1040	208	20.8	4.16	26.00
1,1,2,2-Tetrachloroethane	1.04	1040	208	20.8	4.16	26.00
Cumene	1.03	1030	206	20.6	4.12	25.75
alpha-Pinene	1.05	1050	210	21.0	4.20	26.25
n-Propylbenzene	1.04	1040	208	20.8	4.16	26.00
4-Ethyltoluene	1.04	1040	208	20.8	4.16	26.00
1,3,5-Trimethylbenzene	1.04	1040	208	20.8	4.16	26.00
1,2,4-Trimethylbenzene	1.03	1030	206	20.6	4.12	25.75
Benzyl Chloride	2.08	2080	416	41.6	8.32	52.00
1,3-Dichlorobenzene	1.04	1040	208	20.8	4.16	26.00
1,4-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
sec-Butylbenzene	1.02	1020	204	20.4	4.08	25.50
p-Isopropyltoluene	1.03	1030	206	20.6	4.12	25.75
1,2-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
d-Limonene	1.03	1030	206	20.6	4.12	25.75
1,2-Dibromo-3-chloropropane	2.02	2020	404	40.4	8.08	50.50
1,2,4-Trichlorobenzene	2.10	2100	420	42.0	8.40	52.50
Naphthalene	1.05	1050	210	21.0	4.20	26.25
Hexachloro-1,3-butadiene	1.06	1060	212	21.2	4.24	26.50
tert-Butylbenzene	1.03	1030	206	20.6	4.12	25.75
n-Butylbenzene	1.04	1040	208	20.8	4.16	26.00
1,1,1,2-Tetrachloroethane	1.03	1030	206	20.6	4.12	25.75

***Enter Information in the Solid Shaded Areas ONLY.**

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 06\13\06132201.D Vial: 2
Acq On : 13 Jun 2022 7:20 Operator: SC
Sample : CCV R9061322 5ng Inst : MS09
Misc : S35-05132201/S35-06022207 (7/2)

Quant Time: Jun 13 08:14:28 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/13/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	82	-0.04
2	T	Propene	2.006	2.218	-10.6	105	0.00
3	T	Dichlorodifluoromethane (CF	2.824	3.161	-11.9	103	-0.04
4	T	Chloromethane	2.196	2.634	-19.9	116	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.200	1.223	-1.9	93	0.00
6	T	Vinyl Chloride	1.791	2.143	-19.7	105	-0.02
7	T	1,3-Butadiene	1.429	1.636	-14.5	103	-0.02
8	T	Bromomethane	1.092	1.211	-10.9	103	-0.02
9	T	Chloroethane	0.856	0.964	-12.6	103	-0.02
10	T	Ethanol	1.437	1.569	-9.2	105	-0.07
11	T	Acetonitrile	3.779	4.278	-13.2	106	-0.05
12	T	Acrolein	0.901	1.048	-16.3	104	-0.04
13	T	Acetone	1.018	1.136	-11.6	103	-0.04
14	T	Trichlorofluoromethane	2.657	2.893	-8.9	101	-0.02
15	T	2-Propanol (Isopropanol)	4.583	5.438	-18.7	110	-0.06
16	T	Acrylonitrile	1.972	2.271	-15.2	103	-0.05
17	T	1,1-Dichloroethene	1.199	1.248	-4.1	98	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.833	4.105	-44.9#	136	-0.06
19	T	Methylene Chloride	1.277	1.382	-8.2	100	-0.04
20	T	3-Chloro-1-propene (Allyl C	3.364	3.896	-15.8	108	-0.03
21	T	Trichlorotrifluoroethane	1.049	1.021	2.7	91	-0.02
22	T	Carbon Disulfide	4.494	5.079	-13.0	101	-0.02
23	T	trans-1,2-Dichloroethene	2.062	2.362	-14.5	103	-0.03
24	T	1,1-Dichloroethane	2.455	2.718	-10.7	103	-0.04
25	T	Methyl tert-Butyl Ether	3.508	4.035	-15.0	109	-0.02
26	T	Vinyl Acetate	0.168	0.211	-25.6	100	-0.03
27	T	2-Butanone (MEK)	0.801	0.913	-14.0	100	-0.04
28	T	cis-1,2-Dichloroethene	2.015	2.275	-12.9	102	-0.04
29	T	Diisopropyl Ether	0.968	1.051	-8.6	99	-0.02
30	T	Ethyl Acetate	0.562	0.681	-21.2	103	-0.04
31	T	n-Hexane	2.275	2.643	-16.2	103	-0.02
32	T	Chloroform	2.410	2.661	-10.4	100	-0.04
33	S	1,2-Dichloroethane-d4(SS1)	2.081	2.318	-11.4	91	-0.03
34	T	Tetrahydrofuran (THF)	0.781	0.879	-12.5	101	-0.02
35	T	Ethyl tert-Butyl Ether	1.388	1.598	-15.1	101	-0.02
36	T	1,2-Dichloroethane	2.102	2.378	-13.1	103	-0.03
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	83	-0.03
38	T	1,1,1-Trichloroethane	0.503	0.553	-9.9	100	-0.03
39	T	Isopropyl Acetate	0.000	0.000	0.0	93	-0.02
40	T	1-Butanol	0.000	0.000	0.0	103	-0.02
41	T	Benzene	1.181	1.211	-2.5	99	-0.02
42	T	Carbon Tetrachloride	0.436	0.460	-5.5	97	-0.02
43	T	Cyclohexane	0.413	0.434	-5.1	98	-0.02
44	T	tert-Amyl Methyl Ether	0.793	0.927	-16.9	106	-0.02
45	T	1,2-Dichloropropane	0.307	0.336	-9.4	102	-0.03
46	T	Bromodichloromethane	0.441	0.489	-10.9	101	-0.03
47	T	Trichloroethene	0.307	0.292	4.9	90	-0.03
48	T	1,4-Dioxane	0.209	0.227	-8.6	96	-0.02
49	T	2,2,4-Trimethylpentane (Iso	1.336	1.431	-7.1	100	-0.02
50	T	Methyl Methacrylate	0.102	0.110	-7.8	95	-0.02
51	T	n-Heptane	0.277	0.297	-7.2	100	-0.02
52	T	cis-1,3-Dichloropropene	0.448	0.513	-14.5	102	-0.02
53	T	4-Methyl-2-pentanone	0.276	0.320	-15.9	103	-0.03
54	T	trans-1,3-Dichloropropene	0.466	0.533	-14.4	102	-0.02
55	T	1,1,2-Trichloroethane	0.280	0.297	-6.1	97	-0.02

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 06\13\06132201.D Vial: 2
Acq On : 13 Jun 2022 7:20 Operator: SC
Sample : CCV R9061322 5ng Inst : MS09
Misc : S35-05132201/S35-06022207 (7/2)

Quant Time: Jun 13 08:14:28 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	91	-0.01
57	S	Toluene-d8 (SS2)	4.572	4.304	5.9	85	-0.02
58	T	Toluene	4.601	4.366	5.1	97	-0.02
59	T	2-Hexanone	3.380	3.812	-12.8	108	-0.03
60	T	Dibromochloromethane	1.318	1.309	0.7	97	-0.02
61	T	1,2-Dibromoethane	1.273	1.269	0.3	96	-0.02
62	T	n-Butyl Acetate	3.712	4.209	-13.4	107	-0.02
63	T	n-Octane	1.055	1.061	-0.6	102	-0.02
64	T	Tetrachloroethene	1.249	1.034	17.2	86	-0.01
65	T	Chlorobenzene	2.964	2.735	7.7	95	-0.01
66	T	Ethylbenzene	5.299	5.139	3.0	97	-0.02
67	T	m- & p-Xylenes	4.306	4.186	2.8	97	-0.02
68	T	Bromoform	1.045	0.993	5.0	91	-0.02
69	T	Styrene	2.953	2.948	0.2	96	-0.02
70	T	o-Xylene	4.240	4.120	2.8	97	-0.02
71	T	n-Nonane	3.189	3.285	-3.0	102	-0.01
72	T	1,1,2,2-Tetrachloroethane	1.928	1.970	-2.2	99	-0.01
73	S	Bromofluorobenzene (SS3)	1.466	1.229	16.2	76	0.00
74	T	Cumene	5.071	4.850	4.4	95	-0.01
75	T	alpha-Pinene	2.406	2.570	-6.8	103	0.00
76	T	n-Propylbenzene	6.383	6.327	0.9	97	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	95	-0.01
78	T	4-Ethyltoluene	4.894	4.702	3.9	95	0.00
79	T	1,3,5-Trimethylbenzene	4.219	4.053	3.9	94	-0.01
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	-16.46#
81	T	2-Ethyltoluene	0.000	0.000	0.0	67	0.00
82	T	1,2,4-Trimethylbenzene	4.318	4.250	1.6	95	-0.01
83	T	n-Decane	0.000	0.000	0.0	86	-0.02
84	T	Benzyl Chloride	3.079	3.845	-24.9	106	-0.02
85	T	1,3-Dichlorobenzene	2.490	2.213	11.1	90	-0.01
86	T	1,4-Dichlorobenzene	2.475	2.217	10.4	91	-0.01
87	T	sec-Butylbenzene	5.647	5.486	2.9	96	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.014	4.550	9.3	91	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	95	-0.01
90	T	1,2-Dichlorobenzene	2.398	2.133	11.1	90	-0.01
91	T	d-Limonene	1.584	1.720	-8.6	101	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.830	0.835	-0.6	94	-0.01
93	T	n-Undecane	0.000	0.000	0.0	98	-0.01
94	T	1,2,4-Trichlorobenzene	1.839	1.718	6.6	93	0.00
95	T	Naphthalene	5.025	5.559	-10.6	103	0.00
96	T	n-Dodecane	0.000	0.000	0.0	95	-0.01
97	T	Hexachlorobutadiene	1.268	1.066	15.9	89	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	492#	-0.01
99	T	tert-Butylbenzene	4.150	3.879	6.5	93	-0.01
100	T	n-Butylbenzene	4.845	4.925	-1.7	98	0.00
101	T	1,1,1,2-Tetrachloroethane	1.073	1.017	5.2	93	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132201.D Vial: 2
Acq On : 13 Jun 2022 7:20 Operator: SC
Sample : CCV R9061322 5ng Inst : MS09
Misc : S35-05132201/S35-06022207 (7/2)

Quant Time: Jun 13 08:14:28 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/13/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	133350	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.27	114	590576	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	167277	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	309140	13.924	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.36%				
57) Toluene-d8 (SS2)	12.39	98	719932	11.767	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
73) Bromofluorobenzene (SS3)	16.79	174	205537	10.478	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.84%				
Target Compounds							Qvalue
2) Propene	3.25	42	123047	5.751	ng		97
3) Dichlorodifluoromethan...	3.32	85	177063	5.877	ng		95
4) Chloromethane	3.46	50	143307	6.118	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.56	135	70443	5.505	ng		97
6) Vinyl Chloride	3.64	62	118904	6.222	ng		95
7) 1,3-Butadiene	3.76	54	90779	5.955	ng	#	85
8) Bromomethane	3.97	94	65907	5.658	ng		99
9) Chloroethane	4.11	64	52443	5.744	ng		88
10) Ethanol	4.27	45	302925	19.760	ng		77
11) Acetonitrile	4.41	41	212238	5.264	ng	#	59
12) Acrolein	4.49	56	111837	11.633	ng		94
13) Acetone	4.60	58	314609	28.972	ng		100
14) Trichlorofluoromethane	4.72	101	158955	5.608	ng		96
15) 2-Propanol (Isopropanol)	4.82	45	585939	11.986	ng		97
16) Acrylonitrile	4.97	53	245877	11.685	ng		94
17) 1,1-Dichloroethene	5.22	96	71238	5.570	ng		87
18) 2-Methyl-2-Propanol (t...	5.29	59	459811	15.214	ng	#	94
19) Methylene Chloride	5.33	84	76669	5.628	ng		96
20) 3-Chloro-1-propene (Al...	5.41	41	218196	6.080	ng		90
21) Trichlorotrifluoroethane	5.54	151	58804	5.257	ng		89
22) Carbon Disulfide	5.56	76	568941	11.868	ng		94
23) trans-1,2-Dichloroethene	6.11	61	133568	6.071	ng		95
24) 1,1-Dichloroethane	6.29	63	152227	5.813	ng		99
25) Methyl tert-Butyl Ether	6.33	73	226004	6.040	ng		96
26) Vinyl Acetate	6.41	86	38341	21.339	ng	#	30
27) 2-Butanone (MEK)	6.63	72	100288	11.732	ng	#	79
28) cis-1,2-Dichloroethene	7.05	61	126180	5.869	ng		98
29) Diisopropyl Ether	7.25	87	118858	11.513	ng	#	46
30) Ethyl Acetate	7.25	61	148214	24.712	ng		100
31) n-Hexane	7.26	57	148011	6.100	ng	#	97
32) Chloroform	7.34	83	151873	5.907	ng		100
34) Tetrahydrofuran (THF)	7.71	72	92329	11.077	ng		95
35) Ethyl tert-Butyl Ether	7.79	87	179048	12.093	ng		98
36) 1,2-Dichloroethane	8.09	62	134454	5.997	ng		92
38) 1,1,1-Trichloroethane	8.36	97	135738	5.709	ng		98
39) Isopropyl Acetate	9.27	61	23607	No Calib			
40) 1-Butanol	9.18	56	309150	No Calib			
41) Benzene	8.87	78	297524	5.333	ng		98
42) Carbon Tetrachloride	9.04	117	114061	5.534	ng		98
43) Cyclohexane	9.18	84	212173	10.862	ng		96
44) tert-Amyl Methyl Ether	9.56	73	457766	12.215	ng		98
45) 1,2-Dichloropropane	9.82	63	81857	5.637	ng		99
46) Bromodichloromethane	10.04	83	121169	5.819	ng		94
47) Trichloroethene	10.11	130	71145	4.912	ng		97
48) 1,4-Dioxane	10.08	88	55867	5.666	ng		79
49) 2,2,4-Trimethylpentane...	10.20	57	358261	5.678	ng		99
50) Methyl Methacrylate	10.37	100	53998	11.167	ng	#	90

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132201.D Vial: 2
Acq On : 13 Jun 2022 7:20 Operator: SC
Sample : CCV R9061322 5ng Inst : MS09
Misc : S35-05132201/S35-06022207 (7/2)

Quant Time: Jun 13 08:14:28 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

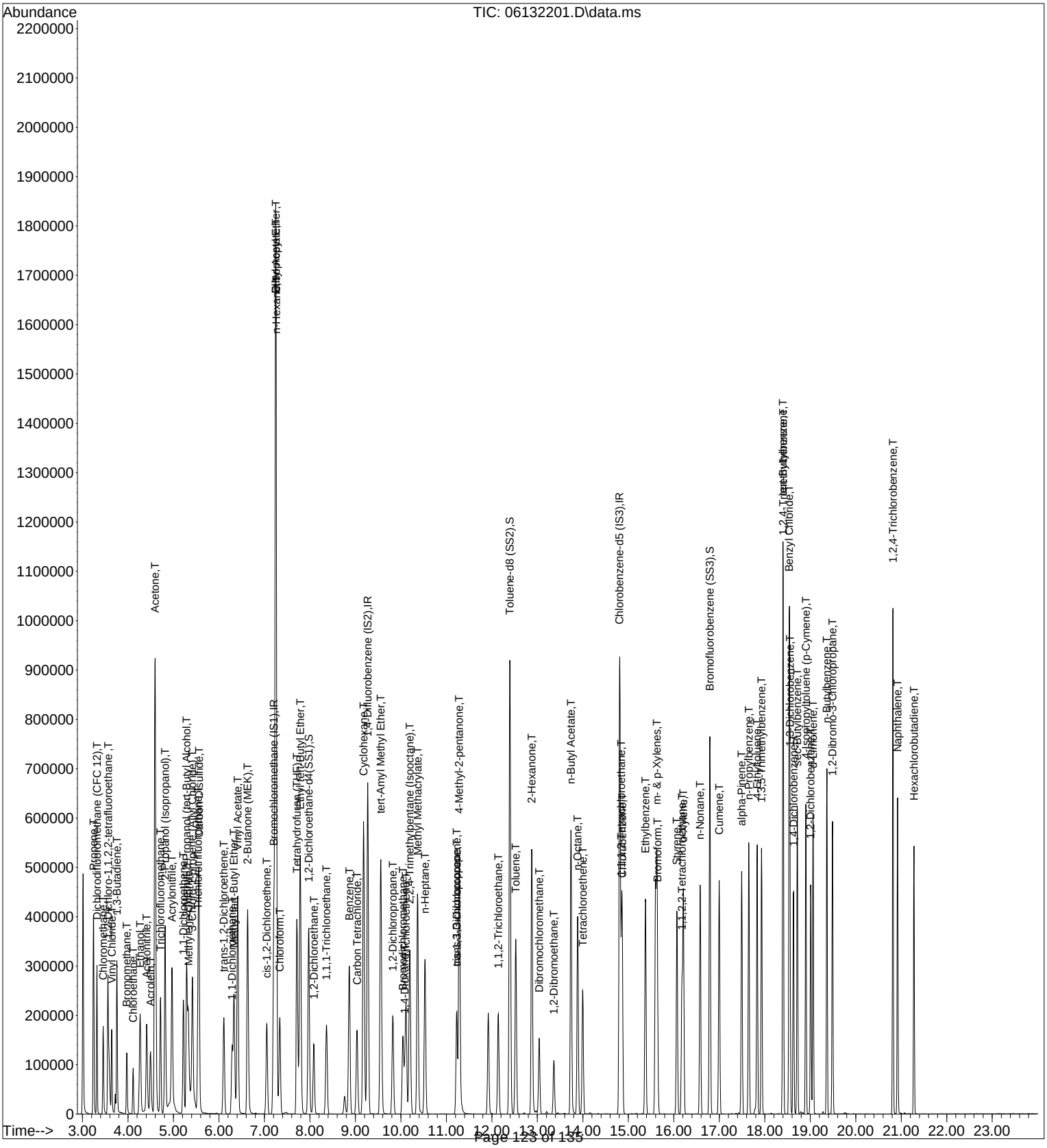
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.53	71	73620	5.623	ng		98
52) cis-1,3-Dichloropropene	11.23	75	127227	6.005	ng		95
53) 4-Methyl-2-pentanone	11.28	58	157447	12.083	ng		85
54) trans-1,3-Dichloropropene	11.23	75	127227	5.776	ng		95
55) 1,1,2-Trichloroethane	12.14	97	72921	5.505	ng		95
58) Toluene	12.52	91	300914	4.887	ng		99
59) 2-Hexanone	12.88	43	522833	11.557	ng		98
60) Dibromochloromethane	13.04	129	91961	5.216	ng		99
61) 1,2-Dibromoethane	13.36	107	88287	5.182	ng		96
62) n-Butyl Acetate	13.74	43	574519	11.567	ng		98
63) n-Octane	13.89	57	74553	5.281	ng		97
64) Tetrachloroethene	14.00	166	71947	4.303	ng		95
65) Chlorobenzene	14.87	112	190287	4.798	ng		96
66) Ethylbenzene	15.37	91	354165	4.994	ng		97
67) m- & p-Xylenes	15.62	91	577039	10.013	ng		96
68) Bromoform	15.64	173	69128	4.946	ng		94
69) Styrene	16.07	104	203203	5.142	ng		98
70) o-Xylene	16.21	91	286690	5.053	ng		96
71) n-Nonane	16.58	43	228590	5.357	ng		97
72) 1,1,2,2-Tetrachloroethane	16.18	83	137093	5.312	ng		98
74) Cumene	17.00	105	337530	4.974	ng		99
75) alpha-Pinene	17.49	93	185727	5.769	ng		90
76) n-Propylbenzene	17.65	91	444518	5.204	ng		99
77) 3-Ethyltoluene	17.00	105	337530	No Calib			
78) 4-Ethyltoluene	17.83	105	333518	5.092	ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	282048	4.996	ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.43	105	944	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.41	105	292935	5.069	ng		95
83) n-Decane	16.99	58	2846	No Calib		#	
84) Benzyl Chloride	18.54	91	530001	12.864	ng		98
85) 1,3-Dichlorobenzene	18.55	146	153979	4.621	ng		99
86) 1,4-Dichlorobenzene	18.63	146	154261	4.657	ng		100
87) sec-Butylbenzene	18.72	105	381748	5.052	ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	316617	4.719	ng		96
89) 1,2,3-Trimethylbenzene	18.41	105	292935	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	149858	4.669	ng		98
91) d-Limonene	19.06	68	120858	5.703	ng		97
92) 1,2-Dibromo-3-Chloropr...	19.49	157	111795	10.070	ng		96
93) n-Undecane	17.93	58	6419	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	234525	9.530	ng		99
95) Naphthalene	20.92	128	386816	5.753	ng		96
96) n-Dodecane	18.71	58	2708	No Calib		#	
97) Hexachlorobutadiene	21.28	225	73444	4.330	ng		97
98) Cyclohexanone	15.62	55	586	No Calib		#	
99) tert-Butylbenzene	18.40	119	269945	4.861	ng		99
100) n-Butylbenzene	19.37	91	342713	5.286	ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	70803	4.932	ng		88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\13\06132201.D Vial: 2
Acq On : 13 Jun 2022 7:20 Operator: SC
Sample : CCV R9061322 5ng Inst : MS09
Misc : S35-05132201/S35-06022207 (7/2)

Quant Time: Jun 13 08:14:28 2022
Quant Method : I:\MS09\Methods\R9052522.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu May 26 09:07:35 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

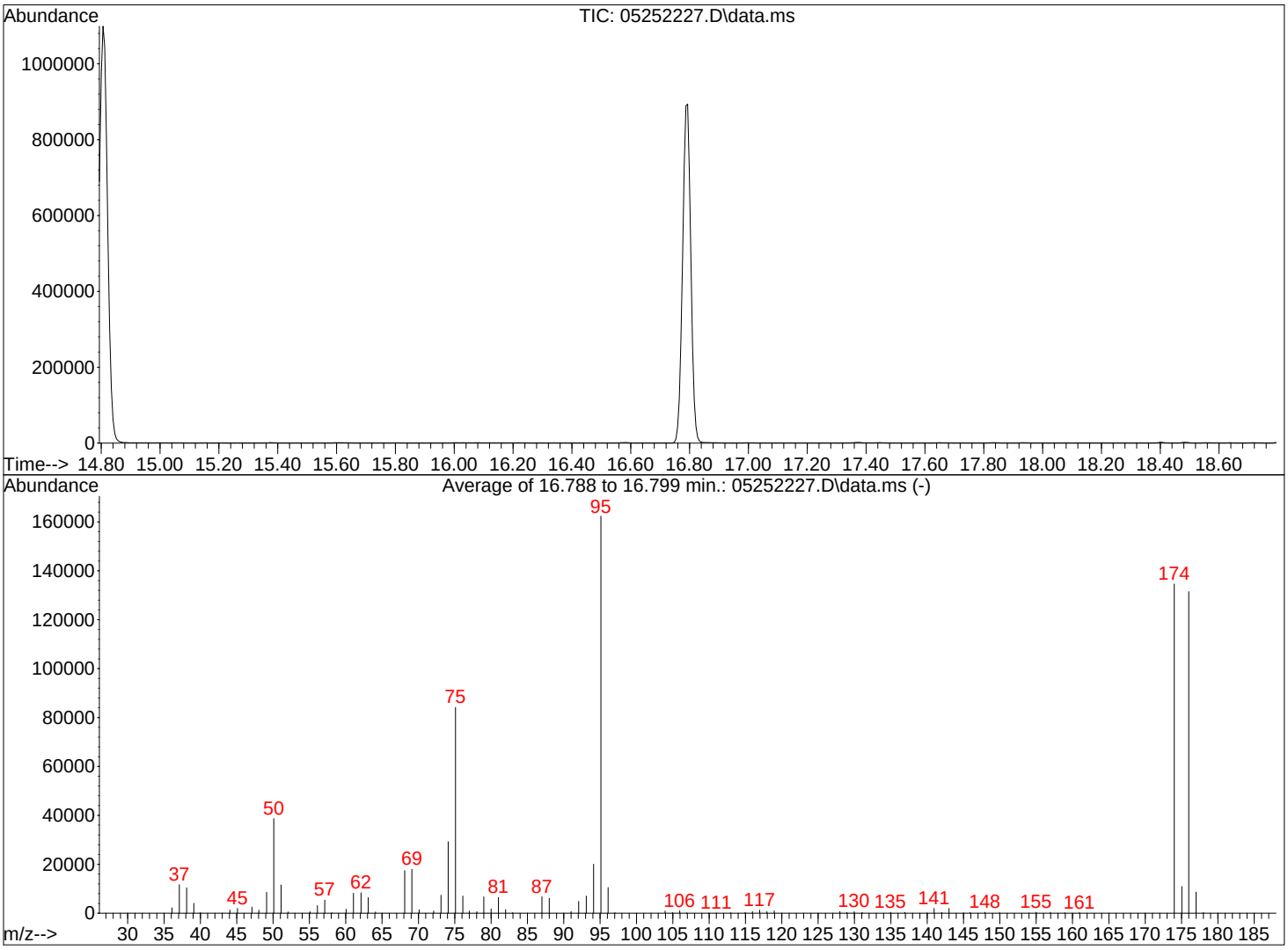


Data Path : I:\MS09\DATA\2022 05\25\
Data File : 05252227.D
Acq On : 25 May 2022 21:08
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S35-05132201
ALS Vial : 2 Sample Multiplier: 1

5/26/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9052522.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu May 26 08:35:35 2022



AutoFind: Scans 2449, 2450, 2451; Background Corrected with Scan 2440

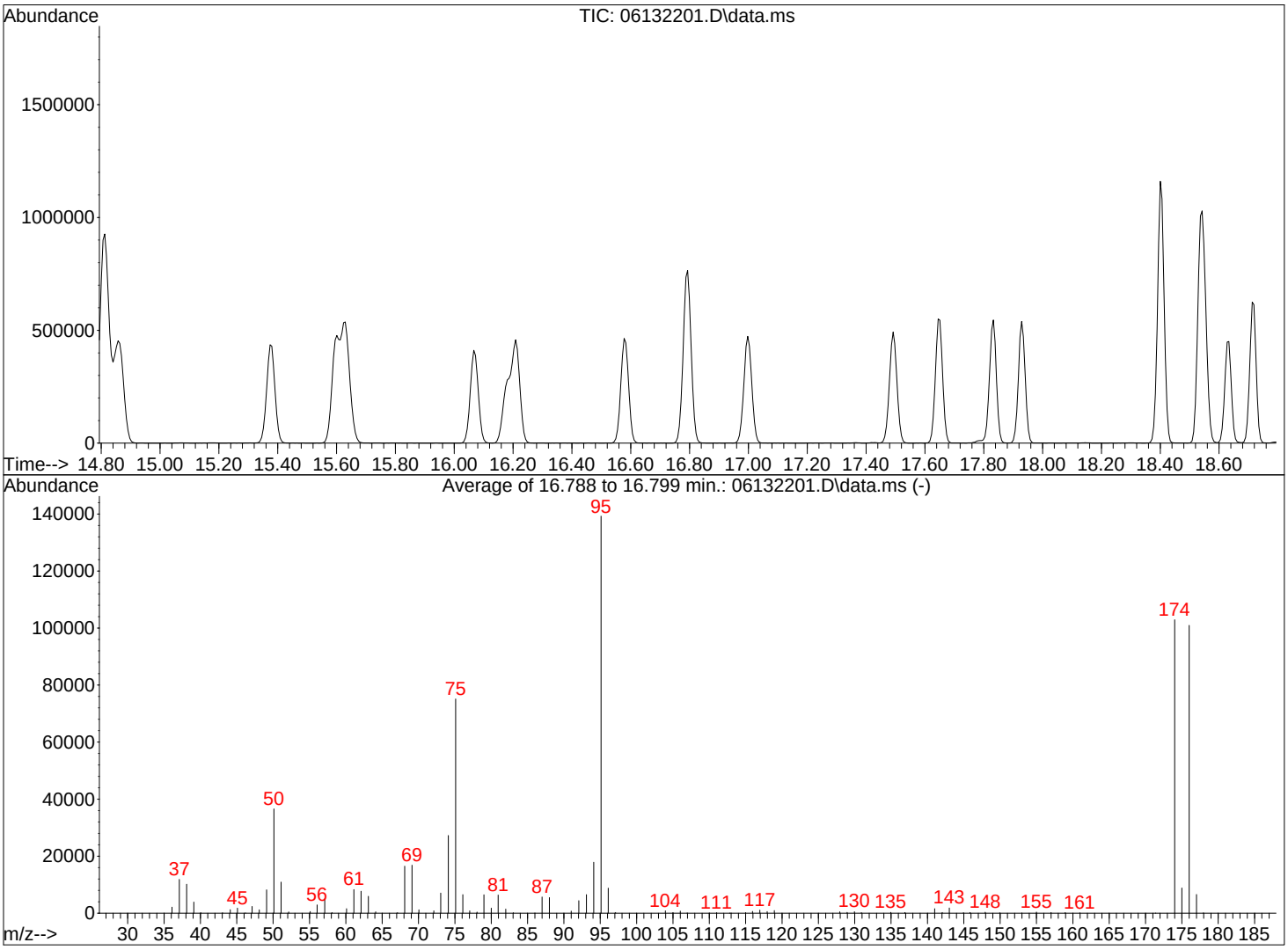
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.8	38691	PASS
75	95	30	66	51.8	84157	PASS
95	95	100	100	100.0	162347	PASS
96	95	5	9	6.5	10475	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	82.9	134597	PASS
175	174	4	9	8.1	10957	PASS
176	174	93	101	97.7	131493	PASS
177	176	5	9	6.5	8610	PASS

Data Path : I:\MS09\DATA\2022 06\13\
Data File : 06132201.D
Acq On : 13 Jun 2022 7:20
Operator : SC
Sample : CCV R9061322 5ng
Misc : S35-05132201/S35-06022207 (7/2)
ALS Vial : 2 Sample Multiplier: 1

6/13/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9052522.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu May 26 09:07:35 2022



AutoFind: Scans 2449, 2450, 2451; Background Corrected with Scan 2440

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	26.3	36592	PASS
75	95	30	66	53.9	75107	PASS
95	95	100	100	100.0	139240	PASS
96	95	5	9	6.3	8768	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	73.9	102933	PASS
175	174	4	9	8.6	8828	PASS
176	174	93	101	98.0	100920	PASS
177	176	5	9	6.5	6559	PASS

Injection Log

Directory: J:\MS09\DATA\2022_05\25\

26	5/25/22 20:36	05252226.D	Blank	S35-05132201	SC	2	
27	5/25/22 21:08	05252227.D	12.5ng TO-15 BFB STD	S35-05132201	SC	2	pass
28	5/25/22 21:40	05252228.D	0.1ng TO-15 ICAL STD	S35-05132201/S35-05252202 (6/23)	SC	14	
29	5/25/22 21:40	05252228a.D	0.1ng TO-15 ICAL STD	S35-05132201/S35-05252202 (6/23)	SC	14	
30	5/25/22 22:12	05252229.D	0.2ng TO-15 ICAL STD	S35-05132201/S35-05252202 (6/23)	SC	14	
31	5/25/22 22:44	05252230.D	0.5ng TO-15 ICAL STD	S35-05132201/S35-05252201 (6/23)	SC	15	
32	5/25/22 23:17	05252231.D	1.0ng TO-15 ICAL STD	S35-05132201/S35-05252201 (6/23)	SC	15	
33	5/25/22 23:48	05252232.D	5.0ng TO-15 ICAL STD	S35-05132201/S35-05252201 (6/23)	SC	15	
34	5/26/22 0:20	05252233.D	25ng TO-15 ICAL STD	S35-05132201/S35-05242207 (6/22)	SC	16	
35	5/26/22 0:20	05252233a.D	25ng TO-15 ICAL STD	S35-05132201/S35-05242207 (6/22)	SC	16	
36	5/26/22 0:52	05252234.D	50ng TO-15 ICAL STD	S35-05132201/S35-05242207 (6/22)	SC	16	
37	5/26/22 1:25	05252235.D	100ng TO-15 ICAL STD	S35-05132201/S35-05242207 (6/22)	SC	16	
38	5/26/22 1:57	05252236.D	Blank	S35-05132201	sc	2	
39	5/26/22 2:29	05252237.D	25ng TO-15 ICV STD	S35-05132201/S35-05192203 (6/18)	SC	2	pass
40	5/26/22 3:01	05252238.D	25ng TO-15 ICV STD	S35-05132201/S35-05192203 (6/18)	sc	2	pass

6/6/22

Injection Log

Directory: I:\MS09\DATA\2022_06\13\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	6/13/22 7:20	06132201.D	CCV R9061322_5ng	S35-05132201/S35-06022207 (7/2)	SC	2	pass
2	6/13/22 7:52	06132202.D	RL R9061322_0.5ng	S35-05132201/S35-05252201 (6/24)	SC	4	pass
3	6/13/22 8:24	06132203.D	MB R9061322_1000mL	S35-05132201	SC	2	pass
4	6/13/22 8:56	06132204.D	LCS R9061322_25ng	S35-05132201/S35-06022204 (7/2)	SC	2	pass
5	6/13/22 9:28	06132205.D	LCSD R9061322_25ng	S35-05132201/S35-06022204 (7/2)	SC	2	pass
6	6/13/22 10:05	06132206.D	P2202590-001 (100mL)	S35-05132201	SC	9	
7	6/13/22 10:37	06132207.D	P2202590-002 (100mL)	S35-05132201	SC	10	
8	6/13/22 11:08	06132208.D	P2202590-003 (100mL)	S35-05132201	SC	11	
9	6/13/22 11:40	06132209.D	Blank (100mL)	S35-05132201	SC	1	
10	6/13/22 12:12	06132210.D	P2202590-004 (3.0mL)	S35-05132201	SC	1	
11	6/13/22 12:44	06132211.D	P2202559-003 (1000mL)	S35-05132201	SC	5	
12	6/13/22 13:17	06132212.D	P2202559-005 (1000mL)	S35-05132201	SC	6	
13	6/13/22 13:49	06132213.D	P2202559-005dup (1000mL)	S35-05132201	SC	6	pass
14	6/13/22 14:30	06132214.D	P2202570-001 (1000mL)	S35-05132201	SC	3	
15	6/13/22 15:02	06132215.D	P2202535-001 (20mL)	S35-05132201	SC	7	
16	6/13/22 15:34	06132216.D	P2202535-002 (1000mL)	S35-05132201	SC	8	
17	6/13/22 16:06	06132217.D	P2202535-001Dil (5.0mL)	S35-05132201	SC	1	
18	6/13/22 16:38	06132218.D	P2202456-001Dil (5.0mL)	S35-05132201	SC	1	
19	6/13/22 17:20	06132219.D	P2202456-001 (25mL)	S35-05132201	SC	7	
20	6/13/22 17:51	06132220.D	P2202558-001 (1000mL)	S35-05132201	SC	5	
21	6/13/22 18:23	06132221.D	P2202558-002 (1000mL)	S35-05132201	SC	6	
22	6/13/22 18:55	06132222.D	P2202558-003 (1000mL)	S35-05132201	SC	9	
23	6/13/22 19:27	06132223.D	P2202558-004 (1000mL)	S35-05132201	SC	10	
24	6/13/22 20:00	06132224.D	P2202558-005 (1000mL)	S35-05132201	SC	11	
25	6/13/22 20:32	06132225.D	System	S35-05132201	SC	2	
26	6/13/22 21:04	06132226.D	P2202566-001 (1000mL)	S35-05132201	SC	12	
27	6/13/22 21:36	06132227.D	P2202566-002 (1000mL)	S35-05132201	SC	13	
28	6/13/22 22:09	06132228.D	P2202566-003 (1000mL)	S35-05132201	SC	14	
29	6/13/22 22:41	06132229.D	P2202566-004 (1000mL)	S35-05132201	SC	15	
30	6/13/22 23:13	06132230.D	P2202566-005 (1000mL)	S35-05132201	SC	16	
31	6/13/22 23:45	06132231.D	System	S35-05132201	SC	2	
							6/14/22

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 29416

Batch Started By: on 5/20/22 0413
Finished Cleaning By: ALESAICHERRE on 5/24/22 0511

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02387	5/20/22	5/23/22	Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	6/10/22 1032		ms21-05/23/22
AC02294	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE				
AC02378	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	5/25/22 0813		
AS00931	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	5/25/22 0813		
AC02074	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	6/7/22 0813		
AS01163	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	5/25/22 0813		
AS00839	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	6/9/22 0257		
AS01533	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	5/25/22 0813		
AS01099	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	5/25/22 0813		
AS01596	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	5/25/22 0813		
AS01643	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	6/10/22 0837		
AC02479	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	6/10/22 0837		
AC02295	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	6/7/22 0813		
AS01357	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	5/25/22 0813		
AS01338	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	6/10/22 0837		
AS00773	5/20/22		Pass w/ Conditions	-14.3	5/24/22 0511	ALESAICHERRE	-14.0	6/10/22 0837		

Passed For: TO-15 (75 Comp 0.5 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 05\23\
Data File : 05232210.D
Acq On : 23 May 2022 13:47
Operator : RVT/KM
Sample : 052322 AC02387 29416
Misc : 0.5 + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

RPL 5/24/22

Quant Time: May 24 05:01:13 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration

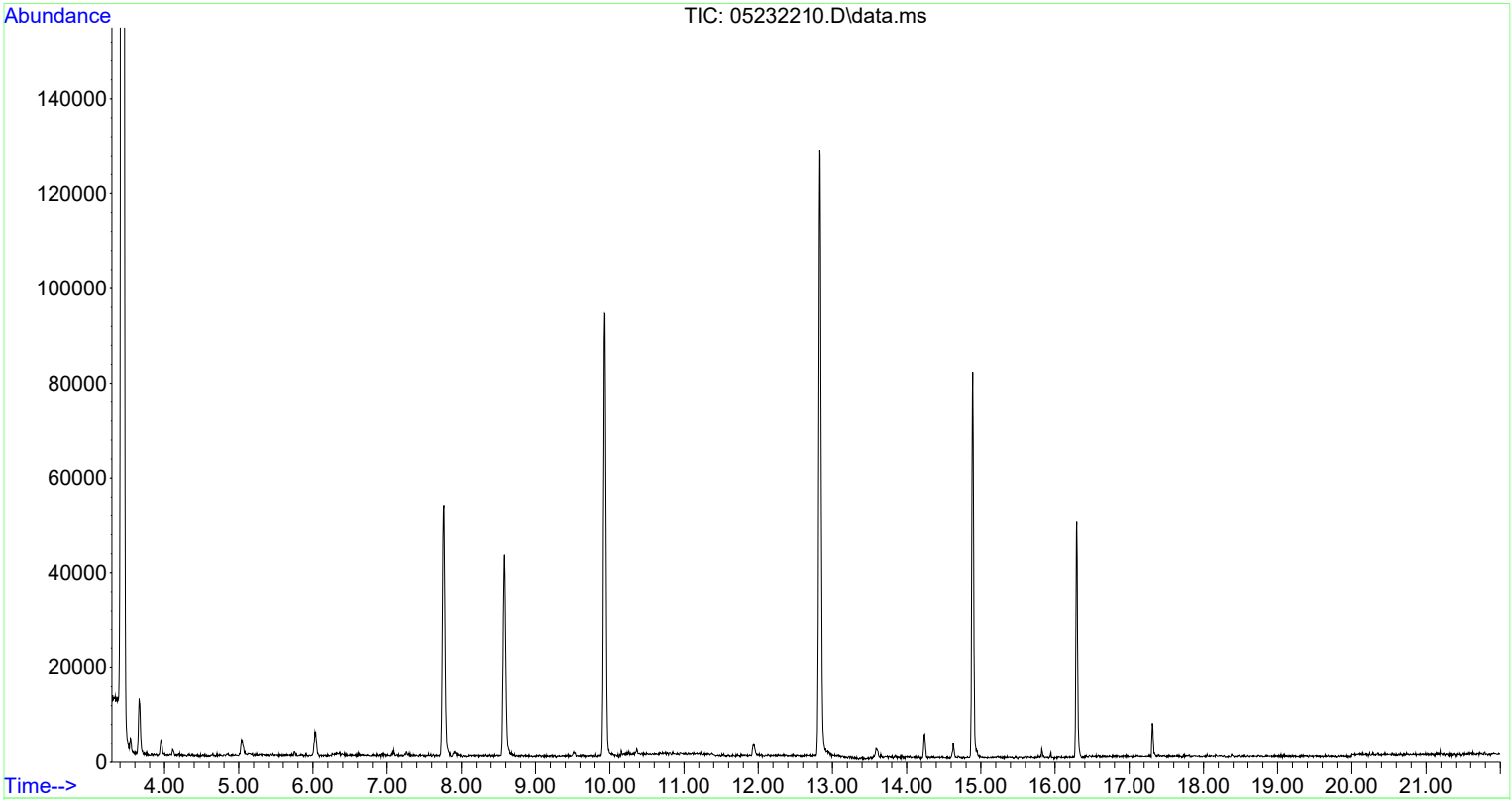
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.76	130	27973	1000.000	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.93	114	107150	1000.000	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.89	54	11402	1000.000	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.58	65	41966	844.234	pg		0.00
Spiked Amount 1000.000			Recovery = 84.42%				
57) Toluene-d8 (SS2)	12.83	98	111239	1895.558	pg		0.00
Spiked Amount 1000.000			Recovery = 189.56%				
74) Bromofluorobenzene (SS3)	16.29	174	18564	969.934	pg		0.00
Spiked Amount 1000.000			Recovery = 96.99%				
Target Compounds							Qvalue
2) * Propene	3.65	42	224	5.216	pg	#	60
3) * Dichlorodifluoromethane	3.71	85	372	4.224	pg		98
4) * Chloromethane	3.85	50	390	6.042	pg		100
10) * Ethanol	4.65	45	300	13.610	pg		89
12) * Acrolein	4.91	56	291	13.202	pg		85
13) * Acetone	5.05	58	3112	88.697	pg	#	37
14) * Trichlorofluoromethane	5.14	101	197	2.527	pg		98
19) * Methylene Chloride	5.75	84	542	12.812	pg		99
22) * Carbon Disulfide	6.03	76	9808	60.599	pg		100
27) * 2-Butanone (MEK)	7.25	72	424	21.899	pg	#	53
30) * Ethyl Acetate	7.91	61	287	24.088	pg		95
32) * Chloroform	7.90	83	132	1.744	pg		93
39) * Benzene	9.52	78	1338	8.878	pg		96
51) * n-Heptane	11.14	71	62	1.789	pg	#	1
53) * 4-Methyl-2-pentanone	11.94	58	1339	49.820	pg		95
58) * Toluene	12.95	91	551	7.683	pg		98
64) * Tetrachloroethene	14.24	166	2017	75.486	pg		97
67) * m- & p-Xylenes	15.47	91	208	4.770	pg		96
72) * n-Nonane	16.13	57	115	6.024	pg	#	70
93) * D-Limonene	17.87	68	128	8.555	pg		94

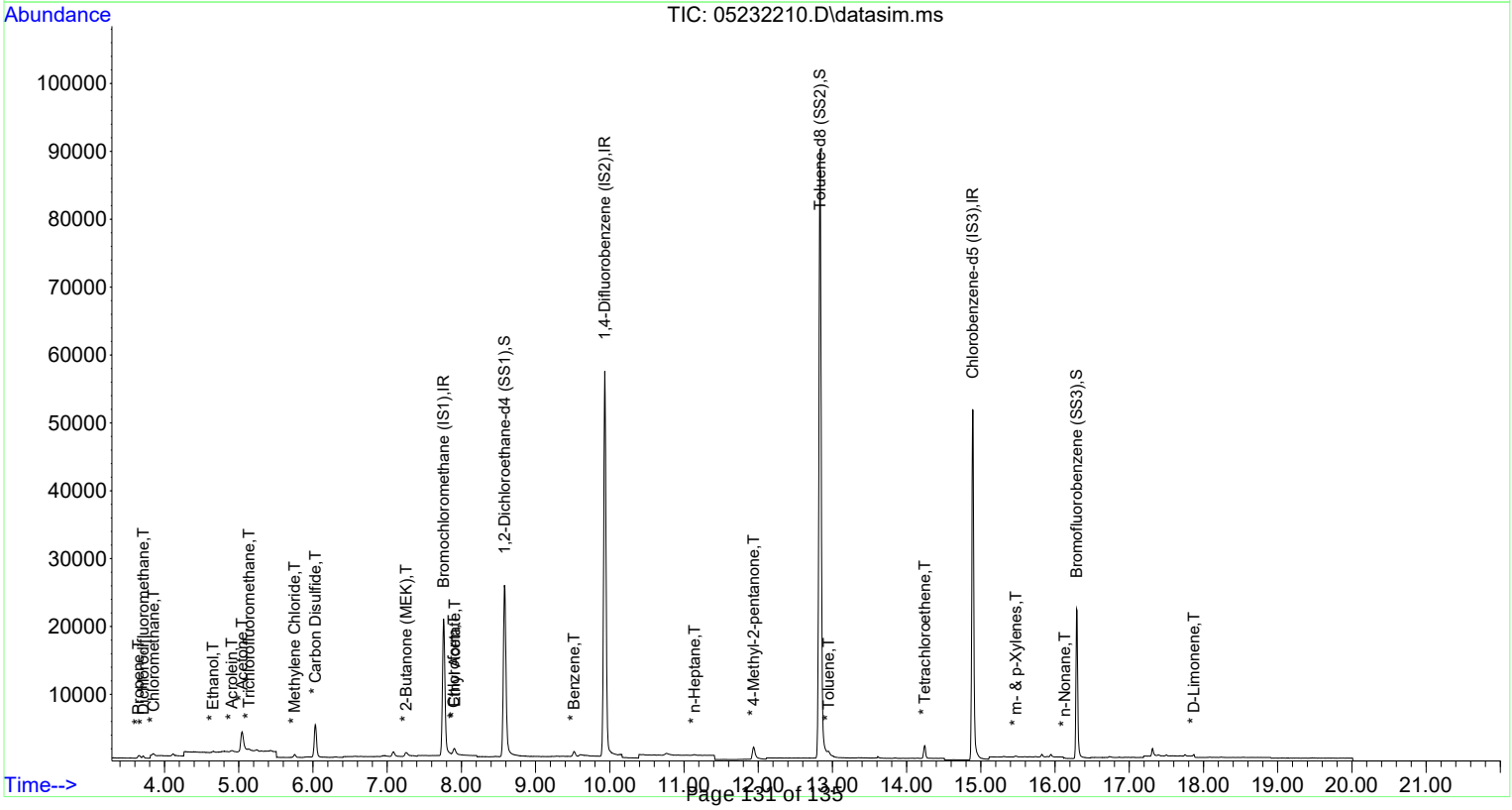
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 05\23\
Data File : 05232210.D
Acq On : 23 May 2022 13:47
Operator : RVT/KM
Sample : 052322 AC02387 29416
Misc : 0.5 + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 24 05:01:13 2022
Quant Method : I:\MS21\Methods\F21040822.M
Quant Title : EPA TO-15
QLast Update : Mon Apr 11 07:46:15 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-09
Cycles: 30
Batch: 29443

Batch Started By: ANAKLOWYCZ on 5/27/22 0835
Finished Cleaning By: ANAKLOWYCZ on 5/27/22 0839

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS00863	5/27/22		Pass w/ Conditions	-14.3	5/27/22 0839	ANAKLOWYCZ	-14.0	6/7/22 0813		
AS00976	5/27/22		Pass w/ Conditions	-14.3	5/27/22 0839	ANAKLOWYCZ	-14.0	6/7/22 0806		
AS00743	5/27/22	6/3/22	Pass w/ Conditions	-14.3	5/27/22 0839	ANAKLOWYCZ	-14.0	6/9/22 0235		
AC02124	5/27/22		Pass w/ Conditions	-14.3	5/27/22 0839	ANAKLOWYCZ	-14.0	6/10/22 0837		
AC02451	5/27/22		Pass w/ Conditions	-14.3	5/27/22 0839	ANAKLOWYCZ	-14.0	6/7/22 0813		
AC01896	5/27/22		Pass w/ Conditions	-14.3	5/27/22 0839	ANAKLOWYCZ	-14.0	6/9/22 0235		
AS01583	5/27/22		Pass w/ Conditions	-14.3	5/27/22 0839	ANAKLOWYCZ	-14.0	6/10/22 0837		
AC02406	5/27/22		Pass w/ Conditions	-14.3	5/27/22 0839	ANAKLOWYCZ	-14.0	6/9/22 0235		
AC02442	5/27/22		Pass w/ Conditions	-14.3	5/27/22 0839	ANAKLOWYCZ	-14.0	6/9/22 0235		
AC02385	5/27/22		Pass w/ Conditions	-14.3	5/27/22 0839	ANAKLOWYCZ	-14.0	6/7/22 0813		

Passed For: TO-15 (75 Comp 0.5 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

KM 6/3/22

Data File: I:\MS22\DATA\2022 05\27\05272206.D
Sample : 052722 AS00743 29443 Inst : MS22
Acq On : 27 May 2022 16:50 Operator: RVT
Misc : 0.5 + tics
ALS Vial : 6 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 31 08:03:55 2022
Quant Method : I:\MS22\Methods\R22041122.M
QLast Update : Tue Apr 12 11:23:24 2022
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.95	130	99490	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	8.99	114	384975	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.55	54	91489	12.500	ng		-0.02
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.70	65	193793	14.085	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.72%				
57) Toluene-d8 (SS2)	12.11	98	470906	11.636	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%				
73) Bromofluorobenzene (SS3)	16.55	174	129522	10.368	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.96%				
Target Compounds							Qvalue
2) Propene	3.19	42	579	0.040	ng	#	1
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	52	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.	d		
10) Ethanol	3.94	45	501	0.046	ng	#	1
11) Acetonitrile	4.18	40	962	0.068	ng	#	1
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	4.42	58	1611	0.178	ng		95
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	4.58	45	17693m	0.482	ng		
16) Acrylonitrile	4.76	53	771	0.045	ng	#	8
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.12	84	993	0.082	ng	#	1
20) 3-Chloro-1-propene (Al...	0.00	76	0	N.D.	d		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.40	76	1848	0.044	ng	#	74
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.99	56	10946	No Calib		#	
41) Benzene	0.00	78	0	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.	d		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File: I:\MS22\DATA\2022 05\27\05272206.D
Sample : 052722 AS00743 29443 Inst : MS22
Acq On : 27 May 2022 16:50 Operator: RVT
Misc : 0.5 + tics
ALS Vial : 6 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 31 08:03:55 2022
Quant Method : I:\MS22\Methods\R22041122.M
QLast Update : Tue Apr 12 11:23:24 2022
Response via : Initial Calibration

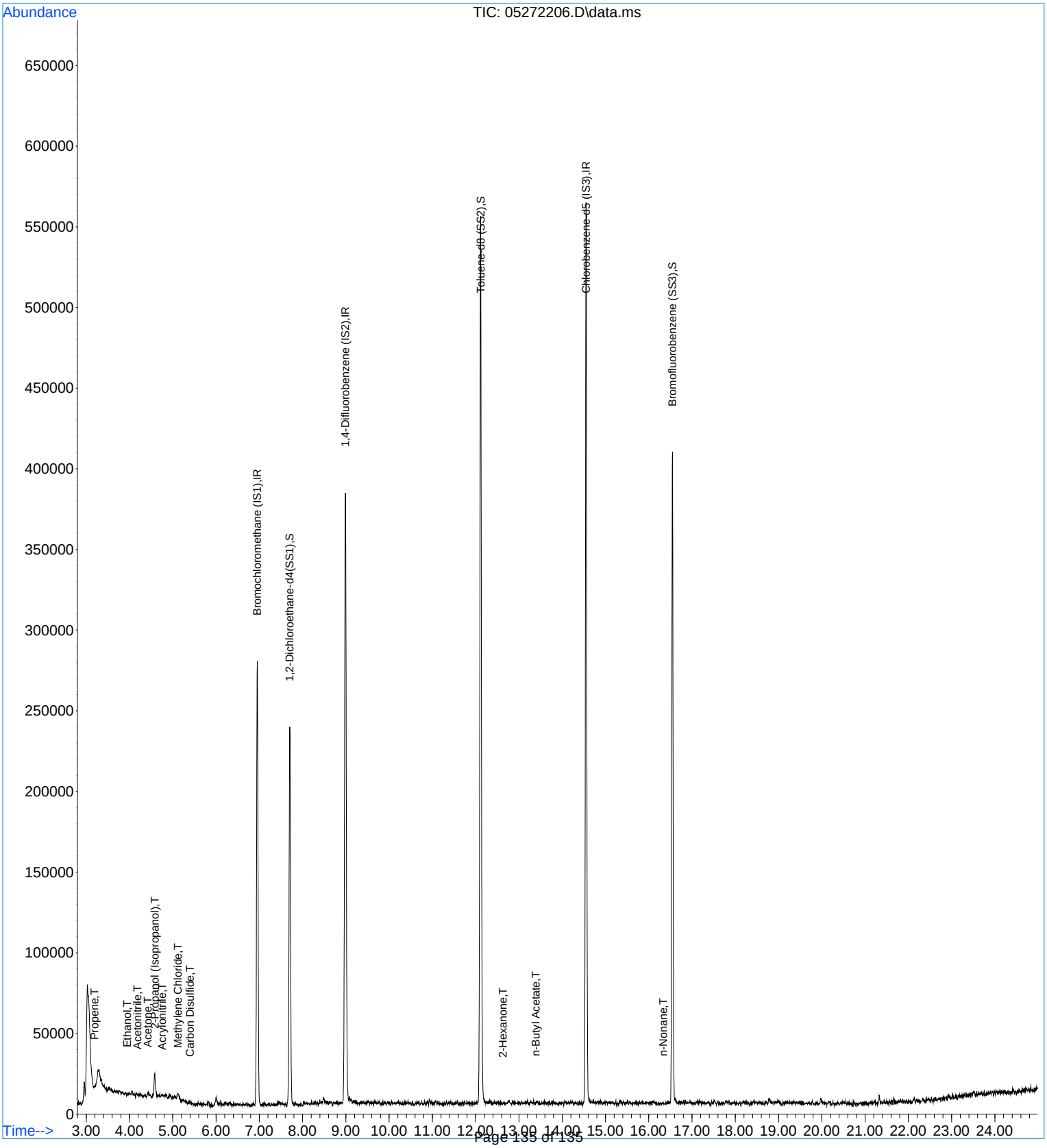
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	0.00	91	0	N.D.	
59) 2-Hexanone	12.63	43	647	0.024 ng #	24
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.39	43	542	0.018 ng #	42
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	0.00	91	0	N.D.	
67) m- & p-Xylenes	0.00	91	0	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	0.00	91	0	N.D.	
71) n-Nonane	16.34	43	760	0.033 ng #	15
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.34	55	560	No Calib #	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS22\DATA\2022 05\27\05272206.D
Sample : 052722 AS00743 29443 Inst : MS22
Acq On : 27 May 2022 16:50 Operator: RVT
Misc : 0.5 + tics
ALS Vial : 6 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 31 08:03:55 2022
Quant Method : I:\MS22\Methods\R22041122.M
QLast Update : Tue Apr 12 11:23:24 2022
Response via : Initial Calibration



ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

July 13, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.5

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on June 22, 2022. For your reference, these analyses have been assigned our service request number P2202743.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 4:59 pm, Jul 13, 2022

Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2202743
Project: DOE Perimeter Air / 080153.015.5

CASE NARRATIVE

The samples were received intact under chain of custody on June 22, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2202743

Project ID: DOE Perimeter Air / 080153.015.5

Date Received: 6/22/2022

Time Received: 14:04

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_062222_S	P2202743-001	Air	6/22/2022	11:00	AC01564	-2.47	4.42	X
DOE-2_062222_S	P2202743-002	Air	6/22/2022	11:15	AS01303	-2.50	3.68	X
DOE-3_062222_S	P2202743-003	Air	6/22/2022	11:30	AS01023	-2.77	3.50	X
DOE-4_062222_S	P2202743-004	Air	6/22/2022	11:45	AS01605	-0.98	3.92	X
DOE-1_062222_D	P2202743-005	Air	6/22/2022	11:01	AS00924	-1.89	3.83	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. R2202743

Company Name & Address (Reporting Information) North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304	Project Name: DOE Perimeter Air Project Number: 080153.015.15 P.O. # / Billing Information: PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Project Manager: Trina Cesnik Phone: 805-587-0691 Fax: Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg	Sampler (Print & Sign): T. Stewart Williford

ALS Contact: Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_062222_S	1	6/22/2022	1100	AC01564	FCR00257	-29.5	-4.0		X		
DOE-2_062222_S	2	6/22/2022	1115	AS01303	FCR00306	-28.5	-3.0		X		
DOE-3_062222_S	3	6/22/2022	1130	AS01023	FCR00294	-29.0	-4.0		X		
DOE-4_062222_S	4	6/22/2022	1145	AS01605	FCR00300	-28.5	-1.0		X		
DOE-1_062222_D	5	6/22/2022	1101	AS00924	FCR00355	-28.5	-1.0		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) 10% Surcharge X

EDD required Yes / No
Type: EQuIS Units:

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
T. Stewart Williford	6/22/22	1600		6-22-22	1600
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2202743

Project: DOE Perimeter Air / 080153.015.5

Sample(s) received on: 6/22/22 Date opened: 6/22/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2202743-001.01	6.0 L Ambient Can					
P2202743-002.01	6.0 L Silonite Can					
P2202743-003.01	6.0 L Silonite Can					
P2202743-004.01	6.0 L Silonite Can					
P2202743-005.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_062222_S** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-001

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/28/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01564

Initial Pressure (psig): -2.47 Final Pressure (psig): 4.42

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.83	**0.46**	0.17	
74-87-3	Chloromethane	ND	0.80	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.84	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.81	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.81	ND	0.37	
74-83-9	Bromomethane	ND	0.80	ND	0.20	
75-00-3	Chloroethane	ND	0.80	ND	0.30	
107-02-8	Acrolein	ND	1.6	ND	0.68	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.81	**0.20**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.63	
107-13-1	Acrylonitrile	ND	1.6	ND	0.72	
75-35-4	1,1-Dichloroethene	ND	0.84	ND	0.21	
75-09-2	Methylene Chloride	ND	0.81	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.84	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.55	
156-60-5	trans-1,2-Dichloroethene	ND	0.83	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.83	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.83	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.8	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.53	
156-59-2	cis-1,2-Dichloroethene	ND	0.81	ND	0.20	
141-78-6	Ethyl Acetate	ND	3.3	ND	0.91	
110-54-3	n-Hexane	**1.3**	0.83	**0.38**	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_062222_S** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-001

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/28/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01564

Initial Pressure (psig): -2.47 Final Pressure (psig): 4.42

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.84	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.53	
107-06-2	1,2-Dichloroethane	ND	0.83	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.81	ND	0.15	
71-43-2	Benzene	ND	0.78	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.78	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.50	
78-87-5	1,2-Dichloropropane	ND	0.78	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.83	ND	0.12	
79-01-6	Trichloroethene	ND	0.81	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.81	ND	0.23	
142-82-5	n-Heptane	**0.86**	0.83	**0.21**	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.78	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.42	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.81	ND	0.15	
108-88-3	Toluene	**0.95**	0.81	**0.25**	0.22	
591-78-6	2-Hexanone	ND	1.7	ND	0.42	
124-48-1	Dibromochloromethane	ND	0.83	ND	0.097	
106-93-4	1,2-Dibromoethane	ND	0.81	ND	0.11	
111-65-9	n-Octane	ND	0.83	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.81	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_062222_S** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-001

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/28/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01564

Initial Pressure (psig): -2.47 Final Pressure (psig): 4.42

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.81	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.40	
75-25-2	Bromoform	ND	0.81	ND	0.078	
100-42-5	Styrene	ND	0.78	ND	0.18	
95-47-6	o-Xylene	ND	0.81	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.81	ND	0.12	
98-82-8	Cumene	ND	0.81	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.83	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.83	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.81	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.81	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.81	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.81	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.81	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.81	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.83	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.81	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.81	ND	0.076	
104-51-8	n-Butylbenzene	ND	0.81	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.83	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_062222_S** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-002

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/28/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01303

Initial Pressure (psig): -2.50 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.80	**0.45**	0.16	
74-87-3	Chloromethane	ND	0.77	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.82	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.79	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.79	ND	0.36	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.77	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.66	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.79	**0.20**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.70	
75-35-4	1,1-Dichloroethene	ND	0.82	ND	0.21	
75-09-2	Methylene Chloride	ND	0.79	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.6	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	0.79	ND	0.20	
141-78-6	Ethyl Acetate	ND	3.2	ND	0.88	
110-54-3	n-Hexane	ND	0.80	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_062222_S** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-002

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/28/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01303

Initial Pressure (psig): -2.50 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.82	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.79	ND	0.14	
71-43-2	Benzene	ND	0.76	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.76	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	0.76	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.79	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.79	ND	0.22	
142-82-5	n-Heptane	ND	0.80	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.76	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.79	ND	0.14	
108-88-3	Toluene	ND	0.79	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.094	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.79	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_062222_S** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-002

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/28/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01303

Initial Pressure (psig): -2.50 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.38	
75-25-2	Bromoform	ND	0.79	ND	0.076	
100-42-5	Styrene	ND	0.76	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.79	ND	0.11	
98-82-8	Cumene	ND	0.79	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.79	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.79	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.79	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.22	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.79	ND	0.074	
104-51-8	n-Butylbenzene	ND	0.79	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.80	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_062222_S** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-003

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01023

Initial Pressure (psig): -2.77 Final Pressure (psig): 3.50

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.81	**0.46**	0.16	
74-87-3	Chloromethane	ND	0.78	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.83	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.78	ND	0.20	
75-00-3	Chloroethane	ND	0.78	ND	0.30	
107-02-8	Acrolein	ND	1.5	ND	0.67	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.80	**0.21**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.62	
107-13-1	Acrylonitrile	ND	1.5	ND	0.71	
75-35-4	1,1-Dichloroethene	ND	0.83	ND	0.21	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.83	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.81	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.81	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.81	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.7	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
141-78-6	Ethyl Acetate	**10**	3.2	**2.8**	0.89	
110-54-3	n-Hexane	ND	0.81	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_062222_S** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-003

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01023

Initial Pressure (psig): -2.77 Final Pressure (psig): 3.50

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.83	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.52	
107-06-2	1,2-Dichloroethane	ND	0.81	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.81	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
142-82-5	n-Heptane	ND	0.81	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.77	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.78	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	ND	0.80	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.81	ND	0.095	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
111-65-9	n-Octane	ND	0.81	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_062222_S** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-003

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01023

Initial Pressure (psig): -2.77 Final Pressure (psig): 3.50

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.81	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.81	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.80	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.80	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.81	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	
104-51-8	n-Butylbenzene	ND	0.80	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.81	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_062222_S** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-004

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01605

Initial Pressure (psig): -0.98 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.72	**0.48**	0.15	
74-87-3	Chloromethane	ND	0.69	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.73	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.71	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.71	ND	0.32	
74-83-9	Bromomethane	ND	0.69	ND	0.18	
75-00-3	Chloroethane	ND	0.69	ND	0.26	
107-02-8	Acrolein	ND	1.4	ND	0.59	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.71	**0.21**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.55	
107-13-1	Acrylonitrile	ND	1.4	ND	0.63	
75-35-4	1,1-Dichloroethene	ND	0.73	ND	0.19	
75-09-2	Methylene Chloride	ND	0.71	ND	0.20	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.73	ND	0.096	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	0.72	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.72	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.72	ND	0.20	
108-05-4	Vinyl Acetate	ND	6.8	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.46	
156-59-2	cis-1,2-Dichloroethene	ND	0.71	ND	0.18	
141-78-6	Ethyl Acetate	ND	2.9	ND	0.79	
110-54-3	n-Hexane	ND	0.72	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_062222_S** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-004

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01605

Initial Pressure (psig): -0.98 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.73	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.46	
107-06-2	1,2-Dichloroethane	ND	0.72	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.71	ND	0.13	
71-43-2	Benzene	ND	0.68	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.68	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.68	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.72	ND	0.11	
79-01-6	Trichloroethene	ND	0.71	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.71	ND	0.20	
142-82-5	n-Heptane	ND	0.72	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.68	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.69	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.71	ND	0.13	
108-88-3	Toluene	ND	0.71	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.72	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.71	ND	0.092	
111-65-9	n-Octane	ND	0.72	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.71	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_062222_S** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-004

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01605

Initial Pressure (psig): -0.98 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.71	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.34	
75-25-2	Bromoform	ND	0.71	ND	0.068	
100-42-5	Styrene	ND	0.68	ND	0.16	
95-47-6	o-Xylene	ND	0.71	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.71	ND	0.10	
98-82-8	Cumene	ND	0.71	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.72	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.72	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.71	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.71	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.71	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.71	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.71	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.71	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.72	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.71	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.71	ND	0.066	
104-51-8	n-Butylbenzene	ND	0.71	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.72	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_062222_D** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-005

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00924

Initial Pressure (psig): -1.89 Final Pressure (psig): 3.83

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.77	**0.47**	0.16	
74-87-3	Chloromethane	ND	0.74	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.78	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
107-02-8	Acrolein	ND	1.5	ND	0.63	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.75	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.59	
107-13-1	Acrylonitrile	ND	1.5	ND	0.67	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.75	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.77	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.3	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	**3.7**	3.0	**1.0**	0.85	
110-54-3	n-Hexane	ND	0.77	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_062222_D** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-005

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00924

Initial Pressure (psig): -1.89 Final Pressure (psig): 3.83

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.78	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.77	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.75	ND	0.14	
71-43-2	Benzene	ND	0.73	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.73	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.73	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.77	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
142-82-5	n-Heptane	ND	0.77	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.73	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.74	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.75	ND	0.14	
108-88-3	Toluene	ND	0.75	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.77	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.75	ND	0.098	
111-65-9	n-Octane	ND	0.77	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.75	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_062222_D** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202743-005

Test Code: EPA TO-15 Date Collected: 6/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/22/22
Analyst: Topacio Zavala Date Analyzed: 6/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00924

Initial Pressure (psig): -1.89 Final Pressure (psig): 3.83

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.75	ND	0.073	
100-42-5	Styrene	ND	0.73	ND	0.17	
95-47-6	o-Xylene	ND	0.75	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.77	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.77	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.75	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.75	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.75	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.75	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.75	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.77	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.071	
104-51-8	n-Butylbenzene	ND	0.75	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.77	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P220628-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 6/28/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P220628-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 6/28/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P220628-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 6/28/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Project ID: P2202743

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date(s) Collected: 6/21 - 6/22/22
Analyst: Topacio Zavala Date(s) Received: 6/22 - 6/24/22
Sample Type: 6.0 L Summa Canister(s) / 6.0 L Silonite Canister(s) Date(s) Analyzed: 6/28 - 6/29/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220628-MB	**87**	**105**	**105**	70-130	
Lab Control Sample	P220628-LCS	**100**	**100**	**99**	70-130	
DOE-1_062222_S	P2202743-001	**89**	**100**	**108**	70-130	
DOE-2_062222_S	P2202743-002	**89**	**100**	**108**	70-130	
DOE-3_062222_S	P2202743-003	**90**	**99**	**108**	70-130	
DOE-4_062222_S	P2202743-004	**89**	**99**	**106**	70-130	
DOE-1_062222_D	P2202743-005	**90**	**100**	**107**	70-130	
Batch QC	P2202788-001DUP	**87**	**99**	**105**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P220628-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 6/28/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	**189**	**91**	71-112	
74-87-3	Chloromethane	206	**201**	**98**	53-126	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	**199**	**96**	62-121	
75-01-4	Vinyl Chloride	208	**197**	**95**	63-123	
106-99-0	1,3-Butadiene	206	**174**	**84**	63-135	
74-83-9	Bromomethane	206	**191**	**93**	71-112	
75-00-3	Chloroethane	206	**197**	**96**	66-117	
107-02-8	Acrolein	416	**409**	**98**	71-123	
75-69-4	Trichlorofluoromethane (CFC 11)	202	**185**	**92**	71-114	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	**395**	**99**	61-124	
107-13-1	Acrylonitrile	402	**399**	**99**	65-130	
75-35-4	1,1-Dichloroethene	210	**202**	**96**	74-114	
75-09-2	Methylene Chloride	208	**189**	**91**	75-112	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**198**	**92**	73-114	
75-15-0	Carbon Disulfide	414	**348**	**84**	70-113	
156-60-5	trans-1,2-Dichloroethene	208	**206**	**99**	76-119	
75-34-3	1,1-Dichloroethane	214	**206**	**96**	70-114	
1634-04-4	Methyl tert-Butyl Ether	206	**197**	**96**	72-118	
108-05-4	Vinyl Acetate	942	**1020**	**108**	56-137	
78-93-3	2-Butanone (MEK)	408	**397**	**97**	74-121	
156-59-2	cis-1,2-Dichloroethene	206	**202**	**98**	73-117	
141-78-6	Ethyl Acetate	580	**537**	**93**	59-161	
110-54-3	n-Hexane	208	**193**	**93**	55-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P220628-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 6/28/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
67-66-3	Chloroform	210	**199**	**95**	71-114	
109-99-9	Tetrahydrofuran (THF)	404	**392**	**97**	73-114	
107-06-2	1,2-Dichloroethane	210	**196**	**93**	71-119	
71-55-6	1,1,1-Trichloroethane	208	**192**	**92**	73-119	
71-43-2	Benzene	208	**199**	**96**	72-113	
56-23-5	Carbon Tetrachloride	202	**185**	**92**	67-123	
110-82-7	Cyclohexane	412	**394**	**96**	70-119	
78-87-5	1,2-Dichloropropane	206	**201**	**98**	70-118	
75-27-4	Bromodichloromethane	208	**201**	**97**	74-119	
79-01-6	Trichloroethene	204	**196**	**96**	74-115	
123-91-1	1,4-Dioxane	206	**218**	**106**	77-124	
142-82-5	n-Heptane	206	**202**	**98**	70-119	
10061-01-5	cis-1,3-Dichloropropene	208	**208**	**100**	81-126	
108-10-1	4-Methyl-2-pentanone	412	**429**	**104**	73-129	
10061-02-6	trans-1,3-Dichloropropene	200	**198**	**99**	80-127	
79-00-5	1,1,2-Trichloroethane	208	**202**	**97**	78-117	
108-88-3	Toluene	206	**193**	**94**	70-118	
591-78-6	2-Hexanone	406	**422**	**104**	74-132	
124-48-1	Dibromochloromethane	210	**195**	**93**	69-137	
106-93-4	1,2-Dibromoethane	208	**197**	**95**	76-128	
111-65-9	n-Octane	208	**198**	**95**	68-120	
127-18-4	Tetrachloroethene	212	**191**	**90**	63-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P220628-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 6/28/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
100-41-4	Ethylbenzene	206	**193**	**94**	71-123	
179601-23-1	m,p-Xylenes	416	**385**	**93**	67-127	
75-25-2	Bromoform	210	**203**	**97**	65-149	
100-42-5	Styrene	202	**201**	**100**	76-132	
95-47-6	o-Xylene	208	**194**	**93**	69-124	
79-34-5	1,1,2,2-Tetrachloroethane	208	**199**	**96**	69-128	
98-82-8	Cumene	206	**192**	**93**	69-125	
103-65-1	n-Propylbenzene	208	**193**	**93**	70-127	
622-96-8	4-Ethyltoluene	208	**197**	**95**	69-127	
108-67-8	1,3,5-Trimethylbenzene	208	**197**	**95**	66-129	
95-63-6	1,2,4-Trimethylbenzene	206	**194**	**94**	63-142	
100-44-7	Benzyl Chloride	416	**405**	**97**	73-145	
541-73-1	1,3-Dichlorobenzene	208	**188**	**90**	67-136	
106-46-7	1,4-Dichlorobenzene	210	**191**	**91**	63-134	
135-98-8	sec-Butylbenzene	204	**191**	**94**	68-130	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	**193**	**94**	60-139	
95-50-1	1,2-Dichlorobenzene	210	**194**	**92**	64-139	
120-82-1	1,2,4-Trichlorobenzene	420	**410**	**98**	62-154	
91-20-3	Naphthalene	210	**221**	**105**	62-156	
87-68-3	Hexachlorobutadiene	212	**183**	**86**	55-142	
104-51-8	n-Butylbenzene	208	**194**	**93**	70-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **Batch QC** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202788-001DUP

Test Code: EPA TO-15 Date Collected: 6/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/24/22
Analyst: Topacio Zavala Date Analyzed: 6/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01248

Initial Pressure (psig): -3.92 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.72

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Dichlorodifluoromethane (CFC 12)	2.31	0.467	2.16	0.436	2.235	**7**	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Trichlorofluoromethane	2.13	0.379	2.07	0.369	2.1	**3**	25	
2-Propanol (Isopropyl Alcohol)	6.25	2.54	6.43	2.62	6.34	**3**	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
Methylene Chloride	1.61	0.465	1.69	0.485	1.65	**5**	25	
Trichlorotrifluoroethane	1.71	0.223	1.68	0.219	1.695	**2**	25	
Carbon Disulfide	3.03	0.972	3.03	0.974	3.03	**0**	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Vinyl Acetate	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	2.16	0.734	2.17	0.735	2.165	**0.5**	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	ND	ND	-	-	25	
n-Hexane	1.12	0.318	1.12	0.319	1.12	**0**	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **Batch QC** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202788-001DUP

Test Code: EPA TO-15 Date Collected: 6/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/24/22
Analyst: Topacio Zavala Date Analyzed: 6/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01248

Initial Pressure (psig): -3.92 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.72

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Chloroform	37.0	7.58	36.0	7.38	36.5	**3**	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	3.83	0.572	3.74	0.559	3.785	**2**	25	
Trichloroethene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	10.4	2.76	10.2	2.70	10.3	**2**	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	1.02	0.120	0.996	0.117	1.008	**2**	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Octane	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	2.22	0.328	2.12	0.313	2.17	**5**	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **Batch QC** ALS Project ID: P2202743
Client Project ID: **DOE Perimeter Air / 080153.015.5** ALS Sample ID: P2202788-001DUP

Test Code: EPA TO-15 Date Collected: 6/21/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 6/24/22
Analyst: Topacio Zavala Date Analyzed: 6/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01248

Initial Pressure (psig): -3.92 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.72

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	1.99	0.458	1.95	0.449	1.97	**2**	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	0.905	0.184	0.910	0.185	0.9075	**0.6**	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	1.38	0.229	1.28	0.214	1.33	**8**	25	
sec-Butylbenzene	ND	ND	ND	ND	-	-	25	
4-Isopropyltoluene (p-Cymene)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	
n-Butylbenzene	ND	ND	ND	ND	-	-	25	
Xylenes, Total	2.85	0.657	2.81	0.647	2.83	**1**	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **North Wind, Inc.** ALS Project ID: P2202743

Client Project ID: **DOE Perimeter Air / 080153.015.5**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Lab File ID: 6282209a.D

Analyst: Topacio Zavala Date Analyzed: 6/28/22

Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 13:43

Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	128921		7.38		587846		9.42		126168		14.90	
	Upper Limit	180489		7.71		822984		9.75		176635		15.23	
	Lower Limit	77353		7.05		352708		9.09		75701		14.57	
	Client Sample ID												
01	Method Blank	149891		7.32		667943		9.39		134854		14.90	
02	Lab Control Sample	151375		7.38		692999		9.42		149266		14.90	
03	DOE-1_062222_S	139975		7.33		613727		9.39		131334		14.90	
04	DOE-2_062222_S	139763		7.33		608503		9.39		129318		14.90	
05	DOE-3_062222_S	136783		7.33		596591		9.39		127846		14.90	
06	DOE-4_062222_S	134637		7.33		588732		9.39		126818		14.90	
07	DOE-1_062222_D	135474		7.33		590776		9.39		126462		14.90	
08	Batch QC (Lab Duplicate)	141423		7.34		615289		9.40		132740		14.90	
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282223.D Vial: 8
Acq On : 28 Jun 2022 23:13 Operator: TZ
Sample : P2202743-001 (1000mL) Inst : GCMS13
Misc : S35-06022211

TZ 6/30/22

Quant Time: Jun 30 08:59:09 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	139975	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.39	114	613727	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	131334	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	243919	11.114	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.88%				
57) Toluene-d8 (SS2)	12.50	98	701706	12.438	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
73) Bromofluorobenzene (SS3)	16.87	174	241305	13.453	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.60%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.47	85	43176	1.468	ng		99
4) Chloromethane	3.61	50	3902	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	870	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.96	54	467	N.D.			
8) Bromomethane	4.13	94	187	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.40	45	42703	3.826	ng		94
11) Acetonitrile	4.56	41	5766	N.D.			
12) Acrolein	4.65	56	3294	N.D.			
13) Acetone	4.75	58	66063	7.077	ng		98
14) Trichlorofluoromethane	4.87	101	18317	0.720	ng		99
15) 2-Propanol (Isopropanol)	4.96	45	19427	0.526	ng		78
16) Acrylonitrile	5.11	53	1751	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.44	59	1746	N.D.			
19) Methylene Chloride	5.46	84	3701	N.D.			
20) 3-Chloro-1-propene (Al...	5.51	41	347	N.D.			
21) Trichlorotrifluoroethane	5.69	151	3602	N.D.			
22) Carbon Disulfide	5.72	76	6096	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.51	73	131	N.D.			
26) Vinyl Acetate	6.54	86	1881	0.918	ng	#	82
27) 2-Butanone (MEK)	6.78	72	5910	0.700	ng		97
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.39	61	4648	0.872	ng		100
31) n-Hexane	7.41	57	17893	0.862	ng		99
32) Chloroform	7.45	83	1327	N.D.			
34) Tetrahydrofuran (THF)	7.88	72	560	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.20	62	548	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.91	56	3210	No Calib		#	
41) Benzene	8.99	78	13435	N.D.			
42) Carbon Tetrachloride	9.15	117	5602	N.D.			
43) Cyclohexane	9.31	84	5136	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.33	57	8449	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282223.D Vial: 8
Acq On : 28 Jun 2022 23:13 Operator: TZ
Sample : P2202743-001 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 30 08:59:09 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

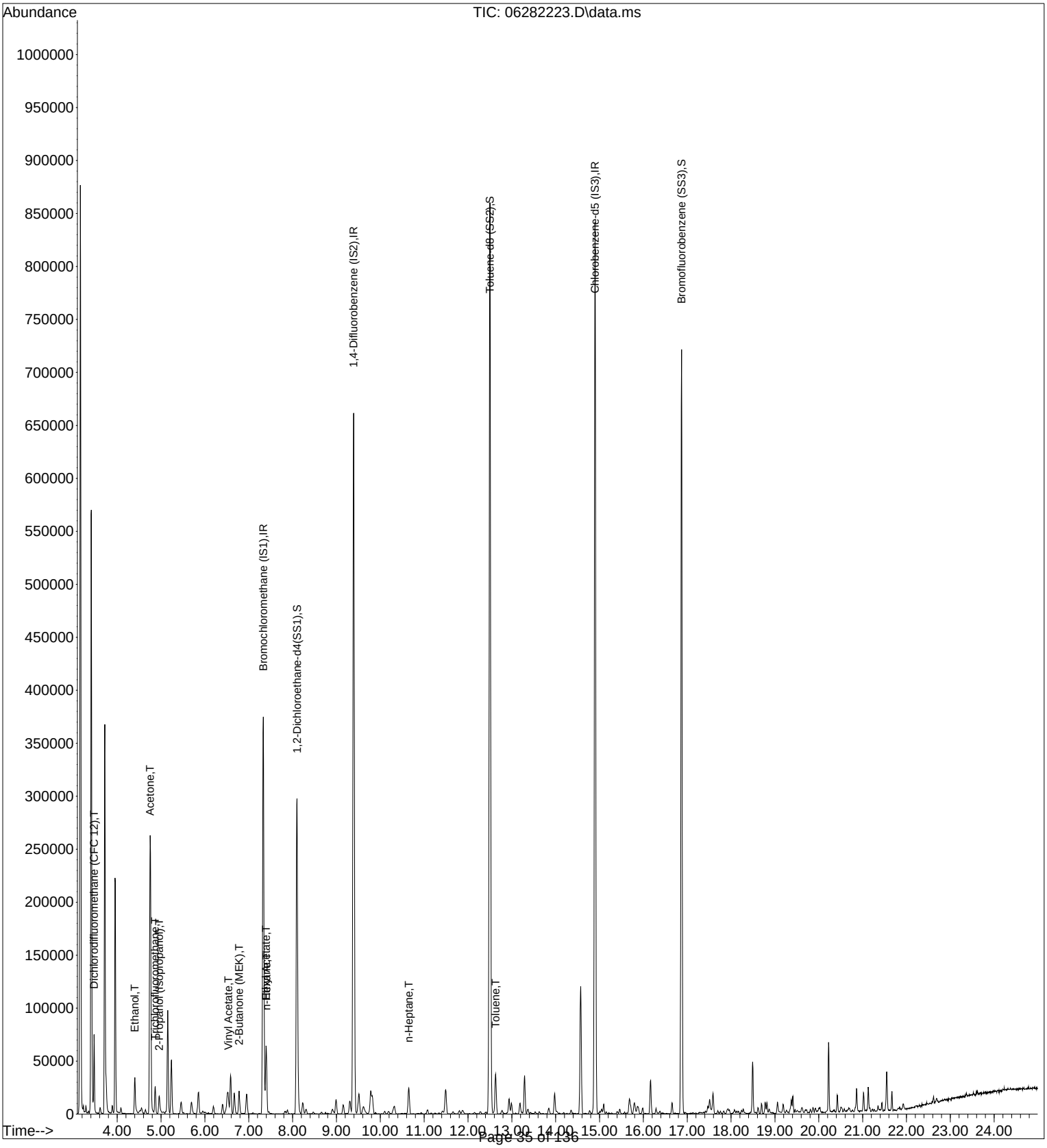
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.65	71	6727	0.549 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.41	58	656	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.63	91	32077	0.612 ng	99
59) 2-Hexanone	12.99	43	7854	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.84	43	5184	N.D.	
63) n-Octane	13.98	57	3689	N.D.	
64) Tetrachloroethene	14.09	166	362	N.D.	
65) Chlorobenzene	14.96	112	128	N.D.	
66) Ethylbenzene	15.46	91	4192	N.D.	
67) m- & p-Xylenes	15.68	91	12674	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.15	104	1066	N.D.	
70) o-Xylene	16.29	91	3852	N.D.	
71) n-Nonane	16.65	43	4944	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.08	105	530	N.D.	
75) alpha-Pinene	17.59	93	8655	N.D.	
76) n-Propylbenzene	17.76	91	1647	N.D.	
77) 3-Ethyltoluene	17.08	105	530	No Calib	#
78) 4-Ethyltoluene	17.96	105	1656	N.D.	
79) 1,3,5-Trimethylbenzene	18.08	105	1341	N.D.	
80) alpha-Methylstyrene	16.87	118	818	No Calib	#
81) 2-Ethyltoluene	16.87	105	436	No Calib	#
82) 1,2,4-Trimethylbenzene	18.61	105	3266	N.D.	
83) n-Decane	16.87	58	242	No Calib	#
84) Benzyl Chloride	18.77	91	2471	N.D.	
85) 1,3-Dichlorobenzene	18.79	146	594	N.D.	
86) 1,4-Dichlorobenzene	18.88	146	1249	N.D.	
87) sec-Butylbenzene	18.98	105	326	N.D.	
88) 4-Isopropyltoluene (p-...	19.19	119	5316	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	19.31	146	390	N.D.	
91) d-Limonene	19.37	68	3362	N.D.	
92) 1,2-Dibromo-3-Chloropr...	19.88	157	420	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	21.44	180	2616	N.D.	
95) Naphthalene	21.56	128	8598	N.D.	
96) n-Dodecane	18.82	57	3972	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.27	55	301	No Calib	#
99) tert-Butylbenzene	18.62	119	530	N.D.	
100) n-Butylbenzene	19.73	91	1649	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282223.D Vial: 8
Acq On : 28 Jun 2022 23:13 Operator: TZ
Sample : P2202743-001 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 30 08:59:09 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282223.D Vial: 8
Acq On : 28 Jun 2022 23:13 Operator: TZ
Sample : P2202743-001 (1000mL) Inst : GCMS13
Misc : S35-06022211

TZ 6/30/22

Quant Time: Jun 30 08:59:09 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

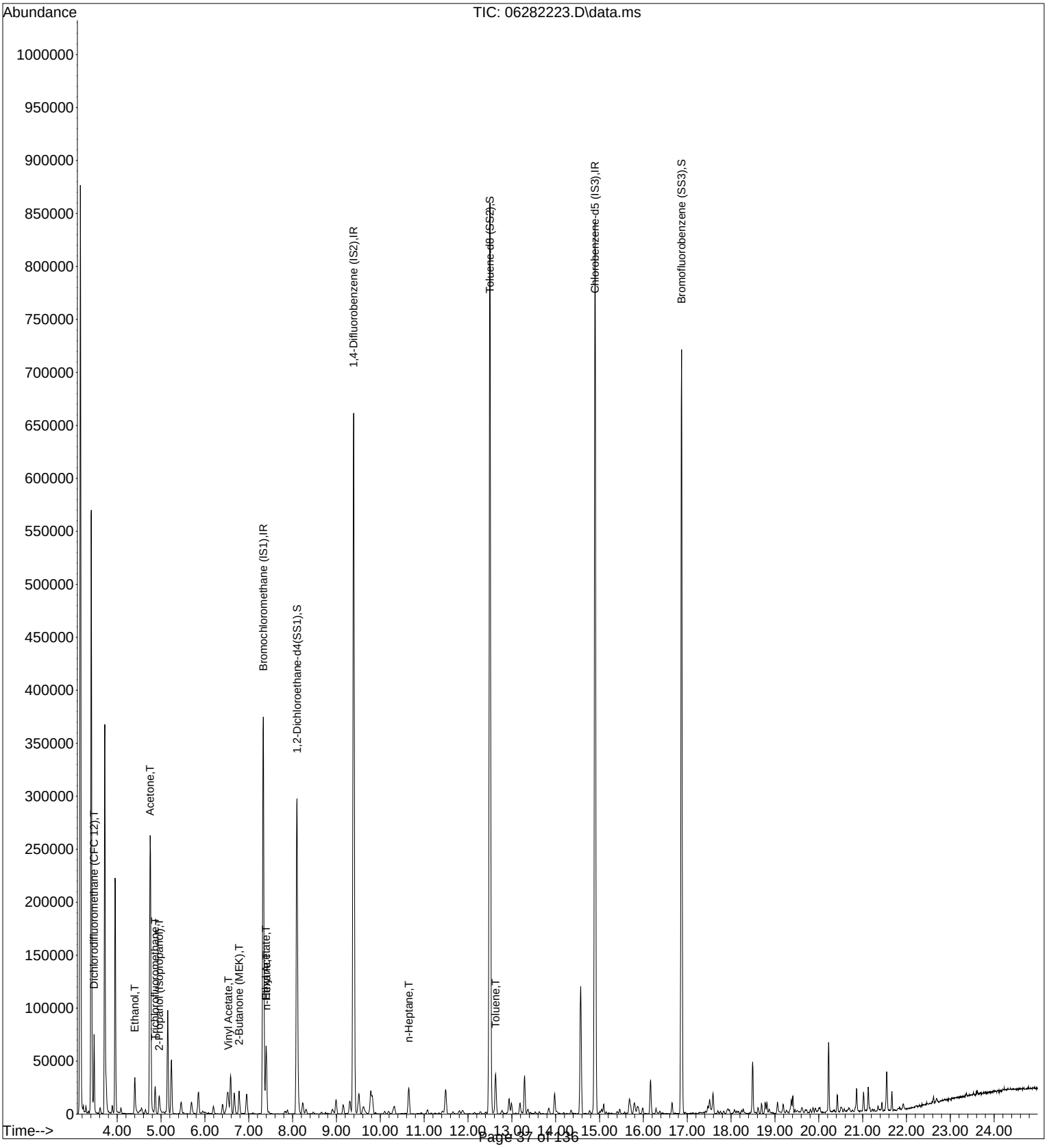
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	139975	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.39	114	613727	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	131334	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	243919	11.114	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.88%				
57) Toluene-d8 (SS2)	12.50	98	701706	12.438	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
73) Bromofluorobenzene (SS3)	16.87	174	241305	13.453	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.60%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.47	85	43176	1.468	ng		99
10) Ethanol	4.40	45	42703	3.826	ng		94
13) Acetone	4.75	58	66063	7.077	ng		98
14) Trichlorofluoromethane	4.87	101	18317	0.720	ng		99
15) 2-Propanol (Isopropanol)	4.96	45	19427	0.526	ng		78
26) Vinyl Acetate	6.54	86	1881	0.918	ng	#	82
27) 2-Butanone (MEK)	6.78	72	5910	0.700	ng		97
30) Ethyl Acetate	7.39	61	4648	0.872	ng		100
31) n-Hexane	7.41	57	17893	0.862	ng		99
51) n-Heptane	10.65	71	6727	0.549	ng		98
58) Toluene	12.63	91	32077	0.612	ng		99

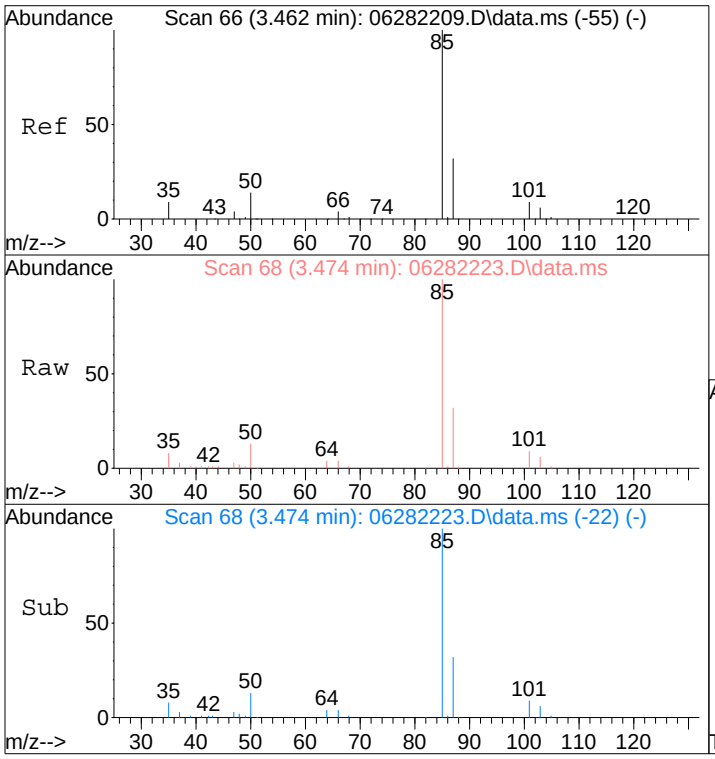
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282223.D Vial: 8
Acq On : 28 Jun 2022 23:13 Operator: TZ
Sample : P2202743-001 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 30 08:59:09 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

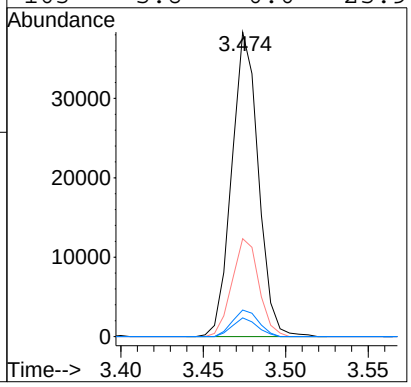


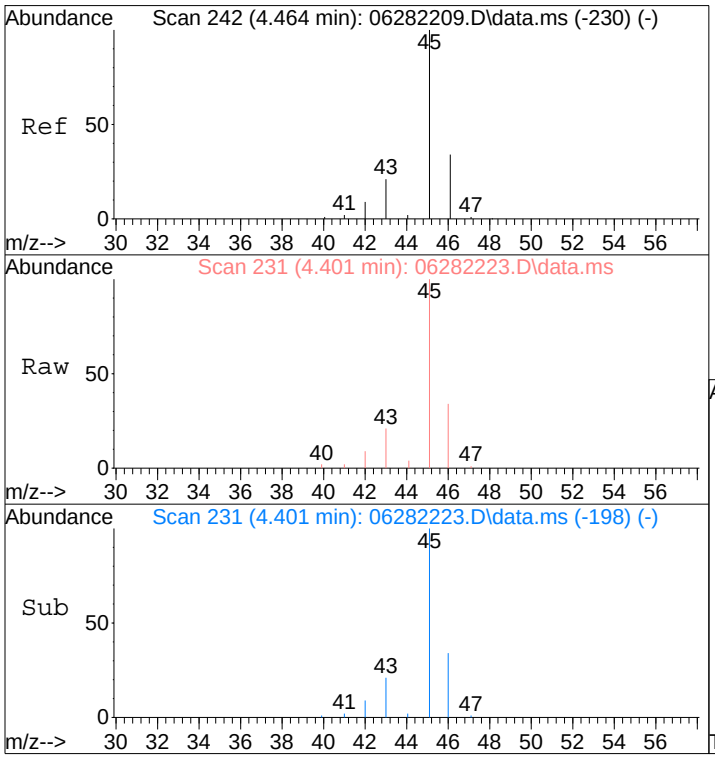


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.47 ng
RT: 3.47 min Scan# 68
Delta R.T. 0.011 min
Lab File: 06282223.D
Acq: 28 Jun 2022 23:13

Tgt Ion: 85 Resp: 43176

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.1	52.1
101	8.6	0.0	29.0
103	5.8	0.0	25.9

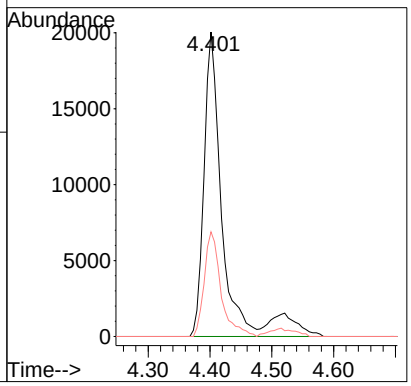


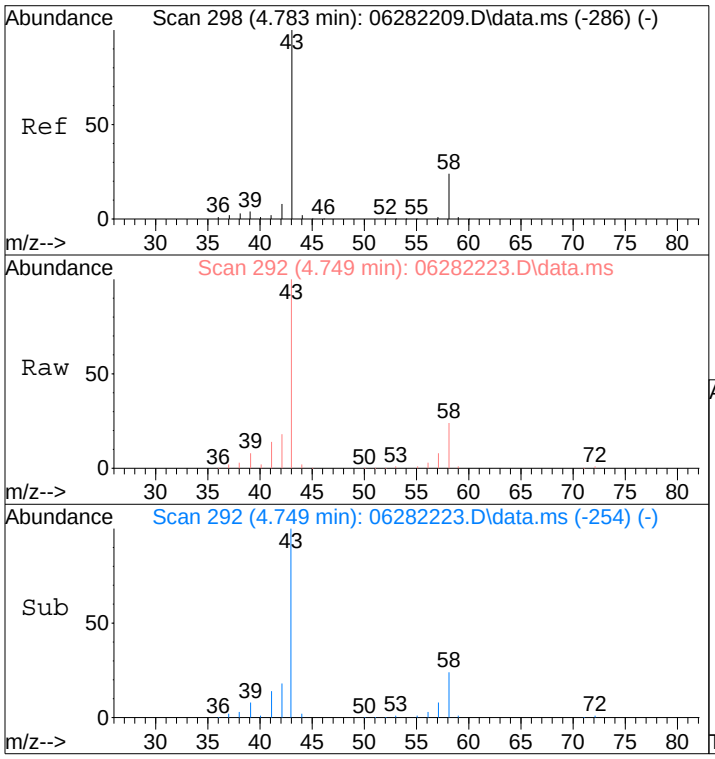


#10
Ethanol
Concen: 3.83 ng
RT: 4.40 min Scan# 231
Delta R.T. -0.063 min
Lab File: 06282223.D
Acq: 28 Jun 2022 23:13

Tgt Ion: 45 Resp: 42703

Ion	Ratio	Lower	Upper
45	100		
46	30.4	13.9	53.9

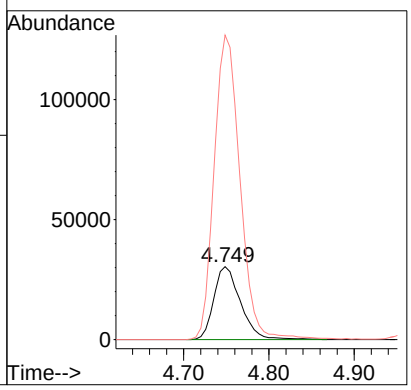


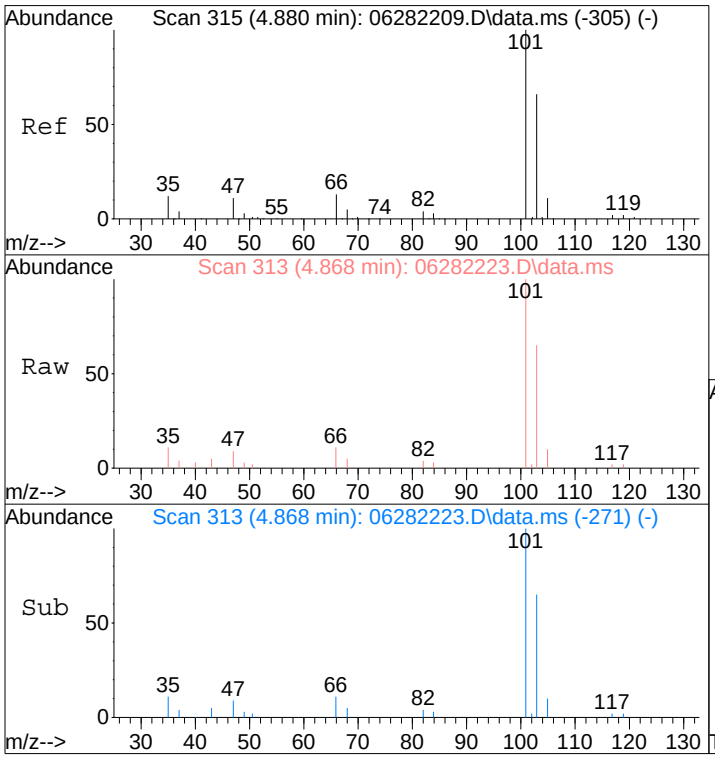


#13
Acetone
Concen: 7.08 ng
RT: 4.75 min Scan# 292
Delta R.T. -0.034 min
Lab File: 06282223.D
Acq: 28 Jun 2022 23:13

Tgt Ion: 58 Resp: 66063

Ion	Ratio	Lower	Upper
58	100		
43	406.2	370.7	430.7

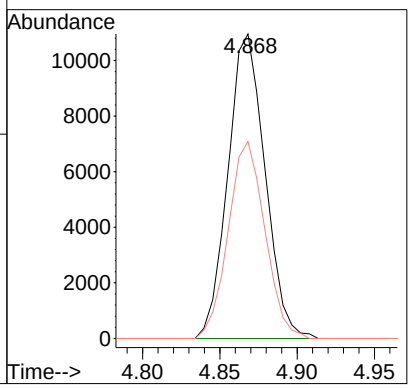


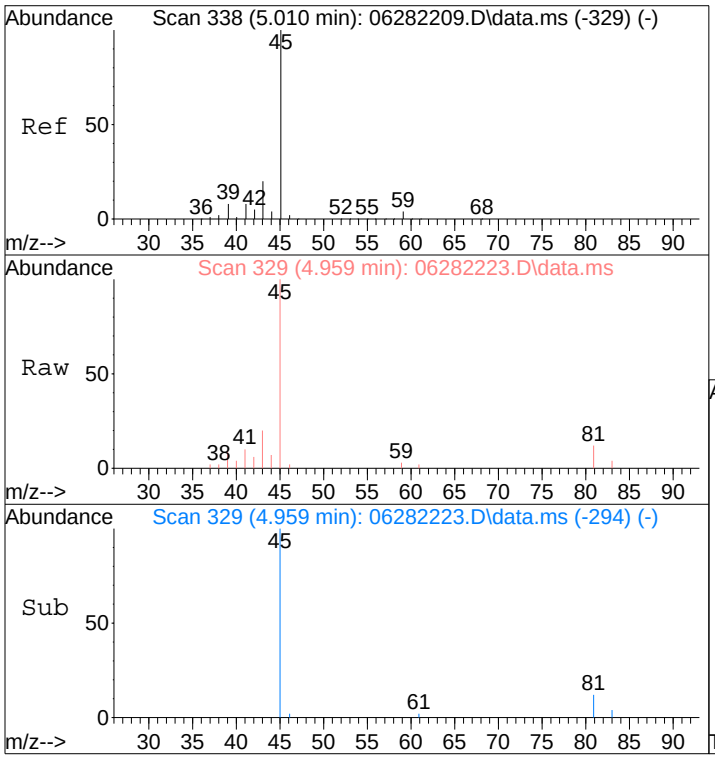


#14
Trichlorofluoromethane
Concen: 0.72 ng
RT: 4.87 min Scan# 313
Delta R.T. -0.011 min
Lab File: 06282223.D
Acq: 28 Jun 2022 23:13

Tgt Ion:101 Resp: 18317

Ion	Ratio	Lower	Upper
101	100		
103	63.9	45.0	85.0

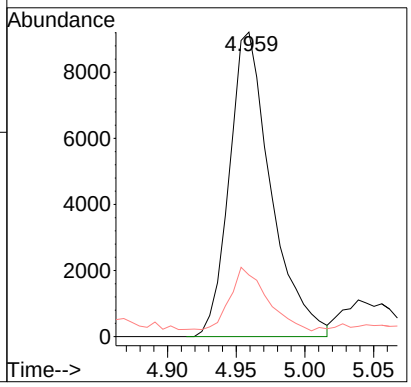


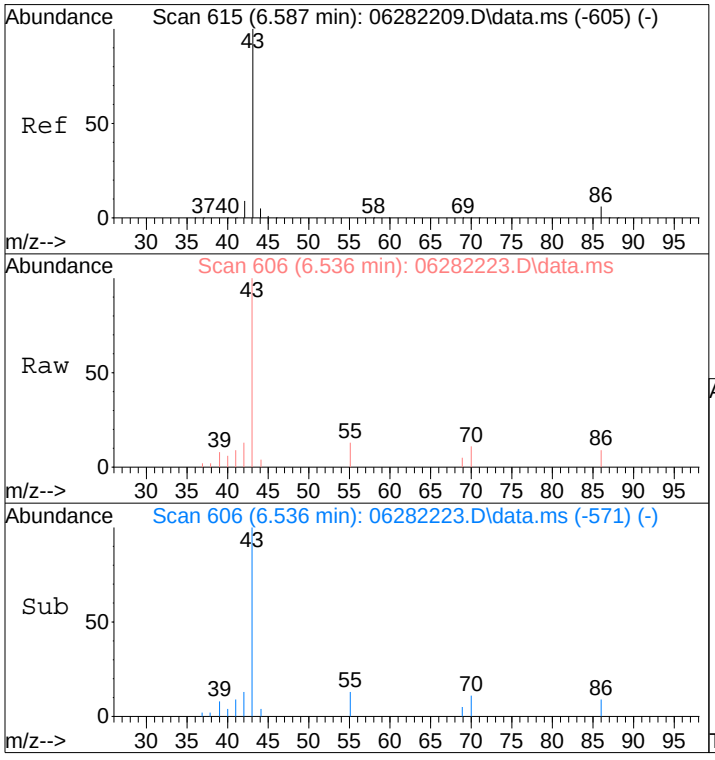


#15
2-Propanol (Isopropanol)
Concen: 0.53 ng
RT: 4.96 min Scan# 329
Delta R.T. -0.051 min
Lab File: 06282223.D
Acq: 28 Jun 2022 23:13

Tgt Ion: 45 Resp: 19427

Ion	Ratio	Lower	Upper
45	100		
43	29.9	0.0	40.0

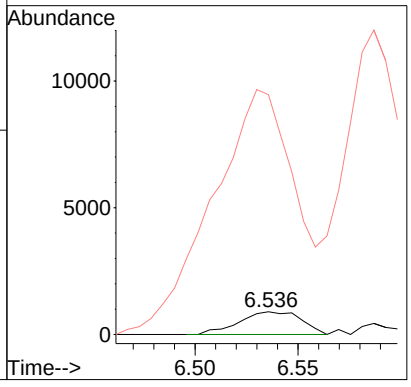


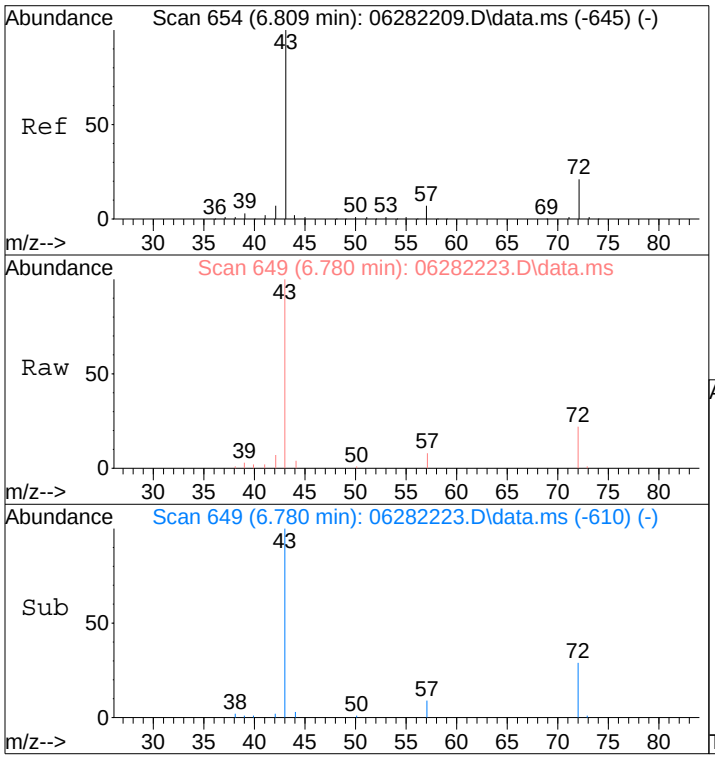


#26
Vinyl Acetate
Concen: 0.92 ng
RT: 6.54 min Scan# 606
Delta R.T. -0.051 min
Lab File: 06282223.D
Acq: 28 Jun 2022 23:13

Tgt Ion: 86 Resp: 1881

Ion	Ratio	Lower	Upper
86	100		
43	1440.1	1530.9	1570.9#

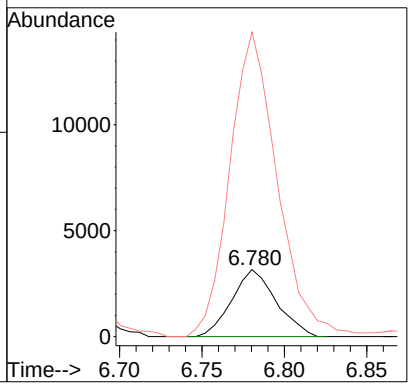


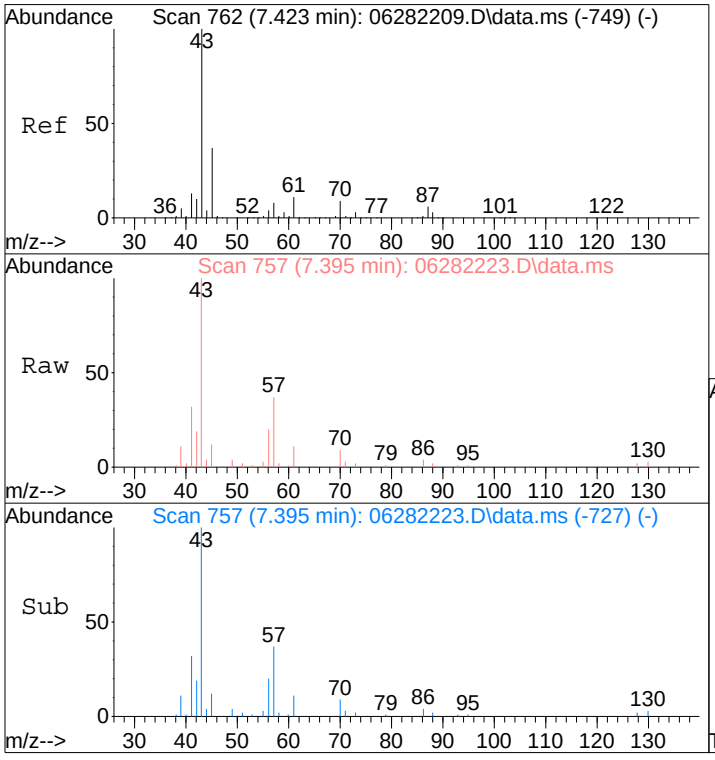


#27
2-Butanone (MEK)
Concen: 0.70 ng
RT: 6.78 min Scan# 649
Delta R.T. -0.029 min
Lab File: 06282223.D
Acq: 28 Jun 2022 23:13

Tgt Ion: 72 Resp: 5910

Ion	Ratio	Lower	Upper
72	100		
43	487.1	460.0	500.0

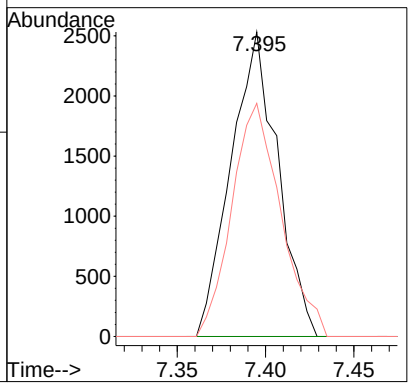


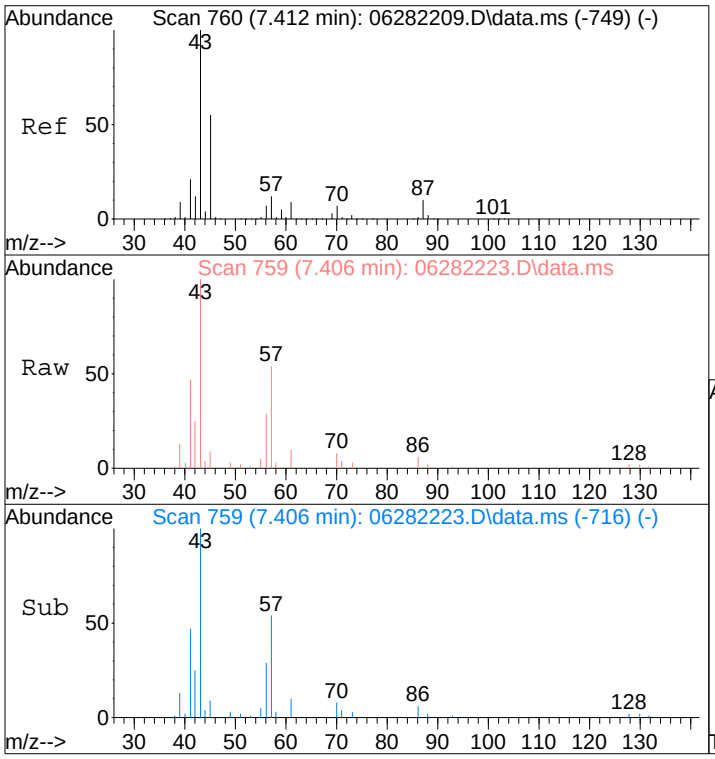


#30
Ethyl Acetate
Concen: 0.87 ng
RT: 7.39 min Scan# 757
Delta R.T. -0.029 min
Lab File: 06282223.D
Acq: 28 Jun 2022 23:13

Tgt Ion: 61 Resp: 4648

Ion	Ratio	Lower	Upper
61	100		
70	80.6	60.8	100.8

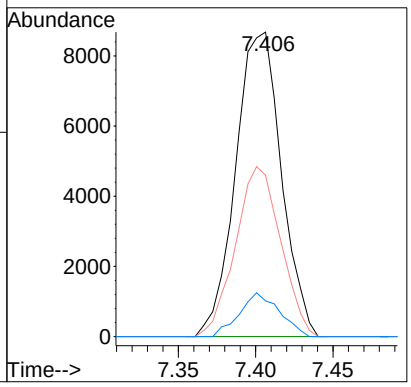


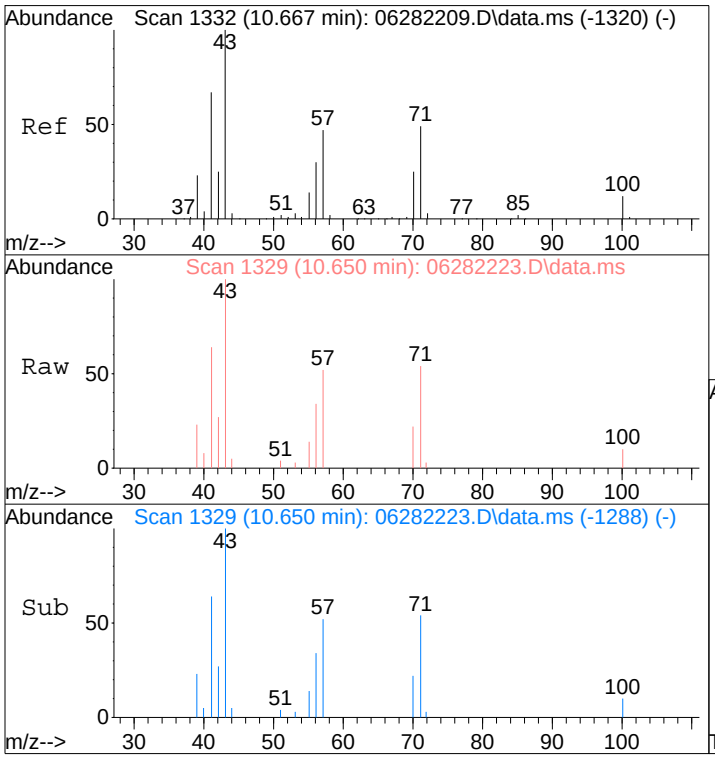


#31
n-Hexane
Concen: 0.86 ng
RT: 7.41 min Scan# 759
Delta R.T. -0.006 min
Lab File: 06282223.D
Acq: 28 Jun 2022 23:13

Tgt Ion: 57 Resp: 17893

Ion	Ratio	Lower	Upper
57	100		
56	55.2	43.8	65.6
86	12.6	10.1	15.1

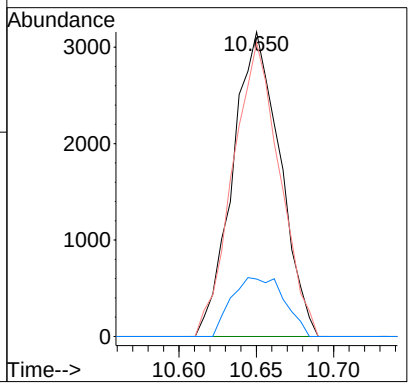


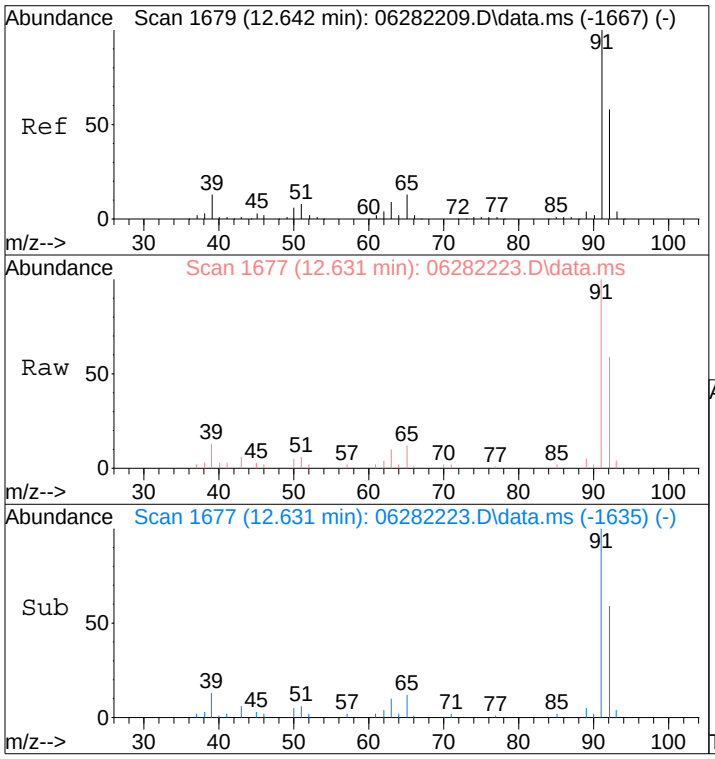


#51
n-Heptane
Concen: 0.55 ng
RT: 10.65 min Scan# 1329
Delta R.T. -0.017 min
Lab File: 06282223.D
Acq: 28 Jun 2022 23:13

Tgt Ion: 71 Resp: 6727

Ion	Ratio	Lower	Upper
71	100		
57	96.0	77.7	117.7
100	21.6	3.5	43.5

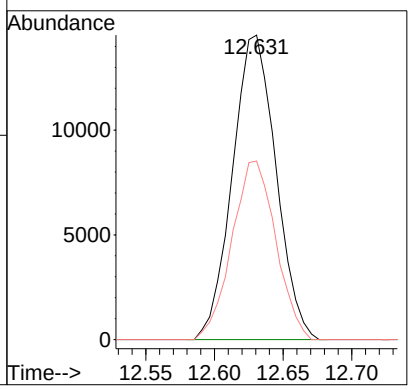




#58
Toluene
Concen: 0.61 ng
RT: 12.63 min Scan# 1677
Delta R.T. -0.011 min
Lab File: 06282223.D
Acq: 28 Jun 2022 23:13

Tgt Ion: 91 Resp: 32077

Ion	Ratio	Lower	Upper
91	100		
92	59.0	38.2	78.2



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282224.D Vial: 9
Acq On : 28 Jun 2022 23:52 Operator: TZ
Sample : P2202743-002 (1000mL) Inst : GCMS13
Misc : S35-06022211

TZ 6/30/22

Quant Time: Jun 29 08:32:44 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	139763	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.39	114	608503	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	129318	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.10	65	242770	11.079	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.64%			
57) Toluene-d8 (SS2)	12.50	98	696401	12.537	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%			
73) Bromofluorobenzene (SS3)	16.87	174	238083	13.480	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%			
Target Compounds						Qvalue
2) Propene	3.42	42	8142	N.D.		
3) Dichlorodifluoromethan...	3.48	85	43747	1.489	ng	99
4) Chloromethane	3.63	50	3934	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.74	135	743	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.15	94	143	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.40	45	34167	3.066	ng	95
11) Acetonitrile	4.55	41	3206	N.D.		
12) Acrolein	4.66	56	1048	N.D.		
13) Acetone	4.75	58	51336	5.508	ng	100
14) Trichlorofluoromethane	4.87	101	19015	0.748	ng	99
15) 2-Propanol (Isopropanol)	4.97	45	14841	N.D.		
16) Acrylonitrile	5.16	53	253	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.45	59	1029	N.D.		
19) Methylene Chloride	5.47	84	3561	N.D.		
20) 3-Chloro-1-propene (Al...	5.51	41	121	N.D.		
21) Trichlorotrifluoroethane	5.69	151	3565	N.D.		
22) Carbon Disulfide	5.72	76	4909	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	6.51	73	135	N.D.		
26) Vinyl Acetate	6.54	86	529	N.D.		
27) 2-Butanone (MEK)	6.78	72	3923	0.465	ng	94
28) cis-1,2-Dichloroethene	7.17	61	863	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.39	61	9593	1.803	ng	95
31) n-Hexane	7.40	57	5786	N.D.		
32) Chloroform	7.46	83	1387	N.D.		
34) Tetrahydrofuran (THF)	7.88	72	400	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.21	62	656	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.91	56	1969	No Calib	#	
41) Benzene	8.99	78	7934	N.D.		
42) Carbon Tetrachloride	9.16	117	5600	N.D.		
43) Cyclohexane	9.32	84	1858	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.24	130	180	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.32	57	8060	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282224.D Vial: 9
Acq On : 28 Jun 2022 23:52 Operator: TZ
Sample : P2202743-002 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:44 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

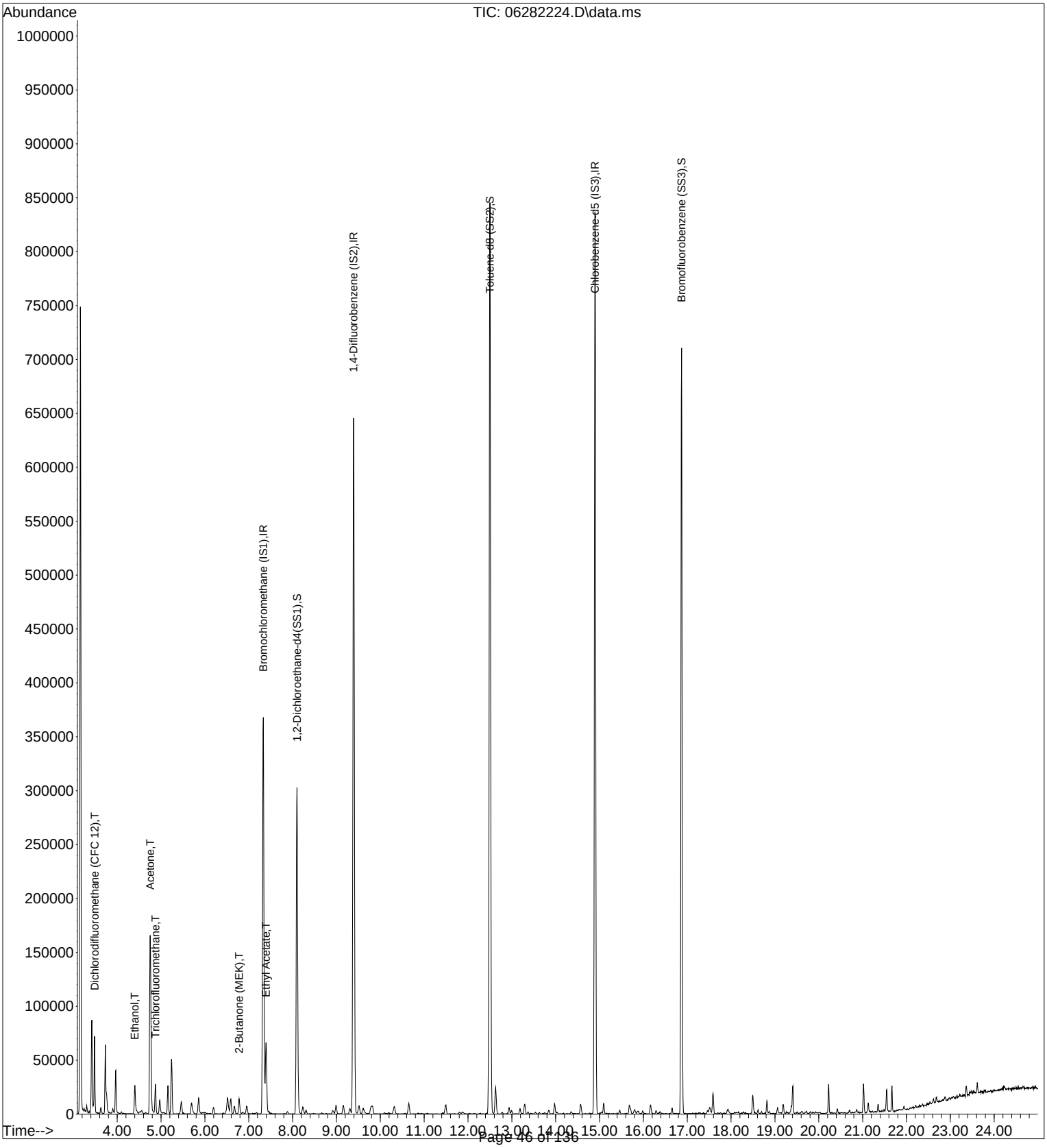
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.65	71	2547	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.43	58	212	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.63	91	20700	N.D.		
59) 2-Hexanone	12.99	43	2510	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.84	43	3480	N.D.		
63) n-Octane	13.97	57	1855	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.46	91	3337	N.D.		
67) m- & p-Xylenes	15.68	91	8162	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.14	104	631	N.D.		
70) o-Xylene	16.29	91	2660	N.D.		
71) n-Nonane	16.65	43	2549	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.07	105	106	N.D.		
75) alpha-Pinene	17.59	93	8959	N.D.		
76) n-Propylbenzene	17.76	91	990	N.D.		
77) 3-Ethyltoluene	17.07	105	106	No Calib		#
78) 4-Ethyltoluene	17.97	105	969	N.D.		
79) 1,3,5-Trimethylbenzene	18.08	105	503	N.D.		
80) alpha-Methylstyrene	16.87	118	808	No Calib		#
81) 2-Ethyltoluene	16.87	105	281	No Calib		#
82) 1,2,4-Trimethylbenzene	18.62	105	1849	N.D.		
83) n-Decane	16.86	58	182	No Calib		#
84) Benzyl Chloride	18.78	91	514	N.D.		
85) 1,3-Dichlorobenzene	18.79	146	115	N.D.		
86) 1,4-Dichlorobenzene	18.88	146	696	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	19.19	119	5757	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.37	68	1618	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.43	180	777	N.D.		
95) Naphthalene	21.56	128	2873	N.D.		
96) n-Dodecane	18.82	57	4490	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.62	119	222	N.D.		
100) n-Butylbenzene	19.72	91	701	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282224.D Vial: 9
Acq On : 28 Jun 2022 23:52 Operator: TZ
Sample : P2202743-002 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:44 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282224.D Vial: 9
Acq On : 28 Jun 2022 23:52 Operator: TZ
Sample : P2202743-002 (1000mL) Inst : GCMS13
Misc : S35-06022211

TZ 6/30/22

Quant Time: Jun 29 08:32:44 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

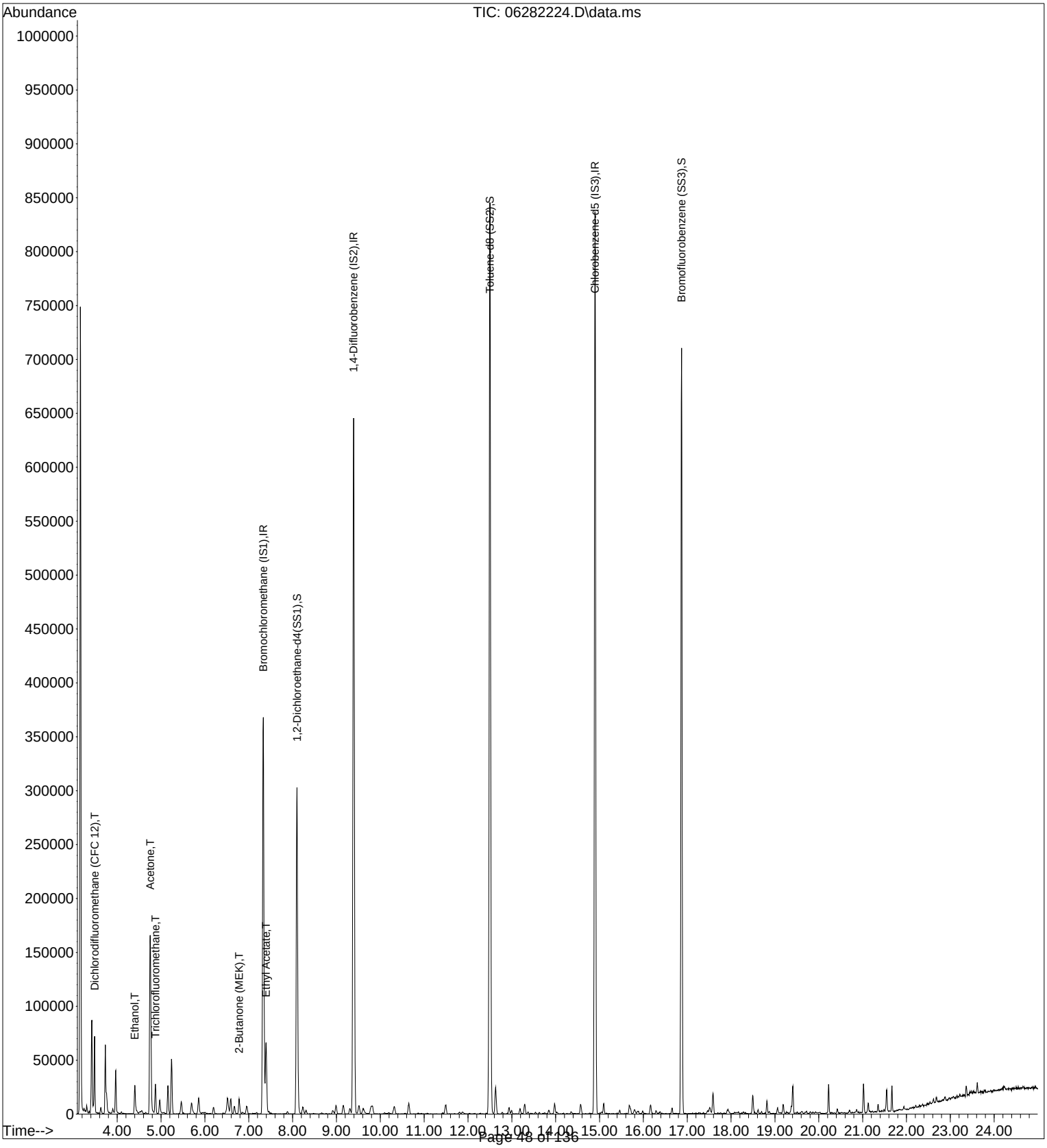
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	139763	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.39	114	608503	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	129318	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.10	65	242770	11.079	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.64%			
57) Toluene-d8 (SS2)	12.50	98	696401	12.537	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%			
73) Bromofluorobenzene (SS3)	16.87	174	238083	13.480	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.48	85	43747	1.489	ng	99
10) Ethanol	4.40	45	34167	3.066	ng	95
13) Acetone	4.75	58	51336	5.508	ng	100
14) Trichlorofluoromethane	4.87	101	19015	0.748	ng	99
27) 2-Butanone (MEK)	6.78	72	3923	0.465	ng	94
30) Ethyl Acetate	7.39	61	9593	1.803	ng	95

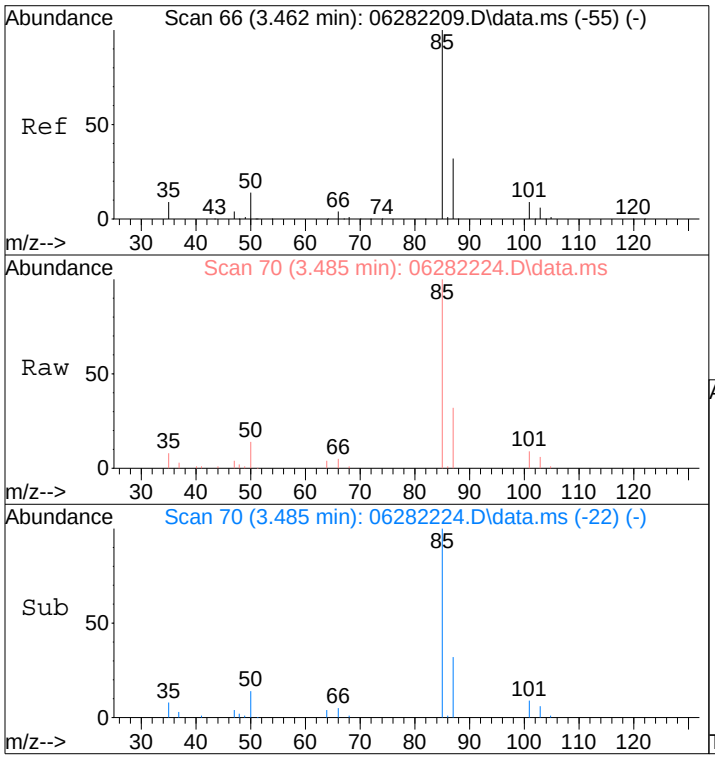
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282224.D Vial: 9
Acq On : 28 Jun 2022 23:52 Operator: TZ
Sample : P2202743-002 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:44 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

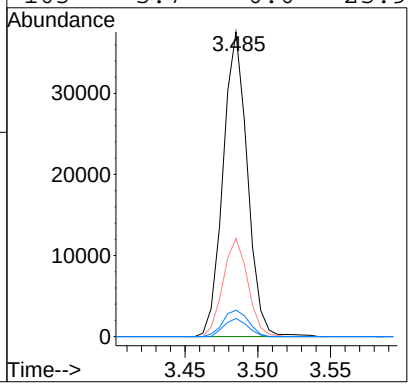


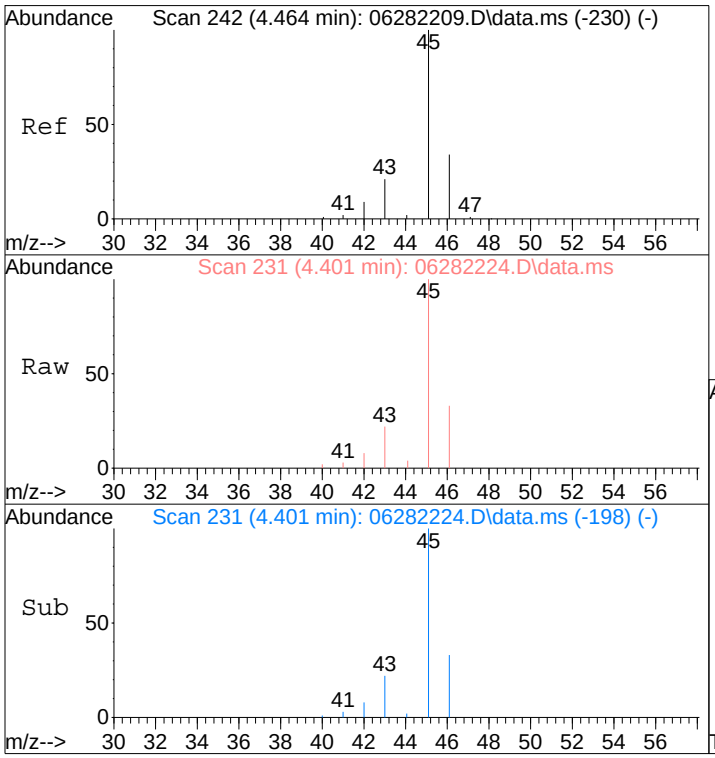


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.49 ng
RT: 3.48 min Scan# 70
Delta R.T. 0.022 min
Lab File: 06282224.D
Acq: 28 Jun 2022 23:52

Tgt Ion: 85 Resp: 43747

Ion	Ratio	Lower	Upper
85	100		
87	32.8	12.1	52.1
101	9.1	0.0	29.0
103	5.7	0.0	25.9

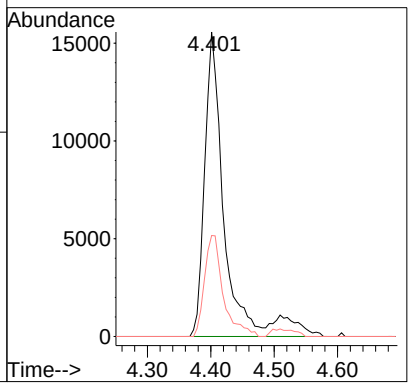


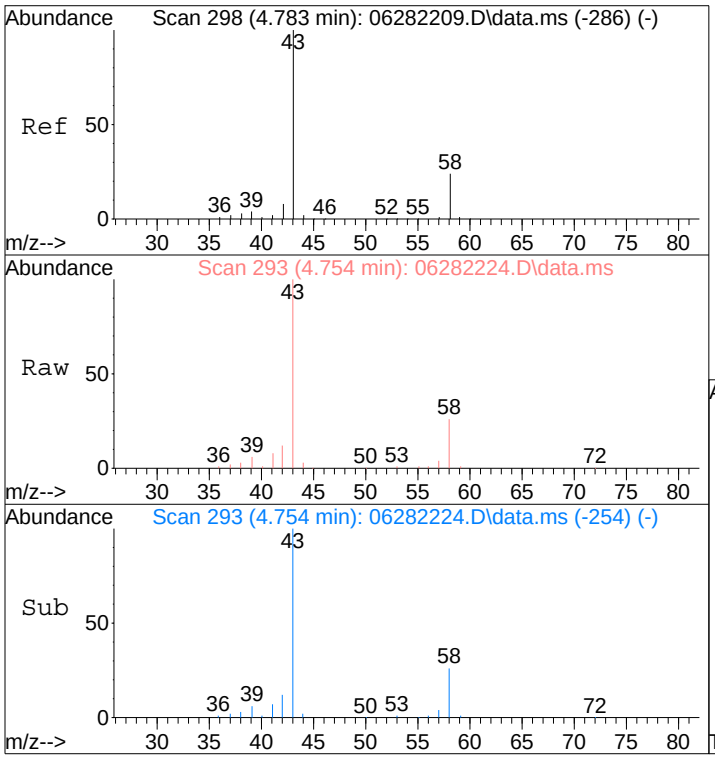


#10
Ethanol
Concen: 3.07 ng
RT: 4.40 min Scan# 231
Delta R.T. -0.063 min
Lab File: 06282224.D
Acq: 28 Jun 2022 23:52

Tgt Ion: 45 Resp: 34167

Ion	Ratio	Lower	Upper
45	100		
46	31.0	13.9	53.9

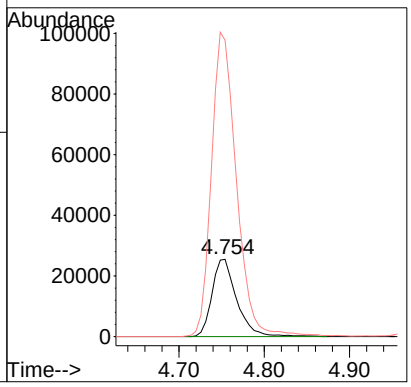


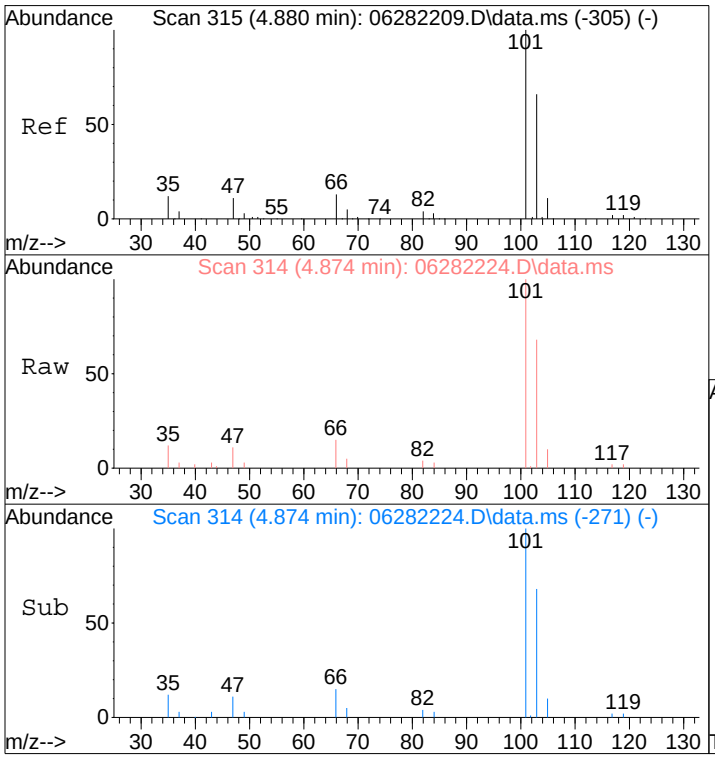


#13
Acetone
Concen: 5.51 ng
RT: 4.75 min Scan# 293
Delta R.T. -0.029 min
Lab File: 06282224.D
Acq: 28 Jun 2022 23:52

Tgt Ion: 58 Resp: 51336

Ion	Ratio	Lower	Upper
58	100		
43	400.3	370.7	430.7

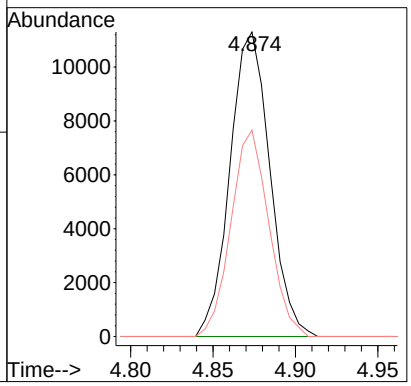


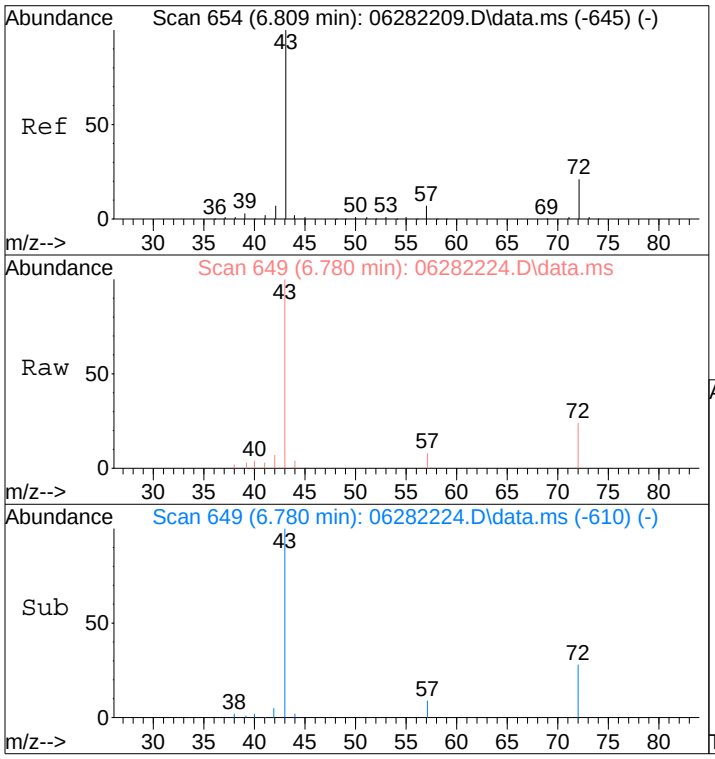


#14
Trichlorofluoromethane
Concen: 0.75 ng
RT: 4.87 min Scan# 314
Delta R.T. -0.006 min
Lab File: 06282224.D
Acq: 28 Jun 2022 23:52

Tgt Ion:101 Resp: 19015

Ion	Ratio	Lower	Upper
101	100		
103	64.3	45.0	85.0

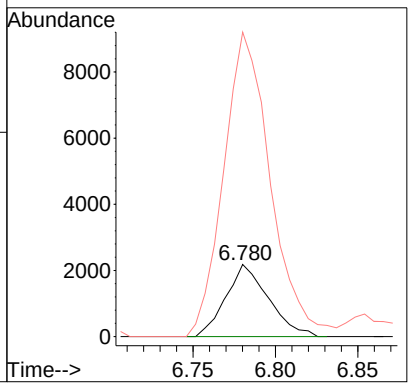


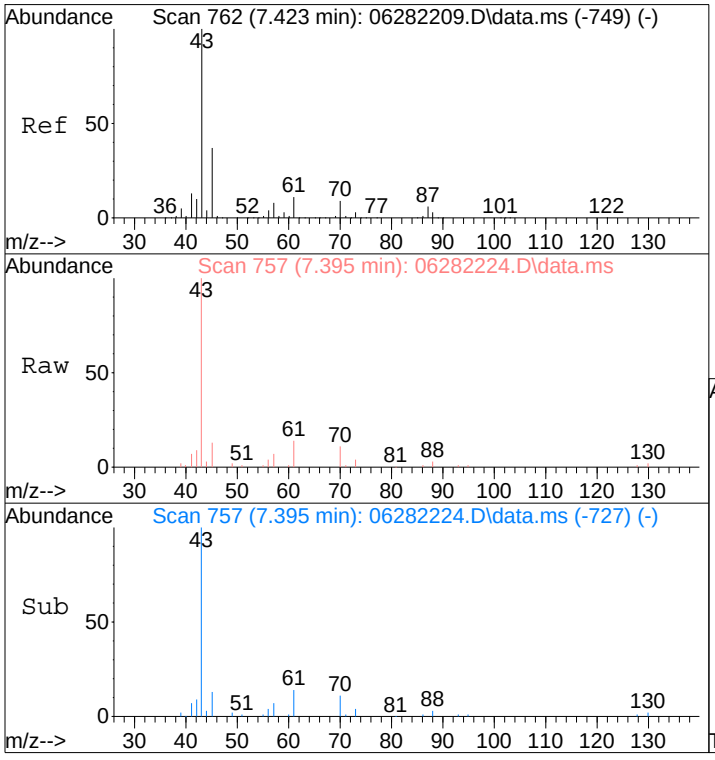


#27
2-Butanone (MEK)
Concen: 0.47 ng
RT: 6.78 min Scan# 649
Delta R.T. -0.029 min
Lab File: 06282224.D
Acq: 28 Jun 2022 23:52

Tgt Ion: 72 Resp: 3923

Ion	Ratio	Lower	Upper
72	100		
43	463.4	460.0	500.0

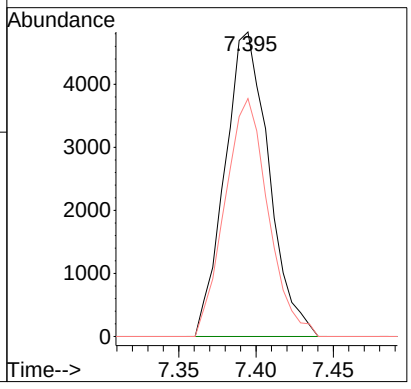




#30
Ethyl Acetate
Concen: 1.80 ng
RT: 7.39 min Scan# 757
Delta R.T. -0.029 min
Lab File: 06282224.D
Acq: 28 Jun 2022 23:52

Tgt Ion: 61 Resp: 9593

Ion	Ratio	Lower	Upper
61	100		
70	76.8	60.8	100.8



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282225.D Vial: 10
Acq On : 29 Jun 2022 00:30 Operator: TZ
Sample : P2202743-003 (1000mL) Inst : GCMS13
Misc : S35-06022211

TZ 6/30/22

Quant Time: Jun 29 08:32:46 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	136783	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.39	114	596591	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	127846	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	241001	11.237	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.92%				
57) Toluene-d8 (SS2)	12.50	98	678219	12.350	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	16.87	174	235575	13.491	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.92%				
Target Compounds							Qvalue
2) Propene	3.42	42	5796	N.D.			
3) Dichlorodifluoromethan...	3.49	85	43039	1.497	ng		100
4) Chloromethane	3.62	50	3880	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.74	135	770	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.15	94	198	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.40	45	33051	3.030	ng		96
11) Acetonitrile	4.56	41	3326	N.D.			
12) Acrolein	4.65	56	1179	N.D.			
13) Acetone	4.75	58	52385	5.742	ng		95
14) Trichlorofluoromethane	4.87	101	18980	0.763	ng		99
15) 2-Propanol (Isopropanol)	4.96	45	14649	N.D.			
16) Acrylonitrile	5.16	53	56	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.45	59	1034	N.D.			
19) Methylene Chloride	5.47	84	3341	N.D.			
20) 3-Chloro-1-propene (Al...	5.53	41	236	N.D.			
21) Trichlorotrifluoroethane	5.69	151	3679	N.D.			
22) Carbon Disulfide	5.72	76	5998	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.40	73	1350	N.D.			
26) Vinyl Acetate	6.54	86	951	0.475	ng	#	4
27) 2-Butanone (MEK)	6.78	72	4019	0.487	ng		96
28) cis-1,2-Dichloroethene	7.17	61	793	N.D.			
29) Diisopropyl Ether	7.40	87	348	N.D.			
30) Ethyl Acetate	7.39	61	34722	6.668	ng		95
31) n-Hexane	7.40	57	3693	N.D.			
32) Chloroform	7.46	83	1294	N.D.			
34) Tetrahydrofuran (THF)	7.88	72	231	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.20	62	520	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.91	56	5490	No Calib		#	
41) Benzene	8.99	78	7780	N.D.			
42) Carbon Tetrachloride	9.16	117	5265	N.D.			
43) Cyclohexane	9.31	84	1126	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.23	130	477	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.32	57	7444	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282225.D Vial: 10
Acq On : 29 Jun 2022 00:30 Operator: TZ
Sample : P2202743-003 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:46 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

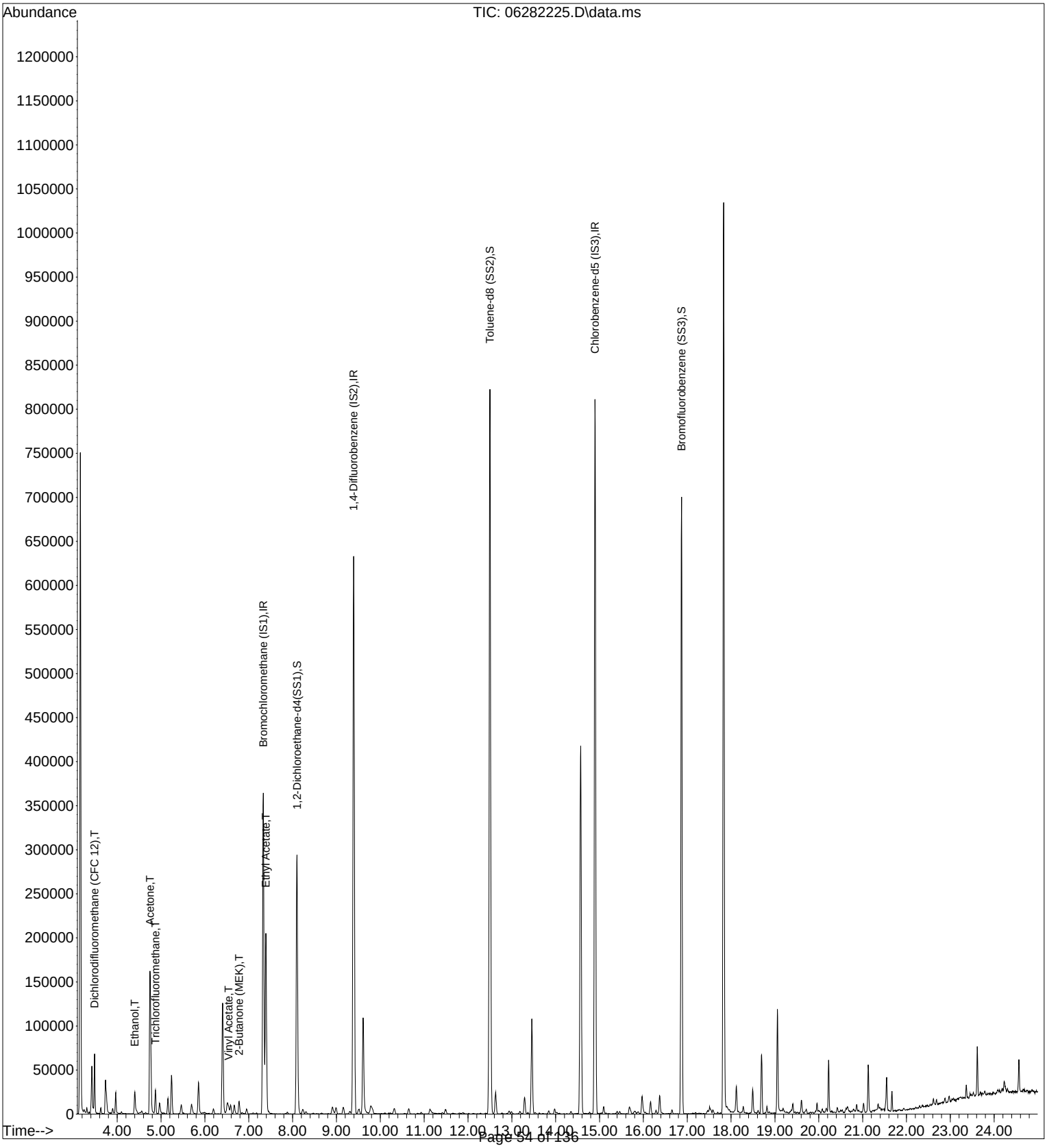
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.66	71	1541	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.41	58	366	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.63	91	20007	N.D.		
59) 2-Hexanone	12.99	43	2204	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	13.46	107	111	N.D.		
62) n-Butyl Acetate	13.84	43	3390	N.D.		
63) n-Octane	13.98	57	1075	N.D.		
64) Tetrachloroethene	14.09	166	251	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.46	91	3024	N.D.		
67) m- & p-Xylenes	15.68	91	7665	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.14	104	599	N.D.		
70) o-Xylene	16.29	91	2754	N.D.		
71) n-Nonane	16.65	43	2173	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	17.58	93	2247	N.D.		
76) n-Propylbenzene	17.76	91	875	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.96	105	933	N.D.		
79) 1,3,5-Trimethylbenzene	18.08	105	503	N.D.		
80) alpha-Methylstyrene	16.87	118	828	No Calib		#
81) 2-Ethyltoluene	16.87	105	234	No Calib		#
82) 1,2,4-Trimethylbenzene	18.62	105	1994	N.D.		
83) n-Decane	16.86	58	182	No Calib		#
84) Benzyl Chloride	18.77	91	349	N.D.		
85) 1,3-Dichlorobenzene	18.88	146	580	N.D.		
86) 1,4-Dichlorobenzene	18.88	146	580	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	19.19	119	2957	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.38	68	697	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.44	180	471	N.D.		
95) Naphthalene	21.56	128	2656	N.D.		
96) n-Dodecane	18.82	57	2938	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.62	119	126	N.D.		
100) n-Butylbenzene	19.72	91	567	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282225.D Vial: 10
Acq On : 29 Jun 2022 00:30 Operator: TZ
Sample : P2202743-003 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:46 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282225.D Vial: 10
Acq On : 29 Jun 2022 00:30 Operator: TZ
Sample : P2202743-003 (1000mL) Inst : GCMS13
Misc : S35-06022211

TZ 6/30/22

Quant Time: Jun 29 08:32:46 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

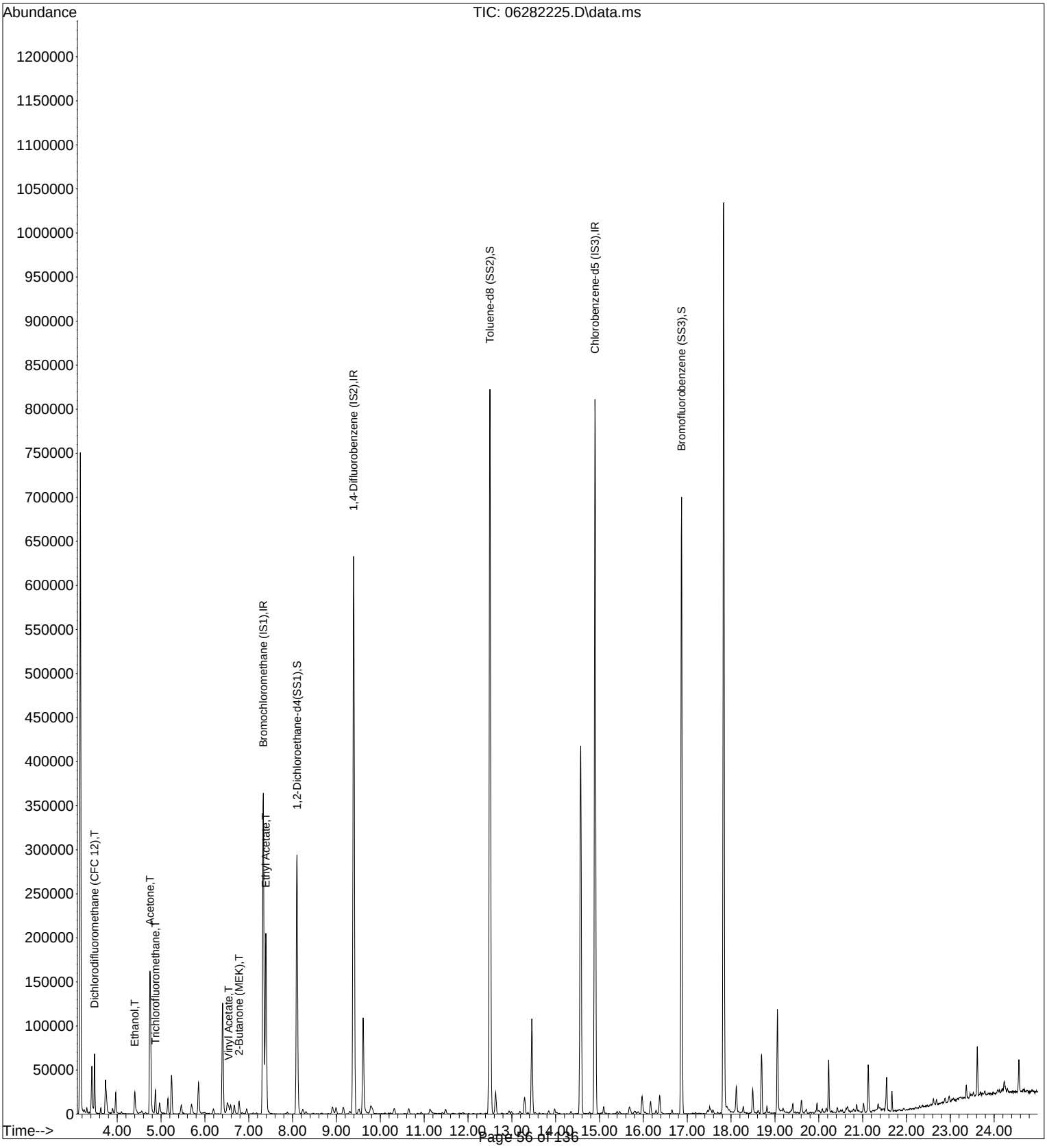
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	136783	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.39	114	596591	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	127846	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	241001	11.237	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.92%				
57) Toluene-d8 (SS2)	12.50	98	678219	12.350	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	16.87	174	235575	13.491	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.92%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.49	85	43039	1.497	ng		100
10) Ethanol	4.40	45	33051	3.030	ng		96
13) Acetone	4.75	58	52385	5.742	ng		95
14) Trichlorofluoromethane	4.87	101	18980	0.763	ng		99
26) Vinyl Acetate	6.54	86	951	0.475	ng	#	4
27) 2-Butanone (MEK)	6.78	72	4019	0.487	ng		96
30) Ethyl Acetate	7.39	61	34722	6.668	ng		95

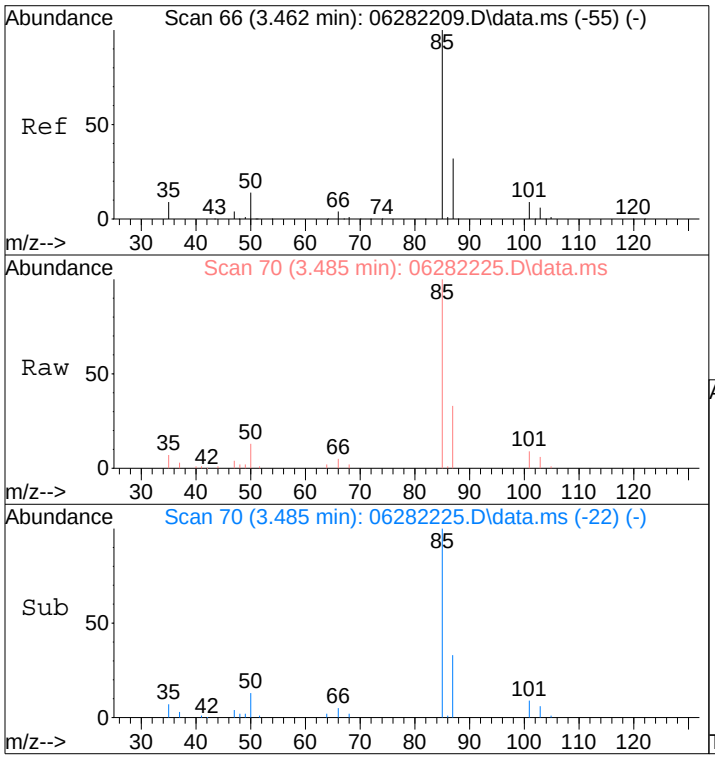
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282225.D Vial: 10
Acq On : 29 Jun 2022 00:30 Operator: TZ
Sample : P2202743-003 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:46 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

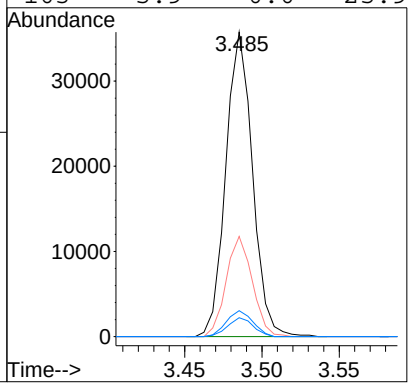


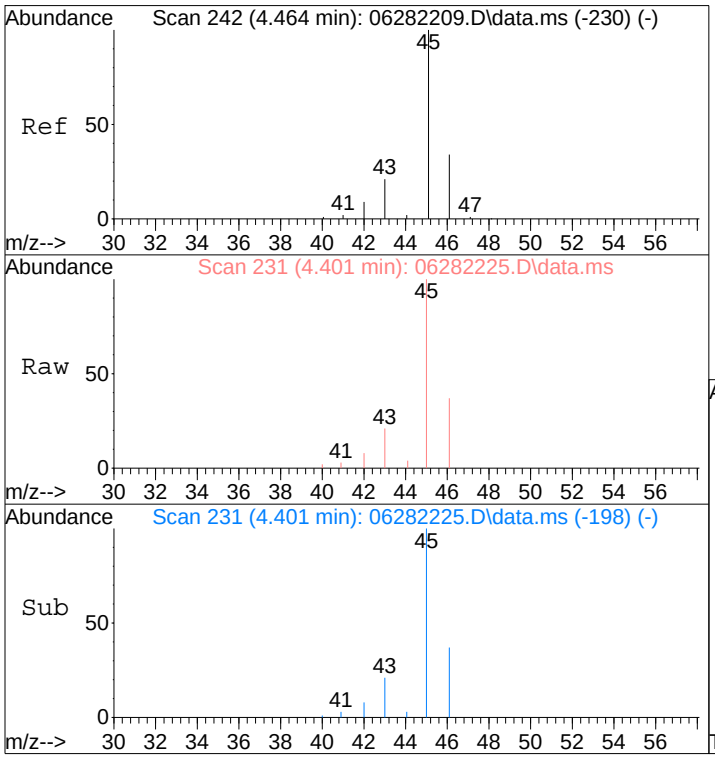


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.50 ng
RT: 3.49 min Scan# 70
Delta R.T. 0.023 min
Lab File: 06282225.D
Acq: 29 Jun 2022 00:30

Tgt Ion: 85 Resp: 43039

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.1	52.1
101	8.5	0.0	29.0
103	5.9	0.0	25.9

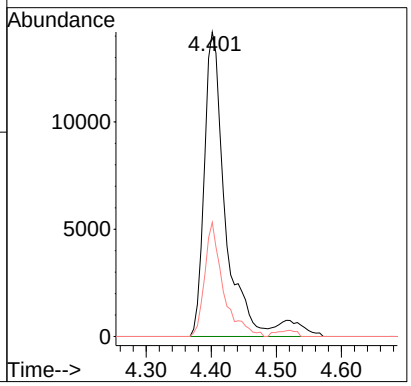


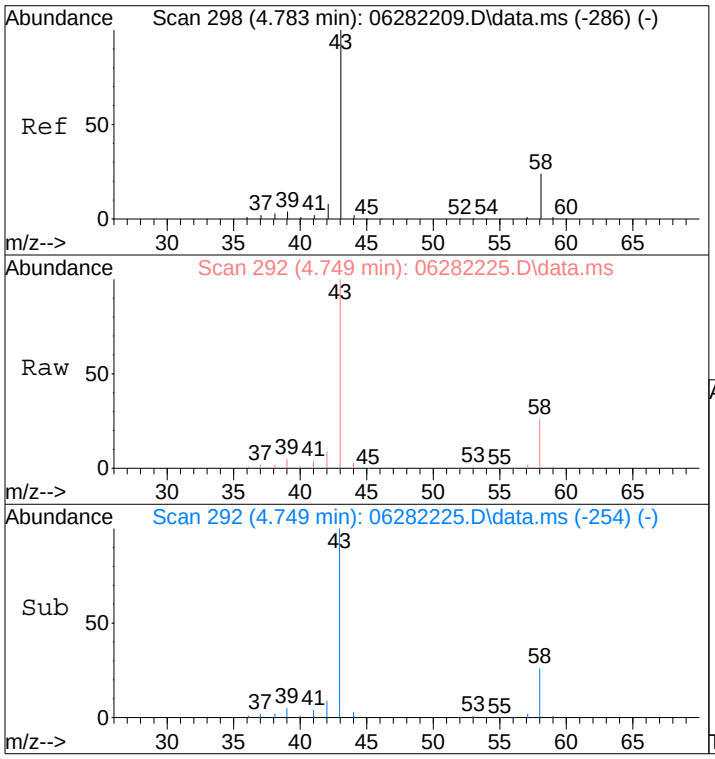


#10
Ethanol
Concen: 3.03 ng
RT: 4.40 min Scan# 231
Delta R.T. -0.063 min
Lab File: 06282225.D
Acq: 29 Jun 2022 00:30

Tgt Ion: 45 Resp: 33051

Ion	Ratio	Lower	Upper
45	100		
46	31.8	13.9	53.9

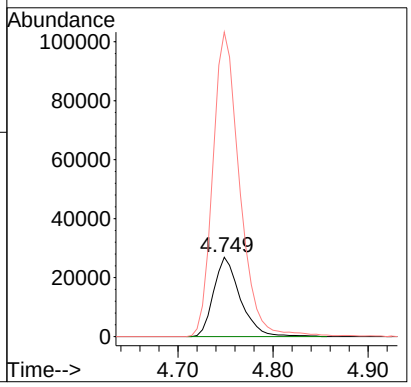


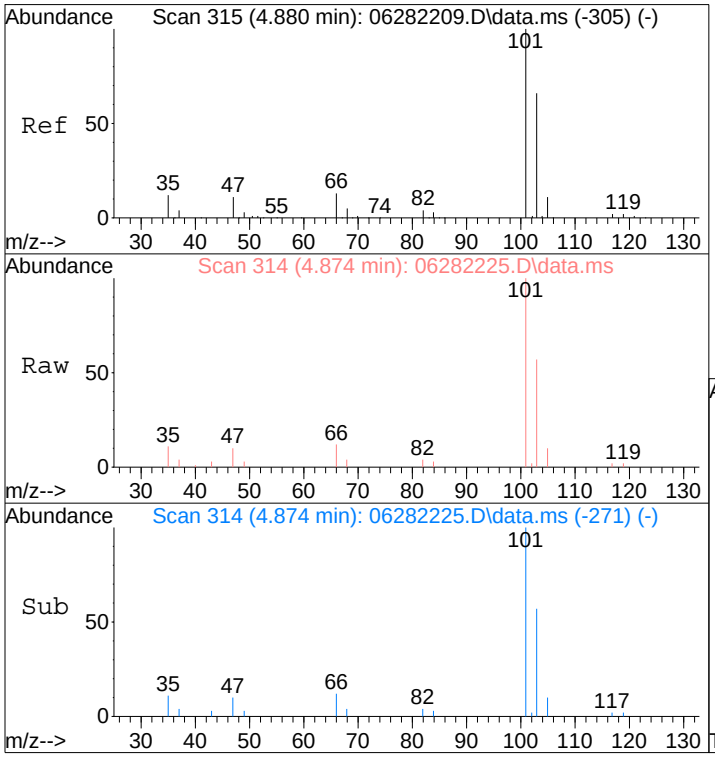


#13
Acetone
Concen: 5.74 ng
RT: 4.75 min Scan# 292
Delta R.T. -0.034 min
Lab File: 06282225.D
Acq: 29 Jun 2022 00:30

Tgt Ion: 58 Resp: 52385

Ion	Ratio	Lower	Upper
58	100		
43	388.1	370.7	430.7

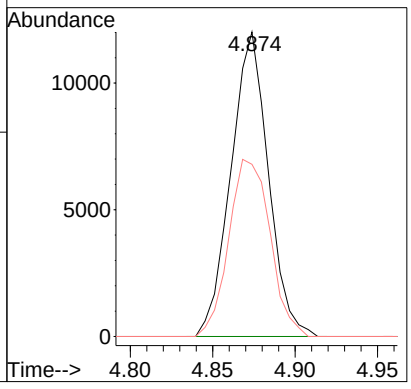


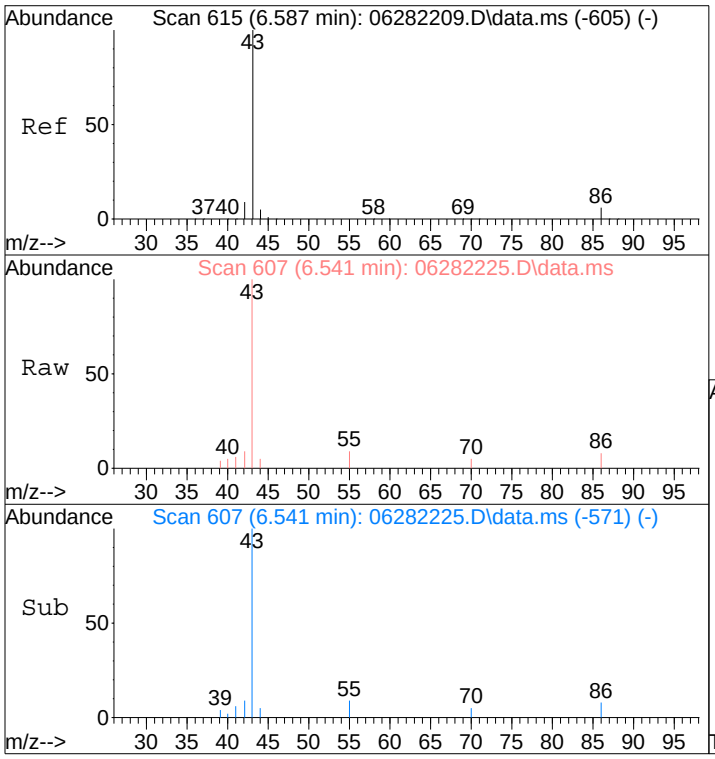


#14
Trichlorofluoromethane
Concen: 0.76 ng
RT: 4.87 min Scan# 314
Delta R.T. -0.006 min
Lab File: 06282225.D
Acq: 29 Jun 2022 00:30

Tgt Ion:101 Resp: 18980

Ion	Ratio	Lower	Upper
101	100		
103	64.1	45.0	85.0

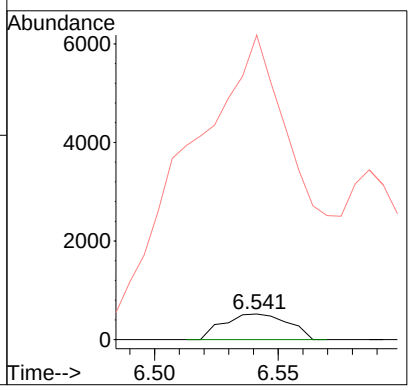


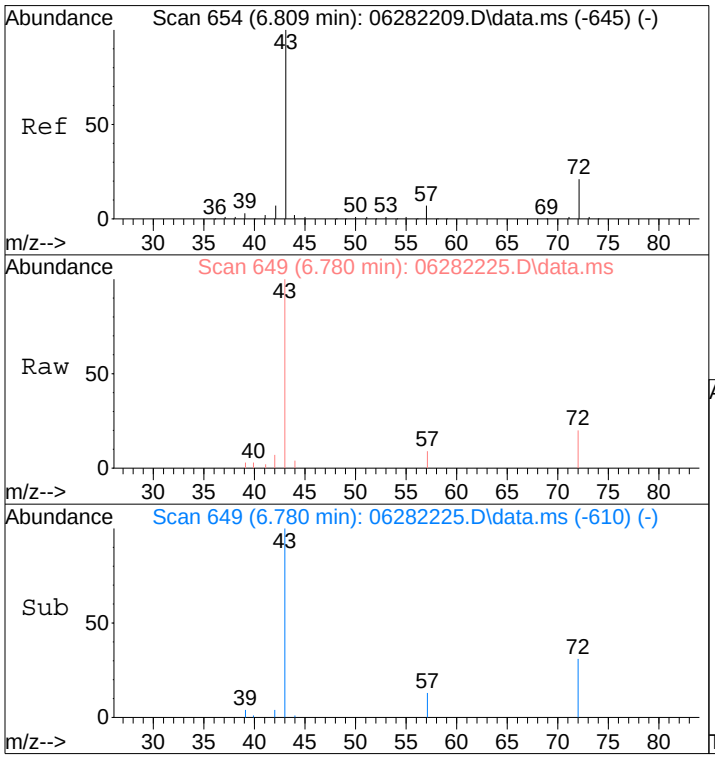


#26
Vinyl Acetate
Concen: 0.48 ng
RT: 6.54 min Scan# 607
Delta R.T. -0.046 min
Lab File: 06282225.D
Acq: 29 Jun 2022 00:30

Tgt Ion: 86 Resp: 951

Ion	Ratio	Lower	Upper
86	100		
43	2138.0	1530.9	1570.9#

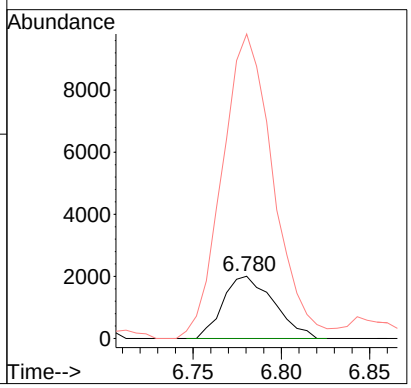


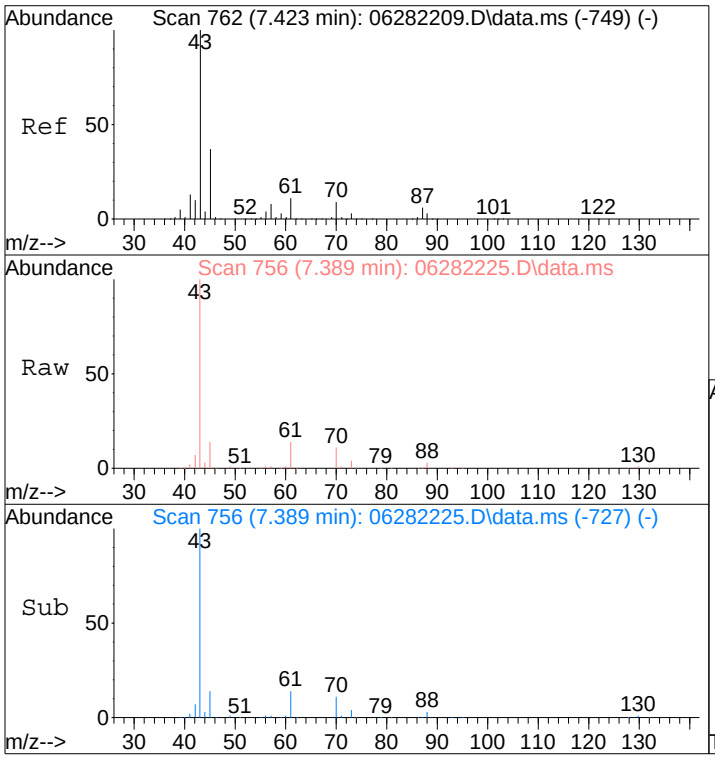


#27
2-Butanone (MEK)
Concen: 0.49 ng
RT: 6.78 min Scan# 649
Delta R.T. -0.029 min
Lab File: 06282225.D
Acq: 29 Jun 2022 00:30

Tgt Ion: 72 Resp: 4019

Ion	Ratio	Lower	Upper
72	100		
43	490.9	460.0	500.0

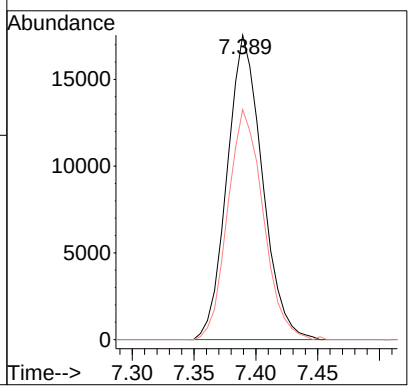




#30
Ethyl Acetate
Concen: 6.67 ng
RT: 7.39 min Scan# 756
Delta R.T. -0.034 min
Lab File: 06282225.D
Acq: 29 Jun 2022 00:30

Tgt Ion: 61 Resp: 34722

Ion	Ratio	Lower	Upper
61	100		
70	76.3	60.8	100.8



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282226.D Vial: 11
Acq On : 29 Jun 2022 1:09 Operator: TZ
Sample : P2202743-004 (1000mL) Inst : GCMS13
Misc : S35-06022211

TZ 6/30/22

Quant Time: Jun 29 08:32:47 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	134637	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.39	114	588732	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	126818	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.10	65	235948	11.177	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.44%			
57) Toluene-d8 (SS2)	12.50	98	672000	12.336	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%			
73) Bromofluorobenzene (SS3)	16.87	174	228655	13.201	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%			
Target Compounds						Qvalue
2) Propene	3.42	42	4919	N.D.		
3) Dichlorodifluoromethan...	3.49	85	49255	1.741	ng	99
4) Chloromethane	3.63	50	4322	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.73	135	886	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.15	94	119	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.40	45	25399	2.366	ng	96
11) Acetonitrile	4.55	41	3832	N.D.		
12) Acrolein	4.65	56	1079	N.D.		
13) Acetone	4.75	58	51996	5.791	ng	93
14) Trichlorofluoromethane	4.87	101	21019	0.858	ng	98
15) 2-Propanol (Isopropanol)	4.96	45	12247	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.45	59	853	N.D.		
19) Methylene Chloride	5.47	84	3361	N.D.		
20) 3-Chloro-1-propene (Al...	5.51	41	153	N.D.		
21) Trichlorotrifluoroethane	5.70	151	4074	N.D.		
22) Carbon Disulfide	5.72	76	4597	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	6.50	73	289	N.D.		
26) Vinyl Acetate	6.54	86	421	N.D.		
27) 2-Butanone (MEK)	6.78	72	3760	0.463	ng	97
28) cis-1,2-Dichloroethene	7.18	61	185	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.39	61	9926	1.937	ng	94
31) n-Hexane	7.40	57	2707	N.D.		
32) Chloroform	7.46	83	1364	N.D.		
34) Tetrahydrofuran (THF)	7.88	72	332	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.21	62	639	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.91	56	2919	No Calib	#	
41) Benzene	8.99	78	6357	N.D.		
42) Carbon Tetrachloride	9.15	117	6472	N.D.		
43) Cyclohexane	9.31	84	698	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.31	57	7001	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282226.D Vial: 11
Acq On : 29 Jun 2022 1:09 Operator: TZ
Sample : P2202743-004 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:47 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

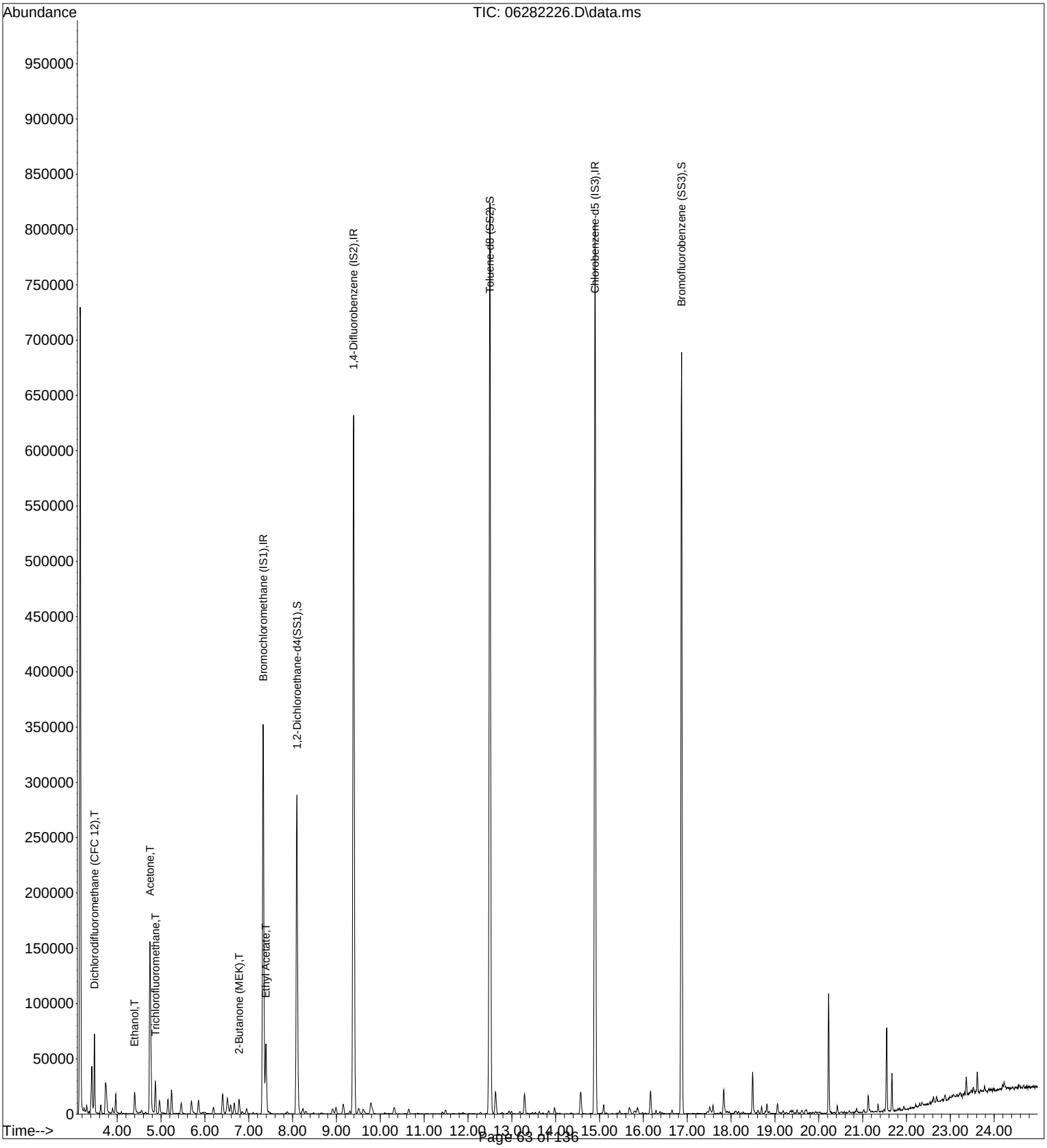
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.64	71	1149	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.42	58	354	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.62	91	16661	N.D.		
59) 2-Hexanone	12.99	43	2087	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.84	43	2669	N.D.		
63) n-Octane	13.97	57	1059	N.D.		
64) Tetrachloroethene	14.09	166	386	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.46	91	2814	N.D.		
67) m- & p-Xylenes	15.68	91	6297	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.15	104	1456	N.D.		
70) o-Xylene	16.28	91	2584	N.D.		
71) n-Nonane	16.65	43	1617	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.06	105	139	N.D.		
75) alpha-Pinene	17.59	93	3579	N.D.		
76) n-Propylbenzene	17.76	91	1029	N.D.		
77) 3-Ethyltoluene	17.06	105	139	No Calib		#
78) 4-Ethyltoluene	17.97	105	1008	N.D.		
79) 1,3,5-Trimethylbenzene	18.08	105	543	N.D.		
80) alpha-Methylstyrene	16.87	118	857	No Calib		#
81) 2-Ethyltoluene	16.88	105	224	No Calib		#
82) 1,2,4-Trimethylbenzene	18.61	105	1806	N.D.		
83) n-Decane	16.86	58	135	No Calib		#
84) Benzyl Chloride	18.77	91	351	N.D.		
85) 1,3-Dichlorobenzene	18.88	146	563	N.D.		
86) 1,4-Dichlorobenzene	18.88	146	563	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	19.19	119	1685	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.37	68	614	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.44	180	409	N.D.		
95) Naphthalene	21.56	128	2308	N.D.		
96) n-Dodecane	18.82	57	3516	No Calib		#
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.62	119	118	N.D.		
100) n-Butylbenzene	19.72	91	1061	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282226.D Vial: 11
Acq On : 29 Jun 2022 1:09 Operator: TZ
Sample : P2202743-004 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:47 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

TZ 6/30/22

Data File : I:\MS13\DATA\2022 06\28\06282226.D Vial: 11
Acq On : 29 Jun 2022 1:09 Operator: TZ
Sample : P2202743-004 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:47 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

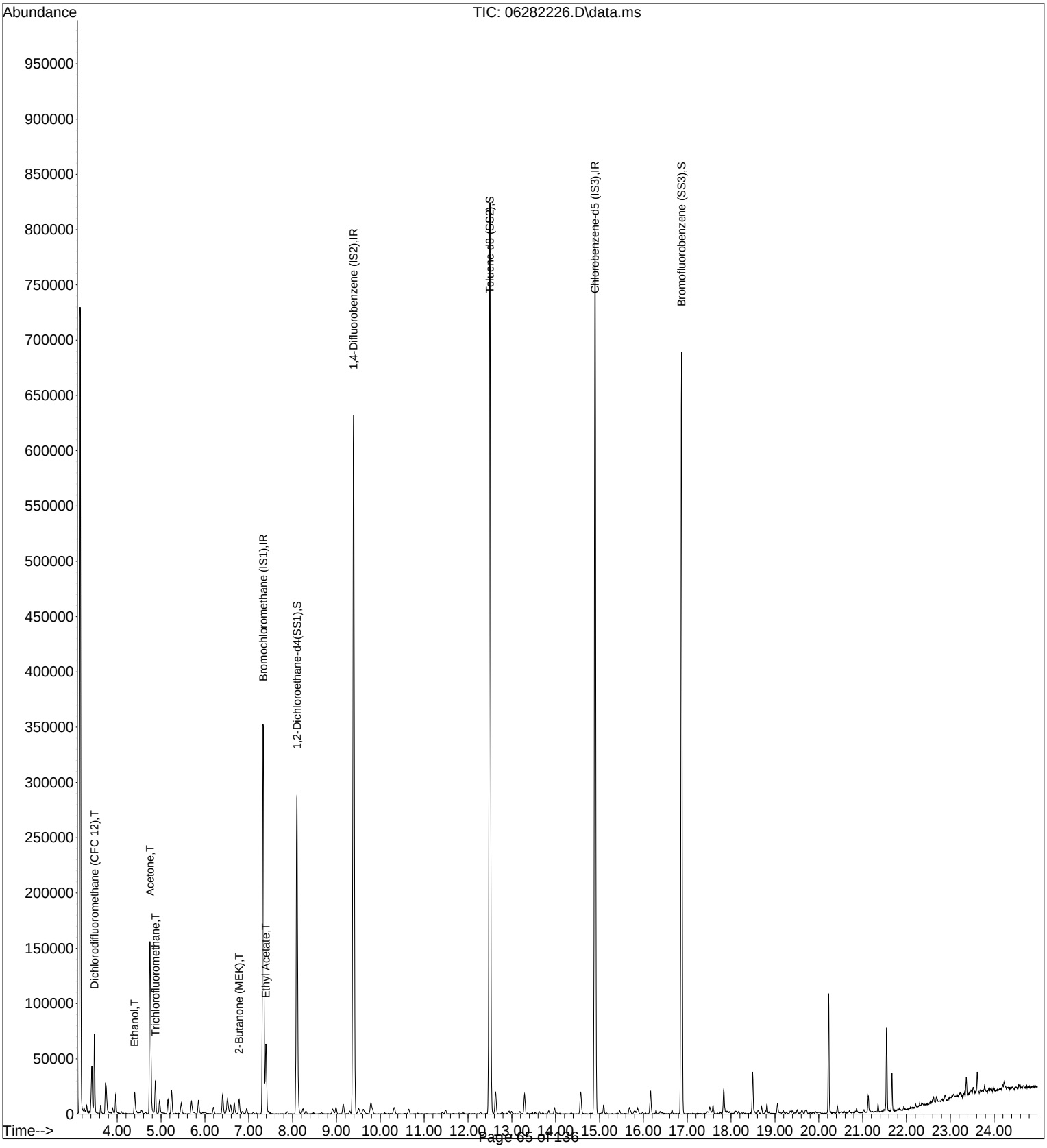
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	134637	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.39	114	588732	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	126818	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.10	65	235948	11.177	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.44%			
57) Toluene-d8 (SS2)	12.50	98	672000	12.336	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%			
73) Bromofluorobenzene (SS3)	16.87	174	228655	13.201	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.49	85	49255	1.741	ng	99
10) Ethanol	4.40	45	25399	2.366	ng	96
13) Acetone	4.75	58	51996	5.791	ng	93
14) Trichlorofluoromethane	4.87	101	21019	0.858	ng	98
27) 2-Butanone (MEK)	6.78	72	3760	0.463	ng	97
30) Ethyl Acetate	7.39	61	9926	1.937	ng	94

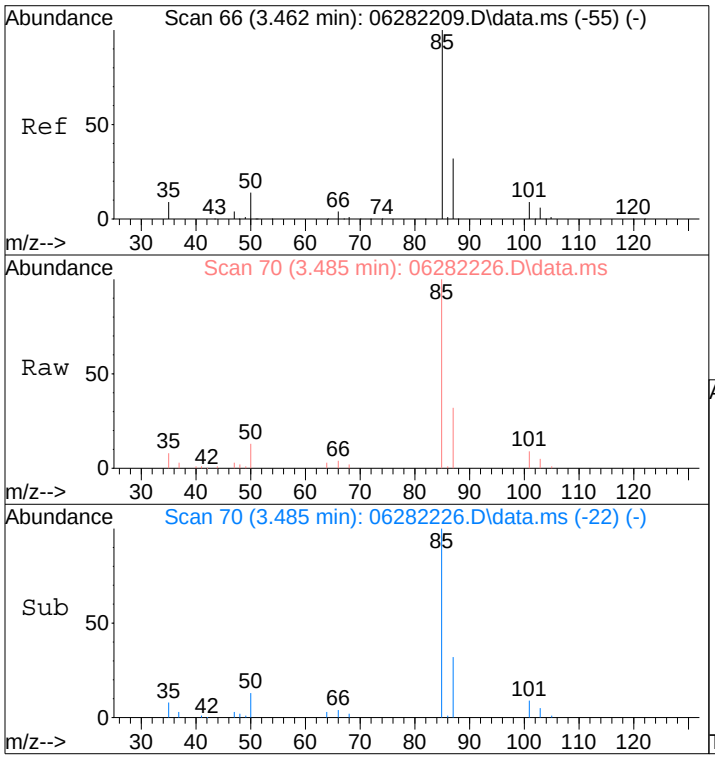
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282226.D Vial: 11
Acq On : 29 Jun 2022 1:09 Operator: TZ
Sample : P2202743-004 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:47 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

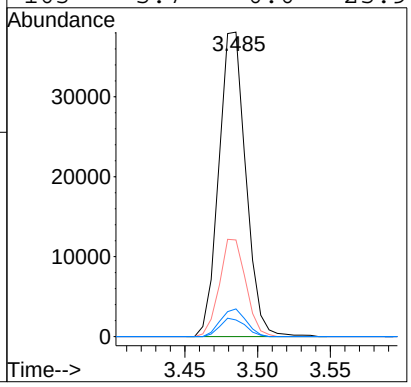


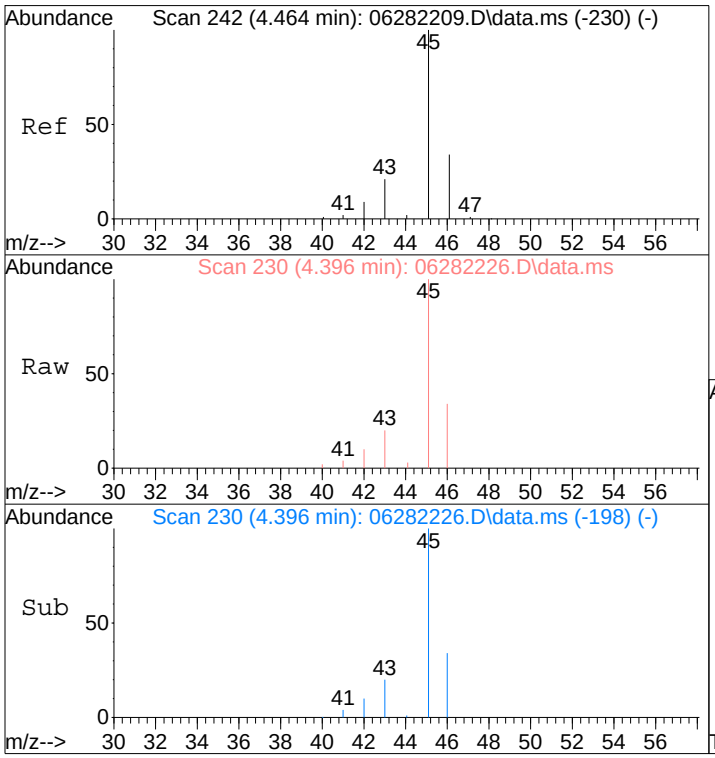


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.74 ng
RT: 3.49 min Scan# 70
Delta R.T. 0.023 min
Lab File: 06282226.D
Acq: 29 Jun 2022 1:09

Tgt Ion: 85 Resp: 49255

Ion	Ratio	Lower	Upper
85	100		
87	31.1	12.1	52.1
101	8.7	0.0	29.0
103	5.7	0.0	25.9

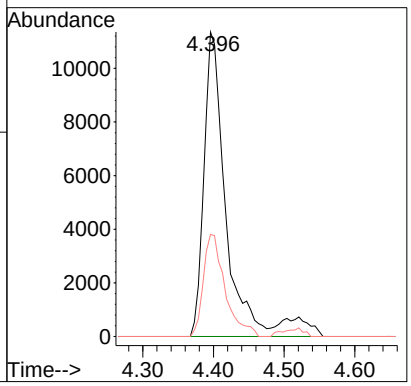


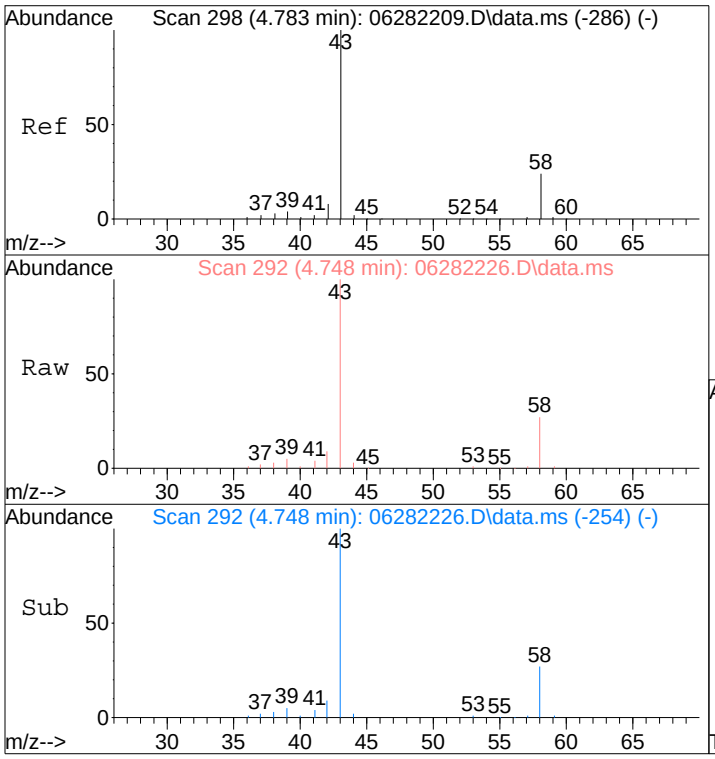


#10
Ethanol
Concen: 2.37 ng
RT: 4.40 min Scan# 230
Delta R.T. -0.068 min
Lab File: 06282226.D
Acq: 29 Jun 2022 1:09

Tgt Ion: 45 Resp: 25399

Ion	Ratio	Lower	Upper
45	100		
46	31.9	13.9	53.9

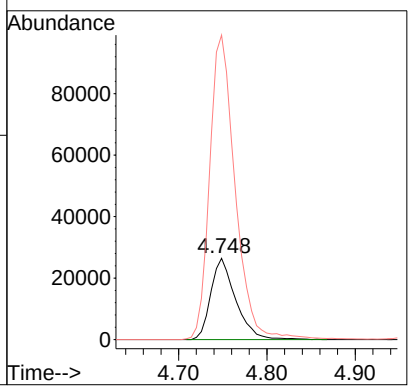


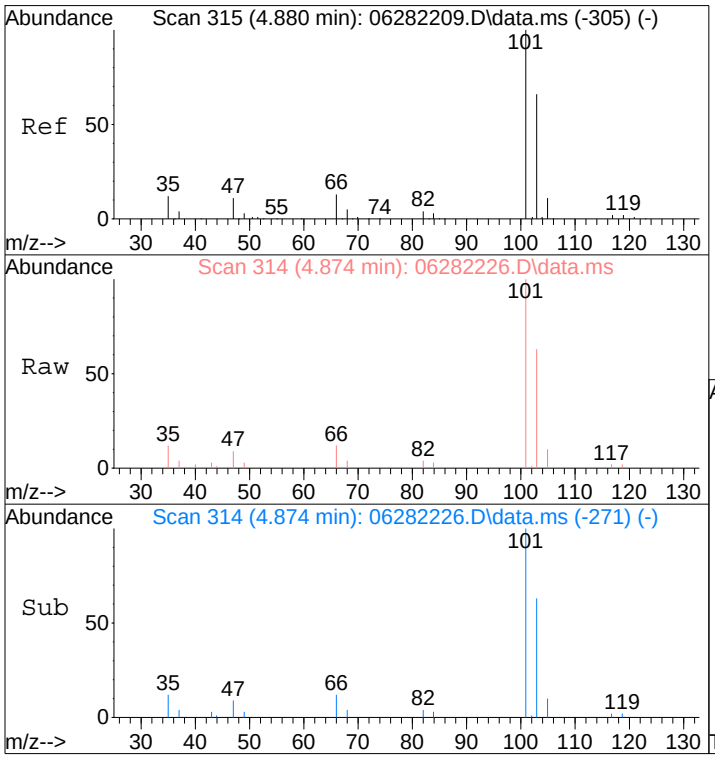


#13
Acetone
Concen: 5.79 ng
RT: 4.75 min Scan# 292
Delta R.T. -0.034 min
Lab File: 06282226.D
Acq: 29 Jun 2022 1:09

Tgt Ion: 58 Resp: 51996

Ion	Ratio	Lower	Upper
58	100		
43	384.6	370.7	430.7

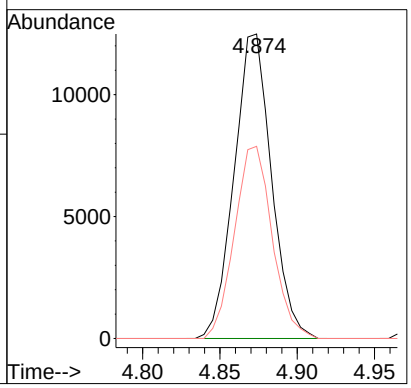


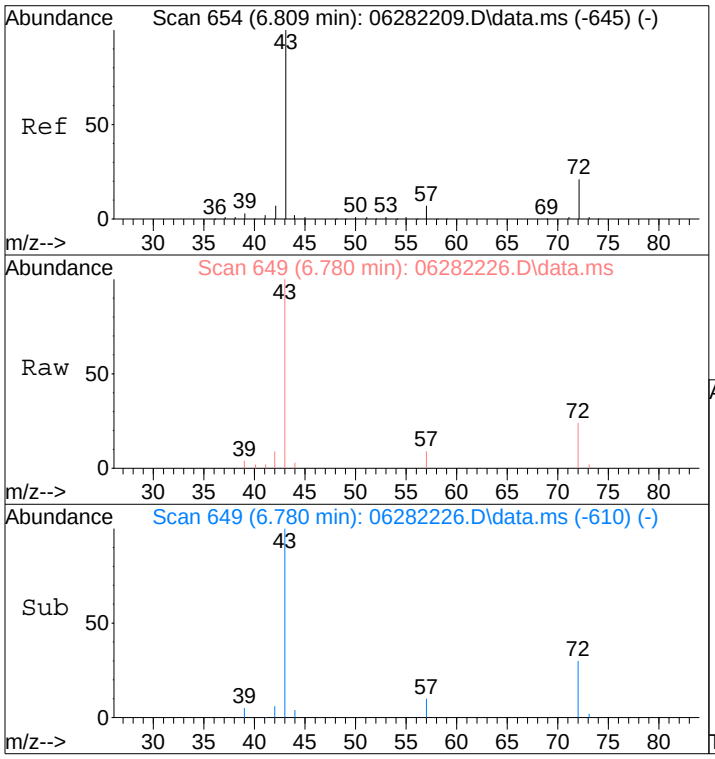


#14
Trichlorofluoromethane
Concen: 0.86 ng
RT: 4.87 min Scan# 314
Delta R.T. -0.006 min
Lab File: 06282226.D
Acq: 29 Jun 2022 1:09

Tgt Ion:101 Resp: 21019

Ion	Ratio	Lower	Upper
101	100		
103	63.7	45.0	85.0

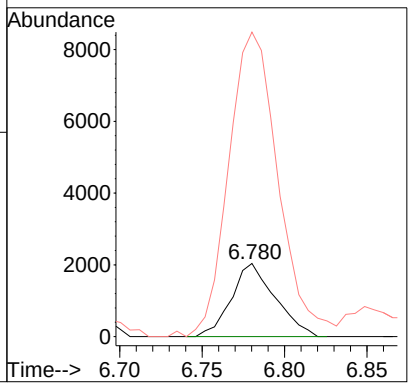


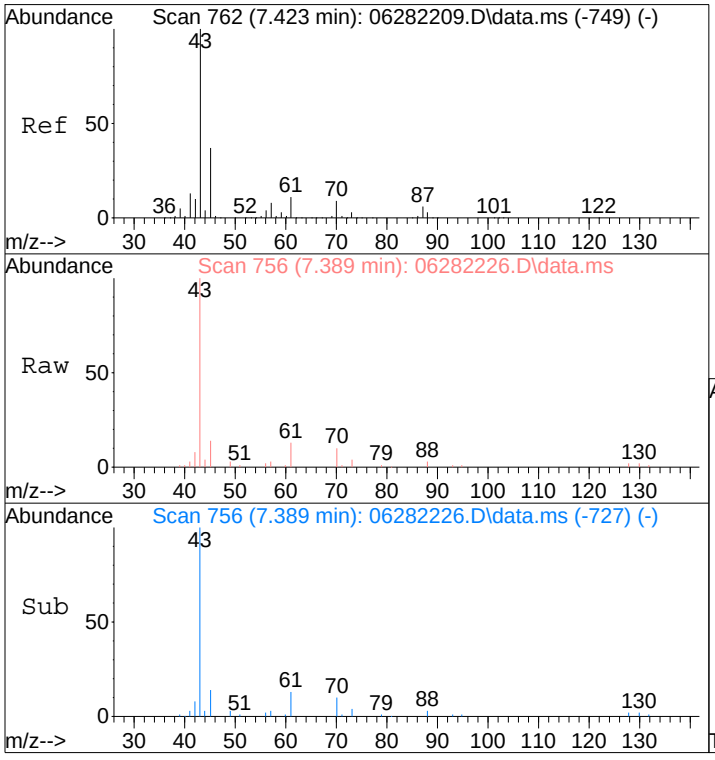


#27
2-Butanone (MEK)
Concen: 0.46 ng
RT: 6.78 min Scan# 649
Delta R.T. -0.029 min
Lab File: 06282226.D
Acq: 29 Jun 2022 1:09

Tgt Ion: 72 Resp: 3760

Ion	Ratio	Lower	Upper
72	100		
43	472.9	460.0	500.0

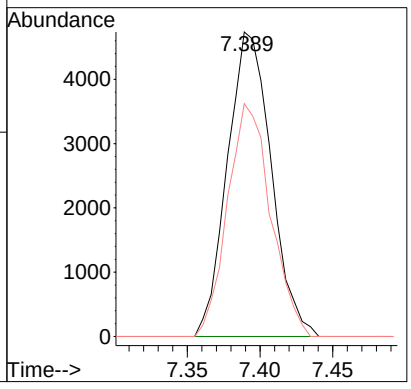




#30
Ethyl Acetate
Concen: 1.94 ng
RT: 7.39 min Scan# 756
Delta R.T. -0.034 min
Lab File: 06282226.D
Acq: 29 Jun 2022 1:09

Tgt Ion: 61 Resp: 9926

Ion	Ratio	Lower	Upper
61	100		
70	75.2	60.8	100.8



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282227.D Vial: 12
Acq On : 29 Jun 2022 1:48 Operator: TZ
Sample : P2202743-005 (1000mL) Inst : GCMS13 TZ 6/30/22
Misc : S35-06022211

Quant Time: Jun 29 08:32:48 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	135474	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.39	114	590776	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	126462	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.10	65	239335	11.268	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.16%			
57) Toluene-d8 (SS2)	12.50	98	675643	12.438	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%			
73) Bromofluorobenzene (SS3)	16.87	174	231623	13.410	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.28%			
Target Compounds						Qvalue
2) Propene	3.42	42	6416	N.D.		
3) Dichlorodifluoromethan...	3.49	85	45184	1.587	ng	99
4) Chloromethane	3.63	50	3944	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.74	135	983	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.40	45	35787	3.313	ng	93
11) Acetonitrile	4.56	41	2938	N.D.		
12) Acrolein	4.65	56	1141	N.D.		
13) Acetone	4.75	58	55706	6.166	ng	96
14) Trichlorofluoromethane	4.87	101	19009	0.772	ng	98
15) 2-Propanol (Isopropanol)	4.96	45	24662	0.690	ng	87
16) Acrylonitrile	5.15	53	60	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.45	59	1411	N.D.		
19) Methylene Chloride	5.46	84	3203	N.D.		
20) 3-Chloro-1-propene (Al...	5.52	41	240	N.D.		
21) Trichlorotrifluoroethane	5.70	151	3630	N.D.		
22) Carbon Disulfide	5.73	76	5970	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	6.51	73	119	N.D.		
26) Vinyl Acetate	6.54	86	855	N.D.		
27) 2-Butanone (MEK)	6.78	72	3574	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.39	61	13154	2.551	ng	94
31) n-Hexane	7.40	57	3143	N.D.		
32) Chloroform	7.45	83	1291	N.D.		
34) Tetrahydrofuran (THF)	7.89	72	361	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.21	62	507	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.92	56	1845	No Calib	#	
41) Benzene	8.99	78	6765	N.D.		
42) Carbon Tetrachloride	9.16	117	5820	N.D.		
43) Cyclohexane	9.31	84	874	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.23	130	113	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.32	57	8156	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282227.D Vial: 12
Acq On : 29 Jun 2022 1:48 Operator: TZ
Sample : P2202743-005 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:48 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

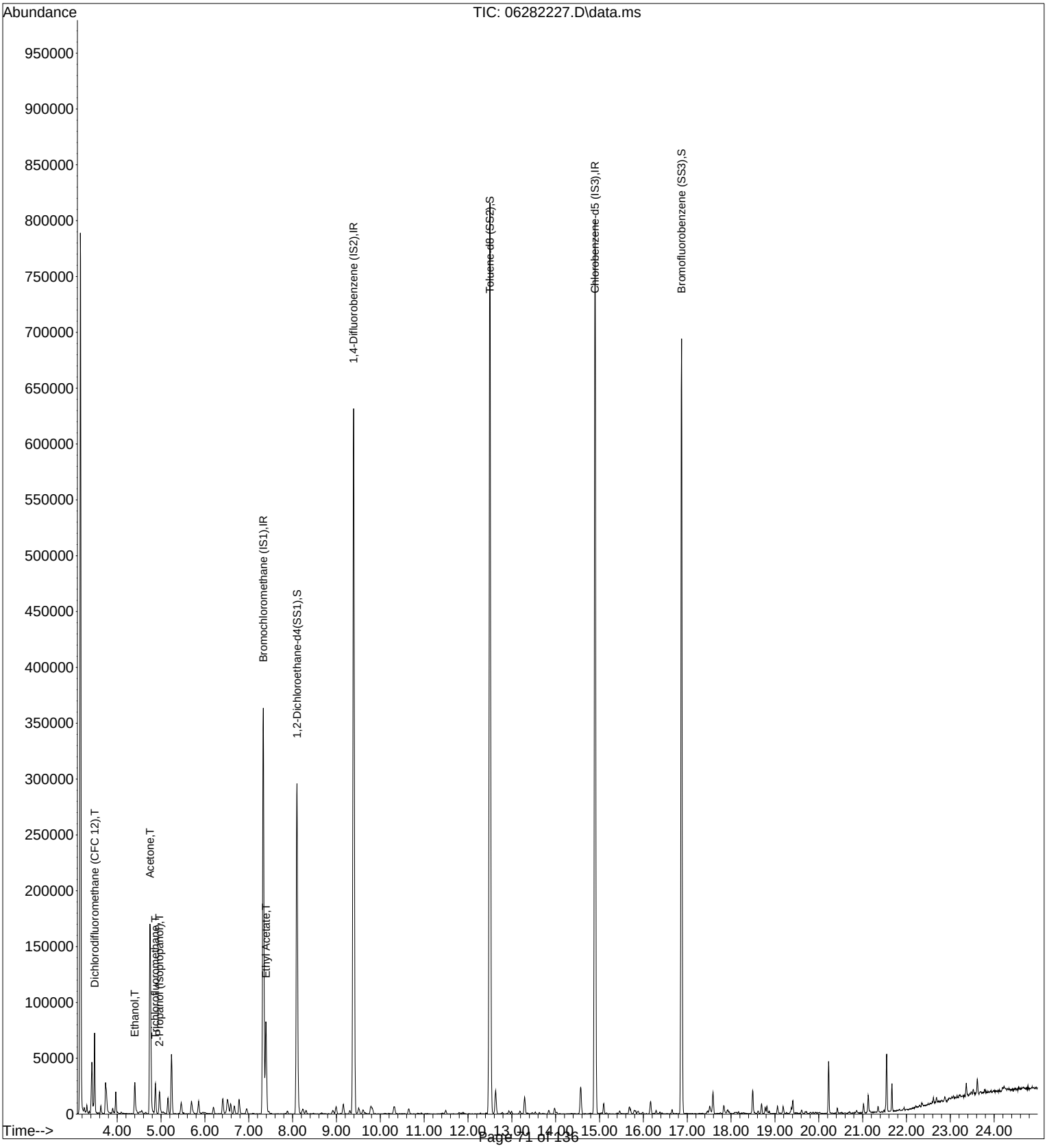
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.65	71	1287	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.63	91	17047	N.D.	
59) 2-Hexanone	12.99	43	2014	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.84	43	3169	N.D.	
63) n-Octane	13.97	57	1001	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.46	91	3158	N.D.	
67) m- & p-Xylenes	15.68	91	6958	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.15	104	652	N.D.	
70) o-Xylene	16.29	91	2596	N.D.	
71) n-Nonane	16.65	43	1702	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	17.59	93	8330	N.D.	
76) n-Propylbenzene	17.76	91	944	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.96	105	995	N.D.	
79) 1,3,5-Trimethylbenzene	18.08	105	516	N.D.	
80) alpha-Methylstyrene	16.87	118	856	No Calib	#
81) 2-Ethyltoluene	16.86	105	268	No Calib	#
82) 1,2,4-Trimethylbenzene	18.62	105	1639	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.77	91	264	N.D.	
85) 1,3-Dichlorobenzene	18.88	146	619	N.D.	
86) 1,4-Dichlorobenzene	18.88	146	619	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	19.19	119	4078	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.37	68	1261	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	21.43	180	247	N.D.	
95) Naphthalene	21.56	128	1807	N.D.	
96) n-Dodecane	18.82	57	2701	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.69	119	124	N.D.	
100) n-Butylbenzene	19.72	91	622	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282227.D Vial: 12
Acq On : 29 Jun 2022 1:48 Operator: TZ
Sample : P2202743-005 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:48 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282227.D Vial: 12
Acq On : 29 Jun 2022 1:48 Operator: TZ
Sample : P2202743-005 (1000mL) Inst : GCMS13
Misc : S35-06022211

TZ 6/30/22

Quant Time: Jun 29 08:32:48 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

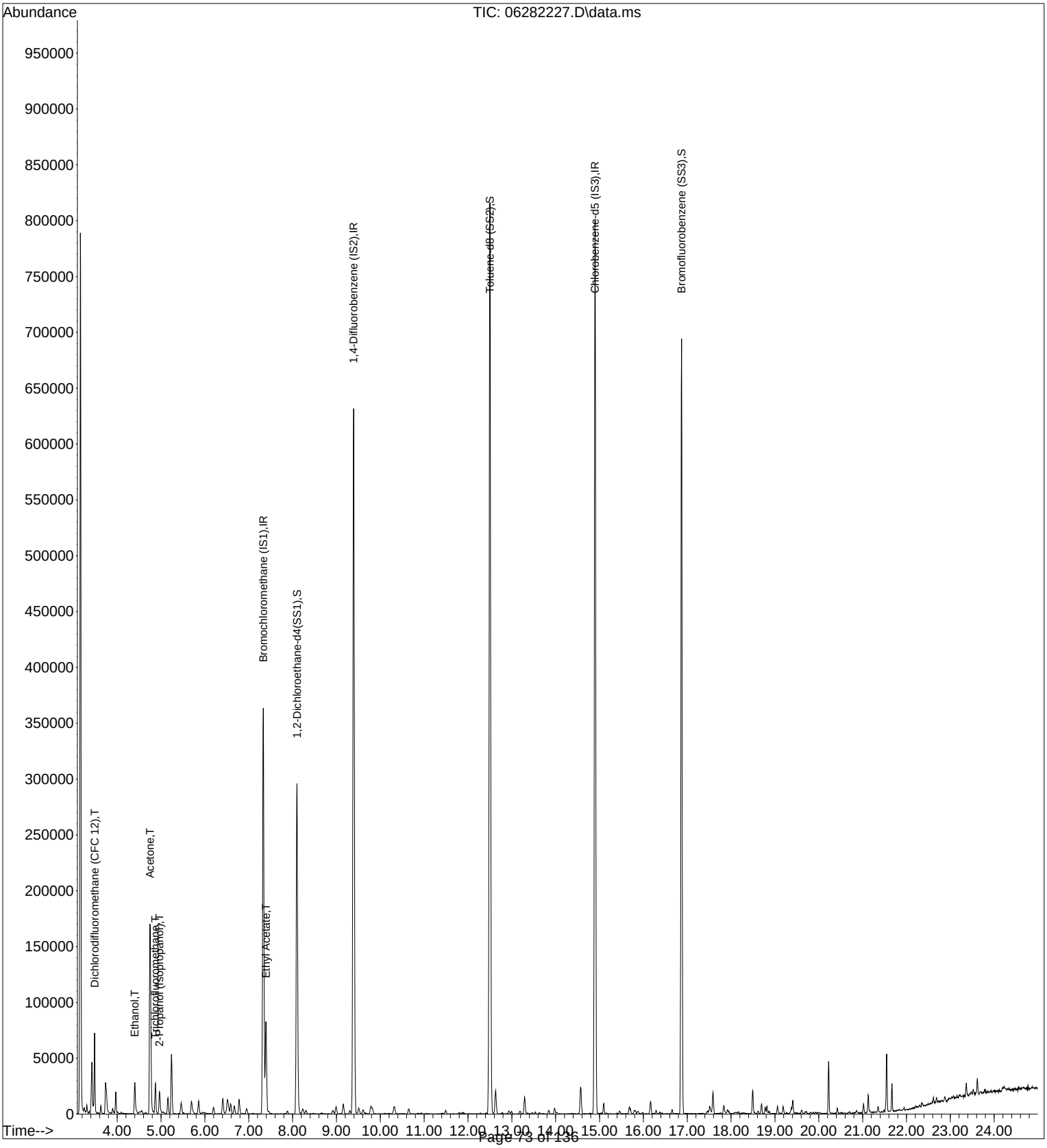
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	135474	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.39	114	590776	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	126462	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.10	65	239335	11.268	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.16%			
57) Toluene-d8 (SS2)	12.50	98	675643	12.438	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%			
73) Bromofluorobenzene (SS3)	16.87	174	231623	13.410	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.28%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.49	85	45184	1.587	ng	99
10) Ethanol	4.40	45	35787	3.313	ng	93
13) Acetone	4.75	58	55706	6.166	ng	96
14) Trichlorofluoromethane	4.87	101	19009	0.772	ng	98
15) 2-Propanol (Isopropanol)	4.96	45	24662	0.690	ng	87
30) Ethyl Acetate	7.39	61	13154	2.551	ng	94

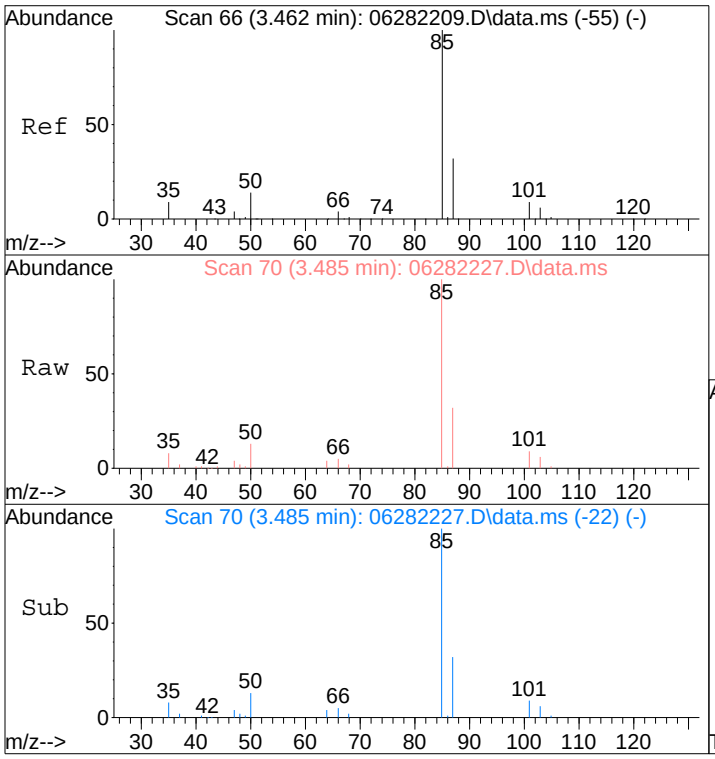
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282227.D Vial: 12
Acq On : 29 Jun 2022 1:48 Operator: TZ
Sample : P2202743-005 (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:48 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

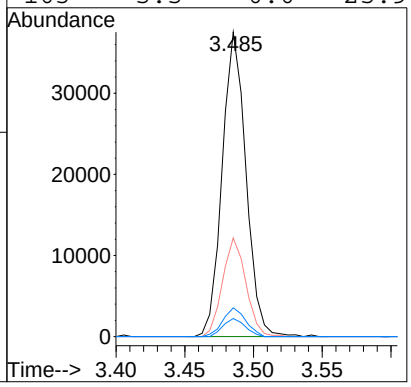


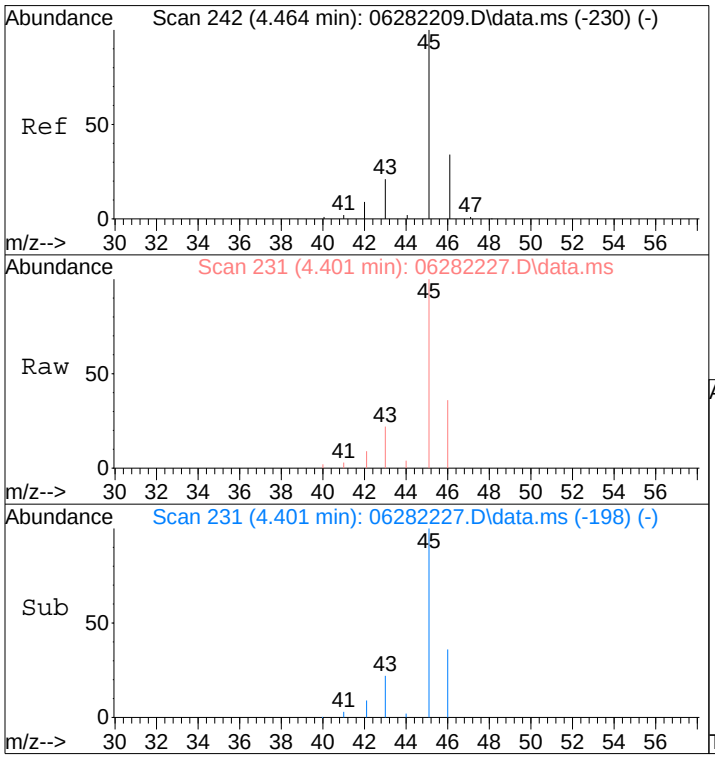


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.59 ng
RT: 3.49 min Scan# 70
Delta R.T. 0.023 min
Lab File: 06282227.D
Acq: 29 Jun 2022 1:48

Tgt Ion: 85 Resp: 45184

Ion	Ratio	Lower	Upper
85	100		
87	31.7	12.1	52.1
101	9.1	0.0	29.0
103	5.5	0.0	25.9

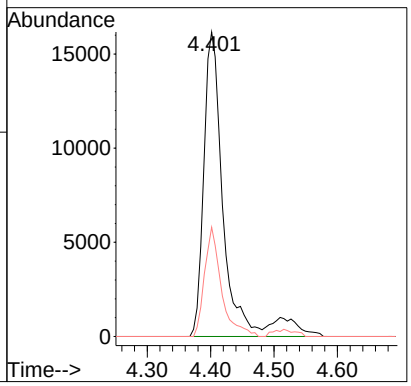


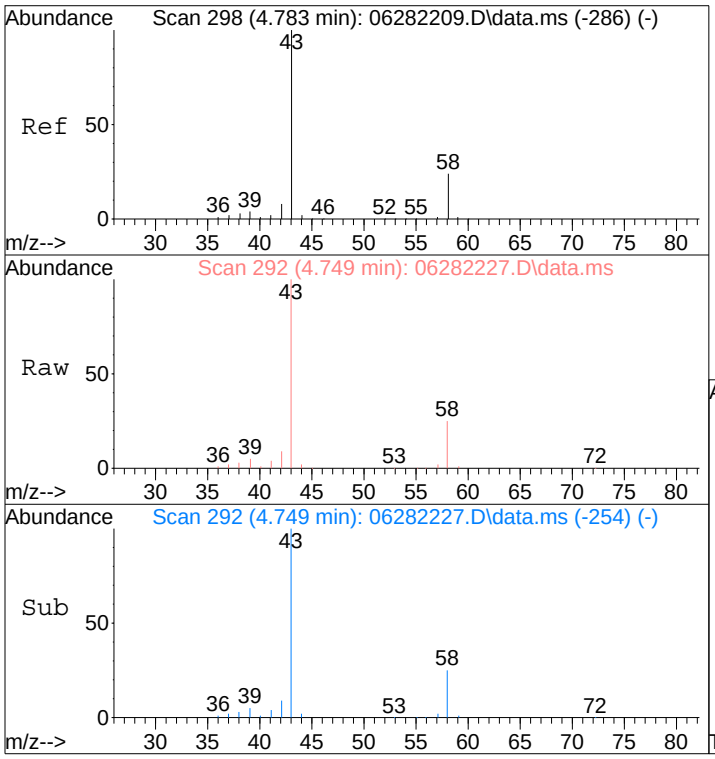


#10
Ethanol
Concen: 3.31 ng
RT: 4.40 min Scan# 231
Delta R.T. -0.063 min
Lab File: 06282227.D
Acq: 29 Jun 2022 1:48

Tgt Ion: 45 Resp: 35787

Ion	Ratio	Lower	Upper
45	100		
46	30.0	13.9	53.9

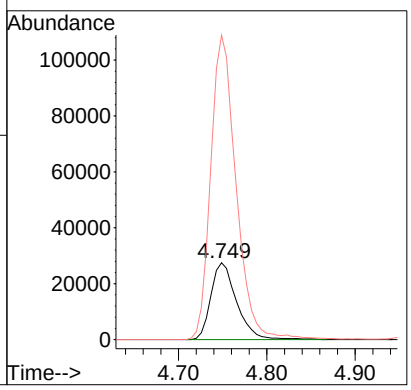


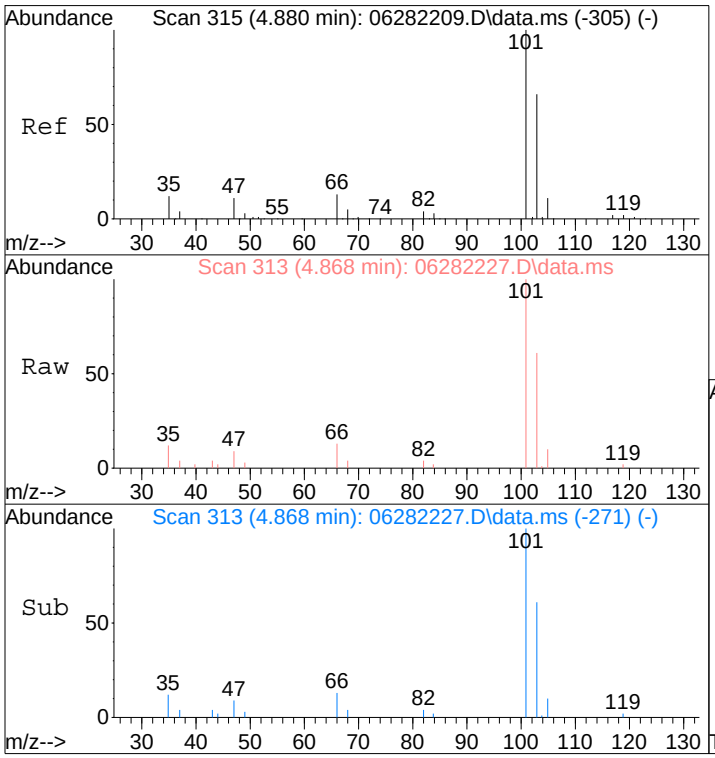


#13
Acetone
Concen: 6.17 ng
RT: 4.75 min Scan# 292
Delta R.T. -0.034 min
Lab File: 06282227.D
Acq: 29 Jun 2022 1:48

Tgt Ion: 58 Resp: 55706

Ion	Ratio	Lower	Upper
58	100		
43	392.0	370.7	430.7

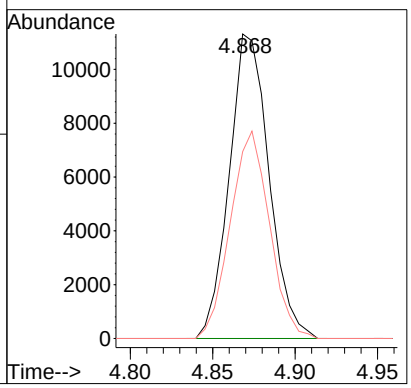


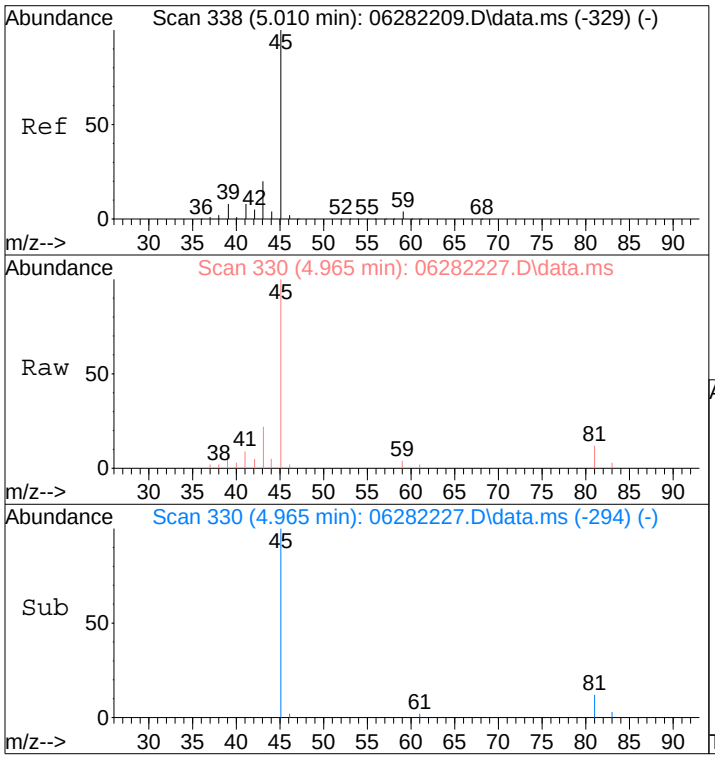


#14
Trichlorofluoromethane
Concen: 0.77 ng
RT: 4.87 min Scan# 313
Delta R.T. -0.011 min
Lab File: 06282227.D
Acq: 29 Jun 2022 1:48

Tgt Ion:101 Resp: 19009

Ion	Ratio	Lower	Upper
101	100		
103	67.0	45.0	85.0

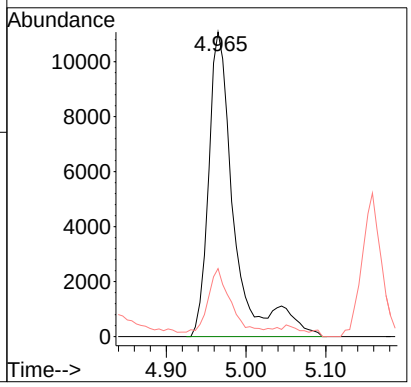


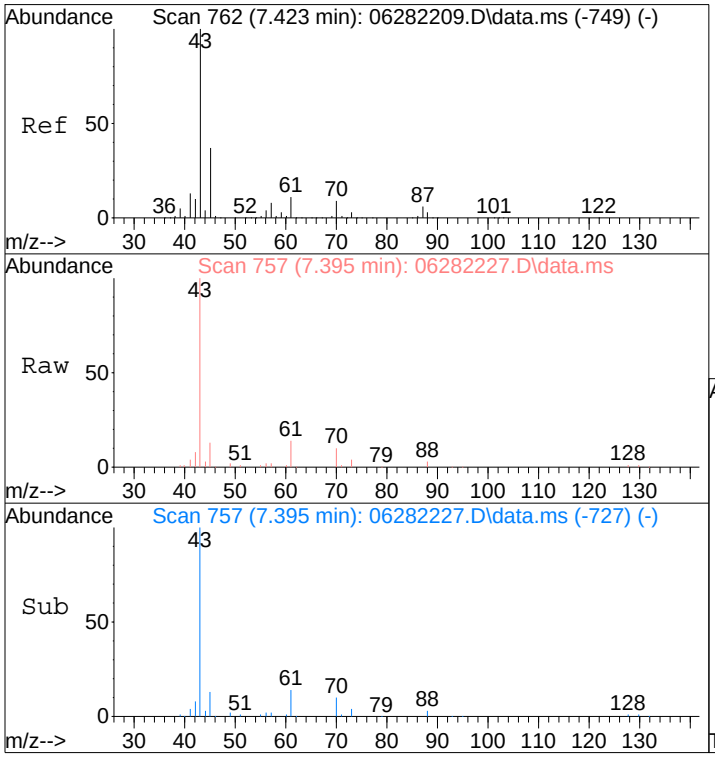


#15
2-Propanol (Isopropanol)
Concen: 0.69 ng
RT: 4.96 min Scan# 330
Delta R.T. -0.046 min
Lab File: 06282227.D
Acq: 29 Jun 2022 1:48

Tgt Ion: 45 Resp: 24662

Ion	Ratio	Lower	Upper
45	100		
43	26.0	0.0	40.0

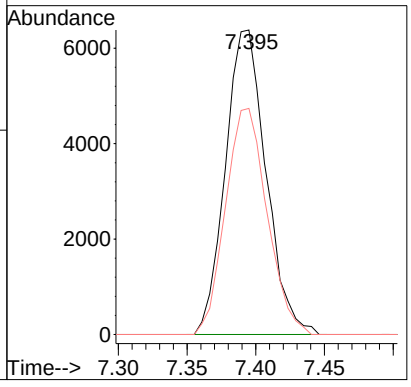




#30
Ethyl Acetate
Concen: 2.55 ng
RT: 7.39 min Scan# 757
Delta R.T. -0.029 min
Lab File: 06282227.D
Acq: 29 Jun 2022 1:48

Tgt Ion: 61 Resp: 13154

Ion	Ratio	Lower	Upper
61	100		
70	75.9	60.8	100.8



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282216.D Vial: 1
Acq On : 28 Jun 2022 18:45 Operator: TZ
Sample : MB R13062822 1000mL Inst : GCMS13
Misc : S35-06022211_AC01837

TZ 6/29/22

Quant Time: Jun 29 08:32:29 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.32	130	149891	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.39	114	667943	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	134854	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.09	65	255807	10.885	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.04%				
57) Toluene-d8 (SS2)	12.49	98	757824	13.082	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.64%				
73) Bromofluorobenzene (SS3)	16.87	174	240759	13.072	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%				
Target Compounds							Qvalue
2) Propene	3.43	42	472	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.41	45	1913	0.160	ng		90
11) Acetonitrile	4.57	41	1226	N.D.			
12) Acrolein	4.67	56	428	N.D.			
13) Acetone	4.77	58	2013	0.201	ng	#	86
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	4.98	45	1247	N.D.			
16) Acrylonitrile	5.11	53	495	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.47	84	190	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.73	76	4076	0.070	ng		83
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	7.90	72	401	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.92	56	252	No Calib		#	
41) Benzene	8.99	78	169	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.39	84	261	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282216.D Vial: 1
Acq On : 28 Jun 2022 18:45 Operator: TZ
Sample : MB R13062822 1000mL Inst : GCMS13
Misc : S35-06022211_AC01837

Quant Time: Jun 29 08:32:29 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

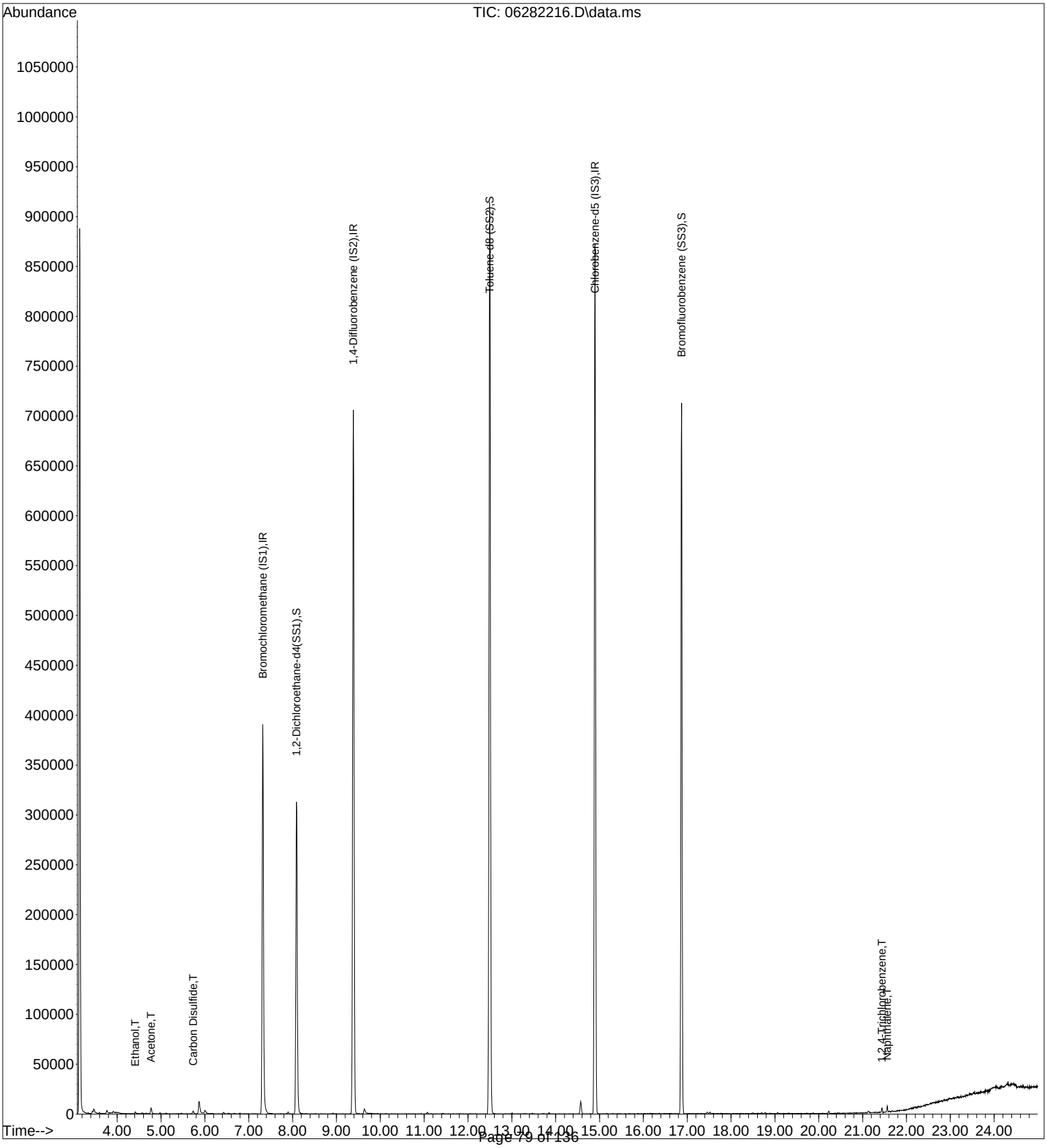
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.62	91	196	N.D.	
59) 2-Hexanone	13.01	43	1334	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.84	43	960	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	0.00	91	0	N.D.	
67) m- & p-Xylenes	15.70	91	114	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.15	104	136	N.D.	
70) o-Xylene	16.29	91	174	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.76	91	396	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.96	105	113	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	16.87	118	812	No Calib	#
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.62	105	263	N.D.	
83) n-Decane	16.86	58	170	No Calib	#
84) Benzyl Chloride	18.77	91	1172	N.D.	
85) 1,3-Dichlorobenzene	18.78	146	334	N.D.	
86) 1,4-Dichlorobenzene	18.88	146	392	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	19.19	119	112	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	19.31	146	281	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	19.87	157	239	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	21.44	180	1544	0.075 ng	92
95) Naphthalene	21.56	128	3358	0.059 ng	99
96) n-Dodecane	0.00	57	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	19.73	91	425	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282216.D Vial: 1
Acq On : 28 Jun 2022 18:45 Operator: TZ
Sample : MB R13062822 1000mL Inst : GCMS13
Misc : S35-06022211_AC01837

Quant Time: Jun 29 08:32:29 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282213.D Vial: 1
Acq On : 28 Jun 2022 16:55 Operator: TZ
Sample : LCS R13062822 25ng Inst : GCMS13
Misc : S35-06022211/S35-06202203 (7/20)

TZ 6/29/22

Quant Time: Jun 29 08:17:44 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:12:10 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.38	130	151375	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.42	114	692999	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	149266	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.13	65	295282	12.441	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
57) Toluene-d8 (SS2)	12.51	98	802410	12.515	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	16.88	174	252735	12.397	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
2) Propene	3.39	42	573744	26.031	ng		99
3) Dichlorodifluoromethan...	3.46	85	751923	23.635	ng		100
4) Chloromethane	3.60	50	572124	25.088	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	319116	24.880	ng		99
6) Vinyl Chloride	3.79	62	419544	24.598	ng		99
7) 1,3-Butadiene	3.91	54	310773	21.743	ng		99
8) Bromomethane	4.13	94	310749	23.841	ng		100
9) Chloroethane	4.27	64	248963	24.590	ng		100
10) Ethanol	4.46	45	1271714	105.357	ng		100
11) Acetonitrile	4.60	41	773663	22.611	ng		100
12) Acrolein	4.66	56	495533	51.077	ng		99
13) Acetone	4.78	58	1185559	117.434	ng		98
14) Trichlorofluoromethane	4.87	101	636163	23.108	ng		99
15) 2-Propanol (Isopropanol)	5.01	45	1973042	49.434	ng		99
16) Acrylonitrile	5.15	53	992036	49.922	ng		100
17) 1,1-Dichloroethene	5.38	96	335654	25.256	ng		99
18) 2-Methyl-2-Propanol (t...	5.48	59	1868121	53.281	ng		99
19) Methylene Chloride	5.51	84	343959	23.577	ng		96
20) 3-Chloro-1-propene (Al...	5.58	41	654741	24.563	ng		97
21) Trichlorotrifluoroethane	5.70	151	298169	24.736	ng		97
22) Carbon Disulfide	5.73	76	2549123	43.510	ng		100
23) trans-1,2-Dichloroethene	6.27	61	598992	25.710	ng		99
24) 1,1-Dichloroethane	6.46	63	693811	25.788	ng		100
25) Methyl tert-Butyl Ether	6.50	73	1139507	24.680	ng		99
26) Vinyl Acetate	6.59	86	281731	127.174	ng	#	86
27) 2-Butanone (MEK)	6.81	72	452518	49.570	ng		93
28) cis-1,2-Dichloroethene	7.22	61	567193	25.215	ng		98
29) Diisopropyl Ether	7.41	87	475257	47.945	ng	#	72
30) Ethyl Acetate	7.42	61	386717	67.108	ng		99
31) n-Hexane	7.41	57	541253	24.114	ng		100
32) Chloroform	7.50	83	656311	24.933	ng		100
34) Tetrahydrofuran (THF)	7.88	72	449707	49.001	ng	#	90
35) Ethyl tert-Butyl Ether	7.95	87	813425	49.921	ng		97
36) 1,2-Dichloroethane	8.25	62	560570	24.478	ng		100
38) 1,1,1-Trichloroethane	8.52	97	586173	23.984	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.91	56	9749	No Calib		#	
41) Benzene	9.02	78	1436249	24.880	ng		100
42) Carbon Tetrachloride	9.18	117	489249	23.082	ng		100
43) Cyclohexane	9.32	84	989467	49.309	ng		98
44) tert-Amyl Methyl Ether	9.71	73	2141845	50.794	ng		99
45) 1,2-Dichloropropane	9.97	63	390472	25.165	ng		99
46) Bromodichloromethane	10.18	83	539838	25.143	ng		100
47) Trichloroethene	10.26	130	374674	24.464	ng		100
48) 1,4-Dioxane	10.23	88	291306	27.219	ng		97
49) 2,2,4-Trimethylpentane...	10.33	57	1615504	25.227	ng		99
50) Methyl Methacrylate	10.51	100	276146	52.200	ng		97

Data File : I:\MS13\DATA\2022 06\28\06282213.D Vial: 1
Acq On : 28 Jun 2022 16:55 Operator: TZ
Sample : LCS R13062822 25ng Inst : GCMS13
Misc : S35-06022211/S35-06202203 (7/20)

Quant Time: Jun 29 08:17:44 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:12:10 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

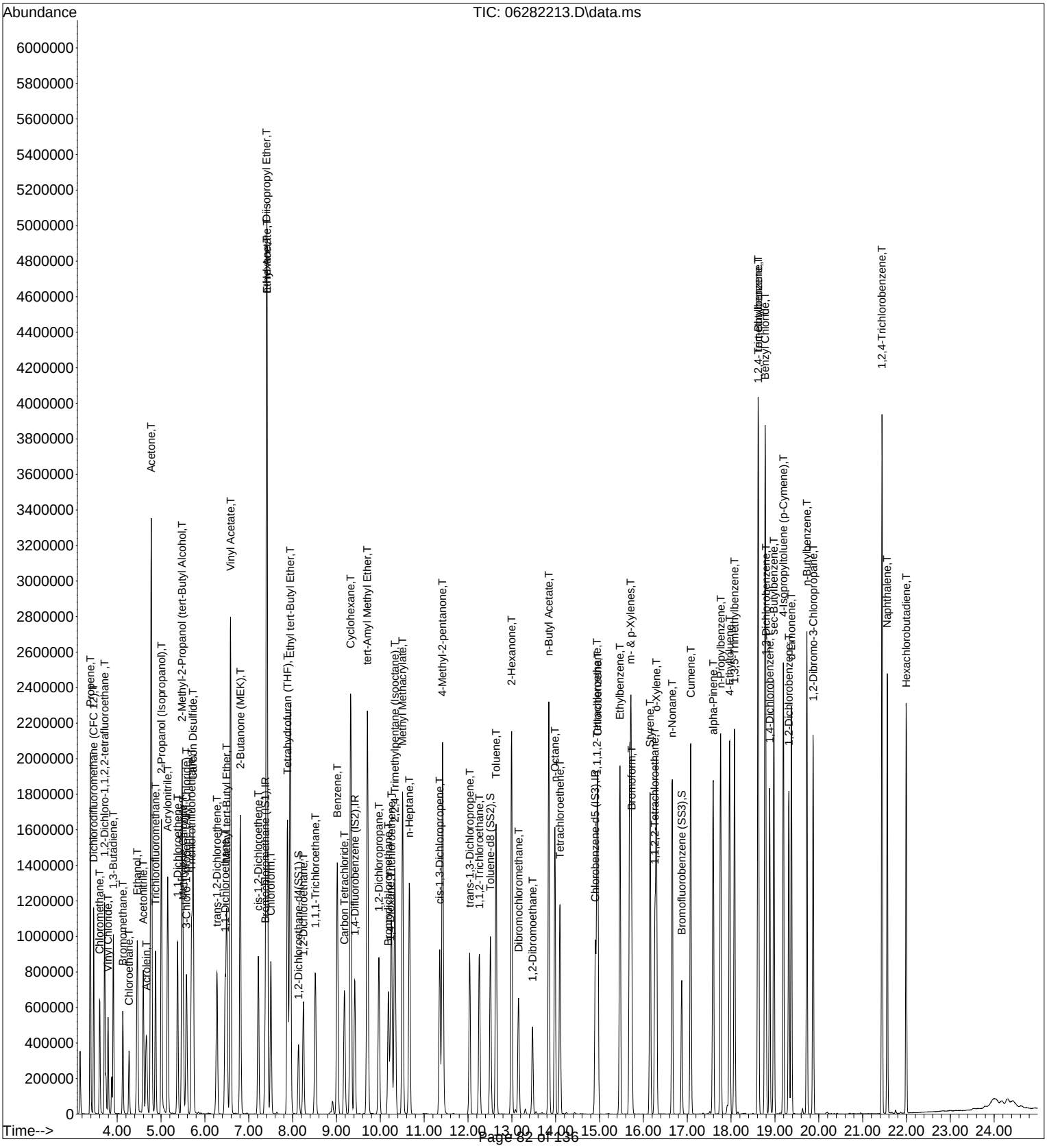
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.66	71	349923	25.268	ng		99
52) cis-1,3-Dichloropropene	11.36	75	636152	26.043	ng		100
53) 4-Methyl-2-pentanone	11.42	58	706052	53.583	ng		97
54) trans-1,3-Dichloropropene	12.04	75	590990	24.774	ng		100
55) 1,1,2-Trichloroethane	12.26	97	354462	25.240	ng		100
58) Toluene	12.64	91	1440311	24.180	ng		100
59) 2-Hexanone	12.99	43	1895440	52.709	ng		100
60) Dibromochloromethane	13.15	129	438585	24.395	ng		100
61) 1,2-Dibromoethane	13.47	107	415649	24.641	ng		100
62) n-Butyl Acetate	13.84	43	2153338	53.285	ng		99
63) n-Octane	13.99	57	332836	24.789	ng		99
64) Tetrachloroethene	14.10	166	404512	23.857	ng		100
65) Chlorobenzene	14.96	112	931238	24.105	ng		100
66) Ethylbenzene	15.46	91	1671312	24.180	ng		100
67) m- & p-Xylenes	15.71	91	2661255	48.096	ng		100
68) Bromoform	15.73	173	376316	25.349	ng		100
69) Styrene	16.15	104	976724	25.122	ng		99
70) o-Xylene	16.30	91	1338633	24.298	ng		100
71) n-Nonane	16.65	43	872882	25.573	ng		99
72) 1,1,2,2-Tetrachloroethane	16.26	83	652234	24.828	ng		100
74) Cumene	17.08	105	1613751	24.040	ng		100
75) alpha-Pinene	17.59	93	870975	25.631	ng		100
76) n-Propylbenzene	17.76	91	1998499	24.083	ng		100
77) 3-Ethyltoluene	17.08	105	1613751	No Calib			
78) 4-Ethyltoluene	17.97	105	1584014	24.604	ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	1371403	24.657	ng		100
80) alpha-Methylstyrene	16.87	118	912	No Calib		#	
81) 2-Ethyltoluene	16.87	105	548	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.62	105	1333109	24.244	ng		100
83) n-Decane	16.88	58	231	No Calib		#	
84) Benzyl Chloride	18.78	91	2376433	50.635	ng		100
85) 1,3-Dichlorobenzene	18.79	146	743160	23.522	ng		99
86) 1,4-Dichlorobenzene	18.88	146	771823	23.868	ng		100
87) sec-Butylbenzene	18.98	105	1775970	23.874	ng		99
88) 4-Isopropyltoluene (p-...	19.19	119	1516921	24.084	ng		99
89) 1,2,3-Trimethylbenzene	17.37	105	392	No Calib		#	
90) 1,2-Dichlorobenzene	19.32	146	754846	24.248	ng		100
91) d-Limonene	19.37	68	558172	26.308	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.88	157	585085	49.434	ng		98
93) n-Undecane	18.08	58	31799	No Calib			
94) 1,2,4-Trichlorobenzene	21.44	180	1168520	51.203	ng		100
95) Naphthalene	21.56	128	1746295	27.578	ng		100
96) n-Dodecane	18.82	57	1478	No Calib		#	
97) Hexachlorobutadiene	22.00	225	419397	22.883	ng		100
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.62	119	1228170	23.671	ng		100
100) n-Butylbenzene	19.73	91	1495770	24.273	ng		100
101) 1,1,1,2-Tetrachloroethane	14.94	131	353175	24.331	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282213.D Vial: 1
Acq On : 28 Jun 2022 16:55 Operator: TZ
Sample : LCS R13062822 25ng Inst : GCMS13
Misc : S35-06022211/S35-06202203 (7/20)

Quant Time: Jun 29 08:17:44 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:12:10 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

TZ 6/30/22

Data File : I:\MS13\DATA\2022 06\28\06282229.D Vial: 7
Acq On : 29 Jun 2022 3:05 Operator: TZ
Sample : P2202788-001dup (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 30 09:44:59 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.34	130	141423	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.40	114	615289	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	132740	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.11	65	241174	10.877	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.04%				
57) Toluene-d8 (SS2)	12.50	98	703348	12.335	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	16.87	174	237110	13.079	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.64%				
Target Compounds							Qvalue
2) Propene	3.39	42	25970m	1.261	ng		
3) Dichlorodifluoromethan...	3.48	85	37251	1.253	ng		99
4) Chloromethane	3.62	50	2307	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.73	135	774	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.88	54	206	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	4.27	64	352	N.D.			
10) Ethanol	4.42	45	248648	22.049	ng		100
11) Acetonitrile	4.57	41	6083	N.D.			
12) Acrolein	4.65	56	1540	N.D.			
13) Acetone	4.75	58	197359	20.925	ng		100
14) Trichlorofluoromethane	4.87	101	30980	1.205	ng		99
15) 2-Propanol (Isopropanol)	4.97	45	139461	3.740	ng		98
16) Acrylonitrile	5.15	53	1780	N.D.			
17) 1,1-Dichloroethene	5.36	96	428	N.D.			
18) 2-Methyl-2-Propanol (t...	5.45	59	1827	N.D.			
19) Methylene Chloride	5.46	84	13353	0.980	ng		96
20) 3-Chloro-1-propene (Al...	5.51	41	1355	N.D.			
21) Trichlorotrifluoroethane	5.69	151	10966	0.974	ng		99
22) Carbon Disulfide	5.71	76	96490	1.763	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	6.42	63	1221	N.D.			
25) Methyl tert-Butyl Ether	6.52	73	374	N.D.			
26) Vinyl Acetate	6.54	86	1334	0.645	ng	#	1
27) 2-Butanone (MEK)	6.78	72	10738	1.259	ng		98
28) cis-1,2-Dichloroethene	7.18	61	2415	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.39	61	4189	0.778	ng		92
31) n-Hexane	7.40	57	13689	0.653	ng		99
32) Chloroform	7.46	83	515001	20.941	ng		100
34) Tetrahydrofuran (THF)	7.88	72	1737	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.22	62	1230	N.D.			
38) 1,1,1-Trichloroethane	8.49	97	253	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.90	56	7408	No Calib		#	
41) Benzene	8.99	78	19711	N.D.			
42) Carbon Tetrachloride	9.16	117	8363	N.D.			
43) Cyclohexane	9.31	84	1743	N.D.			
44) tert-Amyl Methyl Ether	9.68	73	265	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.17	83	41472	2.175	ng		98
47) Trichloroethene	10.23	130	1222	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS13\DATA\2022 06\28\06282229.D Vial: 7
Acq On : 29 Jun 2022 3:05 Operator: TZ
Sample : P2202788-001dup (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 30 09:44:59 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

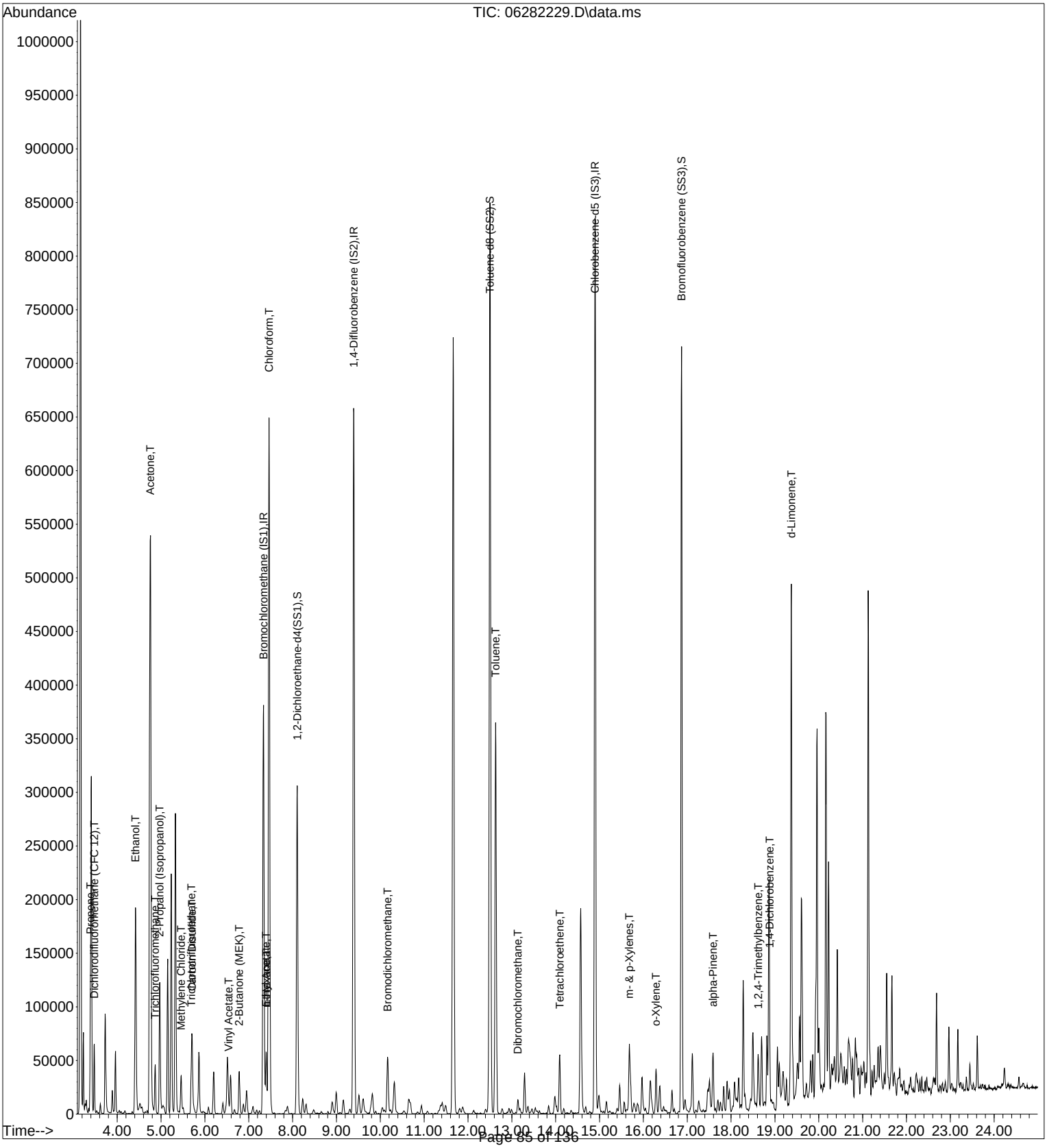
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.65	71	3583	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.41	58	3153	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.63	91	313639	5.921 ng		100
59) 2-Hexanone	12.99	43	3168	N.D.		
60) Dibromochloromethane	13.14	129	9256	0.579 ng		96
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.84	43	6751	N.D.		
63) n-Octane	13.98	57	2480	N.D.		
64) Tetrachloroethene	14.09	166	18606	1.234 ng		98
65) Chlorobenzene	14.96	112	1861	N.D.		
66) Ethylbenzene	15.46	91	20686	N.D.		
67) m- & p-Xylenes	15.68	91	55777	1.134 ng		98
68) Bromoform	15.72	173	448	N.D.		
69) Styrene	16.15	104	7991	N.D.		
70) o-Xylene	16.28	91	24393	0.498 ng		100
71) n-Nonane	16.65	43	9540	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.18	83	589	N.D.		
74) Cumene	17.08	105	3519	N.D.		
75) alpha-Pinene	17.59	93	24911	0.824 ng		97
76) n-Propylbenzene	17.76	91	6985	N.D.		
77) 3-Ethyltoluene	17.08	105	3519	No Calib		
78) 4-Ethyltoluene	17.96	105	6753	N.D.		
79) 1,3,5-Trimethylbenzene	18.07	105	9764	N.D.		
80) alpha-Methylstyrene	16.86	118	830	No Calib	#	
81) 2-Ethyltoluene	16.86	105	199	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.62	105	25853	0.529 ng		89
83) n-Decane	16.88	58	254	No Calib	#	
84) Benzyl Chloride	18.77	91	627	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D. d		
86) 1,4-Dichlorobenzene	18.88	146	21491	0.747 ng		100
87) sec-Butylbenzene	18.97	105	996	N.D.		
88) 4-Isopropyltoluene (p-...	19.19	119	14082	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.37	68	116037	6.150 ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.08	58	364	No Calib	#	
94) 1,2,4-Trichlorobenzene	21.44	180	343	N.D.		
95) Naphthalene	21.56	128	11804	N.D.		
96) n-Dodecane	18.82	57	25583	No Calib	#	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.32	55	689	No Calib	#	
99) tert-Butylbenzene	18.61	119	3071	N.D.		
100) n-Butylbenzene	19.72	91	3209	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282229.D Vial: 7
Acq On : 29 Jun 2022 3:05 Operator: TZ
Sample : P2202788-001dup (1000mL) Inst : GCMS13
Misc : S35-06022211

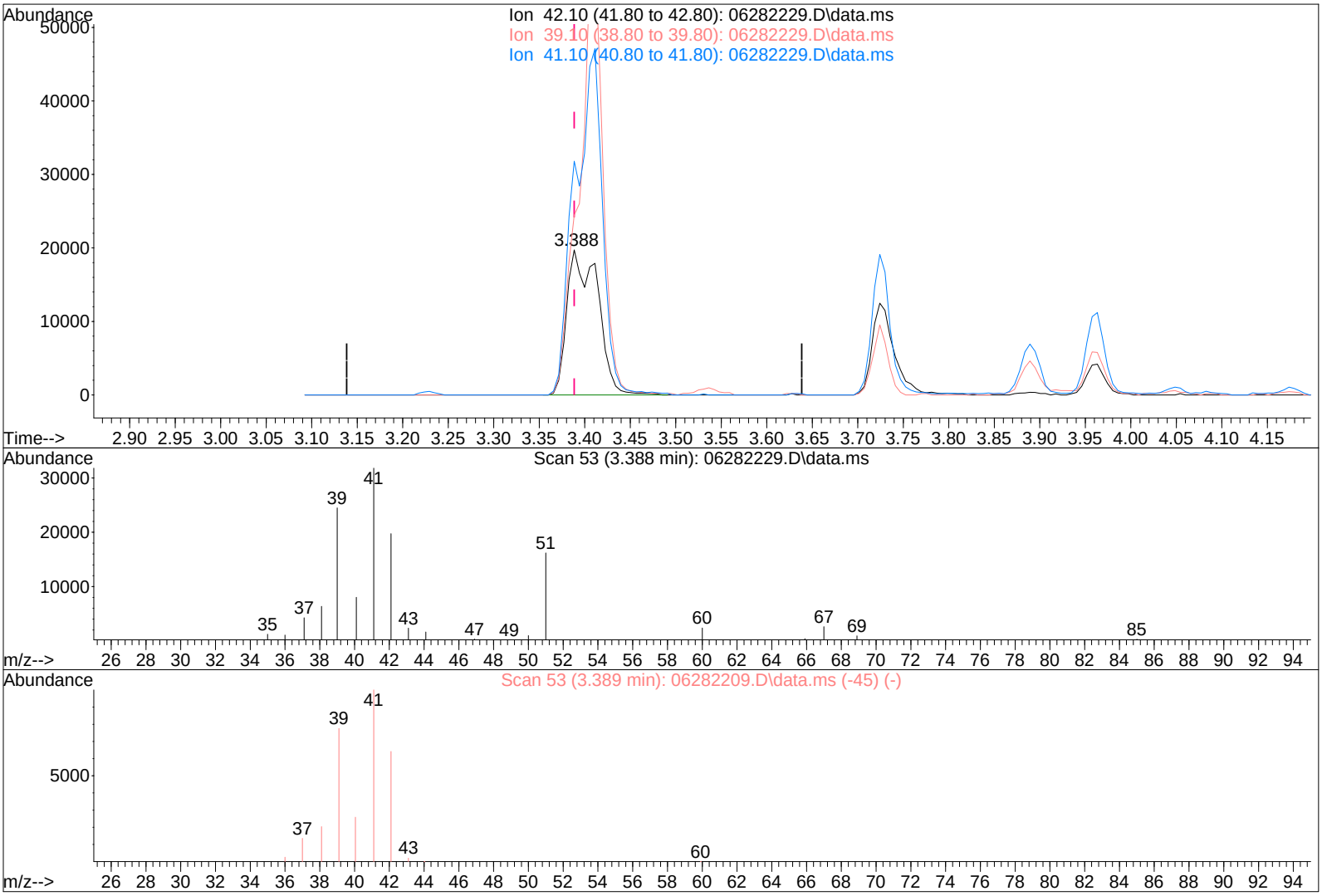
Quant Time: Jun 30 09:44:59 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 06\28\06282229.D Vial: 7
Acq On : 29 Jun 2022 3:05 Operator: TZ
Sample : P2202788-001dup (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:52 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 06282229.D\data.ms

(2) Propene (T)

3.388min (-0.000) 2.26ng

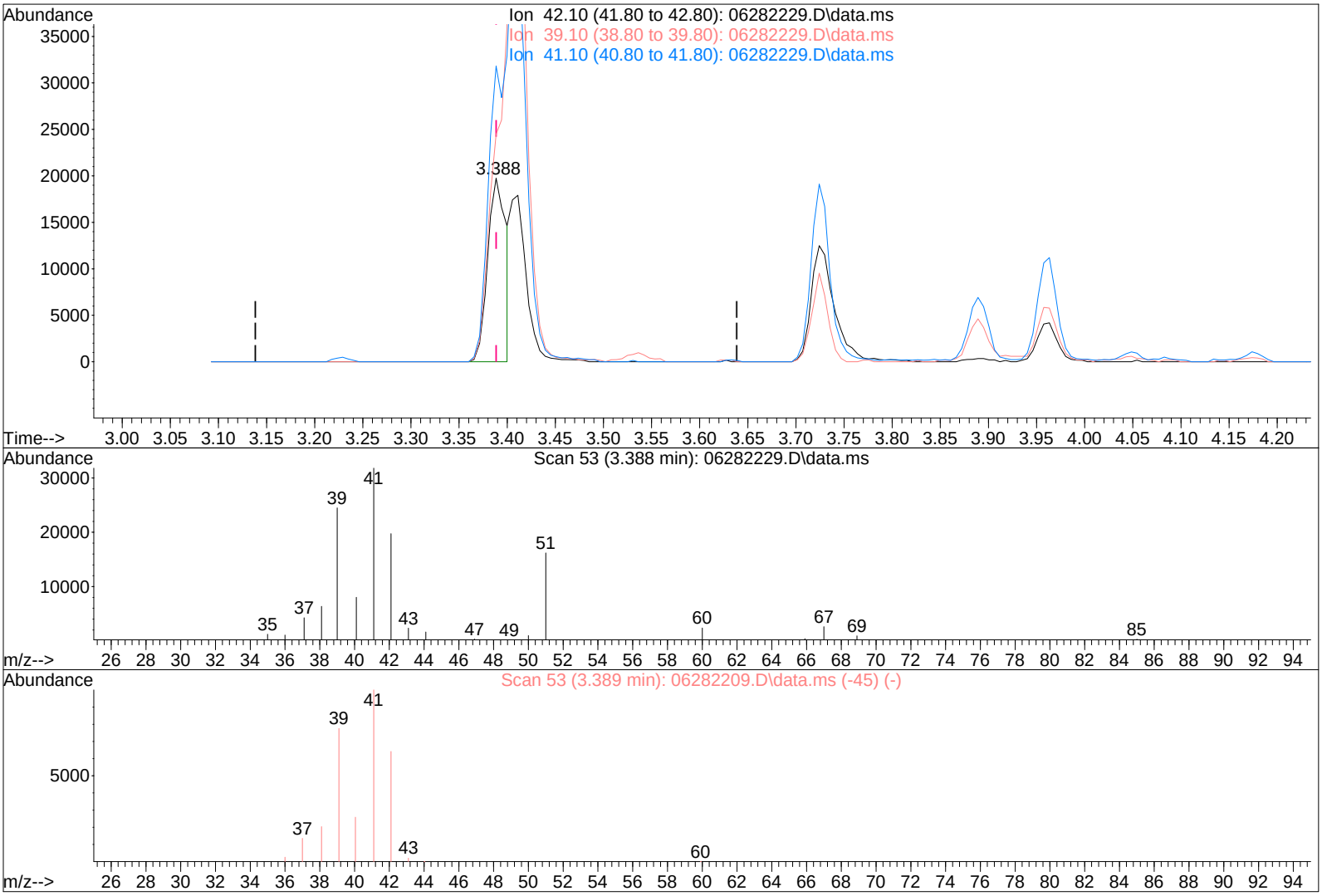
response 46594

Ion	Exp%	Act%
42.10	100	100
39.10	121.00	232.07#
41.10	155.30	212.05#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 06\28\06282229.D Vial: 7
Acq On : 29 Jun 2022 3:05 Operator: TZ
Sample : P2202788-001dup (1000mL) Inst : GCMS13
Misc : S35-06022211

Quant Time: Jun 29 08:32:52 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:31:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 06282229.D\data.ms

(2) Propene (T)

3.388min (-0.000) 1.26ng m

response 25970

Ion	Exp%	Act%
42.10	100	100
39.10	121.00	104.92
41.10	155.30	129.58#
0.00	0.00	0.00

IPC

TZ 6/30/22

LH 7/3/22

Response Factor Report GCMS13

Method Path : I:\MS13\METHODS\
Method File : R13062822.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jun 29 08:12:10 2022
Response Via : Initial Calibration

TZ 6/29/22

Calibration Files
0.1 =06282204.D 0.2 =06282205.D 0.5 =06282206.D 1.0 =06282207.D 5.0 =06282208.D 25 =06282209.D 50 =06282210.D
100 =06282211.D

	Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1) IR	Bromochloromethane...	----------ISTD----------									
2) T	Propene	1.710	1.619	1.764	1.666	2.034	1.818	1.981	1.969	1.820	8.65
3) T	Dichlorodifluo...	2.690	2.562	2.801	2.676	2.601	2.644	2.541	2.500	2.627	3.67
4) T	Chloromethane	2.196	2.040	2.219	2.100	1.629	2.006	1.715	1.161	1.883	19.16
5) T	1,2-Dichloro-1...	1.010	1.034	1.117	1.079	1.082	1.095	1.040	1.016	1.059	3.72
6) T	Vinyl Chloride	1.271	1.326	1.473	1.400	1.462	1.493	1.426	1.417	1.408	5.38
7) T	1,3-Butadiene	1.601	1.144	1.166	1.119	1.078	1.088	1.100	1.147	1.180	14.63
8) T	Bromomethane	1.119	1.081	1.128	1.069	1.042	1.067	1.046	1.058	1.076	2.97
9) T	Chloroethane	0.822	0.856	0.874	0.842	0.821	0.819	0.818	0.836	0.836	2.45
10) T	Ethanol	1.081	0.990	1.099	1.010	0.953	0.958	0.944	0.939	0.997	6.28
11) T	Acetonitrile	3.336	2.721	2.911	2.670	2.607	2.669	2.764	2.925	2.825	8.34
12) T	Acrolein	0.803	0.767	0.822	0.802	0.789	0.797	0.801	0.829	0.801	2.34
13) T	Acetone	0.999	0.911	0.938	0.877	0.812	0.752	0.710	0.672	0.834	13.95
14) T	Trichlorofluor...	2.382	2.236	2.410	2.213	2.205	2.240	2.219	2.281	2.273	3.49
15) T	2-Propanol (Is...	3.969	3.596	3.815	3.509	2.811	3.229	2.772	2.665	3.296	15.26
16) T	Acrylonitrile	1.623	1.614	1.760	1.660	1.595	1.621	1.621	1.634	1.641	3.14
17) T	1,1-Dichloroet...	1.105	1.093	1.172	1.104	1.067	1.079	1.072	1.087	1.097	3.04
18) T	2-Methyl-2-Pro...	3.205	3.121	3.446	3.251	2.941	3.167	2.500	1.531	2.895	21.33
19) T	Methylene Chlo...	1.376	1.268	1.273	1.211	1.156	1.133	1.106	1.115	1.205	7.88
20) T	3-Chloro-1-pro...	2.312	2.093	2.303	2.160	2.067	2.151	2.196	2.328	2.201	4.63
21) T	Trichlorotrifl...	0.965	1.020	1.047	1.034	0.968	0.998	0.972	0.959	0.995	3.47
22) T	Carbon Disulfide	6.827	5.468	5.063	4.649	4.353	4.262	4.129	3.951	4.838	19.60
23) T	trans-1,2-Dich...	1.797	1.803	2.009	1.926	1.878	1.959	1.976	2.043	1.924	4.75
24) T	1,1-Dichloroet...	2.287	2.135	2.382	2.238	2.155	2.211	2.186	2.181	2.222	3.62
25) T	Methyl tert-Bu...	3.886	3.755	4.040	3.809	3.717	3.830	3.795	3.670	3.813	2.98
26) T	Vinyl Acetate	0.159	0.165	0.196	0.193	0.186	0.193	0.188	0.182	0.183	7.34
27) T	2-Butanone (MEK)	0.754	0.756	0.800	0.786	0.750	0.748	0.732	0.705	0.754	3.90
28) T	cis-1,2-Dichlo...	1.913	1.716	1.930	1.864	1.781	1.860	1.864	1.931	1.857	4.06
29) T	Diisopropyl Ether	0.907	0.873	0.959	0.902	0.840	0.759	0.687	0.622	0.819	14.40
30) T	Ethyl Acetate	0.536	0.507	0.545	0.525	0.492	0.435	0.397	0.370	0.476	14.01
31) T	n-Hexane	2.049	1.991	2.209	2.035	1.891	1.675	1.540	1.438	1.853	14.71
32) T	Chloroform	2.220	2.177	2.340	2.118	2.078	2.157	2.137	2.163	2.174	3.64
33) S	1,2-Dichloroet...	1.884	1.893	1.911	1.907	1.894	1.974	2.047	2.169	1.960	5.16
34) T	Tetrahydrofura...	0.883	0.765	0.769	0.746	0.734	0.739	0.724	0.704	0.758	7.20
35) T	Ethyl tert-But...	1.347	1.361	1.437	1.379	1.339	1.342	1.299	1.261	1.346	3.88
36) T	1,2-Dichloroet...	1.954	1.852	1.915	1.854	1.810	1.881	1.902	1.961	1.891	2.77
37) IR	1,4-Difluorobenzen...	----------ISTD----------									
38) T	1,1,1-Trichlor...	0.461	0.442	0.476	0.445	0.440	0.443	0.426	0.393	0.441	5.53

39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.177	1.074	1.130	1.051	1.034	1.011	0.967	0.885	1.041	8.78
42)	T	Carbon Tetrach...	0.381	0.375	0.409	0.383	0.388	0.393	0.378	0.352	0.382	4.28
43)	T	Cyclohexane	0.392	0.376	0.400	0.383	0.369	0.357	0.332	0.287	0.362	10.18
44)	T	tert-Amyl Meth...	0.797	0.763	0.830	0.797	0.783	0.763	0.719	0.634	0.761	7.96
45)	T	1,2-Dichloropr...	0.304	0.282	0.294	0.286	0.277	0.277	0.268	0.250	0.280	5.83
46)	T	Bromodichlorom...	0.378	0.395	0.399	0.390	0.390	0.398	0.386	0.363	0.387	3.08
47)	T	Trichloroethene	0.316	0.267	0.291	0.286	0.279	0.276	0.261	0.233	0.276	8.69
48)	T	1,4-Dioxane	0.169	0.177	0.216	0.205	0.203	0.204	0.196	0.175	0.193	8.81
49)	T	2,2,4-Trimethy...	1.249	1.190	1.258	1.173	1.149	1.130	1.093	0.999	1.155	7.31
50)	T	Methyl Methacr...	0.091	0.094	0.099	0.099	0.100	0.100	0.095	0.085	0.095	5.70
51)	T	n-Heptane	0.249	0.259	0.269	0.262	0.253	0.249	0.239	0.219	0.250	6.24
52)	T	cis-1,3-Dichlo...	0.454	0.409	0.456	0.445	0.448	0.455	0.443	0.415	0.441	4.19
53)	T	4-Methyl-2-pen...	0.242	0.232	0.256	0.246	0.242	0.244	0.231	0.207	0.238	6.10
54)	T	trans-1,3-Dich...	0.423	0.401	0.453	0.428	0.436	0.451	0.439	0.412	0.430	4.22
55)	T	1,1,2-Trichlor...	0.248	0.243	0.283	0.261	0.260	0.256	0.247	0.228	0.253	6.36
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	5.472	5.442	5.341	5.395	5.366	5.322	5.307	5.311	5.369	1.15
58)	T	Toluene	5.648	5.200	5.412	5.103	4.989	4.838	4.560	4.156	4.988	9.50
59)	T	2-Hexanone	3.181	3.074	3.145	3.037	3.032	3.056	2.909	2.659	3.011	5.45
60)	T	Dibromochlorom...	1.409	1.558	1.553	1.505	1.539	1.568	1.502	1.410	1.506	4.23
61)	T	1,2-Dibromoethane	1.410	1.411	1.509	1.431	1.432	1.444	1.375	1.288	1.413	4.48
62)	T	n-Butyl Acetate	3.675	3.339	3.551	3.425	3.408	3.436	3.284	2.955	3.384	6.25
63)	T	n-Octane	1.247	1.152	1.207	1.165	1.137	1.101	1.040	0.946	1.124	8.50
64)	T	Tetrachloroethene	1.507	1.523	1.522	1.479	1.431	1.386	1.313	1.197	1.420	8.18
65)	T	Chlorobenzene	3.524	3.437	3.540	3.354	3.277	3.188	2.958	2.604	3.235	9.85
66)	T	Ethylbenzene	6.337	6.204	6.174	5.909	5.833	5.697	5.335	4.819	5.788	8.74
67)	T	m- & p-Xylenes	5.277	4.780	5.072	4.792	4.740	4.532	4.198	3.678	4.634	10.87
68)	T	Bromoform	1.180	1.214	1.275	1.247	1.317	1.348	1.264	1.100	1.243	6.33
69)	T	Styrene	3.307	3.183	3.279	3.309	3.412	3.414	3.226	2.916	3.256	4.89
70)	T	o-Xylene	5.152	4.785	4.929	4.749	4.697	4.536	4.244	3.816	4.614	9.06
71)	T	n-Nonane	3.063	2.960	3.049	2.936	2.891	2.834	2.695	2.439	2.858	7.23
72)	T	1,1,2,2-Tetrac...	2.313	2.365	2.368	2.267	2.222	2.177	2.048	1.840	2.200	8.18
73)	S	Bromofluoroben...	1.750	1.726	1.730	1.703	1.700	1.687	1.689	1.673	1.707	1.51
74)	T	Cumene	6.088	5.878	6.215	5.784	5.719	5.536	5.173	4.580	5.622	9.42
75)	T	alpha-Pinene	2.880	3.010	2.995	2.932	2.963	2.867	2.706	2.413	2.846	7.01
76)	T	n-Propylbenzene	7.877	7.179	7.439	7.167	7.066	6.836	6.384	5.646	6.949	9.80
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	5.932	5.516	5.769	5.529	5.481	5.407	5.030	4.467	5.391	8.48
79)	T	1,3,5-Trimethy...	4.958	4.795	5.022	4.807	4.714	4.672	4.382	3.913	4.658	7.69
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	5.153	4.757	5.044	4.813	4.779	4.622	4.160	3.513	4.605	11.55
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	4.058	3.866	4.036	4.033	4.203	4.222	3.832	3.192	3.930	8.37
85)	T	1,3-Dichlorobe...	3.169	2.868	2.972	2.736	2.688	2.567	2.295	1.873	2.646	15.43
86)	T	1,4-Dichlorobe...	2.958	2.814	2.937	2.713	2.723	2.716	2.538	2.264	2.708	8.28
87)	T	sec-Butylbenzene	6.917	6.386	6.717	6.546	6.367	6.185	5.723	4.996	6.230	9.85
88)	T	4-Isopropyltol...	5.682	5.451	5.697	5.447	5.423	5.336	4.902	4.256	5.274	9.08
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.790	2.731	2.784	2.650	2.620	2.627	2.459	2.193	2.607	7.62
91)	T	d-Limonene	1.763	1.638	1.868	1.794	1.886	1.904	1.777	1.586	1.777	6.48

92)	T	1,2-Dibromo-3-...	1.000	0.949	1.008	1.000	1.049	1.076	0.991	0.855	0.991	6.76
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.060	1.933	1.982	1.913	1.898	2.099	1.875	1.528	1.911	9.09
95)	T	Naphthalene	5.317	4.866	5.174	4.868	4.912	6.240	5.918	5.127	5.303	9.66
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.740	1.634	1.663	1.547	1.546	1.512	1.411	1.226	1.535	10.45
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	4.848	4.704	4.824	4.601	4.540	4.265	3.787	3.190	4.345	13.38
100)	T	n-Butylbenzene	5.868	5.326	5.427	5.193	5.226	5.224	4.821	4.199	5.161	9.40
101)	T	1,1,1,2-Tetrac...	1.172	1.244	1.317	1.275	1.270	1.248	1.165	1.035	1.216	7.34

(#) = Out of Range

R13062822.M Wed Jun 29 08:12:19 2022

TZ 6/29/22

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S35-06282202
20ng/L Std. ID: S35-06282201
40ng/L Std. ID:
200ng/L Std. ID: S35-06212202
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Printed: 6/29/2022

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S35-06282202**	**200ng/L Std. ID:**	**S35-06212202**
20ng/L Std. ID:	**S35-06282201**	**1000ng/L Std. ID:**	

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**20**	**20**	**20**	**200**	**200**	**200**
	Source Std.		**Primary Working Standards**					**Injection (L):**	**0.025**	**0.050**	**0.0250**	**0.050**	**0.25**	**0.125**	**0.25**	**0.50**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Do Not Edit

Calibration Status Report GCMS13

Method : I:\MS13\METHODS\R13062822.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jun 29 08:12:10 2022
Response via : Initial Calibration

TZ 6/29/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS13\DATA\2022_06\28\06282204.D
2	0.2	0	13	I:\MS13\DATA\2022_06\28\06282205.D
3	0.5	1	13	I:\MS13\DATA\2022_06\28\06282206.D
4	1.0	1	13	I:\MS13\DATA\2022_06\28\06282207.D
5	5.0	5	13	I:\MS13\DATA\2022_06\28\06282208.D
6	25	26	13	I:\MS13\DATA\2022_06\28\06282209.D
7	50	52	13	I:\MS13\DATA\2022_06\28\06282210.D
8	100	104	13	I:\MS13\DATA\2022_06\28\06282211.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Jun 29 08:10 2022	Jun 28 14:25 2022	28 Jun 2022 10:38
2	0.2	Jun 29 08:11 2022	Jun 28 14:22 2022	28 Jun 2022 11:15
3	0.5	Jun 29 08:11 2022	Jun 28 14:22 2022	28 Jun 2022 11:52
4	1.0	Jun 29 08:11 2022	Jun 28 14:22 2022	28 Jun 2022 12:29
5	5.0	Jun 29 08:11 2022	Jun 28 14:22 2022	28 Jun 2022 13:06
6	25	Jun 29 08:11 2022	Jun 28 14:22 2022	28 Jun 2022 13:43
7	50	Jun 29 08:12 2022	Jun 28 14:48 2022	28 Jun 2022 14:20
8	100	Jun 29 08:12 2022	Jun 28 15:27 2022	28 Jun 2022 14:56

R13062822.M Wed Jun 29 08:13:15 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282204.D Vial: 14
Acq On : 28 Jun 2022 10:38 Operator: TZ
Sample : 0.1ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282202 (7/21)

TZ 6/29/22

Quant Time: Jun 28 14:25:59 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	137177	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.39	114	601258	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.90	54	125349	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.09	65	258432	14.099	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.80%				
57) Toluene-d8 (SS2)	12.50	98	685884	10.575	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.56%				
73) Bromofluorobenzene (SS3)	16.87	174	219344	9.529	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 76.24%				
Target Compounds							Qvalue
2) Propene	3.43	42	1952	0.143	ng	#	87
3) Dichlorodifluoromethan...	3.50	85	3100	0.107	ng		97
4) Chloromethane	3.64	50	2458	0.160	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	3.75	135	1197	0.087	ng		83
6) Vinyl Chloride	3.83	62	1451	0.103	ng		99
7) 1,3-Butadiene	3.95	54	1827	0.175	ng		95
8) Bromomethane	4.16	94	1253	0.110	ng		95
9) Chloroethane	4.30	64	920	0.121	ng		69
10) Ethanol	4.41	45	4294	0.538	ng		94
11) Acetonitrile	4.57	41	3405	0.173	ng	#	69
12) Acrolein	4.66	56	1762	0.270	ng		95
13) Acetone	4.77	58	5688	0.757	ng		94
14) Trichlorofluoromethane	4.89	101	2692	0.104	ng		94
15) 2-Propanol (Isopropanol)	4.98	45	8799	0.339	ng		94
16) Acrylonitrile	5.11	53	3616	0.277	ng		100
17) 1,1-Dichloroethene	5.39	96	1297	0.111	ng		99
18) 2-Methyl-2-Propanol (t...	5.47	59	7386	0.263	ng		96
19) Methylene Chloride	5.47	84	1570	0.128	ng		95
20) 3-Chloro-1-propene (Al...	5.57	41	2664m	0.157	ng		
21) Trichlorotrifluoroethane	5.70	151	1144	0.092	ng		87
22) Carbon Disulfide	5.73	76	15734	0.340	ng		95
23) trans-1,2-Dichloroethene	6.25	61	2090	0.118	ng		96
24) 1,1-Dichloroethane	6.42	63	2635	0.130	ng		97
25) Methyl tert-Butyl Ether	6.51	73	4478	0.120	ng		100
26) Vinyl Acetate	6.56	86	595	0.342	ng	#	42
27) 2-Butanone (MEK)	6.79	72	1704	0.243	ng	#	80
28) cis-1,2-Dichloroethene	7.17	61	2183	0.131	ng		94
29) Diisopropyl Ether	7.41	87	2109	0.245	ng	#	97
30) Ethyl Acetate	7.39	61	2400	0.593	ng		97
31) n-Hexane	7.41	57	2361	0.148	ng	#	96
32) Chloroform	7.45	83	2607	0.116	ng		98
34) Tetrahydrofuran (THF)	7.89	72	1908	0.266	ng		95
35) Ethyl tert-Butyl Ether	7.94	87	3104	0.225	ng		99
36) 1,2-Dichloroethane	8.22	62	2273	0.125	ng		90
38) 1,1,1-Trichloroethane	8.49	97	2308	0.102	ng		93
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.99	78	5890	0.126	ng		99
42) Carbon Tetrachloride	9.16	117	1926	0.093	ng		95
43) Cyclohexane	9.31	84	3901	0.237	ng		98
44) tert-Amyl Methyl Ether	9.71	73	8008	0.230	ng		98
45) 1,2-Dichloropropane	9.94	63	1508	0.139	ng		90
46) Bromodichloromethane	10.17	83	1910	0.105	ng		95
47) Trichloroethene	10.23	130	1564	0.107	ng		96
48) 1,4-Dioxane	10.24	88	845	0.091	ng		88
49) 2,2,4-Trimethylpentane...	10.32	57	6370	0.143	ng		97
50) Methyl Methacrylate	10.50	100	913	0.201	ng	#	82

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282204.D Vial: 14
Acq On : 28 Jun 2022 10:38 Operator: TZ
Sample : 0.1ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282202 (7/21)

Quant Time: Jun 28 14:25:59 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

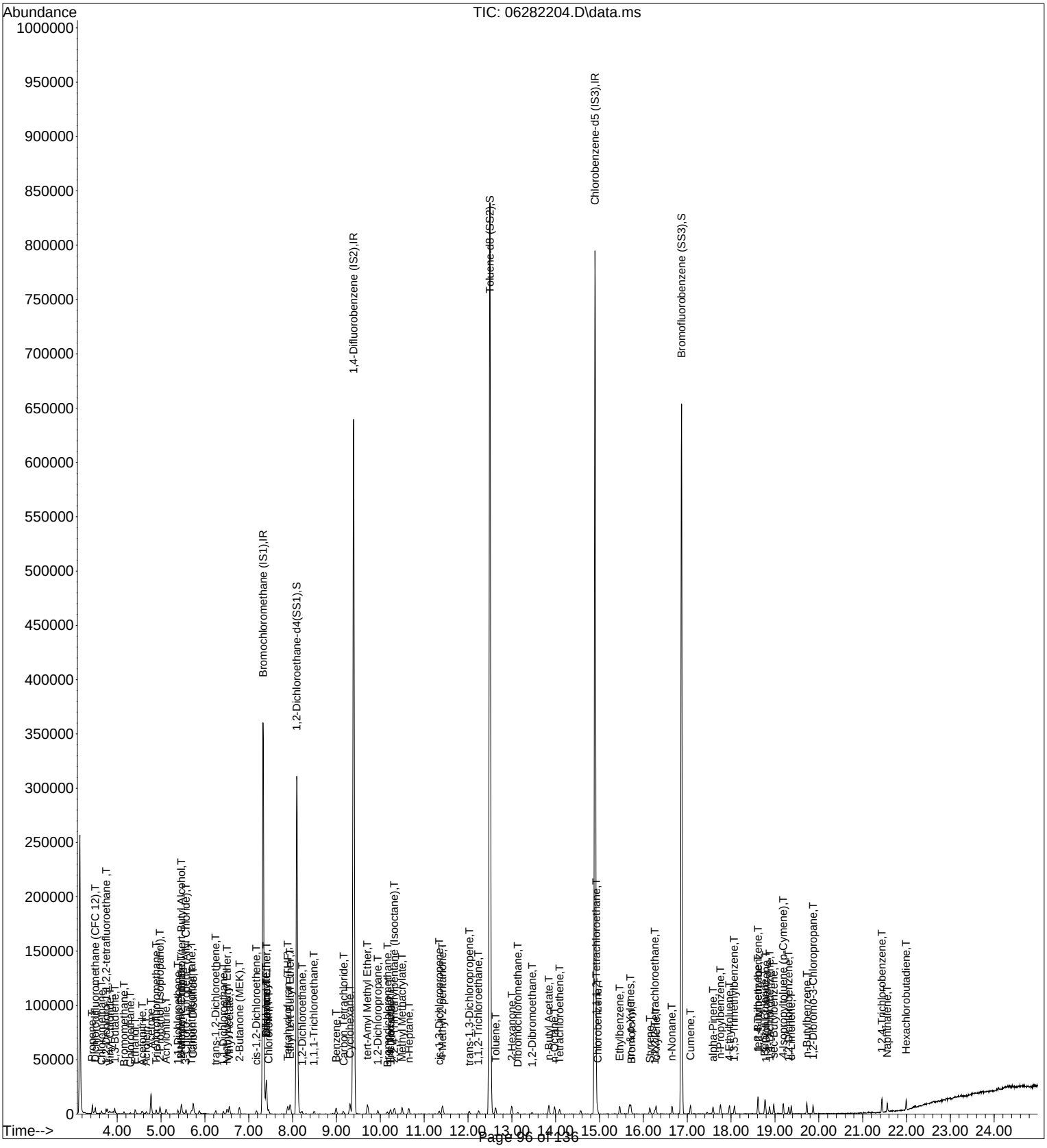
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.66	71	1259	0.117 ng	#	89
52) cis-1,3-Dichloropropene	11.34	75	2292	0.124 ng		88
53) 4-Methyl-2-pentanone	11.42	58	2425	0.263 ng		87
54) trans-1,3-Dichloropropene	12.03	75	2055	0.112 ng		96
55) 1,1,2-Trichloroethane	12.24	97	1239	0.100 ng		87
58) Toluene	12.63	91	5834	0.095 ng		98
59) 2-Hexanone	13.00	43	6539	0.239 ng		100
60) Dibromochloromethane	13.14	129	1484	0.069 ng		98
61) 1,2-Dibromoethane	13.46	107	1471	0.081 ng		100
62) n-Butyl Acetate	13.84	43	7517	0.252 ng		97
63) n-Octane	13.97	57	1313	0.112 ng		84
64) Tetrachloroethene	14.09	166	1572	0.074 ng		94
65) Chlorobenzene	14.96	112	3675	0.086 ng		98
66) Ethylbenzene	15.46	91	6545	0.091 ng		100
67) m- & p-Xylenes	15.70	91	10900	0.188 ng		98
68) Bromoform	15.73	173	1231	0.064 ng		89
69) Styrene	16.15	104	3416	0.084 ng		98
70) o-Xylene	16.29	91	5373	0.092 ng		96
71) n-Nonane	16.65	43	3194	0.127 ng		97
72) 1,1,2,2-Tetrachloroethane	16.26	83	2412	0.093 ng		98
74) Cumene	17.08	105	6349	0.086 ng		99
75) alpha-Pinene	17.59	93	3119	0.087 ng		93
76) n-Propylbenzene	17.76	91	8294	0.097 ng		96
77) 3-Ethyltoluene	17.08	105	6349	No Calib		
78) 4-Ethyltoluene	17.96	105	6306	0.091 ng		95
79) 1,3,5-Trimethylbenzene	18.07	105	5171	0.083 ng		97
80) alpha-Methylstyrene	16.86	118	857	No Calib	#	
81) 2-Ethyltoluene	16.87	105	285	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.62	105	5322	0.087 ng		96
83) n-Decane	16.87	58	111	No Calib	#	
84) Benzyl Chloride	18.77	91	8383	0.168 ng		97
85) 1,3-Dichlorobenzene	18.79	146	3305	0.088 ng		89
86) 1,4-Dichlorobenzene	18.88	146	3085	0.078 ng		94
87) sec-Butylbenzene	18.98	105	7214	0.089 ng		96
88) 4-Isopropyltoluene (p-...	19.19	119	5926	0.083 ng		95
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	19.31	146	2938	0.078 ng		97
91) d-Limonene	19.37	68	1856	0.093 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.87	157	2006	0.136 ng		91
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.44	180	4215	0.136 ng		95
95) Naphthalene	21.56	128	5545	0.065 ng		97
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	21.99	225	1797	0.072 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.61	119	5056	0.086 ng		95
100) n-Butylbenzene	19.73	91	6120	0.096 ng		97
101) 1,1,1,2-Tetrachloroethane	14.93	131	1222	0.070 ng	#	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282204.D Vial: 14
Acq On : 28 Jun 2022 10:38 Operator: TZ
Sample : 0.1ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282202 (7/21)

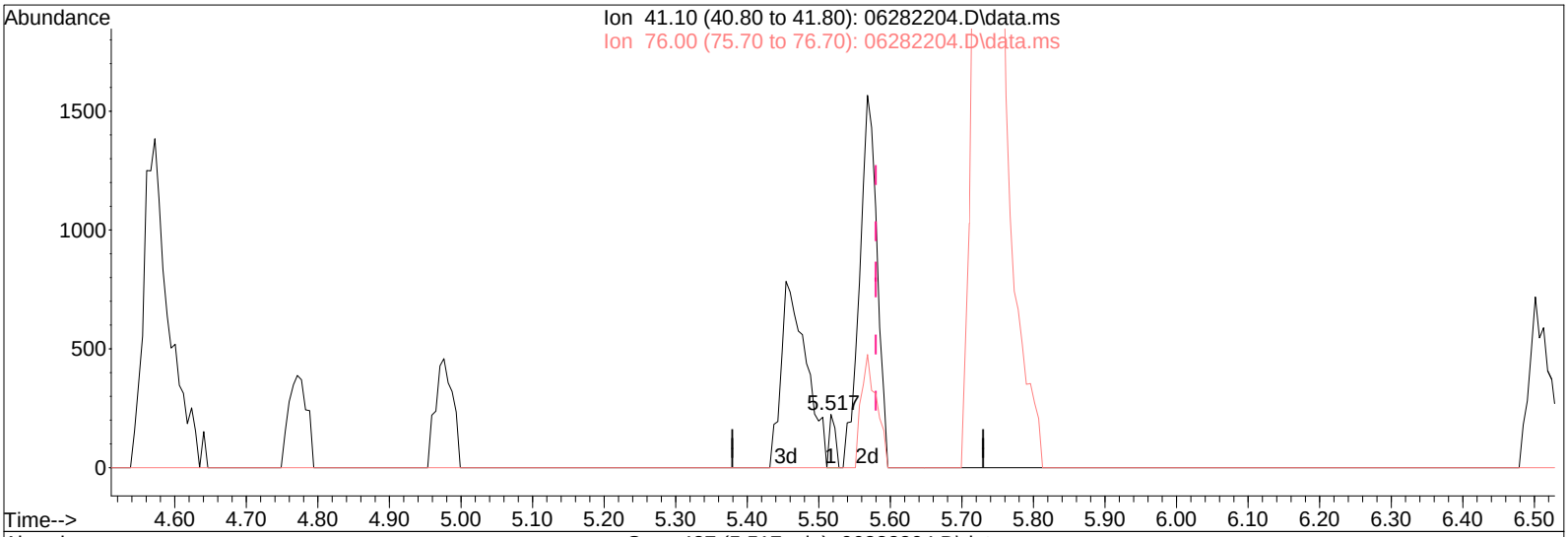
Quant Time: Jun 28 14:25:59 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

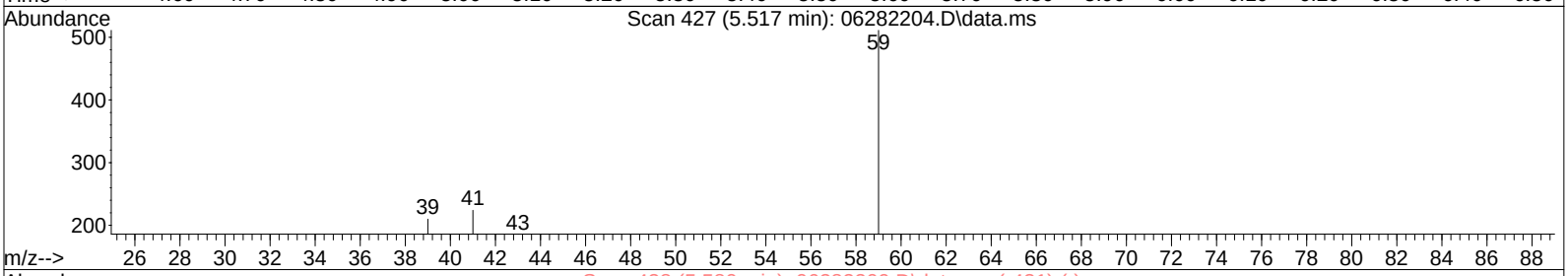


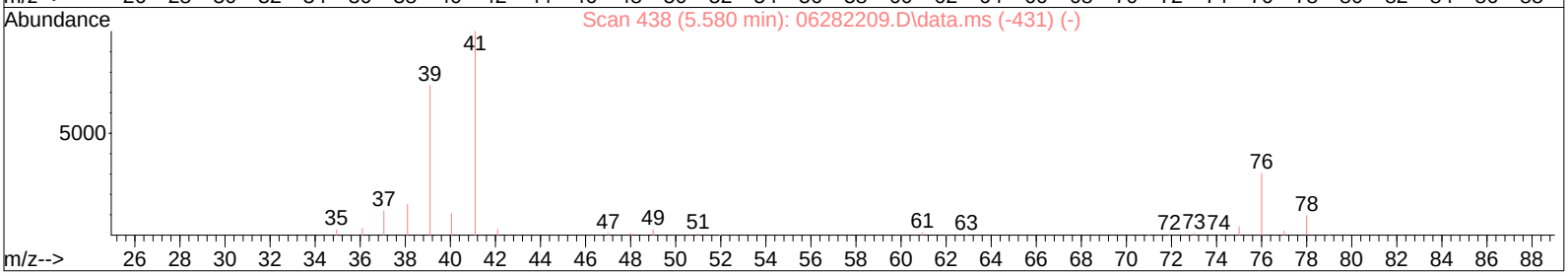
Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 06\28\06282204.D Vial: 14
Acq On : 28 Jun 2022 10:38 Operator: TZ
Sample : 0.1ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282202 (7/21)

Quant Time: Jun 28 14:22:46 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 06282204.D\data.ms

(20) 3-Chloro-1-propene (Allyl Chloride) (T)

5.517min (-0.063) 0.01ng

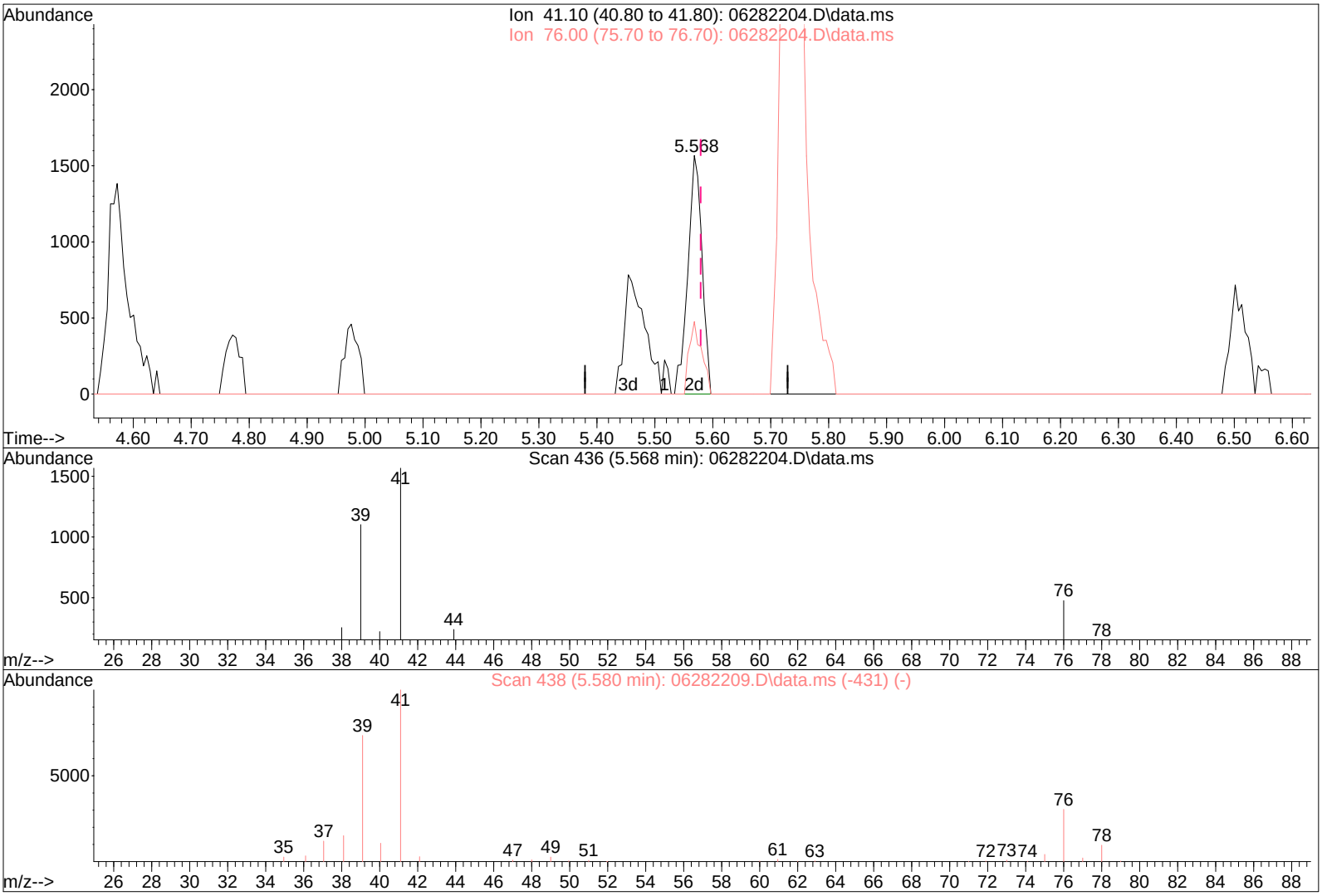
response 134

Ion	Exp%	Act%
41.10	100	100
76.00	30.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 06\28\06282204.D Vial: 14
Acq On : 28 Jun 2022 10:38 Operator: TZ
Sample : 0.1ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282202 (7/21)

Quant Time: Jun 28 14:22:46 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 06282204.D\data.ms

(20) 3-Chloro-1-propene (Allyl Chloride) (T)

5.568min (-0.011) 0.16ng m

response 2664

Ion	Exp%	Act%
41.10	100	100
76.00	30.60	26.80
0.00	0.00	0.00
0.00	0.00	0.00

MP

Tz 6/28/22

7/7/22

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282205.D Vial: 14
Acq On : 28 Jun 2022 11:15 Operator: TZ
Sample : 0.2ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282202 (7/21)

TZ 6/29/22

Quant Time: Jun 28 14:22:47 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	135635	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.40	114	595644	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	124127	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	256714	14.164	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.28%				
57) Toluene-d8 (SS2)	12.50	98	675478	10.517	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.16%				
73) Bromofluorobenzene (SS3)	16.87	174	214258	9.400	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 75.20%				
Target Compounds							Qvalue
2) Propene	3.44	42	3653	0.270	ng		94
3) Dichlorodifluoromethan...	3.51	85	5839	0.204	ng		99
4) Chloromethane	3.64	50	4515	0.298	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	3.75	135	2423	0.178	ng		95
6) Vinyl Chloride	3.83	62	2992	0.215	ng		97
7) 1,3-Butadiene	3.95	54	2583	0.250	ng	#	76
8) Bromomethane	4.16	94	2392	0.213	ng		95
9) Chloroethane	4.30	64	1894	0.253	ng		91
10) Ethanol	4.41	45	7781	0.985	ng		96
11) Acetonitrile	4.57	41	5492	0.283	ng		75
12) Acrolein	4.66	56	3331	0.516	ng		95
13) Acetone	4.77	58	10259	1.381	ng		94
14) Trichlorofluoromethane	4.89	101	4998	0.196	ng		98
15) 2-Propanol (Isopropanol)	4.98	45	15766	0.615	ng		99
16) Acrylonitrile	5.11	53	7111	0.551	ng		97
17) 1,1-Dichloroethene	5.39	96	2539	0.219	ng		94
18) 2-Methyl-2-Propanol (t...	5.46	59	14223	0.513	ng		95
19) Methylene Chloride	5.47	84	2861	0.236	ng		98
20) 3-Chloro-1-propene (Al...	5.57	41	4769	0.283	ng		96
21) Trichlorotrifluoroethane	5.70	151	2391	0.195	ng		94
22) Carbon Disulfide	5.74	76	24919	0.545	ng		98
23) trans-1,2-Dichloroethene	6.25	61	4148	0.238	ng		97
24) 1,1-Dichloroethane	6.43	63	4865	0.242	ng		96
25) Methyl tert-Butyl Ether	6.51	73	8557	0.232	ng		98
26) Vinyl Acetate	6.56	86	1221	0.711	ng	#	72
27) 2-Butanone (MEK)	6.79	72	3378	0.487	ng		93
28) cis-1,2-Dichloroethene	7.18	61	3872	0.235	ng		98
29) Diisopropyl Ether	7.40	87	4015	0.472	ng		99
30) Ethyl Acetate	7.40	61	4493	1.124	ng		99
31) n-Hexane	7.41	57	4536	0.288	ng		99
32) Chloroform	7.46	83	5056	0.227	ng		94
34) Tetrahydrofuran (THF)	7.88	72	3271	0.462	ng	#	89
35) Ethyl tert-Butyl Ether	7.95	87	6203	0.456	ng		98
36) 1,2-Dichloroethane	8.21	62	4260	0.237	ng		99
38) 1,1,1-Trichloroethane	8.49	97	4380	0.194	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.99	78	10647	0.231	ng		100
42) Carbon Tetrachloride	9.16	117	3748	0.183	ng		97
43) Cyclohexane	9.32	84	7413	0.454	ng		98
44) tert-Amyl Methyl Ether	9.71	73	15193	0.441	ng		98
45) 1,2-Dichloropropane	9.95	63	2769	0.257	ng		95
46) Bromodichloromethane	10.17	83	3953	0.219	ng		95
47) Trichloroethene	10.23	130	2625	0.181	ng		97
48) 1,4-Dioxane	10.23	88	1754	0.190	ng		98
49) 2,2,4-Trimethylpentane...	10.32	57	12020	0.272	ng		99
50) Methyl Methacrylate	10.50	100	1873	0.417	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282205.D Vial: 14
Acq On : 28 Jun 2022 11:15 Operator: TZ
Sample : 0.2ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282202 (7/21)

Quant Time: Jun 28 14:22:47 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

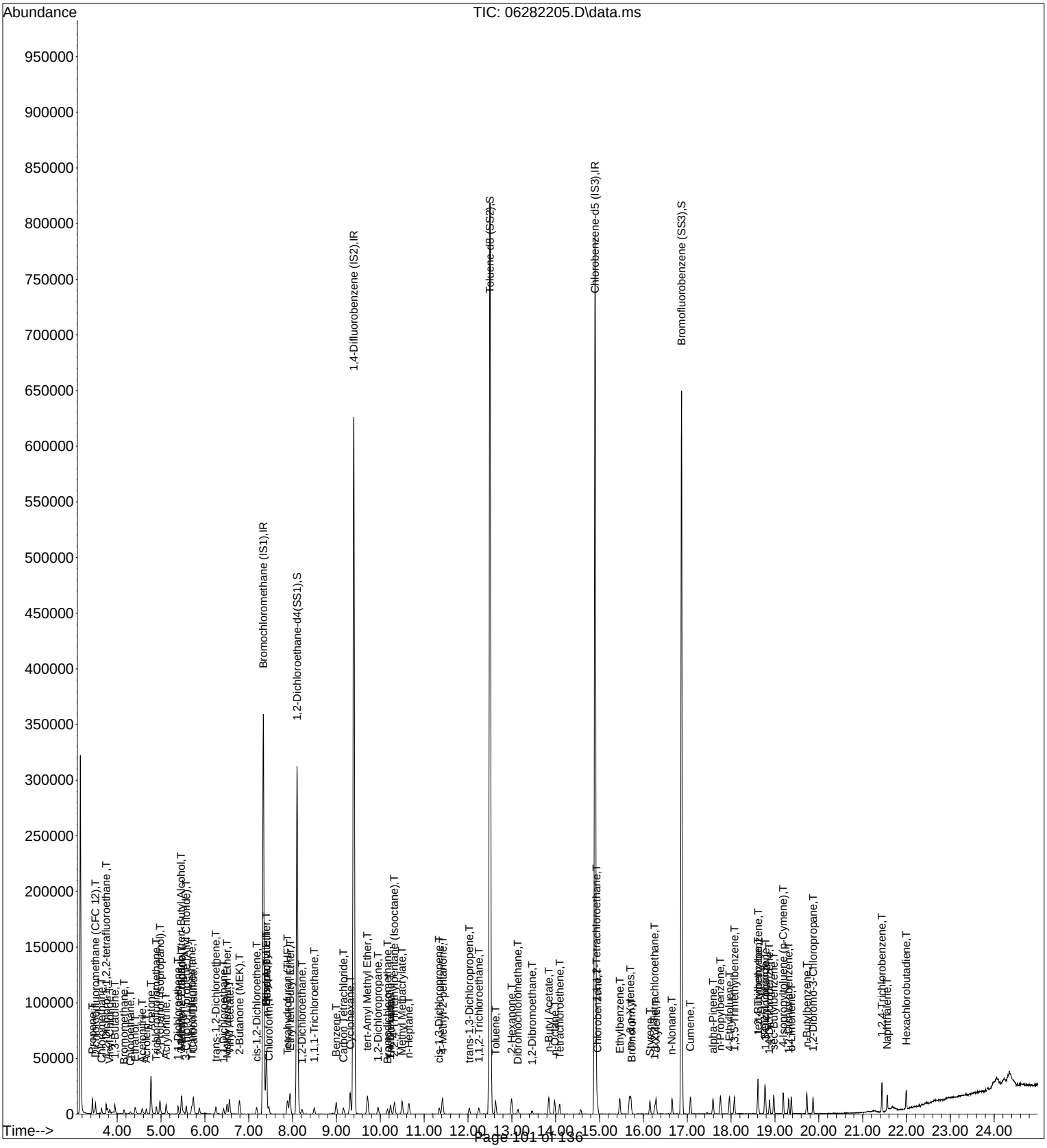
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.65	71	2589	0.243	ng		94
52) cis-1,3-Dichloropropene	11.34	75	4091	0.223	ng		97
53) 4-Methyl-2-pentanone	11.42	58	4602	0.505	ng		93
54) trans-1,3-Dichloropropene	12.03	75	3861	0.213	ng		100
55) 1,1,2-Trichloroethane	12.25	97	2409	0.196	ng		99
58) Toluene	12.63	91	10637	0.174	ng		98
59) 2-Hexanone	13.00	43	12514	0.463	ng		97
60) Dibromochloromethane	13.14	129	3249	0.152	ng		90
61) 1,2-Dibromoethane	13.46	107	2914	0.162	ng		99
62) n-Butyl Acetate	13.84	43	13528	0.459	ng		98
63) n-Octane	13.98	57	2403	0.206	ng		95
64) Tetrachloroethene	14.09	166	3145	0.150	ng		95
65) Chlorobenzene	14.95	112	7099	0.168	ng		96
66) Ethylbenzene	15.46	91	12691	0.179	ng		99
67) m- & p-Xylenes	15.70	91	19555	0.341	ng		99
68) Bromoform	15.73	173	2508	0.132	ng		98
69) Styrene	16.15	104	6512	0.161	ng		98
70) o-Xylene	16.29	91	9884	0.171	ng		97
71) n-Nonane	16.65	43	6114	0.246	ng		96
72) 1,1,2,2-Tetrachloroethane	16.26	83	4884	0.189	ng		100
74) Cumene	17.07	105	12140	0.167	ng		98
75) alpha-Pinene	17.59	93	6456	0.181	ng		98
76) n-Propylbenzene	17.76	91	14970	0.176	ng		99
77) 3-Ethyltoluene	17.07	105	12140	No Calib			
78) 4-Ethyltoluene	17.96	105	11612	0.169	ng		99
79) 1,3,5-Trimethylbenzene	18.08	105	9904	0.161	ng		97
80) alpha-Methylstyrene	16.87	118	839	No Calib		#	
81) 2-Ethyltoluene	16.86	105	174	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.62	105	9730	0.160	ng		96
83) n-Decane	0.00	58	0	N.D.			
84) Benzyl Chloride	18.77	91	15818	0.320	ng		98
85) 1,3-Dichlorobenzene	18.79	146	5923	0.159	ng		99
86) 1,4-Dichlorobenzene	18.87	146	5813	0.149	ng		96
87) sec-Butylbenzene	18.98	105	13191	0.164	ng		99
88) 4-Isopropyltoluene (p-...	19.19	119	11259	0.159	ng		100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.			
90) 1,2-Dichlorobenzene	19.31	146	5696	0.152	ng		96
91) d-Limonene	19.37	68	3415	0.173	ng		97
92) 1,2-Dibromo-3-Chloropr...	19.87	157	3771	0.259	ng		90
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	21.44	180	7833	0.255	ng		96
95) Naphthalene	21.56	128	10051	0.120	ng		98
96) n-Dodecane	0.00	57	0	N.D.			
97) Hexachlorobutadiene	22.00	225	3342	0.135	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.61	119	9717	0.166	ng		97
100) n-Butylbenzene	19.73	91	11001	0.174	ng		98
101) 1,1,1,2-Tetrachloroethane	14.93	131	2570	0.149	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282205.D Vial: 14
Acq On : 28 Jun 2022 11:15 Operator: TZ
Sample : 0.2ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282202 (7/21)

Quant Time: Jun 28 14:22:47 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282206.D Vial: 15
Acq On : 28 Jun 2022 11:52 Operator: TZ
Sample : 0.5ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282201 (7/21)

TZ 6/29/22

Quant Time: Jun 28 14:22:48 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.34	130	131785	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.40	114	579825	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	123786	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.11	65	251783	14.298	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.40%				
57) Toluene-d8 (SS2)	12.50	98	661119	10.322	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.56%				
73) Bromofluorobenzene (SS3)	16.87	174	214100	9.419	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 75.36%				
Target Compounds							Qvalue
2) Propene	3.42	42	9668	0.735	ng		97
3) Dichlorodifluoromethan...	3.50	85	15503	0.557	ng		99
4) Chloromethane	3.63	50	11930	0.809	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.74	135	6362	0.482	ng		99
6) Vinyl Chloride	3.82	62	8073	0.598	ng		97
7) 1,3-Butadiene	3.93	54	6394	0.636	ng	#	82
8) Bromomethane	4.15	94	6067	0.556	ng		98
9) Chloroethane	4.29	64	4702	0.646	ng		99
10) Ethanol	4.41	45	20978	2.734	ng		97
11) Acetonitrile	4.56	41	14270	0.756	ng		96
12) Acrolein	4.66	56	8662	1.382	ng		95
13) Acetone	4.76	58	25665	3.557	ng		93
14) Trichlorofluoromethane	4.89	101	13085	0.528	ng		99
15) 2-Propanol (Isopropanol)	4.96	45	40620	1.631	ng		95
16) Acrylonitrile	5.11	53	18836	1.502	ng		95
17) 1,1-Dichloroethene	5.38	96	6613	0.587	ng		98
18) 2-Methyl-2-Propanol (t...	5.46	59	38148	1.415	ng		97
19) Methylene Chloride	5.47	84	6978	0.592	ng		99
20) 3-Chloro-1-propene (Al...	5.57	41	12747	0.780	ng		96
21) Trichlorotrifluoroethane	5.70	151	5960	0.500	ng		97
22) Carbon Disulfide	5.73	76	56047	1.262	ng		99
23) trans-1,2-Dichloroethene	6.25	61	11228	0.662	ng		100
24) 1,1-Dichloroethane	6.43	63	13185	0.676	ng		99
25) Methyl tert-Butyl Ether	6.50	73	22359	0.625	ng		100
26) Vinyl Acetate	6.56	86	3513	2.104	ng	#	95
27) 2-Butanone (MEK)	6.79	72	8686	1.288	ng		94
28) cis-1,2-Dichloroethene	7.18	61	10583	0.660	ng		98
29) Diisopropyl Ether	7.39	87	10713	1.295	ng	#	93
30) Ethyl Acetate	7.40	61	11721	3.017	ng		100
31) n-Hexane	7.41	57	12229	0.800	ng		98
32) Chloroform	7.46	83	13197	0.610	ng		98
34) Tetrahydrofuran (THF)	7.88	72	7984	1.161	ng	#	87
35) Ethyl tert-Butyl Ether	7.94	87	15903	1.202	ng		98
36) 1,2-Dichloroethane	8.22	62	10702	0.614	ng		97
38) 1,1,1-Trichloroethane	8.49	97	11477	0.523	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.92	56	127	No Calib		#	
41) Benzene	9.00	78	27267	0.607	ng		99
42) Carbon Tetrachloride	9.16	117	9955	0.500	ng		99
43) Cyclohexane	9.31	84	19219	1.209	ng		98
44) tert-Amyl Methyl Ether	9.70	73	40216	1.198	ng		99
45) 1,2-Dichloropropane	9.95	63	7024	0.670	ng		98
46) Bromodichloromethane	10.16	83	9706	0.553	ng		99
47) Trichloroethene	10.23	130	6959	0.492	ng		96
48) 1,4-Dioxane	10.23	88	5205	0.578	ng		96
49) 2,2,4-Trimethylpentane...	10.33	57	30935	0.718	ng		100
50) Methyl Methacrylate	10.50	100	4768	1.090	ng	#	87

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282206.D Vial: 15
Acq On : 28 Jun 2022 11:52 Operator: TZ
Sample : 0.5ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282201 (7/21)

Quant Time: Jun 28 14:22:48 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

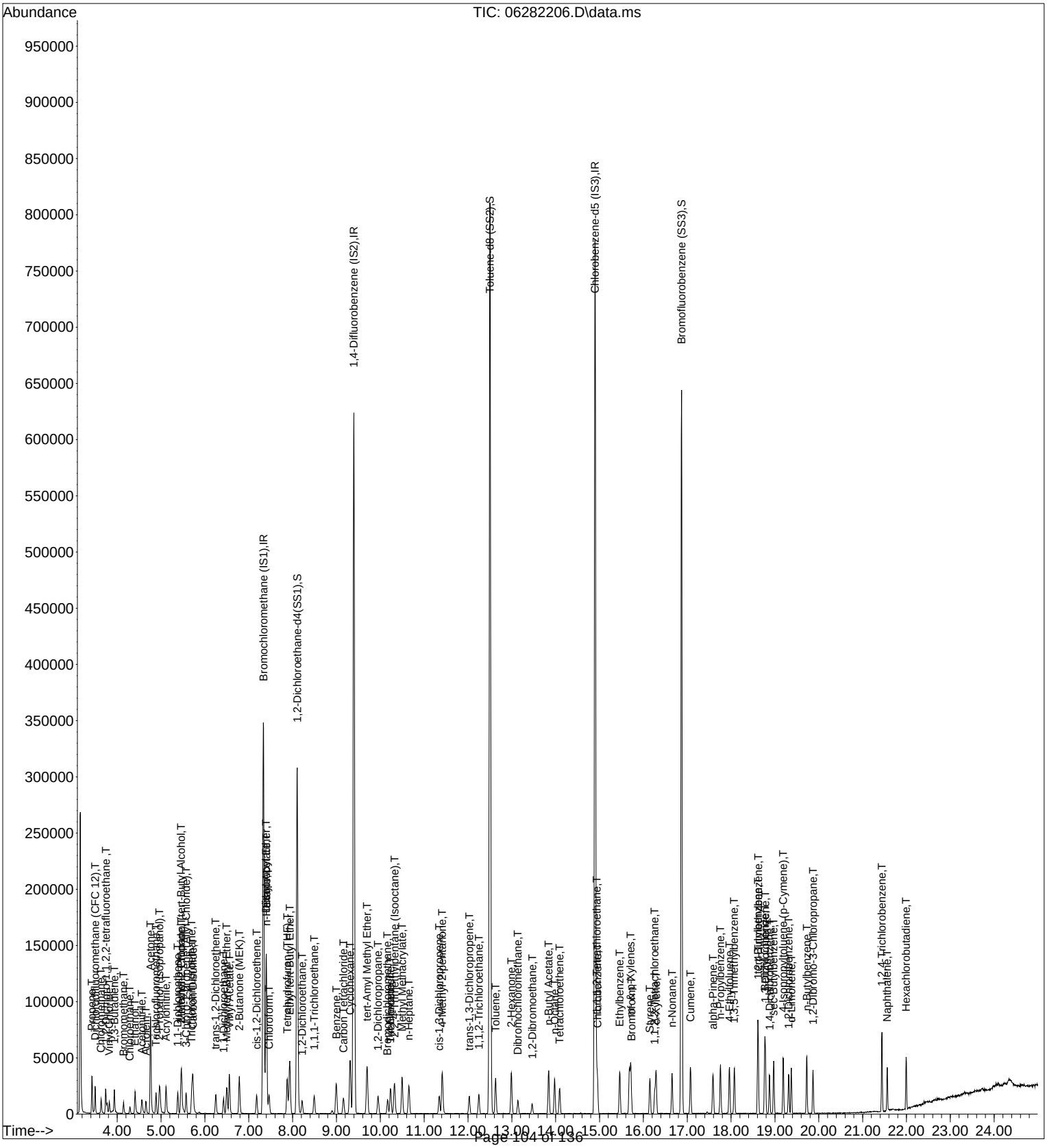
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.65	71	6550	0.632 ng		96
52) cis-1,3-Dichloropropene	11.34	75	11105	0.621 ng		98
53) 4-Methyl-2-pentanone	11.41	58	12334	1.389 ng		98
54) trans-1,3-Dichloropropene	12.03	75	10622	0.601 ng		99
55) 1,1,2-Trichloroethane	12.25	97	6834	0.572 ng		96
58) Toluene	12.63	91	27603	0.453 ng		99
59) 2-Hexanone	12.99	43	31920	1.183 ng		99
60) Dibromochloromethane	13.14	129	8076	0.379 ng		97
61) 1,2-Dibromoethane	13.47	107	7773	0.433 ng		100
62) n-Butyl Acetate	13.84	43	35871	1.219 ng		98
63) n-Octane	13.98	57	6276	0.540 ng		99
64) Tetrachloroethene	14.09	166	7839	0.376 ng		99
65) Chlorobenzene	14.95	112	18231	0.434 ng		99
66) Ethylbenzene	15.46	91	31486	0.445 ng		99
67) m- & p-Xylenes	15.71	91	51737	0.905 ng		100
68) Bromoform	15.73	173	6566	0.346 ng		98
69) Styrene	16.15	104	16723	0.415 ng		99
70) o-Xylene	16.29	91	25383	0.441 ng		97
71) n-Nonane	16.65	43	15702	0.633 ng		98
72) 1,1,2,2-Tetrachloroethane	16.26	83	12195	0.474 ng		98
74) Cumene	17.08	105	32002	0.441 ng		99
75) alpha-Pinene	17.59	93	16014	0.451 ng		100
76) n-Propylbenzene	17.76	91	38677	0.457 ng		99
77) 3-Ethyltoluene	17.08	105	32002	No Calib		
78) 4-Ethyltoluene	17.96	105	30280	0.443 ng		99
79) 1,3,5-Trimethylbenzene	18.07	105	25860	0.422 ng		99
80) alpha-Methylstyrene	16.87	118	834	No Calib	#	
81) 2-Ethyltoluene	16.87	105	257	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.62	105	25723	0.424 ng		100
83) n-Decane	16.86	58	104	No Calib	#	
84) Benzyl Chloride	18.77	91	41166	0.834 ng		100
85) 1,3-Dichlorobenzene	18.78	146	15304	0.411 ng		95
86) 1,4-Dichlorobenzene	18.88	146	15125	0.389 ng		99
87) sec-Butylbenzene	18.97	105	34588	0.430 ng		99
88) 4-Isopropyltoluene (p-...	19.19	119	29336	0.415 ng		99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	19.31	146	14476	0.387 ng		99
91) d-Limonene	19.37	68	9710	0.493 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.87	157	9987	0.688 ng		95
93) n-Undecane	18.07	58	591	No Calib	#	
94) 1,2,4-Trichlorobenzene	21.44	180	20018	0.654 ng		98
95) Naphthalene	21.56	128	26646	0.318 ng		99
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	21.99	225	8482	0.345 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.61	119	24841	0.426 ng		98
100) n-Butylbenzene	19.73	91	27945	0.444 ng		99
101) 1,1,1,2-Tetrachloroethane	14.94	131	6780	0.393 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282206.D Vial: 15
Acq On : 28 Jun 2022 11:52 Operator: TZ
Sample : 0.5ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282201 (7/21)

Quant Time: Jun 28 14:22:48 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282207.D Vial: 15
Acq On : 28 Jun 2022 12:29 Operator: TZ
Sample : 1.0ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282201 (7/21)

TZ 6/29/22

Quant Time: Jun 28 14:22:50 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.34	130	130776	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.40	114	575218	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	121892	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.11	65	249418	14.273	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.16%				
57) Toluene-d8 (SS2)	12.50	98	657600	10.426	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.44%				
73) Bromofluorobenzene (SS3)	16.87	174	207591	9.275	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 74.16%				
Target Compounds							Qvalue
2) Propene	3.41	42	18122	1.388	ng		98
3) Dichlorodifluoromethan...	3.49	85	29396	1.064	ng		99
4) Chloromethane	3.62	50	22405	1.531	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.73	135	12191	0.930	ng		100
6) Vinyl Chloride	3.81	62	15232	1.136	ng		98
7) 1,3-Butadiene	3.92	54	12170	1.221	ng		95
8) Bromomethane	4.13	94	11408	1.054	ng		100
9) Chloroethane	4.28	64	8989	1.245	ng		96
10) Ethanol	4.41	45	38247	5.022	ng		97
11) Acetonitrile	4.56	41	25979	1.387	ng		99
12) Acrolein	4.65	56	16780	2.698	ng		98
13) Acetone	4.75	58	47601	6.648	ng		93
14) Trichlorofluoromethane	4.88	101	23848	0.970	ng		100
15) 2-Propanol (Isopropanol)	4.96	45	74157	3.001	ng		96
16) Acrylonitrile	5.11	53	35253	2.832	ng		99
17) 1,1-Dichloroethene	5.37	96	12360	1.106	ng		98
18) 2-Methyl-2-Propanol (t...	5.44	59	71431	2.671	ng		99
19) Methylene Chloride	5.46	84	13177	1.127	ng		98
20) 3-Chloro-1-propene (Al...	5.56	41	23729	1.462	ng		97
21) Trichlorotrifluoroethane	5.70	151	11687	0.988	ng		99
22) Carbon Disulfide	5.72	76	102146	2.317	ng		99
23) trans-1,2-Dichloroethene	6.25	61	21360	1.269	ng		100
24) 1,1-Dichloroethane	6.43	63	24583	1.270	ng		100
25) Methyl tert-Butyl Ether	6.50	73	41847	1.178	ng		100
26) Vinyl Acetate	6.55	86	6858	4.139	ng	#	95
27) 2-Butanone (MEK)	6.78	72	16940	2.531	ng		99
28) cis-1,2-Dichloroethene	7.18	61	20286	1.275	ng		98
29) Diisopropyl Ether	7.39	87	20011	2.437	ng	#	93
30) Ethyl Acetate	7.40	61	22392	5.808	ng		97
31) n-Hexane	7.41	57	22350	1.474	ng		98
32) Chloroform	7.46	83	23709	1.104	ng		98
34) Tetrahydrofuran (THF)	7.87	72	15375	2.252	ng	#	91
35) Ethyl tert-Butyl Ether	7.93	87	30298	2.308	ng		99
36) 1,2-Dichloroethane	8.21	62	20555	1.188	ng		99
38) 1,1,1-Trichloroethane	8.49	97	21313	0.980	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.92	56	663	No Calib		#	
41) Benzene	8.99	78	50294	1.128	ng		99
42) Carbon Tetrachloride	9.16	117	18501	0.936	ng		99
43) Cyclohexane	9.31	84	36456	2.312	ng		99
44) tert-Amyl Methyl Ether	9.69	73	76631	2.301	ng		99
45) 1,2-Dichloropropane	9.96	63	13555	1.303	ng		97
46) Bromodichloromethane	10.17	83	18845	1.082	ng		100
47) Trichloroethene	10.23	130	13558	0.967	ng		99
48) 1,4-Dioxane	10.23	88	9809	1.099	ng		99
49) 2,2,4-Trimethylpentane...	10.33	57	57200	1.338	ng		99
50) Methyl Methacrylate	10.50	100	9518	2.194	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282207.D Vial: 15
Acq On : 28 Jun 2022 12:29 Operator: TZ
Sample : 1.0ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282201 (7/21)

Quant Time: Jun 28 14:22:50 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

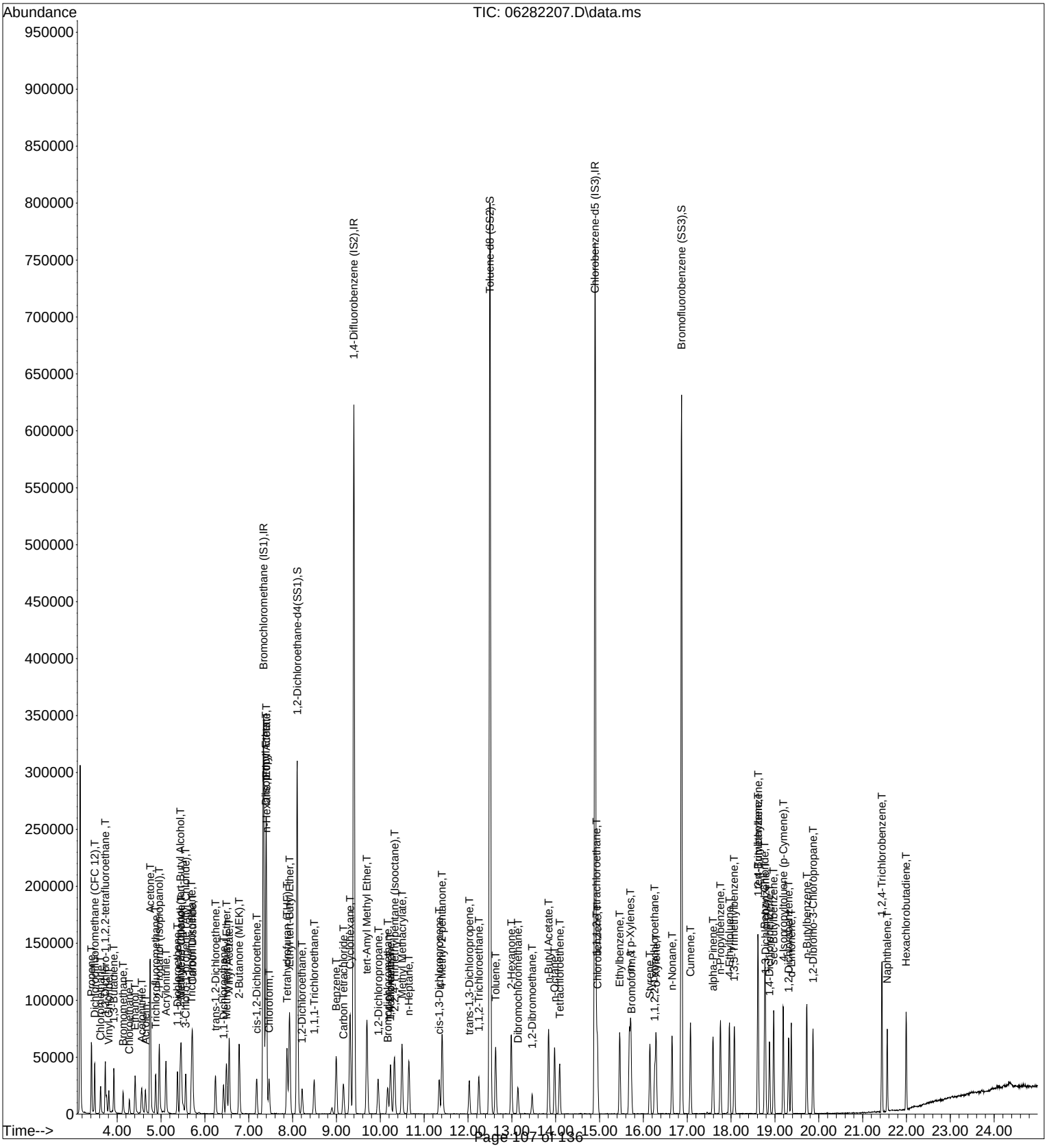
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.65	71	12664	1.233	ng		98
52) cis-1,3-Dichloropropene	11.34	75	21524	1.214	ng		100
53) 4-Methyl-2-pentanone	11.41	58	23587	2.678	ng		99
54) trans-1,3-Dichloropropene	12.03	75	19870	1.133	ng		97
55) 1,1,2-Trichloroethane	12.25	97	12483	1.053	ng		99
58) Toluene	12.63	91	51255	0.855	ng		99
59) 2-Hexanone	12.99	43	60702	2.286	ng		100
60) Dibromochloromethane	13.14	129	15406	0.735	ng		98
61) 1,2-Dibromoethane	13.46	107	14514	0.821	ng		99
62) n-Butyl Acetate	13.84	43	68137	2.352	ng		100
63) n-Octane	13.97	57	11928	1.043	ng		98
64) Tetrachloroethene	14.09	166	15001	0.731	ng		100
65) Chlorobenzene	14.95	112	34019	0.822	ng		100
66) Ethylbenzene	15.46	91	59348	0.852	ng		100
67) m- & p-Xylenes	15.70	91	96269	1.710	ng		99
68) Bromoform	15.73	173	12649	0.677	ng		98
69) Styrene	16.15	104	33237	0.837	ng		98
70) o-Xylene	16.29	91	48159	0.849	ng		100
71) n-Nonane	16.65	43	29778	1.218	ng		99
72) 1,1,2,2-Tetrachloroethane	16.26	83	22994	0.908	ng		100
74) Cumene	17.08	105	58662	0.820	ng		100
75) alpha-Pinene	17.59	93	30878	0.883	ng		99
76) n-Propylbenzene	17.76	91	73387	0.881	ng		99
77) 3-Ethyltoluene	17.08	105	58662	No Calib			
78) 4-Ethyltoluene	17.96	105	57147	0.849	ng		99
79) 1,3,5-Trimethylbenzene	18.07	105	48749	0.808	ng		99
80) alpha-Methylstyrene	16.87	118	757	No Calib		#	
81) 2-Ethyltoluene	16.87	105	136	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.62	105	48338	0.809	ng		97
83) n-Decane	0.00	58	0	N.D.			
84) Benzyl Chloride	18.77	91	81011	1.668	ng		98
85) 1,3-Dichlorobenzene	18.79	146	27743	0.756	ng		99
86) 1,4-Dichlorobenzene	18.87	146	27516	0.718	ng		99
87) sec-Butylbenzene	18.97	105	66383	0.839	ng		98
88) 4-Isopropyltoluene (p-...	19.19	119	55244	0.793	ng		100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.			
90) 1,2-Dichlorobenzene	19.31	146	27136	0.737	ng		99
91) d-Limonene	19.37	68	18372	0.948	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.87	157	19502	1.364	ng		97
93) n-Undecane	18.07	58	1409	No Calib		#	
94) 1,2,4-Trichlorobenzene	21.44	180	38057	1.263	ng		99
95) Naphthalene	21.56	128	49365	0.598	ng		99
96) n-Dodecane	0.00	57	0	N.D.			
97) Hexachlorobutadiene	21.99	225	15535	0.641	ng		98
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.61	119	46657	0.812	ng		100
100) n-Butylbenzene	19.73	91	52667	0.850	ng		99
101) 1,1,1,2-Tetrachloroethane	14.93	131	12926	0.761	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282207.D Vial: 15
Acq On : 28 Jun 2022 12:29 Operator: TZ
Sample : 1.0ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282201 (7/21)

Quant Time: Jun 28 14:22:50 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282208.D Vial: 15
Acq On : 28 Jun 2022 13:06 Operator: TZ
Sample : 5.0ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282201 (7/21)

TZ 6/29/22

Quant Time: Jun 28 14:22:52 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.35	130	128560	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	9.40	114	566935	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	120191	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.12	65	243536	14.176	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%			
57) Toluene-d8 (SS2)	12.51	98	644979	10.371	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.96%			
73) Bromofluorobenzene (SS3)	16.87	174	204331	9.258	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 74.08%			
Target Compounds						Qvalue
2) Propene	3.39	42	108798	8.479	ng	98
3) Dichlorodifluoromethan...	3.47	85	140464	5.173	ng	100
4) Chloromethane	3.60	50	85460	5.942	ng	98
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	60092	4.663	ng	100
6) Vinyl Chloride	3.79	62	78179	5.931	ng	99
7) 1,3-Butadiene	3.91	54	57647	5.881	ng	99
8) Bromomethane	4.12	94	54662	5.136	ng	100
9) Chloroethane	4.26	64	43066	6.068	ng	100
10) Ethanol	4.43	45	177477	23.707	ng	100
11) Acetonitrile	4.57	41	124694	6.774	ng	100
12) Acrolein	4.65	56	81196	13.281	ng	99
13) Acetone	4.75	58	216585	30.770	ng	94
14) Trichlorofluoromethane	4.87	101	116806	4.834	ng	100
15) 2-Propanol (Isopropanol)	4.98	45	291972	12.019	ng	98
16) Acrylonitrile	5.12	53	166453	13.602	ng	100
17) 1,1-Dichloroethene	5.37	96	58721	5.344	ng	100
18) 2-Methyl-2-Propanol (t...	5.45	59	317570	12.078	ng	100
19) Methylene Chloride	5.48	84	61812	5.378	ng	98
20) 3-Chloro-1-propene (Al...	5.56	41	111585	6.995	ng	100
21) Trichlorotrifluoroethane	5.69	151	53764	4.622	ng	98
22) Carbon Disulfide	5.72	76	470123	10.847	ng	99
23) trans-1,2-Dichloroethene	6.25	61	102346	6.185	ng	99
24) 1,1-Dichloroethane	6.44	63	116355	6.114	ng	100
25) Methyl tert-Butyl Ether	6.48	73	200694	5.747	ng	100
26) Vinyl Acetate	6.56	86	32585	20.005	ng	99
27) 2-Butanone (MEK)	6.79	72	79415	12.070	ng	98
28) cis-1,2-Dichloroethene	7.20	61	95261	6.092	ng	99
29) Diisopropyl Ether	7.39	87	91621	11.352	ng	98
30) Ethyl Acetate	7.40	61	103219	27.236	ng	97
31) n-Hexane	7.41	57	102097	6.850	ng	99
32) Chloroform	7.49	83	114329	5.417	ng	100
34) Tetrahydrofuran (THF)	7.87	72	74320	11.074	ng	94
35) Ethyl tert-Butyl Ether	7.94	87	144585	11.202	ng	99
36) 1,2-Dichloroethane	8.23	62	98663	5.803	ng	99
38) 1,1,1-Trichloroethane	8.50	97	103840	4.843	ng	100
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.91	56	3390	No Calib	#	
41) Benzene	9.01	78	243778	5.549	ng	100
42) Carbon Tetrachloride	9.17	117	92478	4.748	ng	100
43) Cyclohexane	9.31	84	173156	11.143	ng	99
44) tert-Amyl Methyl Ether	9.70	73	371248	11.309	ng	99
45) 1,2-Dichloropropane	9.96	63	64734	6.312	ng	100
46) Bromodichloromethane	10.17	83	92862	5.412	ng	100
47) Trichloroethene	10.25	130	65227	4.718	ng	99
48) 1,4-Dioxane	10.22	88	47895	5.443	ng	100
49) 2,2,4-Trimethylpentane...	10.33	57	276194	6.557	ng	99
50) Methyl Methacrylate	10.50	100	47068	11.007	ng	98

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282208.D Vial: 15
Acq On : 28 Jun 2022 13:06 Operator: TZ
Sample : 5.0ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282201 (7/21)

Quant Time: Jun 28 14:22:52 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

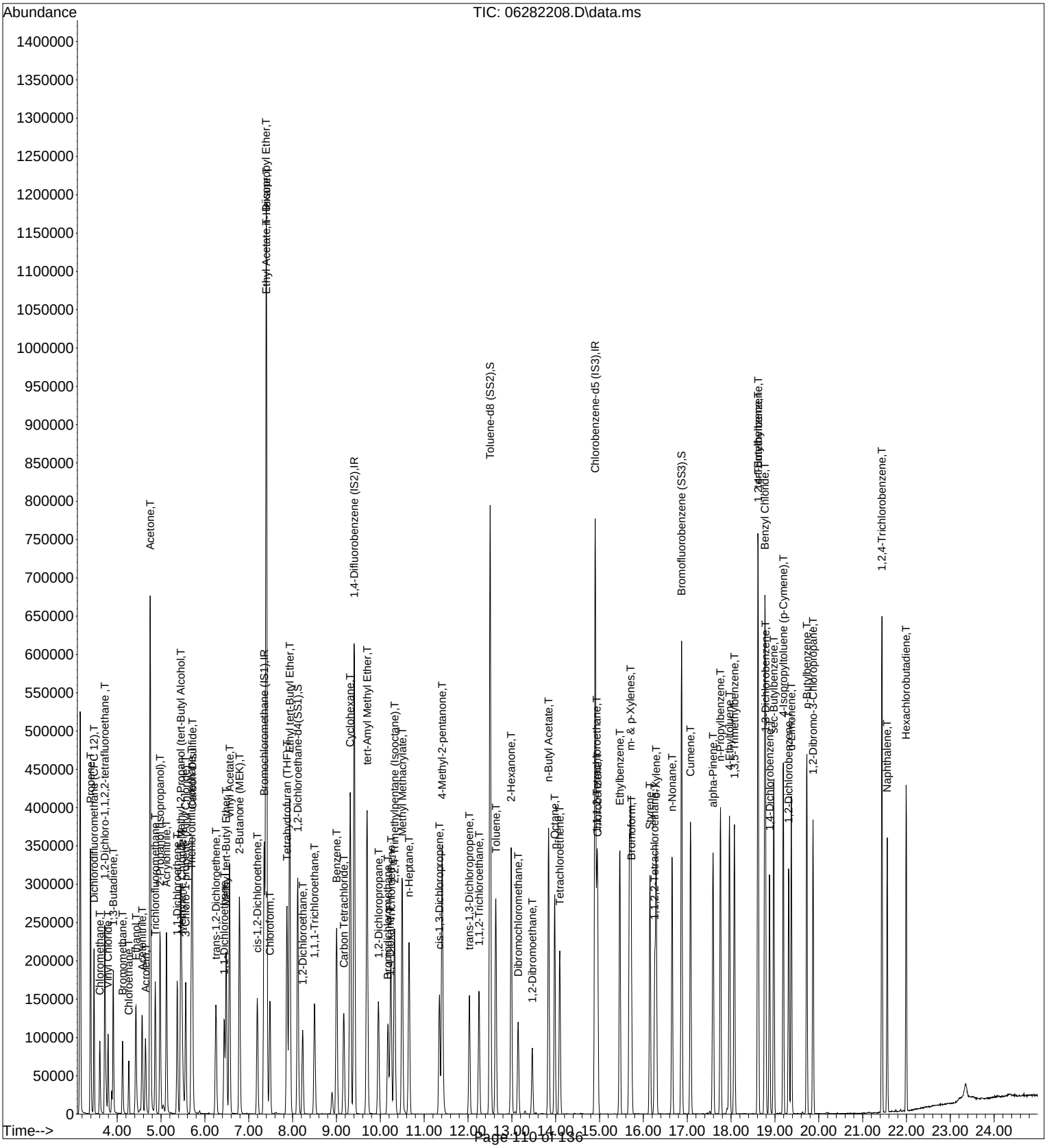
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.66	71	60129	5.938	ng		100
52) cis-1,3-Dichloropropene	11.35	75	106716	6.105	ng		100
53) 4-Methyl-2-pentanone	11.41	58	114204	13.158	ng		100
54) trans-1,3-Dichloropropene	12.03	75	99918	5.780	ng		99
55) 1,1,2-Trichloroethane	12.25	97	61313	5.247	ng		98
58) Toluene	12.64	91	247055	4.178	ng		100
59) 2-Hexanone	12.98	43	298853	11.412	ng		99
60) Dibromochloromethane	13.14	129	77699	3.758	ng		99
61) 1,2-Dibromoethane	13.47	107	71602	4.105	ng		100
62) n-Butyl Acetate	13.84	43	334282	11.703	ng		100
63) n-Octane	13.98	57	57375	5.087	ng		100
64) Tetrachloroethene	14.09	166	71554	3.535	ng		100
65) Chlorobenzene	14.96	112	163856	4.014	ng		100
66) Ethylbenzene	15.46	91	288823	4.205	ng		100
67) m- & p-Xylenes	15.71	91	469484	8.458	ng		100
68) Bromoform	15.73	173	65861	3.573	ng		100
69) Styrene	16.15	104	168969	4.316	ng		99
70) o-Xylene	16.29	91	234838	4.197	ng		99
71) n-Nonane	16.65	43	144545	5.997	ng		100
72) 1,1,2,2-Tetrachloroethane	16.26	83	111089	4.448	ng		100
74) Cumene	17.08	105	285938	4.056	ng		99
75) alpha-Pinene	17.59	93	153853	4.462	ng		100
76) n-Propylbenzene	17.76	91	356712	4.343	ng		99
77) 3-Ethyltoluene	17.08	105	285938	No Calib			
78) 4-Ethyltoluene	17.96	105	279302	4.209	ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	235712	3.963	ng		99
80) alpha-Methylstyrene	16.87	118	822	No Calib		#	
81) 2-Ethyltoluene	16.87	105	299	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.62	105	236660	4.019	ng		98
83) n-Decane	16.86	58	113	No Calib		#	
84) Benzyl Chloride	18.77	91	416254	8.689	ng		100
85) 1,3-Dichlorobenzene	18.79	146	134385	3.714	ng		100
86) 1,4-Dichlorobenzene	18.88	146	136125	3.603	ng		99
87) sec-Butylbenzene	18.98	105	318352	4.080	ng		100
88) 4-Isopropyltoluene (p-...	19.19	119	271168	3.949	ng		99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.			
90) 1,2-Dichlorobenzene	19.31	146	132270	3.646	ng		100
91) d-Limonene	19.37	68	95189	4.981	ng		100
92) 1,2-Dibromo-3-Chloropr...	19.87	157	100878	7.154	ng		98
93) n-Undecane	18.07	58	5300	No Calib			
94) 1,2,4-Trichlorobenzene	21.44	180	186110	6.264	ng		100
95) Naphthalene	21.56	128	245609	3.017	ng		100
96) n-Dodecane	18.82	57	404	No Calib		#	
97) Hexachlorobutadiene	21.99	225	76580	3.204	ng		98
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.61	119	227013	4.009	ng		100
100) n-Butylbenzene	19.73	91	261299	4.276	ng		99
101) 1,1,1,2-Tetrachloroethane	14.94	131	63481	3.790	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282208.D Vial: 15
Acq On : 28 Jun 2022 13:06 Operator: TZ
Sample : 5.0ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06282201 (7/21)

Quant Time: Jun 28 14:22:52 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282209.D Vial: 16
Acq On : 28 Jun 2022 13:43 Operator: TZ
Sample : 25ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

TZ 6/29/22

Quant Time: Jun 28 14:22:53 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.38	130	128921	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.42	114	587846	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.90	54	126168	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.14	65	254469	14.771	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.16%			
57) Toluene-d8 (SS2)	12.51	98	671459	10.285	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.32%			
73) Bromofluorobenzene (SS3)	16.88	174	212890	9.189	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 73.52%			
Target Compounds						Qvalue
2) Propene	3.39	42	487600	37.892	ng	100
3) Dichlorodifluoromethan...	3.46	85	715938	26.293	ng	100
4) Chloromethane	3.60	50	527515	36.576	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	304922	23.595	ng	100
6) Vinyl Chloride	3.79	62	400309	30.286	ng	100
7) 1,3-Butadiene	3.91	54	291649	29.672	ng	100
8) Bromomethane	4.13	94	280595	26.290	ng	100
9) Chloroethane	4.28	64	215508	30.280	ng	100
10) Ethanol	4.46	45	893791	119.056	ng	100
11) Acetonitrile	4.60	41	640093	34.675	ng	100
12) Acrolein	4.67	56	410783	67.003	ng	100
13) Acetone	4.78	58	1005967	142.517	ng	100
14) Trichlorofluoromethane	4.88	101	594915	24.552	ng	100
15) 2-Propanol (Isopropanol)	5.01	45	1681658	69.032	ng	100
16) Acrylonitrile	5.15	53	848634	69.153	ng	100
17) 1,1-Dichloroethene	5.38	96	297612	27.008	ng	100
18) 2-Methyl-2-Propanol (t...	5.48	59	1714872	65.039	ng	100
19) Methylene Chloride	5.51	84	303901	26.368	ng	100
20) 3-Chloro-1-propene (Al...	5.58	41	582328	36.403	ng	100
21) Trichlorotrifluoroethane	5.70	151	277901	23.822	ng	100
22) Carbon Disulfide	5.73	76	2307859	53.099	ng	100
23) trans-1,2-Dichloroethene	6.28	61	535357	32.263	ng	100
24) 1,1-Dichloroethane	6.47	63	598548	31.363	ng	100
25) Methyl tert-Butyl Ether	6.50	73	1036820	29.605	ng	100
26) Vinyl Acetate	6.59	86	169023	103.478	ng	100
27) 2-Butanone (MEK)	6.81	72	397555	60.255	ng	100
28) cis-1,2-Dichloroethene	7.22	61	498799	31.808	ng	100
29) Diisopropyl Ether	7.41	87	414651	51.233	ng	100
30) Ethyl Acetate	7.42	61	457360	120.344	ng	100
31) n-Hexane	7.41	57	453552	30.343	ng	100
32) Chloroform	7.51	83	595038	28.114	ng	100
34) Tetrahydrofuran (THF)	7.88	72	375333	55.770	ng	100
35) Ethyl tert-Butyl Ether	7.95	87	726627	56.139	ng	100
36) 1,2-Dichloroethane	8.25	62	513979	30.144	ng	100
38) 1,1,1-Trichloroethane	8.52	97	541790	24.371	ng	100
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.91	56	15946	No Calib		
41) Benzene	9.02	78	1236481	27.145	ng	100
42) Carbon Tetrachloride	9.19	117	484929	24.011	ng	100
43) Cyclohexane	9.33	84	868070	53.877	ng	100
44) tert-Amyl Methyl Ether	9.71	73	1874459	55.070	ng	100
45) 1,2-Dichloropropane	9.97	63	335212	31.521	ng	100
46) Bromodichloromethane	10.19	83	490869	27.588	ng	100
47) Trichloroethene	10.26	130	333971	23.298	ng	100
48) 1,4-Dioxane	10.23	88	248886	27.278	ng	100
49) 2,2,4-Trimethylpentane...	10.34	57	1407758	32.234	ng	100
50) Methyl Methacrylate	10.51	100	245058	55.269	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282209.D Vial: 16
Acq On : 28 Jun 2022 13:43 Operator: TZ
Sample : 25ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

Quant Time: Jun 28 14:22:53 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

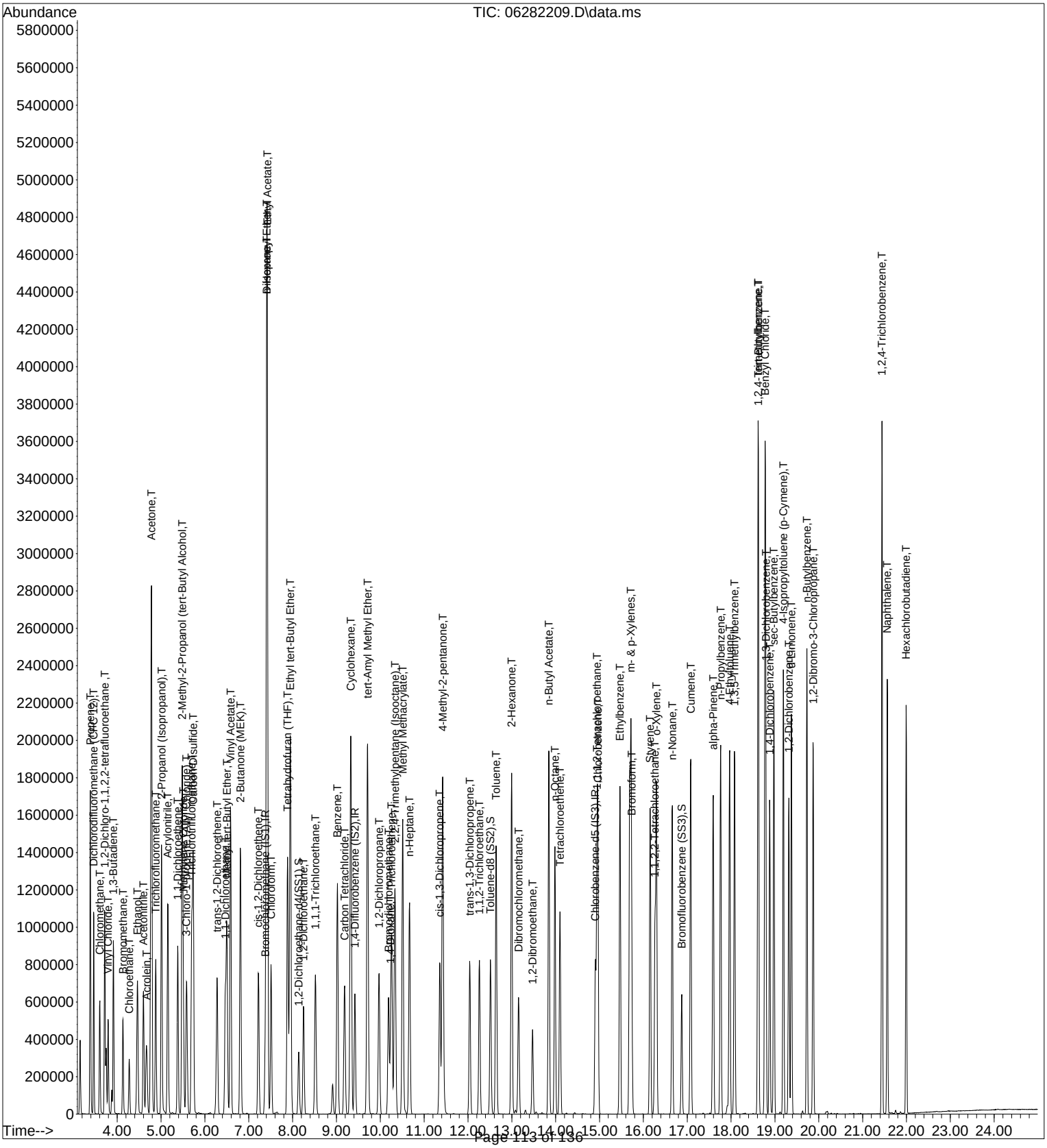
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.67	71	307719	29.309 ng		100
52) cis-1,3-Dichloropropene	11.36	75	561214	30.965 ng		100
53) 4-Methyl-2-pentanone	11.42	58	596698	66.301 ng		100
54) trans-1,3-Dichloropropene	12.04	75	535165	29.856 ng		100
55) 1,1,2-Trichloroethane	12.26	97	313397	25.865 ng		100
58) Toluene	12.64	91	1257302	20.257 ng		100
59) 2-Hexanone	12.99	43	1580607	57.497 ng		100
60) Dibromochloromethane	13.15	129	415333	19.135 ng		100
61) 1,2-Dibromoethane	13.47	107	378852	20.693 ng		100
62) n-Butyl Acetate	13.84	43	1768770	58.990 ng		100
63) n-Octane	13.99	57	291749	24.644 ng		100
64) Tetrachloroethene	14.10	166	363836	17.122 ng		100
65) Chlorobenzene	14.96	112	836525	19.522 ng		100
66) Ethylbenzene	15.46	91	1480782	20.537 ng		100
67) m- & p-Xylenes	15.72	91	2355881	40.432 ng		100
68) Bromoform	15.73	173	353739	18.279 ng		100
69) Styrene	16.15	104	887298	21.588 ng		100
70) o-Xylene	16.30	91	1190258	20.267 ng		100
71) n-Nonane	16.66	43	743684	29.392 ng		100
72) 1,1,2,2-Tetrachloroethane	16.26	83	571360	21.793 ng		100
74) Cumene	17.08	105	1452808	19.631 ng		100
75) alpha-Pinene	17.59	93	781231	21.582 ng		100
76) n-Propylbenzene	17.76	91	1811280	21.005 ng		100
77) 3-Ethyltoluene	17.08	105	1452808	No Calib		
78) 4-Ethyltoluene	17.97	105	1446241	20.763 ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	1225950	19.637 ng		100
80) alpha-Methylstyrene	16.88	118	829	No Calib	#	
81) 2-Ethyltoluene	16.87	105	179	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.62	105	1201249	19.432 ng		100
83) n-Decane	16.92	58	222	No Calib	#	
84) Benzyl Chloride	18.78	91	2194855	43.647 ng		100
85) 1,3-Dichlorobenzene	18.79	146	673599	17.736 ng		100
86) 1,4-Dichlorobenzene	18.88	146	712829	17.976 ng		100
87) sec-Butylbenzene	18.98	105	1623016	19.817 ng		100
88) 4-Isopropyltoluene (p-...	19.19	119	1400450	19.427 ng		100
89) 1,2,3-Trimethylbenzene	17.37	105	326	No Calib	#	
90) 1,2-Dichlorobenzene	19.32	146	695928	18.272 ng		100
91) d-Limonene	19.37	68	504508	25.151 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.88	157	543108	36.693 ng		100
93) n-Undecane	18.08	58	26495	No Calib		
94) 1,2,4-Trichlorobenzene	21.44	180	1080748	34.650 ng		100
95) Naphthalene	21.56	128	1637650	19.165 ng		100
96) n-Dodecane	18.82	57	1825	No Calib		
97) Hexachlorobutadiene	21.99	225	393068	15.667 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.62	119	1119283	18.828 ng		100
100) n-Butylbenzene	19.73	91	1370807	21.370 ng		100
101) 1,1,1,2-Tetrachloroethane	14.94	131	327501	18.627 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282209.D Vial: 16
Acq On : 28 Jun 2022 13:43 Operator: TZ
Sample : 25ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

Quant Time: Jun 28 14:22:53 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:22:30 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282210.D Vial: 16
Acq On : 28 Jun 2022 14:20 Operator: TZ
Sample : 50ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

TZ 6/29/22

Quant Time: Jun 28 14:48:32 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:48:23 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.39	130	130422	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.43	114	618830	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.91	54	134250	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.15	65	266986	13.394	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%				
57) Toluene-d8 (SS2)	12.52	98	712402	12.307	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
73) Bromofluorobenzene (SS3)	16.88	174	226701	12.301	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
Target Compounds							Qvalue
2) Propene	3.39	42	1074626	58.241	ng		99
3) Dichlorodifluoromethan...	3.47	85	1391979	50.106	ng		100
4) Chloromethane	3.60	50	912497	43.050	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	585876	52.502	ng		100
6) Vinyl Chloride	3.80	62	773683	52.814	ng		99
7) 1,3-Butadiene	3.92	54	596644	47.683	ng		97
8) Bromomethane	4.14	94	556776	49.209	ng		100
9) Chloroethane	4.28	64	435107	49.696	ng		100
10) Ethanol	4.48	45	1782437	168.267	ng		100
11) Acetonitrile	4.62	41	1340784	45.582	ng		100
12) Acrolein	4.68	56	835340	100.498	ng		99
13) Acetone	4.79	58	1921411	208.968	ng		96
14) Trichlorofluoromethane	4.89	101	1192511	50.107	ng		100
15) 2-Propanol (Isopropanol)	5.03	45	2921547	80.274	ng		100
16) Acrylonitrile	5.18	53	1716219	99.959	ng		100
17) 1,1-Dichloroethene	5.39	96	598136	51.954	ng		98
18) 2-Methyl-2-Propanol (t...	5.50	59	2738500	82.316	ng		99
19) Methylene Chloride	5.52	84	600035	46.527	ng		98
20) 3-Chloro-1-propene (Al...	5.60	41	1202743	52.856	ng		99
21) Trichlorotrifluoroethane	5.70	151	547429	52.183	ng		99
22) Carbon Disulfide	5.74	76	4523847	84.951	ng		100
23) trans-1,2-Dichloroethene	6.29	61	1092665	55.255	ng		100
24) 1,1-Dichloroethane	6.48	63	1197257	51.351	ng		100
25) Methyl tert-Butyl Ether	6.51	73	2078639	51.888	ng		100
26) Vinyl Acetate	6.60	86	334119	175.801	ng	#	96
27) 2-Butanone (MEK)	6.83	72	786676	98.485	ng		97
28) cis-1,2-Dichloroethene	7.24	61	1011373	52.564	ng		99
29) Diisopropyl Ether	7.42	87	760243	83.447	ng	#	95
30) Ethyl Acetate	7.44	61	844461	159.755	ng		100
31) n-Hexane	7.42	57	843545	40.937	ng		99
32) Chloroform	7.53	83	1192711	52.398	ng		100
34) Tetrahydrofuran (THF)	7.90	72	743657	92.264	ng		92
35) Ethyl tert-Butyl Ether	7.96	87	1422844	99.728	ng		99
36) 1,2-Dichloroethane	8.26	62	1051814	53.692	ng		100
38) 1,1,1-Trichloroethane	8.53	97	1095594	49.036	ng		99
39) Isopropyl Acetate	9.19	61	396	No Calib		#	
40) 1-Butanol	8.92	56	35693	No Calib			
41) Benzene	9.03	78	2488707	46.562	ng		100
42) Carbon Tetrachloride	9.19	117	983150	51.166	ng		99
43) Cyclohexane	9.34	84	1701274	90.586	ng		99
44) tert-Amyl Methyl Ether	9.72	73	3719097	95.256	ng		99
45) 1,2-Dichloropropane	9.98	63	683914	48.179	ng		99
46) Bromodichloromethane	10.19	83	1003523	51.768	ng		100
47) Trichloroethene	10.27	130	666110	47.059	ng		100
48) 1,4-Dioxane	10.25	88	503543	52.015	ng		99
49) 2,2,4-Trimethylpentane...	10.34	57	2867147	48.608	ng		99
50) Methyl Methacrylate	10.52	100	488274	101.328	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282210.D Vial: 16
Acq On : 28 Jun 2022 14:20 Operator: TZ
Sample : 50ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

Quant Time: Jun 28 14:48:32 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:48:23 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

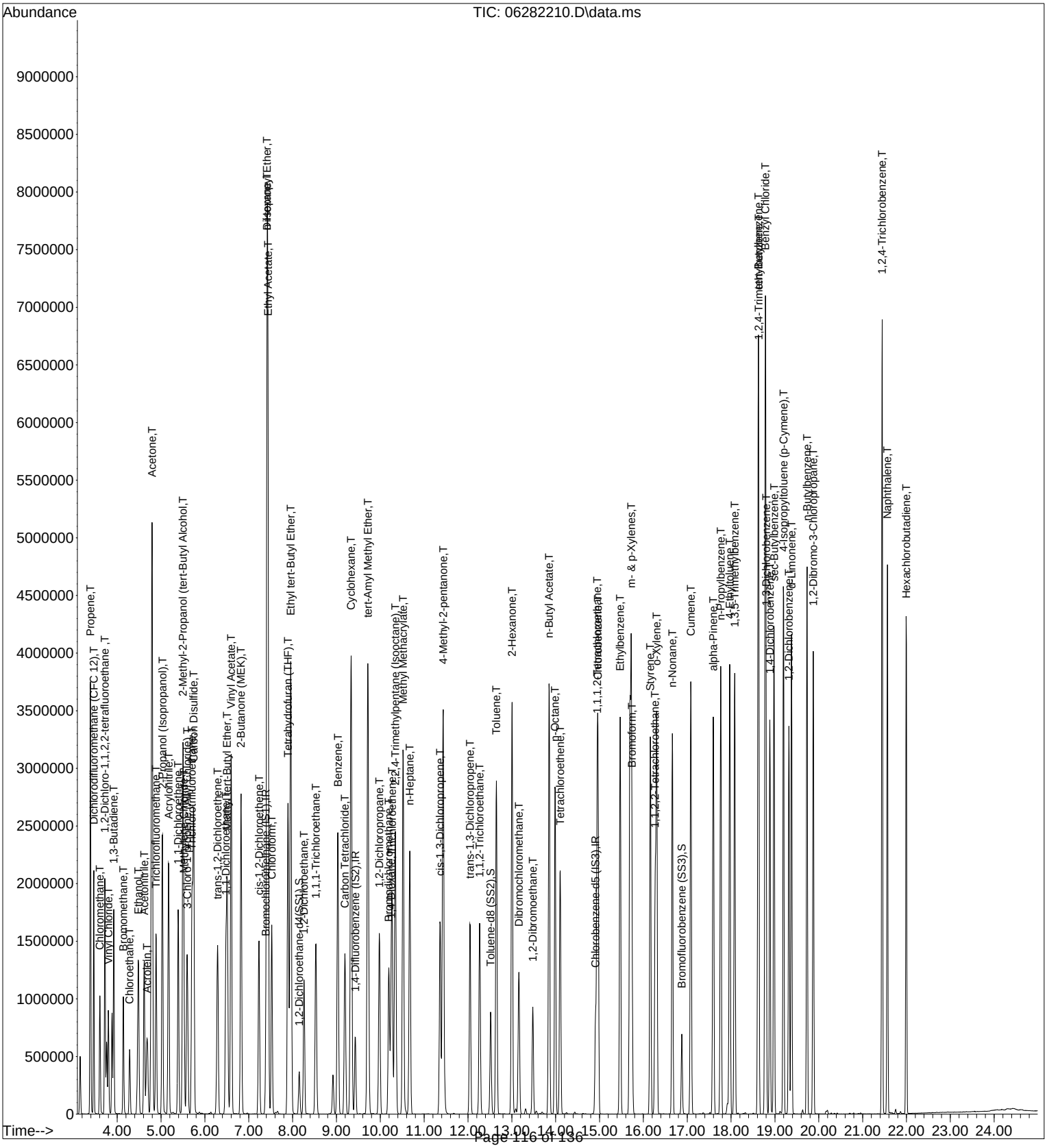
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.67	71	621045	48.848	ng		100
52) cis-1,3-Dichloropropene	11.36	75	1152566	52.378	ng		100
53) 4-Methyl-2-pentanone	11.44	58	1190917	98.673	ng		98
54) trans-1,3-Dichloropropene	12.04	75	1096388	51.265	ng		100
55) 1,1,2-Trichloroethane	12.27	97	636363	49.721	ng		100
58) Toluene	12.65	91	2522434	45.180	ng		100
59) 2-Hexanone	13.01	43	3202842	96.595	ng		99
60) Dibromochloromethane	13.16	129	847149	51.824	ng		100
61) 1,2-Dibromoethane	13.48	107	768169	49.683	ng		100
62) n-Butyl Acetate	13.85	43	3597285	96.458	ng		99
63) n-Octane	13.99	57	586253	46.727	ng		100
64) Tetrachloroethene	14.10	166	733485	46.307	ng		100
65) Chlorobenzene	14.96	112	1651985	45.417	ng		100
66) Ethylbenzene	15.47	91	2950659	45.595	ng		99
67) m- & p-Xylenes	15.72	91	4644236	88.874	ng		99
68) Bromoform	15.74	173	705807	52.005	ng		100
69) Styrene	16.16	104	1784413	50.082	ng		99
70) o-Xylene	16.30	91	2370445	45.906	ng		99
71) n-Nonane	16.66	43	1504991	47.413	ng		100
72) 1,1,2,2-Tetrachloroethane	16.27	83	1143876	46.605	ng		100
74) Cumene	17.08	105	2889265	45.831	ng		100
75) alpha-Pinene	17.59	93	1569411	49.686	ng		99
76) n-Propylbenzene	17.76	91	3599383	46.157	ng		99
77) 3-Ethyltoluene	17.08	105	2889265	No Calib			
78) 4-Ethyltoluene	17.97	105	2863140	47.557	ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	2447132	47.194	ng		99
80) alpha-Methylstyrene	16.88	118	839	No Calib		#	
81) 2-Ethyltoluene	16.88	105	451	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.63	105	2300737	44.068	ng		99
83) n-Decane	16.92	58	706	No Calib		#	
84) Benzyl Chloride	18.78	91	4239011	96.982	ng		99
85) 1,3-Dichlorobenzene	18.80	146	1281781	42.125	ng		100
86) 1,4-Dichlorobenzene	18.89	146	1417390	46.961	ng		100
87) sec-Butylbenzene	18.98	105	3196288	45.648	ng		99
88) 4-Isopropyltoluene (p-...	19.20	119	2737493	46.291	ng		99
89) 1,2,3-Trimethylbenzene	17.36	105	796	No Calib		#	
90) 1,2-Dichlorobenzene	19.32	146	1386607	47.808	ng		100
91) d-Limonene	19.38	68	1001694	51.566	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.88	157	1064396	97.748	ng		96
93) n-Undecane	18.08	58	52544	No Calib			
94) 1,2,4-Trichlorobenzene	21.45	180	2053984	96.542	ng		100
95) Naphthalene	21.57	128	3304907	58.841	ng		100
96) n-Dodecane	18.82	57	3480	No Calib		#	
97) Hexachlorobutadiene	22.00	225	780286	45.209	ng		100
98) Cyclohexanone	15.26	55	208	No Calib		#	
99) tert-Butylbenzene	18.62	119	2115240	42.534	ng		100
100) n-Butylbenzene	19.73	91	2692640	46.624	ng		100
101) 1,1,1,2-Tetrachloroethane	14.95	131	650872	48.322	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282210.D Vial: 16
Acq On : 28 Jun 2022 14:20 Operator: TZ
Sample : 50ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

Quant Time: Jun 28 14:48:32 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:48:23 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282211.D Vial: 16
Acq On : 28 Jun 2022 14:56 Operator: TZ
Sample : 100ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

TZ 6/29/22

Quant Time: Jun 28 15:27:11 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:56:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.40	130	127496	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.44	114	668382	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.91	54	144656	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.16	65	276595	14.051	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.40%				
57) Toluene-d8 (SS2)	12.52	98	768264	12.345	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	16.88	174	242041	12.216	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%				
Target Compounds							Qvalue
2) Propene	3.39	42	2088871	113.856	ng		98
3) Dichlorodifluoromethan...	3.47	85	2677628	99.243	ng		100
4) Chloromethane	3.60	50	1207903	59.622	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	1119272	103.010	ng		100
6) Vinyl Chloride	3.80	62	1503557	104.758	ng		99
7) 1,3-Butadiene	3.93	54	1216581	100.652	ng		90
8) Bromomethane	4.15	94	1100643	100.012	ng		100
9) Chloroethane	4.29	64	869639	101.978	ng		100
10) Ethanol	4.50	45	3465473	338.055	ng		99
11) Acetonitrile	4.63	41	2774974	96.778	ng		100
12) Acrolein	4.70	56	1690169	207.860	ng		96
13) Acetone	4.81	58	3557623	407.123	ng		93
14) Trichlorofluoromethane	4.90	101	2396596	103.411	ng		100
15) 2-Propanol (Isopropanol)	5.05	45	5491717	159.018	ng		99
16) Acrylonitrile	5.19	53	3382610	201.975	ng		99
17) 1,1-Dichloroethene	5.40	96	1186789	105.888	ng		96
18) 2-Methyl-2-Propanol (t...	5.52	59	3280104	104.071	ng		98
19) Methylene Chloride	5.53	84	1183119	95.278	ng		96
20) 3-Chloro-1-propene (Al...	5.61	41	2493067	111.967	ng		99
21) Trichlorotrifluoroethane	5.71	151	1056155	103.485	ng		99
22) Carbon Disulfide	5.75	76	8462955	167.128	ng		100
23) trans-1,2-Dichloroethene	6.30	61	2208897	113.575	ng		98
24) 1,1-Dichloroethane	6.48	63	2335264	102.781	ng		100
25) Methyl tert-Butyl Ether	6.52	73	3930434	100.532	ng		100
26) Vinyl Acetate	6.62	86	631748	338.382	ng	#	91
27) 2-Butanone (MEK)	6.84	72	1481858	190.970	ng		94
28) cis-1,2-Dichloroethene	7.24	61	2048726	108.754	ng		97
29) Diisopropyl Ether	7.43	87	1344707	155.721	ng	#	88
30) Ethyl Acetate	7.45	61	1541319	307.815	ng		99
31) n-Hexane	7.42	57	1539971	78.932	ng		99
32) Chloroform	7.54	83	2360394	106.389	ng		100
34) Tetrahydrofuran (THF)	7.91	72	1414828	181.202	ng	#	91
35) Ethyl tert-Butyl Ether	7.97	87	2701101	195.066	ng		98
36) 1,2-Dichloroethane	8.27	62	2120697	110.534	ng		100
38) 1,1,1-Trichloroethane	8.54	97	2187196	91.381	ng		99
39) Isopropyl Acetate	9.20	61	1062	No Calib		#	
40) 1-Butanol	8.94	56	76133	No Calib			
41) Benzene	9.04	78	4923966	86.588	ng		100
42) Carbon Tetrachloride	9.20	117	1973820	95.454	ng		99
43) Cyclohexane	9.34	84	3181464	159.688	ng		97
44) tert-Amyl Methyl Ether	9.73	73	7085240	170.168	ng		97
45) 1,2-Dichloropropane	9.99	63	1378936	90.774	ng		99
46) Bromodichloromethane	10.20	83	2036737	97.472	ng		100
47) Trichloroethene	10.27	130	1284635	85.077	ng		99
48) 1,4-Dioxane	10.25	88	975901	93.332	ng		98
49) 2,2,4-Trimethylpentane...	10.35	57	5663399	89.961	ng		97
50) Methyl Methacrylate	10.54	100	940047	181.284	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282211.D Vial: 16
Acq On : 28 Jun 2022 14:56 Operator: TZ
Sample : 100ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

Quant Time: Jun 28 15:27:11 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:56:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

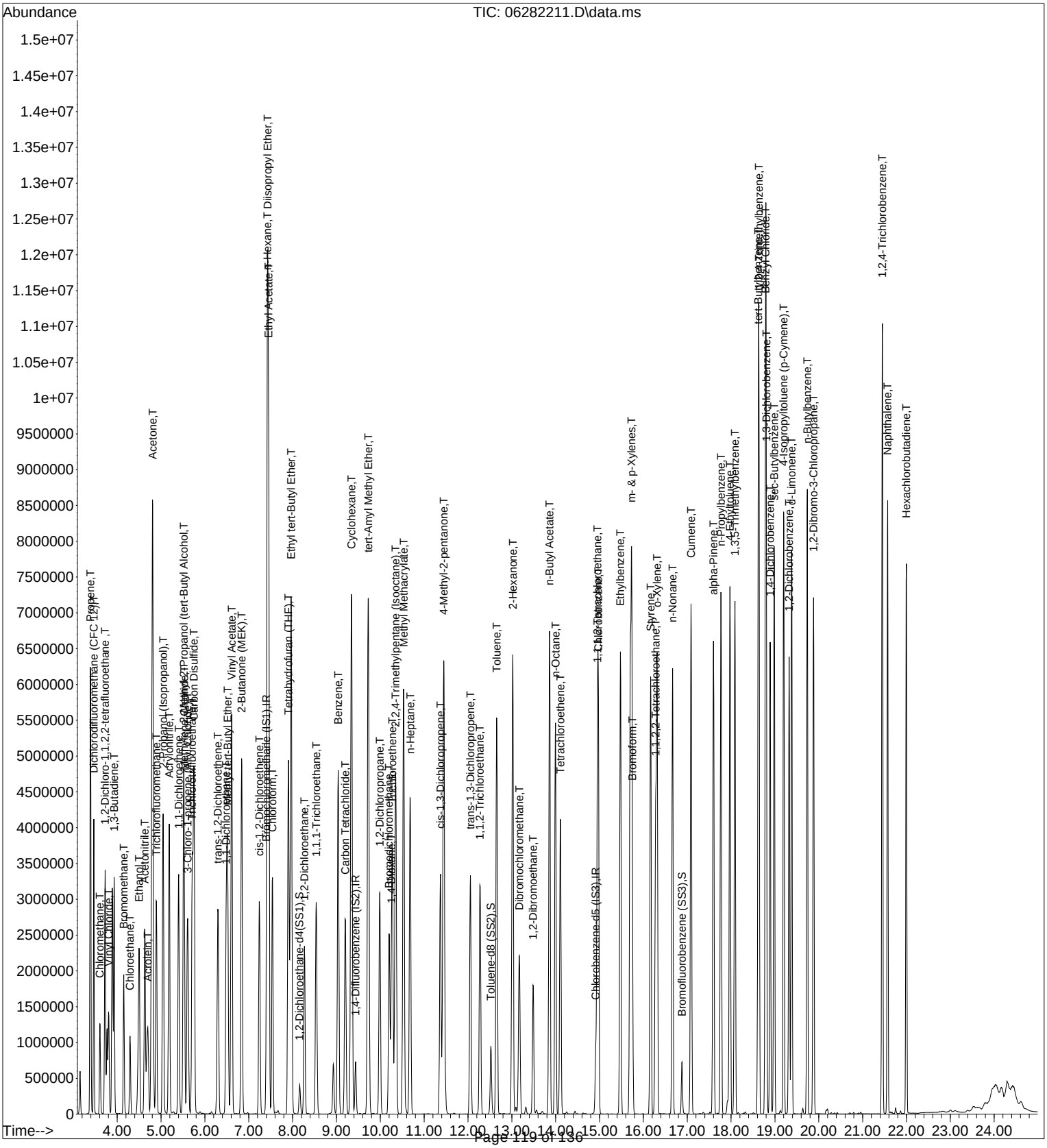
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.68	71	1226763	90.234 ng		100
52) cis-1,3-Dichloropropene	11.37	75	2327223	97.952 ng		100
53) 4-Methyl-2-pentanone	11.45	58	2306378	178.232 ng		96
54) trans-1,3-Dichloropropene	12.06	75	2223513	96.051 ng		100
55) 1,1,2-Trichloroethane	12.27	97	1268735	92.358 ng		100
58) Toluene	12.65	91	4953818	83.816 ng		100
59) 2-Hexanone	13.02	43	6306920	177.994 ng		98
60) Dibromochloromethane	13.17	129	1713322	97.451 ng		100
61) 1,2-Dibromoethane	13.48	107	1549771	93.621 ng		100
62) n-Butyl Acetate	13.86	43	6977191	174.987 ng		98
63) n-Octane	14.00	57	1149711	86.402 ng		99
64) Tetrachloroethene	14.11	166	1440826	85.761 ng		100
65) Chlorobenzene	14.98	112	3133513	81.424 ng		100
66) Ethylbenzene	15.48	91	5743583	83.740 ng		100
67) m- & p-Xylenes	15.73	91	8767507	158.821 ng		98
68) Bromoform	15.75	173	1323510	90.502 ng		100
69) Styrene	16.16	104	3475431	90.883 ng		98
70) o-Xylene	16.31	91	4592733	83.950 ng		98
71) n-Nonane	16.67	43	2935471	86.922 ng		99
72) 1,1,2,2-Tetrachloroethane	16.28	83	2214170	84.981 ng		100
74) Cumene	17.09	105	5511870	82.541 ng		100
75) alpha-Pinene	17.60	93	3016331	89.647 ng		98
76) n-Propylbenzene	17.77	91	6860636	83.083 ng		99
77) 3-Ethyltoluene	17.09	105	5511870	No Calib		
78) 4-Ethyltoluene	17.97	105	5479983	85.732 ng		100
79) 1,3,5-Trimethylbenzene	18.09	105	4709309	85.416 ng		99
80) alpha-Methylstyrene	16.88	118	902	No Calib	#	
81) 2-Ethyltoluene	16.89	105	873	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.63	105	4186913	75.994 ng		98
83) n-Decane	16.92	58	1574	No Calib	#	
84) Benzyl Chloride	18.79	91	7609214	162.924 ng		99
85) 1,3-Dichlorobenzene	18.81	146	2253836	70.660 ng		100
86) 1,4-Dichlorobenzene	18.89	146	2725372	84.978 ng		99
87) sec-Butylbenzene	18.98	105	6012406	81.104 ng		99
88) 4-Isopropyltoluene (p-...	19.20	119	5122801	81.676 ng		98
89) 1,2,3-Trimethylbenzene	17.37	105	1076	No Calib	#	
90) 1,2-Dichlorobenzene	19.32	146	2664862	86.373 ng		99
91) d-Limonene	19.38	68	1926610	92.280 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.88	157	1978443	169.163 ng		89
93) n-Undecane	18.09	58	101983	No Calib		
94) 1,2,4-Trichlorobenzene	21.45	180	3607678	158.583 ng		100
95) Naphthalene	21.57	128	6170215	100.073 ng		100
96) n-Dodecane	18.82	57	7362	No Calib	#	
97) Hexachlorobutadiene	22.00	225	1461152	79.963 ng		100
98) Cyclohexanone	15.28	55	604	No Calib	#	
99) tert-Butylbenzene	18.62	119	3839196	73.559 ng		99
100) n-Butylbenzene	19.74	91	5053456	82.425 ng		100
101) 1,1,1,2-Tetrachloroethane	14.95	131	1245068	86.663 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282211.D Vial: 16
Acq On : 28 Jun 2022 14:56 Operator: TZ
Sample : 100ng R13062822 ICAL Std. Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

Quant Time: Jun 28 15:27:11 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 28 14:56:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282213.D Vial: 1
Acq On : 28 Jun 2022 16:55 Operator: TZ
Sample : 25ng R13062822 ICV Std. Inst : GCMS13 TZ 6/29/22
Misc : S35-06022211/S35-06202203 (7/20)

Quant Time: Jun 29 08:17:44 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:12:10 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.38	130	151375	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.42	114	692999	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	149266	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.13	65	295282	12.441	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
57) Toluene-d8 (SS2)	12.51	98	802410	12.515	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	16.88	174	252735	12.397	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
2) Propene	3.39	42	573744	26.031	ng		99
3) Dichlorodifluoromethan...	3.46	85	751923	23.635	ng		100
4) Chloromethane	3.60	50	572124	25.088	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	319116	24.880	ng		99
6) Vinyl Chloride	3.79	62	419544	24.598	ng		99
7) 1,3-Butadiene	3.91	54	310773	21.743	ng		99
8) Bromomethane	4.13	94	310749	23.841	ng		100
9) Chloroethane	4.27	64	248963	24.590	ng		100
10) Ethanol	4.46	45	1271714	105.357	ng		100
11) Acetonitrile	4.60	41	773663	22.611	ng		100
12) Acrolein	4.66	56	495533	51.077	ng		99
13) Acetone	4.78	58	1185559	117.434	ng		98
14) Trichlorofluoromethane	4.87	101	636163	23.108	ng		99
15) 2-Propanol (Isopropanol)	5.01	45	1973042	49.434	ng		99
16) Acrylonitrile	5.15	53	992036	49.922	ng		100
17) 1,1-Dichloroethene	5.38	96	335654	25.256	ng		99
18) 2-Methyl-2-Propanol (t...	5.48	59	1868121	53.281	ng		99
19) Methylene Chloride	5.51	84	343959	23.577	ng		96
20) 3-Chloro-1-propene (Al...	5.58	41	654741	24.563	ng		97
21) Trichlorotrifluoroethane	5.70	151	298169	24.736	ng		97
22) Carbon Disulfide	5.73	76	2549123	43.510	ng		100
23) trans-1,2-Dichloroethene	6.27	61	598992	25.710	ng		99
24) 1,1-Dichloroethane	6.46	63	693811	25.788	ng		100
25) Methyl tert-Butyl Ether	6.50	73	1139507	24.680	ng		99
26) Vinyl Acetate	6.59	86	281731	127.174	ng	#	86
27) 2-Butanone (MEK)	6.81	72	452518	49.570	ng		93
28) cis-1,2-Dichloroethene	7.22	61	567193	25.215	ng		98
29) Diisopropyl Ether	7.41	87	475257	47.945	ng	#	72
30) Ethyl Acetate	7.42	61	386717	67.108	ng		99
31) n-Hexane	7.41	57	541253	24.114	ng		100
32) Chloroform	7.50	83	656311	24.933	ng		100
34) Tetrahydrofuran (THF)	7.88	72	449707	49.001	ng	#	90
35) Ethyl tert-Butyl Ether	7.95	87	813425	49.921	ng		97
36) 1,2-Dichloroethane	8.25	62	560570	24.478	ng		100
38) 1,1,1-Trichloroethane	8.52	97	586173	23.984	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.91	56	9749	No Calib		#	
41) Benzene	9.02	78	1436249	24.880	ng		100
42) Carbon Tetrachloride	9.18	117	489249	23.082	ng		100
43) Cyclohexane	9.32	84	989467	49.309	ng		98
44) tert-Amyl Methyl Ether	9.71	73	2141845	50.794	ng		99
45) 1,2-Dichloropropane	9.97	63	390472	25.165	ng		99
46) Bromodichloromethane	10.18	83	539838	25.143	ng		100
47) Trichloroethene	10.26	130	374674	24.464	ng		100
48) 1,4-Dioxane	10.23	88	291306	27.219	ng		97
49) 2,2,4-Trimethylpentane...	10.33	57	1615504	25.227	ng		99
50) Methyl Methacrylate	10.51	100	276146	52.200	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282213.D Vial: 1
Acq On : 28 Jun 2022 16:55 Operator: TZ
Sample : 25ng R13062822 ICV Std. Inst : GCMS13
Misc : S35-06022211/S35-06202203 (7/20)

Quant Time: Jun 29 08:17:44 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:12:10 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

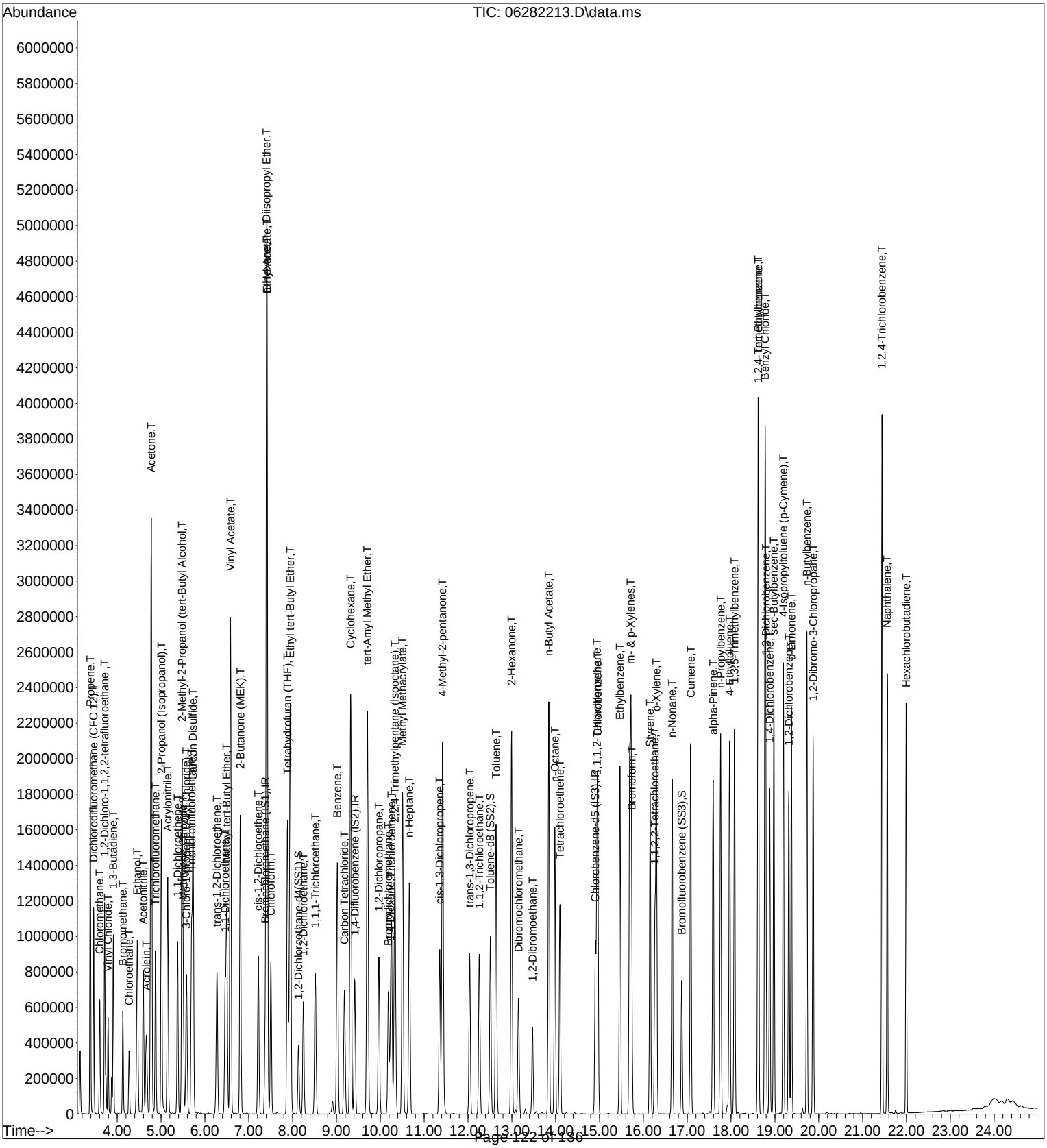
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.66	71	349923	25.268	ng		99
52) cis-1,3-Dichloropropene	11.36	75	636152	26.043	ng		100
53) 4-Methyl-2-pentanone	11.42	58	706052	53.583	ng		97
54) trans-1,3-Dichloropropene	12.04	75	590990	24.774	ng		100
55) 1,1,2-Trichloroethane	12.26	97	354462	25.240	ng		100
58) Toluene	12.64	91	1440311	24.180	ng		100
59) 2-Hexanone	12.99	43	1895440	52.709	ng		100
60) Dibromochloromethane	13.15	129	438585	24.395	ng		100
61) 1,2-Dibromoethane	13.47	107	415649	24.641	ng		100
62) n-Butyl Acetate	13.84	43	2153338	53.285	ng		99
63) n-Octane	13.99	57	332836	24.789	ng		99
64) Tetrachloroethene	14.10	166	404512	23.857	ng		100
65) Chlorobenzene	14.96	112	931238	24.105	ng		100
66) Ethylbenzene	15.46	91	1671312	24.180	ng		100
67) m- & p-Xylenes	15.71	91	2661255	48.096	ng		100
68) Bromoform	15.73	173	376316	25.349	ng		100
69) Styrene	16.15	104	976724	25.122	ng		99
70) o-Xylene	16.30	91	1338633	24.298	ng		100
71) n-Nonane	16.65	43	872882	25.573	ng		99
72) 1,1,2,2-Tetrachloroethane	16.26	83	652234	24.828	ng		100
74) Cumene	17.08	105	1613751	24.040	ng		100
75) alpha-Pinene	17.59	93	870975	25.631	ng		100
76) n-Propylbenzene	17.76	91	1998499	24.083	ng		100
77) 3-Ethyltoluene	17.08	105	1613751	No Calib			
78) 4-Ethyltoluene	17.97	105	1584014	24.604	ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	1371403	24.657	ng		100
80) alpha-Methylstyrene	16.87	118	912	No Calib		#	
81) 2-Ethyltoluene	16.87	105	548	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.62	105	1333109	24.244	ng		100
83) n-Decane	16.88	58	231	No Calib		#	
84) Benzyl Chloride	18.78	91	2376433	50.635	ng		100
85) 1,3-Dichlorobenzene	18.79	146	743160	23.522	ng		99
86) 1,4-Dichlorobenzene	18.88	146	771823	23.868	ng		100
87) sec-Butylbenzene	18.98	105	1775970	23.874	ng		99
88) 4-Isopropyltoluene (p-...	19.19	119	1516921	24.084	ng		99
89) 1,2,3-Trimethylbenzene	17.37	105	392	No Calib		#	
90) 1,2-Dichlorobenzene	19.32	146	754846	24.248	ng		100
91) d-Limonene	19.37	68	558172	26.308	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.88	157	585085	49.434	ng		98
93) n-Undecane	18.08	58	31799	No Calib			
94) 1,2,4-Trichlorobenzene	21.44	180	1168520	51.203	ng		100
95) Naphthalene	21.56	128	1746295	27.578	ng		100
96) n-Dodecane	18.82	57	1478	No Calib		#	
97) Hexachlorobutadiene	22.00	225	419397	22.883	ng		100
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.62	119	1228170	23.671	ng		100
100) n-Butylbenzene	19.73	91	1495770	24.273	ng		100
101) 1,1,1,2-Tetrachloroethane	14.94	131	353175	24.331	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282213.D Vial: 1
Acq On : 28 Jun 2022 16:55 Operator: TZ
Sample : 25ng R13062822 ICV Std. Inst : GCMS13
Misc : S35-06022211/S35-06202203 (7/20)

Quant Time: Jun 29 08:17:44 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:12:10 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TZ 6/29/22

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **06282213.D**
Data File Path: **I:\MS13\DATA\2022_06\28**
Operator: **TZ**
Date Acquired: **6/28/2022** **16:55**

Acq. Method File: **TO15.M**
Sample Name: **25ng R13062822 ICV Std.**
Misc Info: **S35-06022211/S35-06202203 (**
Instrument Name: **GCMS13**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**3.39**	**26.0**	**25.75**	101	**56**	**128**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**3.46**	**23.6**	**26.00**	91	**71**	**112**	*	*
4)	**Chloromethane**	**3.60**	**25.1**	**25.75**	97	**53**	**126**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**3.71**	**24.9**	**26.00**	96	**62**	**121**	*	*
6)	**Vinyl Chloride**	**3.79**	**24.6**	**26.00**	95	**63**	**123**	*	*
7)	**1,3-Butadiene**	**3.91**	**21.7**	**25.75**	84	**63**	**135**	*	*
8)	**Bromomethane**	**4.13**	**23.8**	**25.75**	92	**71**	**112**	*	*
9)	**Chloroethane**	**4.27**	**24.6**	**25.75**	96	**66**	**117**	*	*
10)	**Ethanol**	**4.46**	**105**	**104.00**	101	**57**	**117**	*	*
11)	**Acetonitrile**	**4.60**	**22.6**	**25.25**	90	**59**	**131**	*	*
12)	**Acrolein**	**4.66**	**51.1**	**52.00**	98	**71**	**123**	*	*
13)	**Acetone**	**4.78**	**117**	**128.00**	91	**60**	**117**	*	*
14)	**Trichlorofluoromethane**	**4.87**	**23.1**	**25.25**	91	**71**	**114**	*	*
15)	**2-Propanol (Isopropanol)**	**5.01**	**49.4**	**50.00**	99	**61**	**124**	*	*
16)	**Acrylonitrile**	**5.15**	**49.9**	**50.25**	99	**65**	**130**	*	*
17)	**1,1-Dichloroethene**	**5.38**	**25.3**	**26.25**	96	**74**	**114**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	5.48	53.3	51.00	105	56	135	*	*
19)	**Methylene Chloride**	**5.51**	**23.6**	**26.00**	91	**75**	**112**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**5.58**	**24.6**	**25.50**	96	**57**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**5.70**	**24.7**	**27.00**	91	**73**	**114**	*	*
22)	**Carbon Disulfide**	**5.73**	**43.5**	**51.75**	84	**70**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**6.27**	**25.7**	**26.00**	99	**76**	**119**	*	*
24)	**1,1-Dichloroethane**	**6.46**	**25.8**	**26.75**	96	**70**	**114**	*	*
25)	**Methyl tert-Butyl Ether**	**6.50**	**24.7**	**25.75**	96	**72**	**118**	*	*
26)	**Vinyl Acetate**	**6.59**	**127**	**117.75**	108	**56**	**137**	*	*
27)	**2-Butanone (MEK)**	**6.81**	**49.6**	**51.00**	97	**74**	**121**	*	*
28)	**cis-1,2-Dichloroethene**	**7.22**	**25.2**	**25.75**	98	**73**	**117**	*	*
29)	Diisopropyl Ether	7.41	47.9	52.25	92	58	124	*	*
30)	**Ethyl Acetate**	**7.42**	**67.1**	**72.50**	93	**59**	**161**	*	*
31)	**n-Hexane**	**7.41**	**24.1**	**26.00**	93	**55**	**130**	*	*
32)	**Chloroform**	**7.50**	**24.9**	**26.25**	95	**71**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**7.88**	**49.0**	**50.50**	97	**73**	**114**	*	*
35)	Ethyl tert-Butyl Ether	7.95	49.9	51.75	96	76	119	*	*
36)	**1,2-Dichloroethane**	**8.25**	**24.5**	**26.25**	93	**71**	**119**	*	*
38)	**1,1,1-Trichloroethane**	**8.52**	**24.0**	**26.00**	92	**73**	**119**	*	*
41)	**Benzene**	**9.02**	**24.9**	**26.00**	96	**72**	**113**	*	*
42)	**Carbon Tetrachloride**	**9.18**	**23.1**	**25.25**	91	**67**	**123**	*	*
43)	**Cyclohexane**	**9.32**	**49.3**	**51.50**	96	**70**	**119**	*	*
44)	tert-Amyl Methyl Ether	9.71	50.8	**51.50**	99	74	120	*	*
45)	**1,2-Dichloropropane**	**9.97**	**25.2**	**25.75**	98	**70**	**118**	*	*
46)	**Bromodichloromethane**	**10.18**	**25.1**	**26.00**	97	**74**	**119**	*	*
47)	**Trichloroethene**	**10.26**	**24.5**	**25.50**	96	**74**	**115**	*	*
48)	**1,4-Dioxane**	**10.23**	**27.2**	**25.75**	106	**77**	**124**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	10.33	25.2	26.25	96	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **06282213.D** **TO15.M**
Data File Path: **I:\MS13\DATA\2022_06\28** Sample Name: **25ng R13062822 ICV Std.**
Operator: **TZ** Misc Info: **S35-06022211/S35-06202203 (**
Date Acquired: **6/28/2022** **16:55** Instrument Name: **GCMS13**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**10.51**	**52.2**	**51.25**	102	**78**	**126**	*	*
51)	**n-Heptane**	**10.66**	**25.3**	**25.75**	98	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**11.36**	**26.0**	**26.00**	100	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**11.42**	**53.6**	**51.50**	104	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**12.04**	**24.8**	**25.00**	99	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**12.26**	**25.2**	**26.00**	97	**78**	**117**	*	*
58)	**Toluene**	**12.64**	**24.2**	**25.75**	94	**70**	**118**	*	*
59)	**2-Hexanone**	**12.99**	**52.7**	**50.75**	104	**74**	**132**	*	*
60)	**Dibromochloromethane**	**13.15**	**24.4**	**26.25**	93	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**13.47**	**24.6**	**26.00**	95	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**13.84**	**53.3**	**50.75**	105	**75**	**134**	*	*
63)	**n-Octane**	**13.99**	**24.8**	**26.00**	95	**68**	**120**	*	*
64)	**Tetrachloroethene**	**14.10**	**23.9**	**26.50**	90	**63**	**130**	*	*
65)	**Chlorobenzene**	**14.96**	**24.1**	**25.75**	94	**70**	**118**	*	*
66)	**Ethylbenzene**	**15.46**	**24.2**	**25.75**	94	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**15.71**	**48.1**	**52.00**	93	**67**	**127**	*	*
68)	**Bromoform**	**15.73**	**25.3**	**26.25**	96	**65**	**149**	*	*
69)	**Styrene**	**16.15**	**25.1**	**25.25**	99	**76**	**132**	*	*
70)	**o-Xylene**	**16.30**	**24.3**	**26.00**	93	**69**	**124**	*	*
71)	**n-Nonane**	**16.65**	**25.6**	**26.00**	98	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**16.26**	**24.8**	**26.00**	95	**69**	**128**	*	*
74)	**Cumene**	**17.08**	**24.0**	**25.75**	93	**69**	**125**	*	*
75)	**alpha-Pinene**	**17.59**	**25.6**	**26.25**	98	**68**	**129**	*	*
76)	**n-Propylbenzene**	**17.76**	**24.1**	**26.00**	93	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**17.97**	**24.6**	**26.00**	**95**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**18.08**	**24.7**	**26.00**	**95**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**18.62**	**24.2**	**25.75**	**94**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**18.78**	**50.6**	**52.00**	**97**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**18.79**	**23.5**	**26.00**	**90**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**18.88**	**23.9**	**26.25**	**91**	**63**	**134**	*	*
87)	sec-Butylbenzene	18.98	23.9	25.50	**94**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	19.19	24.1	25.75	**94**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**19.32**	**24.2**	**26.25**	**92**	**64**	**139**	*	*
91)	**d-Limonene**	**19.37**	**26.3**	**25.75**	**102**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**19.88**	**49.4**	**50.50**	**98**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**21.44**	**51.2**	**52.50**	**98**	**62**	**154**	*	*
95)	**Naphthalene**	**21.56**	**27.6**	**26.25**	**105**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**22.00**	**22.9**	**26.50**	**86**	55	142	*	*
99)	tert-Butylbenzene	18.62	23.7	25.75	92	61	140	*	*
100)	n-Butylbenzene	19.73	24.3	26.00	93	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	14.94	24.3	25.75	94	70	130	*	*

Bold = 75 Compound List
*** = Pass**

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2022 06\28\06282209a.D Vial: 16
Acq On : 28 Jun 2022 13:43 Operator: TZ
Sample : CCV R13062822 25ng Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

TZ 6/29/22

Quant Time: Jun 29 08:15:39 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:12:10 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	100	0.00
2	T	Propene	1.820	1.818	0.1	100	0.00
3	T	Dichlorodifluoromethane (CF	2.627	2.644	-0.6	100	0.00
4	T	Chloromethane	1.883	2.006	-6.5	100	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.059	1.095	-3.4	100	0.00
6	T	Vinyl Chloride	1.408	1.493	-6.0	100	0.00
7	T	1,3-Butadiene	1.180	1.088	7.8	100	0.00
8	T	Bromomethane	1.076	1.067	0.8	100	0.00
9	T	Chloroethane	0.836	0.819	2.0	100	0.00
10	T	Ethanol	0.997	0.958	3.9	100	0.00
11	T	Acetonitrile	2.825	2.669	5.5	100	0.00
12	T	Acrolein	0.801	0.797	0.5	100	0.00
13	T	Acetone	0.834	0.752	9.8	100	0.00
14	T	Trichlorofluoromethane	2.273	2.240	1.5	100	0.00
15	T	2-Propanol (Isopropanol)	3.296	3.229	2.0	100	0.00
16	T	Acrylonitrile	1.641	1.621	1.2	100	0.00
17	T	1,1-Dichloroethene	1.097	1.079	1.6	100	0.00
18	T	2-Methyl-2-Propanol (tert-B	2.895	3.167	-9.4	100	0.00
19	T	Methylene Chloride	1.205	1.133	6.0	100	0.00
20	T	3-Chloro-1-propene (Allyl C	2.201	2.151	2.3	100	0.00
21	T	Trichlorotrifluoroethane	0.995	0.998	-0.3	100	0.00
22	T	Carbon Disulfide	4.838	4.262	11.9	100	0.00
23	T	trans-1,2-Dichloroethene	1.924	1.959	-1.8	100	0.00
24	T	1,1-Dichloroethane	2.222	2.211	0.5	100	0.00
25	T	Methyl tert-Butyl Ether	3.813	3.830	-0.4	100	0.00
26	T	Vinyl Acetate	0.183	0.193	-5.5	100	0.00
27	T	2-Butanone (MEK)	0.754	0.748	0.8	100	0.00
28	T	cis-1,2-Dichloroethene	1.857	1.860	-0.2	100	0.00
29	T	Diisopropyl Ether	0.819	0.759	7.3	100	0.00
30	T	Ethyl Acetate	0.476	0.435	8.6	100	0.00
31	T	n-Hexane	1.853	1.675	9.6	100	0.00
32	T	Chloroform	2.174	2.157	0.8	100	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.960	1.974	-0.7	100	0.00
34	T	Tetrahydrofuran (THF)	0.758	0.739	2.5	100	0.00
35	T	Ethyl tert-Butyl Ether	1.346	1.342	0.3	100	0.00
36	T	1,2-Dichloroethane	1.891	1.881	0.5	100	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	100	0.00
38	T	1,1,1-Trichloroethane	0.441	0.443	-0.5	100	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	0#	-9.20#
40	T	1-Butanol	0.000	0.000	0.0	100	0.00
41	T	Benzene	1.041	1.011	2.9	100	0.00
42	T	Carbon Tetrachloride	0.382	0.393	-2.9	100	0.00
43	T	Cyclohexane	0.362	0.357	1.4	100	0.00
44	T	tert-Amyl Methyl Ether	0.761	0.763	-0.3	100	0.00
45	T	1,2-Dichloropropane	0.280	0.277	1.1	100	0.00
46	T	Bromodichloromethane	0.387	0.398	-2.8	100	0.00
47	T	Trichloroethene	0.276	0.276	0.0	100	0.00
48	T	1,4-Dioxane	0.193	0.204	-5.7	100	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.155	1.130	2.2	100	0.00
50	T	Methyl Methacrylate	0.095	0.100	-5.3	100	0.00
51	T	n-Heptane	0.250	0.249	0.4	100	0.00
52	T	cis-1,3-Dichloropropene	0.441	0.455	-3.2	100	0.00
53	T	4-Methyl-2-pentanone	0.238	0.244	-2.5	100	0.00
54	T	trans-1,3-Dichloropropene	0.430	0.451	-4.9	100	0.00
55	T	1,1,2-Trichloroethane	0.253	0.256	-1.2	100	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2022 06\28\06282209a.D Vial: 16
Acq On : 28 Jun 2022 13:43 Operator: TZ
Sample : CCV R13062822 25ng Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

Quant Time: Jun 29 08:15:39 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:12:10 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	100	0.00
57	S	Toluene-d8 (SS2)	5.369	5.322	0.9	100	0.00
58	T	Toluene	4.988	4.838	3.0	100	0.00
59	T	2-Hexanone	3.011	3.056	-1.5	100	0.00
60	T	Dibromochloromethane	1.506	1.568	-4.1	100	0.00
61	T	1,2-Dibromoethane	1.413	1.444	-2.2	100	0.00
62	T	n-Butyl Acetate	3.384	3.436	-1.5	100	0.00
63	T	n-Octane	1.124	1.101	2.0	100	0.00
64	T	Tetrachloroethene	1.420	1.386	2.4	100	0.00
65	T	Chlorobenzene	3.235	3.188	1.5	100	0.00
66	T	Ethylbenzene	5.788	5.697	1.6	100	0.00
67	T	m- & p-Xylenes	4.634	4.532	2.2	100	0.00
68	T	Bromoform	1.243	1.348	-8.4	100	0.00
69	T	Styrene	3.256	3.414	-4.9	100	0.00
70	T	o-Xylene	4.614	4.536	1.7	100	0.00
71	T	n-Nonane	2.858	2.834	0.8	100	0.00
72	T	1,1,2,2-Tetrachloroethane	2.200	2.177	1.0	100	0.00
73	S	Bromofluorobenzene (SS3)	1.707	1.687	1.2	100	0.00
74	T	Cumene	5.622	5.536	1.5	100	0.00
75	T	alpha-Pinene	2.846	2.867	-0.7	100	0.00
76	T	n-Propylbenzene	6.949	6.836	1.6	100	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	100	0.00
78	T	4-Ethyltoluene	5.391	5.407	-0.3	100	0.00
79	T	1,3,5-Trimethylbenzene	4.658	4.672	-0.3	100	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	100	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	100	0.00
82	T	1,2,4-Trimethylbenzene	4.605	4.622	-0.4	100	0.00
83	T	n-Decane	0.000	0.000	0.0	100	0.00
84	T	Benzyl Chloride	3.930	4.222	-7.4	100	0.00
85	T	1,3-Dichlorobenzene	2.646	2.567	3.0	100	0.00
86	T	1,4-Dichlorobenzene	2.708	2.716	-0.3	100	0.00
87	T	sec-Butylbenzene	6.230	6.185	0.7	100	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.274	5.336	-1.2	100	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	100	0.00
90	T	1,2-Dichlorobenzene	2.607	2.627	-0.8	100	0.00
91	T	d-Limonene	1.777	1.904	-7.1	100	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.991	1.076	-8.6	100	0.00
93	T	n-Undecane	0.000	0.000	0.0	100	0.00
94	T	1,2,4-Trichlorobenzene	1.911	2.099	-9.8	100	0.00
95	T	Naphthalene	5.303	6.240	-17.7	100	0.00
96	T	n-Dodecane	0.000	0.000	0.0	100	0.00
97	T	Hexachlorobutadiene	1.535	1.512	1.5	100	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-15.28#
99	T	tert-Butylbenzene	4.345	4.265	1.8	100	0.00
100	T	n-Butylbenzene	5.161	5.224	-1.2	100	0.00
101	T	1,1,1,2-Tetrachloroethane	1.216	1.248	-2.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282209a.D Vial: 16
Acq On : 28 Jun 2022 13:43 Operator: TZ
Sample : CCV R13062822 25ng Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

TZ 6/29/22

Quant Time: Jun 29 08:15:39 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:12:10 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.38	130	128921	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	9.42	114	587846	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	126168	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.14	65	254469	12.589	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%			
57) Toluene-d8 (SS2)	12.51	98	671459	12.390	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%			
73) Bromofluorobenzene (SS3)	16.88	174	212890	12.354	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%			
Target Compounds						Qvalue
2) Propene	3.39	42	487600	25.976	ng	100
3) Dichlorodifluoromethan...	3.46	85	715938	26.423	ng	100
4) Chloromethane	3.60	50	527515	27.161	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	304922	27.914	ng	100
6) Vinyl Chloride	3.79	62	400309	27.558	ng	100
7) 1,3-Butadiene	3.91	54	291649	23.959	ng	100
8) Bromomethane	4.13	94	280595	25.277	ng	100
9) Chloroethane	4.28	64	215508	24.993	ng	100
10) Ethanol	4.46	45	893791	86.944	ng	100
11) Acetonitrile	4.60	41	640093	21.965	ng	100
12) Acrolein	4.67	56	410783	49.716	ng	100
13) Acetone	4.78	58	1005967	117.000	ng	100
14) Trichlorofluoromethane	4.88	101	594915	25.374	ng	100
15) 2-Propanol (Isopropanol)	5.01	45	1681658	49.472	ng	100
16) Acrylonitrile	5.15	53	848634	50.143	ng	100
17) 1,1-Dichloroethene	5.38	96	297612	26.294	ng	100
18) 2-Methyl-2-Propanol (t...	5.48	59	1714872	57.429	ng	100
19) Methylene Chloride	5.51	84	303901	24.459	ng	100
20) 3-Chloro-1-propene (Al...	5.58	41	582375	25.653	ng	100
21) Trichlorotrifluoroethane	5.70	151	277901	27.070	ng	100
22) Carbon Disulfide	5.73	76	2307859	46.253	ng	100
23) trans-1,2-Dichloroethene	6.28	61	535357	26.981	ng	100
24) 1,1-Dichloroethane	6.47	63	598548	26.121	ng	100
25) Methyl tert-Butyl Ether	6.50	73	1036820	26.367	ng	100
26) Vinyl Acetate	6.59	86	169023	89.586	ng	100
27) 2-Butanone (MEK)	6.81	72	397555	51.134	ng	100
28) cis-1,2-Dichloroethene	7.22	61	498799	26.037	ng	100
29) Diisopropyl Ether	7.41	87	414651	49.117	ng	100
30) Ethyl Acetate	7.42	61	457360	93.190	ng	100
31) n-Hexane	7.41	57	453552	23.726	ng	100
32) Chloroform	7.51	83	595038	26.542	ng	100
34) Tetrahydrofuran (THF)	7.88	72	375333	48.020	ng	100
35) Ethyl tert-Butyl Ether	7.95	87	726627	52.360	ng	100
36) 1,2-Dichloroethane	8.25	62	513979	26.352	ng	100
38) 1,1,1-Trichloroethane	8.52	97	541790	26.133	ng	100
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.91	56	15946	No Calib		
41) Benzene	9.02	78	1236481	25.251	ng	100
42) Carbon Tetrachloride	9.19	117	484929	26.971	ng	100
43) Cyclohexane	9.33	84	868070	50.998	ng	100
44) tert-Amyl Methyl Ether	9.71	73	1874459	52.404	ng	100
45) 1,2-Dichloropropane	9.97	63	335212	25.468	ng	100
46) Bromodichloromethane	10.19	83	490869	26.951	ng	100
47) Trichloroethene	10.26	130	333971	25.707	ng	100
48) 1,4-Dioxane	10.23	88	248886	27.415	ng	100
49) 2,2,4-Trimethylpentane...	10.34	57	1407758	25.916	ng	100
50) Methyl Methacrylate	10.51	100	245058	54.610	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282209a.D Vial: 16
Acq On : 28 Jun 2022 13:43 Operator: TZ
Sample : CCV R13062822 25ng Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

Quant Time: Jun 29 08:15:39 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:12:10 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

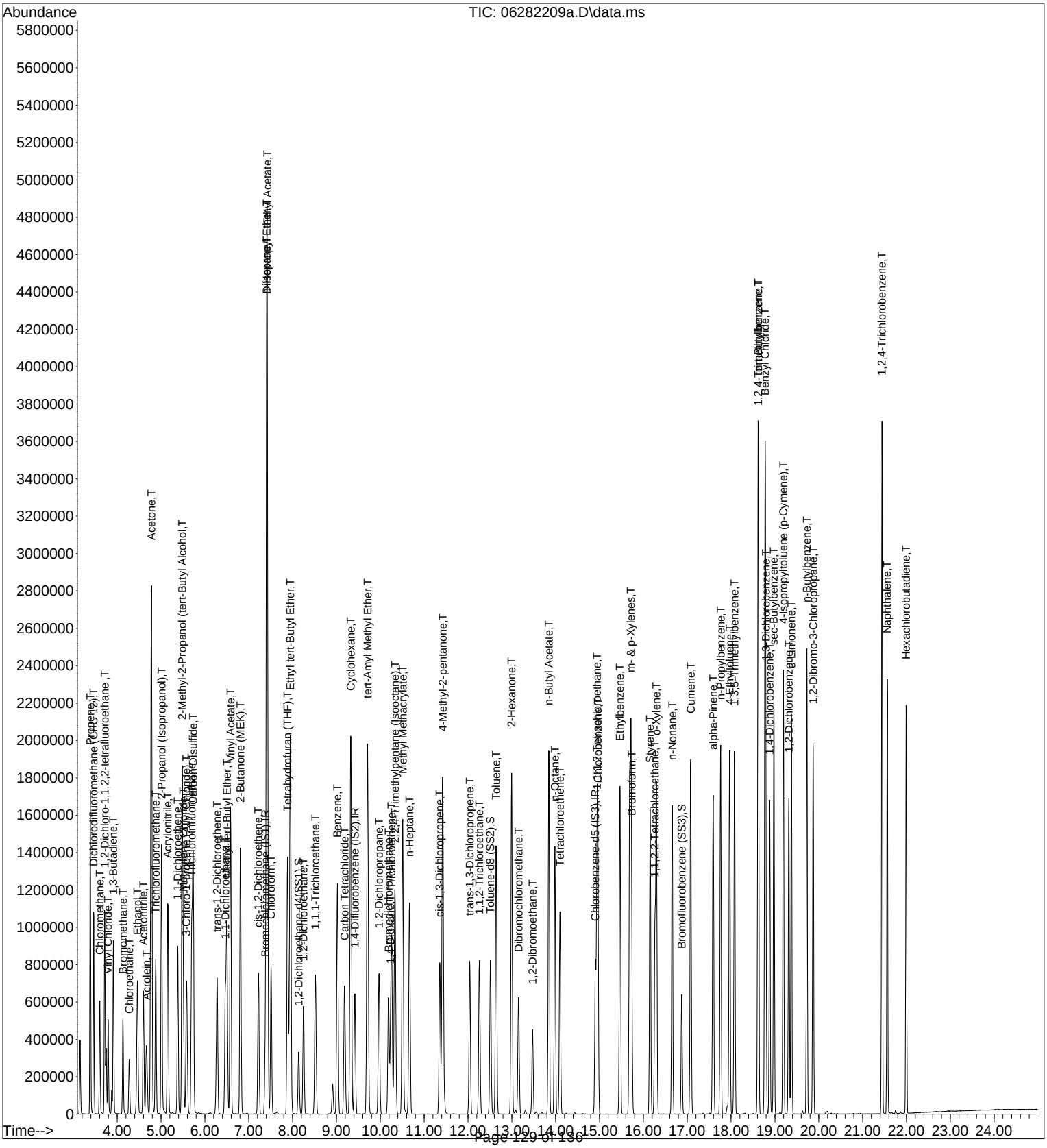
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.67	71	307719	26.196 ng		100
52) cis-1,3-Dichloropropene	11.36	75	561214	27.085 ng		100
53) 4-Methyl-2-pentanone	11.42	58	596698	53.384 ng		100
54) trans-1,3-Dichloropropene	12.04	75	535165	26.447 ng		100
55) 1,1,2-Trichloroethane	12.26	97	313377	26.306 ng		100
58) Toluene	12.64	91	1257302	24.971 ng		100
59) 2-Hexanone	12.99	43	1580607	52.001 ng		100
60) Dibromochloromethane	13.15	129	415333	27.331 ng		100
61) 1,2-Dibromoethane	13.47	107	378852	26.571 ng		100
62) n-Butyl Acetate	13.84	43	1768770	51.781 ng		100
63) n-Octane	13.99	57	291749	25.707 ng		100
64) Tetrachloroethene	14.10	166	363836	25.386 ng		100
65) Chlorobenzene	14.96	112	836525	25.617 ng		100
66) Ethylbenzene	15.46	91	1480782	25.345 ng		100
67) m- & p-Xylenes	15.72	91	2355881	50.372 ng		100
68) Bromoform	15.73	173	353739	28.190 ng		100
69) Styrene	16.15	104	887298	27.000 ng		100
70) o-Xylene	16.30	91	1190258	25.561 ng		100
71) n-Nonane	16.66	43	743684	25.777 ng		100
72) 1,1,2,2-Tetrachloroethane	16.26	83	571360	25.731 ng		100
74) Cumene	17.08	105	1452808	25.604 ng		100
75) alpha-Pinene	17.59	93	781231	27.199 ng		100
76) n-Propylbenzene	17.76	91	1811280	25.823 ng		100
77) 3-Ethyltoluene	17.08	105	1452808	No Calib		
78) 4-Ethyltoluene	17.97	105	1446241	26.577 ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	1225950	26.077 ng		100
80) alpha-Methylstyrene	16.88	118	829	No Calib	#	
81) 2-Ethyltoluene	16.87	105	179	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.62	105	1201249	25.845 ng		100
83) n-Decane	16.88	58	114	No Calib	#	
84) Benzyl Chloride	18.78	91	2194855	55.327 ng		100
85) 1,3-Dichlorobenzene	18.79	146	673599	25.223 ng		100
86) 1,4-Dichlorobenzene	18.88	146	712829	26.079 ng		100
87) sec-Butylbenzene	18.98	105	1623016	25.812 ng		100
88) 4-Isopropyltoluene (p-...	19.19	119	1400450	26.306 ng		100
89) 1,2,3-Trimethylbenzene	17.37	105	326	No Calib	#	
90) 1,2-Dichlorobenzene	19.32	146	695928	26.448 ng		100
91) d-Limonene	19.37	68	504508	28.132 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.88	157	543108	54.288 ng		100
93) n-Undecane	18.08	58	26495	No Calib		
94) 1,2,4-Trichlorobenzene	21.44	180	1080748	56.027 ng		100
95) Naphthalene	21.56	128	1637650	30.597 ng		100
96) n-Dodecane	18.82	57	1825	No Calib		
97) Hexachlorobutadiene	21.99	225	393068	25.372 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.62	119	1119283	25.522 ng		100
100) n-Butylbenzene	19.73	91	1370807	26.317 ng		100
101) 1,1,1,2-Tetrachloroethane	14.94	131	327501	26.692 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 06\28\06282209a.D Vial: 16
Acq On : 28 Jun 2022 13:43 Operator: TZ
Sample : CCV R13062822 25ng Inst : GCMS13
Misc : S35-06022211/S35-06212202 (7/21)

Quant Time: Jun 29 08:15:39 2022
Quant Method : I:\MS13\METHODS\R13062822.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 29 08:12:10 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

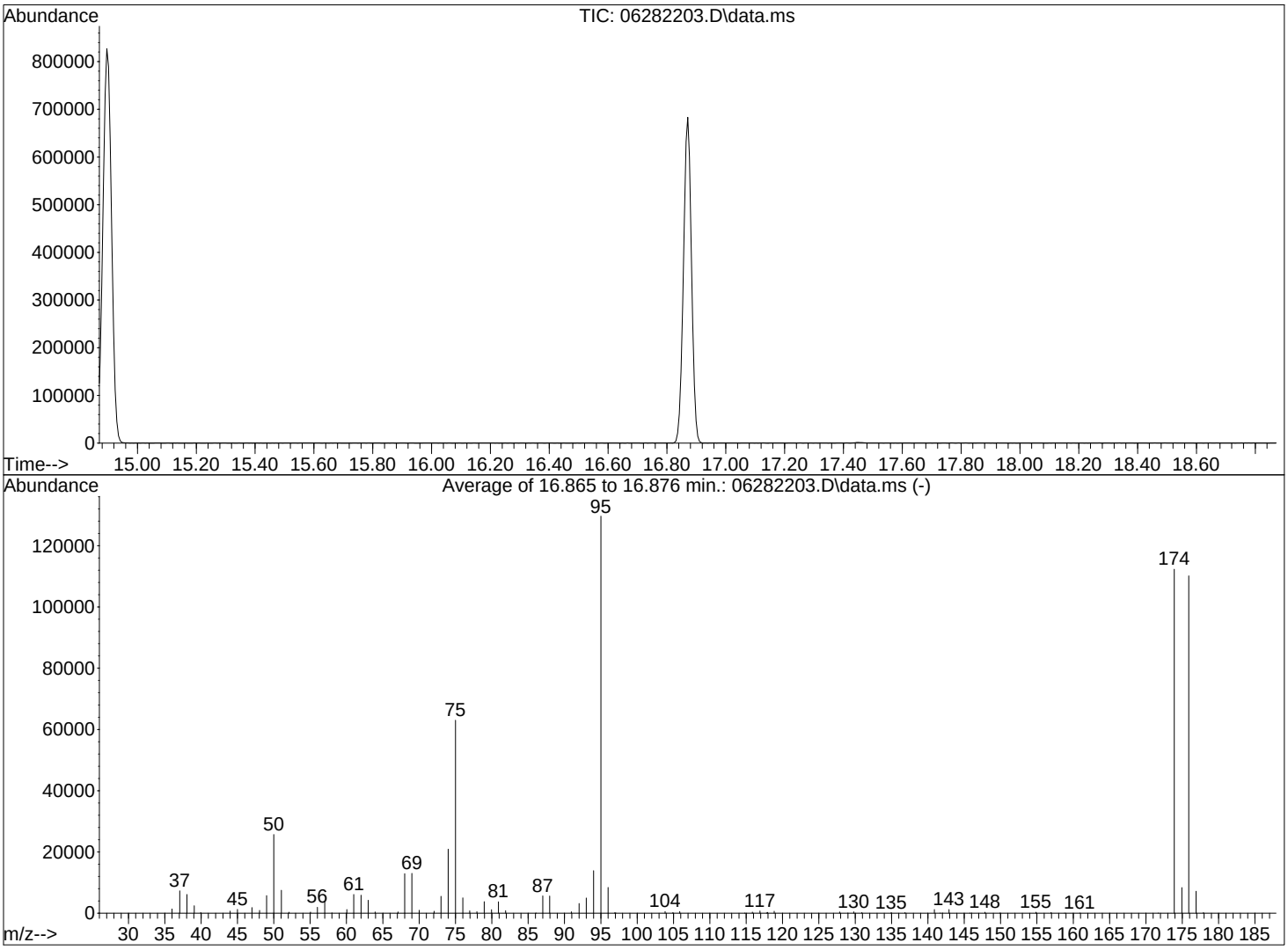


BFB

Data Path : I:\MS13\DATA\2022 06\28\
Data File : 06282203.D
Acq On : 28 Jun 2022 10:02
Operator : TZ
Sample : TO-15 BFB Std.
Misc : S35-06022211
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13062822.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Jun 28 14:26:54 2022



AutoFind: Scans 2421, 2422, 2423; Background Corrected with Scan 2412

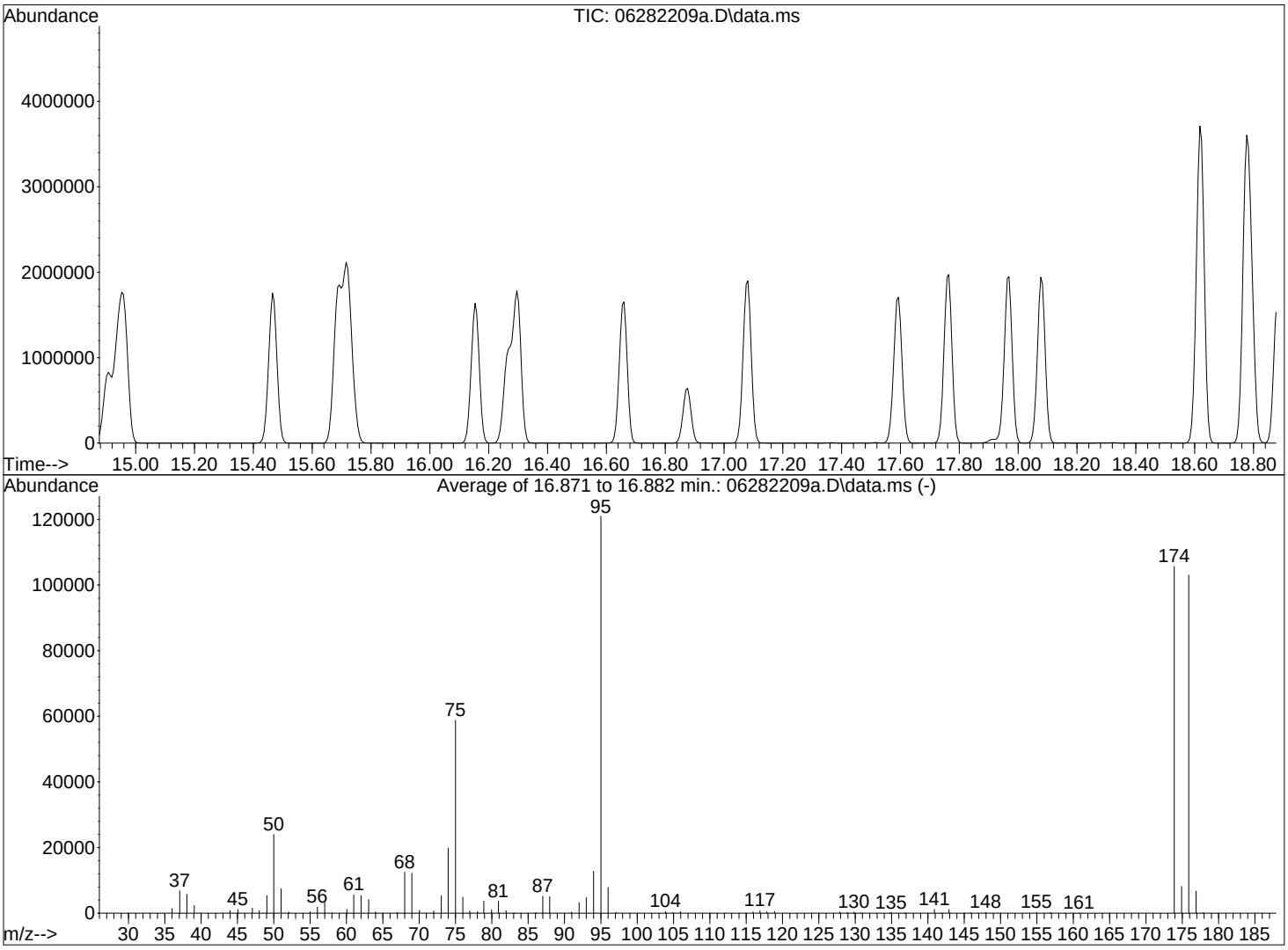
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.8	25685	PASS
75	95	30	66	48.6	62992	PASS
95	95	100	100	100.0	129653	PASS
96	95	5	9	6.5	8432	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	86.7	112349	PASS
175	174	4	9	7.4	8361	PASS
176	174	93	101	98.1	110181	PASS
177	176	5	9	6.5	7189	PASS

Tz 6/28/22

Data Path : I:\MS13\DATA\2022 06\28\
Data File : 06282209a.D
Acq On : 28 Jun 2022 13:43
Operator : TZ
Sample : CCV R13062822 25ng
Misc : S35-06022211/S35-06212202 (7/21)
ALS Vial : 16 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13062822.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jun 29 08:31:46 2022



AutoFind: Scans 2422, 2423, 2424; Background Corrected with Scan 2413

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.8	23973	PASS
75	95	30	66	48.6	58811	PASS
95	95	100	100	100.0	120979	PASS
96	95	5	9	6.5	7866	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	87.3	105667	PASS
175	174	4	9	7.7	8133	PASS
176	174	93	101	97.5	103035	PASS
177	176	5	9	6.5	6744	PASS

TZ 6/29/22

TZ 6/29/22

Injection Log

Directory: J:\MS13\DATA\2022_06\28\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	6/28/22 7:48	06282201.D	Blank Check	S35-06022211	TZ	1	
2	6/28/22 8:25	06282202.D	Std. Check EM: 1012-->1035	S35-06022211	TZ	1	
3	6/28/22 10:02	06282203.D	TO-15 BFB Std.	S35-06022211	TZ	1	passed
4	6/28/22 10:38	06282204.D	0.1ng R13062822 ICAL Std.	S35-06022211/S35-06282202 (7/21)	TZ	14	R13062822.M
5	6/28/22 11:15	06282205.D	0.2ng R13062822 ICAL Std.	S35-06022211/S35-06282202 (7/21)	TZ	14	
6	6/28/22 11:52	06282206.D	0.5ng R13062822 ICAL Std.	S35-06022211/S35-06282201 (7/21)	TZ	15	
7	6/28/22 12:29	06282207.D	1.0ng R13062822 ICAL Std.	S35-06022211/S35-06282201 (7/21)	TZ	15	
8	6/28/22 13:06	06282208.D	5.0ng R13062822 ICAL Std.	S35-06022211/S35-06282201 (7/21)	TZ	15	
9	6/28/22 13:43	06282209.D	25ng R13062822 ICAL Std.	S35-06022211/S35-06212202 (7/21)	TZ	16	
10	6/28/22 14:20	06282210.D	50ng R13062822 ICAL Std.	S35-06022211/S35-06212202 (7/21)	TZ	16	
11	6/28/22 14:56	06282211.D	100ng R13062822 ICAL Std.	S35-06022211/S35-06212202 (7/21)	TZ	16	
12	6/28/22 16:18	06282212.D	Blank	S35-06022211	TZ	1	
13	6/28/22 16:55	06282213.D	25ng R13062822 ICV Std.	S35-06022211/S35-06202203 (7/20)	TZ	1	passed
14	6/28/22 17:32	06282214.D	25ng R13062822 ICV Std.	S35-06022211/S35-06162211 (7/16)	TZ	16	not used
R13062822.M ranges from 0.1ng-->100ng							

Injection Log

TZ 6/29/22

Directory: I:\MS13\DATA\2022_06\28\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	6/28/22 13:43	06282209a.D	CCV R13062822 25ng	S35-06022211/S35-06212202 (7/21)	TZ	16	passed
2	6/28/22 14:20	06282210.D	50ng R13062822 ICAL Std.	S35-06022211/S35-06212202 (7/21)	TZ	16	
3	6/28/22 14:56	06282211.D	100ng R13062822 ICAL Std.	S35-06022211/S35-06212202 (7/21)	TZ	16	
4	6/28/22 16:18	06282212.D	Blank	S35-06022211	TZ	1	
5	6/28/22 16:55	06282213.D	LCS R13062822 25ng	S35-06022211/S35-06202203 (7/20)	TZ	1	passed
6	6/28/22 17:32	06282214.D	25ng R13062822 ICV Std.	S35-06022211/S35-06162211 (7/16)	TZ	16	
7	6/28/22 18:09	06282215.D	Blank	S35-06022211	TZ	1	
8	6/28/22 18:45	06282216.D	MB R13062822 1000mL	S35-06022211_AC01837	TZ	1	passed
9	6/28/22 19:22	06282217.D	P2202795-001 (1000mL)	S35-06022211	TZ	2	
10	6/28/22 19:58	06282218.D	P2202795-002 (1000mL)	S35-06022211	TZ	3	
11	6/28/22 20:37	06282219.D	P2202795-003 (1000mL)	S35-06022211	TZ	15	
12	6/28/22 21:16	06282220.D	P2202795-004 (1000mL)	S35-06022211	TZ	5	
13	6/28/22 21:55	06282221.D	P2202795-005 (1000mL)	S35-06022211	TZ	6	
14	6/28/22 22:34	06282222.D	System	S35-06022211/S35-06202203 (7/20)	TZ	1	
15	6/28/22 23:13	06282223.D	P2202743-001 (1000mL)	S35-06022211	TZ	8	
16	6/28/22 23:52	06282224.D	P2202743-002 (1000mL)	S35-06022211	TZ	9	
17	6/29/22 0:30	06282225.D	P2202743-003 (1000mL)	S35-06022211	TZ	10	
18	6/29/22 1:09	06282226.D	P2202743-004 (1000mL)	S35-06022211	TZ	11	
19	6/29/22 1:48	06282227.D	P2202743-005 (1000mL)	S35-06022211	TZ	12	
20	6/29/22 2:26	06282228.D	P2202788-001 (1000mL)	S35-06022211	TZ	7	
21	6/29/22 3:05	06282229.D	P2202788-001dup (1000mL)	S35-06022211	TZ	7	passed
22	6/29/22 3:44	06282230.D	P2202788-002 (1000mL)	S35-06022211	TZ	13	
23	6/29/22 4:24	06282231.D	P2202788-002dil (100mL)	S35-06022211	TZ	13	not needed
24	6/29/22 5:02	06282232.D	P2202788-003 (15mL)	S35-06022211	TZ	14	over diluted
25	6/29/22 5:39	06282233.D	System	S35-06022211/S35-06212202 (7/21)	TZ	1	
Used part of ICAL for QC							

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-03
Cycles: 30
Batch: 29501

Batch Started By: on 6/10/22 0333
Finished Cleaning By: ALESAICHERRE on 6/13/22 1102

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02183	6/10/22	6/13/22	Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE				ms21-06/13/22
AC01564	6/10/22		Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE	-14.0	6/20/22 0256		
AC02300	6/10/22		Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE	-14.0	6/21/22 1026		
AS01374	6/10/22		Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE	-14.0	6/21/22 1026		
AS00975	6/10/22		Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE	-14.0	6/21/22 1026		
AC02071	6/10/22		Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE	-14.0	6/16/22 0138		
AC02152	6/10/22		Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE	-14.0	6/16/22 0138		
AS01303	6/10/22		Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE	-14.0	6/20/22 0256		
AC01934	6/10/22		Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE	-14.0	6/16/22 0138		
AS01605	6/10/22		Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE	-14.0	6/20/22 0256		
AS01023	6/10/22		Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE	-14.0	6/20/22 0256		
AC02273	6/10/22		Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE	-14.0	6/16/22 0138		
AS00924	6/10/22		Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE	-14.0	6/20/22 0256		
AC01940	6/10/22		Pass w/ Conditions	-14.3	6/13/22 1102	ALESAICHERRE	-14.0	6/21/22 1026		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 06\13\
Data File : 06132204.D
Acq On : 13 Jun 2022 10:27
Operator : RVT/KM
Sample : 061322 AC02183 29501
Misc : LL + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

APL 6/13/22

Quant Time: Jun 13 10:59:42 2022
Quant Method : J:\MS21\Methods\F21060622.M
Quant Title : EPA TO-15
QLast Update : Tue Jun 07 08:04:20 2022
Response via : Initial Calibration

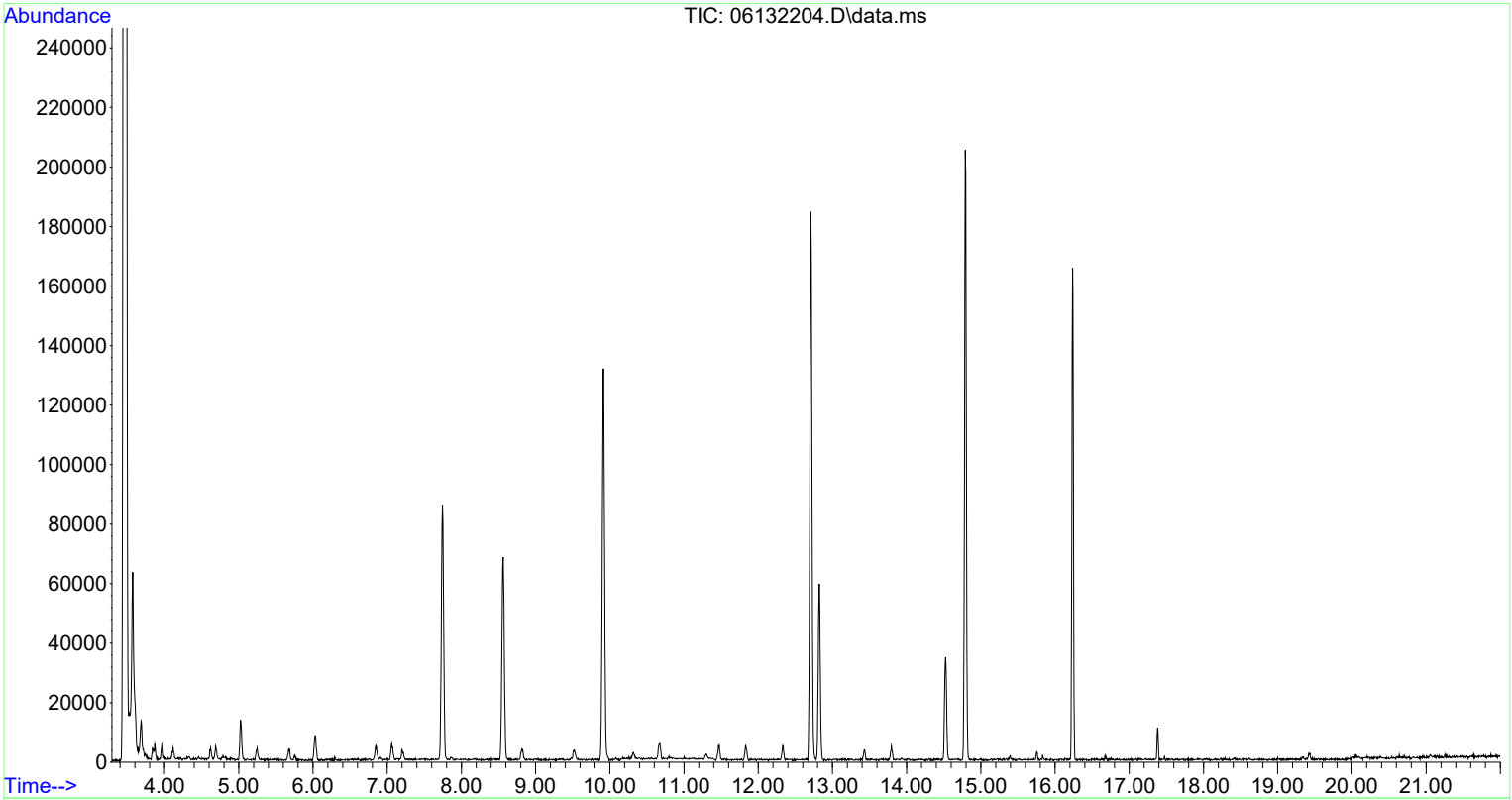
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.75	130	43890	1000.000	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.92	114	138235	1000.000	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.79	54	22966	1000.000	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.56	65	59964	996.646	pg		0.00
Spiked Amount 1000.000			Recovery = 99.66%				
57) Toluene-d8 (SS2)	12.71	98	138563	980.021	pg		0.00
Spiked Amount 1000.000			Recovery = 98.00%				
74) Bromofluorobenzene (SS3)	16.24	174	57161	980.933	pg		0.00
Spiked Amount 1000.000			Recovery = 98.09%				
Target Compounds							Qvalue
2) * Propene	3.68	42	311	5.414	pg	#	75
3) * Dichlorodifluoromethane	3.73	85	242	2.811	pg		95
4) * Chloromethane	3.87	50	320	7.783	pg		97
10) * Ethanol	4.62	45	2849	69.529	pg		92
11) * Acetonitrile	4.78	41	580	4.795	pg	#	82
12) * Acrolein	4.90	56	463	11.264	pg		99
13) * Acetone	5.03	58	5558	99.485	pg		87
14) * Trichlorofluoromethane	5.14	101	210	2.212	pg		94
15) * 2-Propanol (Isopropa...	5.24	45	4224	28.399	pg	#	84
16) * Acrylonitrile	5.37	53	104	1.502	pg	#	81
18) tert-Butanol	5.83	59	449	4.196	pg		92
19) * Methylene Chloride	5.75	84	886	14.655	pg		97
22) * Carbon Disulfide	6.03	76	14522	57.553	pg		99
26) * Vinyl Acetate	6.91	86	116	14.768	pg	#	35
27) * 2-Butanone (MEK)	7.21	72	1213	31.378	pg		96
30) * Ethyl Acetate	7.86	61	147	7.236	pg		87
32) * Chloroform	7.88	83	133	1.387	pg		97
39) * Benzene	9.50	78	1020	5.805	pg		97
48) * 1,4-Dioxane	10.80	88	719	14.625	pg		81
49) Isooctane	10.80	56	74	1.059	pg	#	1
53) * 4-Methyl-2-pentanone	11.83	58	1366	34.147	pg		94
58) * Toluene	12.82	91	51059	231.846	pg		99
62) * n-Butyl Acetate	13.94	56	334	10.172	pg		97
63) * n-Octane	14.01	85	93	2.717	pg	#	80
64) * Tetrachloroethene	14.12	166	74	1.375	pg		97
66) * Ethylbenzene	15.23	91	391	2.333	pg		92
67) * m- & p-Xylenes	15.39	91	1199	9.153	pg		98
70) * Styrene	15.73	104	143	1.548	pg		90
71) * o-Xylene	15.83	91	520	3.904	pg		98
72) * n-Nonane	16.08	57	113	1.898	pg		90
75) * Cumene	16.37	105	249	1.401	pg		94
84) * 1,2,4-Trimethylbenzene	17.36	105	165	1.202	pg	#	67
93) * D-Limonene	17.85	68	103	2.215	pg		83
98) * Naphthalene	19.42	128	1061	4.139	pg		98

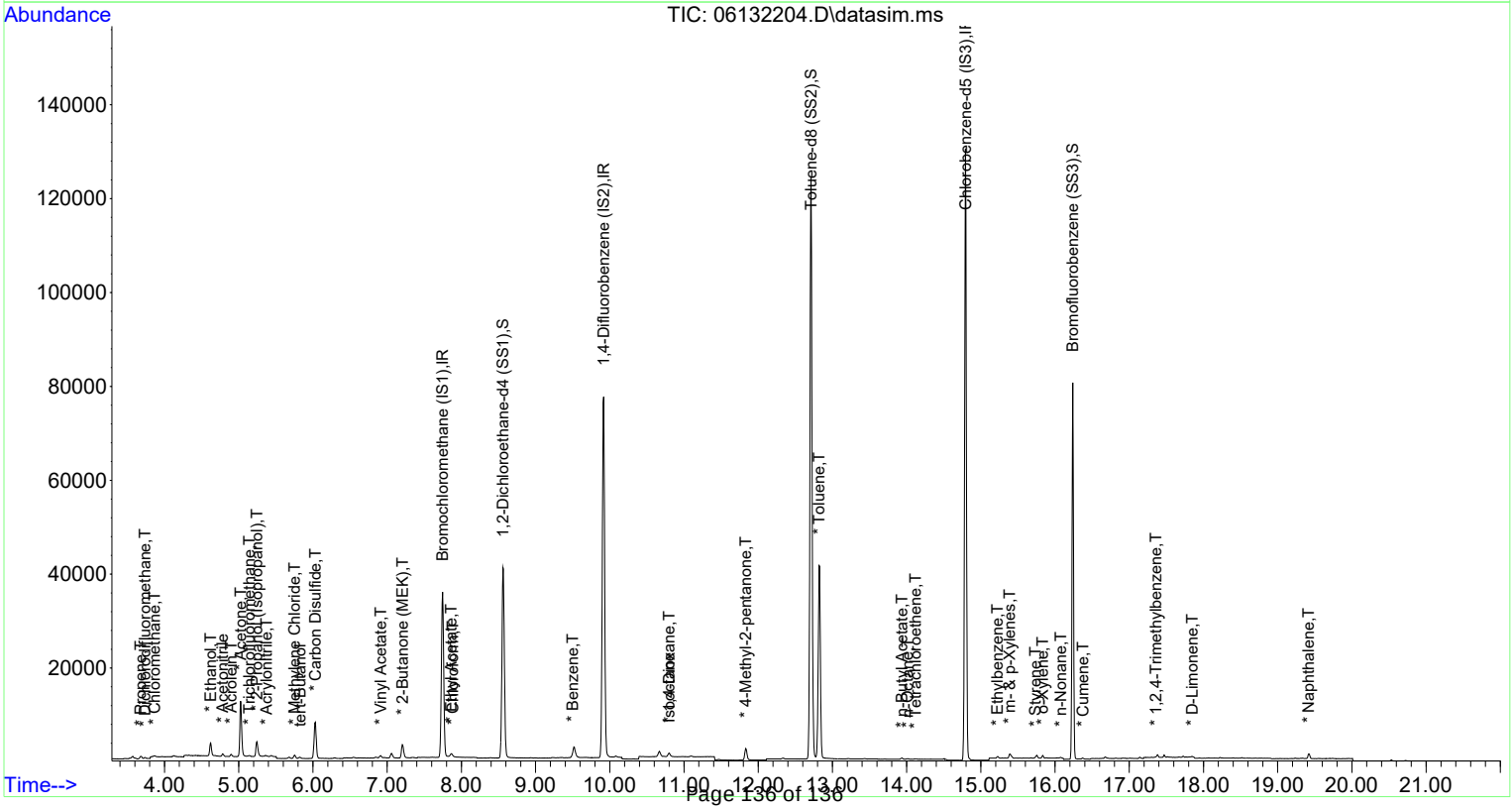
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 06\13\
Data File : 06132204.D
Acq On : 13 Jun 2022 10:27
Operator : RVT/KM
Sample : 061322 AC02183 29501
Misc : LL + TICS (Sig #1); S35-04152201 (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 13 10:59:42 2022
Quant Method : J:\MS21\Methods\F21060622.M
Quant Title : EPA TO-15
QLast Update : Tue Jun 07 08:04:20 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

July 28, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on July 7, 2022. For your reference, these analyses have been assigned our service request number P2202944.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 3:31 pm, Jul 28, 2022

Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2202944
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on July 7, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2202944

Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 7/7/2022

Time Received: 13:29

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_070622_S	P2202944-001	Air	7/6/2022	10:00	AC02069	-2.37	3.58	X
DOE-2_070622_S	P2202944-002	Air	7/6/2022	10:15	AC02348	-1.88	3.51	X
DOE-3_070622_S	P2202944-003	Air	7/6/2022	10:30	AC02226	-3.90	3.57	X
DOE-4_070622_S	P2202944-004	Air	7/6/2022	10:45	AC02165	-2.58	3.60	X
DOE-3_070622_D	P2202944-005	Air	7/6/2022	10:31	AC02205	-2.01	3.59	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. R2202944

Company Name & Address (Reporting Information) North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304	Project Name: DOE Perimeter Air Project Number: 080153.015.15
Project Manager: Trina Cesnik Phone: 805-587-0691 / Fax:	P.O. # / Billing Information: PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg	Sampler (Print & Sign): T. Stewart Williford

ALS Contact: Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_070622_S	1	7/6/2022	1000	AC02069	FCR00340	-29.0	-4.0		X		
DOE-2_070622_S	2	7/6/2022	1015	AC02348	FCR00031	-28.5	-3.5		X		
DOE-3_070622_S	3	7/6/2022	1030	AC02226	FCR00327	-28.5	-5.0		X		
DOE-4_070622_S	4	7/6/2022	1045	AC02165	FCR00346	-28.0	-4.0		X		
DOE-3_070622_D	5	7/6/2022	1031	AC02205	FCR00273	-28.5	-2.5		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) 10% Surcharge ✓

EDD required Yes / No
Type: EQuIS Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

	Date	Time		Date	Time	
Relinquished by: (Signature) T. Stewart Williford	7/7/22	13:38	Received by: (Signature)	7/12/22	13:29	PVT 7/28/22
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	7/7/22	13:38	Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2202944

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 7/7/22 Date opened: 7/7/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2202944-001.01	6.0 L Ambient Can					
P2202944-002.01	6.0 L Ambient Can					
P2202944-003.01	6.0 L Ambient Can					
P2202944-004.01	6.0 L Ambient Can					
P2202944-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_070622_S** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-001

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02069

Initial Pressure (psig): -2.37 Final Pressure (psig): 3.58

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.78	**0.39**	0.16	
74-87-3	Chloromethane	ND	0.75	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.75	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.65	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.77	**0.18**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.60	
107-13-1	Acrylonitrile	ND	1.5	ND	0.68	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.80	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.78	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.4	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.19	
141-78-6	Ethyl Acetate	**26**	3.1	**7.3**	0.86	
110-54-3	n-Hexane	ND	0.78	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_070622_S** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-001

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02069

Initial Pressure (psig): -2.37 Final Pressure (psig): 3.58

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.50	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.74	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.21	
142-82-5	n-Heptane	ND	0.78	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.74	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.40	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	**1.1**	0.77	**0.28**	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.40	
124-48-1	Dibromochloromethane	ND	0.78	ND	0.092	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
111-65-9	n-Octane	ND	0.78	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.77	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_070622_S** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-001

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02069

Initial Pressure (psig): -2.37 Final Pressure (psig): 3.58

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.77	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.77	ND	0.074	
100-42-5	Styrene	ND	0.74	ND	0.17	
95-47-6	o-Xylene	ND	0.77	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.78	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.78	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.77	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.77	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.78	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.77	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.072	
104-51-8	n-Butylbenzene	ND	0.77	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.78	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_070622_S** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-002

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02348

Initial Pressure (psig): -1.88 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.75	**0.39**	0.15	
74-87-3	Chloromethane	ND	0.72	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.33	
74-83-9	Bromomethane	ND	0.72	ND	0.19	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.74	**0.18**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.75	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.1	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**26**	3.0	**7.1**	0.83	
110-54-3	n-Hexane	ND	0.75	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_070622_S** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-002

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02348

Initial Pressure (psig): -1.88 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.48	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.71	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.71	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.71	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.20	
142-82-5	n-Heptane	ND	0.75	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	**1.0**	0.74	**0.28**	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.75	ND	0.088	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.096	
111-65-9	n-Octane	ND	0.75	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_070622_S** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-002

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02348

Initial Pressure (psig): -1.88 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.071	
100-42-5	Styrene	ND	0.71	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.75	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.069	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.75	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_070622_S** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-003

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02226

Initial Pressure (psig): -3.90 Final Pressure (psig): 3.57

Canister Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.90	**0.39**	0.18	
74-87-3	Chloromethane	ND	0.86	ND	0.42	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.91	ND	0.13	
75-01-4	Vinyl Chloride	ND	0.88	ND	0.34	
106-99-0	1,3-Butadiene	ND	0.88	ND	0.40	
74-83-9	Bromomethane	ND	0.86	ND	0.22	
75-00-3	Chloroethane	ND	0.86	ND	0.33	
107-02-8	Acrolein	ND	1.7	ND	0.74	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.88	**0.18**	0.16	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.7	ND	0.69	
107-13-1	Acrylonitrile	ND	1.7	ND	0.78	
75-35-4	1,1-Dichloroethene	ND	0.91	ND	0.23	
75-09-2	Methylene Chloride	ND	0.88	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.91	ND	0.12	
75-15-0	Carbon Disulfide	ND	1.9	ND	0.60	
156-60-5	trans-1,2-Dichloroethene	ND	0.90	ND	0.23	
75-34-3	1,1-Dichloroethane	ND	0.90	ND	0.22	
1634-04-4	Methyl tert-Butyl Ether	ND	0.90	ND	0.25	
108-05-4	Vinyl Acetate	ND	8.5	ND	2.4	
78-93-3	2-Butanone (MEK)	ND	1.7	ND	0.57	
156-59-2	cis-1,2-Dichloroethene	ND	0.88	ND	0.22	
141-78-6	Ethyl Acetate	**44**	3.5	**12**	0.99	
110-54-3	n-Hexane	ND	0.90	ND	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_070622_S** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-003

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02226

Initial Pressure (psig): -3.90 Final Pressure (psig): 3.57

Canister Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.91	ND	0.19	
109-99-9	Tetrahydrofuran (THF)	ND	1.7	ND	0.57	
107-06-2	1,2-Dichloroethane	ND	0.90	ND	0.22	
71-55-6	1,1,1-Trichloroethane	ND	0.88	ND	0.16	
71-43-2	Benzene	ND	0.85	ND	0.26	
56-23-5	Carbon Tetrachloride	ND	0.85	ND	0.13	
110-82-7	Cyclohexane	ND	1.9	ND	0.54	
78-87-5	1,2-Dichloropropane	ND	0.85	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.90	ND	0.13	
79-01-6	Trichloroethene	ND	0.88	ND	0.16	
123-91-1	1,4-Dioxane	ND	0.88	ND	0.24	
142-82-5	n-Heptane	ND	0.90	ND	0.22	
10061-01-5	cis-1,3-Dichloropropene	ND	0.85	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	1.9	ND	0.45	
10061-02-6	trans-1,3-Dichloropropene	ND	0.86	ND	0.19	
79-00-5	1,1,2-Trichloroethane	ND	0.88	ND	0.16	
108-88-3	Toluene	**1.5**	0.88	**0.40**	0.23	
591-78-6	2-Hexanone	ND	1.9	ND	0.45	
124-48-1	Dibromochloromethane	ND	0.90	ND	0.11	
106-93-4	1,2-Dibromoethane	ND	0.88	ND	0.11	
111-65-9	n-Octane	ND	0.90	ND	0.19	
127-18-4	Tetrachloroethene	ND	0.88	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_070622_S** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-003

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02226

Initial Pressure (psig): -3.90 Final Pressure (psig): 3.57

Canister Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.88	ND	0.20	
179601-23-1	m,p-Xylenes	ND	1.9	ND	0.43	
75-25-2	Bromoform	ND	0.88	ND	0.085	
100-42-5	Styrene	ND	0.85	ND	0.20	
95-47-6	o-Xylene	ND	0.88	ND	0.20	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.88	ND	0.13	
98-82-8	Cumene	ND	0.88	ND	0.18	
103-65-1	n-Propylbenzene	ND	0.90	ND	0.18	
622-96-8	4-Ethyltoluene	ND	0.90	ND	0.18	
108-67-8	1,3,5-Trimethylbenzene	ND	0.88	ND	0.18	
95-63-6	1,2,4-Trimethylbenzene	ND	0.88	ND	0.18	
100-44-7	Benzyl Chloride	ND	1.9	ND	0.36	
541-73-1	1,3-Dichlorobenzene	ND	0.88	ND	0.15	
106-46-7	1,4-Dichlorobenzene	ND	0.88	ND	0.15	
135-98-8	sec-Butylbenzene	ND	0.88	ND	0.16	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.88	ND	0.16	
95-50-1	1,2-Dichlorobenzene	ND	0.90	ND	0.15	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	ND	0.25	
91-20-3	Naphthalene	ND	0.88	ND	0.17	
87-68-3	Hexachlorobutadiene	ND	0.88	ND	0.082	
104-51-8	n-Butylbenzene	ND	0.88	ND	0.16	
1330-20-7	Xylenes, Total	ND	0.90	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_070622_S** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-004

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02165

Initial Pressure (psig): -2.58 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.80	**0.39**	0.16	
74-87-3	Chloromethane	ND	0.77	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.82	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.79	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.79	ND	0.36	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.77	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.66	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.79	**0.18**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.5**	1.5	**0.62**	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.70	
75-35-4	1,1-Dichloroethene	ND	0.82	ND	0.21	
75-09-2	Methylene Chloride	ND	0.79	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.6	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	0.79	ND	0.20	
141-78-6	Ethyl Acetate	**19**	3.2	**5.2**	0.88	
110-54-3	n-Hexane	ND	0.80	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_070622_S** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-004

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02165

Initial Pressure (psig): -2.58 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.82	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.79	ND	0.14	
71-43-2	Benzene	ND	0.76	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.76	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	0.76	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.79	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.79	ND	0.22	
142-82-5	n-Heptane	ND	0.80	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.76	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.79	ND	0.14	
108-88-3	Toluene	**0.94**	0.79	**0.25**	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.094	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.79	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_070622_S** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-004

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02165

Initial Pressure (psig): -2.58 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.38	
75-25-2	Bromoform	ND	0.79	ND	0.076	
100-42-5	Styrene	ND	0.76	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.79	ND	0.11	
98-82-8	Cumene	ND	0.79	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.79	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.79	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.79	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.22	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.79	ND	0.074	
104-51-8	n-Butylbenzene	ND	0.79	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.80	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_070622_D** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-005

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02205

Initial Pressure (psig): -2.01 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.76	**0.38**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.78	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.63	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.99**	0.75	**0.18**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.59	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.75	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.2	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	**20**	3.0	**5.5**	0.84	
110-54-3	n-Hexane	ND	0.76	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_070622_D** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-005

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02205

Initial Pressure (psig): -2.01 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.78	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.75	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.75	ND	0.14	
108-88-3	Toluene	**0.93**	0.75	**0.25**	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.75	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.75	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_070622_D** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2202944-005

Test Code: EPA TO-15 Date Collected: 7/6/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/7/22
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02205

Initial Pressure (psig): -2.01 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.75	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.75	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.75	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.75	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.75	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.75	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.75	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.75	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.76	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220712-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220712-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P2202944

Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220712-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA

Analyst: Simon Cao Date Analyzed: 7/12/22

Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2202944

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 7/6/22
Analyst: Simon Cao Date(s) Received: 7/7/22
Sample Type: 6.0 L Summa Canister(s) Date(s) Analyzed: 7/12/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220712-MB	**104**	**98**	**118**	70-130	
Lab Control Sample	P220712-LCS	**102**	**99**	**119**	70-130	
Duplicate Lab Control Sample	P220712-DLCS	**104**	**96**	**118**	70-130	
DOE-1_070622_S	P2202944-001	**102**	**98**	**117**	70-130	
DOE-2_070622_S	P2202944-002	**104**	**96**	**118**	70-130	
DOE-3_070622_S	P2202944-003	**104**	**96**	**118**	70-130	
DOE-4_070622_S	P2202944-004	**104**	**95**	**117**	70-130	
DOE-3_070622_D	P2202944-005	**103**	**96**	**119**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220712-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	179	184	**86**	**88**	71-112	2	25	
74-87-3	Chloromethane	206	177	178	**86**	**86**	53-126	0	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	197	201	**95**	**97**	62-121	2	25	
75-01-4	Vinyl Chloride	208	168	168	**81**	**81**	63-123	0	25	
106-99-0	1,3-Butadiene	206	196	195	**95**	**95**	63-135	0	25	
74-83-9	Bromomethane	206	197	201	**96**	**98**	71-112	2	25	
75-00-3	Chloroethane	206	158	159	**77**	**77**	66-117	0	25	
107-02-8	Acrolein	416	315	314	**76**	**75**	71-123	1	25	
75-69-4	Trichlorofluoromethane (CFC 11)	202	186	191	**92**	**95**	71-114	3	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	378	375	**95**	**94**	61-124	1	25	
107-13-1	Acrylonitrile	402	317	319	**79**	**79**	65-130	0	25	
75-35-4	1,1-Dichloroethene	210	182	184	**87**	**88**	74-114	1	25	
75-09-2	Methylene Chloride	208	165	166	**79**	**80**	75-112	1	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	207	209	**96**	**97**	73-114	1	25	
75-15-0	Carbon Disulfide	414	347	351	**84**	**85**	70-113	1	25	
156-60-5	trans-1,2-Dichloroethene	208	179	181	**86**	**87**	76-119	1	25	
75-34-3	1,1-Dichloroethane	214	178	179	**83**	**84**	70-114	1	25	
1634-04-4	Methyl tert-Butyl Ether	206	192	194	**93**	**94**	72-118	1	25	
108-05-4	Vinyl Acetate	942	809	823	**86**	**87**	56-137	1	25	
78-93-3	2-Butanone (MEK)	408	332	335	**81**	**82**	74-121	1	25	
156-59-2	cis-1,2-Dichloroethene	206	178	180	**86**	**87**	73-117	1	25	
141-78-6	Ethyl Acetate	580	446	446	**77**	**77**	59-161	0	25	
110-54-3	n-Hexane	208	161	161	**77**	**77**	55-130	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220712-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	210	185	189	**88**	**90**	71-114	2	25	
109-99-9	Tetrahydrofuran (THF)	404	336	335	**83**	**83**	73-114	0	25	
107-06-2	1,2-Dichloroethane	210	192	196	**91**	**93**	71-119	2	25	
71-55-6	1,1,1-Trichloroethane	208	200	204	**96**	**98**	73-119	2	25	
71-43-2	Benzene	208	173	173	**83**	**83**	72-113	0	25	
56-23-5	Carbon Tetrachloride	202	197	201	**98**	**100**	67-123	2	25	
110-82-7	Cyclohexane	412	351	351	**85**	**85**	70-119	0	25	
78-87-5	1,2-Dichloropropane	206	169	168	**82**	**82**	70-118	0	25	
75-27-4	Bromodichloromethane	208	199	202	**96**	**97**	74-119	1	25	
79-01-6	Trichloroethene	204	194	193	**95**	**95**	74-115	0	25	
123-91-1	1,4-Dioxane	206	190	189	**92**	**92**	77-124	0	25	
142-82-5	n-Heptane	206	175	175	**85**	**85**	70-119	0	25	
10061-01-5	cis-1,3-Dichloropropene	208	197	198	**95**	**95**	81-126	0	25	
108-10-1	4-Methyl-2-pentanone	412	345	341	**84**	**83**	73-129	1	25	
10061-02-6	trans-1,3-Dichloropropene	200	189	190	**95**	**95**	80-127	0	25	
79-00-5	1,1,2-Trichloroethane	208	181	182	**87**	**88**	78-117	1	25	
108-88-3	Toluene	206	177	174	**86**	**84**	70-118	2	25	
591-78-6	2-Hexanone	406	319	313	**79**	**77**	74-132	3	25	
124-48-1	Dibromochloromethane	210	210	207	**100**	**99**	69-137	1	25	
106-93-4	1,2-Dibromoethane	208	182	179	**88**	**86**	76-128	2	25	
111-65-9	n-Octane	208	174	169	**84**	**81**	68-120	4	25	
127-18-4	Tetrachloroethene	212	219	217	**103**	**102**	63-130	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2202944
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220712-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/12/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	206	184	181	**89**	**88**	71-123	1	25	
179601-23-1	m,p-Xylenes	416	379	374	**91**	**90**	67-127	1	25	
75-25-2	Bromoform	210	247	248	**118**	**118**	65-149	0	25	
100-42-5	Styrene	202	182	179	**90**	**89**	76-132	1	25	
95-47-6	o-Xylene	208	190	188	**91**	**90**	69-124	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	173	171	**83**	**82**	69-128	1	25	
98-82-8	Cumene	206	187	184	**91**	**89**	69-125	2	25	
103-65-1	n-Propylbenzene	208	181	180	**87**	**87**	70-127	0	25	
622-96-8	4-Ethyltoluene	208	189	188	**91**	**90**	69-127	1	25	
108-67-8	1,3,5-Trimethylbenzene	208	192	192	**92**	**92**	66-129	0	25	
95-63-6	1,2,4-Trimethylbenzene	206	190	191	**92**	**93**	63-142	1	25	
100-44-7	Benzyl Chloride	416	363	367	**87**	**88**	73-145	1	25	
541-73-1	1,3-Dichlorobenzene	208	193	196	**93**	**94**	67-136	1	25	
106-46-7	1,4-Dichlorobenzene	210	191	193	**91**	**92**	63-134	1	25	
135-98-8	sec-Butylbenzene	204	180	180	**88**	**88**	68-130	0	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	184	186	**89**	**90**	60-139	1	25	
95-50-1	1,2-Dichlorobenzene	210	192	197	**91**	**94**	64-139	3	25	
120-82-1	1,2,4-Trichlorobenzene	420	375	398	**89**	**95**	62-154	7	25	
91-20-3	Naphthalene	210	165	172	**79**	**82**	62-156	4	25	
87-68-3	Hexachlorobutadiene	212	191	202	**90**	**95**	55-142	5	25	
104-51-8	n-Butylbenzene	208	173	176	**83**	**85**	70-131	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2202944

Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 07122201.D

Analyst: Simon Cao Date Analyzed: 7/12/22

Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 01:04

Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	164192		7.23		699550		9.29		164500		14.81	
	Upper Limit	229869		7.56		979370		9.62		230300		15.14	
	Lower Limit	98515		6.90		419730		8.96		98700		14.48	
	Client Sample ID												
01	Method Blank	148355		7.19		635890		9.26		150379		14.81	
02	Lab Control Sample	155502		7.24		654974		9.30		151043		14.82	
03	Duplicate Lab Control Sample	148416		7.24		628464		9.29		148478		14.82	
04	DOE-1_070622_S	151551		7.20		635966		9.27		150561		14.81	
05	DOE-2_070622_S	150888		7.20		639824		9.26		154583		14.81	
06	DOE-3_070622_S	150640		7.20		636707		9.27		154518		14.81	
07	DOE-4_070622_S	148559		7.20		629852		9.27		155246		14.81	
08	DOE-3_070622_D	150851		7.20		631632		9.27		154093		14.81	
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122227.D Vial: 9
Acq On : 12 Jul 2022 20:26 Operator: SC
Sample : P2202944-001 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:18:30 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/13/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	151551	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.27	114	635966	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	150561	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	310759	12.749	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
57) Toluene-d8 (SS2)	12.39	98	721711	12.222	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%				
73) Bromofluorobenzene (SS3)	16.79	174	326197	14.601	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.80%				
Target Compounds							Qvalue
2) Propene	3.28	42	8522	N.D.			
3) Dichlorodifluoromethan...	3.35	85	45204	1.293	ng		100
4) Chloromethane	3.48	50	4130	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	903	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	3.99	94	118	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	44419	3.575	ng		99
11) Acetonitrile	4.42	41	3262	N.D.			
12) Acrolein	4.51	56	7241	0.849	ng		92
13) Acetone	4.60	58	67778	6.764	ng	#	80
14) Trichlorofluoromethane	4.73	101	22139	0.676	ng		98
15) 2-Propanol (Isopropanol)	4.82	45	31199	0.818	ng		94
16) Acrylonitrile	5.01	53	53	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.31	59	1437	N.D.			
19) Methylene Chloride	5.32	84	2005	N.D.			
20) 3-Chloro-1-propene (Al...	5.32	41	531	N.D.			
21) Trichlorotrifluoroethane	5.56	151	4736	N.D.			
22) Carbon Disulfide	5.57	76	6335	N.D.			
23) trans-1,2-Dichloroethene	6.27	61	1013	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.27	73	172	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.63	72	7116	0.827	ng	#	59
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d			
29) Diisopropyl Ether	7.25	87	1172	N.D.			
30) Ethyl Acetate	7.25	61	100776	17.837	ng		98
31) n-Hexane	7.27	57	1830	N.D.			
32) Chloroform	7.34	83	1455	N.D.			
34) Tetrahydrofuran (THF)	7.74	72	1615	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.09	62	462	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	22777	No Calib			
40) 1-Butanol	9.17	56	722	No Calib		#	
41) Benzene	8.86	78	8290	N.D.			
42) Carbon Tetrachloride	9.04	117	6650	N.D.			
43) Cyclohexane	9.18	84	419	N.D.			
44) tert-Amyl Methyl Ether	9.54	73	135	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	6320	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122227.D Vial: 9
Acq On : 12 Jul 2022 20:26 Operator: SC
Sample : P2202944-001 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:18:30 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

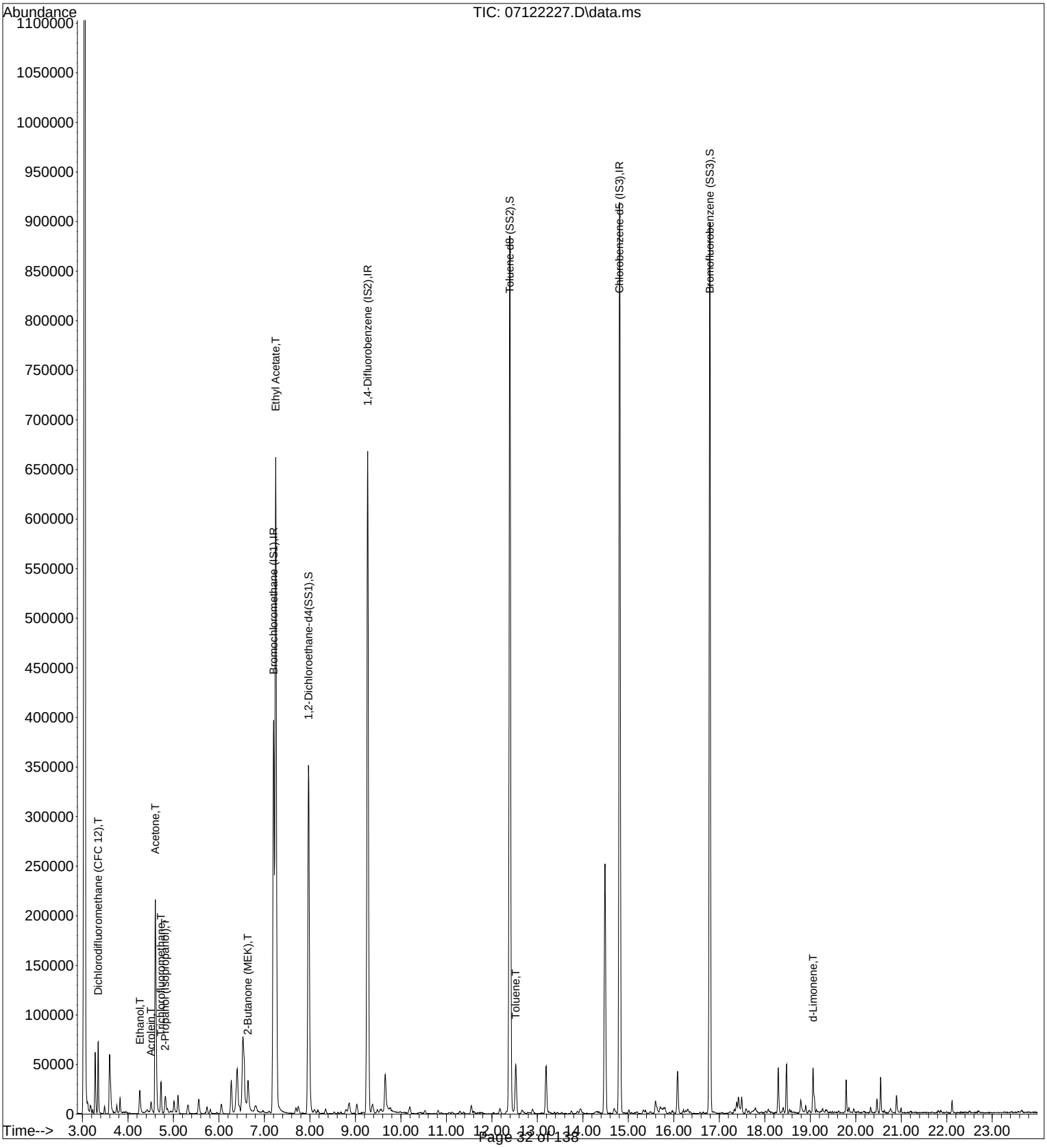
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	687	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.30	58	319	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	41761	0.718 ng	98
59) 2-Hexanone	12.90	43	5204	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.75	43	3254	N.D.	
63) n-Octane	13.89	57	353	N.D.	
64) Tetrachloroethene	14.00	166	136	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.38	91	2706	N.D.	
67) m- & p-Xylenes	15.60	91	6584	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.08	104	1045	N.D.	
70) o-Xylene	16.21	91	2370	N.D.	
71) n-Nonane	16.58	43	1498	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	454	N.D.	
75) alpha-Pinene	17.49	93	6733	N.D.	
76) n-Propylbenzene	17.65	91	877	N.D.	
77) 3-Ethyltoluene	16.79	105	454	No Calib	#
78) 4-Ethyltoluene	17.83	105	1036	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	499	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.42	105	5873	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	2293	N.D.	
83) n-Decane	16.79	58	308	No Calib	#
84) Benzyl Chloride	18.55	91	125	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	474	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	474	N.D.	
87) sec-Butylbenzene	18.88	105	713	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	3460	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	2293	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	8587	0.451 ng	86
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.95	58	139	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	1085	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.60	55	788	No Calib	#
99) tert-Butylbenzene	18.48	119	950	N.D.	
100) n-Butylbenzene	19.36	91	989	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122227.D Vial: 9
Acq On : 12 Jul 2022 20:26 Operator: SC
Sample : P2202944-001 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:18:30 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122227.D Vial: 9
Acq On : 12 Jul 2022 20:26 Operator: SC
Sample : P2202944-001 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:18:30 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/13/22

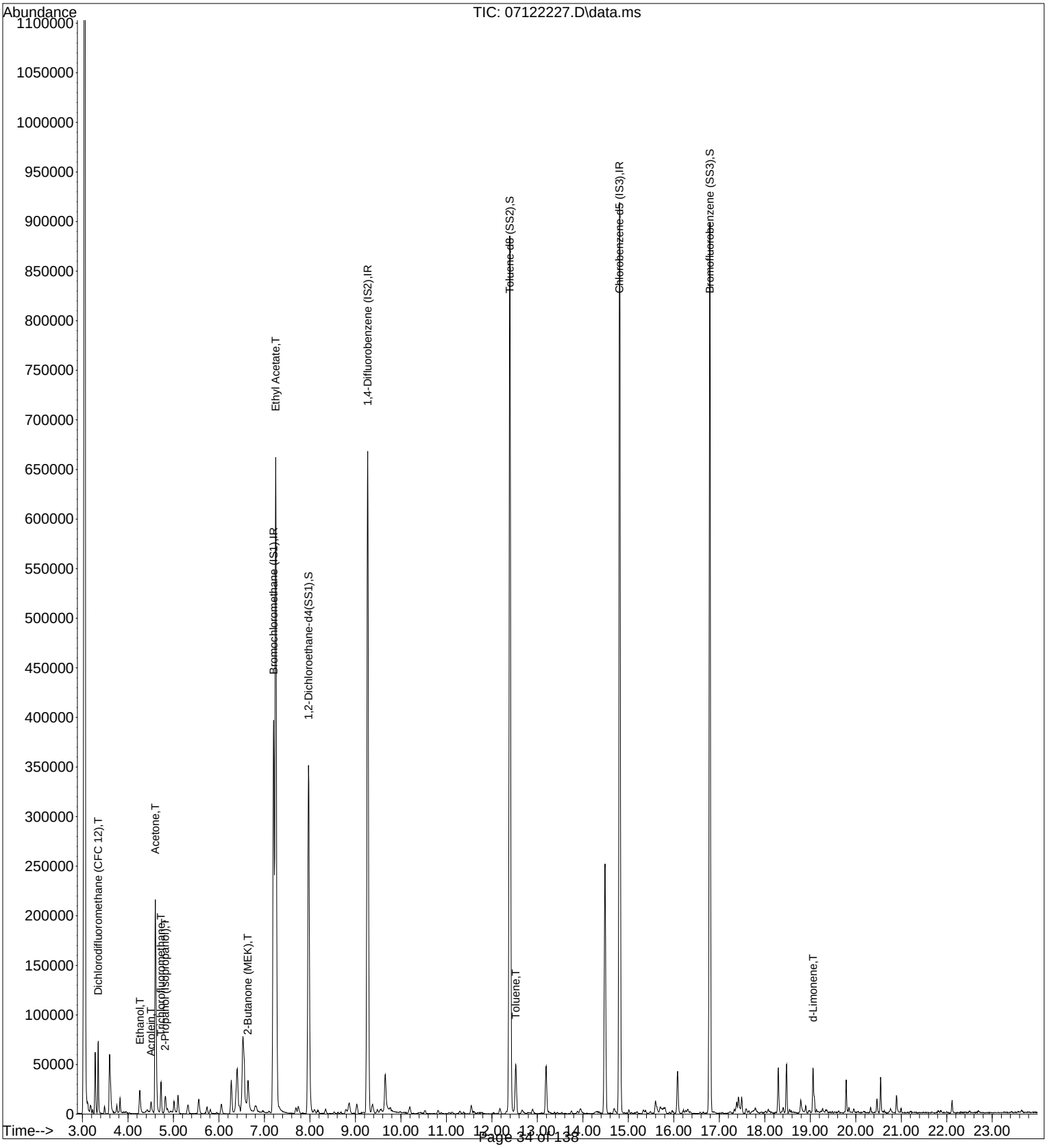
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	151551	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.27	114	635966	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	150561	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	310759	12.749	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
57) Toluene-d8 (SS2)	12.39	98	721711	12.222	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%				
73) Bromofluorobenzene (SS3)	16.79	174	326197	14.601	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.80%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	45204	1.293	ng		100
10) Ethanol	4.26	45	44419	3.575	ng		99
12) Acrolein	4.51	56	7241	0.849	ng		92
13) Acetone	4.60	58	67778	6.764	ng	#	80
14) Trichlorofluoromethane	4.73	101	22139	0.676	ng		98
15) 2-Propanol (Isopropanol)	4.82	45	31199	0.818	ng		94
27) 2-Butanone (MEK)	6.63	72	7116	0.827	ng	#	59
30) Ethyl Acetate	7.25	61	100776	17.837	ng		98
58) Toluene	12.52	91	41761	0.718	ng		98
91) d-Limonene	19.06	68	8587	0.451	ng		86

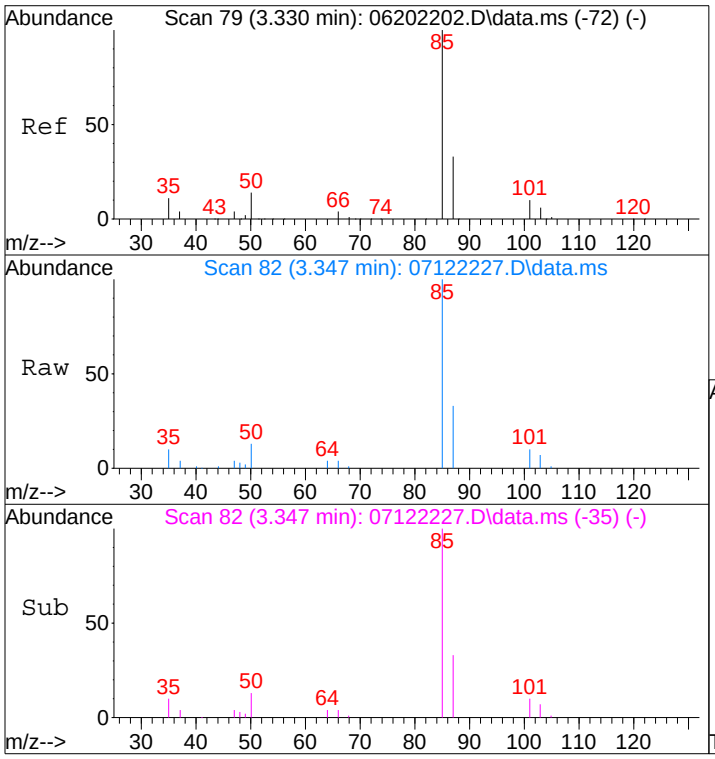
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122227.D Vial: 9
Acq On : 12 Jul 2022 20:26 Operator: SC
Sample : P2202944-001 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:18:30 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

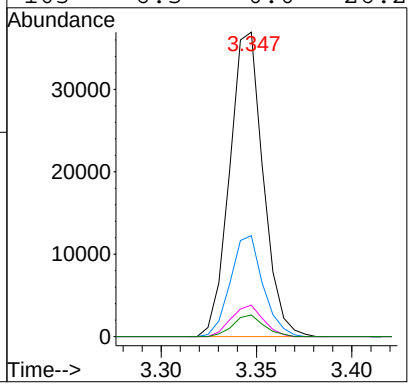


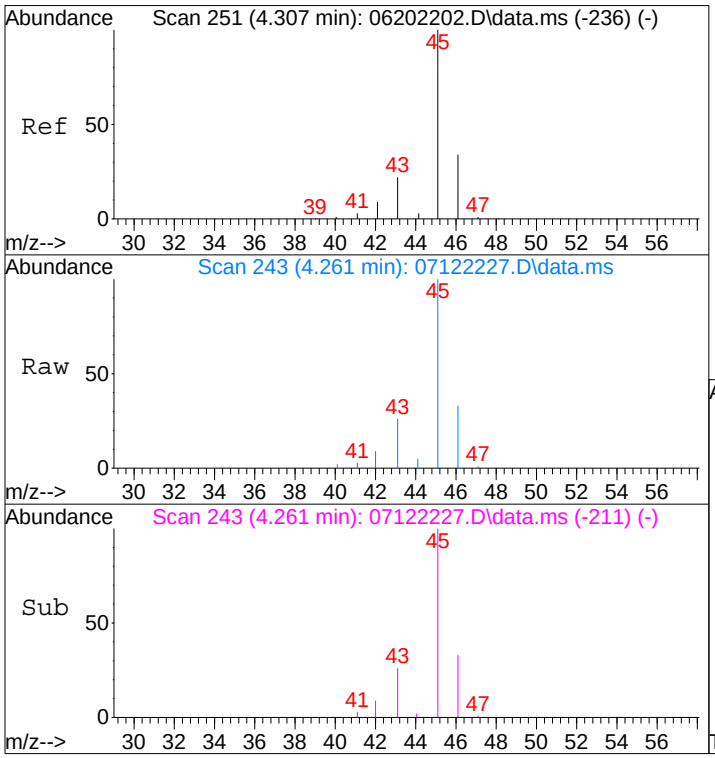


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.29 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.019 min
Lab File: 07122227.D
Acq: 12 Jul 2022 20:26

Tgt Ion: 85 Resp: 45204

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.3	52.3
101	9.8	0.0	29.4
103	6.5	0.0	26.2

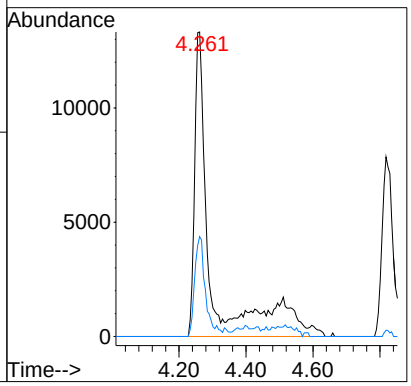


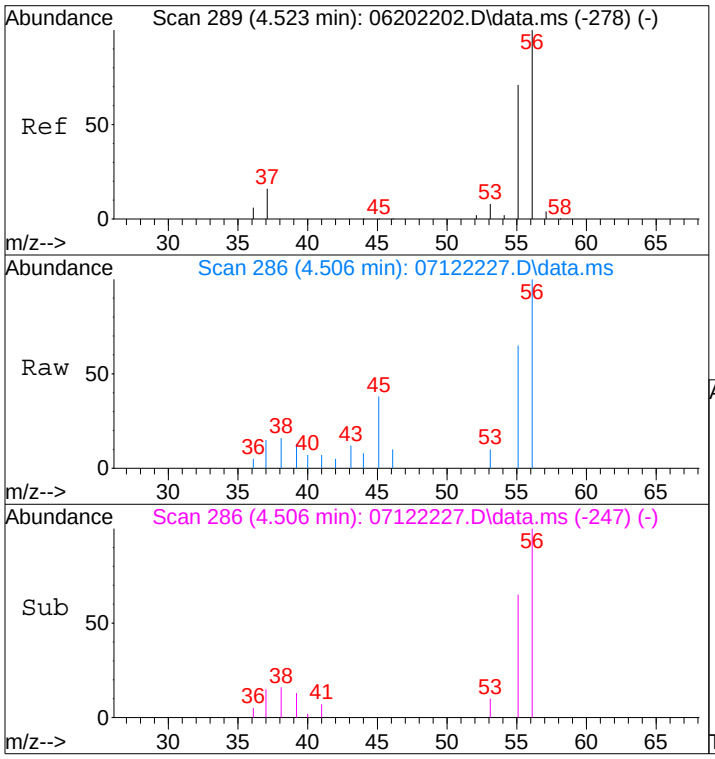


#10
Ethanol
Concen: 3.58 ng
RT: 4.26 min Scan# 243
Delta R.T. -0.069 min
Lab File: 07122227.D
Acq: 12 Jul 2022 20:26

Tgt Ion: 45 Resp: 44419

Ion	Ratio	Lower	Upper
45	100		
46	32.7	13.5	53.5

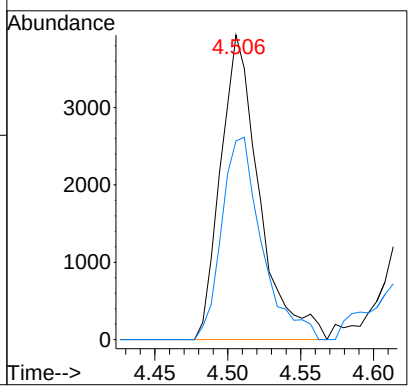


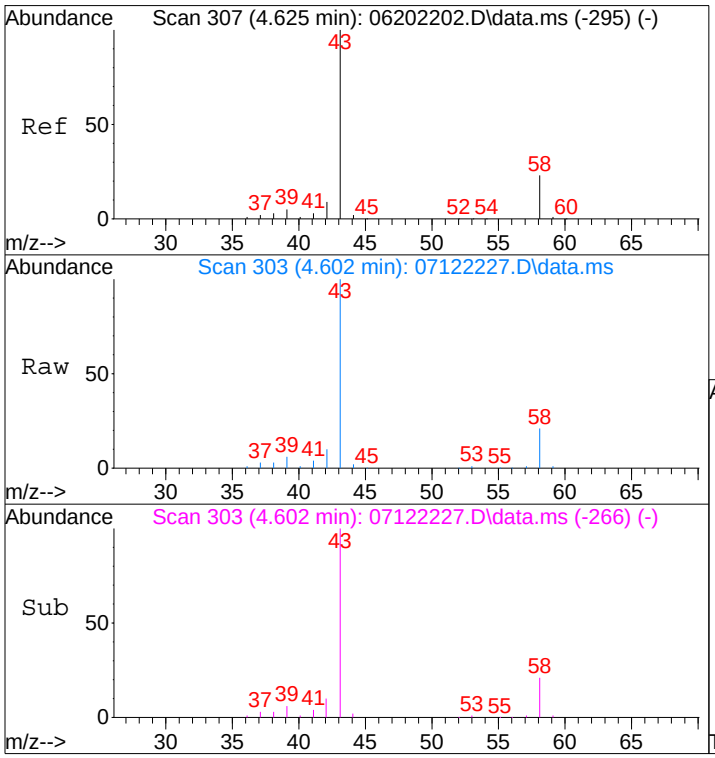


#12
Acrolein
Concen: 0.85 ng
RT: 4.51 min Scan# 286
Delta R.T. -0.029 min
Lab File: 07122227.D
Acq: 12 Jul 2022 20:26

Tgt Ion: 56 Resp: 7241

Ion	Ratio	Lower	Upper
56	100		
55	69.1	55.5	95.5

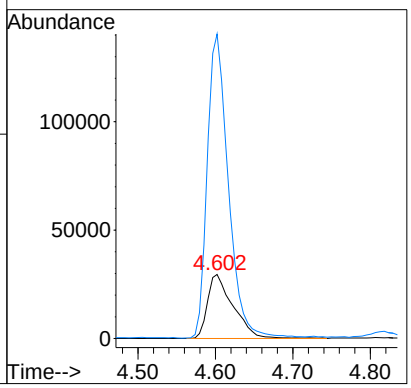


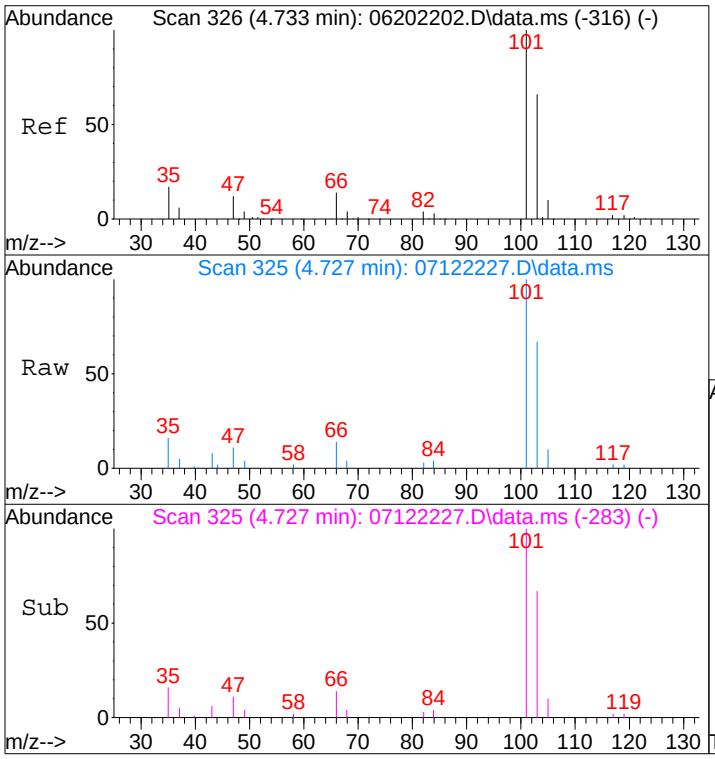


#13
Acetone
Concen: 6.76 ng
RT: 4.60 min Scan# 303
Delta R.T. -0.040 min
Lab File: 07122227.D
Acq: 12 Jul 2022 20:26

Tgt Ion: 58 Resp: 67778

Ion	Ratio	Lower	Upper
58	100		
43	392.5	412.8	472.8#

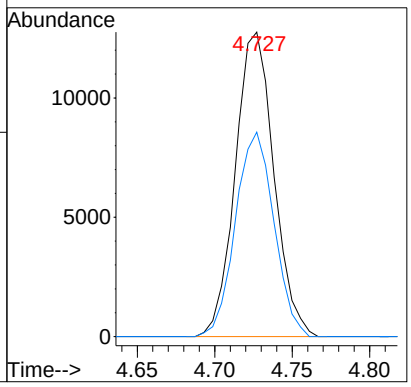


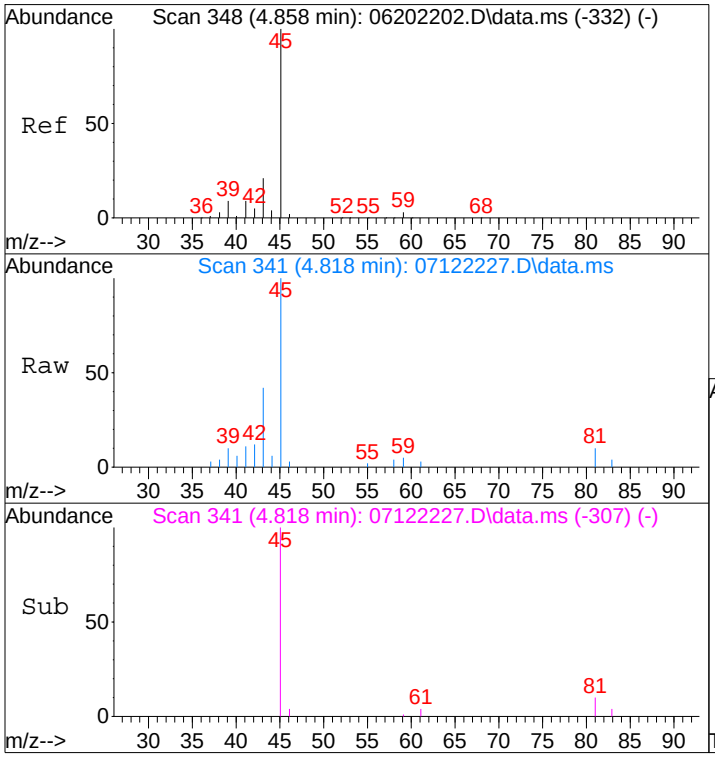


#14
Trichlorofluoromethane
Concen: 0.68 ng
RT: 4.73 min Scan# 325
Delta R.T. -0.012 min
Lab File: 07122227.D
Acq: 12 Jul 2022 20:26

Tgt Ion:101 Resp: 22139

Ion	Ratio	Lower	Upper
101	100		
103	66.9	45.6	85.6

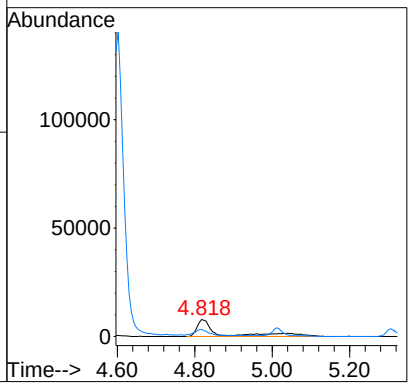


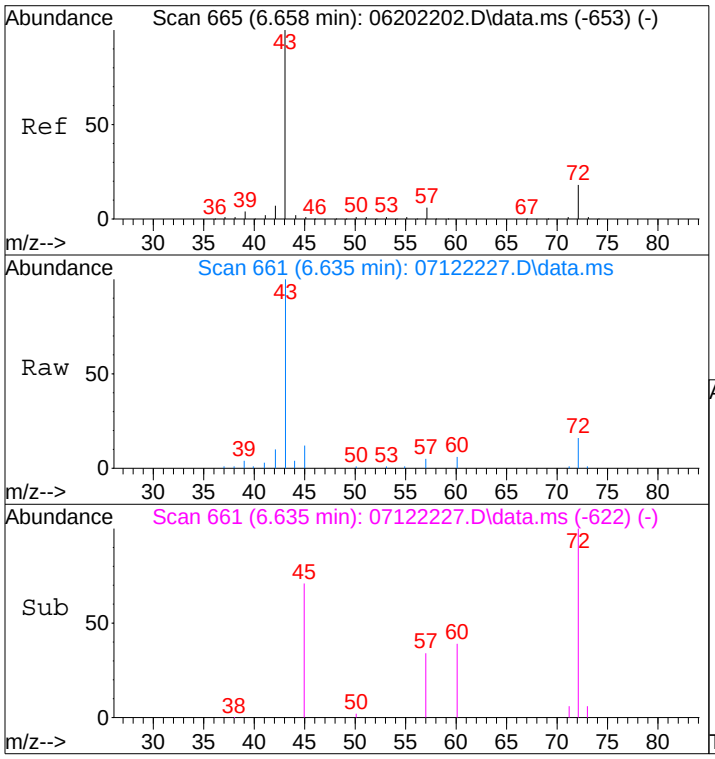


#15
2-Propanol (Isopropanol)
Concen: 0.82 ng
RT: 4.82 min Scan# 341
Delta R.T. -0.057 min
Lab File: 07122227.D
Acq: 12 Jul 2022 20:26

Tgt Ion: 45 Resp: 31199

Ion	Ratio	Lower	Upper
45	100		
43	25.4	2.6	42.6

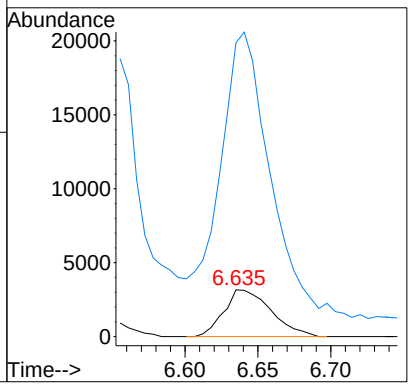


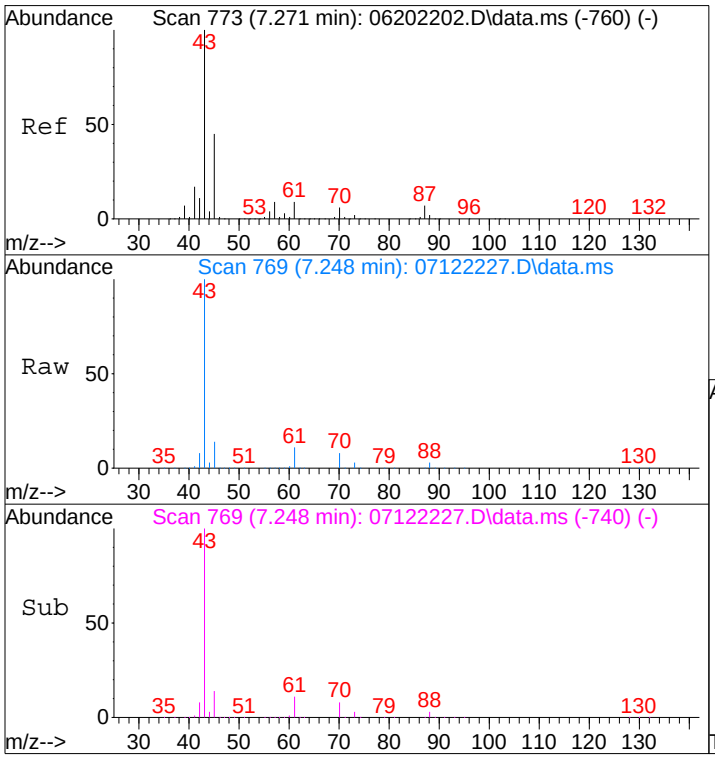


#27
2-Butanone (MEK)
Concen: 0.83 ng
RT: 6.63 min Scan# 661
Delta R.T. -0.030 min
Lab File: 07122227.D
Acq: 12 Jul 2022 20:26

Tgt Ion: 72 Resp: 7116

Ion	Ratio	Lower	Upper
72	100		
43	690.8	548.7	588.7#

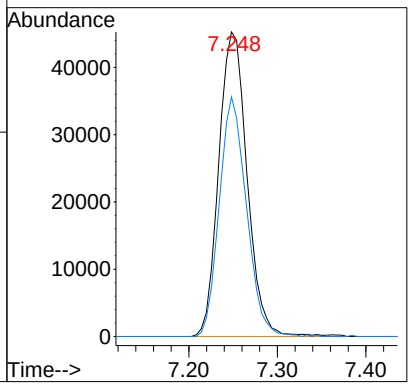


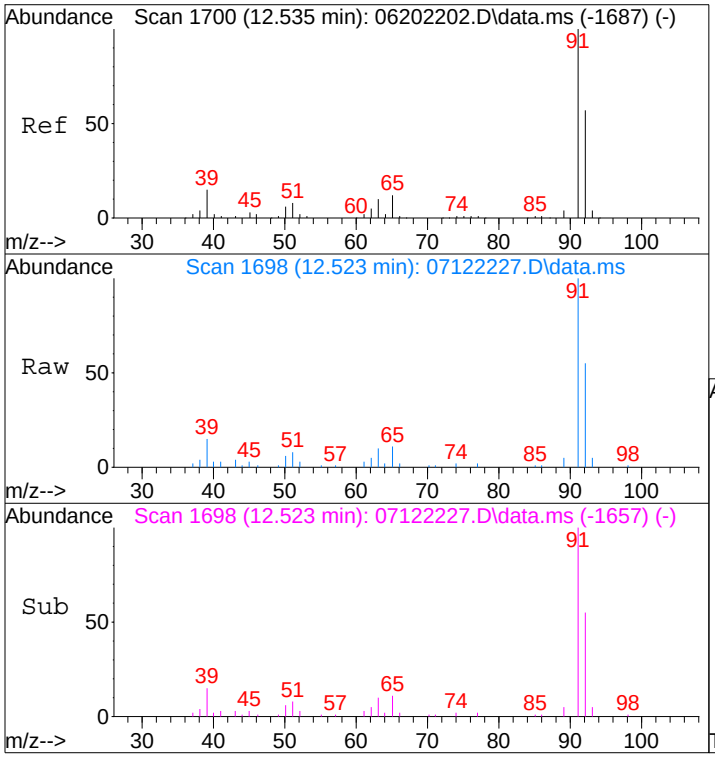


#30
Ethyl Acetate
Concen: 17.84 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.034 min
Lab File: 07122227.D
Acq: 12 Jul 2022 20:26

Tgt Ion: 61 Resp: 100776

Ion	Ratio	Lower	Upper
61	100		
70	75.2	53.2	93.2

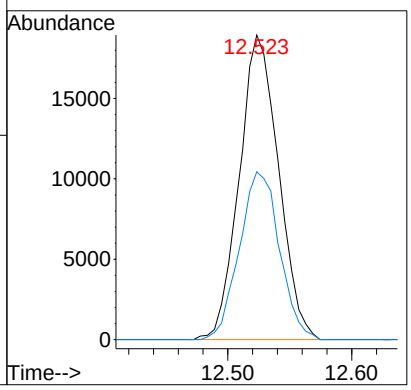


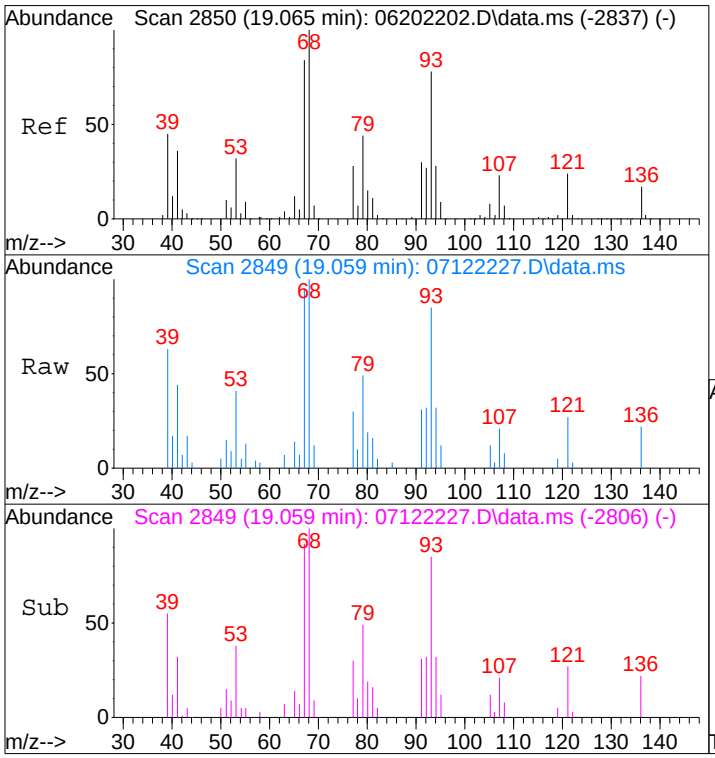


#58
Toluene
Concen: 0.72 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.018 min
Lab File: 07122227.D
Acq: 12 Jul 2022 20:26

Tgt Ion: 91 Resp: 41761

Ion	Ratio	Lower	Upper
91	100		
92	56.3	37.6	77.6

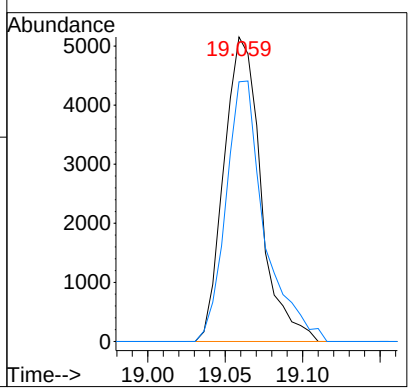




#91
d-Limonene
Concen: 0.45 ng
RT: 19.06 min Scan# 2849
Delta R.T. -0.004 min
Lab File: 07122227.D
Acq: 12 Jul 2022 20:26

Tgt Ion: 68 Resp: 8587

Ion	Ratio	Lower	Upper
68	100		
93	88.8	56.6	96.6



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122228.D Vial: 10
Acq On : 12 Jul 2022 20:58 Operator: SC
Sample : P2202944-002 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:20:06 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/13/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150888	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	639824	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	154583	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	314650	12.966	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
57) Toluene-d8 (SS2)	12.39	98	729742	12.036	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%				
73) Bromofluorobenzene (SS3)	16.79	174	337777	14.726	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.84%				
Target Compounds							Qvalue
2) Propene	3.27	42	5894	N.D.			
3) Dichlorodifluoromethan...	3.34	85	47542	1.366	ng		99
4) Chloromethane	3.48	50	4148	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	818	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.25	45	40121	3.244	ng		98
11) Acetonitrile	4.42	41	3203	N.D.			
12) Acrolein	4.51	56	918	N.D.			
13) Acetone	4.60	58	31004	3.108	ng	#	87
14) Trichlorofluoromethane	4.72	101	23321	0.715	ng		100
15) 2-Propanol (Isopropanol)	4.82	45	18094	0.477	ng		94
16) Acrylonitrile	5.10	53	4946	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.31	59	377	N.D.			
19) Methylene Chloride	5.32	84	2297	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	4219	N.D.			
22) Carbon Disulfide	5.58	76	660	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.64	72	2606	N.D.			
28) cis-1,2-Dichloroethene	7.06	61	111	N.D.			
29) Diisopropyl Ether	7.24	87	1275	N.D.			
30) Ethyl Acetate	7.24	61	101380	18.023	ng		98
31) n-Hexane	7.27	57	1728	N.D.			
32) Chloroform	7.32	83	1272	N.D.			
34) Tetrahydrofuran (THF)	7.73	72	4926	0.590	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	574	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	22479	No Calib			
40) 1-Butanol	9.18	56	653	No Calib			
41) Benzene	8.86	78	7936	N.D.			
42) Carbon Tetrachloride	9.03	117	6879	N.D.			
43) Cyclohexane	9.18	84	420	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	5890	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122228.D Vial: 10
Acq On : 12 Jul 2022 20:58 Operator: SC
Sample : P2202944-002 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:20:06 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

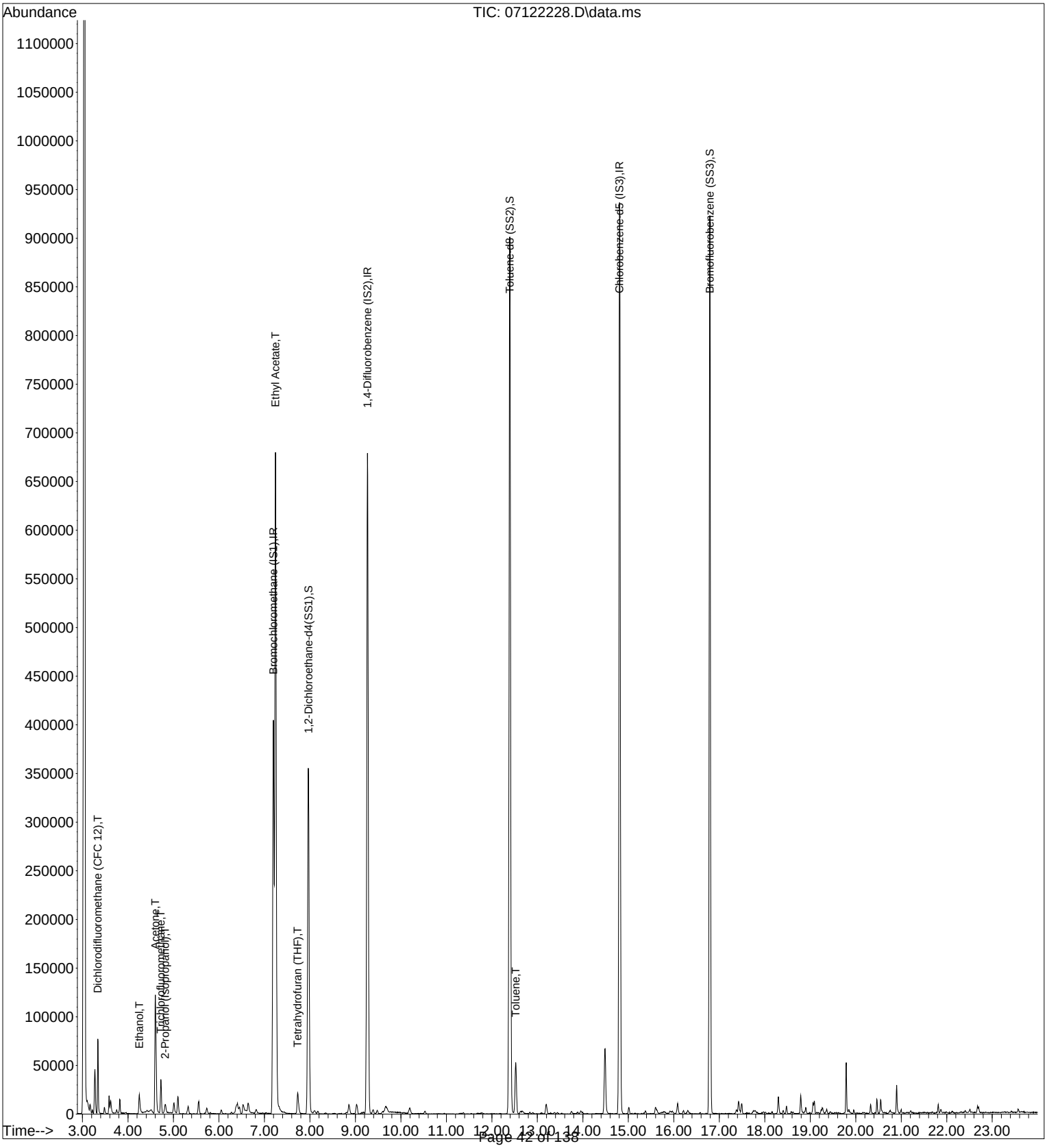
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.53	71	580	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	43930	0.736 ng	99
59) 2-Hexanone	12.89	43	1905	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.75	43	3159	N.D.	
63) n-Octane	13.89	57	311	N.D.	
64) Tetrachloroethene	14.01	166	299	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.38	91	2983	N.D.	
67) m- & p-Xylenes	15.60	91	7029	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	1360	N.D.	
70) o-Xylene	16.21	91	2597	N.D.	
71) n-Nonane	16.58	43	1213	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	443	N.D.	
75) alpha-Pinene	17.49	93	4237	N.D.	
76) n-Propylbenzene	17.65	91	845	N.D.	
77) 3-Ethyltoluene	16.79	105	443	No Calib	#
78) 4-Ethyltoluene	17.83	105	802	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	411	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.42	105	4990	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	2210	N.D.	
83) n-Decane	16.79	58	277	No Calib	#
84) Benzyl Chloride	18.30	91	255	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	545	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	545	N.D.	
87) sec-Butylbenzene	18.88	105	628	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	3154	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	2210	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	2314	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.09	58	256	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	2069	N.D.	
96) n-Dodecane	18.79	58	297	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.78	55	1189	No Calib	#
99) tert-Butylbenzene	18.41	119	131	N.D.	
100) n-Butylbenzene	19.35	91	583	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122228.D Vial: 10
Acq On : 12 Jul 2022 20:58 Operator: SC
Sample : P2202944-002 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:20:06 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122228.D Vial: 10
Acq On : 12 Jul 2022 20:58 Operator: SC
Sample : P2202944-002 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:20:06 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/13/22

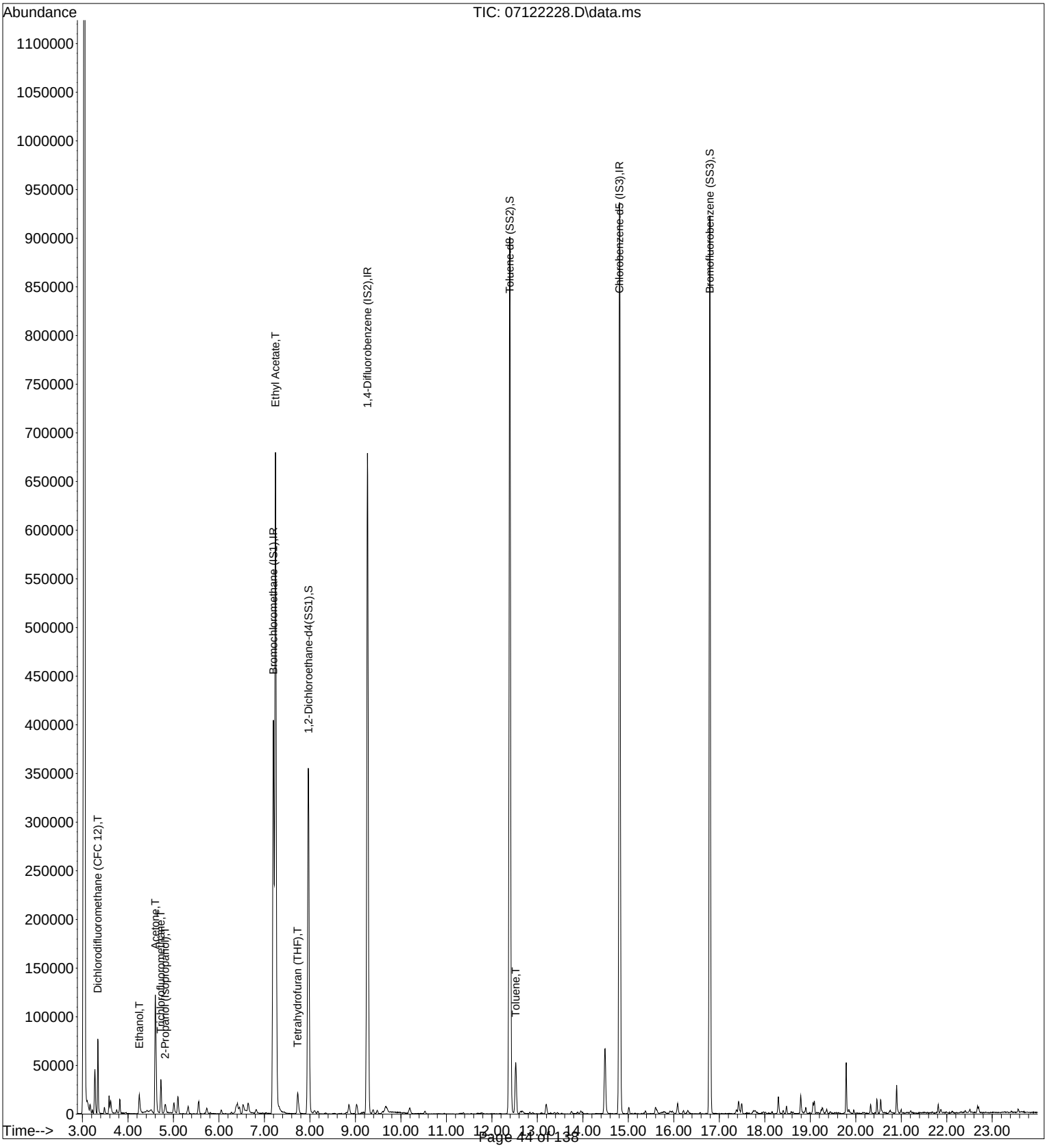
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150888	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	639824	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	154583	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	314650	12.966	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
57) Toluene-d8 (SS2)	12.39	98	729742	12.036	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%				
73) Bromofluorobenzene (SS3)	16.79	174	337777	14.726	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.84%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.34	85	47542	1.366	ng		99
10) Ethanol	4.25	45	40121	3.244	ng		98
13) Acetone	4.60	58	31004	3.108	ng	#	87
14) Trichlorofluoromethane	4.72	101	23321	0.715	ng		100
15) 2-Propanol (Isopropanol)	4.82	45	18094	0.477	ng		94
30) Ethyl Acetate	7.24	61	101380	18.023	ng		98
34) Tetrahydrofuran (THF)	7.73	72	4926	0.590	ng		98
58) Toluene	12.52	91	43930	0.736	ng		99

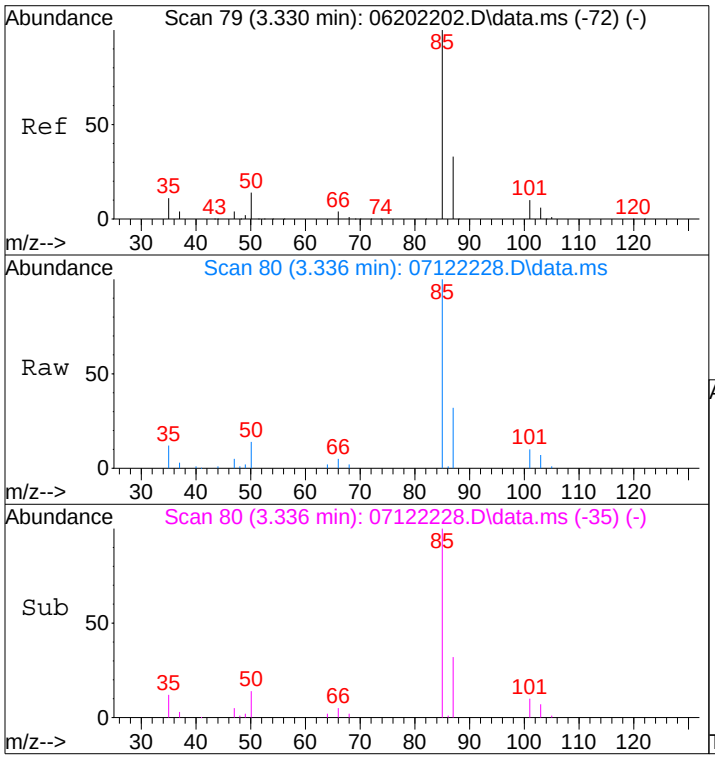
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122228.D Vial: 10
Acq On : 12 Jul 2022 20:58 Operator: SC
Sample : P2202944-002 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:20:06 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

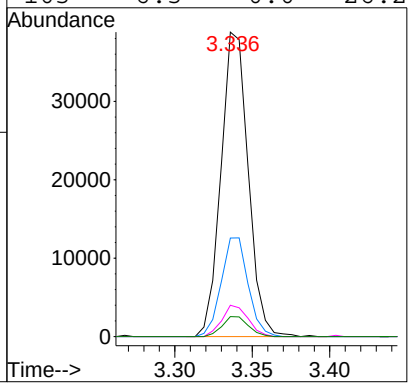


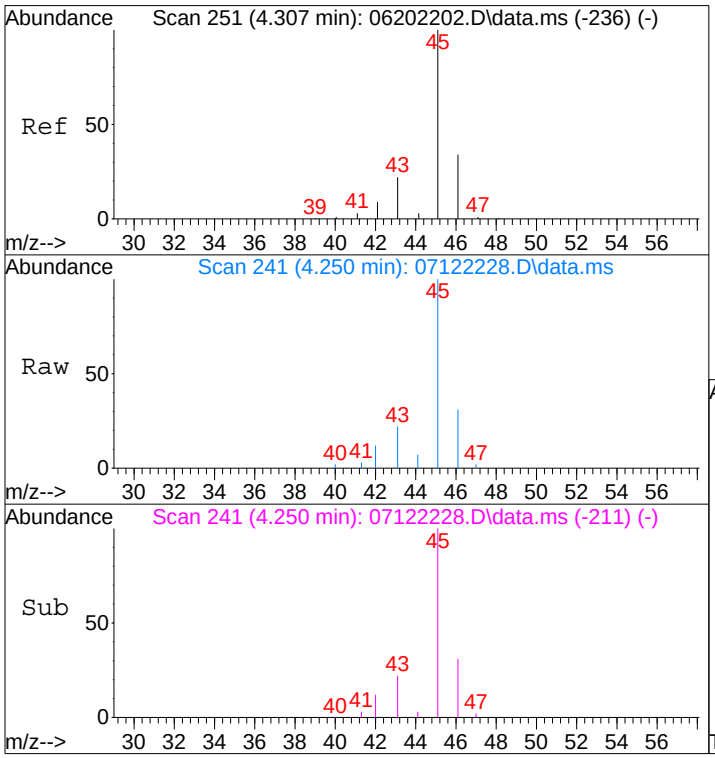


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.37 ng
RT: 3.34 min Scan# 80
Delta R.T. 0.008 min
Lab File: 07122228.D
Acq: 12 Jul 2022 20:58

Tgt Ion: 85 Resp: 47542

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.3	52.3
101	9.9	0.0	29.4
103	6.3	0.0	26.2

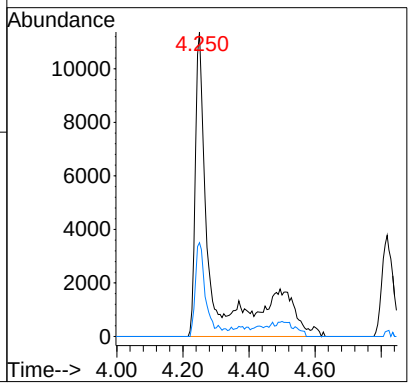


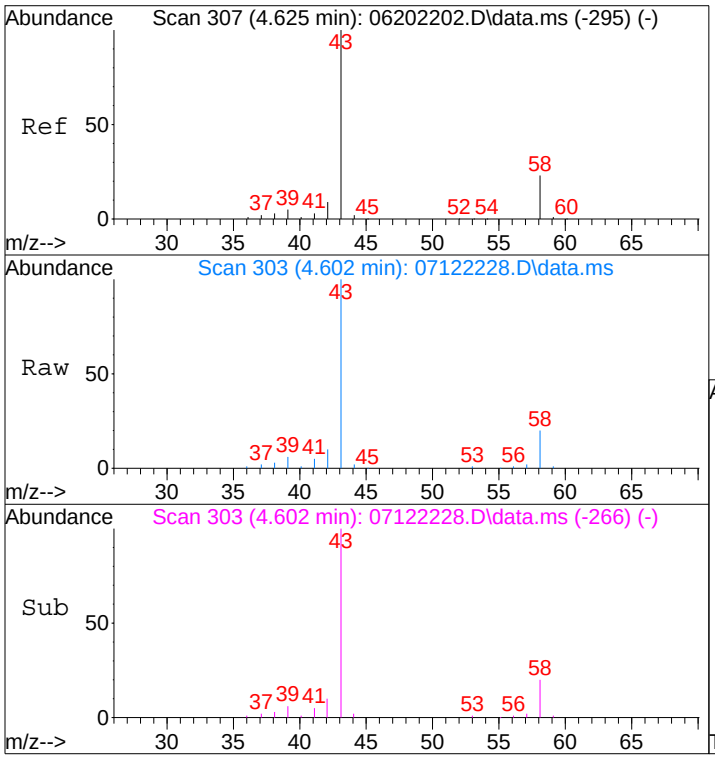


#10
Ethanol
Concen: 3.24 ng
RT: 4.25 min Scan# 241
Delta R.T. -0.081 min
Lab File: 07122228.D
Acq: 12 Jul 2022 20:58

Tgt Ion: 45 Resp: 40121

Ion	Ratio	Lower	Upper
45	100		
46	32.5	13.5	53.5

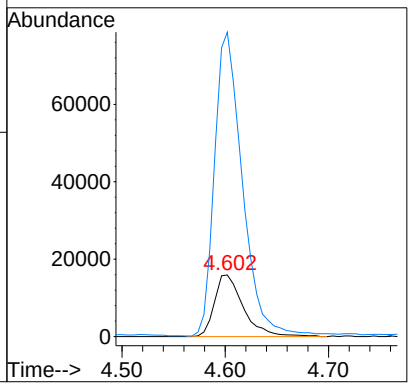


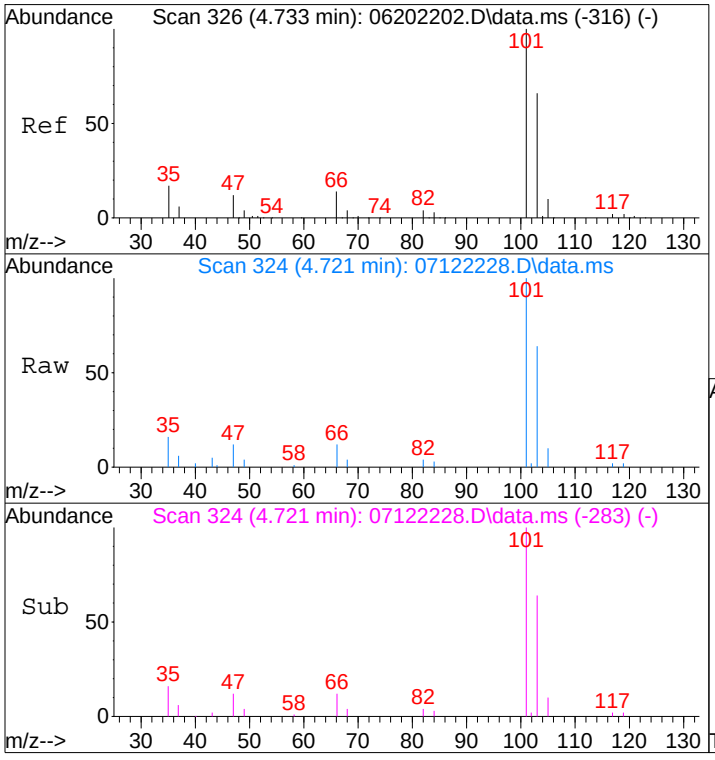


#13
Acetone
Concen: 3.11 ng
RT: 4.60 min Scan# 303
Delta R.T. -0.040 min
Lab File: 07122228.D
Acq: 12 Jul 2022 20:58

Tgt Ion: 58 Resp: 31004

Ion	Ratio	Lower	Upper
58	100		
43	475.2	412.8	472.8#

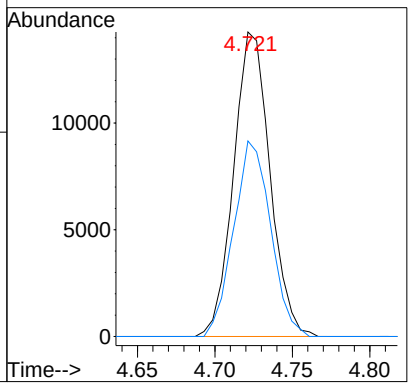


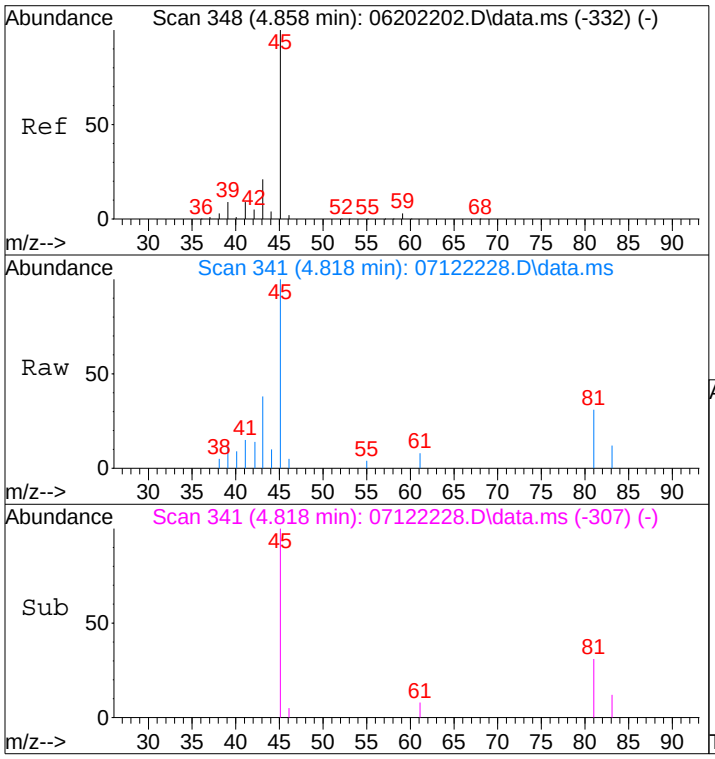


#14
Trichlorofluoromethane
Concen: 0.71 ng
RT: 4.72 min Scan# 324
Delta R.T. -0.018 min
Lab File: 07122228.D
Acq: 12 Jul 2022 20:58

Tgt Ion:101 Resp: 23321

Ion	Ratio	Lower	Upper
101	100		
103	65.3	45.6	85.6

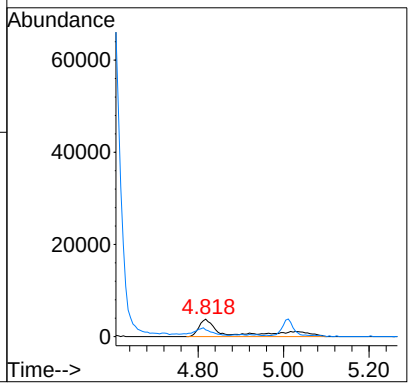


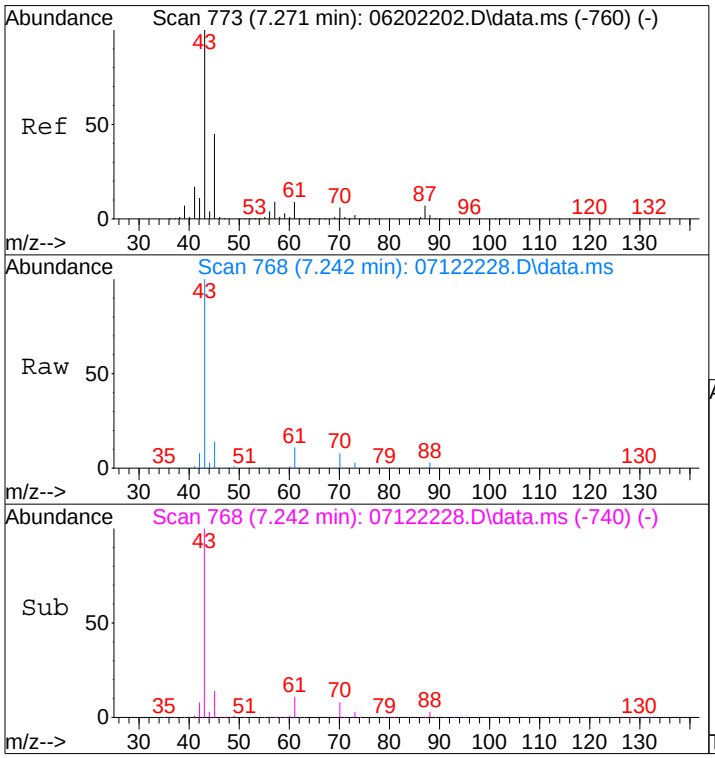


#15
2-Propanol (Isopropanol)
Concen: 0.48 ng
RT: 4.82 min Scan# 341
Delta R.T. -0.057 min
Lab File: 07122228.D
Acq: 12 Jul 2022 20:58

Tgt Ion: 45 Resp: 18094

Ion	Ratio	Lower	Upper
45	100		
43	25.4	2.6	42.6

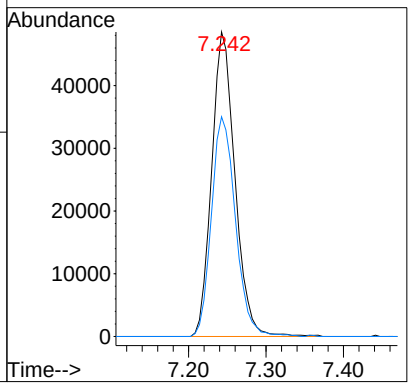


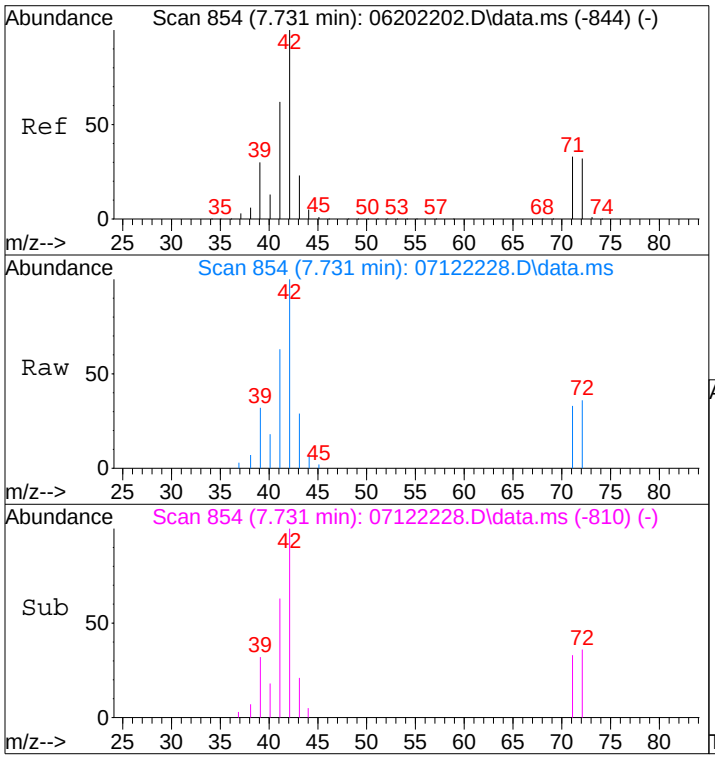


#30
Ethyl Acetate
Concen: 18.02 ng
RT: 7.24 min Scan# 768
Delta R.T. -0.040 min
Lab File: 07122228.D
Acq: 12 Jul 2022 20:58

Tgt Ion: 61 Resp: 101380

Ion	Ratio	Lower	Upper
61	100		
70	74.5	53.2	93.2

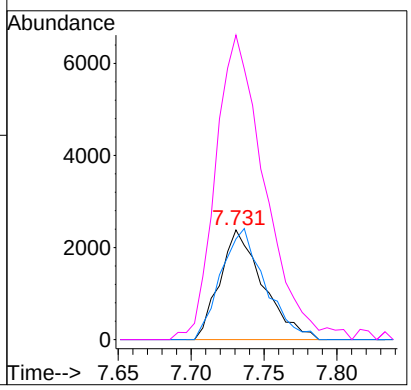


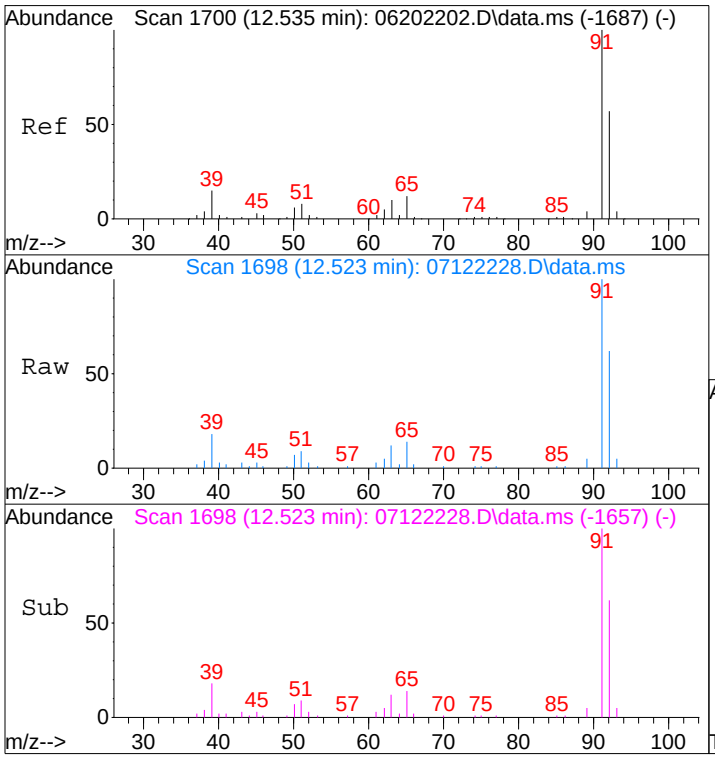


#34
Tetrahydrofuran (THF)
Concen: 0.59 ng
RT: 7.73 min Scan# 854
Delta R.T. 0.001 min
Lab File: 07122228.D
Acq: 12 Jul 2022 20:58

Tgt Ion: 72 Resp: 4926

Ion	Ratio	Lower	Upper
72	100		
71	103.1	79.2	119.2
42	316.6	294.6	334.6

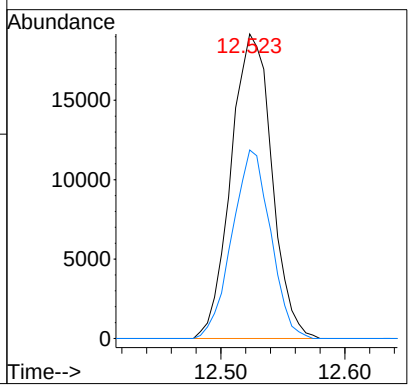




#58
Toluene
Concen: 0.74 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.018 min
Lab File: 07122228.D
Acq: 12 Jul 2022 20:58

Tgt Ion: 91 Resp: 43930

Ion	Ratio	Lower	Upper
91	100		
92	58.3	37.6	77.6



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122229.D Vial: 11
Acq On : 12 Jul 2022 21:30 Operator: SC
Sample : P2202944-003 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:21:35 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/13/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150640	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.27	114	636707	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	154518	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.97	65	313799	12.952	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%			
57) Toluene-d8 (SS2)	12.39	98	725109	11.965	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%			
73) Bromofluorobenzene (SS3)	16.79	174	337816	14.734	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.84%			
Target Compounds						Qvalue
2) Propene	3.28	42	5619	N.D.		
3) Dichlorodifluoromethan...	3.35	85	39905	1.148	ng	99
4) Chloromethane	3.49	50	3769	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	743	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.25	45	34877	2.824	ng	100
11) Acetonitrile	4.42	41	2764	N.D.		
12) Acrolein	4.51	56	3590	N.D.		
13) Acetone	4.60	58	45670	4.585	ng	91
14) Trichlorofluoromethane	4.73	101	19314	0.593	ng	99
15) 2-Propanol (Isopropanol)	4.81	45	19832	0.523	ng	84
16) Acrylonitrile	5.10	53	5805	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.31	59	902	N.D.		
19) Methylene Chloride	5.32	84	1933	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.56	151	3502	N.D.		
22) Carbon Disulfide	5.58	76	2053	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.63	72	4793	0.560	ng	100
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d		
29) Diisopropyl Ether	7.25	87	2235	N.D.		
30) Ethyl Acetate	7.24	61	144894	25.801	ng	97
31) n-Hexane	7.27	57	1526	N.D.		
32) Chloroform	7.33	83	1163	N.D.		
34) Tetrahydrofuran (THF)	7.73	72	2704	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.08	62	268	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	23142	No Calib		
40) 1-Butanol	9.19	56	409	No Calib	#	
41) Benzene	8.86	78	9546	N.D.		
42) Carbon Tetrachloride	9.03	117	4473	N.D.		
43) Cyclohexane	9.18	84	315	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.20	57	4870	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122229.D Vial: 11
Acq On : 12 Jul 2022 21:30 Operator: SC
Sample : P2202944-003 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:21:35 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

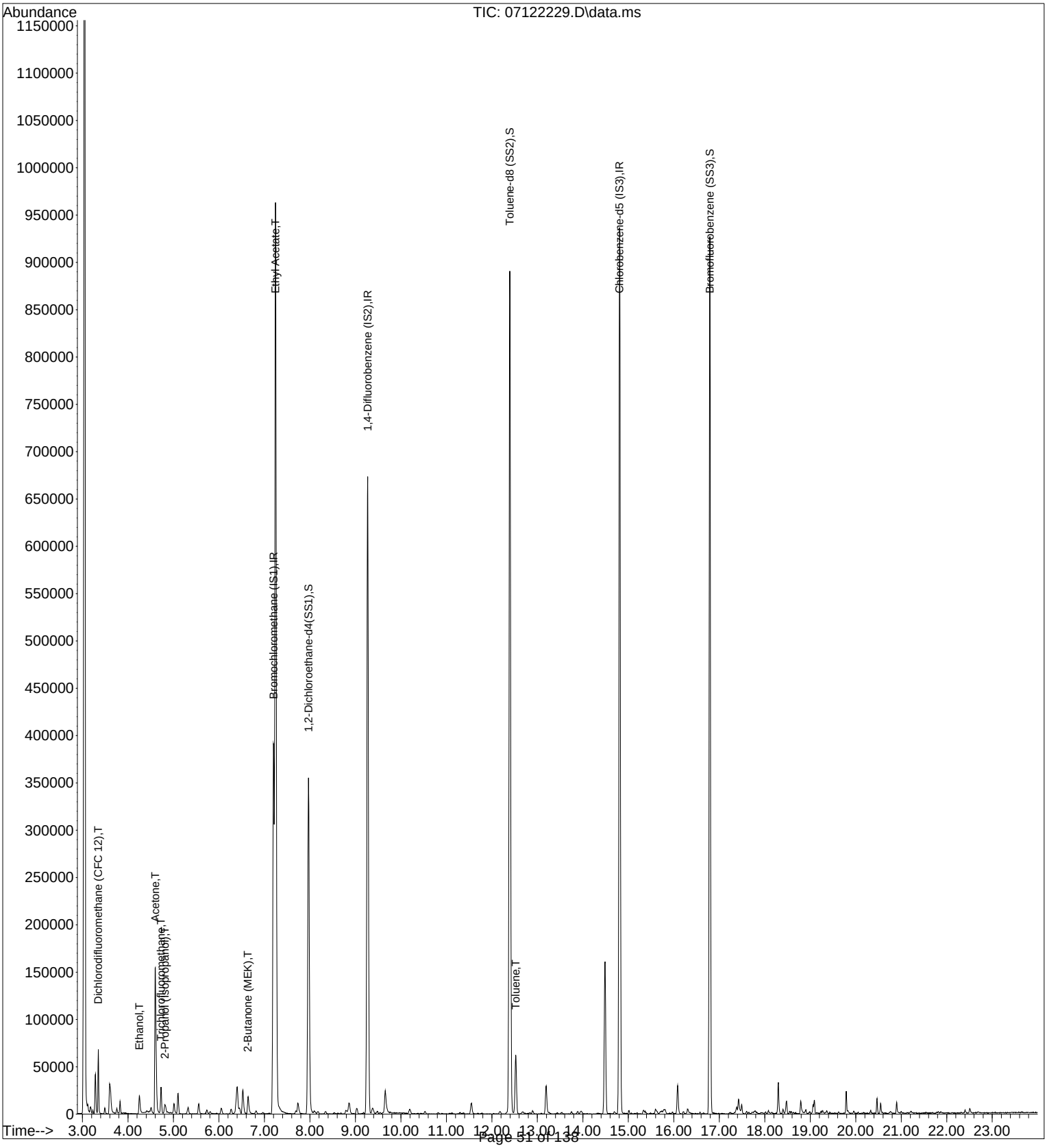
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	519	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	53813	0.902 ng	98
59) 2-Hexanone	12.90	43	3413	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.75	43	2638	N.D.	
63) n-Octane	13.90	57	310	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.38	91	1971	N.D.	
67) m- & p-Xylenes	15.61	91	5205	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	845	N.D.	
70) o-Xylene	16.20	91	2052	N.D.	
71) n-Nonane	16.58	43	1183	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	504	N.D.	
75) alpha-Pinene	17.49	93	3719	N.D.	
76) n-Propylbenzene	17.65	91	492	N.D.	
77) 3-Ethyltoluene	16.79	105	504	No Calib	#
78) 4-Ethyltoluene	17.83	105	554	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	400	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.42	105	6416	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	1788	N.D.	
83) n-Decane	16.79	58	336	No Calib	#
84) Benzyl Chloride	18.40	91	196	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	369	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	369	N.D.	
87) sec-Butylbenzene	18.88	105	454	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	2379	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	1788	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	2107	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.08	58	1168	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.93	128	807	N.D.	
96) n-Dodecane	18.79	58	149	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.49	55	258	No Calib	#
99) tert-Butylbenzene	18.41	119	220	N.D.	
100) n-Butylbenzene	19.36	91	655	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122229.D Vial: 11
Acq On : 12 Jul 2022 21:30 Operator: SC
Sample : P2202944-003 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:21:35 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122229.D Vial: 11
Acq On : 12 Jul 2022 21:30 Operator: SC
Sample : P2202944-003 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:21:35 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/13/22

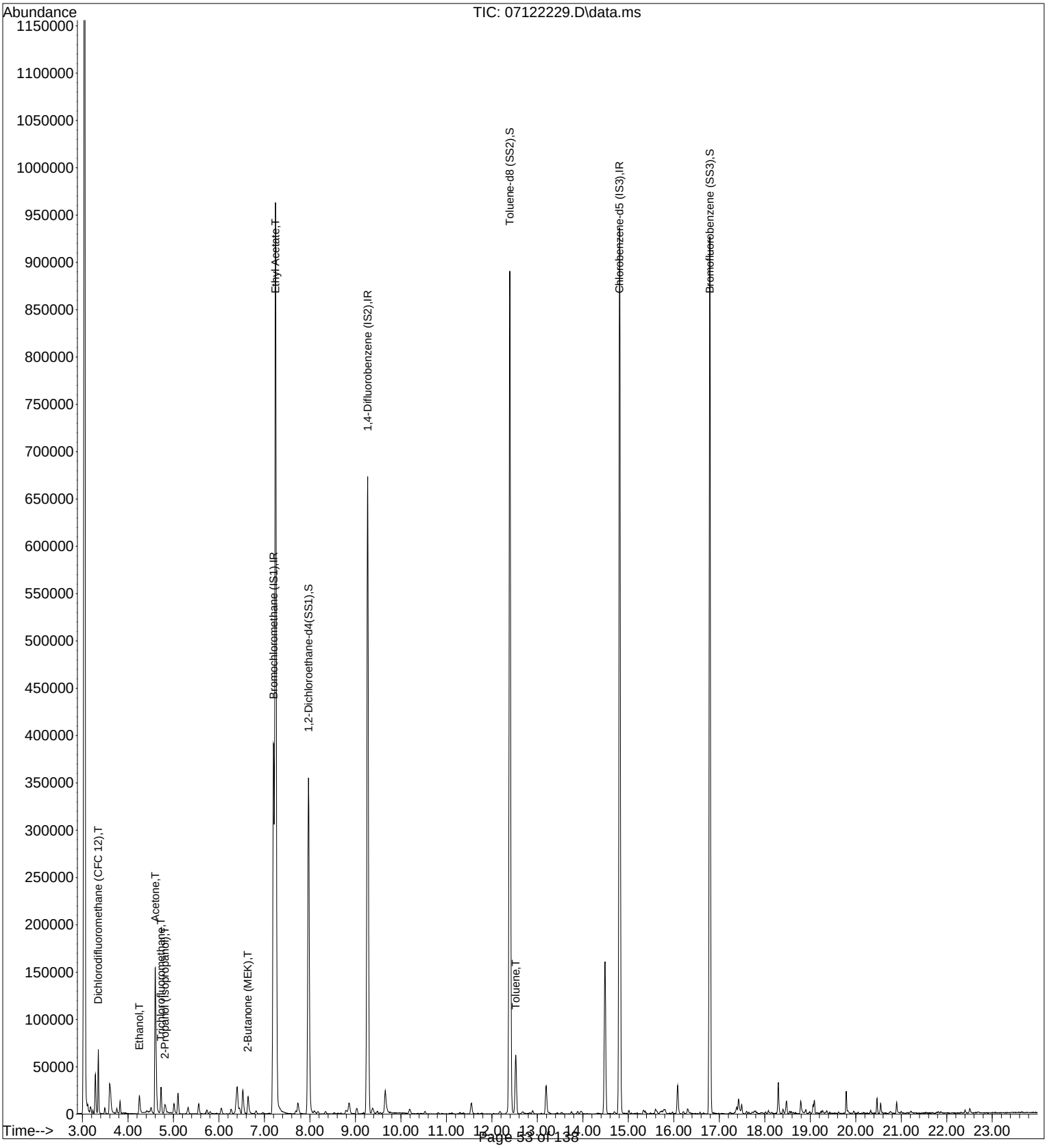
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150640	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.27	114	636707	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	154518	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.97	65	313799	12.952	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%			
57) Toluene-d8 (SS2)	12.39	98	725109	11.965	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%			
73) Bromofluorobenzene (SS3)	16.79	174	337816	14.734	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.84%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.35	85	39905	1.148	ng	99
10) Ethanol	4.25	45	34877	2.824	ng	100
13) Acetone	4.60	58	45670	4.585	ng	91
14) Trichlorofluoromethane	4.73	101	19314	0.593	ng	99
15) 2-Propanol (Isopropanol)	4.81	45	19832	0.523	ng	84
27) 2-Butanone (MEK)	6.63	72	4793	0.560	ng	100
30) Ethyl Acetate	7.24	61	144894	25.801	ng	97
58) Toluene	12.52	91	53813	0.902	ng	98

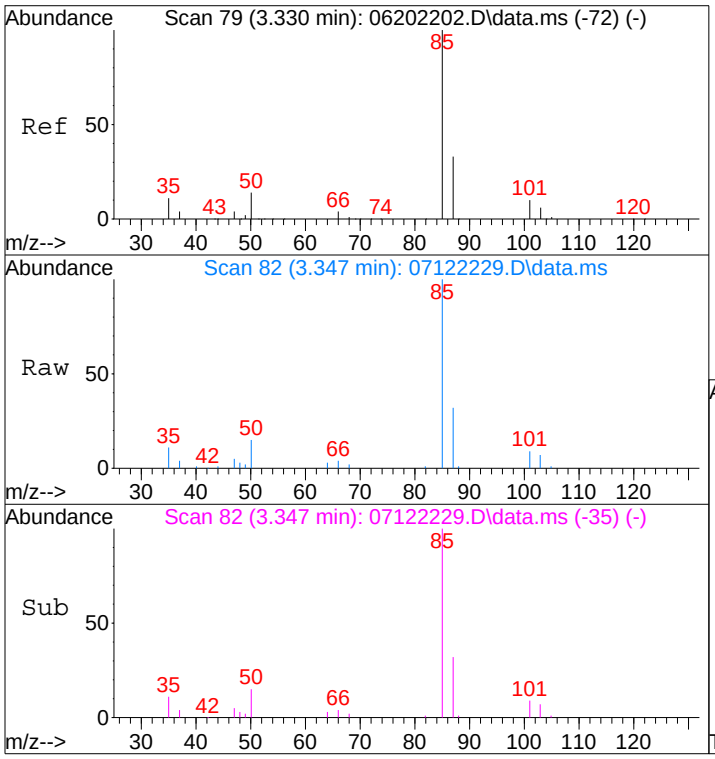
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122229.D Vial: 11
Acq On : 12 Jul 2022 21:30 Operator: SC
Sample : P2202944-003 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:21:35 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

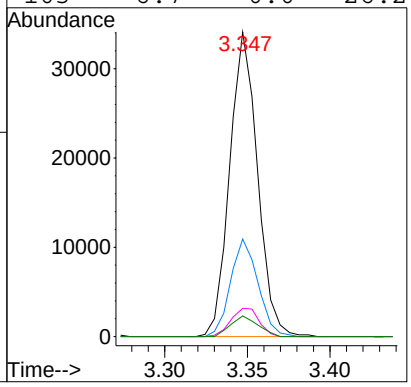


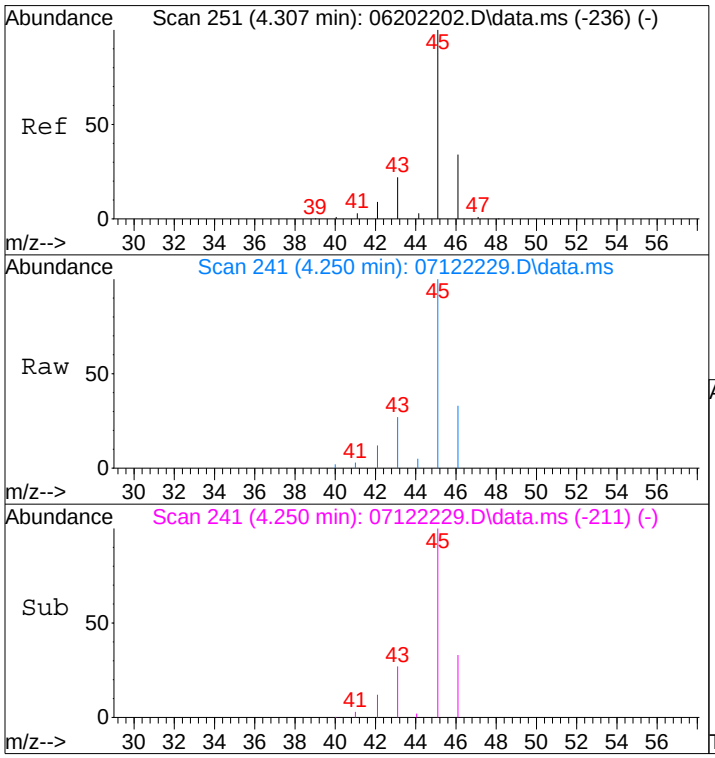


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.15 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.019 min
Lab File: 07122229.D
Acq: 12 Jul 2022 21:30

Tgt Ion: 85 Resp: 39905

Ion	Ratio	Lower	Upper
85	100		
87	31.6	12.3	52.3
101	9.5	0.0	29.4
103	6.7	0.0	26.2

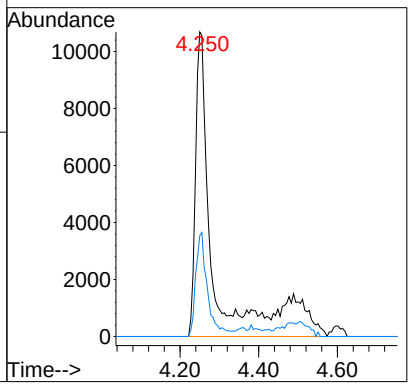


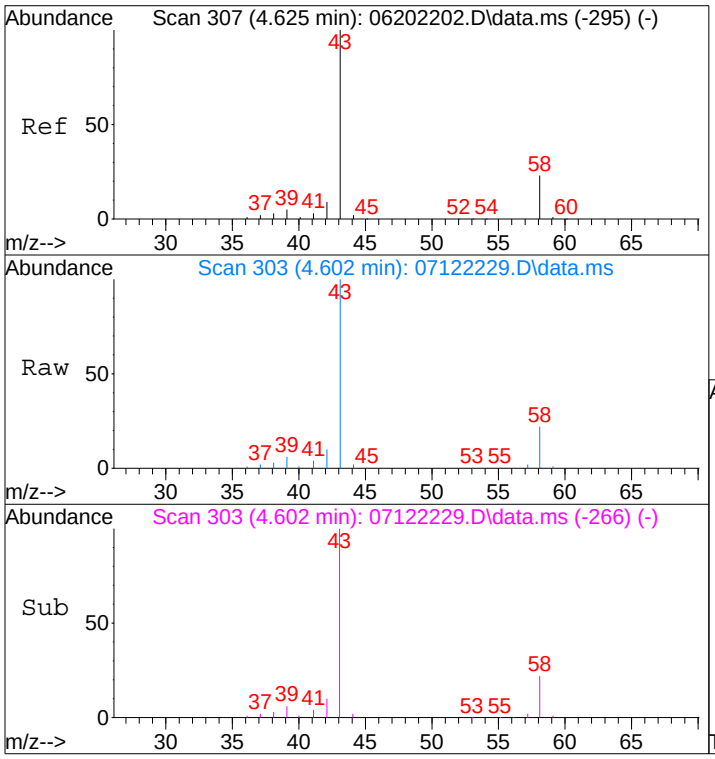


#10
Ethanol
Concen: 2.82 ng
RT: 4.25 min Scan# 241
Delta R.T. -0.081 min
Lab File: 07122229.D
Acq: 12 Jul 2022 21:30

Tgt Ion: 45 Resp: 34877

Ion	Ratio	Lower	Upper
45	100		
46	33.3	13.5	53.5

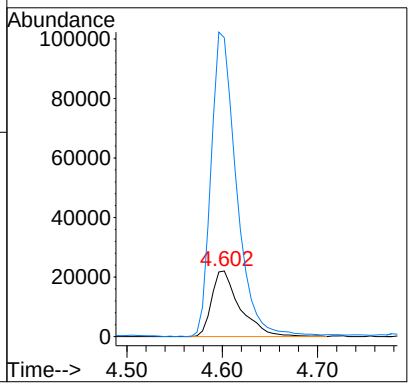


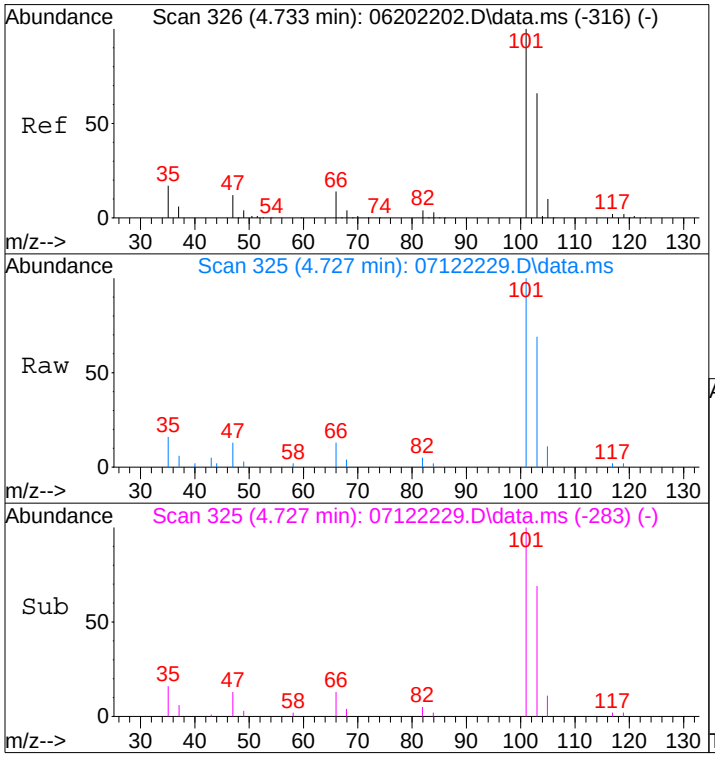


#13
Acetone
Concen: 4.59 ng
RT: 4.60 min Scan# 303
Delta R.T. -0.040 min
Lab File: 07122229.D
Acq: 12 Jul 2022 21:30

Tgt Ion: 58 Resp: 45670

Ion	Ratio	Lower	Upper
58	100		
43	421.1	412.8	472.8

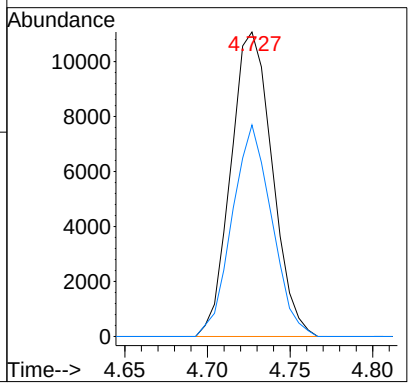


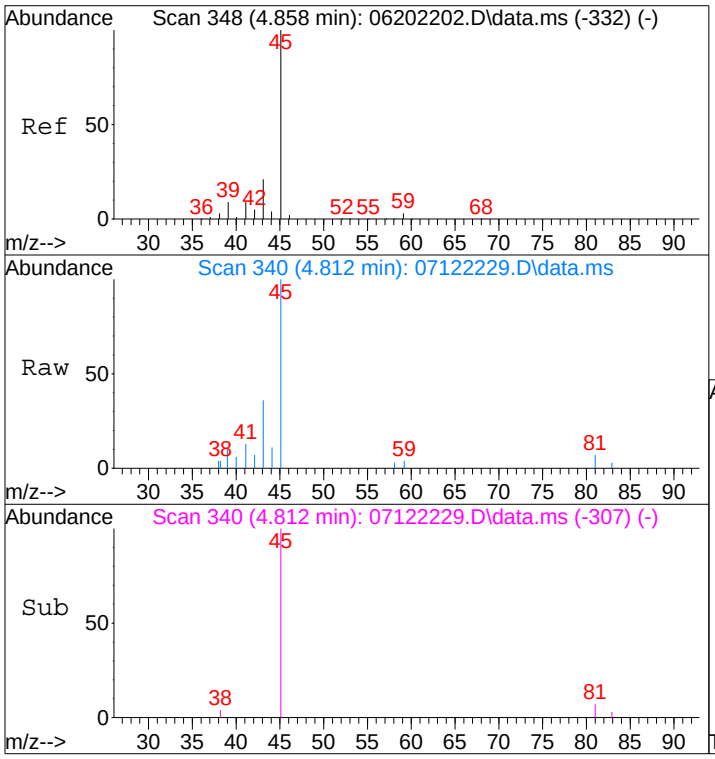


#14
Trichlorofluoromethane
Concen: 0.59 ng
RT: 4.73 min Scan# 325
Delta R.T. -0.012 min
Lab File: 07122229.D
Acq: 12 Jul 2022 21:30

Tgt Ion:101 Resp: 19314

Ion	Ratio	Lower	Upper
101	100		
103	66.6	45.6	85.6

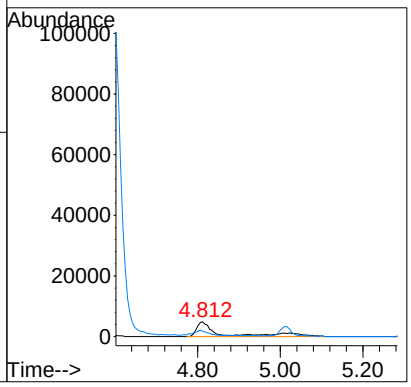


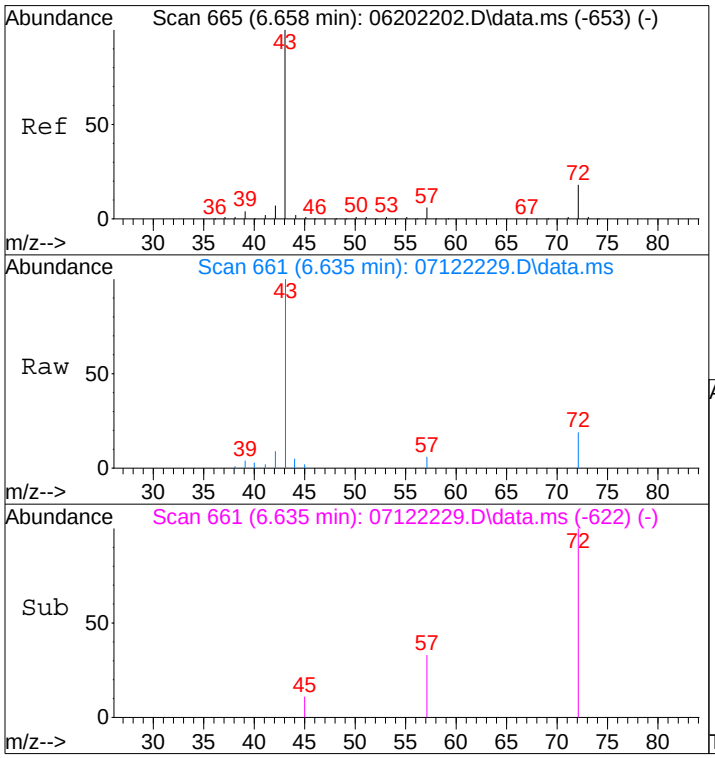


#15
2-Propanol (Isopropanol)
Concen: 0.52 ng
RT: 4.81 min Scan# 340
Delta R.T. -0.063 min
Lab File: 07122229.D
Acq: 12 Jul 2022 21:30

Tgt Ion: 45 Resp: 19832

Ion	Ratio	Lower	Upper
45	100		
43	30.3	2.6	42.6

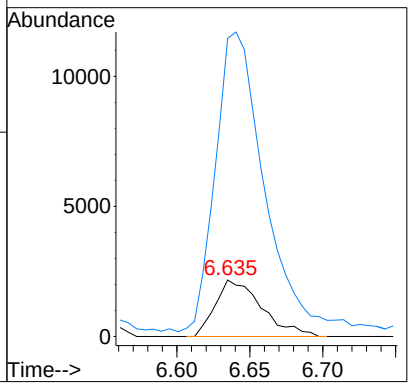


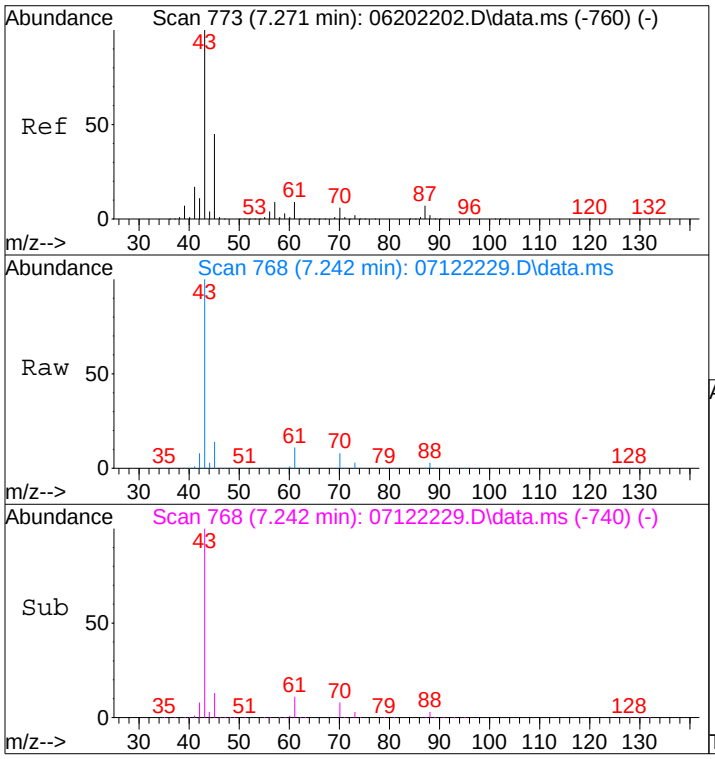


#27
2-Butanone (MEK)
Concen: 0.56 ng
RT: 6.63 min Scan# 661
Delta R.T. -0.030 min
Lab File: 07122229.D
Acq: 12 Jul 2022 21:30

Tgt Ion: 72 Resp: 4793

Ion	Ratio	Lower	Upper
72	100		
43	567.6	548.7	588.7

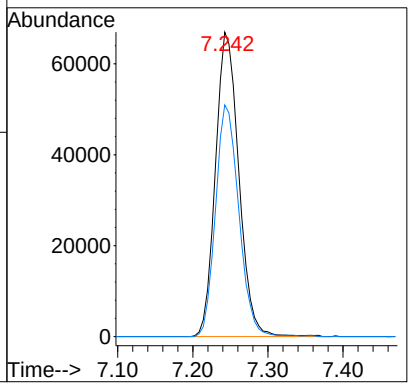


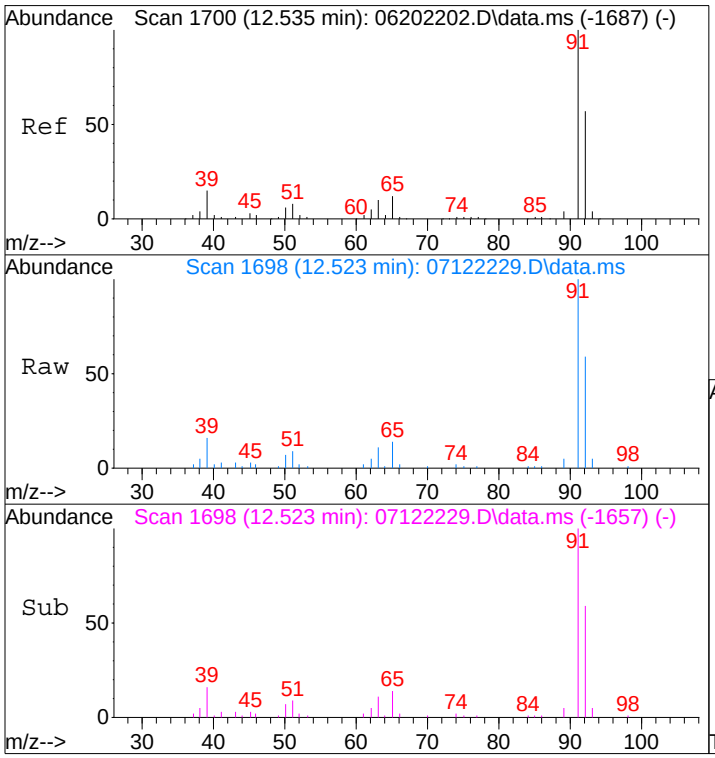


#30
Ethyl Acetate
Concen: 25.80 ng
RT: 7.24 min Scan# 768
Delta R.T. -0.040 min
Lab File: 07122229.D
Acq: 12 Jul 2022 21:30

Tgt Ion: 61 Resp: 144894

Ion	Ratio	Lower	Upper
61	100		
70	76.0	53.2	93.2

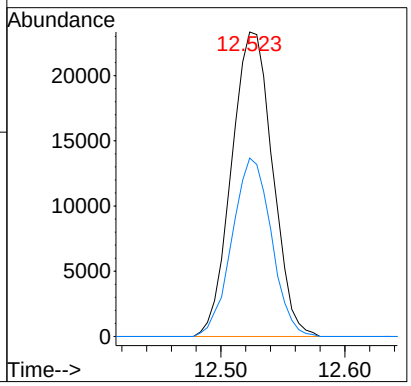




#58
Toluene
Concen: 0.90 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.018 min
Lab File: 07122229.D
Acq: 12 Jul 2022 21:30

Tgt Ion: 91 Resp: 53813

Ion	Ratio	Lower	Upper
91	100		
92	56.2	37.6	77.6



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122230.D Vial: 12
Acq On : 12 Jul 2022 22:03 Operator: SC
Sample : P2202944-004 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:23:22 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/13/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	148559	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	629852	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	155246	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	310897	13.012	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
57) Toluene-d8 (SS2)	12.39	98	725262	11.911	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
73) Bromofluorobenzene (SS3)	16.79	174	338247	14.684	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.44%				
Target Compounds							Qvalue
2) Propene	3.28	42	9054	N.D.			
3) Dichlorodifluoromethan...	3.35	85	43812	1.278	ng		99
4) Chloromethane	3.49	50	4085	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	799	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	53023	4.354	ng		99
11) Acetonitrile	4.41	41	3052	N.D.			
12) Acrolein	4.51	56	3224	N.D.			
13) Acetone	4.60	58	53419	5.438	ng		91
14) Trichlorofluoromethane	4.73	101	21930	0.683	ng		100
15) 2-Propanol (Isopropanol)	4.82	45	37413	1.001	ng		100
16) Acrylonitrile	5.10	53	2007	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.31	59	924	N.D.			
19) Methylene Chloride	5.32	84	3701	N.D.			
20) 3-Chloro-1-propene (Al...	5.31	41	458	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3918	N.D.			
22) Carbon Disulfide	5.57	76	1236	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.65	72	7806	0.925	ng	#	82
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d			
29) Diisopropyl Ether	7.25	87	544	N.D.			
30) Ethyl Acetate	7.25	61	69088	12.475	ng		99
31) n-Hexane	7.27	57	1930	N.D.			
32) Chloroform	7.33	83	1294	N.D.			
34) Tetrahydrofuran (THF)	7.75	72	1399	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	552	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	22125	No Calib			
40) 1-Butanol	9.18	56	864	No Calib		#	
41) Benzene	8.86	78	7175	N.D.			
42) Carbon Tetrachloride	9.04	117	6588	N.D.			
43) Cyclohexane	9.18	84	298	N.D.			
44) tert-Amyl Methyl Ether	9.56	73	552	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	6698	N.D.			
50) Methyl Methacrylate	10.54	100	119	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122230.D Vial: 12
Acq On : 12 Jul 2022 22:03 Operator: SC
Sample : P2202944-004 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:23:22 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

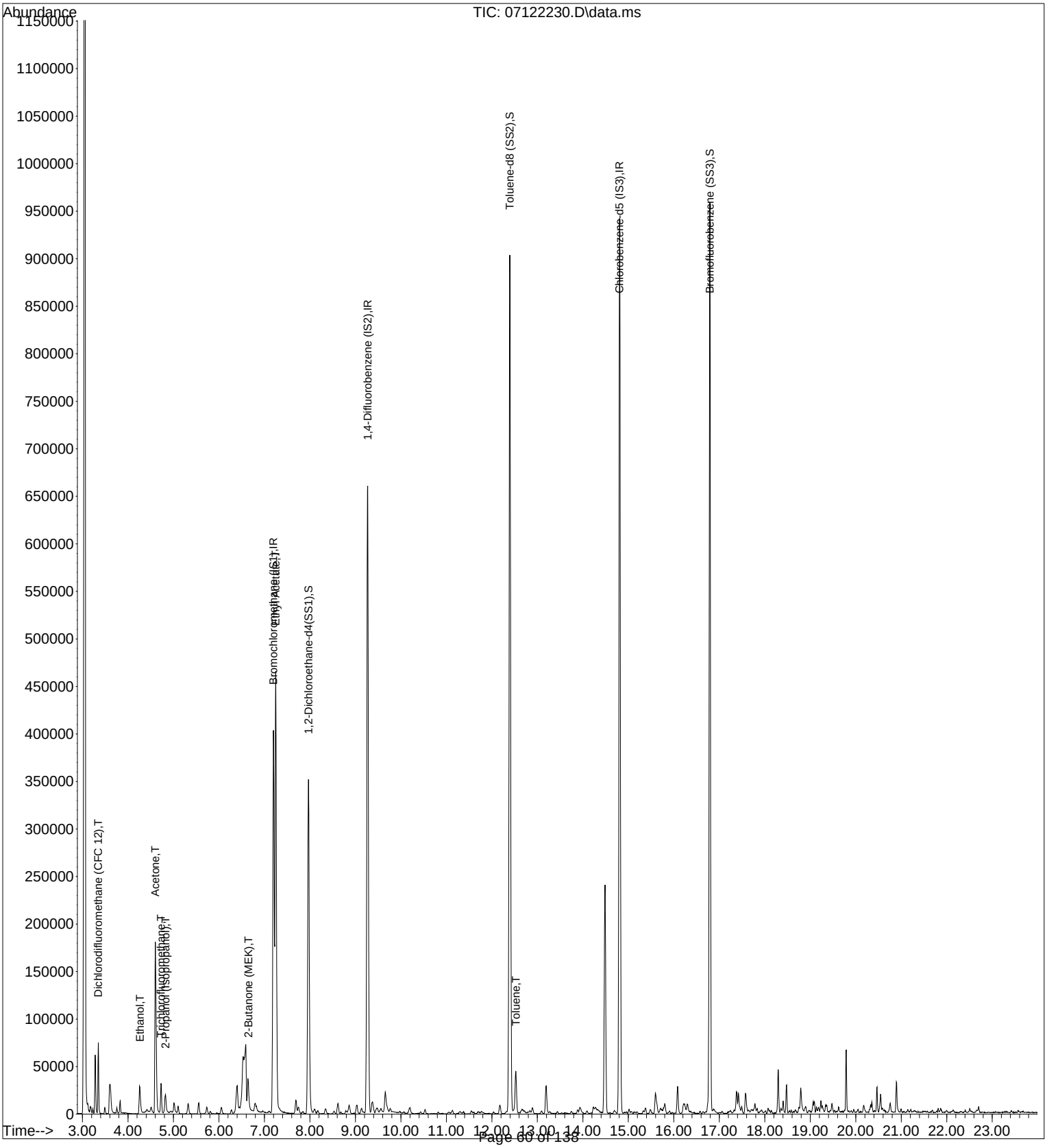
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	887	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.30	58	337	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.53	91	37446	0.625 ng	98
59) 2-Hexanone	12.89	43	5635	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.74	43	3912	N.D.	
63) n-Octane	13.89	57	475	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.37	91	5313	N.D.	
67) m- & p-Xylenes	15.60	91	15487	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	1784	N.D.	
70) o-Xylene	16.21	91	5877	N.D.	
71) n-Nonane	16.58	43	2003	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.99	105	337	N.D.	
75) alpha-Pinene	17.50	93	3044	N.D.	
76) n-Propylbenzene	17.64	91	1646	N.D.	
77) 3-Ethyltoluene	16.99	105	337	No Calib	#
78) 4-Ethyltoluene	17.83	105	2247	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	1693	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.42	105	7286	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	6059	N.D.	
83) n-Decane	16.78	58	574	No Calib	#
84) Benzyl Chloride	18.40	91	665	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	522	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	522	N.D.	
87) sec-Butylbenzene	18.88	105	1367	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	3256	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	6059	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	1733	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.08	58	1947	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	1805	N.D.	
96) n-Dodecane	18.75	58	1127	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.61	55	788	No Calib	#
99) tert-Butylbenzene	18.40	119	641	N.D.	
100) n-Butylbenzene	19.34	91	2650	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122230.D Vial: 12
Acq On : 12 Jul 2022 22:03 Operator: SC
Sample : P2202944-004 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:23:22 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122230.D Vial: 12
Acq On : 12 Jul 2022 22:03 Operator: SC
Sample : P2202944-004 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:23:22 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/13/22

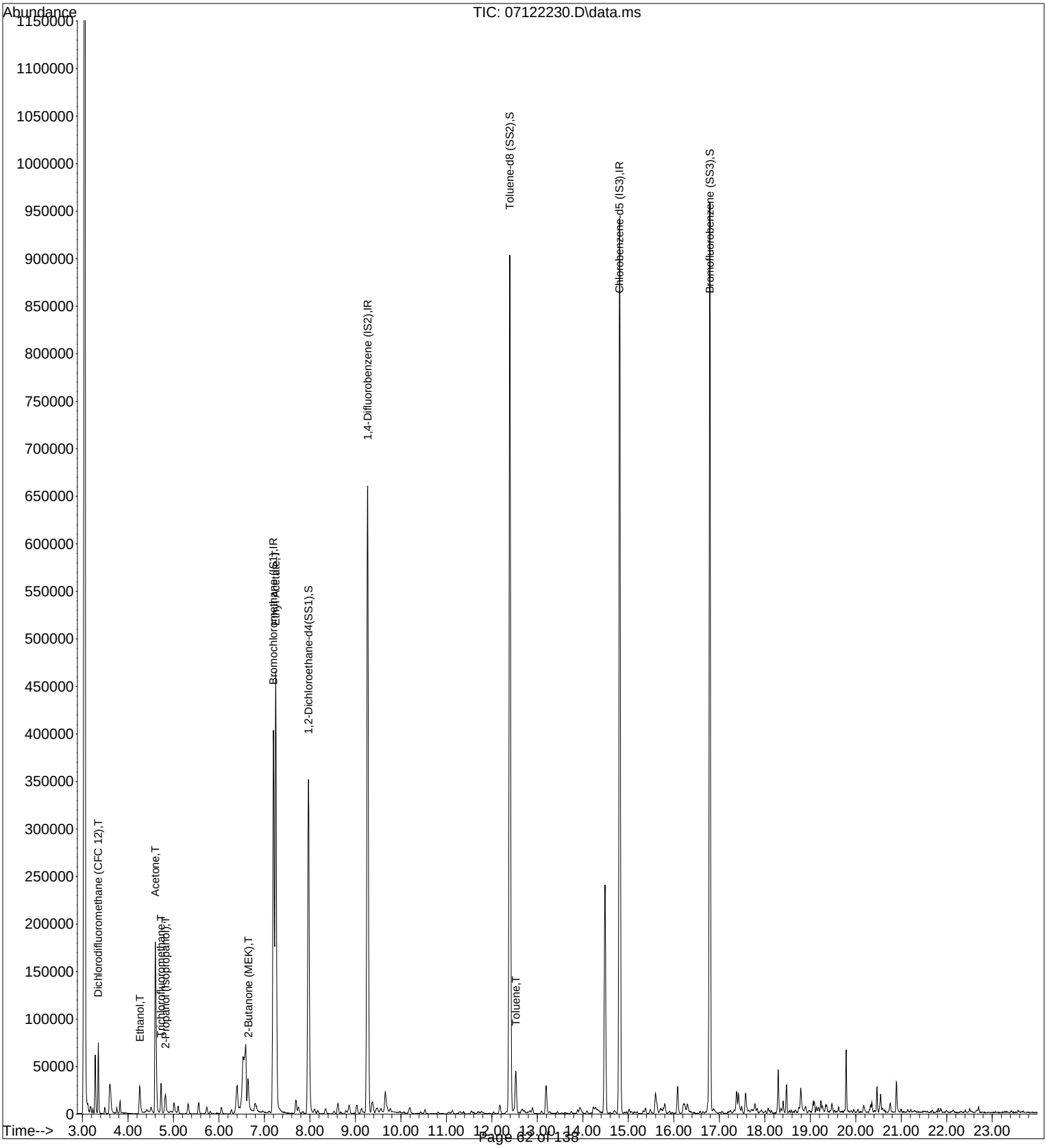
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	148559	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	629852	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	155246	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	310897	13.012	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
57) Toluene-d8 (SS2)	12.39	98	725262	11.911	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
73) Bromofluorobenzene (SS3)	16.79	174	338247	14.684	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.44%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	43812	1.278	ng		99
10) Ethanol	4.26	45	53023	4.354	ng		99
13) Acetone	4.60	58	53419	5.438	ng		91
14) Trichlorofluoromethane	4.73	101	21930	0.683	ng		100
15) 2-Propanol (Isopropanol)	4.82	45	37413	1.001	ng		100
27) 2-Butanone (MEK)	6.65	72	7806	0.925	ng	#	82
30) Ethyl Acetate	7.25	61	69088	12.475	ng		99
58) Toluene	12.53	91	37446	0.625	ng		98

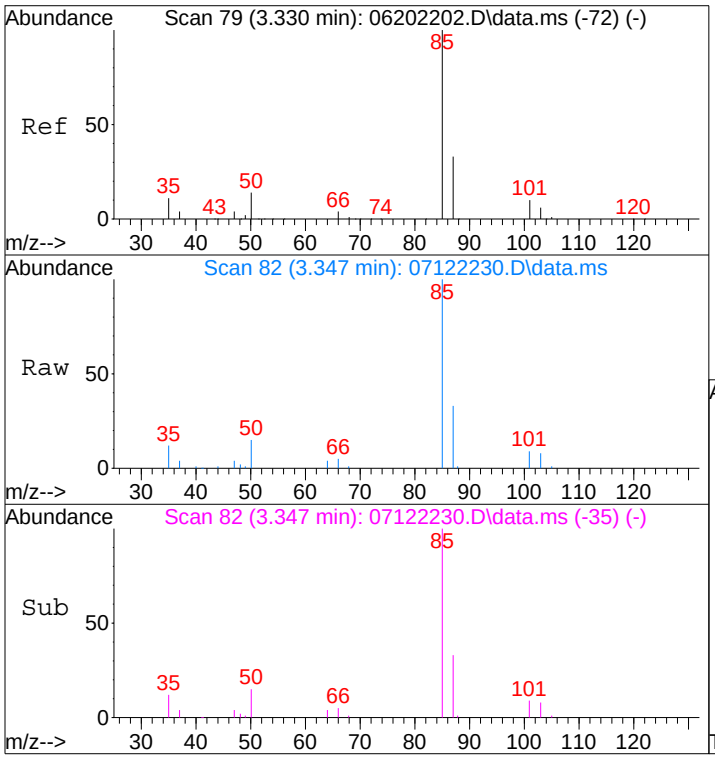
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122230.D Vial: 12
Acq On : 12 Jul 2022 22:03 Operator: SC
Sample : P2202944-004 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:23:22 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

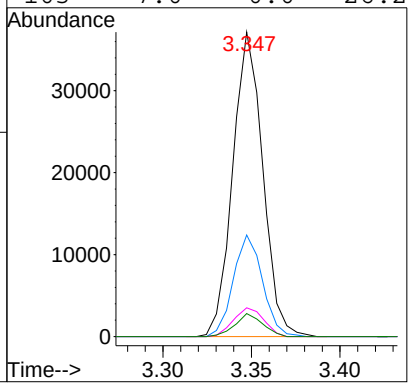


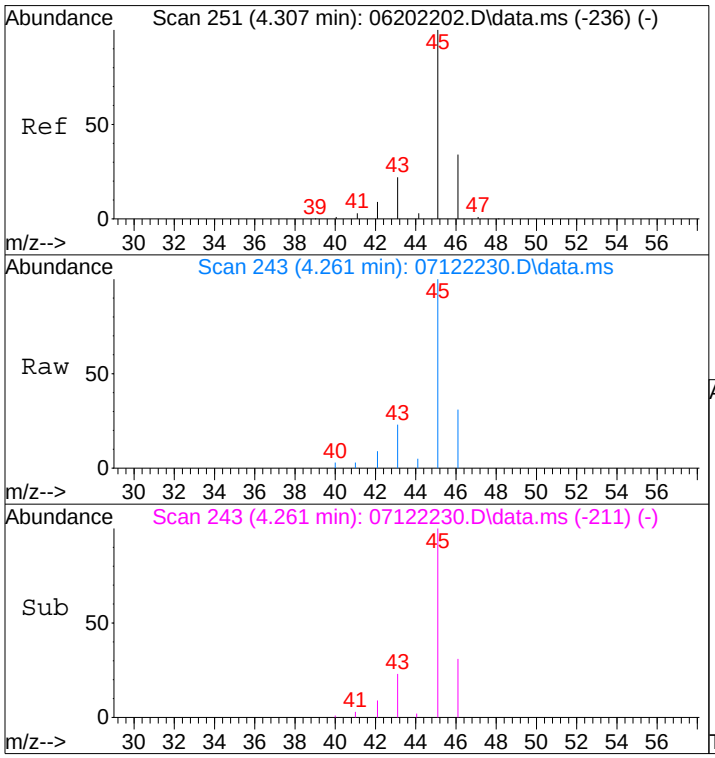


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.28 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.019 min
Lab File: 07122230.D
Acq: 12 Jul 2022 22:03

Tgt Ion: 85 Resp: 43812

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.3	52.3
101	9.6	0.0	29.4
103	7.0	0.0	26.2

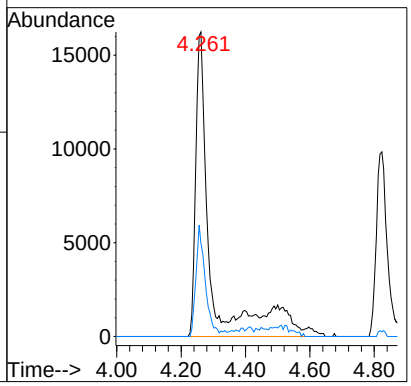


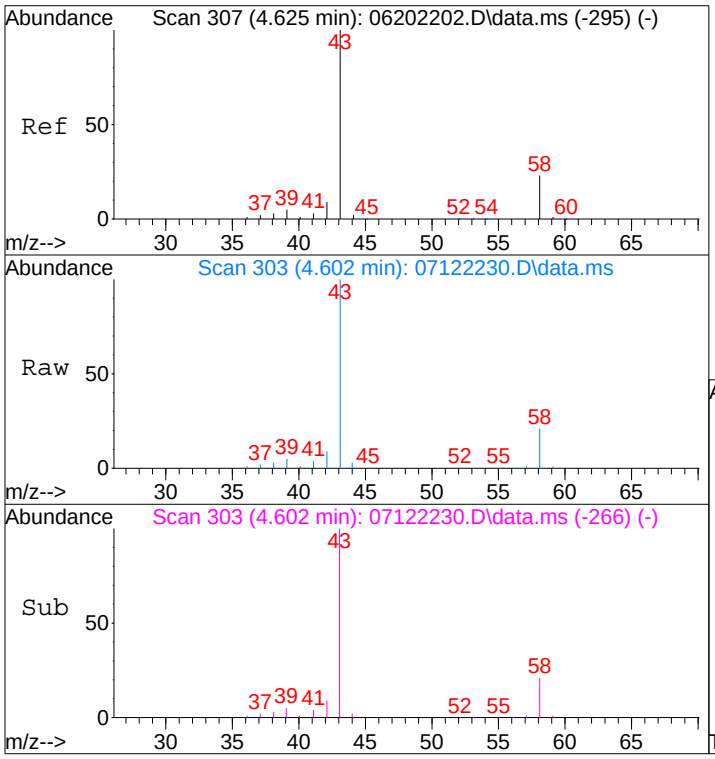


#10
Ethanol
Concen: 4.35 ng
RT: 4.26 min Scan# 243
Delta R.T. -0.069 min
Lab File: 07122230.D
Acq: 12 Jul 2022 22:03

Tgt Ion: 45 Resp: 53023

Ion	Ratio	Lower	Upper
45	100		
46	33.1	13.5	53.5

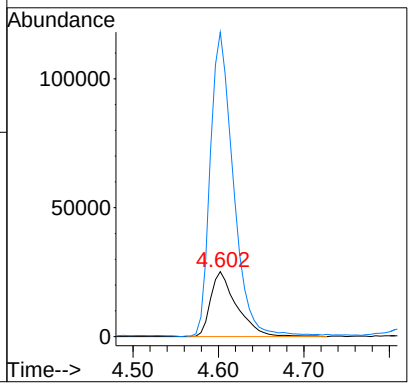


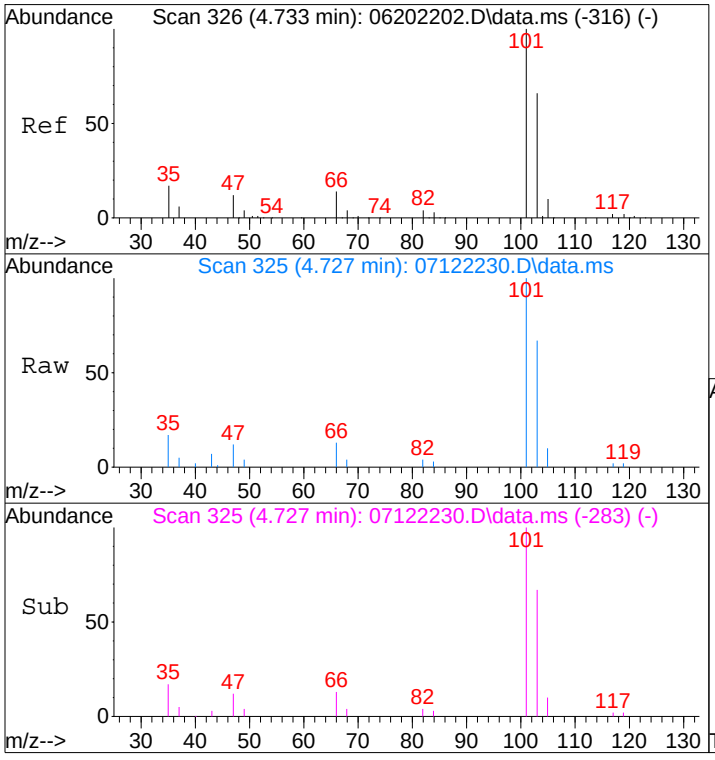


#13
Acetone
Concen: 5.44 ng
RT: 4.60 min Scan# 303
Delta R.T. -0.040 min
Lab File: 07122230.D
Acq: 12 Jul 2022 22:03

Tgt Ion: 58 Resp: 53419

Ion	Ratio	Lower	Upper
58	100		
43	420.7	412.8	472.8

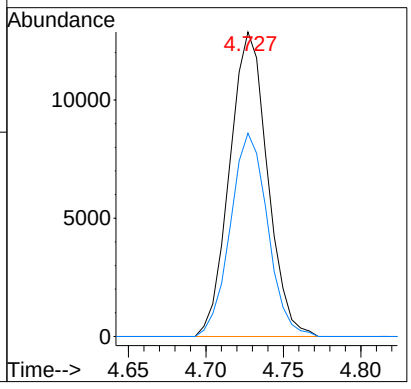


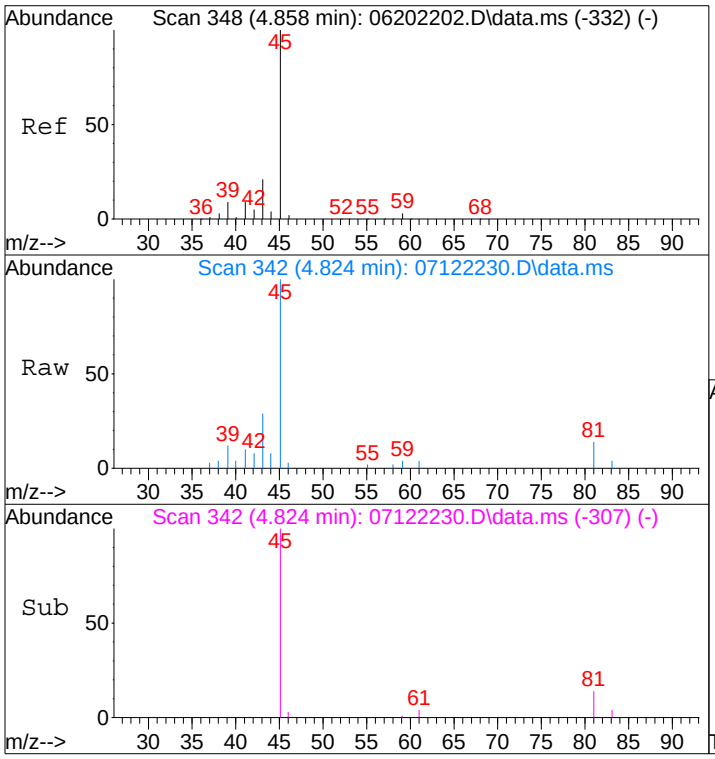


#14
Trichlorofluoromethane
Concen: 0.68 ng
RT: 4.73 min Scan# 325
Delta R.T. -0.012 min
Lab File: 07122230.D
Acq: 12 Jul 2022 22:03

Tgt Ion:101 Resp: 21930

Ion	Ratio	Lower	Upper
101	100		
103	65.8	45.6	85.6

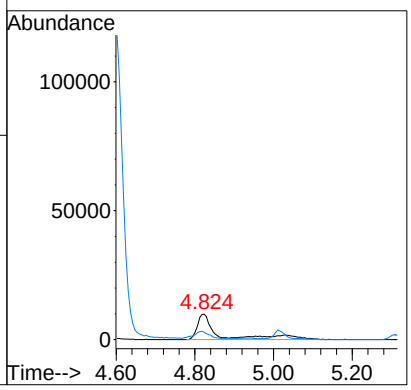


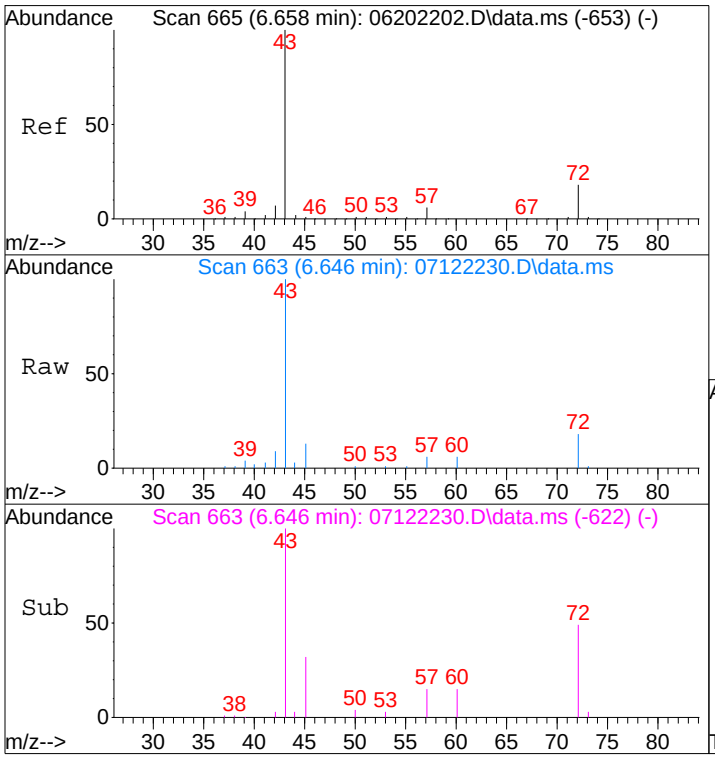


#15
2-Propanol (Isopropanol)
Concen: 1.00 ng
RT: 4.82 min Scan# 342
Delta R.T. -0.051 min
Lab File: 07122230.D
Acq: 12 Jul 2022 22:03

Tgt Ion: 45 Resp: 37413

Ion	Ratio	Lower	Upper
45	100		
43	22.7	2.6	42.6

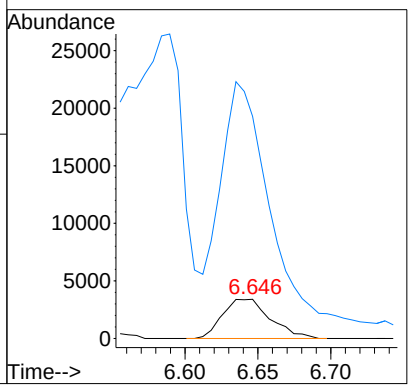


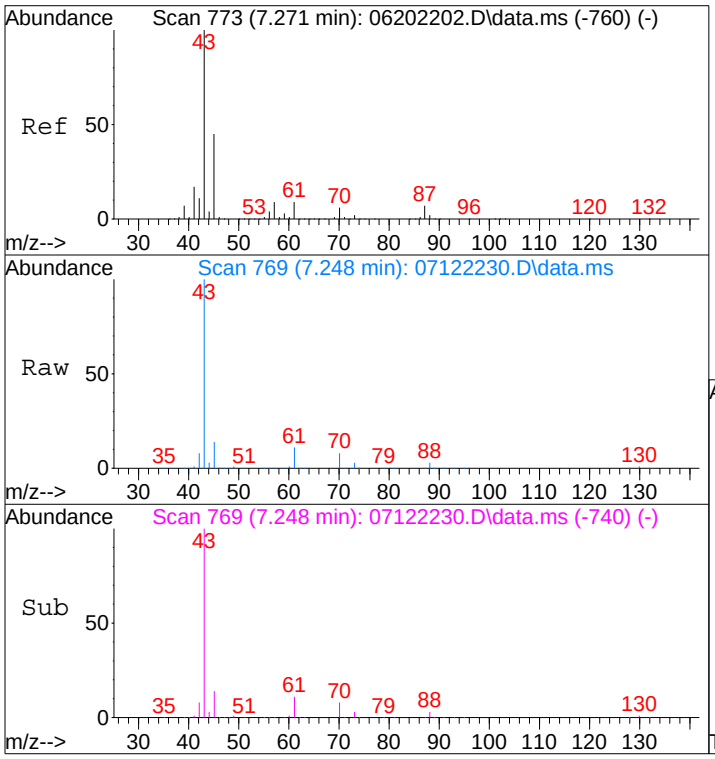


#27
2-Butanone (MEK)
Concen: 0.92 ng
RT: 6.65 min Scan# 663
Delta R.T. -0.019 min
Lab File: 07122230.D
Acq: 12 Jul 2022 22:03

Tgt Ion: 72 Resp: 7806

Ion	Ratio	Lower	Upper
72	100		
43	621.6	548.7	588.7#

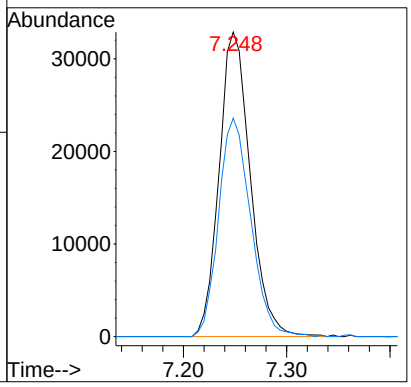


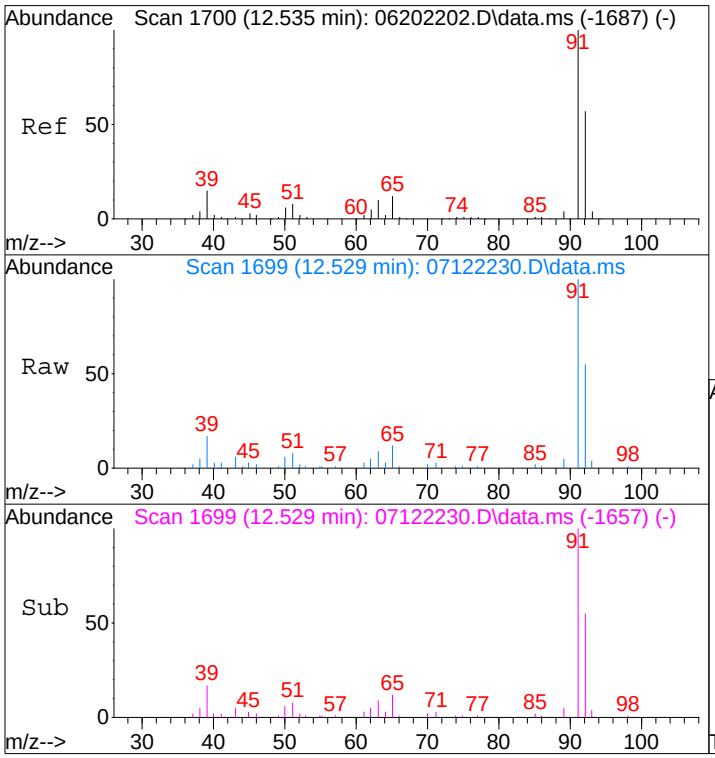


#30
Ethyl Acetate
Concen: 12.47 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.034 min
Lab File: 07122230.D
Acq: 12 Jul 2022 22:03

Tgt Ion: 61 Resp: 69088

Ion	Ratio	Lower	Upper
61	100		
70	73.7	53.2	93.2

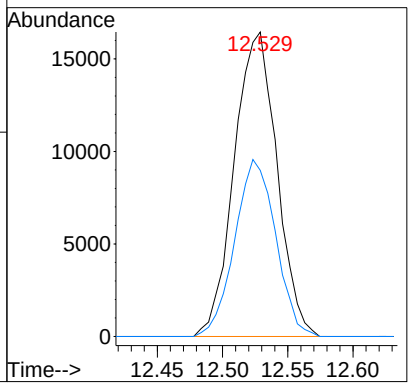




#58
Toluene
Concen: 0.62 ng
RT: 12.53 min Scan# 1699
Delta R.T. -0.012 min
Lab File: 07122230.D
Acq: 12 Jul 2022 22:03

Tgt Ion: 91 Resp: 37446

Ion	Ratio	Lower	Upper
91	100		
92	55.8	37.6	77.6



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122231.D Vial: 13
Acq On : 12 Jul 2022 22:35 Operator: SC
Sample : P2202944-005 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:24:46 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/13/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150851	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	631632	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	154093	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	312887	12.896	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%				
57) Toluene-d8 (SS2)	12.39	98	725367	12.002	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
73) Bromofluorobenzene (SS3)	16.79	174	341252	14.925	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 119.44%				
Target Compounds							Qvalue
2) Propene	3.28	42	6315	N.D.			
3) Dichlorodifluoromethan...	3.34	85	45679	1.313	ng		99
4) Chloromethane	3.49	50	4107	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	897	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	35117	2.840	ng		72
11) Acetonitrile	4.43	41	2378	N.D.			
12) Acrolein	4.51	56	2282	N.D.			
13) Acetone	4.60	58	40889	4.100	ng		98
14) Trichlorofluoromethane	4.73	101	22455	0.688	ng		98
15) 2-Propanol (Isopropanol)	4.82	45	18580	0.490	ng		87
16) Acrylonitrile	5.10	53	6280	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.31	59	705	N.D.			
19) Methylene Chloride	5.32	84	2290	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	4253	N.D.			
22) Carbon Disulfide	5.58	76	2840	N.D.			
23) trans-1,2-Dichloroethene	6.27	61	336	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.63	72	4034	0.471	ng	#	69
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d			
29) Diisopropyl Ether	7.25	87	940	N.D.			
30) Ethyl Acetate	7.25	61	76838	13.663	ng		98
31) n-Hexane	7.27	57	1640	N.D.			
32) Chloroform	7.33	83	1373	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	299	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	23305	No Calib			
40) 1-Butanol	9.18	56	356	No Calib		#	
41) Benzene	8.87	78	7544	N.D.			
42) Carbon Tetrachloride	9.03	117	6659	N.D.			
43) Cyclohexane	9.19	84	326	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.19	57	5549	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122231.D Vial: 13
Acq On : 12 Jul 2022 22:35 Operator: SC
Sample : P2202944-005 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:24:46 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

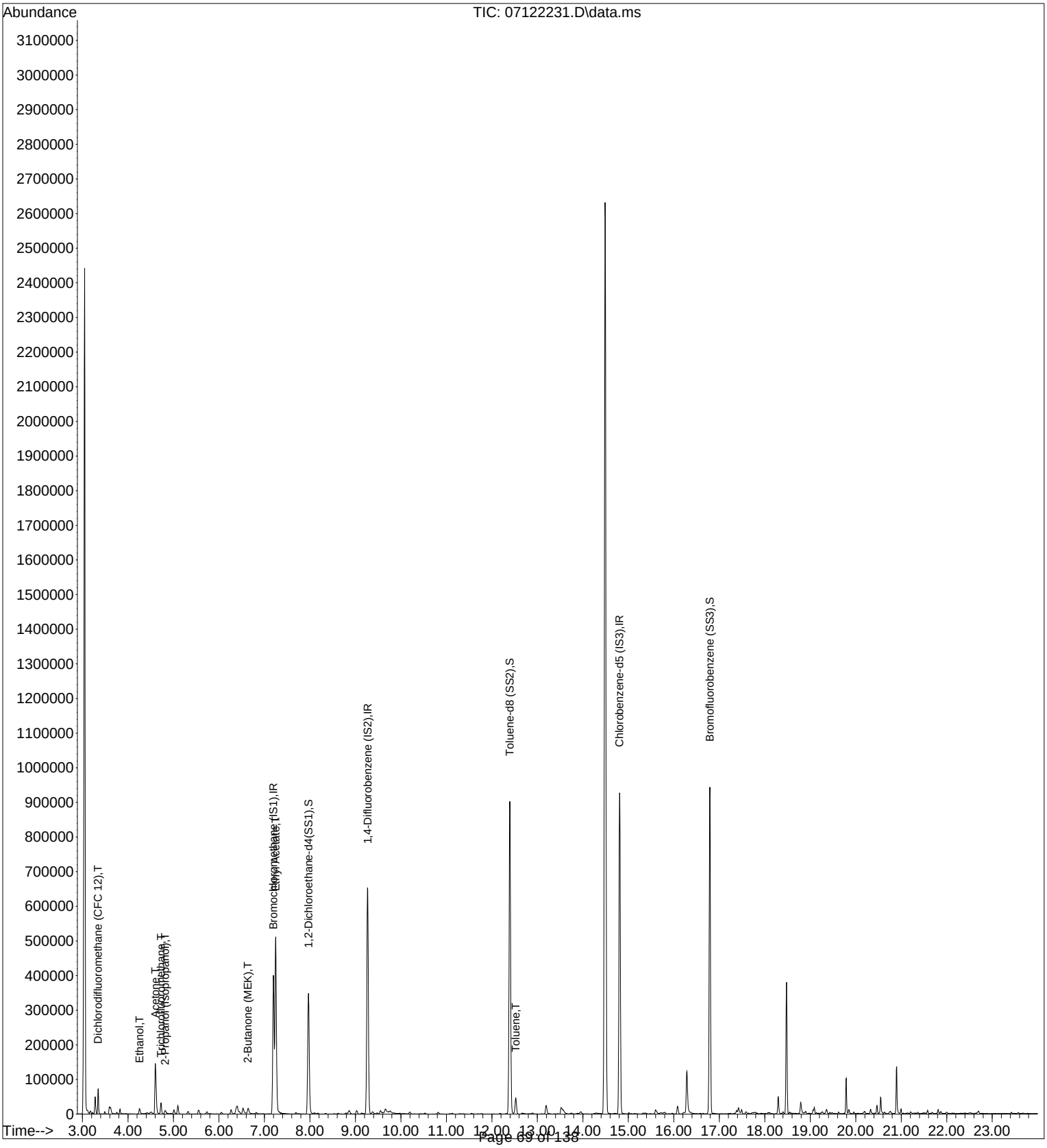
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.54	71	623	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.32	58	237	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	38616	0.649 ng	100
59) 2-Hexanone	12.90	43	3039	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.75	43	2692	N.D.	
63) n-Octane	13.89	57	209	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.37	91	2727	N.D.	
67) m- & p-Xylenes	15.60	91	7837	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	1033	N.D.	
70) o-Xylene	16.21	91	2835	N.D.	
71) n-Nonane	16.58	43	1886	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	455	N.D.	
75) alpha-Pinene	17.49	93	4832	N.D.	
76) n-Propylbenzene	17.65	91	787	N.D.	
77) 3-Ethyltoluene	16.79	105	455	No Calib	#
78) 4-Ethyltoluene	17.83	105	1055	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	756	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.42	105	6339	No Calib	#
82) 1,2,4-Trimethylbenzene	18.40	105	2609	N.D.	
83) n-Decane	16.79	58	390	No Calib	#
84) Benzyl Chloride	18.41	91	316	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	649	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	649	N.D.	
87) sec-Butylbenzene	18.88	105	830	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	3510	N.D.	
89) 1,2,3-Trimethylbenzene	18.40	105	2609	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	2148	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.07	58	1444	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	2721	N.D.	
96) n-Dodecane	18.79	58	799	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.60	55	195	No Calib	#
99) tert-Butylbenzene	18.47	119	7163	N.D.	
100) n-Butylbenzene	19.35	91	1280	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122231.D Vial: 13
Acq On : 12 Jul 2022 22:35 Operator: SC
Sample : P2202944-005 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:24:46 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122231.D Vial: 13
Acq On : 12 Jul 2022 22:35 Operator: SC
Sample : P2202944-005 (1000mL) Inst : MS09
Misc : S35-06162204

7/13/22

Quant Time: Jul 13 09:24:46 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

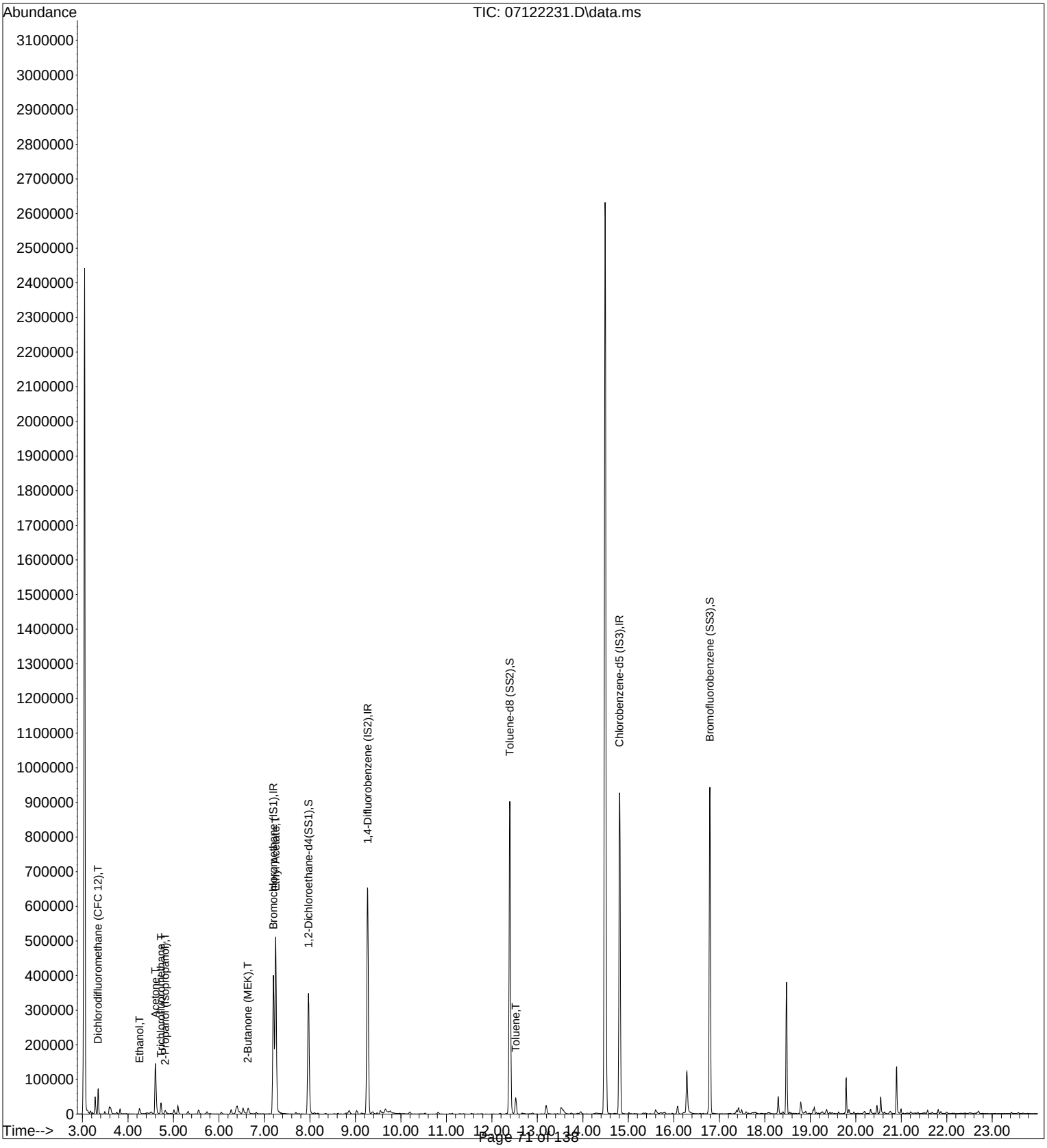
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150851	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	631632	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	154093	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	312887	12.896	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%				
57) Toluene-d8 (SS2)	12.39	98	725367	12.002	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
73) Bromofluorobenzene (SS3)	16.79	174	341252	14.925	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 119.44%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.34	85	45679	1.313	ng		99
10) Ethanol	4.26	45	35117	2.840	ng		72
13) Acetone	4.60	58	40889	4.100	ng		98
14) Trichlorofluoromethane	4.73	101	22455	0.688	ng		98
15) 2-Propanol (Isopropanol)	4.82	45	18580	0.490	ng		87
27) 2-Butanone (MEK)	6.63	72	4034	0.471	ng	#	69
30) Ethyl Acetate	7.25	61	76838	13.663	ng		98
58) Toluene	12.52	91	38616	0.649	ng		100

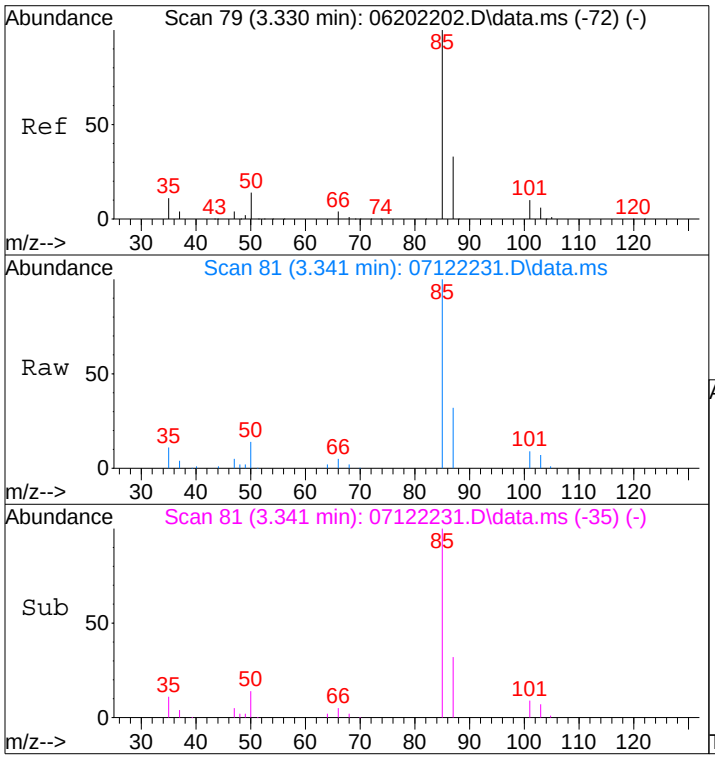
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122231.D Vial: 13
Acq On : 12 Jul 2022 22:35 Operator: SC
Sample : P2202944-005 (1000mL) Inst : MS09
Misc : S35-06162204

Quant Time: Jul 13 09:24:46 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

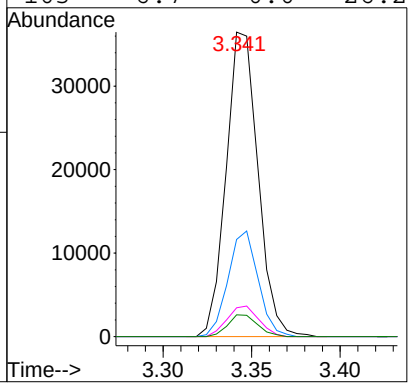


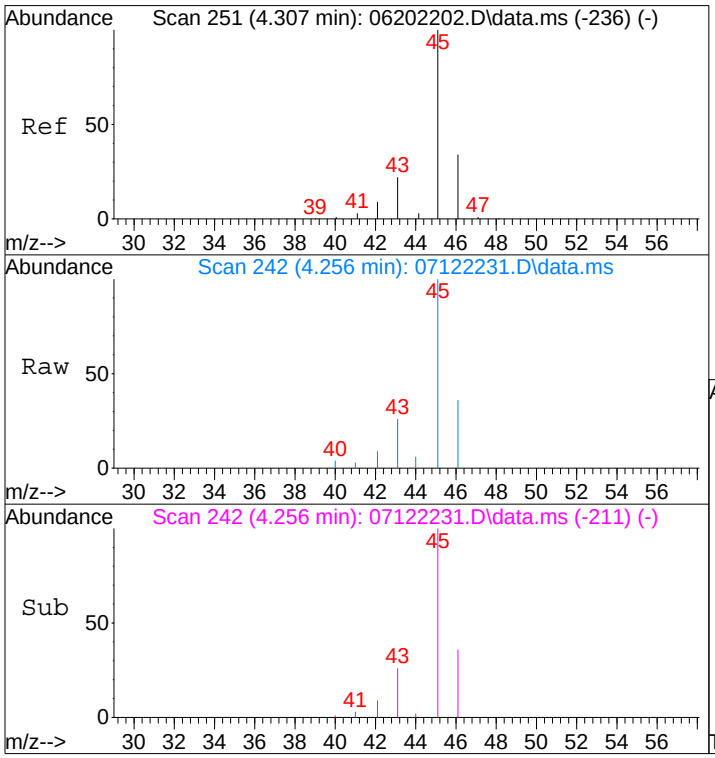


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.31 ng
RT: 3.34 min Scan# 81
Delta R.T. 0.013 min
Lab File: 07122231.D
Acq: 12 Jul 2022 22:35

Tgt Ion: 85 Resp: 45679

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.3	52.3
101	10.0	0.0	29.4
103	6.7	0.0	26.2

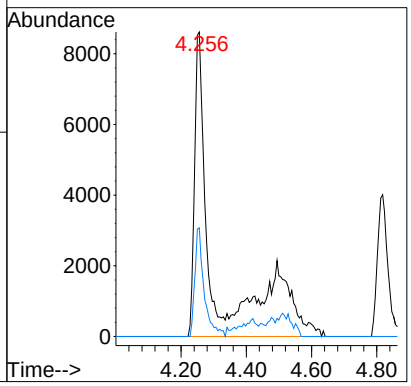


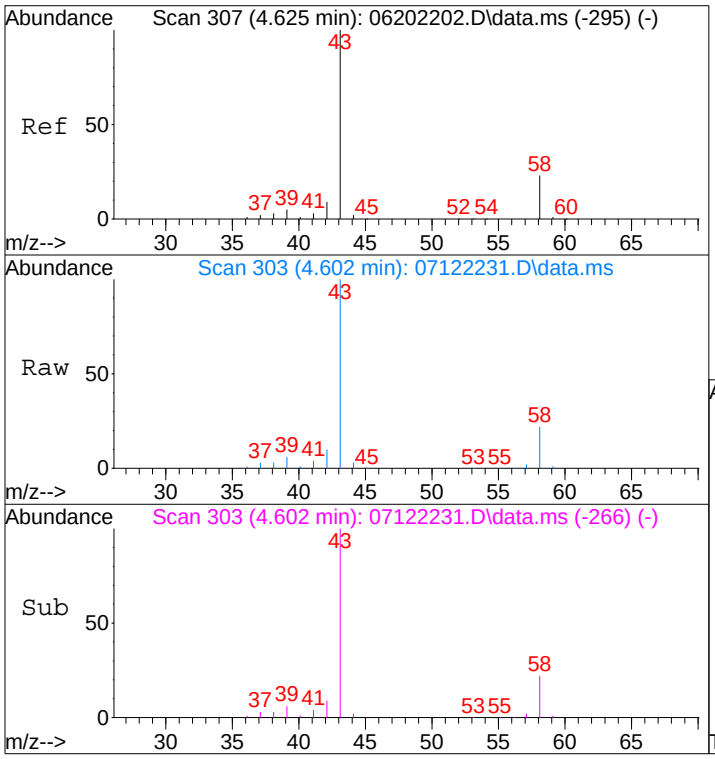


#10
Ethanol
Concen: 2.84 ng
RT: 4.26 min Scan# 242
Delta R.T. -0.075 min
Lab File: 07122231.D
Acq: 12 Jul 2022 22:35

Tgt Ion: 45 Resp: 35117

Ion	Ratio	Lower	Upper
45	100		
46	17.4	13.5	53.5

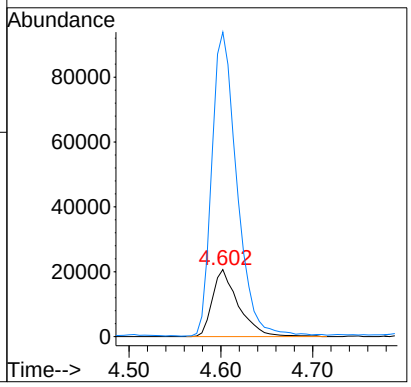


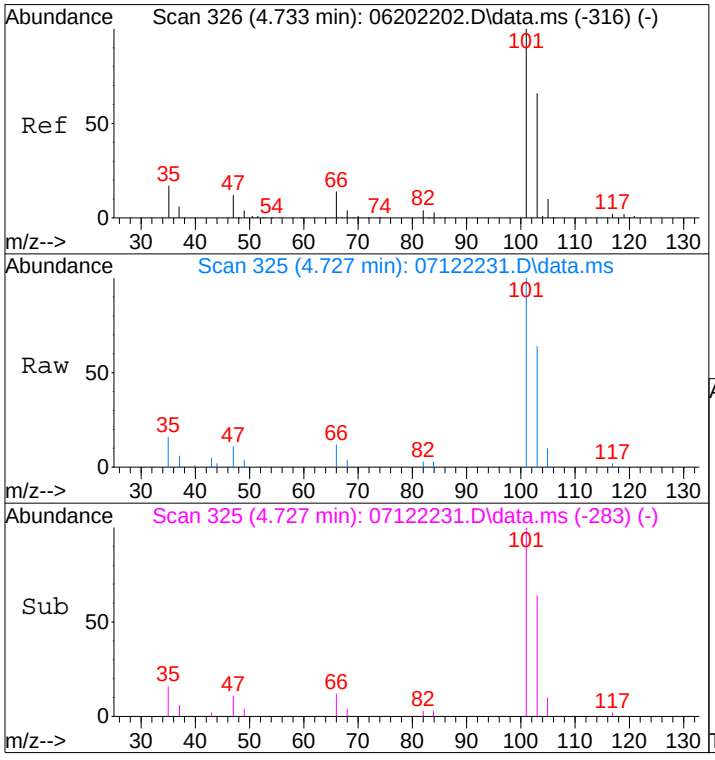


#13
Acetone
Concen: 4.10 ng
RT: 4.60 min Scan# 303
Delta R.T. -0.040 min
Lab File: 07122231.D
Acq: 12 Jul 2022 22:35

Tgt Ion: 58 Resp: 40889

Ion	Ratio	Lower	Upper
58	100		
43	436.7	412.8	472.8

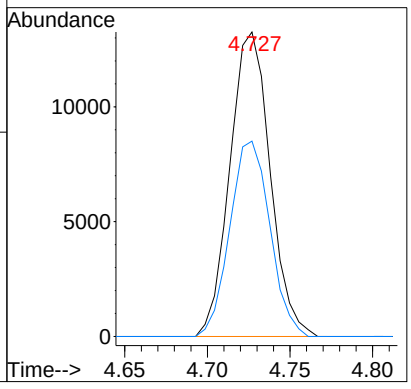


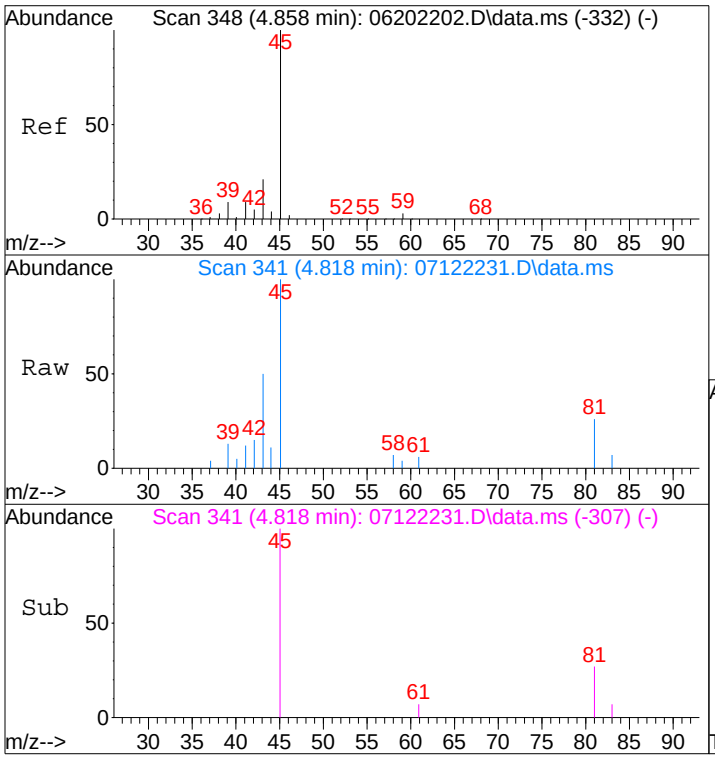


#14
Trichlorofluoromethane
Concen: 0.69 ng
RT: 4.73 min Scan# 325
Delta R.T. -0.012 min
Lab File: 07122231.D
Acq: 12 Jul 2022 22:35

Tgt Ion:101 Resp: 22455

Ion	Ratio	Lower	Upper
101	100		
103	63.9	45.6	85.6

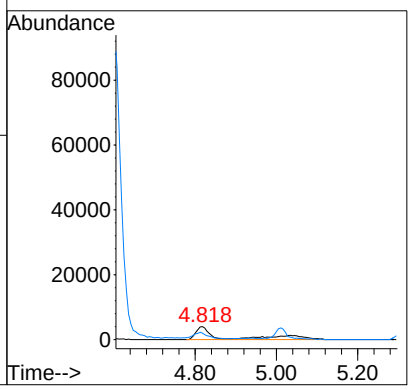


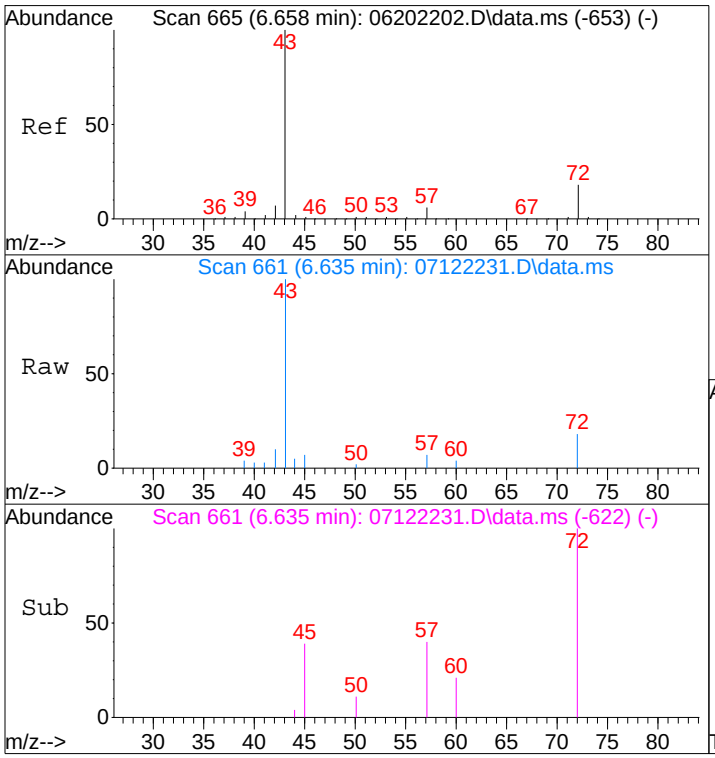


#15
2-Propanol (Isopropanol)
Concen: 0.49 ng
RT: 4.82 min Scan# 341
Delta R.T. -0.057 min
Lab File: 07122231.D
Acq: 12 Jul 2022 22:35

Tgt Ion: 45 Resp: 18580

Ion	Ratio	Lower	Upper
45	100		
43	28.6	2.6	42.6

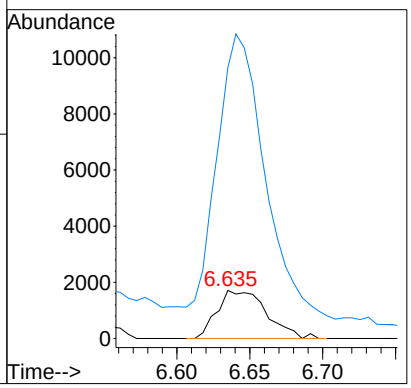


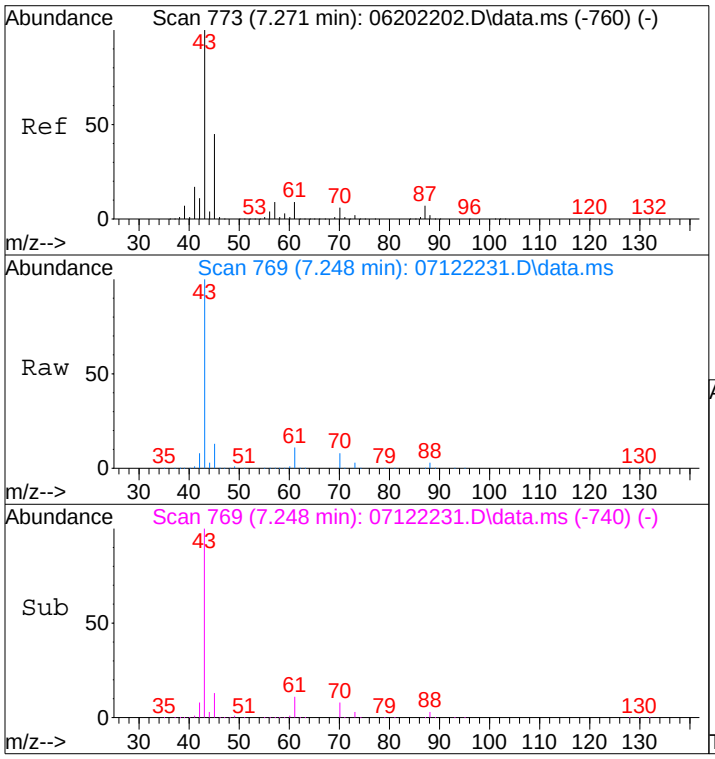


#27
2-Butanone (MEK)
Concen: 0.47 ng
RT: 6.63 min Scan# 661
Delta R.T. -0.030 min
Lab File: 07122231.D
Acq: 12 Jul 2022 22:35

Tgt Ion: 72 Resp: 4034

Ion	Ratio	Lower	Upper
72	100		
43	661.5	548.7	588.7#

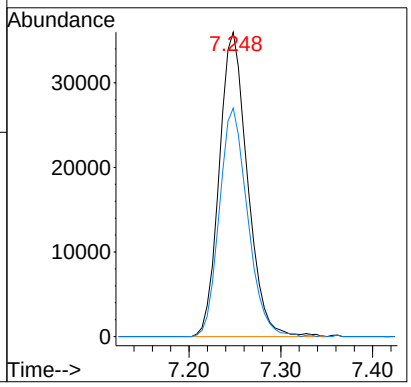


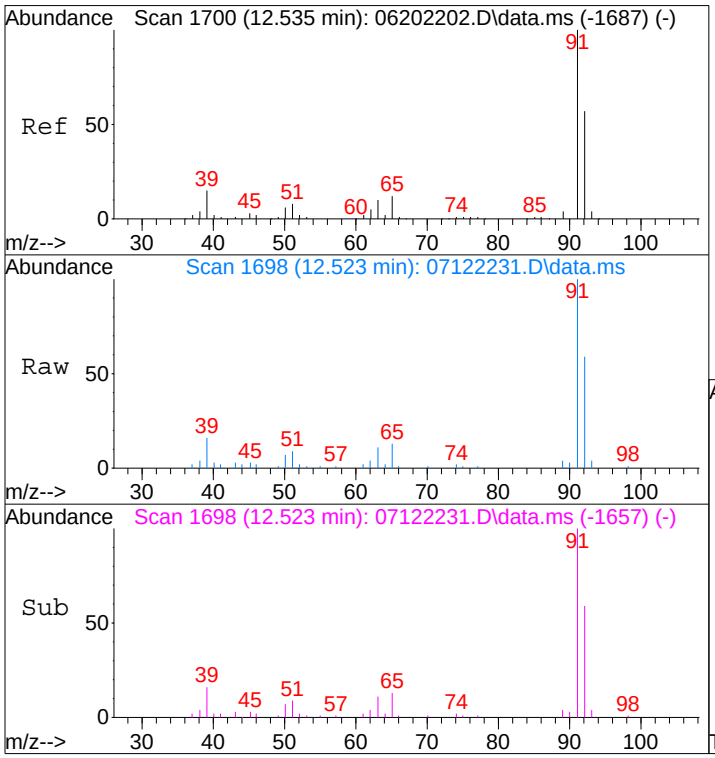


#30
Ethyl Acetate
Concen: 13.66 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.034 min
Lab File: 07122231.D
Acq: 12 Jul 2022 22:35

Tgt Ion: 61 Resp: 76838

Ion	Ratio	Lower	Upper
61	100		
70	75.1	53.2	93.2

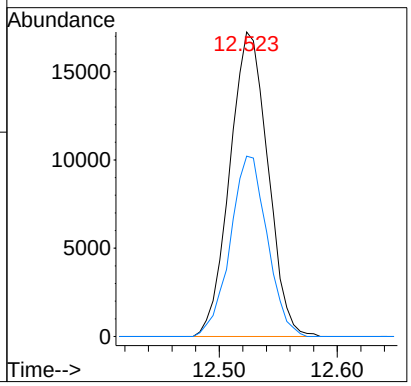




#58
Toluene
Concen: 0.65 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.018 min
Lab File: 07122231.D
Acq: 12 Jul 2022 22:35

Tgt Ion: 91 Resp: 38616

Ion	Ratio	Lower	Upper
91	100		
92	57.5	37.6	77.6



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122204.D Vial: 2
Acq On : 12 Jul 2022 2:41 Operator: SC
Sample : MB R9071222 1000mL Inst : MS09
Misc : S35-06162204

Quant Time: Jul 12 08:35:57 2022 7/12/22
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	148355	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	635890	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	150379	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	308964	12.949	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
57) Toluene-d8 (SS2)	12.39	98	721286	12.229	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
73) Bromofluorobenzene (SS3)	16.79	174	327996	14.700	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.60%				
Target Compounds							Qvalue
2) Propene	3.30	42	351	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	843	0.069	ng		67
11) Acetonitrile	4.44	41	122	N.D.			
12) Acrolein	4.51	56	626	0.075	ng		94
13) Acetone	4.62	58	6472	0.660	ng	#	81
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.61	76	183	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.40	86	577	0.310	ng	#	63
27) 2-Butanone (MEK)	6.66	72	745	0.088	ng	#	53
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	21818	No Calib			
40) 1-Butanol	9.26	56	16262	No Calib		#	
41) Benzene	8.87	78	412	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.26	84	642	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122204.D Vial: 2
Acq On : 12 Jul 2022 2:41 Operator: SC
Sample : MB R9071222 1000mL Inst : MS09
Misc : S35-06162204

Quant Time: Jul 12 08:35:57 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

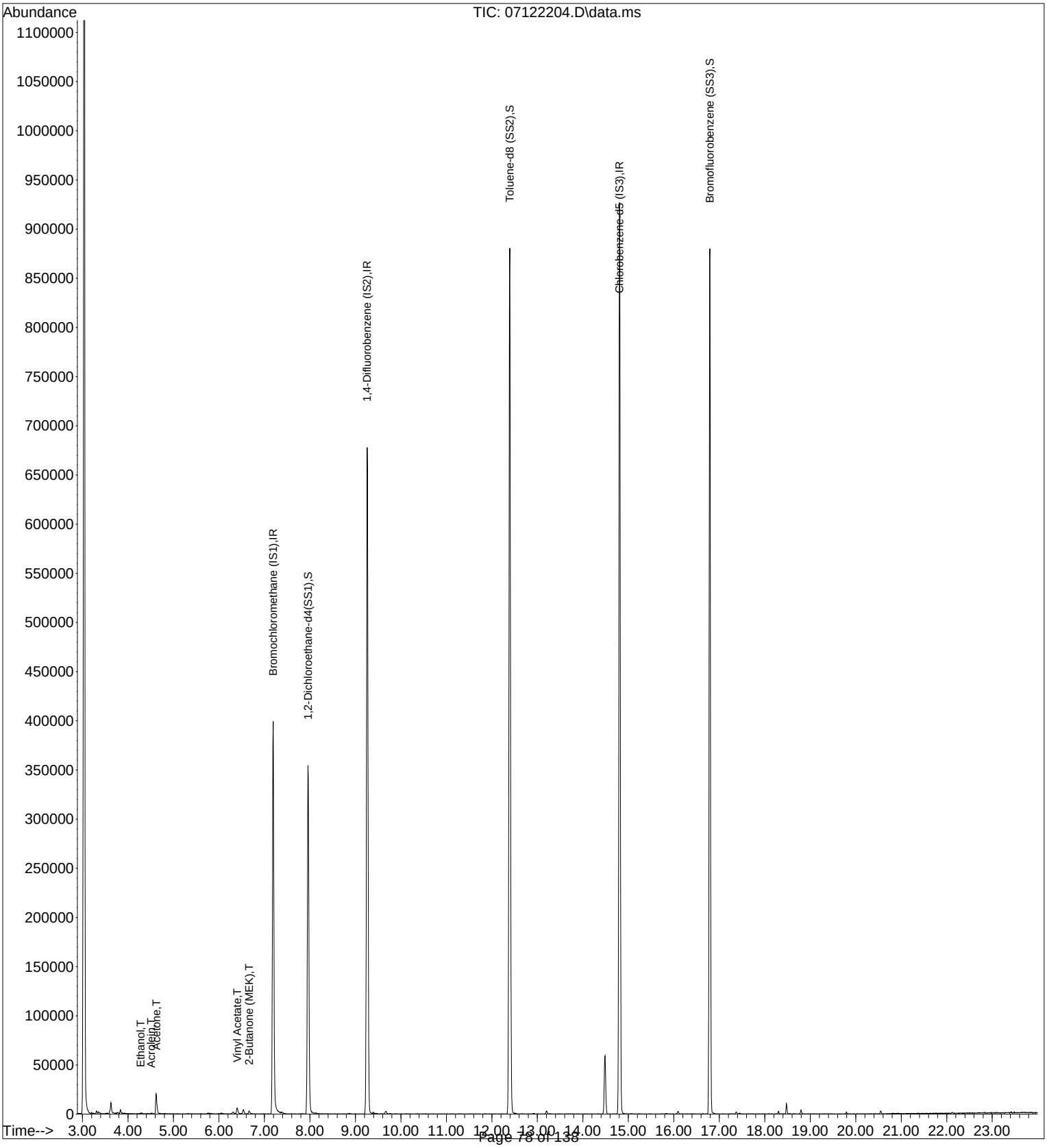
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.52	91	341	N.D.		
59) 2-Hexanone	12.91	43	609	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	0.00	91	0	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.79	105	397	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	16.79	105	397	No Calib	#	
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.44	105	329	No Calib	#	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
83) n-Decane	16.79	58	277	No Calib	#	
84) Benzyl Chloride	18.55	91	108	N.D.		
85) 1,3-Dichlorobenzene	18.64	146	201	N.D.		
86) 1,4-Dichlorobenzene	18.64	146	201	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.82	180	334	N.D.		
95) Naphthalene	20.93	128	483	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.49	119	174	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122204.D Vial: 2
Acq On : 12 Jul 2022 2:41 Operator: SC
Sample : MB R9071222 1000mL Inst : MS09
Misc : S35-06162204

Quant Time: Jul 12 08:35:57 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122211.D Vial: 2
Acq On : 12 Jul 2022 11:12 Operator: SC
Sample : LCS R9071222 25ng Inst : MS09
Misc : S35-06162204/S35-06222206 (7/22)

Quant Time: Jul 12 11:34:16 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/12/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	155502	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	654974	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	151043	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	317316	12.688	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	12.41	98	731442	12.347	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	16.80	174	333661	14.888	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 119.12%				
Target Compounds							Qvalue
2) Propene	3.25	42	407862	18.756	ng		97
3) Dichlorodifluoromethan...	3.33	85	801900	22.355	ng		99
4) Chloromethane	3.47	50	464722	22.113	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	360585	24.589	ng		99
6) Vinyl Chloride	3.66	62	358676	20.951	ng		100
7) 1,3-Butadiene	3.78	54	282352	24.470	ng		98
8) Bromomethane	3.99	94	274851	24.682	ng		100
9) Chloroethane	4.14	64	195068	19.804	ng		100
10) Ethanol	4.33	45	1143935	89.736	ng		99
11) Acetonitrile	4.45	41	653811	15.433	ng		99
12) Acrolein	4.53	56	345030	39.427	ng		100
13) Acetone	4.64	58	1026658	99.854	ng	#	87
14) Trichlorofluoromethane	4.74	101	782310	23.266	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	1850221	47.298	ng		98
16) Acrylonitrile	5.01	53	777896	39.639	ng		99
17) 1,1-Dichloroethene	5.24	96	308084	22.766	ng		100
18) 2-Methyl-2-Propanol (t...	5.35	59	1604238	49.946	ng		99
19) Methylene Chloride	5.36	84	308659	20.654	ng		96
20) 3-Chloro-1-propene (Al...	5.45	41	587188	16.443	ng		94
21) Trichlorotrifluoroethane	5.56	151	360700	25.853	ng		87
22) Carbon Disulfide	5.58	76	2080396	43.344	ng		100
23) trans-1,2-Dichloroethene	6.14	61	491509	22.434	ng		99
24) 1,1-Dichloroethane	6.33	63	597683	22.204	ng		100
25) Methyl tert-Butyl Ether	6.35	73	1035415	24.023	ng		98
26) Vinyl Acetate	6.45	86	197621	101.141	ng	#	91
27) 2-Butanone (MEK)	6.66	72	366647	41.506	ng		95
28) cis-1,2-Dichloroethene	7.08	61	469688	22.230	ng		99
29) Diisopropyl Ether	7.27	87	470849	43.319	ng	#	46
30) Ethyl Acetate	7.28	61	323522	55.808	ng		94
31) n-Hexane	7.28	57	490342	20.112	ng		99
32) Chloroform	7.37	83	647240	23.181	ng		100
34) Tetrahydrofuran (THF)	7.74	72	361906	42.062	ng	#	92
35) Ethyl tert-Butyl Ether	7.81	87	749994	46.878	ng		96
36) 1,2-Dichloroethane	8.11	62	565363	23.982	ng		100
38) 1,1,1-Trichloroethane	8.39	97	678486	25.015	ng		98
39) Isopropyl Acetate	9.29	61	23245	No Calib			
40) 1-Butanol	9.20	56	1053313	No Calib			
41) Benzene	8.89	78	1175442	21.596	ng		100
42) Carbon Tetrachloride	9.06	117	603462	24.652	ng		100
43) Cyclohexane	9.20	84	867743	43.910	ng		96
44) tert-Amyl Methyl Ether	9.58	73	1783029	47.915	ng		98
45) 1,2-Dichloropropane	9.84	63	302029	21.094	ng		99
46) Bromodichloromethane	10.06	83	538131	24.918	ng		100
47) Trichloroethene	10.13	130	364081	24.225	ng		99
48) 1,4-Dioxane	10.10	88	252927	23.805	ng		96
49) 2,2,4-Trimethylpentane...	10.21	57	1266180	20.846	ng		97
50) Methyl Methacrylate	10.39	100	242333	48.290	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122211.D Vial: 2
Acq On : 12 Jul 2022 11:12 Operator: SC
Sample : LCS R9071222 25ng Inst : MS09
Misc : S35-06162204/S35-06222206 (7/22)

Quant Time: Jul 12 11:34:16 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

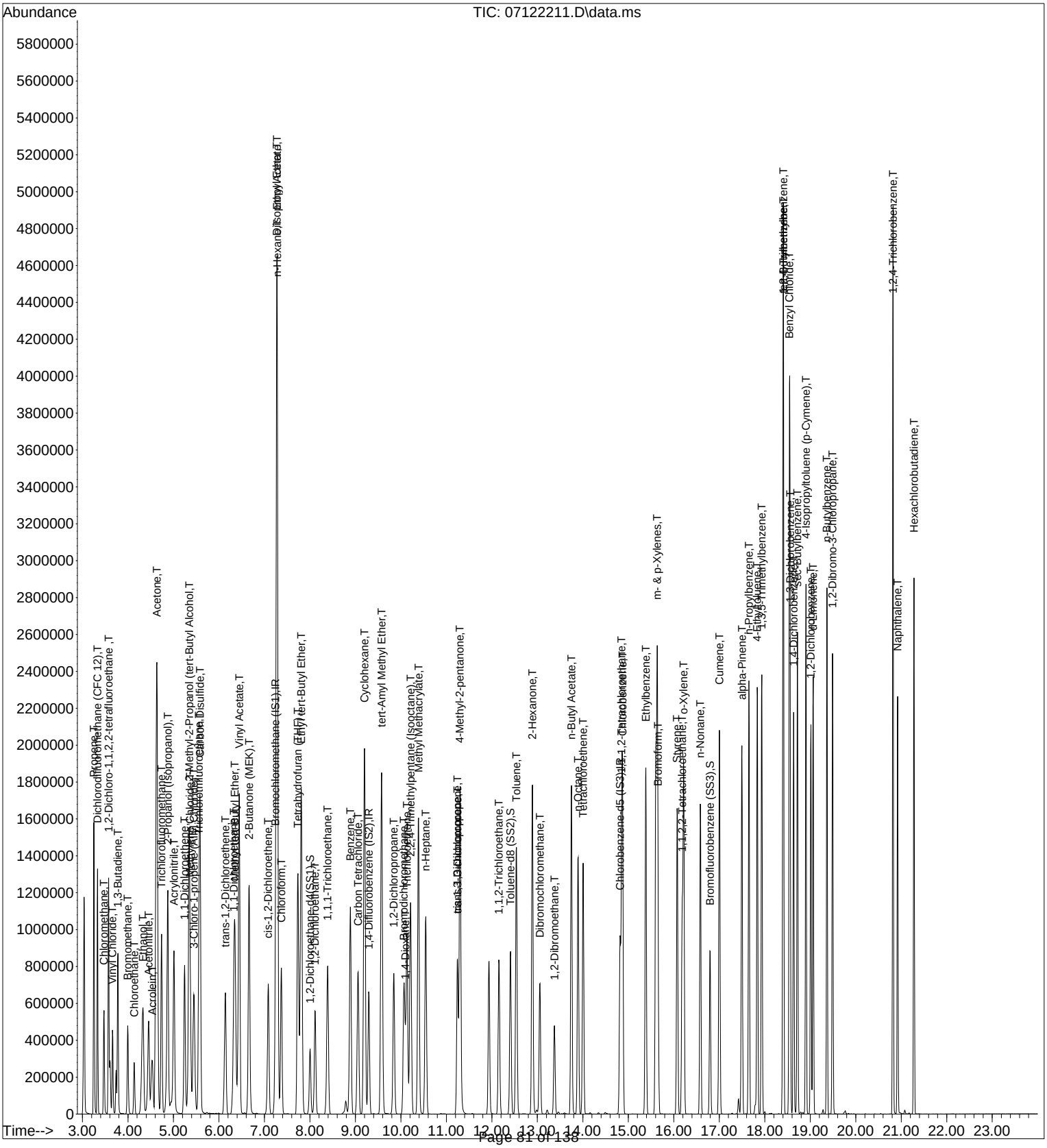
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.55	71	273259	21.925 ng		98
52) cis-1,3-Dichloropropene	11.25	75	522936	24.575 ng		100
53) 4-Methyl-2-pentanone	11.30	58	549114	43.152 ng		97
54) trans-1,3-Dichloropropene	11.25	75	522936	23.639 ng		100
55) 1,1,2-Trichloroethane	12.15	97	318976	22.589 ng		98
58) Toluene	12.54	91	1292229	22.160 ng		99
59) 2-Hexanone	12.89	43	1619380	39.825 ng		99
60) Dibromochloromethane	13.06	129	474726	26.210 ng		99
61) 1,2-Dibromoethane	13.38	107	391516	22.719 ng		99
62) n-Butyl Acetate	13.75	43	1721949	39.473 ng		100
63) n-Octane	13.90	57	263736	21.714 ng		96
64) Tetrachloroethene	14.01	166	501116	27.420 ng		100
65) Chlorobenzene	14.87	112	866233	22.556 ng		100
66) Ethylbenzene	15.39	91	1571234	23.044 ng		100
67) m- & p-Xylenes	15.64	91	2601130	47.428 ng		99
68) Bromoform	15.65	173	514363	30.929 ng		100
69) Styrene	16.07	104	880483	22.727 ng		99
70) o-Xylene	16.21	91	1279596	23.709 ng		99
71) n-Nonane	16.58	43	734490	21.198 ng		97
72) 1,1,2,2-Tetrachloroethane	16.19	83	523868	21.610 ng		100
74) Cumene	17.00	105	1526428	23.360 ng		100
75) alpha-Pinene	17.50	93	789909	23.685 ng		99
76) n-Propylbenzene	17.65	91	1855535	22.626 ng		99
77) 3-Ethyltoluene	17.00	105	1526428	No Calib		
78) 4-Ethyltoluene	17.83	105	1467638	23.571 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1289783	23.968 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.42	105	28286	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	1324192	23.780 ng		100
83) n-Decane	17.00	58	9485	No Calib	#	
84) Benzyl Chloride	18.54	91	1966216	45.372 ng		99
85) 1,3-Dichlorobenzene	18.56	146	845374	24.177 ng		99
86) 1,4-Dichlorobenzene	18.63	146	823096	23.836 ng		100
87) sec-Butylbenzene	18.72	105	1620935	22.530 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	1437764	22.965 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	1324192	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	793535	24.034 ng		100
91) d-Limonene	19.06	68	421988	22.076 ng		95
92) 1,2-Dibromo-3-Chloropr...	19.49	157	607369	47.037 ng		90
93) n-Undecane	17.93	58	21483	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1348269	46.858 ng		100
95) Naphthalene	20.92	128	1413865	20.599 ng		99
96) n-Dodecane	18.71	58	9263	No Calib	#	
97) Hexachlorobutadiene	21.28	225	500439	23.813 ng		99
98) Cyclohexanone	15.63	55	1028	No Calib	#	
99) tert-Butylbenzene	18.41	119	1265442	23.539 ng		100
100) n-Butylbenzene	19.37	91	1338635	21.661 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	382802	25.880 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122211.D Vial: 2
Acq On : 12 Jul 2022 11:12 Operator: SC
Sample : LCS R9071222 25ng Inst : MS09
Misc : S35-06162204/S35-06222206 (7/22)

Quant Time: Jul 12 11:34:16 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122219.D Vial: 2
Acq On : 12 Jul 2022 15:37 Operator: SC
Sample : LCSD R9071222 25ng Inst : MS09
Misc : S35-06162204/S35-06222206 (7/22)

Quant Time: Jul 12 15:59:22 2022 7/12/22
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	148416	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	628464	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	148478	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	311394	13.045	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.40%				
57) Toluene-d8 (SS2)	12.40	98	697048	11.970	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	16.80	174	325355	14.768	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.16%				
Target Compounds							Qvalue
2) Propene	3.24	42	391079	18.843	ng		95
3) Dichlorodifluoromethan...	3.32	85	786021	22.959	ng		100
4) Chloromethane	3.47	50	445394	22.206	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	350791	25.064	ng		100
6) Vinyl Chloride	3.65	62	343015	20.993	ng		100
7) 1,3-Butadiene	3.77	54	269118	24.436	ng		99
8) Bromomethane	3.99	94	266766	25.099	ng		99
9) Chloroethane	4.13	64	186743	19.864	ng		100
10) Ethanol	4.32	45	1088022	89.425	ng		99
11) Acetonitrile	4.45	41	625400	15.467	ng		99
12) Acrolein	4.53	56	327676	39.232	ng		100
13) Acetone	4.63	58	985585	100.436	ng	#	86
14) Trichlorofluoromethane	4.73	101	767530	23.916	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	1751517	46.912	ng		97
16) Acrylonitrile	5.01	53	747606	39.915	ng		99
17) 1,1-Dichloroethene	5.24	96	296738	22.975	ng		99
18) 2-Methyl-2-Propanol (t...	5.34	59	1539136	50.207	ng		99
19) Methylene Chloride	5.36	84	296219	20.768	ng		96
20) 3-Chloro-1-propene (Al...	5.44	41	570770	16.747	ng		95
21) Trichlorotrifluoroethane	5.56	151	348250	26.152	ng		87
22) Carbon Disulfide	5.58	76	2007868	43.830	ng		100
23) trans-1,2-Dichloroethene	6.14	61	473153	22.627	ng		100
24) 1,1-Dichloroethane	6.32	63	576410	22.436	ng		100
25) Methyl tert-Butyl Ether	6.35	73	999545	24.298	ng		98
26) Vinyl Acetate	6.44	86	191818	102.858	ng	#	88
27) 2-Butanone (MEK)	6.66	72	353463	41.924	ng		94
28) cis-1,2-Dichloroethene	7.08	61	454045	22.516	ng		99
29) Diisopropyl Ether	7.27	87	452568	43.625	ng	#	46
30) Ethyl Acetate	7.28	61	308516	55.760	ng		94
31) n-Hexane	7.28	57	469693	20.185	ng		99
32) Chloroform	7.37	83	629168	23.609	ng		100
34) Tetrahydrofuran (THF)	7.73	72	343977	41.887	ng		94
35) Ethyl tert-Butyl Ether	7.80	87	724138	47.423	ng		95
36) 1,2-Dichloroethane	8.11	62	552544	24.557	ng		100
38) 1,1,1-Trichloroethane	8.38	97	663672	25.501	ng		99
39) Isopropyl Acetate	9.29	61	23337	No Calib			
40) 1-Butanol	9.20	56	1007170	No Calib			
41) Benzene	8.88	78	1130635	21.649	ng		100
42) Carbon Tetrachloride	9.05	117	590637	25.146	ng		99
43) Cyclohexane	9.20	84	832822	43.921	ng		96
44) tert-Amyl Methyl Ether	9.58	73	1719513	48.157	ng		98
45) 1,2-Dichloropropane	9.84	63	287752	20.945	ng		100
46) Bromodichloromethane	10.06	83	523727	25.274	ng		100
47) Trichloroethene	10.13	130	348626	24.175	ng		99
48) 1,4-Dioxane	10.10	88	240338	23.575	ng		97
49) 2,2,4-Trimethylpentane...	10.21	57	1217521	20.890	ng		97
50) Methyl Methacrylate	10.38	100	231108	47.996	ng		93

Data File : I:\MS09\DATA\2022 07\12\07122219.D Vial: 2
Acq On : 12 Jul 2022 15:37 Operator: SC
Sample : LCSD R9071222 25ng Inst : MS09
Misc : S35-06162204/S35-06222206 (7/22)

Quant Time: Jul 12 15:59:22 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

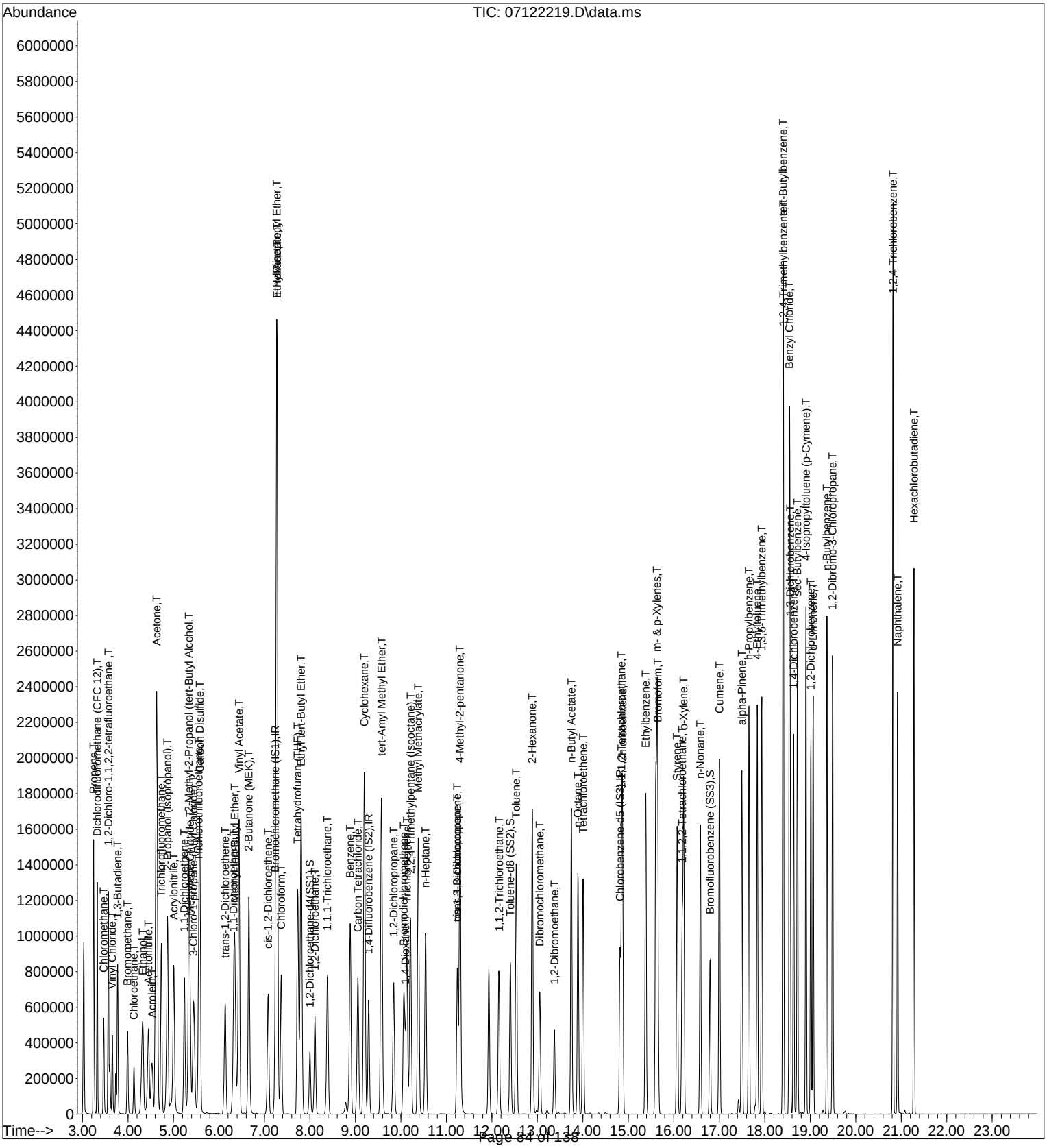
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	261762	21.889 ng		97
52) cis-1,3-Dichloropropene	11.24	75	505388	24.752 ng		99
53) 4-Methyl-2-pentanone	11.30	58	520410	42.621 ng		99
54) trans-1,3-Dichloropropene	11.24	75	505388	23.809 ng		99
55) 1,1,2-Trichloroethane	12.16	97	307742	22.713 ng		96
58) Toluene	12.53	91	1243490	21.693 ng		99
59) 2-Hexanone	12.89	43	1561758	39.071 ng		100
60) Dibromochloromethane	13.05	129	460499	25.864 ng		100
61) 1,2-Dibromoethane	13.37	107	378520	22.344 ng		99
62) n-Butyl Acetate	13.75	43	1649823	38.473 ng		100
63) n-Octane	13.89	57	252445	21.143 ng		96
64) Tetrachloroethene	14.01	166	487846	27.155 ng		99
65) Chlorobenzene	14.87	112	832637	22.055 ng		100
66) Ethylbenzene	15.38	91	1519945	22.677 ng		100
67) m- & p-Xylenes	15.63	91	2520334	46.749 ng		99
68) Bromoform	15.65	173	506322	30.972 ng		100
69) Styrene	16.07	104	853180	22.403 ng		99
70) o-Xylene	16.21	91	1247203	23.508 ng		99
71) n-Nonane	16.58	43	703838	20.665 ng		97
72) 1,1,2,2-Tetrachloroethane	16.19	83	510586	21.426 ng		100
74) Cumene	17.00	105	1481182	23.059 ng		100
75) alpha-Pinene	17.50	93	765827	23.359 ng		99
76) n-Propylbenzene	17.65	91	1810751	22.461 ng		99
77) 3-Ethyltoluene	17.00	105	1481182	No Calib		
78) 4-Ethyltoluene	17.83	105	1435203	23.448 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1267258	23.956 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.42	105	28128	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1306009	23.859 ng		99
83) n-Decane	17.00	58	9249	No Calib	#	
84) Benzyl Chloride	18.54	91	1952914	45.843 ng		99
85) 1,3-Dichlorobenzene	18.56	146	841188	24.473 ng		99
86) 1,4-Dichlorobenzene	18.63	146	820014	24.157 ng		100
87) sec-Butylbenzene	18.72	105	1590267	22.486 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	1427214	23.190 ng		100
89) 1,2,3-Trimethylbenzene	18.41	105	1306009	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	799097	24.621 ng		100
91) d-Limonene	19.06	68	413232	21.991 ng		94
92) 1,2-Dibromo-3-Chloropr...	19.49	157	619048	48.770 ng		91
93) n-Undecane	17.93	58	19724	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1405833	49.703 ng		99
95) Naphthalene	20.92	128	1447346	21.451 ng		99
96) n-Dodecane	18.71	58	8909	No Calib	#	
97) Hexachlorobutadiene	21.28	225	520382	25.190 ng		99
98) Cyclohexanone	15.63	55	1712	No Calib	#	
99) tert-Butylbenzene	18.41	119	1239108	23.447 ng		99
100) n-Butylbenzene	19.37	91	1337488	22.016 ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	369222	25.393 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122219.D Vial: 2
Acq On : 12 Jul 2022 15:37 Operator: SC
Sample : LCSD R9071222 25ng Inst : MS09
Misc : S35-06162204/S35-06222206 (7/22)

Quant Time: Jul 12 15:59:22 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9061622.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jun 17 08:51:09 2022
Response Via : Initial Calibration

6/17/22

Calibration Files
0.1 =06162217.D 0.2 =06162218.D 0.5 =06162219.D 1.0 =06162220.D 5.0 =06162221.D 25 =06162
100 =06162224.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene	2.169	1.675	1.759	1.570	1.527	1.608	1.741	1.935	1.748	12.18
3)	T	Dichlorodifluo...	3.720	3.068	3.459	2.937	2.502	2.618	2.425	2.338	2.883	17.55
4)	T	Chloromethane		2.144	2.369	1.949	1.402	1.638	1.371	0.952	1.689	29.26
5)	T	1,2-Dichloro-1...	1.361	1.189	1.382	1.251	1.056	1.103	1.043	1.045	1.179	11.87
6)	T	Vinyl Chloride	1.541	1.350	1.677	1.431	1.265	1.318	1.210	1.217	1.376	11.96
7)	T	1,3-Butadiene	1.036	0.853	1.058	0.908	0.805	0.931	0.893	0.938	0.928	9.20
8)	T	Bromomethane	1.198	0.846	1.222	1.047	0.698	0.766	0.710	0.676	0.895	25.40
9)	T	Chloroethane	1.062	0.872	0.906	0.802	0.673	0.706	0.664	0.650	0.792	18.49
10)	T	Ethanol	1.429	1.189	1.230	0.977	0.813	0.895	0.853	0.811	1.025	22.50
11)	T	Acetonitrile	5.073	4.064	3.843	3.259	2.794	2.869	2.697	2.644	3.405	25.24
12)	T	Acrolein	0.873	0.712	0.771	0.712	0.623	0.673	0.633	0.631	0.703	12.15
13)	T	Acetone			1.103	0.935	0.763	0.777	0.706	0.674	0.826	19.72
14)	T	Trichlorofluor...	3.269	2.739	3.247	2.844	2.372	2.496	2.336	2.320	2.703	14.47
15)	T	2-Propanol (Is...			4.514	3.824	2.752	3.246	2.537	1.993	3.145	29.14
16)	T	Acrylonitrile	1.806	1.527	1.896	1.659	1.431	1.505	1.411	1.386	1.577	12.08
17)	T	1,1-Dichloroet...	1.291	1.064	1.283	1.158	0.963	1.023	0.960	0.961	1.088	12.88
18)	T	2-Methyl-2-Pro...			3.356	2.995	2.516	2.732	2.381	1.512	2.582	24.38
19)	T	Methylene Chlo...	1.527	1.246	1.414	1.232	1.067	1.100	1.020	1.004	1.201	15.86
20)	T	3-Chloro-1-pro...	3.472	2.992	3.771	3.501	2.506	2.483	2.141	2.098	2.871	22.79
21)	T	Trichlorotrifl...	1.332	1.123	1.346	1.173	0.967	1.035	0.994	1.002	1.122	13.43
22)	T	Carbon Disulfide	4.382	3.635	4.594	4.049	3.498	3.778	3.522	3.407	3.858	11.40
23)	T	trans-1,2-Dich...	2.023	1.718	2.074	1.790	1.598	1.688	1.597	1.602	1.761	10.81
24)	T	1,1-Dichloroet...	2.489	2.176	2.599	2.276	1.923	2.039	1.917	1.892	2.164	12.55
25)	T	Methyl tert-Bu...	3.751	3.396	4.061	3.556	3.171	3.376	3.230	3.177	3.465	9.01
26)	T	Vinyl Acetate	0.132	0.122	0.181	0.173	0.158	0.173	0.162	0.156	0.157	13.09
27)	T	2-Butanone (MEK)	0.819	0.730	0.826	0.753	0.644	0.678	0.629	0.602	0.710	12.01
28)	T	cis-1,2-Dichlo...	1.813	1.674	2.048	1.810	1.525	1.631	1.545	1.541	1.698	10.70
29)	T	Diisopropyl Ether	1.122	0.906	1.034	0.886	0.773	0.808	0.737	0.723	0.874	16.42
30)	T	Ethyl Acetate	0.506	0.475	0.568	0.492	0.433	0.453	0.407	0.396	0.466	12.12
31)	T	n-Hexane	2.455	1.999	2.392	2.028	1.753	1.829	1.644	1.578	1.960	16.63
32)	T	Chloroform	2.701	2.293	2.676	2.326	1.990	2.084	1.954	1.933	2.244	13.85
33)	S	1,2-Dichloroet...	1.998	2.021	2.002	2.007	2.017	2.005	2.025	2.008	2.010	0.48
34)	T	Tetrahydrofura...	0.886	0.609	0.839	0.724	0.627	0.653	0.609	0.586	0.692	16.48
35)	T	Ethyl tert-But...	1.419	1.317	1.534	1.341	1.153	1.219	1.155	1.150	1.286	11.05
36)	T	1,2-Dichloroet...	2.166	1.908	2.296	1.967	1.682	1.791	1.683	1.669	1.895	12.49
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.582	0.527	0.613	0.540	0.458	0.494	0.468	0.460	0.518	11.27
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.347	1.097	1.223	1.072	0.902	0.933	0.880	0.855	1.039	17.16
42)	T	Carbon Tetrach...	0.528	0.463	0.540	0.473	0.421	0.453	0.432	0.426	0.467	9.70
43)	T	Cyclohexane	0.418	0.386	0.460	0.399	0.342	0.360	0.334	0.319	0.377	12.57
44)	T	tert-Amyl Meth...	0.780	0.707	0.826	0.729	0.644	0.693	0.658	0.643	0.710	9.31
45)	T	1,2-Dichloropr...	0.321	0.281	0.324	0.282	0.244	0.254	0.242	0.238	0.273	12.72
46)	T	Bromodichlorom...	0.472	0.379	0.470	0.426	0.374	0.406	0.387	0.382	0.412	9.67
47)	T	Trichloroethene	0.323	0.290	0.337	0.298	0.257	0.275	0.260	0.254	0.287	10.85
48)	T	1,4-Dioxane	0.215	0.187	0.241	0.203	0.188	0.204	0.194	0.191	0.203	9.05
49)	T	2,2,4-Trimethy...	1.408	1.189	1.367	1.205	1.033	1.076	1.013	0.983	1.159	13.96
50)	T	Methyl Methacr...	0.099	0.087	0.112	0.101	0.090	0.097	0.091	0.089	0.096	8.78
51)	T	n-Heptane	0.280	0.226	0.287	0.252	0.213	0.226	0.213	0.207	0.238	13.16
52)	T	cis-1,3-Dichlo...	0.437	0.366	0.450	0.416	0.375	0.419	0.398	0.393	0.406	7.18
53)	T	4-Methyl-2-pen...	0.249	0.227	0.281	0.256	0.226	0.246	0.232	0.226	0.243	7.92
54)	T	trans-1,3-Dich...	0.455	0.380	0.468	0.427	0.390	0.435	0.413	0.409	0.422	7.18

55)	T	1,1,2-Trichlor...	0.311	0.268	0.329	0.278	0.238	0.255	0.241	0.236	0.269	12.92
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	5.091	5.008	4.973	4.962	4.929	4.831	4.772	4.656	4.903	2.87
58)	T	Toluene	6.118	5.009	5.917	5.073	4.267	4.371	4.001	3.851	4.826	17.70
59)	T	2-Hexanone	3.817	3.283	4.023	3.491	3.104	3.303	3.021	2.879	3.365	11.71
60)	T	Dibromochlorom...	1.578	1.430	1.741	1.512	1.382	1.526	1.421	1.401	1.499	7.98
61)	T	1,2-Dibromoethane	1.727	1.405	1.718	1.480	1.279	1.342	1.247	1.211	1.426	14.17
62)	T	n-Butyl Acetate	3.873	3.420	4.269	3.797	3.406	3.641	3.329	3.147	3.610	9.99
63)	T	n-Octane	1.190	1.005	1.191	1.054	0.918	0.950	0.875	0.859	1.005	13.03
64)	T	Tetrachloroethene	1.841	1.542	1.737	1.566	1.322	1.406	1.333	1.351	1.512	12.95
65)	T	Chlorobenzene	3.937	3.376	3.844	3.303	2.792	2.912	2.681	2.582	3.178	16.38
66)	T	Ethylbenzene	7.034	5.759	6.768	5.789	5.044	5.307	4.826	4.615	5.643	15.61
67)	T	m- & p-Xylenes	5.274	4.467	5.450	4.754	4.150	4.360	4.018	3.836	4.539	12.82
68)	T	Bromoform	1.353	1.186	1.483	1.297	1.262	1.485	1.449	1.496	1.376	8.62
69)	T	Styrene	3.771	3.069	3.767	3.248	2.959	3.155	2.893	2.788	3.206	11.73
70)	T	o-Xylene	5.145	4.570	5.418	4.669	4.037	4.236	3.904	3.754	4.466	13.32
71)	T	n-Nonane	3.270	2.837	3.381	3.056	2.637	2.753	2.540	2.464	2.867	11.78
72)	T	1,1,2,2-Tetrac...	2.340	2.010	2.409	2.120	1.822	1.886	1.757	1.705	2.006	13.15
73)	S	Bromofluoroben...	1.824	1.800	1.802	1.802	1.847	1.905	1.909	1.949	1.855	3.14
74)	T	Cumene	6.449	5.510	6.530	5.664	4.892	5.113	4.671	4.432	5.408	14.44
75)	T	alpha-Pinene	3.271	2.683	3.279	2.888	2.503	2.661	2.449	2.347	2.760	12.97
76)	T	n-Propylbenzene	7.893	7.002	8.358	7.138	6.220	6.409	5.820	5.455	6.787	14.77
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	5.701	5.074	6.262	5.450	4.850	4.969	4.543	4.374	5.153	12.12
79)	T	1,3,5-Trimethy...	4.887	4.382	5.397	4.732	4.120	4.327	3.985	3.796	4.453	11.82
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	5.103	4.430	5.510	4.868	4.285	4.573	4.206	3.894	4.608	11.41
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	2.976	2.781	3.812	3.604	3.655	4.294	3.969	3.601	3.586	13.84
85)	T	1,3-Dichlorobe...	3.374	2.817	3.376	2.977	2.542	2.814	2.656	2.594	2.894	11.33
86)	T	1,4-Dichlorobe...	3.247	2.786	3.323	2.950	2.602	2.786	2.610	2.557	2.858	10.28
87)	T	sec-Butylbenzene	6.843	5.977	7.192	6.401	5.506	5.695	5.194	4.824	5.954	13.69
88)	T	4-Isopropyltol...	6.038	5.013	6.279	5.413	4.783	5.037	4.592	4.296	5.181	13.31
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	3.178	2.556	3.249	2.859	2.474	2.648	2.472	2.422	2.732	11.98
91)	T	d-Limonene	1.532	1.468	1.883	1.651	1.503	1.620	1.522	1.477	1.582	8.71
92)	T	1,2-Dibromo-3-...	1.090	0.957	1.169	1.066	1.002	1.123	1.072	1.069	1.069	6.16
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.223	1.883	2.615	2.372	2.155	2.745	2.636	2.420	2.381	12.07
95)	T	Naphthalene	4.787	4.418	6.481	5.875	5.523	6.662	6.102	5.595	5.680	13.71
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.953	1.714	1.999	1.691	1.531	1.751	1.665	1.609	1.739	9.27
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	5.359	4.244	5.368	4.741	4.091	4.272	3.897	3.621	4.449	14.59
100)	T	n-Butylbenzene	5.875	4.750	6.233	5.399	4.758	5.038	4.597	4.264	5.114	13.15
101)	T	1,1,1,2-Tetrac...	1.305	1.201	1.447	1.296	1.120	1.200	1.123	1.101	1.224	9.69

(#) = Out of Range

R9061622.M Fri Jun 17 08:56:31 2022

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | **40ng/L Std. ID:**
4ng/L Std. ID: S35-06162205 | **200ng/L Std. ID:** S35-06162209
20ng/L Std. ID: S35-06162213 | **1000ng/L Std. ID:**

6/17/22

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Rev 08 (6/17/22)

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S35-06162205**	**200ng/L Std. ID:**	**S35-06162209**
20ng/L Std. ID:	**S35-06162213**	**1000ng/L Std. ID:**	

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**20**	**20**	**20**	**200**	**200**	**200**
	Source Std.			**Primary Working Standards**				**Injection (L):**	**0.025**	**0.050**	**0.0250**	**0.050**	**0.25**	**0.125**	**0.25**	**0.50**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Do Not Edit

Calibration Status Report MS09

Method : I:\MS09\Methods\R9061622.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jun 17 08:51:09 2022
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\DATA\2022_06\16\06162217.D
2	0.2	0	13	I:\MS09\DATA\2022_06\16\06162218.D
3	0.5	1	13	I:\MS09\DATA\2022_06\16\06162219.D
4	1.0	1	13	I:\MS09\DATA\2022_06\16\06162220.D
5	5.0	5	13	I:\MS09\DATA\2022_06\16\06162221.D
6	25	26	13	I:\MS09\DATA\2022_06\16\06162222.D
7	50	52	13	I:\MS09\DATA\2022_06\16\06162223.D
8	100	104	13	I:\MS09\DATA\2022_06\16\06162224.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Jun 17 08:49 2022	Jun 17 08:44 2022	16 Jun 2022 18:16
2	0.2	Jun 17 08:49 2022	Jun 17 08:42 2022	16 Jun 2022 18:48
3	0.5	Jun 17 08:49 2022	Jun 17 08:40 2022	16 Jun 2022 19:20
4	1.0	Jun 17 08:50 2022	Jun 17 08:39 2022	16 Jun 2022 19:52
5	5.0	Jun 17 08:50 2022	Jun 17 08:37 2022	16 Jun 2022 20:24
6	25	Jun 17 08:50 2022	Jun 17 08:36 2022	16 Jun 2022 20:56
7	50	Jun 17 08:50 2022	Jun 17 08:46 2022	16 Jun 2022 21:28
8	100	Jun 17 08:51 2022	Jun 17 08:47 2022	16 Jun 2022 22:00

R9061622.M Fri Jun 17 09:07:59 2022

6/17/22

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162217.D Vial: 5
Acq On : 16 Jun 2022 18:16 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162215 (7/16)

Quant Time: Jun 17 08:44:29 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	167606	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	725724	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	161228	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	334899	12.002	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
57) Toluene-d8 (SS2)	12.39	98	820785	13.919	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.36%				
73) Bromofluorobenzene (SS3)	16.79	174	294090	15.554	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 124.40%				
Target Compounds							Qvalue
2) Propene	3.29	42	3024	0.112	ng		90
3) Dichlorodifluoromethan...	3.36	85	5238	0.138	ng		96
4) Chloromethane	3.50	50	3307	0.112	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	1971	0.123	ng		95
6) Vinyl Chloride	3.69	62	2149	0.089	ng		92
7) 1,3-Butadiene	3.80	54	1444	0.075	ng	#	72
8) Bromomethane	4.01	94	1638	0.112	ng		98
9) Chloroethane	4.15	64	1452	0.127	ng		83
10) Ethanol	4.27	45	6937	0.360	ng		91
11) Acetonitrile	4.43	41	6326	0.125	ng	#	12
12) Acrolein	4.51	56	2342	0.194	ng		98
13) Acetone	4.62	58	10549	0.773	ng	#	85
14) Trichlorofluoromethane	4.74	101	4515	0.127	ng		98
15) 2-Propanol (Isopropanol)	4.84	45	12763	0.208	ng		93
16) Acrylonitrile	4.97	53	4916	0.186	ng		91
17) 1,1-Dichloroethene	5.24	96	1852	0.115	ng		89
18) 2-Methyl-2-Propanol (t...	5.37	59	8861	0.233	ng		85
19) Methylene Chloride	5.33	84	2129	0.124	ng		94
20) 3-Chloro-1-propene (Al...	5.43	41	4888	0.108	ng		89
21) Trichlorotrifluoroethane	5.56	151	1929	0.137	ng		98
22) Carbon Disulfide	5.59	76	12338	0.205	ng		93
23) trans-1,2-Dichloroethene	6.11	61	2875	0.104	ng		99
24) 1,1-Dichloroethane	6.29	63	3504	0.106	ng		97
25) Methyl tert-Butyl Ether	6.37	73	5281	0.112	ng		98
26) Vinyl Acetate	6.42	86	600	0.266	ng	#	1
27) 2-Butanone (MEK)	6.65	72	2261	0.210	ng	#	73
28) cis-1,2-Dichloroethene	7.04	61	2528	0.094	ng		91
29) Diisopropyl Ether	7.27	87	3188	0.246	ng	#	77
30) Ethyl Acetate	7.27	61	2767	0.367	ng		96
31) n-Hexane	7.27	57	3457	0.113	ng	#	94
32) Chloroform	7.32	83	3875	0.120	ng		92
34) Tetrahydrofuran (THF)	7.75	72	2340	0.223	ng		95
35) Ethyl tert-Butyl Ether	7.80	87	3997	0.215	ng		96
36) 1,2-Dichloroethane	8.08	62	3079	0.109	ng		96
38) 1,1,1-Trichloroethane	8.36	97	3513	0.120	ng		94
39) Isopropyl Acetate	9.26	61	24811	No Calib		#	
40) 1-Butanol	9.18	56	6816	No Calib			
41) Benzene	8.87	78	8134	0.119	ng		100
42) Carbon Tetrachloride	9.03	117	3220	0.127	ng		95
43) Cyclohexane	9.18	84	5019	0.209	ng		94
44) tert-Amyl Methyl Ether	9.58	73	9469	0.206	ng		94
45) 1,2-Dichloropropane	9.81	63	1920	0.108	ng		92
46) Bromodichloromethane	10.03	83	2875	0.112	ng		93
47) Trichloroethene	10.11	130	1933	0.109	ng		96
48) 1,4-Dioxane	10.12	88	1297	0.107	ng		95
49) 2,2,4-Trimethylpentane...	10.20	57	8668	0.112	ng		97
50) Methyl Methacrylate	10.38	100	1195	0.201	ng	#	78

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162217.D Vial: 5
Acq On : 16 Jun 2022 18:16 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162215 (7/16)

Quant Time: Jun 17 08:44:29 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

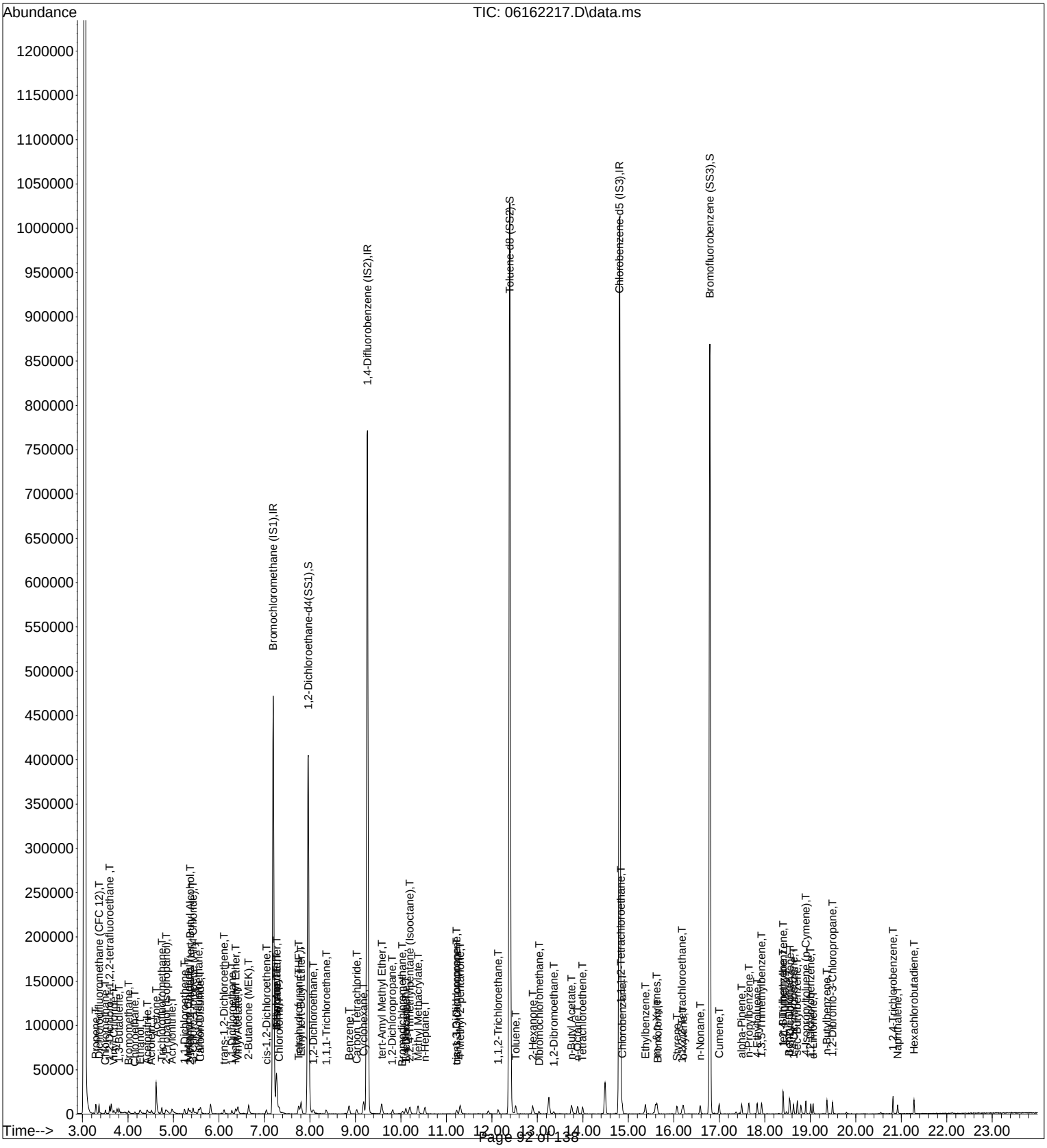
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	1704	0.106 ng		99
52) cis-1,3-Dichloropropene	11.22	75	2666	0.102 ng		94
53) 4-Methyl-2-pentanone	11.30	58	3011	0.188 ng		91
54) trans-1,3-Dichloropropene	11.22	75	2666	0.099 ng		94
55) 1,1,2-Trichloroethane	12.14	97	1880	0.115 ng		96
58) Toluene	12.52	91	8128	0.137 ng		96
59) 2-Hexanone	12.90	43	10094	0.232 ng		95
60) Dibromochloromethane	13.04	129	2137	0.126 ng		98
61) 1,2-Dibromoethane	13.36	107	2316	0.141 ng		94
62) n-Butyl Acetate	13.75	43	10192	0.213 ng		99
63) n-Octane	13.88	57	1611	0.118 ng		99
64) Tetrachloroethene	13.99	166	2470	0.153 ng		99
65) Chlorobenzene	14.87	112	5281	0.138 ng		99
66) Ethylbenzene	15.37	91	9345	0.137 ng		96
67) m- & p-Xylenes	15.62	91	14013	0.252 ng		98
68) Bromoform	15.65	173	1815	0.135 ng		93
69) Styrene	16.07	104	5010	0.132 ng		97
70) o-Xylene	16.21	91	6901	0.126 ng		100
71) n-Nonane	16.58	43	4387	0.107 ng		98
72) 1,1,2,2-Tetrachloroethane	16.18	83	3139	0.126 ng		91
74) Cumene	17.00	105	8651	0.132 ng		100
75) alpha-Pinene	17.49	93	4556	0.147 ng		93
76) n-Propylbenzene	17.65	91	10689	0.130 ng		98
77) 3-Ethyltoluene	17.00	105	8651	No Calib		
78) 4-Ethyltoluene	17.83	105	7794	0.123 ng		97
79) 1,3,5-Trimethylbenzene	17.93	105	6556	0.120 ng		95
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.43	105	489	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	6779	0.122 ng		99
83) n-Decane	16.79	58	277	No Calib	#	
84) Benzyl Chloride	18.54	91	7907	0.199 ng		96
85) 1,3-Dichlorobenzene	18.55	146	4526	0.141 ng		95
86) 1,4-Dichlorobenzene	18.63	146	4356	0.136 ng		96
87) sec-Butylbenzene	18.71	105	9179	0.126 ng		97
88) 4-Isopropyltoluene (p-...	18.90	119	8099	0.125 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	6779	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	4304	0.139 ng		97
91) d-Limonene	19.06	68	2075	0.102 ng		88
92) 1,2-Dibromo-3-Chloropr...	19.49	157	2812	0.263 ng	#	82
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.82	180	5850	0.247 ng		96
95) Naphthalene	20.92	128	6421	0.099 ng		99
96) n-Dodecane	18.91	58	129	No Calib	#	
97) Hexachlorobutadiene	21.28	225	2594	0.159 ng		95
98) Cyclohexanone	15.56	55	246	No Calib	#	
99) tert-Butylbenzene	18.40	119	7188	0.134 ng		97
100) n-Butylbenzene	19.37	91	7881	0.126 ng		95
101) 1,1,1,2-Tetrachloroethane	14.84	131	1750	0.126 ng		89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162217.D Vial: 5
Acq On : 16 Jun 2022 18:16 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162215 (7/16)

Quant Time: Jun 17 08:44:29 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162218.D Vial: 5
Acq On : 16 Jun 2022 18:48 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162215 (7/16)

Quant Time: Jun 17 08:42:32 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	167448	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	719115	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	163011	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	338390	12.138	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.12%				
57) Toluene-d8 (SS2)	12.39	98	816349	13.692	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.52%				
73) Bromofluorobenzene (SS3)	16.79	174	293435	15.350	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 122.80%				
Target Compounds							Qvalue
2) Propene	3.28	42	4667	0.174	ng		93
3) Dichlorodifluoromethan...	3.36	85	8632	0.228	ng		96
4) Chloromethane	3.50	50	5859	0.199	ng		88
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	3440	0.214	ng		95
6) Vinyl Chloride	3.68	62	3761	0.157	ng		96
7) 1,3-Butadiene	3.80	54	2378	0.124	ng	#	71
8) Bromomethane	4.01	94	2311	0.158	ng		94
9) Chloroethane	4.15	64	2382	0.208	ng		88
10) Ethanol	4.27	45	11536	0.599	ng		79
11) Acetonitrile	4.42	41	10125	0.200	ng	#	53
12) Acrolein	4.52	56	3815	0.316	ng		96
13) Acetone	4.61	58	15623	1.146	ng		96
14) Trichlorofluoromethane	4.74	101	7558	0.212	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	21159	0.345	ng		77
16) Acrylonitrile	4.97	53	8303	0.314	ng		96
17) 1,1-Dichloroethene	5.24	96	3049	0.190	ng		99
18) 2-Methyl-2-Propanol (t...	5.37	59	15989m	0.421	ng		
19) Methylene Chloride	5.32	84	3472	0.203	ng		98
20) 3-Chloro-1-propene (Al...	5.43	41	8417	0.187	ng		91
21) Trichlorotrifluoroethane	5.56	151	3249	0.231	ng		99
22) Carbon Disulfide	5.59	76	20454	0.340	ng		96
23) trans-1,2-Dichloroethene	6.11	61	4878	0.177	ng		94
24) 1,1-Dichloroethane	6.29	63	6121	0.186	ng		96
25) Methyl tert-Butyl Ether	6.37	73	9553	0.203	ng		97
26) Vinyl Acetate	6.41	86	1114	0.494	ng	#	31
27) 2-Butanone (MEK)	6.65	72	4030	0.375	ng	#	82
28) cis-1,2-Dichloroethene	7.05	61	4664	0.173	ng		95
29) Diisopropyl Ether	7.27	87	5145	0.397	ng	#	92
30) Ethyl Acetate	7.26	61	5188	0.689	ng		98
31) n-Hexane	7.27	57	5624	0.185	ng		96
32) Chloroform	7.32	83	6572	0.204	ng		99
34) Tetrahydrofuran (THF)	7.75	72	3216	0.307	ng	#	67
35) Ethyl tert-Butyl Ether	7.80	87	7410	0.399	ng		94
36) 1,2-Dichloroethane	8.08	62	5418	0.192	ng		99
38) 1,1,1-Trichloroethane	8.36	97	6302	0.218	ng		99
39) Isopropyl Acetate	9.26	61	24422	No Calib			
40) 1-Butanol	9.18	56	11545	No Calib			
41) Benzene	8.86	78	13124	0.193	ng		99
42) Carbon Tetrachloride	9.03	117	5598	0.223	ng		97
43) Cyclohexane	9.18	84	9198	0.387	ng		99
44) tert-Amyl Methyl Ether	9.58	73	17010	0.373	ng		97
45) 1,2-Dichloropropane	9.83	63	3335	0.189	ng		97
46) Bromodichloromethane	10.04	83	4583	0.181	ng		97
47) Trichloroethene	10.10	130	3438	0.195	ng		98
48) 1,4-Dioxane	10.12	88	2232	0.186	ng		95
49) 2,2,4-Trimethylpentane...	10.20	57	14499	0.189	ng		98
50) Methyl Methacrylate	10.38	100	2073	0.352	ng	#	78

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162218.D Vial: 5
Acq On : 16 Jun 2022 18:48 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162215 (7/16)

Quant Time: Jun 17 08:42:32 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

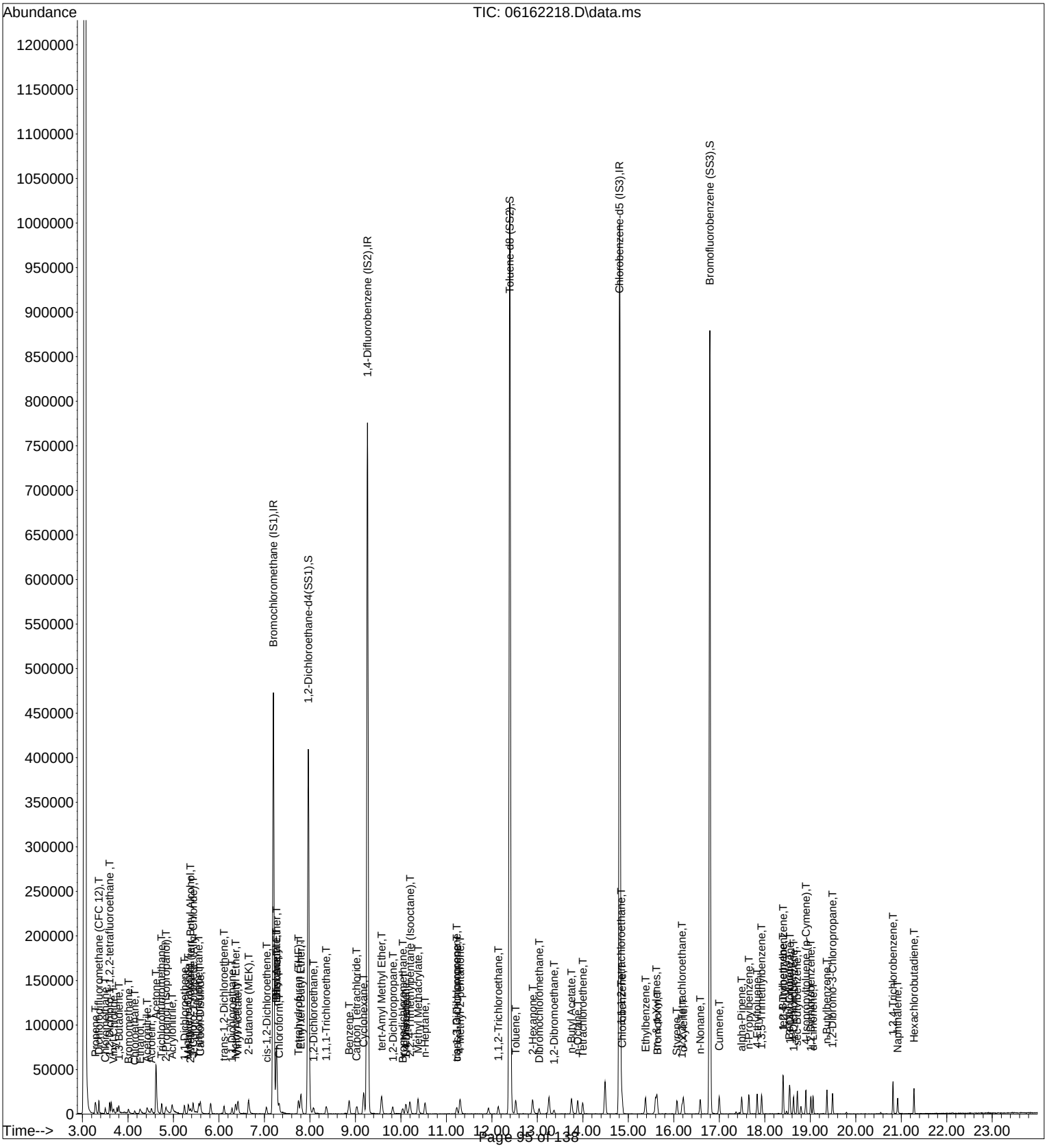
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.53	71	2730	0.171	ng		93
52) cis-1,3-Dichloropropene	11.23	75	4416	0.171	ng		90
53) 4-Methyl-2-pentanone	11.30	58	5431	0.342	ng		95
54) trans-1,3-Dichloropropene	11.23	75	4416	0.165	ng		90
55) 1,1,2-Trichloroethane	12.14	97	3208	0.199	ng		99
58) Toluene	12.52	91	13457	0.224	ng		99
59) 2-Hexanone	12.90	43	17553	0.398	ng		94
60) Dibromochloromethane	13.04	129	3916	0.228	ng		100
61) 1,2-Dibromoethane	13.37	107	3812	0.230	ng		96
62) n-Butyl Acetate	13.75	43	18196	0.376	ng		99
63) n-Octane	13.89	57	2752	0.200	ng		97
64) Tetrachloroethene	14.00	166	4184	0.257	ng		97
65) Chlorobenzene	14.86	112	9157	0.237	ng		98
66) Ethylbenzene	15.38	91	15470	0.224	ng		98
67) m- & p-Xylenes	15.62	91	24001	0.427	ng		99
68) Bromoform	15.64	173	3218	0.236	ng		96
69) Styrene	16.07	104	8245	0.214	ng		98
70) o-Xylene	16.21	91	12395	0.224	ng		98
71) n-Nonane	16.58	43	7695	0.185	ng		98
72) 1,1,2,2-Tetrachloroethane	16.18	83	5452	0.217	ng		97
74) Cumene	17.00	105	14947	0.226	ng		98
75) alpha-Pinene	17.49	93	7558	0.241	ng		100
76) n-Propylbenzene	17.65	91	19175	0.230	ng		97
77) 3-Ethyltoluene	17.00	105	14947	No Calib			
78) 4-Ethyltoluene	17.83	105	14029	0.220	ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	11885	0.216	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.43	105	521	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.41	105	11900	0.211	ng		97
83) n-Decane	16.79	58	353	No Calib		#	
84) Benzyl Chloride	18.54	91	14941	0.372	ng		99
85) 1,3-Dichlorobenzene	18.55	146	7640	0.235	ng		98
86) 1,4-Dichlorobenzene	18.63	146	7556	0.234	ng		98
87) sec-Butylbenzene	18.71	105	16212	0.220	ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	13597	0.208	ng		97
89) 1,2,3-Trimethylbenzene	18.41	105	11900	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	6999	0.224	ng		94
91) d-Limonene	19.06	68	4020	0.195	ng		97
92) 1,2-Dibromo-3-Chloropr...	19.49	157	4994	0.462	ng		85
93) n-Undecane	17.84	58	235	No Calib		#	
94) 1,2,4-Trichlorobenzene	20.82	180	10017	0.418	ng		99
95) Naphthalene	20.92	128	11983	0.183	ng		97
96) n-Dodecane	18.91	58	205	No Calib		#	
97) Hexachlorobutadiene	21.28	225	4605	0.279	ng		99
98) Cyclohexanone	15.56	55	210	No Calib		#	
99) tert-Butylbenzene	18.40	119	11511	0.213	ng		98
100) n-Butylbenzene	19.37	91	12885	0.204	ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	3257	0.233	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162218.D Vial: 5
Acq On : 16 Jun 2022 18:48 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162215 (7/16)

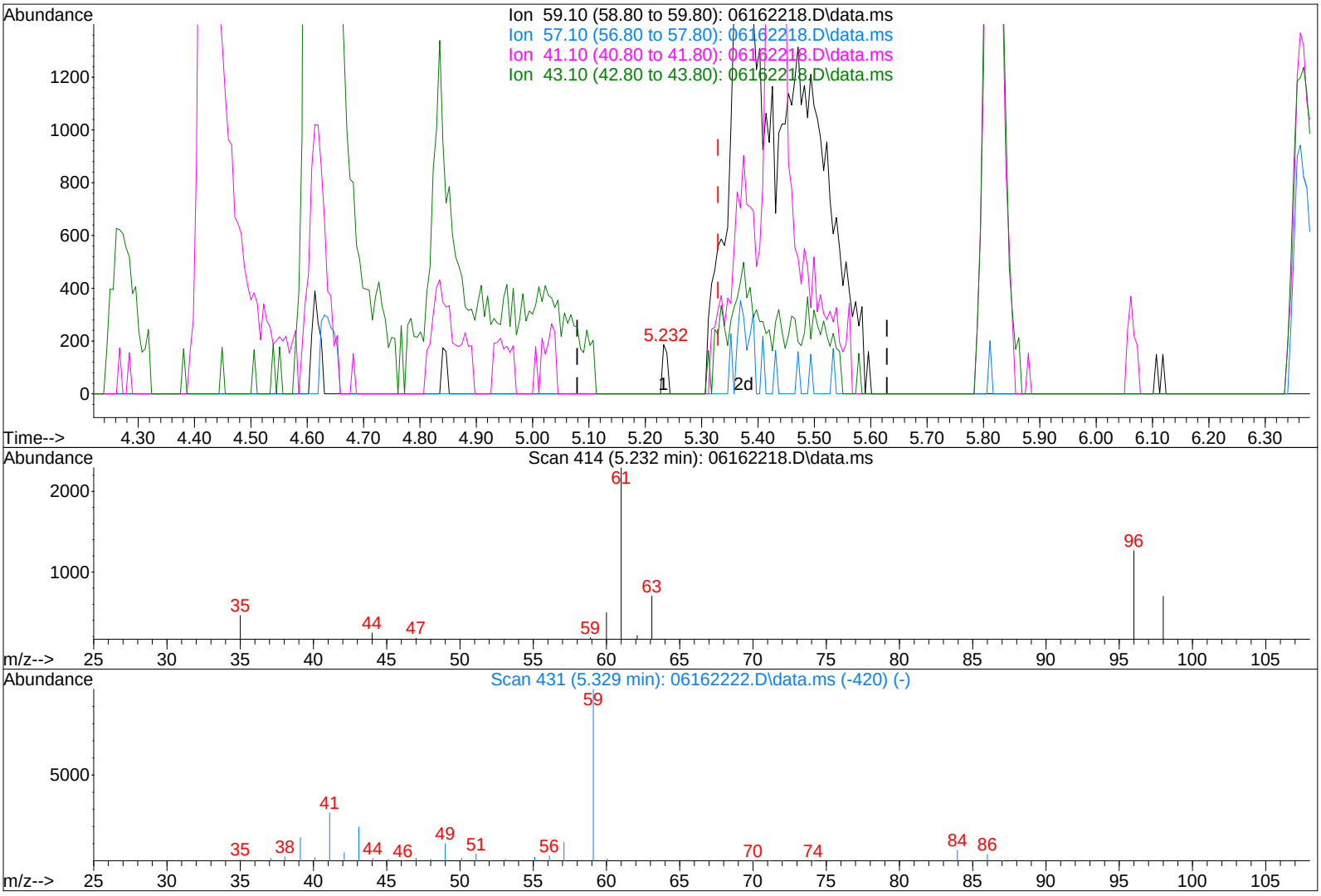
Quant Time: Jun 17 08:42:32 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 06\16\06162218.D Vial: 5
Acq On : 16 Jun 2022 18:48 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162215 (7/16)

Quant Time: Jun 17 08:42:07 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 06162218.D\data.ms

(18) 2-Methyl-2-Propanol (tert-Butyl Alcohol (T)

5.232min (-0.097) 0.00ng

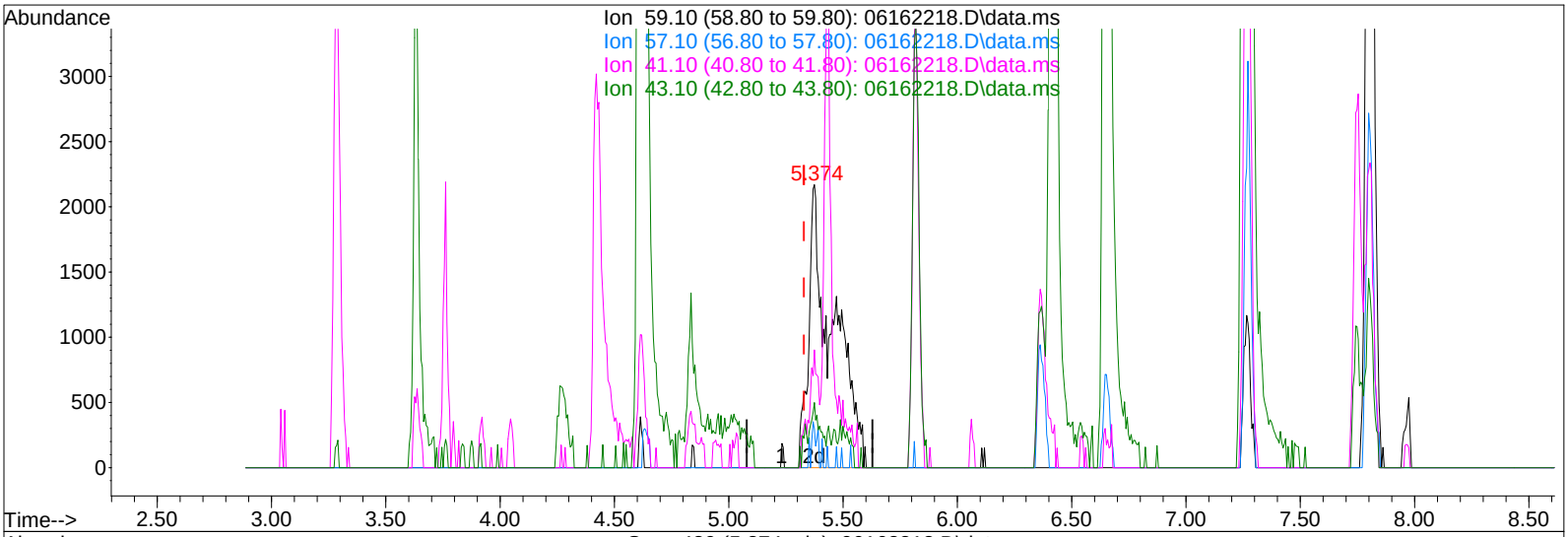
response 116

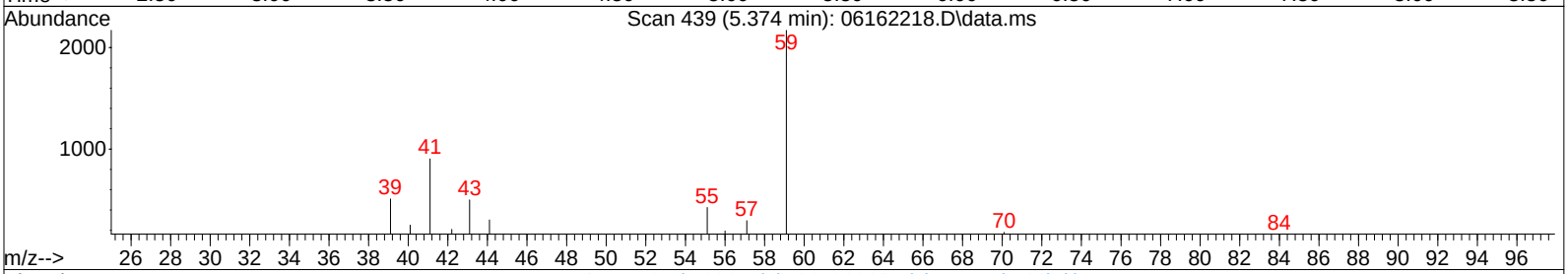
Ion	Exp%	Act%
59.10	100	100
57.10	10.60	0.00
41.10	24.80	0.00#
43.10	20.50	0.00#

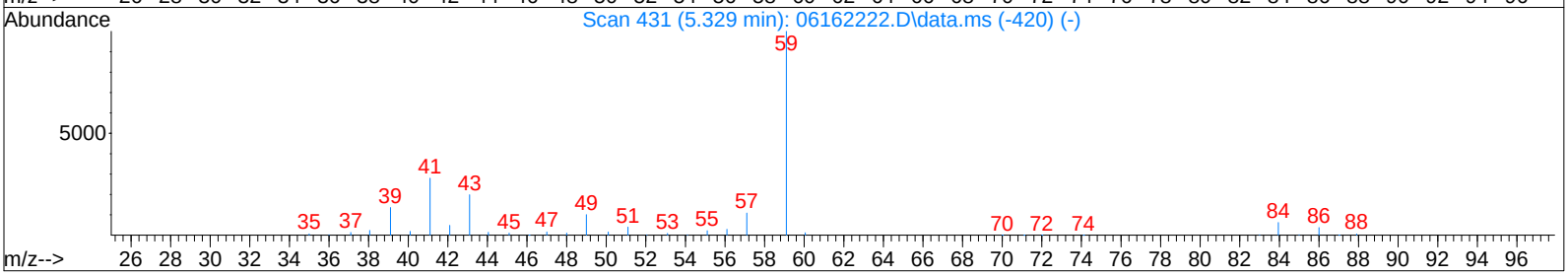
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 06\16\06162218.D Vial: 5
Acq On : 16 Jun 2022 18:48 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162215 (7/16)

Quant Time: Jun 17 08:42:07 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 06162218.D\data.ms

(18) 2-Methyl-2-Propanol (tert-Butyl Alcohol (T)

5.374min (+0.045) 0.42ng m

response 15989

Ion	Exp%	Act%
59.10	100	100
57.10	10.60	0.00
41.10	24.80	0.00#
43.10	20.50	0.00#

MP

6/17/22

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162219.D Vial: 6
Acq On : 16 Jun 2022 19:20 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162213 (7/16)

Quant Time: Jun 17 08:40:42 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	166938	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	719224	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	162691	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	334166	12.023	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%				
57) Toluene-d8 (SS2)	12.39	98	808983	13.596	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
73) Bromofluorobenzene (SS3)	16.79	174	293208	15.368	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 122.96%				
Target Compounds							Qvalue
2) Propene	3.27	42	12215	0.456	ng		97
3) Dichlorodifluoromethan...	3.34	85	24252	0.643	ng		100
4) Chloromethane	3.48	50	16136	0.550	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	9967	0.622	ng		99
6) Vinyl Chloride	3.67	62	11645	0.487	ng		100
7) 1,3-Butadiene	3.78	54	7346	0.385	ng		97
8) Bromomethane	3.99	94	8322	0.571	ng		98
9) Chloroethane	4.13	64	6170	0.540	ng		98
10) Ethanol	4.25	45	29743	1.550	ng		85
11) Acetonitrile	4.41	41	23866	0.473	ng		86
12) Acrolein	4.50	56	10292	0.855	ng		99
13) Acetone	4.60	58	38241	2.813	ng		100
14) Trichlorofluoromethane	4.73	101	22329	0.629	ng		99
15) 2-Propanol (Isopropanol)	4.81	45	60888	0.995	ng		87
16) Acrylonitrile	4.96	53	25702	0.976	ng		94
17) 1,1-Dichloroethene	5.23	96	9170	0.573	ng		100
18) 2-Methyl-2-Propanol (t...	5.29	59	47059	1.244	ng		93
19) Methylene Chloride	5.32	84	9819	0.576	ng		92
20) 3-Chloro-1-propene (Al...	5.42	41	26441	0.589	ng		90
21) Trichlorotrifluoroethane	5.54	151	9704	0.693	ng		100
22) Carbon Disulfide	5.57	76	64421	1.073	ng		98
23) trans-1,2-Dichloroethene	6.10	61	14682	0.533	ng		100
24) 1,1-Dichloroethane	6.28	63	18220	0.556	ng		100
25) Methyl tert-Butyl Ether	6.35	73	28473	0.608	ng		97
26) Vinyl Acetate	6.41	86	4108	1.826	ng	#	85
27) 2-Butanone (MEK)	6.63	72	11359	1.061	ng	#	93
28) cis-1,2-Dichloroethene	7.04	61	14223	0.528	ng		99
29) Diisopropyl Ether	7.25	87	14641	1.133	ng		98
30) Ethyl Acetate	7.25	61	15462	2.059	ng		97
31) n-Hexane	7.27	57	16770	0.552	ng		97
32) Chloroform	7.32	83	19122	0.594	ng		99
34) Tetrahydrofuran (THF)	7.73	72	11035	1.058	ng		94
35) Ethyl tert-Butyl Ether	7.79	87	21517	1.161	ng		97
36) 1,2-Dichloroethane	8.08	62	16249	0.579	ng		99
38) 1,1,1-Trichloroethane	8.36	97	18346	0.634	ng		99
39) Isopropyl Acetate	9.26	61	24510	No Calib			
40) 1-Butanol	9.18	56	33986	No Calib			
41) Benzene	8.86	78	36600	0.539	ng		100
42) Carbon Tetrachloride	9.03	117	16322	0.650	ng		99
43) Cyclohexane	9.17	84	27381	1.151	ng		98
44) tert-Amyl Methyl Ether	9.56	73	49682	1.089	ng		98
45) 1,2-Dichloropropane	9.81	63	9596	0.543	ng		97
46) Bromodichloromethane	10.04	83	14200	0.560	ng		99
47) Trichloroethene	10.10	130	9988	0.566	ng		100
48) 1,4-Dioxane	10.10	88	7225	0.602	ng		96
49) 2,2,4-Trimethylpentane...	10.20	57	41673	0.542	ng		100
50) Methyl Methacrylate	10.38	100	6719	1.141	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162219.D Vial: 6
Acq On : 16 Jun 2022 19:20 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162213 (7/16)

Quant Time: Jun 17 08:40:42 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

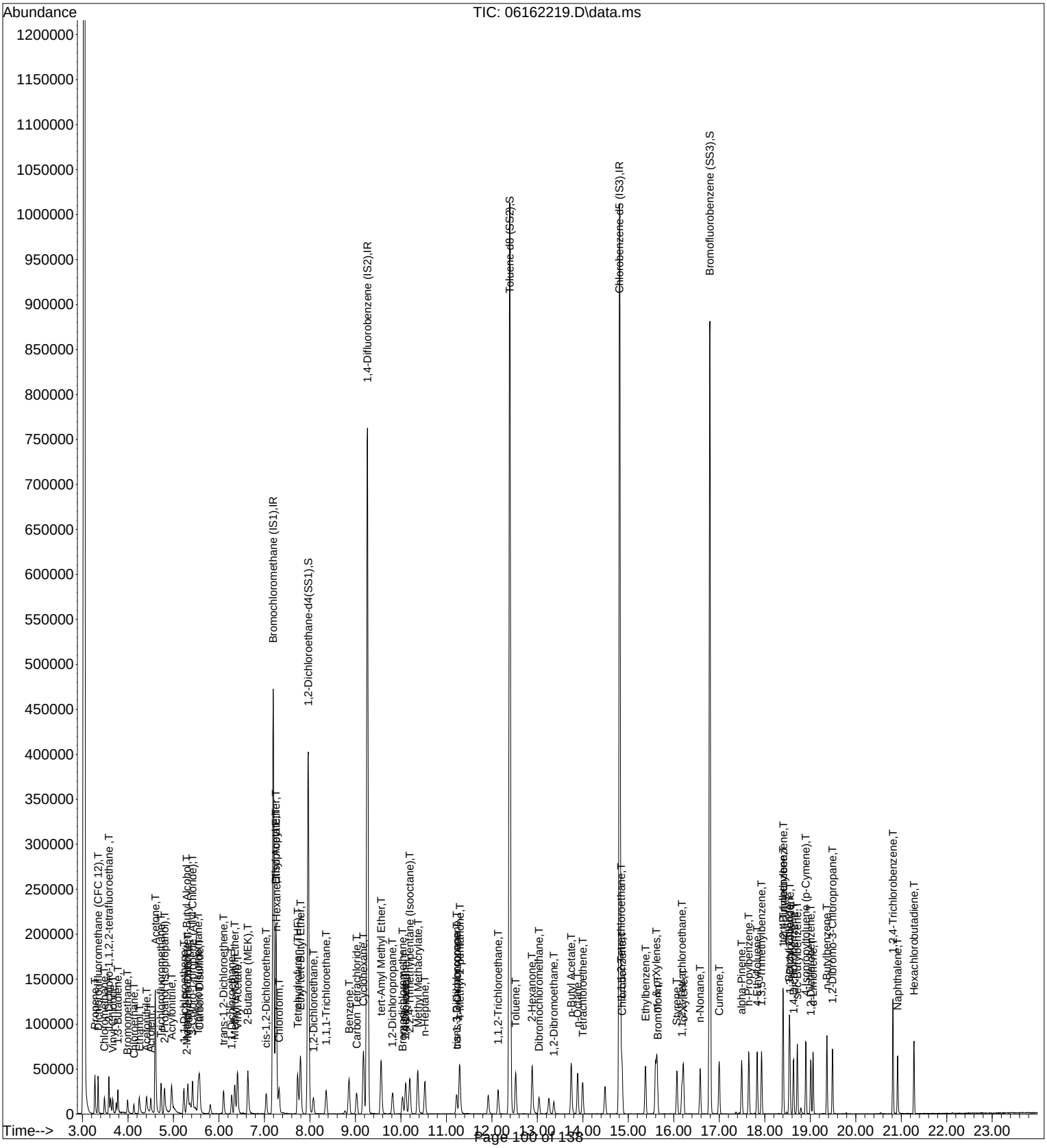
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.52	71	8673	0.544 ng		96
52) cis-1,3-Dichloropropene	11.23	75	13604	0.527 ng		97
53) 4-Methyl-2-pentanone	11.30	58	16792	1.058 ng		95
54) trans-1,3-Dichloropropene	11.23	75	13604	0.507 ng		97
55) 1,1,2-Trichloroethane	12.14	97	9837	0.610 ng		97
58) Toluene	12.52	91	39664	0.662 ng		99
59) 2-Hexanone	12.88	43	53670	1.220 ng		98
60) Dibromochloromethane	13.03	129	11899	0.694 ng		100
61) 1,2-Dibromoethane	13.36	107	11628	0.702 ng		97
62) n-Butyl Acetate	13.74	43	56667	1.173 ng		99
63) n-Octane	13.89	57	8140	0.593 ng		98
64) Tetrachloroethene	14.00	166	11757	0.723 ng		99
65) Chlorobenzene	14.86	112	26014	0.674 ng		100
66) Ethylbenzene	15.38	91	45367	0.658 ng		100
67) m- & p-Xylenes	15.62	91	73063	1.304 ng		99
68) Bromoform	15.65	173	10035	0.738 ng		96
69) Styrene	16.07	104	25248	0.657 ng		97
70) o-Xylene	16.21	91	36666	0.664 ng		98
71) n-Nonane	16.58	43	22884	0.551 ng		98
72) 1,1,2,2-Tetrachloroethane	16.18	83	16302	0.650 ng		99
74) Cumene	17.00	105	44195	0.670 ng		100
75) alpha-Pinene	17.49	93	23048	0.736 ng		98
76) n-Propylbenzene	17.64	91	57107	0.687 ng		99
77) 3-Ethyltoluene	17.00	105	44195	No Calib		
78) 4-Ethyltoluene	17.83	105	43199	0.678 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	36526	0.665 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.43	105	524	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	36932	0.657 ng		99
83) n-Decane	16.99	58	120	No Calib	#	
84) Benzyl Chloride	18.54	91	51101	1.275 ng		97
85) 1,3-Dichlorobenzene	18.55	146	22849	0.705 ng		98
86) 1,4-Dichlorobenzene	18.63	146	22492	0.698 ng		99
87) sec-Butylbenzene	18.72	105	48678	0.662 ng		99
88) 4-Isopropyltoluene (p-...	18.90	119	42499	0.651 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	36932	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	22202	0.711 ng		98
91) d-Limonene	19.06	68	12865	0.624 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	15216	1.409 ng		89
93) n-Undecane	17.93	58	959	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	34719	1.451 ng		98
95) Naphthalene	20.92	128	43861	0.671 ng		98
96) n-Dodecane	18.71	58	175	No Calib	#	
97) Hexachlorobutadiene	21.28	225	13400	0.812 ng		100
98) Cyclohexanone	15.56	55	237	No Calib	#	
99) tert-Butylbenzene	18.40	119	36332	0.673 ng		99
100) n-Butylbenzene	19.37	91	42184	0.669 ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	9792	0.701 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162219.D Vial: 6
Acq On : 16 Jun 2022 19:20 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162213 (7/16)

Quant Time: Jun 17 08:40:42 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162220.D Vial: 6
Acq On : 16 Jun 2022 19:52 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162213 (7/16)

6/17/22

Quant Time: Jun 17 08:39:15 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	164388	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	704437	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	161778	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	329848	12.052	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%			
57) Toluene-d8 (SS2)	12.39	98	802751	13.567	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.56%			
73) Bromofluorobenzene (SS3)	16.79	174	291554	15.368	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 122.96%			
Target Compounds						Qvalue
2) Propene	3.27	42	21476	0.814	ng	98
3) Dichlorodifluoromethan...	3.34	85	40557	1.092	ng	99
4) Chloromethane	3.48	50	26140	0.905	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	17769	1.126	ng	99
6) Vinyl Chloride	3.67	62	19568	0.831	ng	99
7) 1,3-Butadiene	3.78	54	12422	0.661	ng	97
8) Bromomethane	3.99	94	14042	0.978	ng	99
9) Chloroethane	4.13	64	10752	0.955	ng	97
10) Ethanol	4.25	45	46530	2.462	ng	99
11) Acetonitrile	4.41	41	39864	0.802	ng	94
12) Acrolein	4.50	56	18718	1.579	ng	92
13) Acetone	4.60	58	63827	4.768	ng	99
14) Trichlorofluoromethane	4.73	101	38529	1.103	ng	98
15) 2-Propanol (Isopropanol)	4.81	45	101598	1.686	ng	88
16) Acrylonitrile	4.96	53	44288	1.707	ng	99
17) 1,1-Dichloroethene	5.23	96	16299	1.034	ng	96
18) 2-Methyl-2-Propanol (t...	5.28	59	82719	2.220	ng	94
19) Methylene Chloride	5.32	84	16852	1.003	ng	99
20) 3-Chloro-1-propene (Al...	5.42	41	48337	1.093	ng	89
21) Trichlorotrifluoroethane	5.54	151	16657	1.208	ng	99
22) Carbon Disulfide	5.57	76	111822	1.892	ng	99
23) trans-1,2-Dichloroethene	6.10	61	24952	0.920	ng	98
24) 1,1-Dichloroethane	6.29	63	31434	0.974	ng	98
25) Methyl tert-Butyl Ether	6.35	73	49099	1.064	ng	99
26) Vinyl Acetate	6.41	86	7723	3.487	ng	98
27) 2-Butanone (MEK)	6.63	72	20395	1.935	ng	100
28) cis-1,2-Dichloroethene	7.04	61	24755	0.934	ng	99
29) Diisopropyl Ether	7.25	87	24713	1.942	ng	97
30) Ethyl Acetate	7.25	61	26394	3.570	ng	100
31) n-Hexane	7.27	57	28004	0.936	ng	99
32) Chloroform	7.33	83	32731	1.033	ng	99
34) Tetrahydrofuran (THF)	7.73	72	18770	1.827	ng	94
35) Ethyl tert-Butyl Ether	7.79	87	37024	2.029	ng	97
36) 1,2-Dichloroethane	8.08	62	27417	0.992	ng	99
38) 1,1,1-Trichloroethane	8.36	97	31668	1.117	ng	99
39) Isopropyl Acetate	9.26	61	24019	No Calib		
40) 1-Butanol	9.18	56	57360	No Calib		
41) Benzene	8.86	78	62858	0.945	ng	99
42) Carbon Tetrachloride	9.03	117	28009	1.139	ng	100
43) Cyclohexane	9.18	84	46487	1.995	ng	97
44) tert-Amyl Methyl Ether	9.56	73	85864	1.921	ng	98
45) 1,2-Dichloropropane	9.83	63	16367	0.945	ng	99
46) Bromodichloromethane	10.04	83	25198	1.014	ng	99
47) Trichloroethene	10.11	130	17287	1.001	ng	100
48) 1,4-Dioxane	10.10	88	11892	1.011	ng	92
49) 2,2,4-Trimethylpentane...	10.20	57	71975	0.956	ng	99
50) Methyl Methacrylate	10.37	100	11854	2.055	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162220.D Vial: 6
Acq On : 16 Jun 2022 19:52 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162213 (7/16)

Quant Time: Jun 17 08:39:15 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

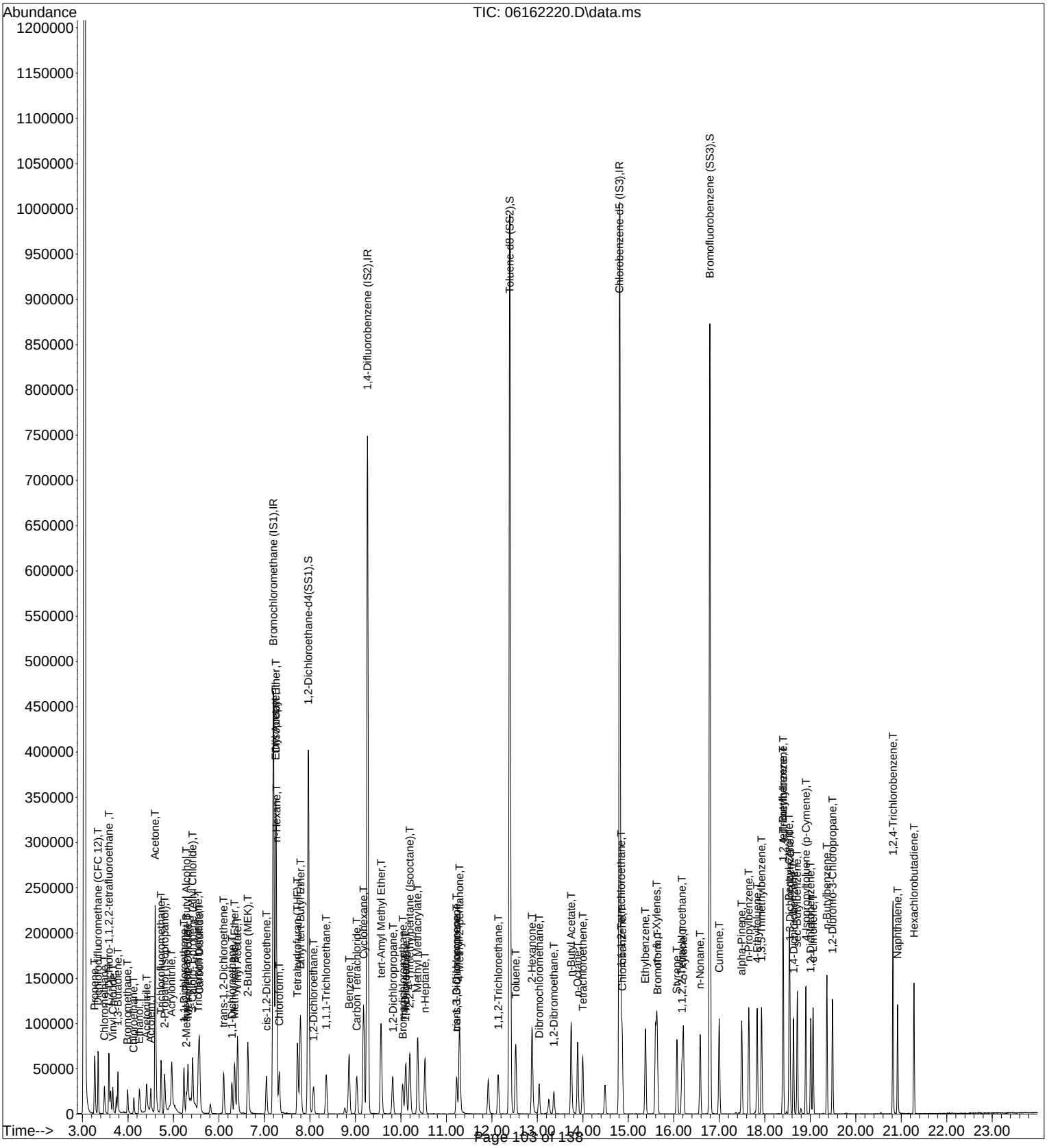
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	14893	0.954 ng		97
52) cis-1,3-Dichloropropene	11.22	75	24285	0.961 ng		97
53) 4-Methyl-2-pentanone	11.29	58	29968	1.928 ng		99
54) trans-1,3-Dichloropropene	11.22	75	24285	0.924 ng		97
55) 1,1,2-Trichloroethane	12.14	97	16295	1.031 ng		99
58) Toluene	12.52	91	67620	1.136 ng		100
59) 2-Hexanone	12.88	43	92610	2.117 ng		99
60) Dibromochloromethane	13.04	129	20551	1.205 ng		99
61) 1,2-Dibromoethane	13.36	107	19921	1.209 ng		99
62) n-Butyl Acetate	13.74	43	100237	2.087 ng		99
63) n-Octane	13.89	57	14321	1.049 ng		98
64) Tetrachloroethene	14.00	166	21084	1.304 ng		100
65) Chlorobenzene	14.87	112	44459	1.159 ng		100
66) Ethylbenzene	15.37	91	77170	1.125 ng		100
67) m- & p-Xylenes	15.62	91	126757	2.274 ng		100
68) Bromoform	15.64	173	17462	1.292 ng		98
69) Styrene	16.07	104	43292	1.133 ng		100
70) o-Xylene	16.21	91	62839	1.145 ng		99
71) n-Nonane	16.58	43	41138	0.997 ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	28533	1.143 ng		97
74) Cumene	17.00	105	76232	1.161 ng		100
75) alpha-Pinene	17.49	93	40371	1.297 ng		99
76) n-Propylbenzene	17.65	91	96997	1.174 ng		99
77) 3-Ethyltoluene	17.00	105	76232	No Calib		
78) 4-Ethyltoluene	17.83	105	74772	1.181 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	63698	1.167 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.44	105	653	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	64891	1.161 ng		98
83) n-Decane	16.99	58	169	No Calib	#	
84) Benzyl Chloride	18.54	91	96084	2.411 ng		99
85) 1,3-Dichlorobenzene	18.55	146	40070	1.243 ng		98
86) 1,4-Dichlorobenzene	18.63	146	39705	1.239 ng		99
87) sec-Butylbenzene	18.71	105	86162	1.179 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	72852	1.123 ng		100
89) 1,2,3-Trimethylbenzene	18.41	105	64891	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	38854	1.252 ng		99
91) d-Limonene	19.06	68	22430	1.094 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.49	157	27587	2.569 ng		91
93) n-Undecane	17.92	58	1312	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	62620	2.631 ng		100
95) Naphthalene	20.92	128	79076	1.216 ng		99
96) n-Dodecane	18.71	58	594	No Calib	#	
97) Hexachlorobutadiene	21.28	225	22545	1.374 ng		97
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	63813	1.188 ng		99
100) n-Butylbenzene	19.37	91	72675	1.159 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	17445	1.257 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162220.D Vial: 6
Acq On : 16 Jun 2022 19:52 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162213 (7/16)

Quant Time: Jun 17 08:39:15 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162221.D Vial: 6
Acq On : 16 Jun 2022 20:24 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162213 (7/16)

Quant Time: Jun 17 08:37:51 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	166435	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.28	114	713874	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	165445	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	335777	12.118	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
57) Toluene-d8 (SS2)	12.40	98	815534	13.478	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
73) Bromofluorobenzene (SS3)	16.79	174	305545	15.748	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 126.00%				
Target Compounds							Qvalue
2) Propene	3.26	42	105751	3.960	ng		98
3) Dichlorodifluoromethan...	3.34	85	174883	4.651	ng		100
4) Chloromethane	3.47	50	95228	3.257	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	75954	4.756	ng		99
6) Vinyl Chloride	3.66	62	87598	3.673	ng		100
7) 1,3-Butadiene	3.77	54	55702	2.928	ng		100
8) Bromomethane	3.99	94	47397	3.260	ng		97
9) Chloroethane	4.13	64	45715	4.012	ng		100
10) Ethanol	4.27	45	195959	10.242	ng		99
11) Acetonitrile	4.42	41	172991	3.438	ng		99
12) Acrolein	4.51	56	82926	6.911	ng		95
13) Acetone	4.61	58	263669	19.454	ng		99
14) Trichlorofluoromethane	4.73	101	162683	4.599	ng		99
15) 2-Propanol (Isopropanol)	4.82	45	370127	6.066	ng		95
16) Acrylonitrile	4.98	53	193451	7.366	ng		100
17) 1,1-Dichloroethene	5.23	96	68622	4.299	ng		100
18) 2-Methyl-2-Propanol (t...	5.29	59	351727	9.324	ng		98
19) Methylene Chloride	5.33	84	73892	4.346	ng		99
20) 3-Chloro-1-propene (Al...	5.43	41	175200	3.912	ng		96
21) Trichlorotrifluoroethane	5.55	151	69561	4.982	ng		97
22) Carbon Disulfide	5.57	76	489071	8.174	ng		99
23) trans-1,2-Dichloroethene	6.12	61	112751	4.106	ng		99
24) 1,1-Dichloroethane	6.30	63	134400	4.112	ng		99
25) Methyl tert-Butyl Ether	6.34	73	221653	4.746	ng		100
26) Vinyl Acetate	6.42	86	35674	15.908	ng	#	96
27) 2-Butanone (MEK)	6.64	72	88341	8.280	ng		98
28) cis-1,2-Dichloroethene	7.06	61	105591	3.935	ng		98
29) Diisopropyl Ether	7.25	87	109149	8.471	ng		98
30) Ethyl Acetate	7.25	61	117586	15.708	ng		99
31) n-Hexane	7.27	57	122518	4.045	ng		99
32) Chloroform	7.34	83	141748	4.418	ng		100
34) Tetrahydrofuran (THF)	7.72	72	82204	7.902	ng		93
35) Ethyl tert-Butyl Ether	7.79	87	161151	8.721	ng		99
36) 1,2-Dichloroethane	8.09	62	118662	4.240	ng		99
38) 1,1,1-Trichloroethane	8.37	97	135893	4.729	ng		98
39) Isopropyl Acetate	9.28	61	24514	No Calib			
40) 1-Butanol	9.18	56	252934	No Calib			
41) Benzene	8.87	78	267996	3.974	ng		100
42) Carbon Tetrachloride	9.04	117	126195	5.065	ng		100
43) Cyclohexane	9.18	84	202172	8.563	ng		99
44) tert-Amyl Methyl Ether	9.56	73	384571	8.490	ng		99
45) 1,2-Dichloropropane	9.83	63	71818	4.091	ng		100
46) Bromodichloromethane	10.05	83	112276	4.460	ng		100
47) Trichloroethene	10.12	130	75714	4.325	ng		99
48) 1,4-Dioxane	10.09	88	55832	4.685	ng		97
49) 2,2,4-Trimethylpentane...	10.20	57	312806	4.101	ng		99
50) Methyl Methacrylate	10.37	100	53276	9.115	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162221.D Vial: 6
Acq On : 16 Jun 2022 20:24 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162213 (7/16)

Quant Time: Jun 17 08:37:51 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

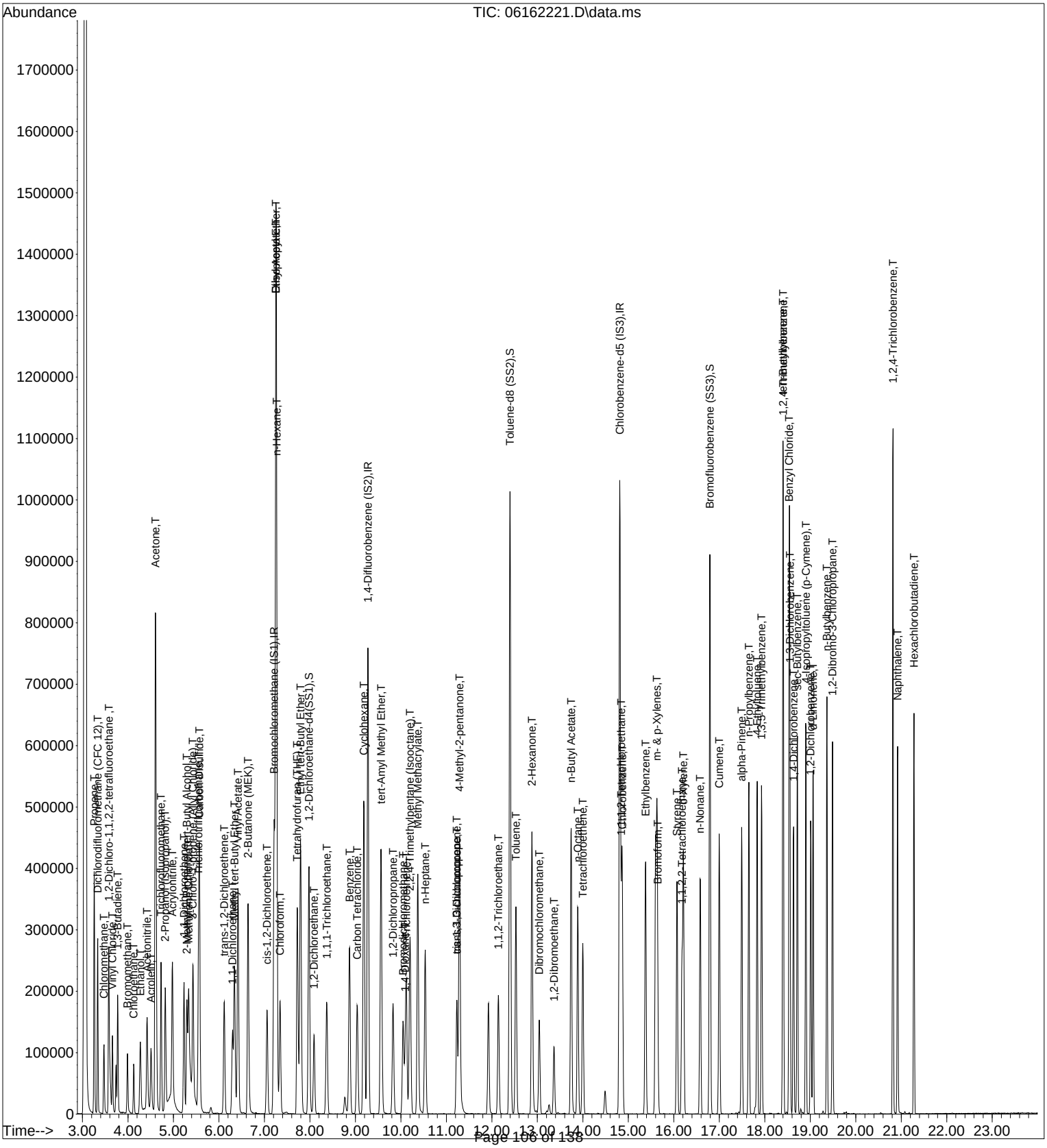
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	63728	4.027 ng		98
52) cis-1,3-Dichloropropene	11.23	75	112499	4.393 ng		98
53) 4-Methyl-2-pentanone	11.29	58	134110	8.514 ng		98
54) trans-1,3-Dichloropropene	11.23	75	112499	4.226 ng		98
55) 1,1,2-Trichloroethane	12.14	97	70820	4.423 ng		99
58) Toluene	12.53	91	290822	4.776 ng		100
59) 2-Hexanone	12.88	43	421169	9.413 ng		100
60) Dibromochloromethane	13.04	129	96040	5.507 ng		98
61) 1,2-Dibromoethane	13.37	107	88014	5.223 ng		99
62) n-Butyl Acetate	13.74	43	459823	9.360 ng		100
63) n-Octane	13.89	57	63804	4.570 ng		99
64) Tetrachloroethene	14.00	166	90981	5.502 ng		100
65) Chlorobenzene	14.87	112	192141	4.898 ng		100
66) Ethylbenzene	15.38	91	343817	4.902 ng		100
67) m- & p-Xylenes	15.62	91	565729	9.926 ng		100
68) Bromoform	15.65	173	86830	6.281 ng		100
69) Styrene	16.07	104	201709	5.161 ng		99
70) o-Xylene	16.21	91	277832	4.951 ng		100
71) n-Nonane	16.58	43	181511	4.300 ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	125430	4.914 ng		100
74) Cumene	17.00	105	336708	5.016 ng		100
75) alpha-Pinene	17.49	93	178878	5.618 ng		100
76) n-Propylbenzene	17.65	91	432209	5.116 ng		99
77) 3-Ethyltoluene	17.00	105	336708	No Calib		
78) 4-Ethyltoluene	17.83	105	340245	5.253 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	283587	5.079 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.43	105	1371	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	292054	5.110 ng		99
83) n-Decane	17.00	58	1997	No Calib	#	
84) Benzyl Chloride	18.54	91	498236	12.227 ng		100
85) 1,3-Dichlorobenzene	18.55	146	174961	5.308 ng		100
86) 1,4-Dichlorobenzene	18.63	146	179075	5.466 ng		98
87) sec-Butylbenzene	18.72	105	378924	5.070 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	329164	4.960 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	292054	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	171902	5.415 ng		99
91) d-Limonene	19.06	68	104422	4.982 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	132629	12.079 ng		96
93) n-Undecane	17.92	58	6337	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	290921	11.952 ng		99
95) Naphthalene	20.92	128	380099	5.715 ng		99
96) n-Dodecane	18.71	58	2332	No Calib	#	
97) Hexachlorobutadiene	21.28	225	104366	6.221 ng		99
98) Cyclohexanone	15.58	55	109	No Calib	#	
99) tert-Butylbenzene	18.40	119	281565	5.126 ng		99
100) n-Butylbenzene	19.37	91	327499	5.107 ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	77108	5.431 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162221.D Vial: 6
Acq On : 16 Jun 2022 20:24 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162213 (7/16)

Quant Time: Jun 17 08:37:51 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162222.D Vial: 7
Acq On : 16 Jun 2022 20:56 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162209 (7/16)

6/17/22

Quant Time: Jun 17 08:36:19 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:08 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	167410	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	719676	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	170360	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	335725	12.045	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%			
57) Toluene-d8 (SS2)	12.40	98	823014	13.209	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%			
73) Bromofluorobenzene (SS3)	16.80	174	324554	16.245	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 130.00%			
Target Compounds						Qvalue
2) Propene	3.25	42	559855	20.842	ng	100
3) Dichlorodifluoromethan...	3.33	85	920305	24.334	ng	100
4) Chloromethane	3.47	50	559387	19.021	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	398721	24.819	ng	100
6) Vinyl Chloride	3.66	62	459081	19.135	ng	100
7) 1,3-Butadiene	3.77	54	324040	16.933	ng	100
8) Bromomethane	3.99	94	261449	17.880	ng	100
9) Chloroethane	4.14	64	241113	21.037	ng	100
10) Ethanol	4.31	45	1084495	56.351	ng	100
11) Acetonitrile	4.45	41	893503	17.653	ng	100
12) Acrolein	4.53	56	450483	37.326	ng	100
13) Acetone	4.63	58	1350703	99.079	ng	100
14) Trichlorofluoromethane	4.73	101	860852	24.192	ng	100
15) 2-Propanol (Isopropanol)	4.86	45	2195548	35.774	ng	100
16) Acrylonitrile	5.01	53	1022632	38.712	ng	100
17) 1,1-Dichloroethene	5.24	96	366339	22.817	ng	100
18) 2-Methyl-2-Propanol (t...	5.33	59	1920696	50.622	ng	100
19) Methylene Chloride	5.36	84	382937	22.389	ng	100
20) 3-Chloro-1-propene (Al...	5.45	41	872820	19.373	ng	100
21) Trichlorotrifluoroethane	5.56	151	374393	26.660	ng	100
22) Carbon Disulfide	5.58	76	2656687	44.141	ng	100
23) trans-1,2-Dichloroethene	6.14	61	598962	21.684	ng	100
24) 1,1-Dichloroethane	6.32	63	716917	21.806	ng	100
25) Methyl tert-Butyl Ether	6.35	73	1186800	25.263	ng	100
26) Vinyl Acetate	6.44	86	197224	87.433	ng	100
27) 2-Butanone (MEK)	6.66	72	467476	43.560	ng	100
28) cis-1,2-Dichloroethene	7.08	61	568061	21.046	ng	100
29) Diisopropyl Ether	7.27	87	573794	44.270	ng	100
30) Ethyl Acetate	7.27	61	618200	82.103	ng	100
31) n-Hexane	7.28	57	643032	21.108	ng	100
32) Chloroform	7.37	83	746502	23.129	ng	100
34) Tetrahydrofuran (THF)	7.73	72	430553	41.145	ng	100
35) Ethyl tert-Butyl Ether	7.80	87	857359	46.126	ng	100
36) 1,2-Dichloroethane	8.11	62	635594	22.581	ng	100
38) 1,1,1-Trichloroethane	8.38	97	739678	25.530	ng	100
39) Isopropyl Acetate	9.29	61	24809	No Calib		
40) 1-Butanol	9.20	56	1358491	No Calib		
41) Benzene	8.88	78	1397164	20.552	ng	100
42) Carbon Tetrachloride	9.05	117	684665	27.261	ng	100
43) Cyclohexane	9.20	84	1071270	45.006	ng	100
44) tert-Amyl Methyl Ether	9.57	73	2084851	45.653	ng	100
45) 1,2-Dichloropropane	9.84	63	376656	21.285	ng	100
46) Bromodichloromethane	10.06	83	613865	24.191	ng	100
47) Trichloroethene	10.13	130	407313	23.077	ng	100
48) 1,4-Dioxane	10.09	88	305543	25.431	ng	100
49) 2,2,4-Trimethylpentane...	10.21	57	1641717	21.351	ng	100
50) Methyl Methacrylate	10.38	100	290202	49.249	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162222.D Vial: 7
Acq On : 16 Jun 2022 20:56 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162209 (7/16)

Quant Time: Jun 17 08:36:19 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:08 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

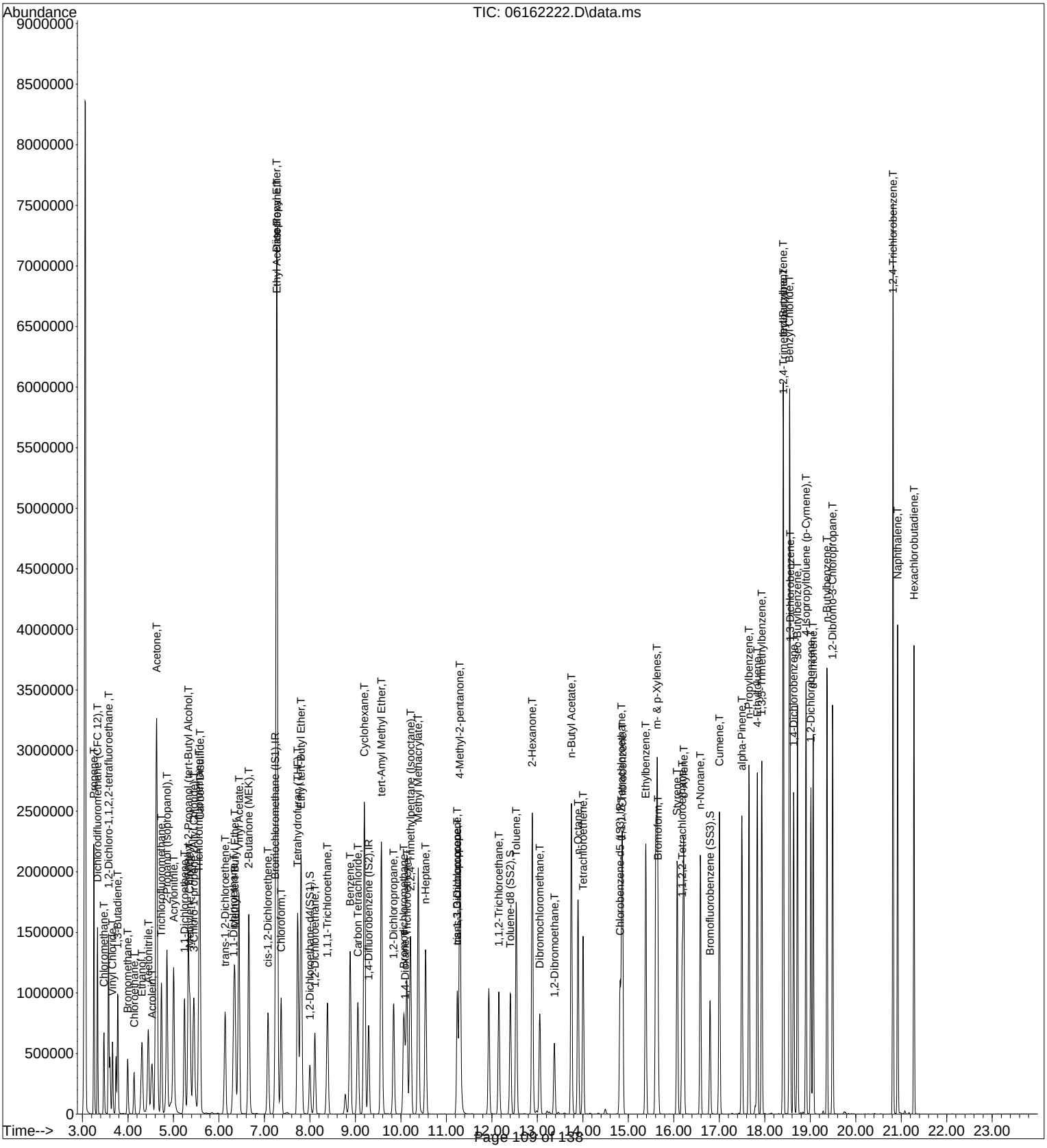
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	341788	21.422 ng		100
52) cis-1,3-Dichloropropene	11.24	75	633024	24.519 ng		100
53) 4-Methyl-2-pentanone	11.30	58	737417	46.440 ng		100
54) trans-1,3-Dichloropropene	11.24	75	633024	23.585 ng		100
55) 1,1,2-Trichloroethane	12.15	97	381242	23.616 ng		100
58) Toluene	12.53	91	1533801	24.460 ng		100
59) 2-Hexanone	12.89	43	2306893	50.072 ng		100
60) Dibromochloromethane	13.05	129	545925	30.402 ng		100
61) 1,2-Dibromoethane	13.38	107	475540	27.405 ng		100
62) n-Butyl Acetate	13.75	43	2530858	50.031 ng		100
63) n-Octane	13.90	57	339861	23.640 ng		100
64) Tetrachloroethene	14.01	166	498298	29.265 ng		100
65) Chlorobenzene	14.87	112	1031719	25.543 ng		100
66) Ethylbenzene	15.39	91	1862416	25.786 ng		100
67) m- & p-Xylenes	15.63	91	3060336	52.145 ng		100
68) Bromoform	15.65	173	526139	36.960 ng		100
69) Styrene	16.07	104	1107268	27.514 ng		100
70) o-Xylene	16.22	91	1501139	25.977 ng		100
71) n-Nonane	16.58	43	975578	22.447 ng		100
72) 1,1,2,2-Tetrachloroethane	16.19	83	668268	25.427 ng		100
74) Cumene	17.00	105	1811685	26.213 ng		100
75) alpha-Pinene	17.50	93	979157	29.866 ng		100
76) n-Propylbenzene	17.65	91	2293030	26.358 ng		100
77) 3-Ethyltoluene	17.00	105	1811685	No Calib		
78) 4-Ethyltoluene	17.84	105	1794477	26.904 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1533323	26.669 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.43	105	2682	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1604748	27.267 ng		100
83) n-Decane	17.00	58	14214	No Calib	#	
84) Benzyl Chloride	18.54	91	3014186	71.837 ng		100
85) 1,3-Dichlorobenzene	18.56	146	997044	29.378 ng		100
86) 1,4-Dichlorobenzene	18.63	146	987236	29.264 ng		100
87) sec-Butylbenzene	18.72	105	2017956	26.221 ng		100
88) 4-Isopropyltoluene (p-...	18.91	119	1784694	26.116 ng		100
89) 1,2,3-Trimethylbenzene	18.41	105	1604748	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	947498	28.987 ng		100
91) d-Limonene	19.06	68	579604	26.855 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	765504	67.708 ng		100
93) n-Undecane	17.93	58	28946	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1907999	76.126 ng		100
95) Naphthalene	20.92	128	2360796	34.474 ng		100
96) n-Dodecane	18.72	58	12069	No Calib	#	
97) Hexachlorobutadiene	21.28	225	614608	35.578 ng		100
98) Cyclohexanone	15.61	55	2580	No Calib		
99) tert-Butylbenzene	18.41	119	1513624	26.762 ng		100
100) n-Butylbenzene	19.37	91	1785135	27.035 ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	425218	29.085 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162222.D Vial: 7
Acq On : 16 Jun 2022 20:56 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162209 (7/16)

Quant Time: Jun 17 08:36:19 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:08 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162223.D Vial: 7
Acq On : 16 Jun 2022 21:28 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162209 (7/16)

Quant Time: Jun 17 08:46:35 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	171972	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	738735	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	178657	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	348313	12.165	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
57) Toluene-d8 (SS2)	12.41	98	852569	13.048	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.40%				
73) Bromofluorobenzene (SS3)	16.80	174	341033	16.277	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 130.24%#				
Target Compounds							Qvalue
2) Propene	3.26	42	1245450	45.136	ng		99
3) Dichlorodifluoromethan...	3.33	85	1751491	45.082	ng		99
4) Chloromethane	3.47	50	962258	31.852	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	774995	46.961	ng		99
6) Vinyl Chloride	3.67	62	865894	35.134	ng		99
7) 1,3-Butadiene	3.78	54	638633	32.486	ng		98
8) Bromomethane	3.99	94	498137	33.162	ng		99
9) Chloroethane	4.14	64	466003	39.581	ng		100
10) Ethanol	4.32	45	2123053	107.388	ng		100
11) Acetonitrile	4.45	41	1725191	33.180	ng		100
12) Acrolein	4.53	56	871305	70.279	ng		100
13) Acetone	4.64	58	2521525	180.057	ng		100
14) Trichlorofluoromethane	4.74	101	1654851	45.272	ng		99
15) 2-Propanol (Isopropanol)	4.87	45	3525532	55.921	ng		99
16) Acrylonitrile	5.02	53	1969827	72.590	ng		100
17) 1,1-Dichloroethene	5.25	96	706334	42.826	ng		100
18) 2-Methyl-2-Propanol (t...	5.33	59	3439540	88.248	ng		97
19) Methylene Chloride	5.37	84	729888	41.542	ng		99
20) 3-Chloro-1-propene (Al...	5.45	41	1546761	33.421	ng		96
21) Trichlorotrifluoroethane	5.56	151	738281	51.178	ng		98
22) Carbon Disulfide	5.59	76	5088375	82.302	ng		100
23) trans-1,2-Dichloroethene	6.14	61	1164584	41.043	ng		99
24) 1,1-Dichloroethane	6.33	63	1384558	40.996	ng		100
25) Methyl tert-Butyl Ether	6.35	73	2333171	48.348	ng		100
26) Vinyl Acetate	6.45	86	378659	163.414	ng		99
27) 2-Butanone (MEK)	6.66	72	891664	80.883	ng		100
28) cis-1,2-Dichloroethene	7.08	61	1104992	39.853	ng		100
29) Diisopropyl Ether	7.27	87	1074984	80.739	ng	#	94
30) Ethyl Acetate	7.28	61	1141748	147.612	ng		98
31) n-Hexane	7.28	57	1187652	37.952	ng		99
32) Chloroform	7.37	83	1437891	43.369	ng		99
34) Tetrahydrofuran (THF)	7.74	72	825488	76.794	ng		99
35) Ethyl tert-Butyl Ether	7.81	87	1668043	87.361	ng		100
36) 1,2-Dichloroethane	8.12	62	1227069	42.437	ng		100
38) 1,1,1-Trichloroethane	8.39	97	1437490	48.335	ng		100
39) Isopropyl Acetate	9.29	61	25898	No Calib			
40) 1-Butanol	9.20	56	2629725	No Calib			
41) Benzene	8.89	78	2703916	38.748	ng		100
42) Carbon Tetrachloride	9.06	117	1341242	52.026	ng		100
43) Cyclohexane	9.20	84	2044321	83.669	ng		99
44) tert-Amyl Methyl Ether	9.58	73	4063293	86.681	ng		100
45) 1,2-Dichloropropane	9.84	63	736398	40.540	ng		99
46) Bromodichloromethane	10.06	83	1202220	46.154	ng		99
47) Trichloroethene	10.13	130	790697	43.643	ng		100
48) 1,4-Dioxane	10.10	88	595093	48.254	ng		99
49) 2,2,4-Trimethylpentane...	10.21	57	3172056	40.190	ng		100
50) Methyl Methacrylate	10.39	100	560539	92.673	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162223.D Vial: 7
Acq On : 16 Jun 2022 21:28 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162209 (7/16)

Quant Time: Jun 17 08:46:35 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

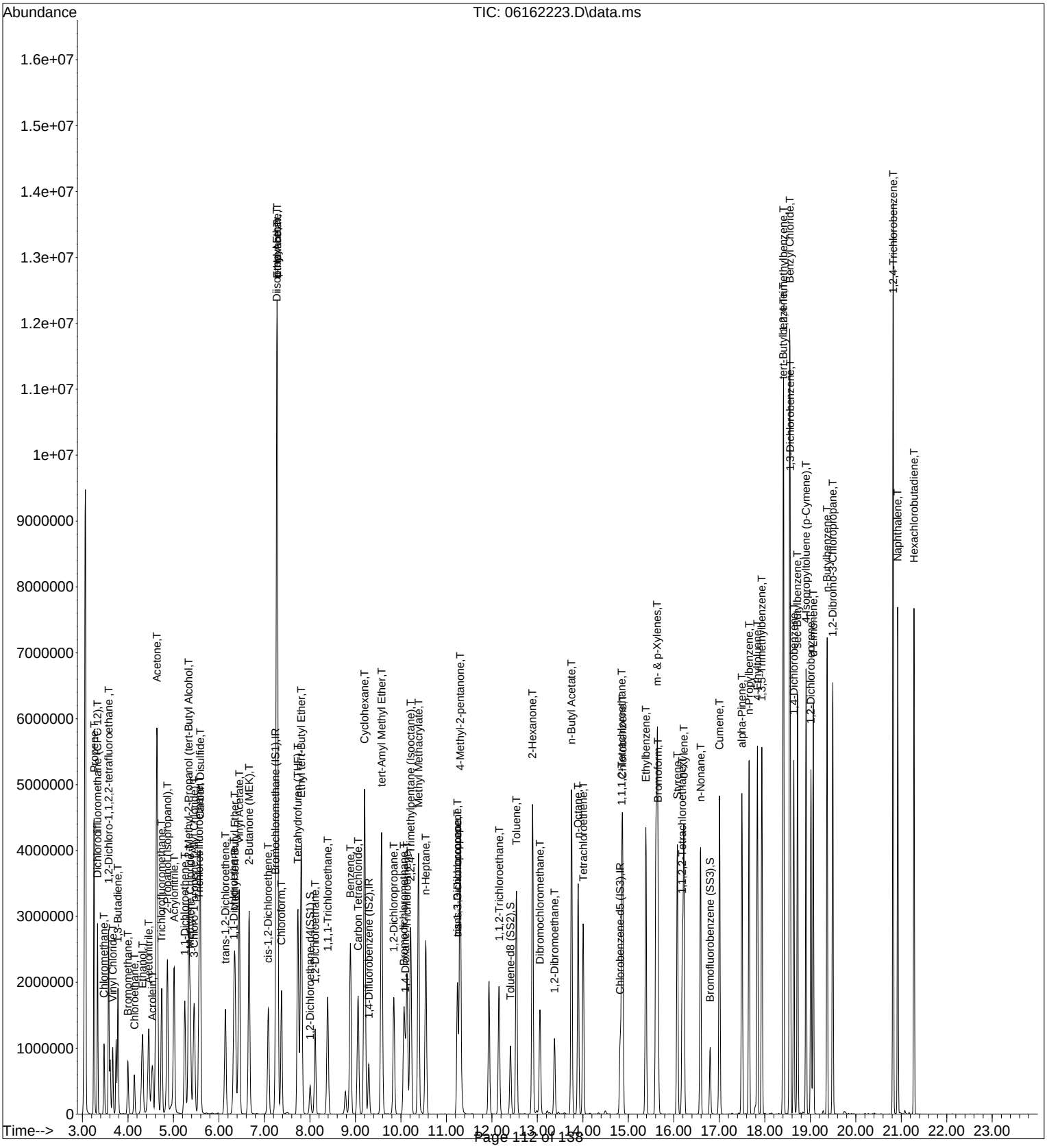
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.55	71	661611	40.398	ng		99
52) cis-1,3-Dichloropropene	11.25	75	1233924	46.561	ng		100
53) 4-Methyl-2-pentanone	11.30	58	1428264	87.627	ng		99
54) trans-1,3-Dichloropropene	11.25	75	1233924	44.788	ng		100
55) 1,1,2-Trichloroethane	12.16	97	739237	44.611	ng		100
58) Toluene	12.54	91	2945249	44.787	ng		100
59) 2-Hexanone	12.89	43	4426277	91.612	ng		100
60) Dibromochloromethane	13.06	129	1066438	56.631	ng		100
61) 1,2-Dibromoethane	13.37	107	927142	50.949	ng		100
62) n-Butyl Acetate	13.75	43	4853417	91.489	ng		100
63) n-Octane	13.90	57	656532	43.546	ng		100
64) Tetrachloroethene	14.01	166	990383	55.465	ng		100
65) Chlorobenzene	14.87	112	1992514	47.038	ng		100
66) Ethylbenzene	15.39	91	3552206	46.898	ng		100
67) m- & p-Xylenes	15.63	91	5915535	96.113	ng		100
68) Bromoform	15.65	173	1076617	72.117	ng		100
69) Styrene	16.08	104	2129401	50.456	ng		99
70) o-Xylene	16.22	91	2901483	47.878	ng		100
71) n-Nonane	16.59	43	1887569	41.414	ng		100
72) 1,1,2,2-Tetrachloroethane	16.19	83	1305987	47.384	ng		100
74) Cumene	17.00	105	3471683	47.898	ng		99
75) alpha-Pinene	17.50	93	1890054	54.973	ng		99
76) n-Propylbenzene	17.66	91	4367276	47.869	ng		99
77) 3-Ethyltoluene	17.00	105	3471683	No Calib			
78) 4-Ethyltoluene	17.84	105	3441080	49.195	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	2961978	49.125	ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.43	105	4572	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.41	105	3096000	50.162	ng		100
83) n-Decane	17.00	58	25384	No Calib		#	
84) Benzyl Chloride	18.55	91	5842615	132.780	ng		99
85) 1,3-Dichlorobenzene	18.56	146	1974173	55.468	ng		100
86) 1,4-Dichlorobenzene	18.64	146	1940030	54.837	ng		100
87) sec-Butylbenzene	18.72	105	3860539	47.833	ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	3412860	47.622	ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	3096000	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	1855210	54.121	ng		100
91) d-Limonene	19.06	68	1142188	50.463	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.50	157	1532481	129.252	ng		98
93) n-Undecane	17.93	58	58055	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	3843387	146.223	ng		100
95) Naphthalene	20.92	128	4534957	63.147	ng		99
96) n-Dodecane	18.72	58	24954	No Calib		#	
97) Hexachlorobutadiene	21.28	225	1225424	67.642	ng		98
98) Cyclohexanone	15.63	55	4798	No Calib		#	
99) tert-Butylbenzene	18.41	119	2896223	48.828	ng		99
100) n-Butylbenzene	19.37	91	3416637	49.340	ng		99
101) 1,1,1,2-Tetrachloroethane	14.86	131	834540	54.432	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162223.D Vial: 7
Acq On : 16 Jun 2022 21:28 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162209 (7/16)

Quant Time: Jun 17 08:46:35 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162224.D Vial: 7
Acq On : 16 Jun 2022 22:00 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162209 (7/16)

Quant Time: Jun 17 08:47:57 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.26	130	170584	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.30	114	745153	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.82	54	181901	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	342493	12.059	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
57) Toluene-d8 (SS2)	12.42	98	846870	12.729	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
73) Bromofluorobenzene (SS3)	16.80	174	354471	16.617	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 132.96%#				
Target Compounds							Qvalue
2) Propene	3.26	42	2746684	100.351	ng		99
3) Dichlorodifluoromethan...	3.34	85	3350756	86.948	ng		99
4) Chloromethane	3.48	50	1324701	44.207	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	1540124	94.084	ng		99
6) Vinyl Chloride	3.67	62	1727090	70.648	ng		100
7) 1,3-Butadiene	3.78	54	1330715	68.242	ng		88
8) Bromomethane	4.01	94	940638	63.131	ng		100
9) Chloroethane	4.15	64	905211	77.511	ng		100
10) Ethanol	4.34	45	4006177	204.289	ng		100
11) Acetonitrile	4.48	41	3355647	65.063	ng		99
12) Acrolein	4.55	56	1722713	140.084	ng		100
13) Acetone	4.65	58	4771189	343.473	ng		96
14) Trichlorofluoromethane	4.75	101	3261413	89.950	ng		99
15) 2-Propanol (Isopropanol)	4.89	45	5493695	87.848	ng		99
16) Acrylonitrile	5.03	53	3838543	142.605	ng		100
17) 1,1-Dichloroethene	5.26	96	1402967	85.756	ng		99
18) 2-Methyl-2-Propanol (t...	5.36	59	4332986	112.076	ng		94
19) Methylene Chloride	5.38	84	1425368	81.787	ng		98
20) 3-Chloro-1-propene (Al...	5.47	41	3006290	65.486	ng		95
21) Trichlorotrifluoroethane	5.57	151	1477477	103.253	ng		95
22) Carbon Disulfide	5.60	76	9763522	159.205	ng		99
23) trans-1,2-Dichloroethene	6.15	61	2317256	82.331	ng		99
24) 1,1-Dichloroethane	6.34	63	2710584	80.911	ng		100
25) Methyl tert-Butyl Ether	6.36	73	4552041	95.096	ng		99
26) Vinyl Acetate	6.46	86	724734	315.311	ng	#	95
27) 2-Butanone (MEK)	6.68	72	1692973	154.819	ng		98
28) cis-1,2-Dichloroethene	7.10	61	2187655	79.544	ng		99
29) Diisopropyl Ether	7.28	87	2091849	158.390	ng	#	78
30) Ethyl Acetate	7.30	61	2204104	287.279	ng		96
31) n-Hexane	7.29	57	2260932	72.837	ng		98
32) Chloroform	7.39	83	2822533	85.825	ng		99
34) Tetrahydrofuran (THF)	7.75	72	1575188	147.729	ng	#	91
35) Ethyl tert-Butyl Ether	7.82	87	3296064	174.030	ng		99
36) 1,2-Dichloroethane	8.13	62	2413691	84.155	ng		99
38) 1,1,1-Trichloroethane	8.40	97	2849978	95.005	ng		99
39) Isopropyl Acetate	9.30	61	25629	No Calib			
40) 1-Butanol	9.21	56	5126593	No Calib			
41) Benzene	8.90	78	5299513	75.290	ng		99
42) Carbon Tetrachloride	9.07	117	2666372	102.535	ng		100
43) Cyclohexane	9.21	84	3939803	159.858	ng		97
44) tert-Amyl Methyl Ether	9.59	73	8012386	169.453	ng		99
45) 1,2-Dichloropropane	9.85	63	1458620	79.609	ng		100
46) Bromodichloromethane	10.08	83	2392753	91.068	ng		100
47) Trichloroethene	10.14	130	1562012	85.473	ng		100
48) 1,4-Dioxane	10.11	88	1182248	95.038	ng		98
49) 2,2,4-Trimethylpentane...	10.22	57	6209938	78.002	ng		99
50) Methyl Methacrylate	10.40	100	1108067	181.616	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162224.D Vial: 7
Acq On : 16 Jun 2022 22:00 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162209 (7/16)

Quant Time: Jun 17 08:47:57 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

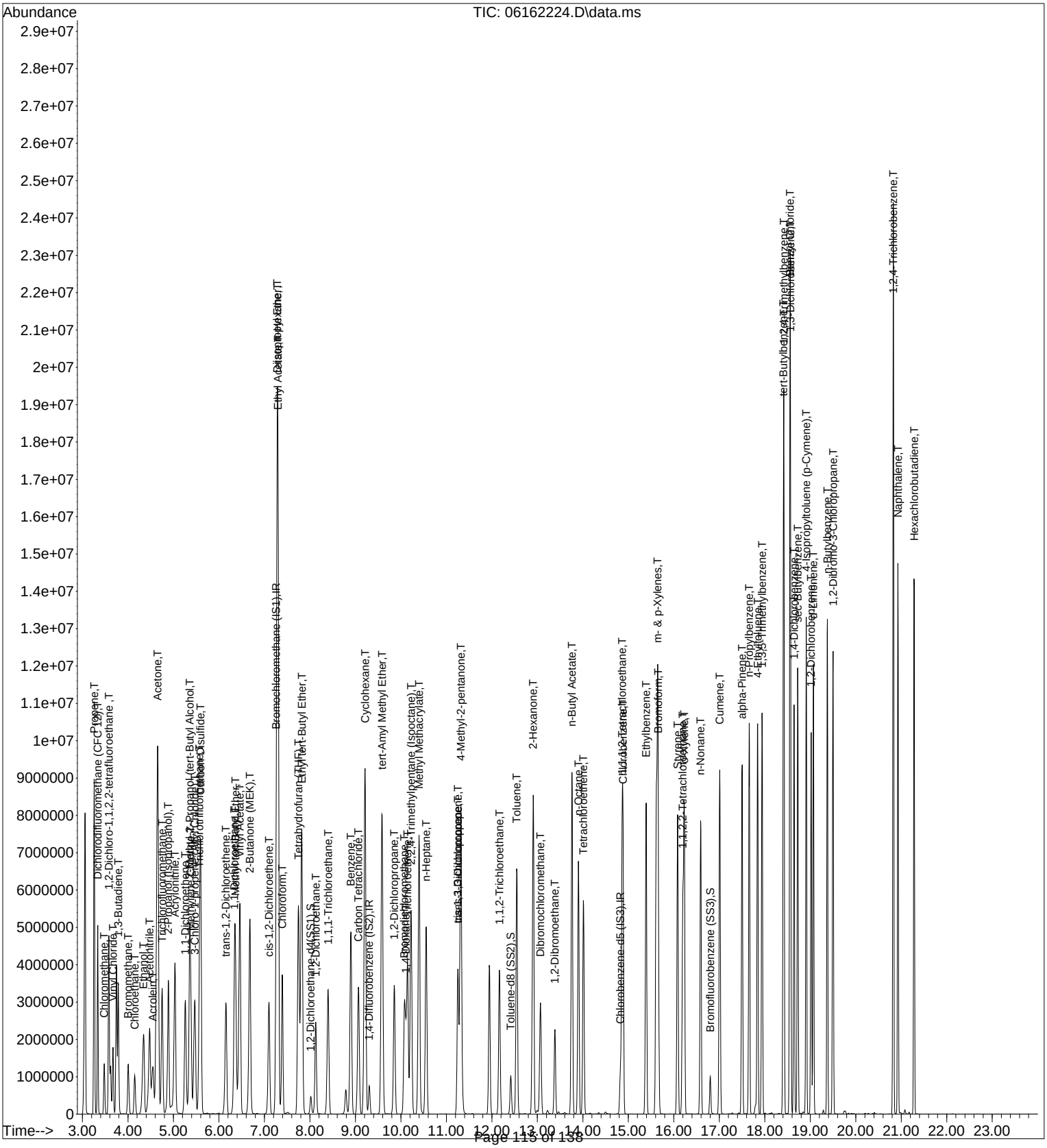
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.56	71	1293364	78.292	ng		99
52) cis-1,3-Dichloropropene	11.25	75	2462768	92.131	ng		100
53) 4-Methyl-2-pentanone	11.32	58	2799937	170.302	ng		98
54) trans-1,3-Dichloropropene	11.25	75	2462768	88.621	ng		100
55) 1,1,2-Trichloroethane	12.17	97	1462846	87.519	ng		99
58) Toluene	12.55	91	5772371	86.213	ng		99
59) 2-Hexanone	12.91	43	8587624	174.570	ng		99
60) Dibromochloromethane	13.07	129	2140107	111.620	ng		100
61) 1,2-Dibromoethane	13.39	107	1833071	98.936	ng		100
62) n-Butyl Acetate	13.76	43	9342231	172.965	ng		99
63) n-Octane	13.90	57	1312108	85.476	ng		99
64) Tetrachloroethene	14.01	166	2045256	112.498	ng		100
65) Chlorobenzene	14.89	112	3907991	90.613	ng		99
66) Ethylbenzene	15.39	91	6916848	89.691	ng		99
67) m- & p-Xylenes	15.64	91	11499579	183.509	ng		99
68) Bromoform	15.66	173	2263711	148.930	ng		99
69) Styrene	16.08	104	4178321	97.239	ng		97
70) o-Xylene	16.23	91	5682001	92.087	ng		100
71) n-Nonane	16.59	43	3729679	80.372	ng		100
72) 1,1,2,2-Tetrachloroethane	16.20	83	2580737	91.965	ng		99
74) Cumene	17.01	105	6708117	90.899	ng		98
75) alpha-Pinene	17.50	93	3687915	105.352	ng		98
76) n-Propylbenzene	17.66	91	8335776	89.739	ng		98
77) 3-Ethyltoluene	17.01	105	6708058	No Calib			
78) 4-Ethyltoluene	17.84	105	6746896	94.736	ng		98
79) 1,3,5-Trimethylbenzene	17.94	105	5745009	93.583	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.43	105	8309	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.42	105	5836024	92.871	ng		99
83) n-Decane	17.01	58	52335	No Calib			
84) Benzyl Chloride	18.55	91	10793677	240.924	ng		96
85) 1,3-Dichlorobenzene	18.56	146	3925263	108.320	ng		99
86) 1,4-Dichlorobenzene	18.64	146	3870457	107.451	ng		100
87) sec-Butylbenzene	18.72	105	7300034	88.836	ng		97
88) 4-Isopropyltoluene (p-...	18.91	119	6502198	89.112	ng		97
89) 1,2,3-Trimethylbenzene	18.42	105	5836024	No Calib			
90) 1,2-Dichlorobenzene	19.02	146	3701190	106.047	ng		99
91) d-Limonene	19.07	68	2256816	97.930	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.50	157	3110955	257.704	ng		95
93) n-Undecane	17.94	58	116462	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	7185303	268.492	ng		99
95) Naphthalene	20.93	128	8468304	115.813	ng		97
96) n-Dodecane	18.72	58	49975	No Calib		#	
97) Hexachlorobutadiene	21.28	225	2411683	130.749	ng		99
98) Cyclohexanone	15.63	55	10259	No Calib		#	
99) tert-Butylbenzene	18.41	119	5480298	90.746	ng		98
100) n-Butylbenzene	19.38	91	6453345	91.532	ng		98
101) 1,1,1,2-Tetrachloroethane	14.86	131	1666790	106.776	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162224.D Vial: 7
Acq On : 16 Jun 2022 22:00 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-06162204/S35-06162209 (7/16)

Quant Time: Jun 17 08:47:57 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:36:27 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162226.D Vial: 8
Acq On : 16 Jun 2022 23:05 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-06162204/S35-06162212 (7/16)

Quant Time: Jun 17 08:58:54 2022 6/17/22
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:51:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	179496	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.29	114	763618	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	184143	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	353693	12.252	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
57) Toluene-d8 (SS2)	12.40	98	883378	12.231	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
73) Bromofluorobenzene (SS3)	16.80	174	362430	13.265	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.08%				
Target Compounds							Qvalue
2) Propene	3.25	42	693627	27.634	ng		100
3) Dichlorodifluoromethan...	3.33	85	941588	22.740	ng		100
4) Chloromethane	3.47	50	550301	22.685	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	417184	24.646	ng		100
6) Vinyl Chloride	3.66	62	475221	24.048	ng		99
7) 1,3-Butadiene	3.77	54	342910	25.745	ng		98
8) Bromomethane	3.99	94	349936	27.224	ng		100
9) Chloroethane	4.13	64	254501	22.383	ng		100
10) Ethanol	4.30	45	1311394	89.121	ng		100
11) Acetonitrile	4.44	41	924912	18.914	ng		100
12) Acrolein	4.52	56	499013	49.400	ng		99
13) Acetone	4.62	58	1390226	117.140	ng		98
14) Trichlorofluoromethane	4.73	101	889986	22.930	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	1912290	42.350	ng		100
16) Acrylonitrile	4.99	53	1050186	46.361	ng		99
17) 1,1-Dichloroethene	5.24	96	387077	24.780	ng		98
18) 2-Methyl-2-Propanol (t...	5.32	59	1841304	49.663	ng		96
19) Methylene Chloride	5.35	84	398912	23.125	ng		99
20) 3-Chloro-1-propene (Al...	5.44	41	779739	18.917	ng		96
21) Trichlorotrifluoroethane	5.56	151	398967	24.773	ng		97
22) Carbon Disulfide	5.58	76	2703426	48.795	ng		100
23) trans-1,2-Dichloroethene	6.13	61	619316	24.489	ng		100
24) 1,1-Dichloroethane	6.32	63	758070	24.398	ng		99
25) Methyl tert-Butyl Ether	6.35	73	1233327	24.790	ng		100
26) Vinyl Acetate	6.43	86	314295	139.352	ng	#	97
27) 2-Butanone (MEK)	6.65	72	479796	47.054	ng		100
28) cis-1,2-Dichloroethene	7.07	61	586655	24.055	ng		99
29) Diisopropyl Ether	7.26	87	595583	47.470	ng	#	59
30) Ethyl Acetate	7.27	61	448835	67.075	ng		97
31) n-Hexane	7.28	57	668470	23.753	ng		100
32) Chloroform	7.36	83	775291	24.055	ng		100
34) Tetrahydrofuran (THF)	7.73	72	465318	46.851	ng		99
35) Ethyl tert-Butyl Ether	7.80	87	896281	48.533	ng		99
36) 1,2-Dichloroethane	8.11	62	655488	24.088	ng		100
38) 1,1,1-Trichloroethane	8.38	97	772185	24.419	ng		100
39) Isopropyl Acetate	9.29	61	26301	No Calib			
40) 1-Butanol	9.20	56	1415581	No Calib			
41) Benzene	8.88	78	1503807	23.698	ng		100
42) Carbon Tetrachloride	9.05	117	685932	24.034	ng		100
43) Cyclohexane	9.20	84	1121305	48.668	ng		100
44) tert-Amyl Methyl Ether	9.57	73	2169031	49.995	ng		99
45) 1,2-Dichloropropane	9.84	63	399836	23.952	ng		100
46) Bromodichloromethane	10.06	83	643765	25.568	ng		100
47) Trichloroethene	10.13	130	439060	25.058	ng		100
48) 1,4-Dioxane	10.09	88	320334	25.860	ng		99
49) 2,2,4-Trimethylpentane...	10.21	57	1679492	23.716	ng		99
50) Methyl Methacrylate	10.38	100	303363	51.851	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162226.D Vial: 8
Acq On : 16 Jun 2022 23:05 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-06162204/S35-06162212 (7/16)

Quant Time: Jun 17 08:58:54 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:51:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

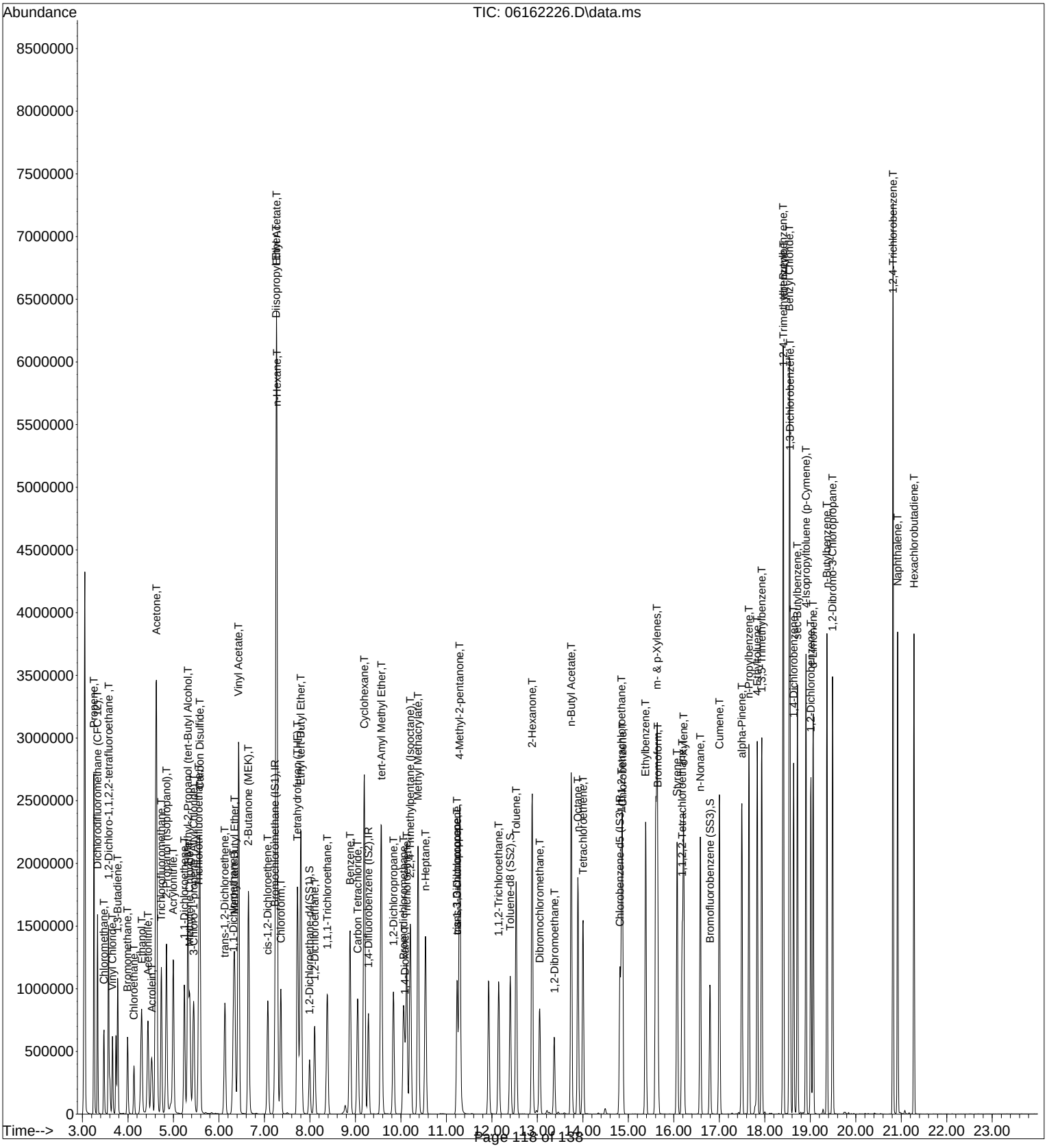
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	354029	24.364 ng		100
52) cis-1,3-Dichloropropene	11.23	75	664565	26.788 ng		100
53) 4-Methyl-2-pentanone	11.29	58	760402	51.254 ng		99
54) trans-1,3-Dichloropropene	11.23	75	664565	25.767 ng		100
55) 1,1,2-Trichloroethane	12.15	97	400401	24.321 ng		100
58) Toluene	12.53	91	1619427	22.779 ng		100
59) 2-Hexanone	12.89	43	2349276	47.390 ng		99
60) Dibromochloromethane	13.05	129	555273	25.147 ng		100
61) 1,2-Dibromoethane	13.37	107	494119	23.518 ng		99
62) n-Butyl Acetate	13.74	43	2637875	49.599 ng		100
63) n-Octane	13.89	57	349966	23.634 ng		99
64) Tetrachloroethene	14.01	166	537107	24.107 ng		100
65) Chlorobenzene	14.87	112	1081325	23.095 ng		100
66) Ethylbenzene	15.38	91	1950078	23.460 ng		100
67) m- & p-Xylenes	15.63	91	3209588	48.003 ng		99
68) Bromoform	15.65	173	549327	27.094 ng		100
69) Styrene	16.07	104	1141263	24.163 ng		100
70) o-Xylene	16.21	91	1584079	24.075 ng		100
71) n-Nonane	16.58	43	1012471	23.969 ng		99
72) 1,1,2,2-Tetrachloroethane	16.19	83	711411	24.072 ng		99
74) Cumene	17.00	105	1884784	23.659 ng		100
75) alpha-Pinene	17.50	93	991179	24.377 ng		99
76) n-Propylbenzene	17.65	91	2354542	23.550 ng		100
77) 3-Ethyltoluene	17.00	105	1884784	No Calib		
78) 4-Ethyltoluene	17.83	105	1838026	24.213 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1608819	24.523 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.43	105	4083	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	1667825	24.567 ng		100
83) n-Decane	17.00	58	13220	No Calib	#	
84) Benzyl Chloride	18.54	91	3112956	58.921 ng		100
85) 1,3-Dichlorobenzene	18.55	146	1041029	24.421 ng		100
86) 1,4-Dichlorobenzene	18.63	146	1035819	24.605 ng		100
87) sec-Butylbenzene	18.72	105	2076812	23.678 ng		100
88) 4-Isopropyltoluene (p-...	18.91	119	1821916	23.870 ng		100
89) 1,2,3-Trimethylbenzene	18.41	105	1667825	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	986227	24.501 ng		100
91) d-Limonene	19.06	68	595590	25.557 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	797124	50.636 ng		98
93) n-Undecane	17.93	58	31012	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1904674	54.297 ng		100
95) Naphthalene	20.92	128	2292440	27.396 ng		100
96) n-Dodecane	18.72	58	12902	No Calib	#	
97) Hexachlorobutadiene	21.28	225	615960	24.042 ng		98
98) Cyclohexanone	15.62	55	2198	No Calib	#	
99) tert-Butylbenzene	18.41	119	1564777	23.875 ng		100
100) n-Butylbenzene	19.37	91	1823538	24.203 ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	442784	24.554 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 06\16\06162226.D Vial: 8
Acq On : 16 Jun 2022 23:05 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-06162204/S35-06162212 (7/16)

Quant Time: Jun 17 08:58:54 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jun 17 08:51:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **06162226.D** Acq. Method File: **TO15.M** 6/17/22

Data File Path: **I:\MS09\DATA\2022_06\16** Sample Name: **25ng TO-15 ICV STD**

Operator: **SC** Misc Info: **S35-06162204/S35-06162212 (**

Date Acquired: **6/16/2022 23:05** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**3.25**	**27.6**	**25.75**	107	**56**	**128**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**3.33**	**22.7**	**26.00**	87	**71**	**112**	*	*
4)	**Chloromethane**	**3.47**	**22.7**	**25.75**	88	**53**	**126**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**3.57**	**24.6**	**26.00**	95	**62**	**121**	*	*
6)	**Vinyl Chloride**	**3.66**	**24.0**	**26.00**	92	**63**	**123**	*	*
7)	**1,3-Butadiene**	**3.77**	**25.7**	**25.75**	100	**63**	**135**	*	*
8)	**Bromomethane**	**3.99**	**27.2**	**25.75**	106	**71**	**112**	*	*
9)	**Chloroethane**	**4.13**	**22.4**	**25.75**	87	**66**	**117**	*	*
10)	**Ethanol**	**4.30**	**89**	**104.00**	86	**57**	**117**	*	*
11)	**Acetonitrile**	**4.44**	**18.9**	**25.25**	75	**59**	**131**	*	*
12)	**Acrolein**	**4.52**	**49.4**	**52.00**	95	**71**	**123**	*	*
13)	**Acetone**	**4.62**	**117**	**128.00**	91	**60**	**117**	*	*
14)	**Trichlorofluoromethane**	**4.73**	**22.9**	**25.25**	91	**71**	**114**	*	*
15)	**2-Propanol (Isopropanol)**	**4.85**	**42.4**	**50.00**	85	**61**	**124**	*	*
16)	**Acrylonitrile**	**4.99**	**46.4**	**50.25**	92	**65**	**130**	*	*
17)	**1,1-Dichloroethene**	**5.24**	**24.8**	**26.25**	94	**74**	**114**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	5.32	49.7	51.00	97	56	135	*	*
19)	**Methylene Chloride**	**5.35**	**23.1**	**26.00**	89	**75**	**112**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**5.44**	**18.9**	**25.50**	74	**57**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**5.56**	**24.8**	**27.00**	92	**73**	**114**	*	*
22)	**Carbon Disulfide**	**5.58**	**48.8**	**51.75**	94	**70**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**6.13**	**24.5**	**26.00**	94	**76**	**119**	*	*
24)	**1,1-Dichloroethane**	**6.32**	**24.4**	**26.75**	91	**70**	**114**	*	*
25)	**Methyl tert-Butyl Ether**	**6.35**	**24.8**	**25.75**	96	**72**	**118**	*	*
26)	**Vinyl Acetate**	**6.43**	**139**	**117.75**	118	**56**	**137**	*	*
27)	**2-Butanone (MEK)**	**6.65**	**47.1**	**51.00**	92	**74**	**121**	*	*
28)	**cis-1,2-Dichloroethene**	**7.07**	**24.1**	**25.75**	94	**73**	**117**	*	*
29)	Diisopropyl Ether	7.26	47.5	52.25	91	58	124	*	*
30)	**Ethyl Acetate**	**7.27**	**67.1**	**72.50**	93	**59**	**161**	*	*
31)	**n-Hexane**	**7.28**	**23.8**	**26.00**	92	**55**	**130**	*	*
32)	**Chloroform**	**7.36**	**24.1**	**26.25**	92	**71**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**7.73**	**46.9**	**50.50**	93	**73**	**114**	*	*
35)	Ethyl tert-Butyl Ether	7.80	48.5	51.75	94	76	119	*	*
36)	**1,2-Dichloroethane**	**8.11**	**24.1**	**26.25**	92	**71**	**119**	*	*
38)	**1,1,1-Trichloroethane**	**8.38**	**24.4**	**26.00**	94	**73**	**119**	*	*
41)	**Benzene**	**8.88**	**23.7**	**26.00**	91	**72**	**113**	*	*
42)	**Carbon Tetrachloride**	**9.05**	**24.0**	**25.25**	95	**67**	**123**	*	*
43)	**Cyclohexane**	**9.20**	**48.7**	**51.50**	95	**70**	**119**	*	*
44)	tert-Amyl Methyl Ether	9.57	50.0	**51.50**	97	74	120	*	*
45)	**1,2-Dichloropropane**	**9.84**	**24.0**	**25.75**	93	**70**	**118**	*	*
46)	**Bromodichloromethane**	**10.06**	**25.6**	**26.00**	98	**74**	**119**	*	*
47)	**Trichloroethene**	**10.13**	**25.1**	**25.50**	98	**74**	**115**	*	*
48)	**1,4-Dioxane**	**10.09**	**25.9**	**25.75**	101	**77**	**124**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	10.21	23.7	26.25	90	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **06162226.D** **TO15.M**
Data File Path: **I:\MS09\DATA\2022_06\16** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S35-06162204/S35-06162212 (**
Date Acquired: **6/16/2022 23:05** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**10.38**	**51.9**	**51.25**	101	**78**	**126**	*	*
51)	**n-Heptane**	**10.54**	**24.4**	**25.75**	95	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**11.23**	**26.8**	**26.00**	103	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**11.29**	**51.3**	**51.50**	100	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**11.23**	**25.8**	**25.00**	103	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**12.15**	**24.3**	**26.00**	93	**78**	**117**	*	*
58)	**Toluene**	**12.53**	**22.8**	**25.75**	89	**70**	**118**	*	*
59)	**2-Hexanone**	**12.89**	**47.4**	**50.75**	93	**74**	**132**	*	*
60)	**Dibromochloromethane**	**13.05**	**25.1**	**26.25**	96	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**13.37**	**23.5**	**26.00**	90	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**13.74**	**49.6**	**50.75**	98	**75**	**134**	*	*
63)	**n-Octane**	**13.89**	**23.6**	**26.00**	91	**68**	**120**	*	*
64)	**Tetrachloroethene**	**14.01**	**24.1**	**26.50**	91	**63**	**130**	*	*
65)	**Chlorobenzene**	**14.87**	**23.1**	**25.75**	90	**70**	**118**	*	*
66)	**Ethylbenzene**	**15.38**	**23.5**	**25.75**	91	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**15.63**	**48.0**	**52.00**	92	**67**	**127**	*	*
68)	**Bromoform**	**15.65**	**27.1**	**26.25**	103	**65**	**149**	*	*
69)	**Styrene**	**16.07**	**24.2**	**25.25**	96	**76**	**132**	*	*
70)	**o-Xylene**	**16.21**	**24.1**	**26.00**	93	**69**	**124**	*	*
71)	**n-Nonane**	**16.58**	**24.0**	**26.00**	92	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**16.19**	**24.1**	**26.00**	93	**69**	**128**	*	*
74)	**Cumene**	**17.00**	**23.7**	**25.75**	92	**69**	**125**	*	*
75)	**alpha-Pinene**	**17.50**	**24.4**	**26.25**	93	**68**	**129**	*	*
76)	**n-Propylbenzene**	**17.65**	**23.6**	**26.00**	91	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**17.83**	**24.2**	**26.00**	**93**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**17.93**	**24.5**	**26.00**	**94**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**18.41**	**24.6**	**25.75**	**96**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**18.54**	**58.9**	**52.00**	**113**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**18.55**	**24.4**	**26.00**	**94**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**18.63**	**24.6**	**26.25**	**94**	**63**	**134**	*	*
87)	sec-Butylbenzene	18.72	23.7	25.50	**93**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	18.91	23.9	25.75	**93**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**19.01**	**24.5**	**26.25**	**93**	**64**	**139**	*	*
91)	**d-Limonene**	**19.06**	**25.6**	**25.75**	**99**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**19.49**	**50.6**	**50.50**	**100**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**20.82**	**54.3**	**52.50**	**103**	**62**	**154**	*	*
95)	**Naphthalene**	**20.92**	**27.4**	**26.25**	**104**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**21.28**	**24.0**	**26.50**	**91**	55	142	*	*
99)	tert-Butylbenzene	18.41	23.9	25.75	93	61	140	*	*
100)	n-Butylbenzene	19.37	24.2	26.00	93	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	14.85	24.6	25.75	96	70	130	*	*

Bold = 75 Compound List
*** = Pass**

ICV/LCS Standard Concentrations (Secondary Source)

6/17/22

4ng/L Working Std. ID:				
20ng/L Working Std. ID:				
200ng/L Working Std. ID:	S35-06162212			
1000ng/L Working Std. ID:				
Dilution Factor:	1	5	50	250
Working Std. Conc. Utilized:	200			
Working Std. Injection Amounts (L):				0.125

		Secondary Working Std. Conc.				ICV / LCS Actual Conc.(ng)
Compounds	mg/m^3	1000ng/L	200ng/L	20ng/L	4ng/L	
Propene	1.03	1030	206	20.6	4.12	25.75
Dichlorodifluoromethane(12)	1.04	1040	208	20.8	4.16	26.00
Chloromethane	1.03	1030	206	20.6	4.12	25.75
Freon-114	1.04	1040	208	20.8	4.16	26.00
Vinyl Chloride	1.04	1040	208	20.8	4.16	26.00
1,3-Butadiene	1.03	1030	206	20.6	4.12	25.75
Bromomethane	1.03	1030	206	20.6	4.12	25.75
Chloroethane	1.03	1030	206	20.6	4.12	25.75
Ethanol	4.16	4160	832	83.2	16.64	104.00
Acetonitrile	1.01	1010	202	20.2	4.04	25.25
Acrolein	2.08	2080	416	41.6	8.32	52.00
Acetone	5.12	5120	1024	102.4	20.48	128.00
Trichlorofluoromethane(11)	1.01	1010	202	20.2	4.04	25.25
Isopropanol	2.00	2000	400	40.0	8.00	50.00
Acrylonitrile	2.01	2010	402	40.2	8.04	50.25
1,1-Dichloroethene	1.05	1050	210	21.0	4.20	26.25
tert-Butanol	2.04	2040	408	40.8	8.16	51.00
Methylene Chloride	1.04	1040	208	20.8	4.16	26.00
Allyl Chloride	1.02	1020	204	20.4	4.08	25.50
Trichlorotrifluoroethane(113)	1.08	1080	216	21.6	4.32	27.00
Carbon Disulfide	2.07	2070	414	41.4	8.28	51.75
trans-1,2-Dichloroethene	1.04	1040	208	20.8	4.16	26.00
1,1-Dichloroethane	1.07	1070	214	21.4	4.28	26.75
Methyl tert-Butyl Ether	1.03	1030	206	20.6	4.12	25.75
Vinyl Acetate	4.71	4710	942	94.2	18.84	117.75
2-Butanone	2.04	2040	408	40.8	8.16	51.00
cis-1,2-Dichloroethene	1.03	1030	206	20.6	4.12	25.75
Diisopropyl Ether	2.09	2090	418	41.8	8.36	52.25
Ethyl Acetate	2.90	2900	580	58.0	11.60	72.50
n-Hexane	1.04	1040	208	20.8	4.16	26.00
Chloroform	1.05	1050	210	21.0	4.20	26.25
Tetrahydrofuran	2.02	2020	404	40.4	8.08	50.50
Ethyl tert-Butyl Ether	2.07	2070	414	41.4	8.28	51.75
1,2-Dichloroethane	1.05	1050	210	21.0	4.20	26.25
1,1,1-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Benzene	1.04	1040	208	20.8	4.16	26.00
Carbon Tetrachloride	1.01	1010	202	20.2	4.04	25.25
Cyclohexane	2.06	2060	412	41.2	8.24	51.50
tert-Amyl Methyl Ether	2.06	2060	412	41.2	8.24	51.50
1,2-Dichloropropane	1.03	1030	206	20.6	4.12	25.75
Bromodichloromethane	1.04	1040	208	20.8	4.16	26.00
Trichloroethene	1.02	1020	204	20.4	4.08	25.50
1,4-Dioxane	1.03	1030	206	20.6	4.12	25.75
Isooctane	1.05	1050	210	21.0	4.20	26.25

		Secondary Working Std. Conc.				ICV / LCS Actual Conc.(ng)
Compounds	mg/m^3	1000ng/L	200ng/L	20ng/L	4ng/L	
Methyl Methacrylate	2.05	2050	410	41.0	8.20	51.25
n-Heptane	1.03	1030	206	20.6	4.12	25.75
cis-1,3-Dichloropropene	1.04	1040	208	20.8	4.16	26.00
4-Methyl-2-pentanone	2.06	2060	412	41.2	8.24	51.50
trans-1,3-Dichloropropene	1.00	1000	200	20.0	4.00	25.00
1,1,2-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Toluene	1.03	1030	206	20.6	4.12	25.75
2-Hexanone	2.03	2030	406	40.6	8.12	50.75
Dibromochloromethane	1.05	1050	210	21.0	4.20	26.25
1,2-Dibromoethane	1.04	1040	208	20.8	4.16	26.00
n-Butyl Acetate	2.03	2030	406	40.6	8.12	50.75
n-Octane	1.04	1040	208	20.8	4.16	26.00
Tetrachloroethene	1.06	1060	212	21.2	4.24	26.50
Chlorobenzene	1.03	1030	206	20.6	4.12	25.75
Ethylbenzene	1.03	1030	206	20.6	4.12	25.75
m-,p-Xylene	2.08	2080	416	41.6	8.32	52.00
Bromoform	1.05	1050	210	21.0	4.20	26.25
Styrene	1.01	1010	202	20.2	4.04	25.25
o-Xylene	1.04	1040	208	20.8	4.16	26.00
n-Nonane	1.04	1040	208	20.8	4.16	26.00
1,1,2,2-Tetrachloroethane	1.04	1040	208	20.8	4.16	26.00
Cumene	1.03	1030	206	20.6	4.12	25.75
alpha-Pinene	1.05	1050	210	21.0	4.20	26.25
n-Propylbenzene	1.04	1040	208	20.8	4.16	26.00
4-Ethyltoluene	1.04	1040	208	20.8	4.16	26.00
1,3,5-Trimethylbenzene	1.04	1040	208	20.8	4.16	26.00
1,2,4-Trimethylbenzene	1.03	1030	206	20.6	4.12	25.75
Benzyl Chloride	2.08	2080	416	41.6	8.32	52.00
1,3-Dichlorobenzene	1.04	1040	208	20.8	4.16	26.00
1,4-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
sec-Butylbenzene	1.02	1020	204	20.4	4.08	25.50
p-Isopropyltoluene	1.03	1030	206	20.6	4.12	25.75
1,2-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
d-Limonene	1.03	1030	206	20.6	4.12	25.75
1,2-Dibromo-3-chloropropane	2.02	2020	404	40.4	8.08	50.50
1,2,4-Trichlorobenzene	2.10	2100	420	42.0	8.40	52.50
Naphthalene	1.05	1050	210	21.0	4.20	26.25
Hexachloro-1,3-butadiene	1.06	1060	212	21.2	4.24	26.50
tert-Butylbenzene	1.03	1030	206	20.6	4.12	25.75
n-Butylbenzene	1.04	1040	208	20.8	4.16	26.00
1,1,1,2-Tetrachloroethane	1.03	1030	206	20.6	4.12	25.75

***Enter Information in the Solid Shaded Areas ONLY.**

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 07\12\07122201.D Vial: 2
Acq On : 12 Jul 2022 1:04 Operator: SC
Sample : CCV R9071222 25ng Inst : MS09
Misc : S35-06162204/S35-07052205 (8/5)

Quant Time: Jul 12 08:33:23 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/12/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	98	-0.01
2	T	Propene	1.748	1.196	31.6#	73	0.00
3	T	Dichlorodifluoromethane (CF	2.883	2.318	19.6	87	0.00
4	T	Chloromethane	1.689	1.351	20.0	81	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.179	1.019	13.6	91	0.00
6	T	Vinyl Chloride	1.376	1.012	26.5	75	-0.01
7	T	1,3-Butadiene	0.928	0.827	10.9	87	0.00
8	T	Bromomethane	0.895	0.805	10.1	103	-0.01
9	T	Chloroethane	0.792	0.572	27.8	79	-0.01
10	T	Ethanol	1.025	0.779	24.0	85	-0.03
11	T	Acetonitrile	3.405	2.133	37.4#	73	-0.03
12	T	Acrolein	0.703	0.549	21.9	80	-0.02
13	T	Acetone	0.826	0.599	27.5	76	-0.02
14	T	Trichlorofluoromethane	2.703	2.323	14.1	91	-0.01
15	T	2-Propanol (Isopropanol)	3.145	2.734	13.1	83	-0.02
16	T	Acrylonitrile	1.577	1.183	25.0	77	-0.03
17	T	1,1-Dichloroethene	1.088	0.878	19.3	84	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.582	2.503	3.1	90	-0.02
19	T	Methylene Chloride	1.201	0.918	23.6	82	-0.02
20	T	3-Chloro-1-propene (Allyl C	2.871	1.815	36.8#	72	-0.02
21	T	Trichlorotrifluoroethane	1.122	1.033	7.9	98	0.00
22	T	Carbon Disulfide	3.858	3.105	19.5	81	0.00
23	T	trans-1,2-Dichloroethene	1.761	1.424	19.1	83	0.00
24	T	1,1-Dichloroethane	2.164	1.691	21.9	81	-0.01
25	T	Methyl tert-Butyl Ether	3.465	3.067	11.5	89	0.00
26	T	Vinyl Acetate	0.157	0.138	12.1	78	0.00
27	T	2-Butanone (MEK)	0.710	0.550	22.5	80	-0.02
28	T	cis-1,2-Dichloroethene	1.698	1.376	19.0	83	-0.01
29	T	Diisopropyl Ether	0.874	0.686	21.5	83	0.00
30	T	Ethyl Acetate	0.466	0.349	25.1	76	-0.02
31	T	n-Hexane	1.960	1.421	27.5	76	0.00
32	T	Chloroform	2.244	1.840	18.0	87	-0.01
33	S	1,2-Dichloroethane-d4(SS1)	2.010	2.048	-1.9	100	0.00
34	T	Tetrahydrofuran (THF)	0.692	0.534	22.8	80	0.00
35	T	Ethyl tert-Butyl Ether	1.286	1.098	14.6	88	0.00
36	T	1,2-Dichloroethane	1.895	1.623	14.4	89	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	0.00
38	T	1,1,1-Trichloroethane	0.518	0.465	10.2	91	-0.01
39	T	Isopropyl Acetate	0.000	0.000	0.0	99	0.00
40	T	1-Butanol	0.000	0.000	0.0	77	-0.01
41	T	Benzene	1.039	0.796	23.4	83	-0.01
42	T	Carbon Tetrachloride	0.467	0.439	6.0	94	0.00
43	T	Cyclohexane	0.377	0.303	19.6	82	0.00
44	T	tert-Amyl Methyl Ether	0.710	0.617	13.1	87	-0.01
45	T	1,2-Dichloropropane	0.273	0.210	23.1	80	0.00
46	T	Bromodichloromethane	0.412	0.367	10.9	88	0.00
47	T	Trichloroethene	0.287	0.251	12.5	89	0.00
48	T	1,4-Dioxane	0.203	0.170	16.3	81	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.159	0.877	24.3	79	0.00
50	T	Methyl Methacrylate	0.096	0.085	11.5	85	0.00
51	T	n-Heptane	0.238	0.187	21.4	80	0.00
52	T	cis-1,3-Dichloropropene	0.406	0.362	10.8	84	0.00
53	T	4-Methyl-2-pentanone	0.243	0.195	19.8	77	0.00
54	T	trans-1,3-Dichloropropene	0.422	0.376	10.9	84	0.00
55	T	1,1,2-Trichloroethane	0.269	0.220	18.2	84	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 07\12\07122201.D Vial: 2
Acq On : 12 Jul 2022 1:04 Operator: SC
Sample : CCV R9071222 25ng Inst : MS09
Misc : S35-06162204/S35-07052205 (8/5)

Quant Time: Jul 12 08:33:23 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	97	0.00
57	S	Toluene-d8 (SS2)	4.903	4.776	2.6	95	0.00
58	T	Toluene	4.826	3.822	20.8	84	0.00
59	T	2-Hexanone	3.365	2.583	23.2	76	-0.02
60	T	Dibromochloromethane	1.499	1.442	3.8	91	-0.01
61	T	1,2-Dibromoethane	1.426	1.188	16.7	85	-0.01
62	T	n-Butyl Acetate	3.610	2.830	21.6	75	-0.01
63	T	n-Octane	1.005	0.775	22.9	79	0.00
64	T	Tetrachloroethene	1.512	1.472	2.6	101	0.00
65	T	Chlorobenzene	3.178	2.593	18.4	86	0.00
66	T	Ethylbenzene	5.643	4.663	17.4	85	0.00
67	T	m- & p-Xylenes	4.539	3.858	15.0	85	0.00
68	T	Bromoform	1.376	1.565	-13.7	102	0.00
69	T	Styrene	3.206	2.769	13.6	85	0.00
70	T	o-Xylene	4.466	3.768	15.6	86	-0.01
71	T	n-Nonane	2.867	2.160	24.7	76	0.00
72	T	1,1,2,2-Tetrachloroethane	2.006	1.583	21.1	81	0.00
73	S	Bromofluorobenzene (SS3)	1.855	2.272	-22.5	115	0.00
74	T	Cumene	5.408	4.599	15.0	87	0.00
75	T	alpha-Pinene	2.760	2.347	15.0	85	0.00
76	T	n-Propylbenzene	6.787	5.596	17.5	84	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	87	0.00
78	T	4-Ethyltoluene	5.153	4.537	12.0	88	0.00
79	T	1,3,5-Trimethylbenzene	4.453	3.903	12.4	87	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	-16.45#
81	T	2-Ethyltoluene	0.000	0.000	0.0	93	0.01
82	T	1,2,4-Trimethylbenzene	4.608	4.086	11.3	86	0.00
83	T	n-Decane	0.000	0.000	0.0	69	0.00
84	T	Benzyl Chloride	3.586	3.801	-6.0	85	0.00
85	T	1,3-Dichlorobenzene	2.894	2.707	6.5	93	0.00
86	T	1,4-Dichlorobenzene	2.858	2.694	5.7	93	0.00
87	T	sec-Butylbenzene	5.954	5.104	14.3	87	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.181	4.628	10.7	89	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	86	0.00
90	T	1,2-Dichlorobenzene	2.732	2.561	6.3	93	0.00
91	T	d-Limonene	1.582	1.341	15.2	80	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.069	1.114	-4.2	96	0.00
93	T	n-Undecane	0.000	0.000	0.0	74	0.00
94	T	1,2,4-Trichlorobenzene	2.381	2.784	-16.9	98	0.00
95	T	Naphthalene	5.680	6.008	-5.8	87	0.00
96	T	n-Dodecane	0.000	0.000	0.0	80	0.00
97	T	Hexachlorobutadiene	1.739	1.848	-6.3	102	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	42#	0.00
99	T	tert-Butylbenzene	4.449	3.901	12.3	88	0.00
100	T	n-Butylbenzene	5.114	4.396	14.0	84	0.00
101	T	1,1,1,2-Tetrachloroethane	1.224	1.143	6.6	92	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122201.D Vial: 2
Acq On : 12 Jul 2022 1:04 Operator: SC
Sample : CCV R9071222 25ng Inst : MS09
Misc : S35-06162204/S35-07052205 (8/5)

Quant Time: Jul 12 08:33:23 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/12/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	164192	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.29	114	699550	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	164500	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	336201	12.731	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
57) Toluene-d8 (SS2)	12.40	98	785692	12.178	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
73) Bromofluorobenzene (SS3)	16.80	174	373695	15.310	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 122.48%				
Target Compounds							Qvalue
2) Propene	3.24	42	408417	17.788	ng		96
3) Dichlorodifluoromethan...	3.32	85	799112	21.098	ng		100
4) Chloromethane	3.46	50	452514	20.393	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.56	135	361555	23.351	ng		99
6) Vinyl Chloride	3.65	62	345485	19.113	ng		100
7) 1,3-Butadiene	3.77	54	282297	23.170	ng		98
8) Bromomethane	3.98	94	269726	22.939	ng		99
9) Chloroethane	4.13	64	191604	18.422	ng		100
10) Ethanol	4.30	45	925815	68.782	ng		100
11) Acetonitrile	4.44	41	651360	14.562	ng		99
12) Acrolein	4.52	56	360709	39.037	ng		100
13) Acetone	4.62	58	1020216	93.976	ng	#	88
14) Trichlorofluoromethane	4.73	101	785774	22.132	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	1813737	43.911	ng		98
16) Acrylonitrile	4.99	53	788822	38.069	ng		99
17) 1,1-Dichloroethene	5.23	96	308376	21.582	ng		100
18) 2-Methyl-2-Propanol (t...	5.32	59	1725840	50.888	ng		99
19) Methylene Chloride	5.35	84	313451	19.865	ng		94
20) 3-Chloro-1-propene (Al...	5.44	41	625859	16.599	ng		93
21) Trichlorotrifluoroethane	5.55	151	366197	24.857	ng		87
22) Carbon Disulfide	5.57	76	2141321	42.252	ng		100
23) trans-1,2-Dichloroethene	6.13	61	495578	21.423	ng		99
24) 1,1-Dichloroethane	6.31	63	583196	20.519	ng		99
25) Methyl tert-Butyl Ether	6.34	73	1057516	23.237	ng		98
26) Vinyl Acetate	6.44	86	153671	74.485	ng	#	89
27) 2-Butanone (MEK)	6.65	72	372380	39.924	ng		94
28) cis-1,2-Dichloroethene	7.07	61	469766	21.057	ng		98
29) Diisopropyl Ether	7.26	87	477391	41.596	ng	#	80
30) Ethyl Acetate	7.27	61	467042	76.301	ng		95
31) n-Hexane	7.27	57	489973	19.033	ng		98
32) Chloroform	7.36	83	646555	21.930	ng		100
34) Tetrahydrofuran (THF)	7.73	72	345400	38.019	ng	#	92
35) Ethyl tert-Butyl Ether	7.80	87	757184	44.823	ng		95
36) 1,2-Dichloroethane	8.11	62	565089	22.702	ng		100
38) 1,1,1-Trichloroethane	8.38	97	676131	23.339	ng		99
39) Isopropyl Acetate	9.29	61	24609	No Calib			
40) 1-Butanol	9.19	56	1048340	No Calib			
41) Benzene	8.88	78	1157947	19.919	ng		100
42) Carbon Tetrachloride	9.05	117	644818	24.663	ng		99
43) Cyclohexane	9.20	84	876679	41.536	ng		95
44) tert-Amyl Methyl Ether	9.56	73	1804103	45.392	ng		98
45) 1,2-Dichloropropane	9.84	63	301988	19.748	ng		99
46) Bromodichloromethane	10.06	83	538651	23.352	ng		100
47) Trichloroethene	10.13	130	362058	22.556	ng		99
48) 1,4-Dioxane	10.09	88	247779	21.835	ng		97
49) 2,2,4-Trimethylpentane...	10.21	57	1300830	20.052	ng		98
50) Methyl Methacrylate	10.38	100	246235	45.941	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122201.D Vial: 2
Acq On : 12 Jul 2022 1:04 Operator: SC
Sample : CCV R9071222 25ng Inst : MS09
Misc : S35-06162204/S35-07052205 (8/5)

Quant Time: Jul 12 08:33:23 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

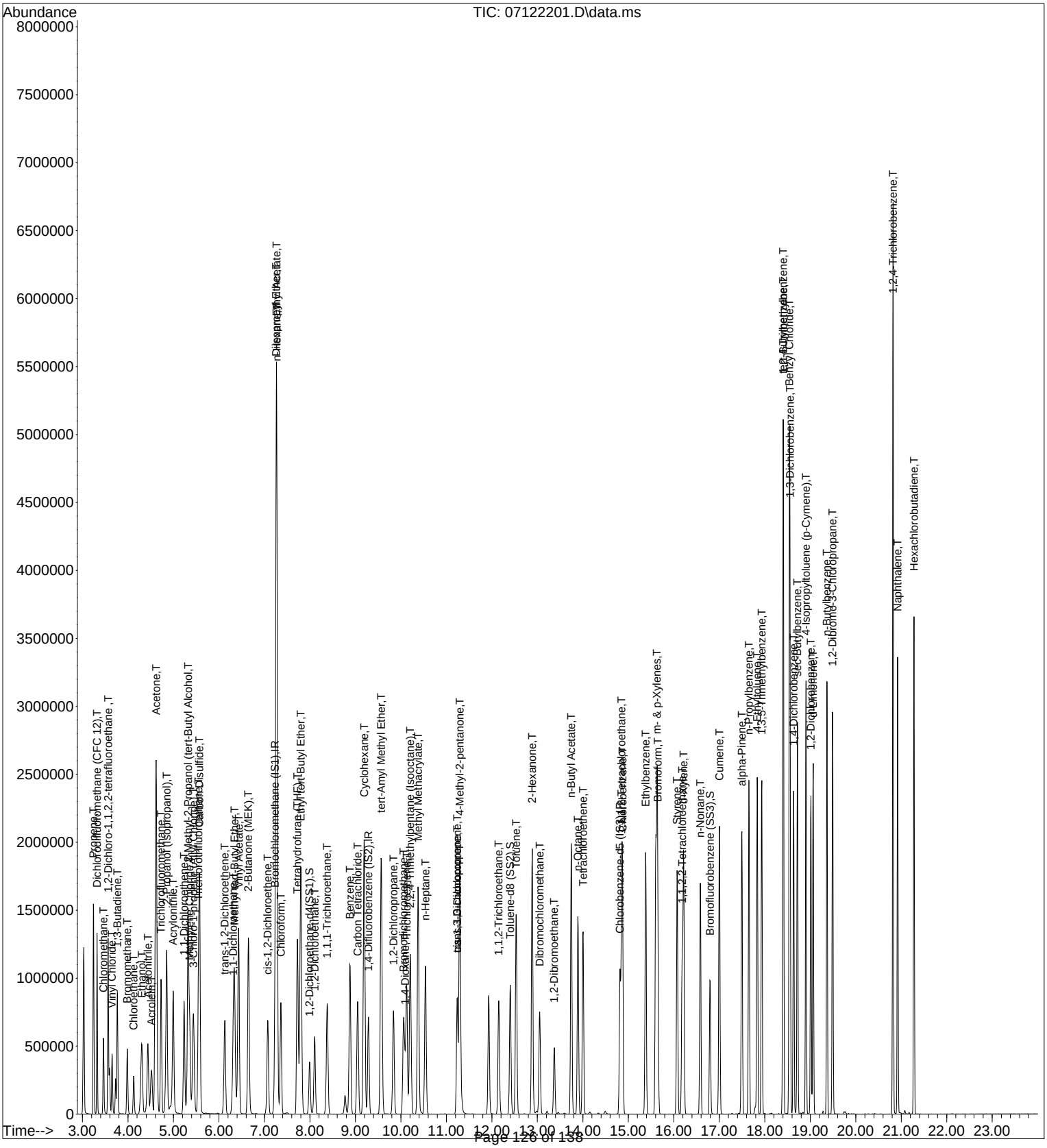
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	275047	20.662 ng		98
52) cis-1,3-Dichloropropene	11.24	75	531535	23.388 ng		100
53) 4-Methyl-2-pentanone	11.30	58	567272	41.738 ng		98
54) trans-1,3-Dichloropropene	11.24	75	531535	22.497 ng		100
55) 1,1,2-Trichloroethane	12.15	97	319516	21.186 ng		98
58) Toluene	12.53	91	1295084	20.392 ng		99
59) 2-Hexanone	12.89	43	1741912	39.334 ng		99
60) Dibromochloromethane	13.05	129	497983	25.245 ng		100
61) 1,2-Dibromoethane	13.37	107	406320	21.649 ng		99
62) n-Butyl Acetate	13.74	43	1899381	39.978 ng		99
63) n-Octane	13.89	57	267597	20.229 ng		95
64) Tetrachloroethene	14.01	166	503711	25.307 ng		99
65) Chlorobenzene	14.87	112	887381	21.216 ng		100
66) Ethylbenzene	15.38	91	1580098	21.279 ng		100
67) m- & p-Xylenes	15.63	91	2614570	43.773 ng		100
68) Bromoform	15.65	173	535612	29.572 ng		100
69) Styrene	16.07	104	938454	22.242 ng		99
70) o-Xylene	16.21	91	1289365	21.936 ng		99
71) n-Nonane	16.58	43	738923	19.582 ng		97
72) 1,1,2,2-Tetrachloroethane	16.19	83	541793	20.522 ng		99
74) Cumene	17.00	105	1573609	22.112 ng		100
75) alpha-Pinene	17.50	93	833899	22.958 ng		99
76) n-Propylbenzene	17.65	91	1933293	21.646 ng		99
77) 3-Ethyltoluene	17.00	105	1573609	No Calib		
78) 4-Ethyltoluene	17.83	105	1582349	23.334 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	1335307	22.784 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.43	105	2505	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	1384680	22.832 ng		99
83) n-Decane	17.00	58	9751	No Calib	#	
84) Benzyl Chloride	18.54	91	2576198	54.584 ng		99
85) 1,3-Dichlorobenzene	18.55	146	926315	24.325 ng		100
86) 1,4-Dichlorobenzene	18.63	146	921706	24.508 ng		100
87) sec-Butylbenzene	18.72	105	1746369	22.288 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	1583489	23.223 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	1384680	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	884616	24.601 ng		100
91) d-Limonene	19.06	68	463158	22.248 ng		95
92) 1,2-Dibromo-3-Chloropr...	19.49	157	732870	52.114 ng		90
93) n-Undecane	17.93	58	21347	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1868408	59.624 ng		100
95) Naphthalene	20.92	128	2055780	27.501 ng		100
96) n-Dodecane	18.72	58	9686	No Calib	#	
97) Hexachlorobutadiene	21.28	225	626066	27.354 ng		99
98) Cyclohexanone	15.63	55	1080	No Calib	#	
99) tert-Butylbenzene	18.41	119	1334688	22.796 ng		99
100) n-Butylbenzene	19.37	91	1504306	22.350 ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	391143	24.281 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\12\07122201.D Vial: 2
Acq On : 12 Jul 2022 1:04 Operator: SC
Sample : CCV R9071222 25ng Inst : MS09
Misc : S35-06162204/S35-07052205 (8/5)

Quant Time: Jul 12 08:33:23 2022
Quant Method : I:\MS09\Methods\R9061622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Jul 11 08:19:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

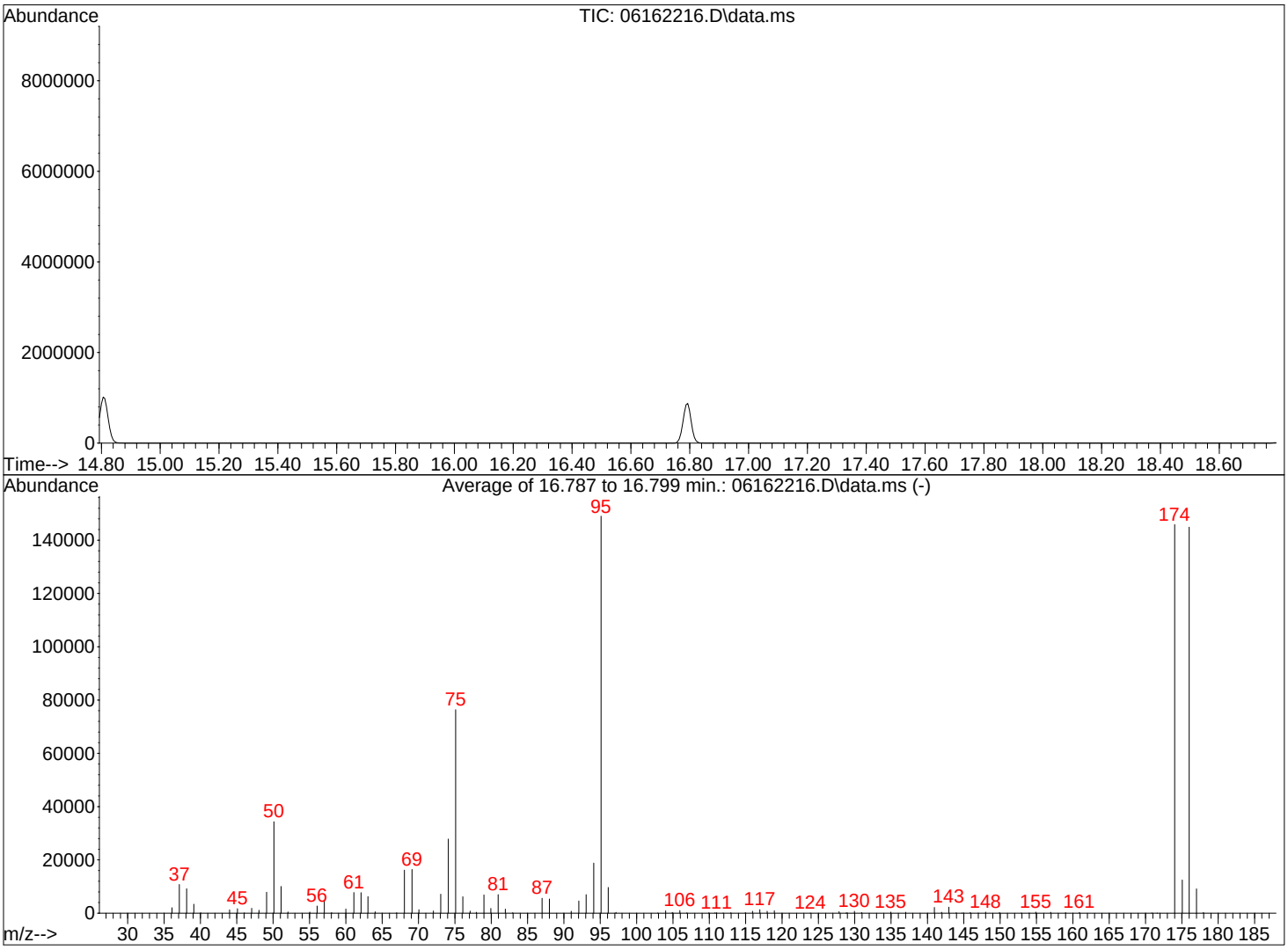


Data Path : I:\MS09\DATA\2022 06\16\
Data File : 06162216.D
Acq On : 16 Jun 2022 17:44
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S35-06162204/S35-06162215 (7/16)
ALS Vial : 2 Sample Multiplier: 1

6/17/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9061622.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jun 17 08:36:27 2022



AutoFind: Scans 2449, 2450, 2451; Background Corrected with Scan 2440

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.1	34355	PASS
75	95	30	66	51.2	76363	PASS
95	95	100	100	100.0	149016	PASS
96	95	5	9	6.5	9681	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	97.9	145835	PASS
175	174	4	9	8.6	12476	PASS
176	174	93	101	99.4	144917	PASS
177	176	5	9	6.3	9128	PASS

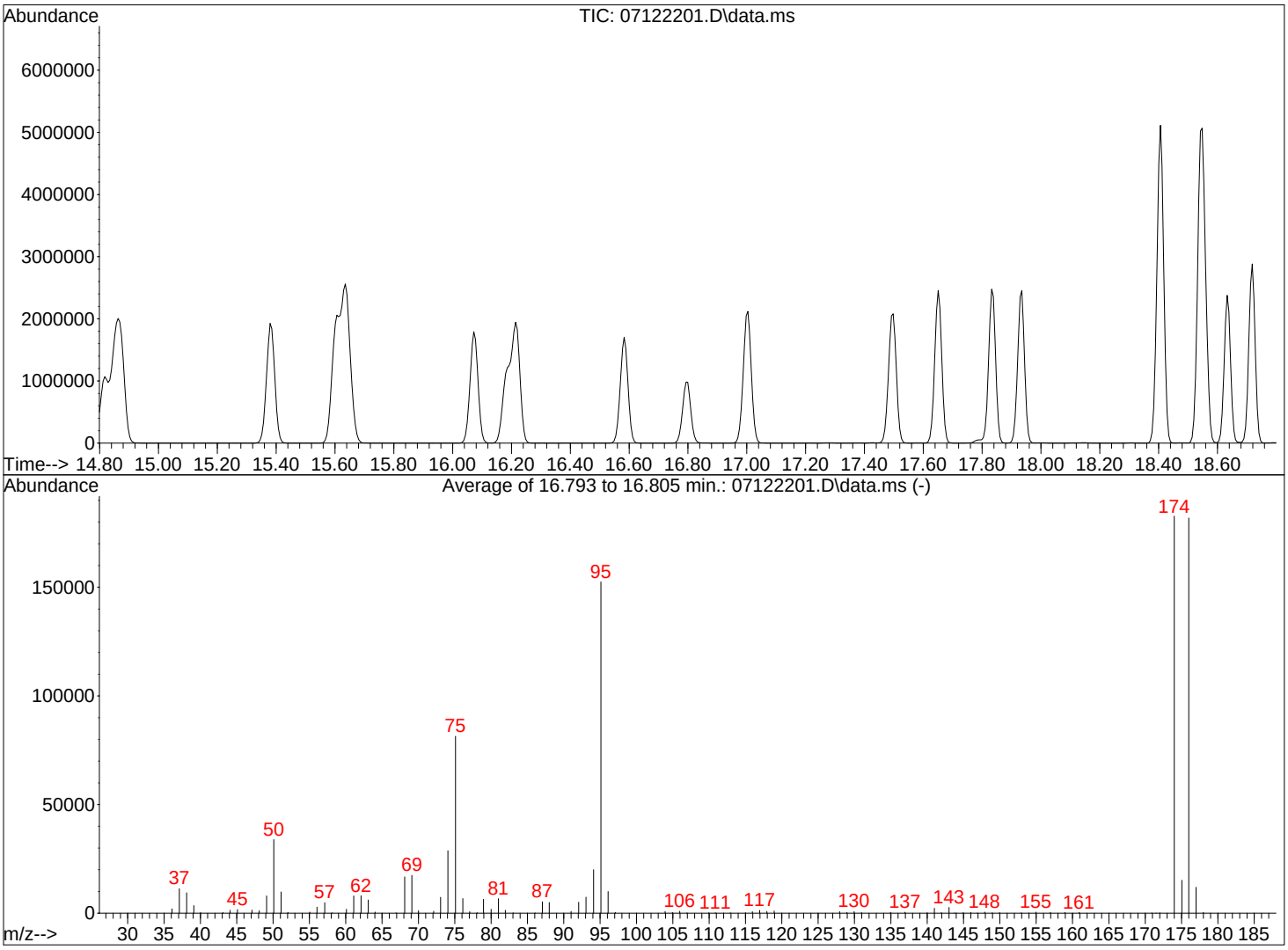
BFB

Data Path : I:\MS09\DATA\2022 07\12\
Data File : 07122201.D
Acq On : 12 Jul 2022 1:04
Operator : SC
Sample : CCV R9071222 25ng
Misc : S35-06162204/S35-07052205 (8/5)
ALS Vial : 2 Sample Multiplier: 1

7/12/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9061622.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Mon Jul 11 08:19:33 2022



AutoFind: Scans 2450, 2451, 2452; Background Corrected with Scan 2441

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	22.2	33853	PASS
75	95	30	66	53.4	81395	PASS
95	95	100	100	100.0	152485	PASS
96	95	5	9	6.5	9958	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	119.8	182720	PASS
175	174	4	9	8.3	15161	PASS
176	174	93	101	99.5	181888	PASS
177	176	5	9	6.6	11924	PASS

Injection Log

Directory: J:\MS09\DATA\2022_06\16\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
16	6/16/22 17:44	06162216.D	12.5ng TO-15 BFB STD	S35-06162204/S35-06162215 (7/16)	SC	2	Pass
17	6/16/22 18:16	06162217.D	0.1ng TO-15 ICAL STD	S35-06162204/S35-06162215 (7/16)	SC	5	R9061622.M
19	6/16/22 18:48	06162218.D	0.2ng TO-15 ICAL STD	S35-06162204/S35-06162215 (7/16)	SC	5	
20	6/16/22 19:20	06162219.D	0.5ng TO-15 ICAL STD	S35-06162204/S35-06162213 (7/16)	SC	6	
21	6/16/22 19:52	06162220.D	1.0ng TO-15 ICAL STD	S35-06162204/S35-06162213 (7/16)	SC	6	
22	6/16/22 20:24	06162221.D	5.0ng TO-15 ICAL STD	S35-06162204/S35-06162213 (7/16)	SC	6	
24	6/16/22 20:56	06162222.D	25ng TO-15 ICAL STD	S35-06162204/S35-06162209 (7/16)	SC	2	
26	6/16/22 21:28	06162223.D	50ng TO-15 ICAL STD	S35-06162204/S35-06162209 (7/16)	SC	4	
27	6/16/22 22:00	06162224.D	100ng TO-15 ICAL STD	S35-06162204/S35-06162209 (7/16)	SC	5	
28	6/16/22 22:33	06162225.D	Blank	S35-06162204	SC	6	
29	6/16/22 23:05	06162226.D	25ng TO-15 ICV STD	S35-06162204/S35-06162212 (7/16)	SC	7	pass
30	6/16/22 23:37	06162227.D	25ng TO-15 ICV STD	S35-06162204/S35-06162212 (7/16)	SC	8	pass
31	6/17/22 9:29	06162228.D	Blank	S35-06162204	SC	9	
32						10	

6/20/22

Injection Log

Directory: I:\MS09\DATA\2022_07\12\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	7/12/22 1:04	07122201.D	CCV R9071222_25ng	S35-06162204/S35-07052205 (8/5)	SC	2	pass
2	7/12/22 1:36	07122202.D	CCV C9071222_5.0ng	S35-06162204/S35-06232201 (7/23)	SC	3	pass
3	7/12/22 2:09	07122203.D	Blank	S35-06162204	SC	1	
4	7/12/22 2:41	07122204.D	MB R9071222_1000mL	S35-06162204	SC	2	pass
5	7/12/22 3:13	07122205.D	LCS R9071122_25ng	S35-06162204/S35-06212206 (7/21)	SC	2	Rerun
6	7/12/22 3:45	07122206.D	LCSD R9071222_25ng	S35-06162204/S35-06212206 (7/21)	SC	2	Rerun
7	7/12/22 4:17	07122207.D	RL R09071222_0.5ng	S35-06162204/S35-06202202 (7/20)	SC	4	pass
8	7/12/22 9:36	07122208.D	P2202941-001 (50mL)	S35-06162204	SC	5	
9	7/12/22 10:08	07122209.D	P2202941-002 (1000mL)	S35-06162204	SC	6	
10	7/12/22 10:40	07122210.D	P2202941-003 (1000mL)	S35-06162204	SC	7	
11	7/12/22 11:12	07122211.D	LCS R9071222_25ng	S35-06162204/S35-06222206 (7/22)	SC	2	pass
12	7/12/22 11:45	07122212.D	P2202941-001Dil (25mL)	S35-06162204	SC	5	
13	7/12/22 12:25	07122213.D	P2202945-001 (1000mL)	S35-06162204	SC	9	
14	7/12/22 12:58	07122214.D	P2202945-002 (1000mL)	S35-06162204	SC	10	
15	7/12/22 13:30	07122215.D	P2202945-003 (1000mL)	S35-06162204	SC	11	
16	7/12/22 14:02	07122216.D	P2202945-004 (1000mL)	S35-06162204	SC	12	
17	7/12/22 14:33	07122217.D	P2202945-005 (1000mL)	S35-06162204	SC	13	
18	7/12/22 15:05	07122218.D	P2202945-005dup (1000mL)	S35-06162204	SC	13	pass
19	7/12/22 15:37	07122219.D	LCSD R9071222_25ng	S35-06162204/S35-06222206 (7/22)	SC	2	pass
20	7/12/22 16:42	07122220.D	P2202922-001 (400mL)	S35-06162204	SC	14	
21	7/12/22 17:14	07122221.D	P2202922-002 (50mL)	S35-06162204	SC	15	
22	7/12/22 17:46	07122222.D	P2202909-001 (100mL)	S35-06162204	SC	16	
23	7/12/22 18:18	07122223.D	P2202958-001 (1000mL)	S35-06162204	SC	5	
24	7/12/22 18:49	07122224.D	P2202958-002 (1000mL)	S35-06162204	SC	6	
25	7/12/22 19:22	07122225.D	P2202958-003 (1000mL)	S35-06162204	SC	7	
26	7/12/22 19:54	07122226.D	P2202958-004 (1000mL)PF2	S35-06162204	SC	8	
27	7/12/22 20:26	07122227.D	P2202944-001 (1000mL)	S35-06162204	SC	9	
28	7/12/22 20:58	07122228.D	P2202944-002 (1000mL)	S35-06162204	SC	10	
29	7/12/22 21:30	07122229.D	P2202944-003 (1000mL)	S35-06162204	SC	11	
30	7/12/22 22:03	07122230.D	P2202944-004 (1000mL)	S35-06162204	SC	12	
31	7/12/22 22:35	07122231.D	P2202944-005 (1000mL)	S35-06162204	SC	13	
32	7/12/22 23:07	07122232.D	System	S35-06162204	SC	2	
							7/13/22

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-07
Cycles: 30
Batch: 29570

Batch Started By: ANAKLOWYCZ on 6/28/22 0817
Finished Cleaning By: ALESAICHERRE on 6/29/22 0647

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02408	6/28/22	6/28/22	Pass w/ Conditions	-14.3	6/29/22 0647	ALESAICHERRE				ms21-06/28/22
AC02303	6/28/22		Pass w/ Conditions	-14.3	6/29/22 0647	ALESAICHERRE	-14.0	7/5/22 0957		
AC02226	6/28/22		Pass w/ Conditions	-14.3	6/29/22 0647	ALESAICHERRE	-14.0	7/5/22 0806		
AS01538	6/28/22		Pass w/ Conditions	-14.3	6/29/22 0647	ALESAICHERRE	-14.0	7/5/22 0957		
AC02320	6/28/22		Pass w/ Conditions	-14.3	6/29/22 0647	ALESAICHERRE	-14.0	7/5/22 0957		
AC02069	6/28/22		Pass w/ Conditions	-14.3	6/29/22 0647	ALESAICHERRE	-14.0	7/5/22 0806		
AC01177	6/28/22		Pass w/ Conditions	-14.3	6/29/22 0647	ALESAICHERRE	-14.0	7/5/22 0957		
AC02418	6/28/22		Pass w/ Conditions	-14.3	6/29/22 0647	ALESAICHERRE	-14.0	7/5/22 0957		
AS01007	6/28/22		Pass w/ Conditions	-14.3	6/29/22 0647	ALESAICHERRE	-14.0	7/5/22 0957		
AS01435	6/28/22		Pass w/ Conditions	-14.3	6/29/22 0647	ALESAICHERRE	-14.0	7/5/22 0957		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 06\28\
Data File : 06282208.D
Acq On : 28 Jun 2022 16:50
Operator : KM
Sample : 062822 AC02408 29570
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

6/29/22

Quant Time: Jun 29 04:54:09 2022
Quant Method : I:\MS21\Methods\F21061622A.M
Quant Title : EPA TO-15
QLast Update : Tue Jun 28 09:57:24 2022
Response via : Initial Calibration

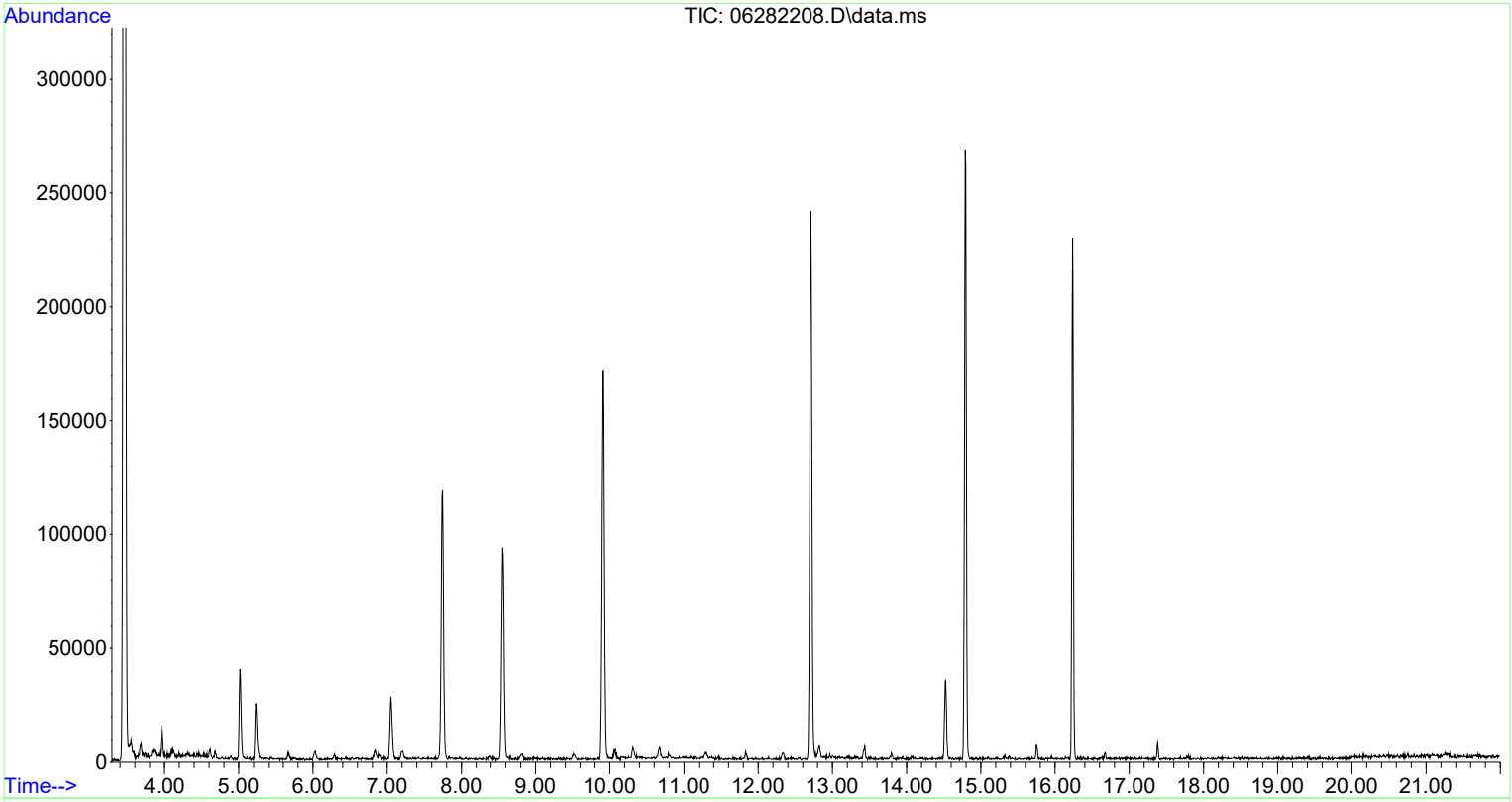
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.74	130	60921	1000.000	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.91	114	184171	1000.000	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.79	54	29752	1000.000	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.56	65	84756	965.064	pg		0.00
Spiked Amount 1000.000			Recovery = 96.51%				
57) Toluene-d8 (SS2)	12.71	98	189603	1025.778	pg		0.00
Spiked Amount 1000.000			Recovery = 102.58%				
74) Bromofluorobenzene (SS3)	16.24	174	77927	972.224	pg		0.00
Spiked Amount 1000.000			Recovery = 97.22%				
Target Compounds							Qvalue
2) * Propene	3.67	42	479	9.071	pg	#	67
3) * Dichlorodifluoromethane	3.73	85	171	1.324	pg		98
4) * Chloromethane	3.86	50	535	9.168	pg		95
10) * Ethanol	4.61	45	3101	67.058	pg		96
12) * Acrolein	4.90	56	939	32.383	pg		97
13) * Acetone	5.02	58	16500	360.340	pg		80
14) * Trichlorofluoromethane	5.13	101	108	0.866	pg		89
15) * 2-Propanol (Isopropa...	5.23	45	25165	201.244	pg		96
16) * Acrylonitrile	5.37	53	83	1.281	pg	#	69
18) tert-Butanol	5.81	59	551	5.552	pg	#	74
19) * Methylene Chloride	5.75	84	350	5.175	pg		97
22) * Carbon Disulfide	6.03	76	5427	19.801	pg		99
26) * Vinyl Acetate	6.91	86	345	50.398	pg	#	7
27) * 2-Butanone (MEK)	7.20	72	1324	39.951	pg		92
30) * Ethyl Acetate	7.86	61	151	8.110	pg	#	80
34) * Tetrahydrofuran	8.39	71	294	11.826	pg		80
39) * Benzene	9.49	78	713	3.919	pg	#	90
48) * 1,4-Dioxane	10.80	88	634	12.227	pg	#	71
53) * 4-Methyl-2-pentanone	11.83	58	700	19.246	pg	#	87
58) * Toluene	12.82	91	4013	21.358	pg		100
59) * 2-Hexanone	13.21	58	352	8.326	pg		95
62) * n-Butyl Acetate	13.94	56	142	4.490	pg		93
67) * m- & p-Xylenes	15.39	91	249	1.909	pg		91
70) * Styrene	15.73	104	147	1.522	pg		87
71) * o-Xylene	15.83	91	100	0.767	pg		89
73) * 1,1,2,2-Tetrachloroe...	15.76	83	92	0.974	pg	#	73
84) * 1,2,4-Trimethylbenzene	17.36	105	52	0.361	pg	#	23
91) p-Isopropyltoluene	17.73	134	69	1.469	pg	#	67

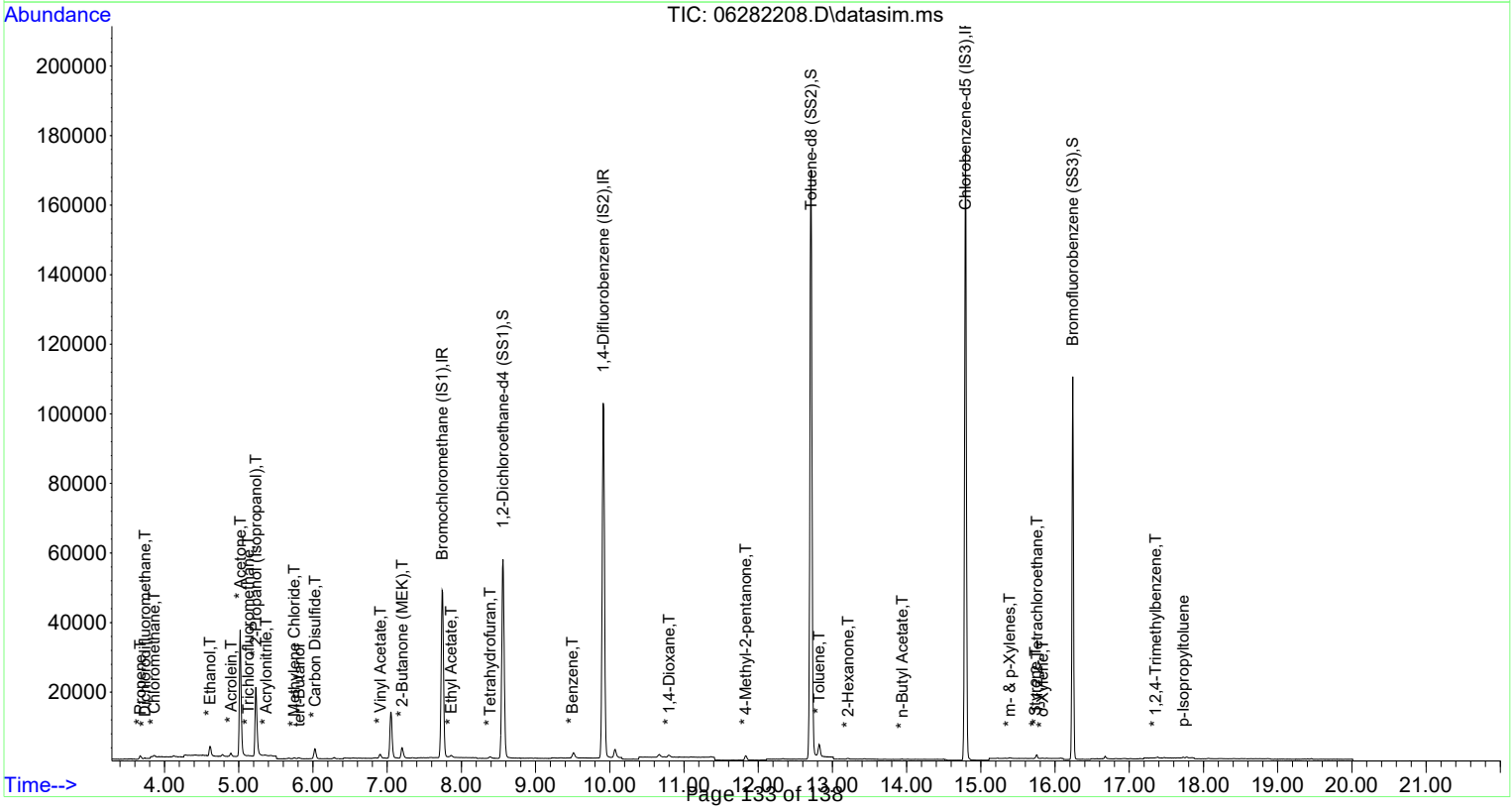
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 06\28\
Data File : 06282208.D
Acq On : 28 Jun 2022 16:50
Operator : KM
Sample : 062822 AC02408 29570
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 29 04:54:09 2022
Quant Method : I:\MS21\Methods\F21061622A.M
Quant Title : EPA TO-15
QLast Update : Tue Jun 28 09:57:24 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 29543

Batch Started By: on 6/21/22 0359
Finished Cleaning By: KYLAN.MALLOY on 6/23/22 1227

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02028	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	7/1/22 1027		
AC02205	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	7/5/22 0806		
AC02246	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	6/30/22 0316		
AC01844	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	6/30/22 1216		
AC02127	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	6/30/22 0316		
AC01831	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	6/30/22 0316		
AC02250	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	7/1/22 1027		
AC02269	6/21/22	6/22/22	Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY				MS21-06/22/22
AC02165	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	7/5/22 0806		
AC02113	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	7/1/22 1027		
AC02216	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	7/1/22 1027		
AC01047	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	7/1/22 1027		
AC01860	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	7/1/22 0758		
AC02458	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	7/1/22 0758		
AC02348	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	7/5/22 0806		
AC02242	6/21/22		Pass w/ Conditions	-14.3	6/23/22 1227	KYLAN.MALLOY	-14.0	6/29/22 0756		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 06\22\
Data File : 06222205.D
Acq On : 22 Jun 2022 14:34
Operator : KM
Sample : 062222 AC02269_29543
Misc : S35-04152201
ALS Vial : 1 Sample Multiplier: 1

KM 6/22/22

Quant Time: Jun 22 15:26:36 2022
Quant Method : I:\MS21\Methods\F21061622.M
Quant Title : EPA TO-15
QLast Update : Thu Jun 16 07:57:03 2022
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane (IS1)	7.741	130	45707	1000.00 pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.912	114	137048	1000.00 pg	0.00
56) Chlorobenzene-d5 (IS3)	14.793	54	23029	1000.00 pg	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4 ...	8.560	65	64400	977.36 pg	0.00
Spiked Amount 1000.000			Recovery = 97.74%		
57) Toluene-d8 (SS2)	12.708	98	143408	1002.36 pg	0.00
Spiked Amount 1000.000			Recovery = 100.24%		
74) Bromofluorobenzene (SS3)	16.239	174	59624	961.04 pg	0.00
Spiked Amount 1000.000			Recovery = 96.10%		
Target Compounds					Qvalue
2) * Propene	3.673	42	366	N.D.	
3) * Dichlorodifluoromethane	3.725	85	475	N.D.	
4) * Chloromethane	3.856	50	319	N.D.	
5) * 1,2-Dichloro-1,1,2,2...	0.000		0	N.D.	
6) * Vinyl Chloride	0.000		0	N.D.	
7) * 1,3-Butadiene	4.147	54	33	N.D.	
8) * Bromomethane	4.372	94	71	N.D.	
9) * Chloroethane	0.000		0	N.D.	
10] * Ethanol	4.612	45	16267	468.85 pg	99
11) * Acetonitrile	4.783	41	349	N.D.	
12) * Acrolein	4.896	56	278	N.D.	
13] * Acetone	5.020	58	5251	152.85 pg	88
14) * Trichlorofluoromethane	5.138	101	394	N.D.	
15) * 2-Propanol (Isopropa...	5.238	45	3990	N.D.	
16) * Acrylonitrile	0.000		0	N.D.	
17) * 1,1-Dichloroethene	0.000		0	N.D.	
18) tert-Butanol	5.817	59	286	N.D.	
19) * Methylene Chloride	5.749	84	430	N.D.	
20) * 3-Chloro-1-propene (...	6.026	76	7339	N.D.	
21) * Trichlorotrifluoroet...	6.002	151	55	N.D.	
22) * Carbon Disulfide	6.026	76	7339	N.D.	
23) * trans-1,2-Dichloroet...	0.000		0	N.D.	
24) * 1,1-Dichloroethane	0.000		0	N.D.	
25) * Methyl tert-Butyl Ether	0.000		0	N.D.	
26) * Vinyl Acetate	6.908	86	72	N.D.	
27) * 2-Butanone (MEK)	7.199	72	1274	N.D.	
28) * cis-1,2-Dichloroethene	0.000		0	N.D.	
29) DIPE	7.857	45	247	N.D.	
30) * Ethyl Acetate	7.857	61	232	N.D.	
31) * n-Hexane	7.838	57	171	N.D.	
32) * Chloroform	7.877	83	72	N.D.	
34) * Tetrahydrofuran	8.389	71	308	N.D.	
35) ETBE	0.000		0	N.D.	
36) * 1,2-Dichloroethane	0.000		0	N.D.	
38) * 1,1,1-Trichloroethane	0.000		0	N.D.	
39) * Benzene	9.500	78	1314	N.D.	
40) Isopropyl Acetate	0.000		0	N.D.	
41) 1-Butanol	0.000		0	N.D.	
42) * Carbon Tetrachloride	9.667	117	61	N.D.	
43) * Cyclohexane	0.000		0	N.D.	
44) TAME	0.000		0	N.D.	
45) * 1,2-Dichloropropane	0.000		0	N.D.	
46) * Bromodichloromethane	10.604	83	58	N.D.	
47) * Trichloroethene	0.000		0	N.D.	

Data Path : I:\MS21\DATA\2022 06\22\
Data File : 06222205.D
Acq On : 22 Jun 2022 14:34
Operator : KM
Sample : 062222 AC02269_29543
Misc : S35-04152201
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 22 15:26:36 2022
Quant Method : I:\MS21\Methods\F21061622.M
Quant Title : EPA TO-15
QLast Update : Thu Jun 16 07:57:03 2022
Response via : Initial Calibration

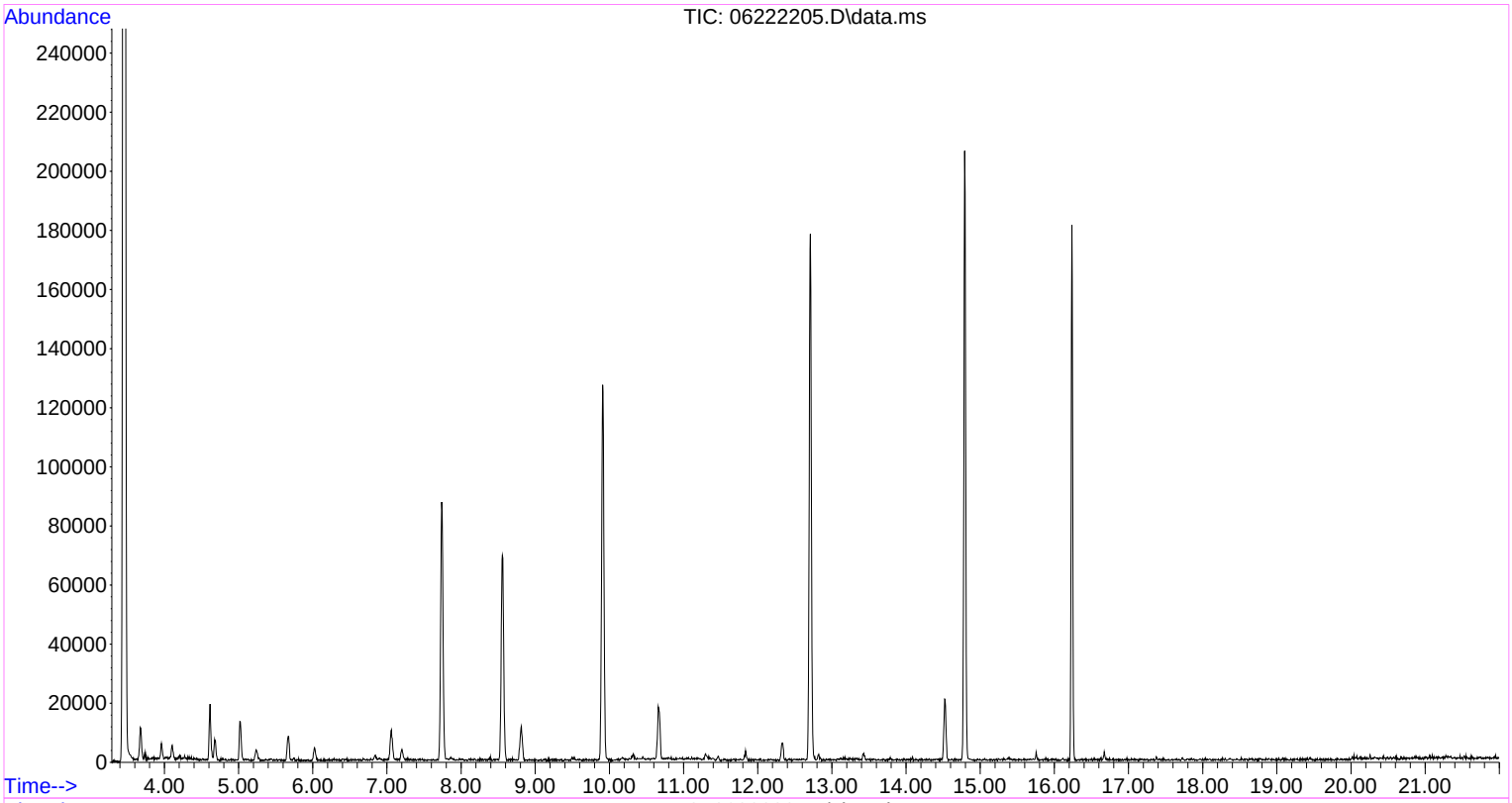
	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
48)	* 1,4-Dioxane	10.807	88	390	N.D.	
49)	Isooctane	10.793	56	66	N.D.	
50)	* Methyl Methacrylate	0.000		0	N.D.	
51)	* n-Heptane	11.105	71	120	N.D.	
52)	* cis-1,3-Dichloropropene	0.000		0	N.D.	
53)	* 4-Methyl-2-pentanone	11.832	58	804	N.D.	
54)	* trans-1,3-Dichloropr...	0.000		0	N.D.	
55)	* 1,1,2-Trichloroethane	0.000		0	N.D.	
58)	* Toluene	12.821	91	1797	N.D.	
59)	* 2-Hexanone	13.217	58	57	N.D.	
60)	* Dibromochloromethane	0.000		0	N.D.	
61)	* 1,2-Dibromoethane	0.000		0	N.D.	
62)	* n-Butyl Acetate	13.938	56	55	N.D.	
63)	* n-Octane	14.011	85	79	N.D.	
64)	* Tetrachloroethene	14.114	166	55	N.D.	
65)	* Chlorobenzene	0.000		0	N.D.	
66)	* Ethylbenzene	15.226	91	240	N.D.	
67)	* m- & p-Xylenes	15.387	91	449	N.D.	
68)	* Bromoform	0.000		0	N.D.	
69)	Cyclohexanone	0.000		0	N.D.	
70)	* Styrene	15.733	104	137	N.D.	
71)	* o-Xylene	15.834	91	197	N.D.	
72)	* n-Nonane	16.073	57	97	N.D.	
73)	* 1,1,2,2-Tetrachloroe...	0.000		0	N.D.	
75)	* Cumene	0.000		0	N.D.	
76)	* alpha-Pinene	16.715	93	262	N.D.	
77)	* n-Propylbenzene	16.817	91	119	N.D.	
78)	3-Ethyltoluene	16.948	105	68	No Calib	#
79)	* 4-Ethyltoluene	16.948	105	68	N.D.	
80)	* 1,3,5-Trimethylbenzene	17.015	105	60	N.D.	
81)	alpha-Methylstyrene	0.000		0	N.D.	
82)	2-Ethyltoluene	17.171	105	65	No Calib	#
83)	tert-Butylbenzene	0.000		0	N.D.	
84)	* 1,2,4-Trimethylbenzene	17.362	105	220	N.D.	
85)	* Benzyl Chloride	0.000		0	N.D.	
86)	* 1,3-Dichlorobenzene	17.540	146	53	N.D.	
87)	* 1,4-Dichlorobenzene	17.540	146	56	N.D.	
88)	n-Decane	0.000		0	N.D.	
89)	sec-Butylbenzene	0.000		0	N.D.	
90)	1,2,3-Trimethylbenzene	17.853	105	191	No Calib	#
91)	p-Isopropyltoluene	17.729	134	102	N.D.	
92)	* 1,2-Dichlorobenzene	0.000		0	N.D.	
93)	* D-Limonene	17.853	68	179	N.D.	
94)	n-Butylbenzene	0.000		0	N.D.	
95)	* 1,2-Dibromo-3-chloro...	0.000		0	N.D.	
96)	n-Undecane	0.000		0	N.D.	
97)	* 1,2,4-Trichlorobenzene	0.000		0	N.D.	
98)	* Naphthalene	19.444	128	545	N.D.	
99)	n-Dodecane	0.000		0	N.D.	
100)	* Hexachlorobutadiene	0.000		0	N.D.	

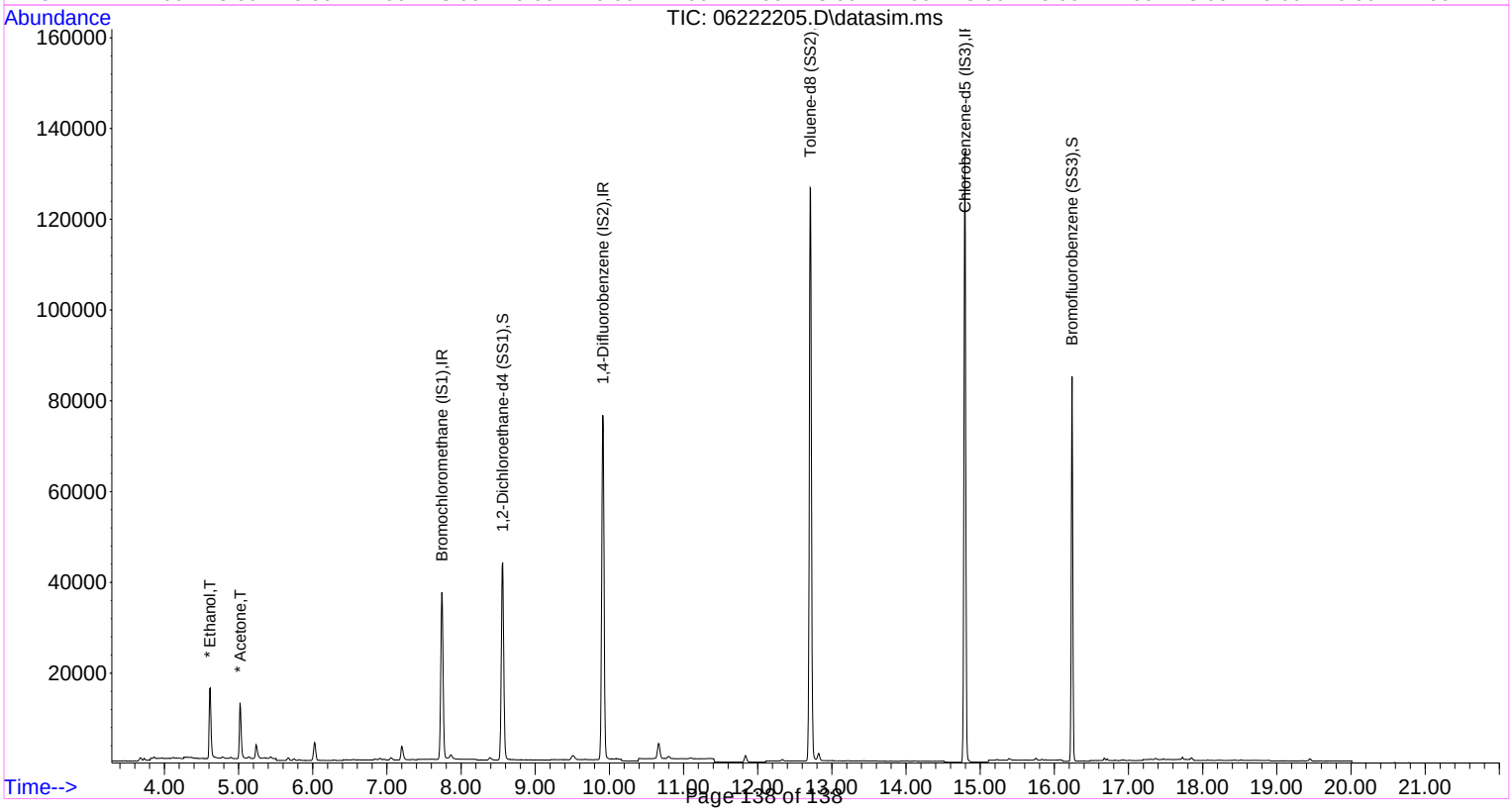
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 06\22\
Data File : 06222205.D
Acq On : 22 Jun 2022 14:34
Operator : KM
Sample : 062222 AC02269_29543
Misc : S35-04152201
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 22 15:26:36 2022
Quant Method : I:\MS21\Methods\F21061622.M
Quant Title : EPA TO-15
QLast Update : Thu Jun 16 07:57:03 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

July 29, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on July 19, 2022. For your reference, these analyses have been assigned our service request number P2203145.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 4:08 pm, Jul 29, 2022

Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2203145
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on July 19, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2203145
Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 7/19/2022
Time Received: 14:06

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_071922_S	P2203145-001	Air	7/19/2022	11:00	AS01110	-3.04	3.91	X
DOE-2_071922_S	P2203145-002	Air	7/19/2022	11:15	AC01795	-2.53	3.86	X
DOE-3_071922_S	P2203145-003	Air	7/19/2022	11:30	AS01590	-2.80	3.68	X
DOE-4_071922_S	P2203145-004	Air	7/19/2022	11:45	AS00564	-2.66	3.82	X
DOE-2_071922_D	P2203145-005	Air	7/19/2022	11:16	AS01469	-0.53	3.90	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. R220 3145

Company Name & Address (Reporting Information)	North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304
Project Name	DOE Perimeter Air
Project Number	080153.015.15
P.O. # / Billing Information	PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Project Manager	Trina Cesnik
Phone / Fax	805-587-0691 /
Email Address for Result Reporting	cchristensen@northwindgrp.com; denise.gonzalez@northwindg
Sampler (Print & Sign)	T. Stewart Williford
ALS Contact	Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_071922_S	1	7/19/2022	1100	AS01110	FCR00346	-28.5	-4.0		X		
DOE-2_071922_S	2	7/19/2022	1115	AC01795	FCR00031	-28.5	-3.0		X		
DOE-3_071922_S	3	7/19/2022	1130	AS01590	FCR00385	-28.5	-3.0		X		
DOE-4_071922_S	4	7/19/2022	1145	AS00564	FCR00187	-29.0	-3.5		X		
DOE-2_071922_D	5	7/19/2022	1116	AS01469	FCR00044	-28.5	-1.0		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) X Tier IV (Data Validation Package) 10% Surcharge ____

EDD required Yes / No
Type: EQuIS Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature) T. Stewart Williford	Date: 7/19/22	Time: 1706	Received by: (Signature)	Date: 7-19-22	Time: 1706	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2203145

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 7/20/22 Date opened: 7/20/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2203145-001.01	6.0 L Silonite Can					
P2203145-002.01	6.0 L Ambient Can					
P2203145-003.01	6.0 L Silonite Can					
P2203145-004.01	6.0 L Silonite Can					
P2203145-005.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_071922_S** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-001

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01110

Initial Pressure (psig): -3.04 Final Pressure (psig): 3.91

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.85	**0.39**	0.17	
74-87-3	Chloromethane	ND	0.82	ND	0.40	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.86	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.83	ND	0.33	
106-99-0	1,3-Butadiene	ND	0.83	ND	0.38	
74-83-9	Bromomethane	ND	0.82	ND	0.21	
75-00-3	Chloroethane	ND	0.82	ND	0.31	
107-02-8	Acrolein	ND	1.6	ND	0.70	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.95**	0.83	**0.17**	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.65	
107-13-1	Acrylonitrile	ND	1.6	ND	0.74	
75-35-4	1,1-Dichloroethene	ND	0.86	ND	0.22	
75-09-2	Methylene Chloride	ND	0.83	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.86	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.8	ND	0.57	
156-60-5	trans-1,2-Dichloroethene	ND	0.85	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.85	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.85	ND	0.24	
108-05-4	Vinyl Acetate	ND	8.0	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.54	
156-59-2	cis-1,2-Dichloroethene	ND	0.83	ND	0.21	
141-78-6	Ethyl Acetate	**25**	3.4	**6.9**	0.93	
110-54-3	n-Hexane	ND	0.85	ND	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_071922_S** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-001

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01110

Initial Pressure (psig): -3.04 Final Pressure (psig): 3.91

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.86	ND	0.18	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.54	
107-06-2	1,2-Dichloroethane	ND	0.85	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.83	ND	0.15	
71-43-2	Benzene	ND	0.80	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.80	ND	0.13	
110-82-7	Cyclohexane	ND	1.8	ND	0.51	
78-87-5	1,2-Dichloropropane	ND	0.80	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.85	ND	0.13	
79-01-6	Trichloroethene	ND	0.83	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.83	ND	0.23	
142-82-5	n-Heptane	ND	0.85	ND	0.21	
10061-01-5	cis-1,3-Dichloropropene	ND	0.80	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	1.8	ND	0.43	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.83	ND	0.15	
108-88-3	Toluene	ND	0.83	ND	0.22	
591-78-6	2-Hexanone	ND	1.8	ND	0.43	
124-48-1	Dibromochloromethane	ND	0.85	ND	0.10	
106-93-4	1,2-Dibromoethane	ND	0.83	ND	0.11	
111-65-9	n-Octane	ND	0.85	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.83	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_071922_S** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-001

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01110

Initial Pressure (psig): -3.04 Final Pressure (psig): 3.91

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.83	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.8	ND	0.41	
75-25-2	Bromoform	ND	0.83	ND	0.081	
100-42-5	Styrene	ND	0.80	ND	0.19	
95-47-6	o-Xylene	ND	0.83	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.83	ND	0.12	
98-82-8	Cumene	ND	0.83	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.85	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.85	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.83	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.83	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.8	ND	0.34	
541-73-1	1,3-Dichlorobenzene	ND	0.83	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.83	ND	0.14	
135-98-8	sec-Butylbenzene	ND	0.83	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.83	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.85	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	ND	0.24	
91-20-3	Naphthalene	ND	0.83	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.83	ND	0.078	
104-51-8	n-Butylbenzene	ND	0.83	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.85	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_071922_S** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-002

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01795

Initial Pressure (psig): -2.53 Final Pressure (psig): 3.86

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.81	**0.39**	0.16	
74-87-3	Chloromethane	ND	0.78	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.83	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.78	ND	0.20	
75-00-3	Chloroethane	ND	0.78	ND	0.30	
107-02-8	Acrolein	ND	1.5	ND	0.67	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.95**	0.80	**0.17**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.62	
107-13-1	Acrylonitrile	ND	1.5	ND	0.71	
75-35-4	1,1-Dichloroethene	ND	0.83	ND	0.21	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.83	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.81	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.81	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.81	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.7	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
141-78-6	Ethyl Acetate	**15**	3.2	**4.2**	0.89	
110-54-3	n-Hexane	ND	0.81	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_071922_S** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-002

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01795

Initial Pressure (psig): -2.53 Final Pressure (psig): 3.86

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.83	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.52	
107-06-2	1,2-Dichloroethane	ND	0.81	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.81	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
142-82-5	n-Heptane	ND	0.81	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.77	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.78	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	ND	0.80	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.81	ND	0.095	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
111-65-9	n-Octane	ND	0.81	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_071922_S** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-002

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01795

Initial Pressure (psig): -2.53 Final Pressure (psig): 3.86

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.81	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.81	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.80	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.80	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.81	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	
104-51-8	n-Butylbenzene	ND	0.80	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.81	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_071922_S** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-003

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01590

Initial Pressure (psig): -2.80 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	0.82	**0.40**	0.17	
74-87-3	Chloromethane	ND	0.79	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.83	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.79	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
107-02-8	Acrolein	ND	1.5	ND	0.67	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.98**	0.80	**0.17**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.63	
107-13-1	Acrylonitrile	ND	1.5	ND	0.71	
75-35-4	1,1-Dichloroethene	ND	0.83	ND	0.21	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.83	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.82	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.82	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.7	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
141-78-6	Ethyl Acetate	ND	3.2	ND	0.90	
110-54-3	n-Hexane	ND	0.82	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_071922_S** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-003

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01590

Initial Pressure (psig): -2.80 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.83	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.52	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
142-82-5	n-Heptane	ND	0.82	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.77	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.79	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	ND	0.80	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.82	ND	0.096	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
111-65-9	n-Octane	ND	0.82	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_071922_S** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-003

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01590

Initial Pressure (psig): -2.80 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.82	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.80	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.80	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.82	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	
104-51-8	n-Butylbenzene	ND	0.80	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.82	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_071922_S** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-004

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00564

Initial Pressure (psig): -2.66 Final Pressure (psig): 3.82

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	0.82	**0.40**	0.17	
74-87-3	Chloromethane	ND	0.79	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.83	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.79	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
107-02-8	Acrolein	ND	1.5	ND	0.67	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.99**	0.80	**0.18**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.63	
107-13-1	Acrylonitrile	ND	1.5	ND	0.71	
75-35-4	1,1-Dichloroethene	ND	0.83	ND	0.21	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.83	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.82	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.82	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.7	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
141-78-6	Ethyl Acetate	**13**	3.2	**3.7**	0.90	
110-54-3	n-Hexane	ND	0.82	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_071922_S** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-004

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00564

Initial Pressure (psig): -2.66 Final Pressure (psig): 3.82

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.83	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.52	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
142-82-5	n-Heptane	ND	0.82	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.77	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.79	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	ND	0.80	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.82	ND	0.096	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
111-65-9	n-Octane	ND	0.82	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_071922_S** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-004

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00564

Initial Pressure (psig): -2.66 Final Pressure (psig): 3.82

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.82	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.80	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.80	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.82	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	
104-51-8	n-Butylbenzene	ND	0.80	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.82	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_071922_D** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-005

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01469

Initial Pressure (psig): -0.53 Final Pressure (psig): 3.90

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	0.69	**0.40**	0.14	
74-87-3	Chloromethane	ND	0.67	ND	0.32	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.71	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.68	ND	0.27	
106-99-0	1,3-Butadiene	ND	0.68	ND	0.31	
74-83-9	Bromomethane	ND	0.67	ND	0.17	
75-00-3	Chloroethane	ND	0.67	ND	0.25	
107-02-8	Acrolein	ND	1.3	ND	0.57	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.97**	0.68	**0.17**	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.3	ND	0.53	
107-13-1	Acrylonitrile	ND	1.3	ND	0.60	
75-35-4	1,1-Dichloroethene	ND	0.71	ND	0.18	
75-09-2	Methylene Chloride	ND	0.68	ND	0.20	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.71	ND	0.092	
75-15-0	Carbon Disulfide	ND	1.4	ND	0.46	
156-60-5	trans-1,2-Dichloroethene	ND	0.69	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.69	ND	0.17	
1634-04-4	Methyl tert-Butyl Ether	ND	0.69	ND	0.19	
108-05-4	Vinyl Acetate	ND	6.6	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	1.3	ND	0.44	
156-59-2	cis-1,2-Dichloroethene	ND	0.68	ND	0.17	
141-78-6	Ethyl Acetate	**2.9**	2.8	**0.80**	0.76	
110-54-3	n-Hexane	ND	0.69	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_071922_D** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-005

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01469

Initial Pressure (psig): -0.53 Final Pressure (psig): 3.90

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.71	ND	0.14	
109-99-9	Tetrahydrofuran (THF)	ND	1.3	ND	0.44	
107-06-2	1,2-Dichloroethane	ND	0.69	ND	0.17	
71-55-6	1,1,1-Trichloroethane	ND	0.68	ND	0.12	
71-43-2	Benzene	ND	0.66	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.66	ND	0.10	
110-82-7	Cyclohexane	ND	1.4	ND	0.42	
78-87-5	1,2-Dichloropropane	ND	0.66	ND	0.14	
75-27-4	Bromodichloromethane	ND	0.69	ND	0.10	
79-01-6	Trichloroethene	ND	0.68	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.68	ND	0.19	
142-82-5	n-Heptane	ND	0.69	ND	0.17	
10061-01-5	cis-1,3-Dichloropropene	ND	0.66	ND	0.14	
108-10-1	4-Methyl-2-pentanone	ND	1.4	ND	0.35	
10061-02-6	trans-1,3-Dichloropropene	ND	0.67	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.68	ND	0.12	
108-88-3	Toluene	ND	0.68	ND	0.18	
591-78-6	2-Hexanone	ND	1.4	ND	0.35	
124-48-1	Dibromochloromethane	ND	0.69	ND	0.082	
106-93-4	1,2-Dibromoethane	ND	0.68	ND	0.089	
111-65-9	n-Octane	ND	0.69	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.68	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_071922_D** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203145-005

Test Code: EPA TO-15 Date Collected: 7/19/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/19/22
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01469

Initial Pressure (psig): -0.53 Final Pressure (psig): 3.90

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.68	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.4	ND	0.33	
75-25-2	Bromoform	ND	0.68	ND	0.066	
100-42-5	Styrene	ND	0.66	ND	0.15	
95-47-6	o-Xylene	ND	0.68	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.68	ND	0.099	
98-82-8	Cumene	ND	0.68	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.69	ND	0.14	
622-96-8	4-Ethyltoluene	ND	0.69	ND	0.14	
108-67-8	1,3,5-Trimethylbenzene	ND	0.68	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.68	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.4	ND	0.28	
541-73-1	1,3-Dichlorobenzene	ND	0.68	ND	0.11	
106-46-7	1,4-Dichlorobenzene	ND	0.68	ND	0.11	
135-98-8	sec-Butylbenzene	ND	0.68	ND	0.12	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.68	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.69	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ND	0.19	
91-20-3	Naphthalene	ND	0.68	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.68	ND	0.064	
104-51-8	n-Butylbenzene	ND	0.68	ND	0.12	
1330-20-7	Xylenes, Total	ND	0.69	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220721-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/21/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220721-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/21/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220721-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/21/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2203145

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 7/19/22
Analyst: Simon Cao Date(s) Received: 7/19/22
Sample Type: 6.0 L Silonite Canister(s) Date(s) Analyzed: 7/21 - 7/22/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220721-MB	**98**	**98**	**109**	70-130	
Lab Control Sample	P220721-LCS	**97**	**97**	**111**	70-130	
Duplicate Lab Control Sample	P220721-DLCS	**97**	**96**	**111**	70-130	
DOE-1_071922_S	P2203145-001	**97**	**101**	**106**	70-130	
DOE-2_071922_S	P2203145-002	**96**	**101**	**107**	70-130	
DOE-3_071922_S	P2203145-003	**99**	**100**	**107**	70-130	
DOE-4_071922_S	P2203145-004	**100**	**101**	**106**	70-130	
DOE-2_071922_D	P2203145-005	**99**	**101**	**108**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220721-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	208	168	166	**81**	**80**	71-112	1	25	
74-87-3	Chloromethane	206	167	166	**81**	**81**	53-126	0	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	208	176	182	**85**	**88**	62-121	3	25	
75-01-4	Vinyl Chloride	208	173	177	**83**	**85**	63-123	2	25	
106-99-0	1,3-Butadiene	206	182	184	**88**	**89**	63-135	1	25	
74-83-9	Bromomethane	206	172	172	**83**	**83**	71-112	0	25	
75-00-3	Chloroethane	206	164	161	**80**	**78**	66-117	3	25	
107-02-8	Acrolein	416	339	339	**81**	**81**	71-123	0	25	
75-69-4	Trichlorofluoromethane (CFC 11)	202	165	166	**82**	**82**	71-114	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	400	318	316	**80**	**79**	61-124	1	25	
107-13-1	Acrylonitrile	402	323	324	**80**	**81**	65-130	1	25	
75-35-4	1,1-Dichloroethene	210	174	173	**83**	**82**	74-114	1	25	
75-09-2	Methylene Chloride	208	163	163	**78**	**78**	75-112	0	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	177	178	**82**	**82**	73-114	0	25	
75-15-0	Carbon Disulfide	414	330	329	**80**	**79**	70-113	1	25	
156-60-5	trans-1,2-Dichloroethene	208	171	171	**82**	**82**	76-119	0	25	
75-34-3	1,1-Dichloroethane	214	167	167	**78**	**78**	70-114	0	25	
1634-04-4	Methyl tert-Butyl Ether	206	173	174	**84**	**84**	72-118	0	25	
108-05-4	Vinyl Acetate	942	1100	1110	**117**	**118**	56-137	0.9	25	
78-93-3	2-Butanone (MEK)	408	332	332	**81**	**81**	74-121	0	25	
156-59-2	cis-1,2-Dichloroethene	206	167	167	**81**	**81**	73-117	0	25	
141-78-6	Ethyl Acetate	580	451	459	**78**	**79**	59-161	1	25	
110-54-3	n-Hexane	208	158	159	**76**	**76**	55-130	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220721-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	210	173	173	**82**	**82**	71-114	0	25	
109-99-9	Tetrahydrofuran (THF)	404	335	335	**83**	**83**	73-114	0	25	
107-06-2	1,2-Dichloroethane	210	170	170	**81**	**81**	71-119	0	25	
71-55-6	1,1,1-Trichloroethane	208	174	173	**84**	**83**	73-119	1	25	
71-43-2	Benzene	208	167	167	**80**	**80**	72-113	0	25	
56-23-5	Carbon Tetrachloride	202	172	172	**85**	**85**	67-123	0	25	
110-82-7	Cyclohexane	412	334	336	**81**	**82**	70-119	1	25	
78-87-5	1,2-Dichloropropane	206	165	164	**80**	**80**	70-118	0	25	
75-27-4	Bromodichloromethane	208	177	177	**85**	**85**	74-119	0	25	
79-01-6	Trichloroethene	204	182	182	**89**	**89**	74-115	0	25	
123-91-1	1,4-Dioxane	206	197	195	**96**	**95**	77-124	1	25	
142-82-5	n-Heptane	206	169	169	**82**	**82**	70-119	0	25	
10061-01-5	cis-1,3-Dichloropropene	208	184	184	**88**	**88**	81-126	0	25	
108-10-1	4-Methyl-2-pentanone	412	352	355	**85**	**86**	73-129	1	25	
10061-02-6	trans-1,3-Dichloropropene	200	177	177	**89**	**89**	80-127	0	25	
79-00-5	1,1,2-Trichloroethane	208	172	173	**83**	**83**	78-117	0	25	
108-88-3	Toluene	206	161	161	**78**	**78**	70-118	0	25	
591-78-6	2-Hexanone	406	331	335	**82**	**83**	74-132	1	25	
124-48-1	Dibromochloromethane	210	175	175	**83**	**83**	69-137	0	25	
106-93-4	1,2-Dibromoethane	208	167	167	**80**	**80**	76-128	0	25	
111-65-9	n-Octane	208	163	164	**78**	**79**	68-120	1	25	
127-18-4	Tetrachloroethene	212	176	174	**83**	**82**	63-130	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2203145
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220721-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	206	167	167	**81**	**81**	71-123	0	25	
179601-23-1	m,p-Xylenes	416	337	336	**81**	**81**	67-127	0	25	
75-25-2	Bromoform	210	192	191	**91**	**91**	65-149	0	25	
100-42-5	Styrene	202	174	174	**86**	**86**	76-132	0	25	
95-47-6	o-Xylene	208	172	172	**83**	**83**	69-124	0	25	
79-34-5	1,1,2,2-Tetrachloroethane	208	165	166	**79**	**80**	69-128	1	25	
98-82-8	Cumene	206	170	169	**83**	**82**	69-125	1	25	
103-65-1	n-Propylbenzene	208	168	168	**81**	**81**	70-127	0	25	
622-96-8	4-Ethyltoluene	208	176	172	**85**	**83**	69-127	2	25	
108-67-8	1,3,5-Trimethylbenzene	208	175	174	**84**	**84**	66-129	0	25	
95-63-6	1,2,4-Trimethylbenzene	206	176	176	**85**	**85**	63-142	0	25	
100-44-7	Benzyl Chloride	416	389	397	**94**	**95**	73-145	1	25	
541-73-1	1,3-Dichlorobenzene	208	177	178	**85**	**86**	67-136	1	25	
106-46-7	1,4-Dichlorobenzene	210	171	171	**81**	**81**	63-134	0	25	
135-98-8	sec-Butylbenzene	204	166	167	**81**	**82**	68-130	1	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	206	175	174	**85**	**84**	60-139	1	25	
95-50-1	1,2-Dichlorobenzene	210	175	175	**83**	**83**	64-139	0	25	
120-82-1	1,2,4-Trichlorobenzene	420	345	356	**82**	**85**	62-154	4	25	
91-20-3	Naphthalene	210	164	171	**78**	**81**	62-156	4	25	
87-68-3	Hexachlorobutadiene	212	174	175	**82**	**83**	55-142	1	25	
104-51-8	n-Butylbenzene	208	172	172	**83**	**83**	70-131	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2203145

Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 07222201.D

Analyst: Simon Cao Date Analyzed: 7/21/22

Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 21:24

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	167574	7.24	702087	9.29	151883	14.82
	Upper Limit	234604	7.57	982922	9.62	212636	15.15
	Lower Limit	100544	6.91	421252	8.96	91130	14.49
	Client Sample ID						
01	Method Blank	148791	7.19	632750	9.26	135921	14.81
02	Lab Control Sample	156703	7.23	657436	9.29	142524	14.82
03	Duplicate Lab Control Sample	156441	7.23	659361	9.29	143343	14.82
04	DOE-1_071922_S	158890	7.20	678716	9.26	139574	14.81
05	DOE-2_071922_S	159023	7.19	672733	9.26	138060	14.81
06	DOE-3_071922_S	153557	7.19	662747	9.26	137541	14.81
07	DOE-4_071922_S	151396	7.20	657549	9.26	135649	14.81
08	DOE-2_071922_D	149500	7.20	648718	9.26	133109	14.81
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222224.D Vial: 13
Acq On : 22 Jul 2022 17:14 Operator: SC
Sample : P2203145-001 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:37:49 2022 7/25/22
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	158890	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	678716	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	139574	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	323532	12.136	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.12%			
57) Toluene-d8 (SS2)	12.39	98	736827	12.578	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%			
73) Bromofluorobenzene (SS3)	16.79	174	313277	13.238	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.92%			
Target Compounds						Qvalue
2) Propene	3.28	42	2782	N.D.		
3) Dichlorodifluoromethan...	3.34	85	45013	1.198	ng	99
4) Chloromethane	3.49	50	3607	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	913	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.01	94	193	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.26	45	108374	10.780	ng	100
11) Acetonitrile	4.42	41	3750	N.D.		
12) Acrolein	4.51	56	618	N.D.		
13) Acetone	4.60	58	33377	3.550	ng	95
14) Trichlorofluoromethane	4.73	101	22443	0.593	ng	100
15) 2-Propanol (Isopropanol)	4.82	45	12584	N.D.		
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.31	59	608	N.D.		
19) Methylene Chloride	5.32	84	2358	N.D.		
20) 3-Chloro-1-propene (Al...	5.32	41	109	N.D.		
21) Trichlorotrifluoroethane	5.55	151	4129	N.D.		
22) Carbon Disulfide	5.58	76	138	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.65	72	3256	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d		
29) Diisopropyl Ether	7.25	87	1005	N.D.		
30) Ethyl Acetate	7.24	61	84202	15.551	ng	98
31) n-Hexane	7.27	57	1126	N.D.		
32) Chloroform	7.33	83	1400	N.D.		
34) Tetrahydrofuran (THF)	7.75	72	598	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.09	62	417	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	23085	No Calib		
40) 1-Butanol	9.18	56	291	No Calib		
41) Benzene	8.86	78	6514	N.D.		
42) Carbon Tetrachloride	9.03	117	6335	N.D.		
43) Cyclohexane	9.18	84	226	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.20	57	3866	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222224.D Vial: 13
Acq On : 22 Jul 2022 17:14 Operator: SC
Sample : P2203145-001 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:37:49 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

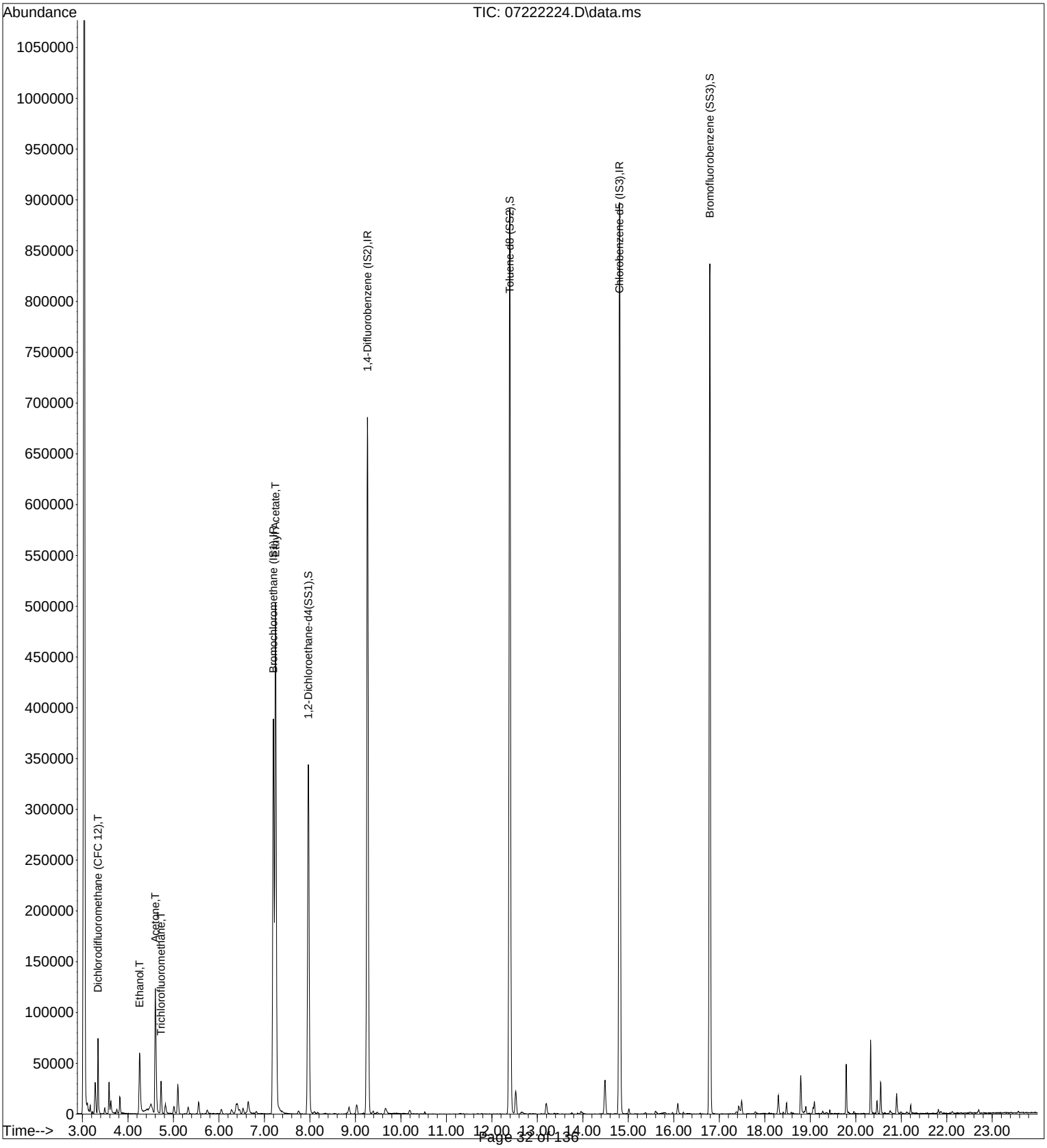
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.53	71	254	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	19730	N.D.	
59) 2-Hexanone	12.90	43	1163	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.75	43	1370	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.38	91	1644	N.D.	
67) m- & p-Xylenes	15.60	91	3845	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.08	104	113	N.D.	
70) o-Xylene	16.21	91	1536	N.D.	
71) n-Nonane	16.57	43	627	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.80	105	385	N.D.	
75) alpha-Pinene	17.49	93	5600	N.D.	
76) n-Propylbenzene	17.66	91	539	N.D.	
77) 3-Ethyltoluene	16.80	105	385	No Calib	#
78) 4-Ethyltoluene	17.83	105	472	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	262	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.49	105	732	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	1281	N.D.	
83) n-Decane	16.79	58	187	No Calib	#
84) Benzyl Chloride	18.31	91	202	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	442	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	442	N.D.	
87) sec-Butylbenzene	18.88	105	491	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	4024	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	1281	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	1651	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.08	58	326	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.93	128	988	N.D.	
96) n-Dodecane	18.79	58	762	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.78	55	694	No Calib	#
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	19.35	91	386	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222224.D Vial: 13
Acq On : 22 Jul 2022 17:14 Operator: SC
Sample : P2203145-001 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:37:49 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222224.D Vial: 13
Acq On : 22 Jul 2022 17:14 Operator: SC
Sample : P2203145-001 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:37:49 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/25/22

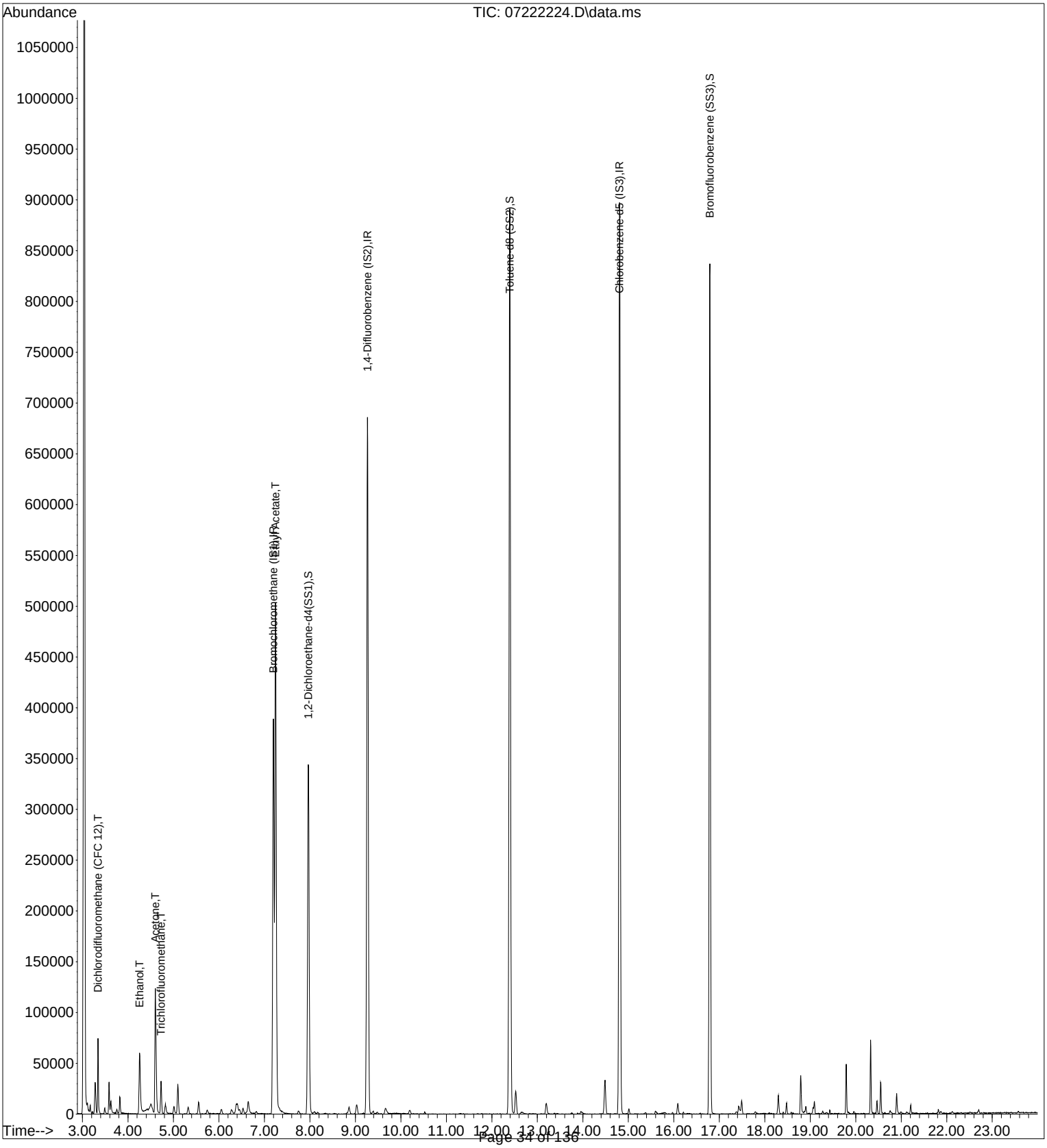
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	158890	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	678716	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	139574	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	323532	12.136	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.12%			
57) Toluene-d8 (SS2)	12.39	98	736827	12.578	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%			
73) Bromofluorobenzene (SS3)	16.79	174	313277	13.238	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.92%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.34	85	45013	1.198	ng	99
10) Ethanol	4.26	45	108374	10.780	ng	100
13) Acetone	4.60	58	33377	3.550	ng	95
14) Trichlorofluoromethane	4.73	101	22443	0.593	ng	100
30) Ethyl Acetate	7.24	61	84202	15.551	ng	98

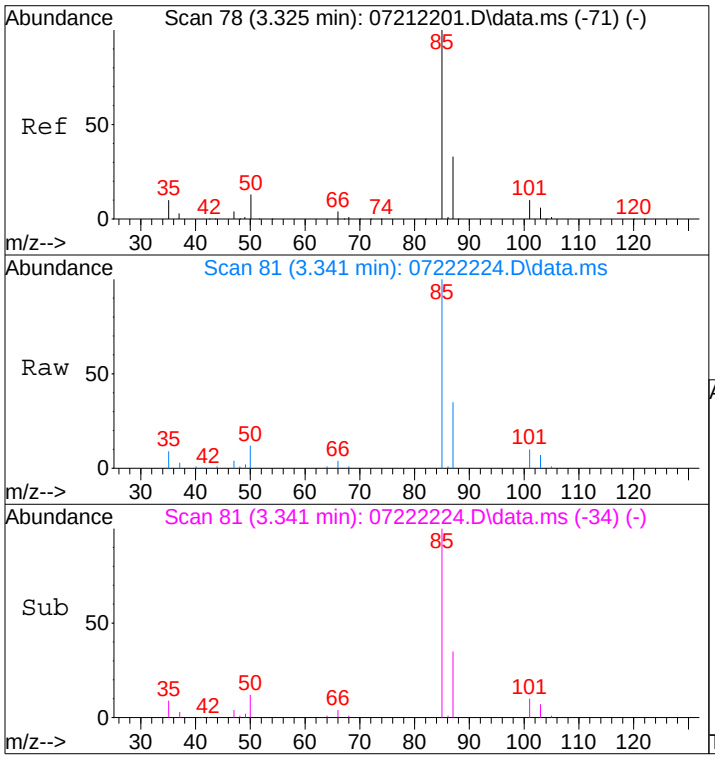
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222224.D Vial: 13
Acq On : 22 Jul 2022 17:14 Operator: SC
Sample : P2203145-001 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:37:49 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

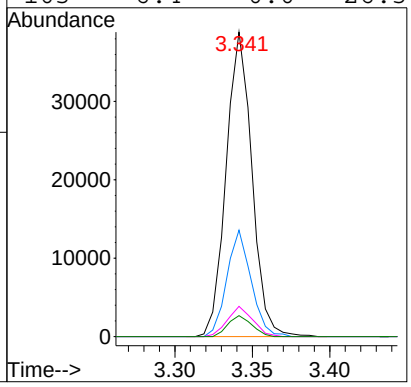


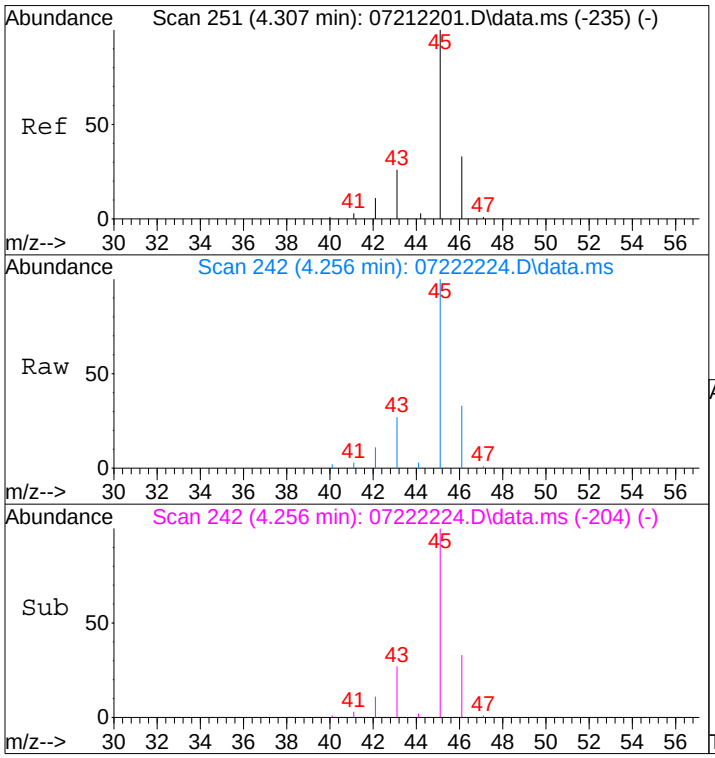


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.20 ng
RT: 3.34 min Scan# 81
Delta R.T. 0.017 min
Lab File: 07222224.D
Acq: 22 Jul 2022 17:14

Tgt Ion: 85 Resp: 45013

Ion	Ratio	Lower	Upper
85	100		
87	32.8	13.1	53.1
101	9.8	0.0	30.1
103	6.4	0.0	26.3

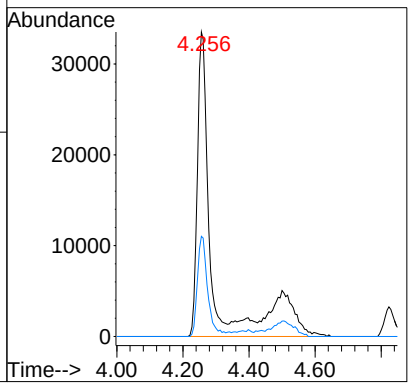


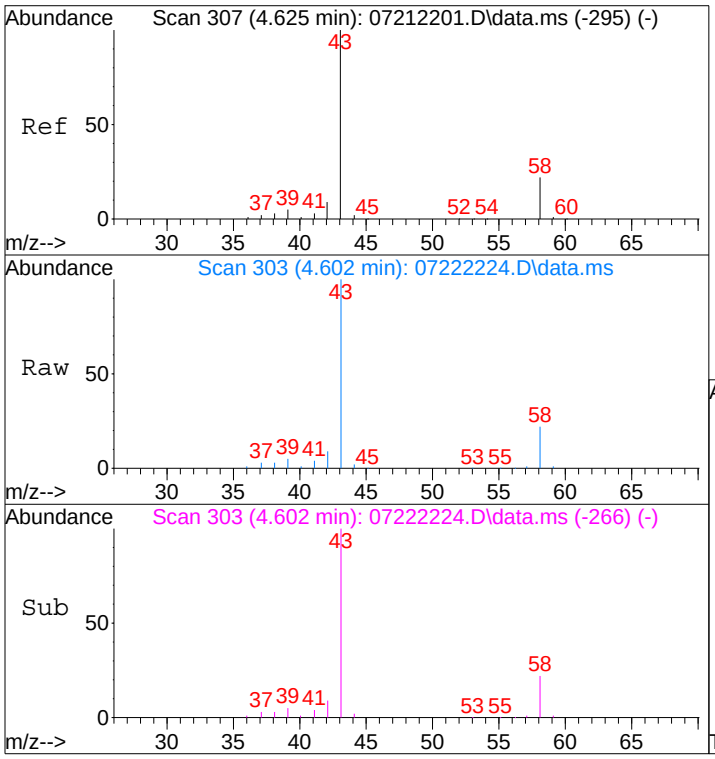


#10
Ethanol
Concen: 10.78 ng
RT: 4.26 min Scan# 242
Delta R.T. -0.035 min
Lab File: 07222224.D
Acq: 22 Jul 2022 17:14

Tgt Ion: 45 Resp: 108374

Ion	Ratio	Lower	Upper
45	100		
46	32.6	12.6	52.6

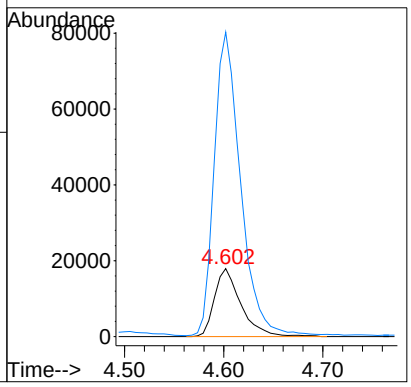


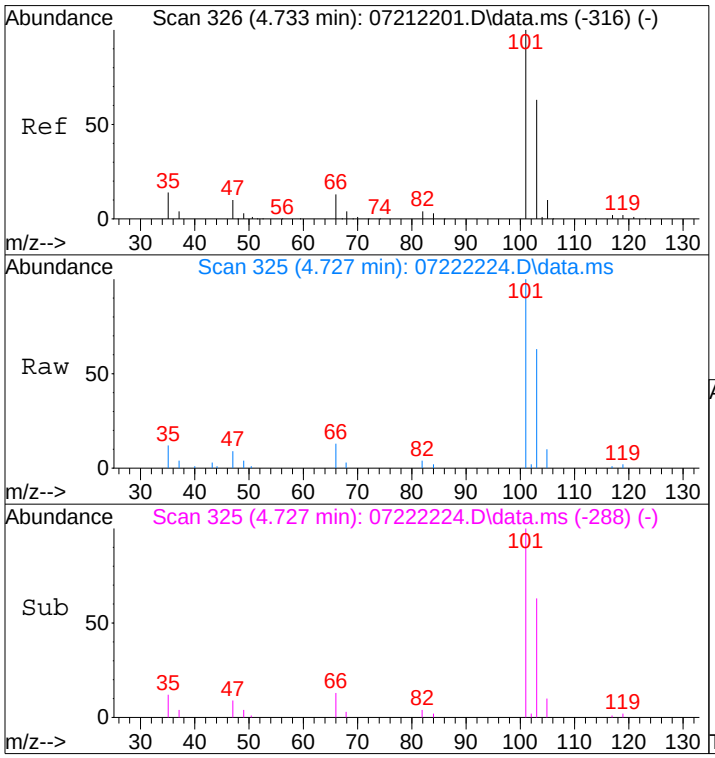


#13
Acetone
Concen: 3.55 ng
RT: 4.60 min Scan# 303
Delta R.T. -0.037 min
Lab File: 07222224.D
Acq: 22 Jul 2022 17:14

Tgt Ion: 58 Resp: 33377

Ion	Ratio	Lower	Upper
58	100		
43	442.4	424.6	484.6

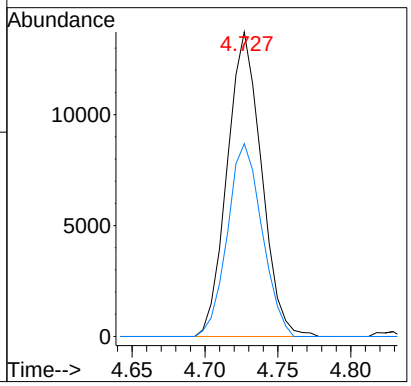


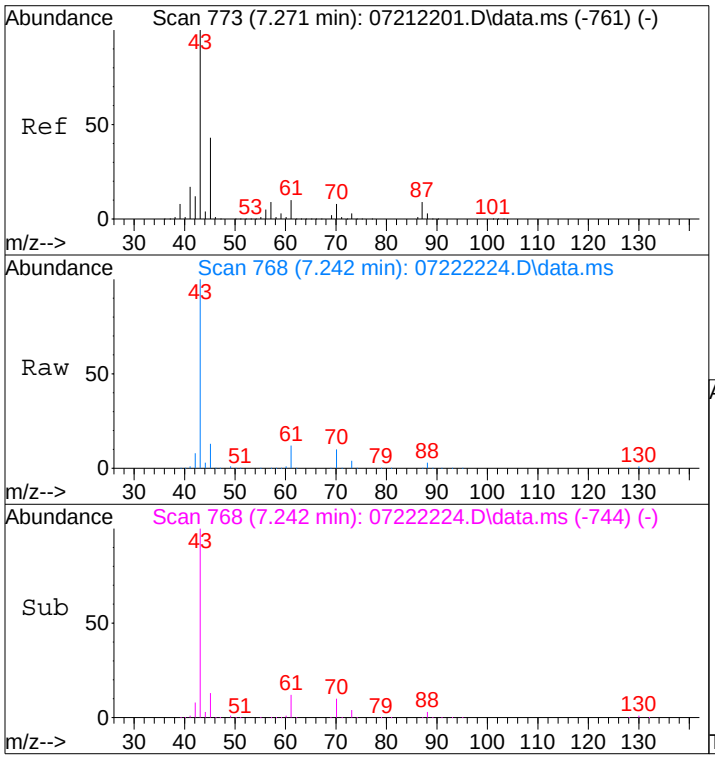


#14
Trichlorofluoromethane
Concen: 0.59 ng
RT: 4.73 min Scan# 325
Delta R.T. -0.038 min
Lab File: 07222224.D
Acq: 22 Jul 2022 17:14

Tgt Ion:101 Resp: 22443

Ion	Ratio	Lower	Upper
101	100		
103	63.9	43.7	83.7

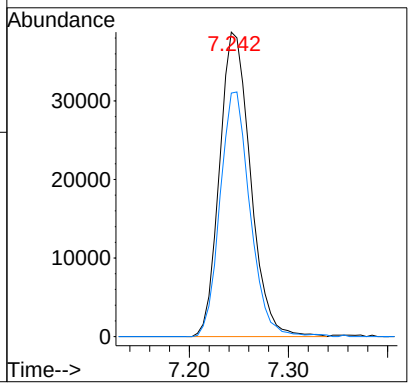




#30
Ethyl Acetate
Concen: 15.55 ng
RT: 7.24 min Scan# 768
Delta R.T. -0.063 min
Lab File: 07222224.D
Acq: 22 Jul 2022 17:14

Tgt Ion: 61 Resp: 84202

Ion	Ratio	Lower	Upper
61	100		
70	77.8	59.3	99.3



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222225.D Vial: 14
Acq On : 22 Jul 2022 17:46 Operator: SC
Sample : P2203145-002 (1000mL) Inst : MS09
Misc : S35-07192201

7/25/22

Quant Time: Jul 25 08:40:04 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	159023	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	672733	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	138060	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	318871	11.951	ng	-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%			
57) Toluene-d8 (SS2)	12.39	98	729776	12.595	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%			
73) Bromofluorobenzene (SS3)	16.79	174	314210	13.423	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.36%			
Target Compounds						Qvalue
2) Propene	3.27	42	3141	N.D.		
3) Dichlorodifluoromethan...	3.34	85	46885	1.247	ng	100
4) Chloromethane	3.48	50	3770	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	1036	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.00	94	286	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.25	45	86144	8.561	ng	100
11) Acetonitrile	4.41	41	3342	N.D.		
12) Acrolein	4.50	56	1391	N.D.		
13) Acetone	4.60	58	36899	3.922	ng	93
14) Trichlorofluoromethane	4.72	101	23426	0.618	ng	98
15) 2-Propanol (Isopropanol)	4.81	45	12443	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.32	59	781	N.D.		
19) Methylene Chloride	5.32	84	2358	N.D.		
20) 3-Chloro-1-propene (Al...	5.31	41	163	N.D.		
21) Trichlorotrifluoroethane	5.55	151	4275	N.D.		
22) Carbon Disulfide	5.58	76	1133	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	6.64	72	3368	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d	
29) Diisopropyl Ether	7.24	87	558	N.D.		
30) Ethyl Acetate	7.24	61	53992	9.963	ng	99
31) n-Hexane	7.27	57	1225	N.D.		
32) Chloroform	7.32	83	1529	N.D.		
34) Tetrahydrofuran (THF)	7.74	72	1458	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.07	62	391	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	23459	No Calib		
40) 1-Butanol	9.17	56	196	No Calib	#	
41) Benzene	8.86	78	5600	N.D.		
42) Carbon Tetrachloride	9.02	117	6591	N.D.		
43) Cyclohexane	9.25	84	564	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	9.72	63	293	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.19	57	3989	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222225.D Vial: 14
Acq On : 22 Jul 2022 17:46 Operator: SC
Sample : P2203145-002 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:40:04 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

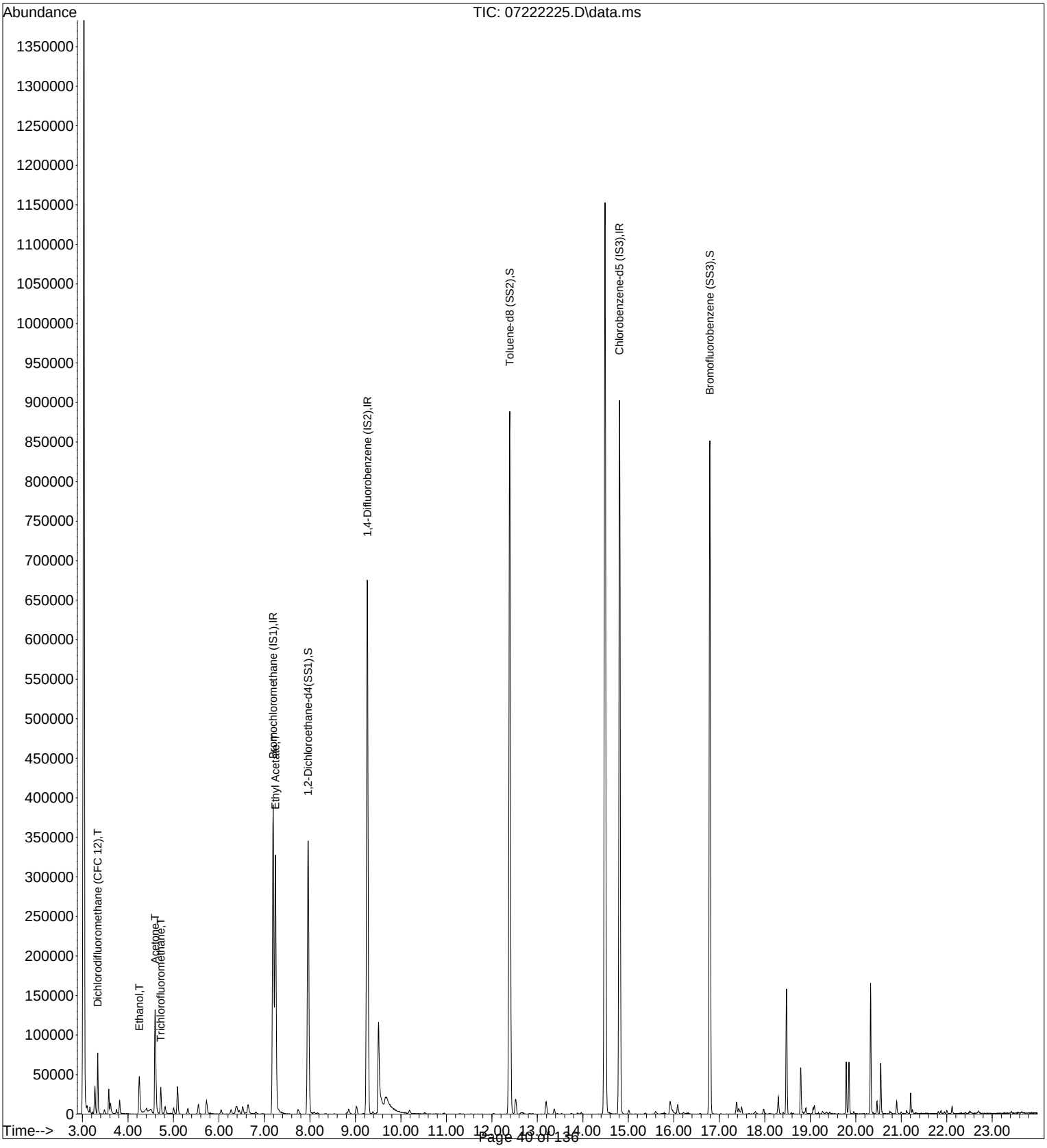
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	347	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	16333	N.D.	
59) 2-Hexanone	12.90	43	1232	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.75	43	1344	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	13.99	166	173	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.37	91	1680	N.D.	
67) m- & p-Xylenes	15.60	91	3988	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	394	N.D.	
70) o-Xylene	16.20	91	1600	N.D.	
71) n-Nonane	16.58	43	593	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	487	N.D.	
75) alpha-Pinene	17.49	93	4056	N.D.	
76) n-Propylbenzene	17.66	91	604	N.D.	
77) 3-Ethyltoluene	16.79	105	487	No Calib	#
78) 4-Ethyltoluene	17.83	105	604	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	403	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.49	105	565	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	1430	N.D.	
83) n-Decane	16.79	58	201	No Calib	#
84) Benzyl Chloride	18.30	91	189	N.D.	
85) 1,3-Dichlorobenzene	18.47	146	169	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	383	N.D.	
87) sec-Butylbenzene	18.89	105	484	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	4320	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	1430	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	1791	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.08	58	177	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.93	128	913	N.D.	
96) n-Dodecane	18.79	58	893	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.79	55	544	No Calib	#
99) tert-Butylbenzene	18.48	119	3246	N.D.	
100) n-Butylbenzene	19.35	91	561	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222225.D Vial: 14
Acq On : 22 Jul 2022 17:46 Operator: SC
Sample : P2203145-002 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:40:04 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222225.D Vial: 14
Acq On : 22 Jul 2022 17:46 Operator: SC
Sample : P2203145-002 (1000mL) Inst : MS09
Misc : S35-07192201

7/25/22

Quant Time: Jul 25 08:40:04 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

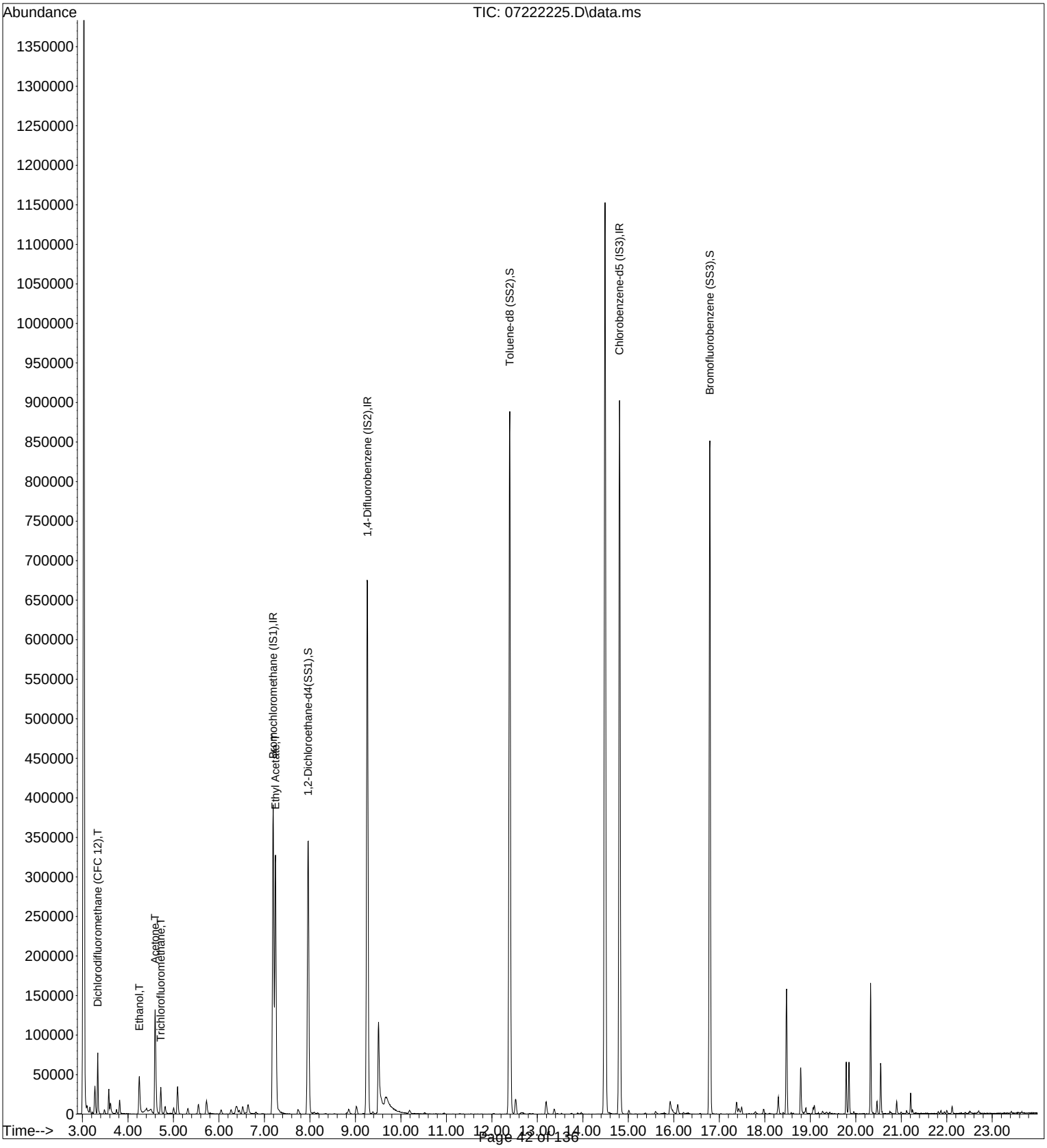
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	159023	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	672733	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	138060	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	318871	11.951	ng	-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%			
57) Toluene-d8 (SS2)	12.39	98	729776	12.595	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%			
73) Bromofluorobenzene (SS3)	16.79	174	314210	13.423	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.36%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.34	85	46885	1.247	ng	100
10) Ethanol	4.25	45	86144	8.561	ng	100
13) Acetone	4.60	58	36899	3.922	ng	93
14) Trichlorofluoromethane	4.72	101	23426	0.618	ng	98
30) Ethyl Acetate	7.24	61	53992	9.963	ng	99

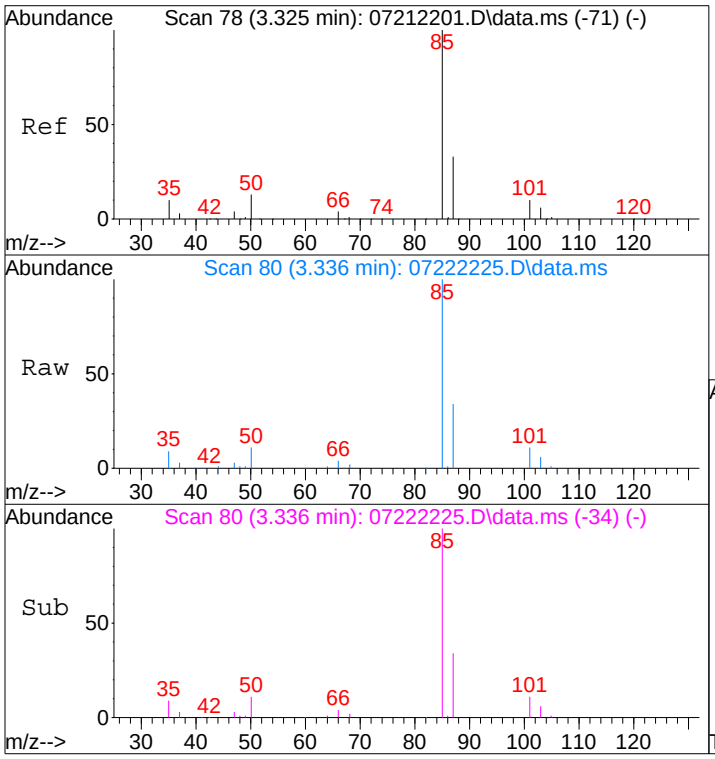
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222225.D Vial: 14
Acq On : 22 Jul 2022 17:46 Operator: SC
Sample : P2203145-002 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:40:04 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

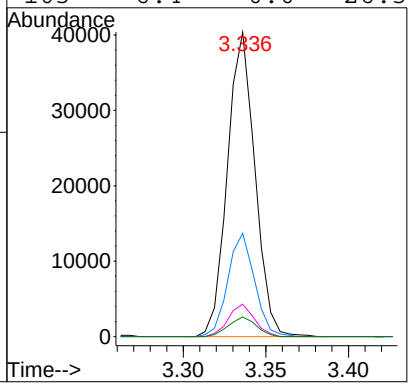


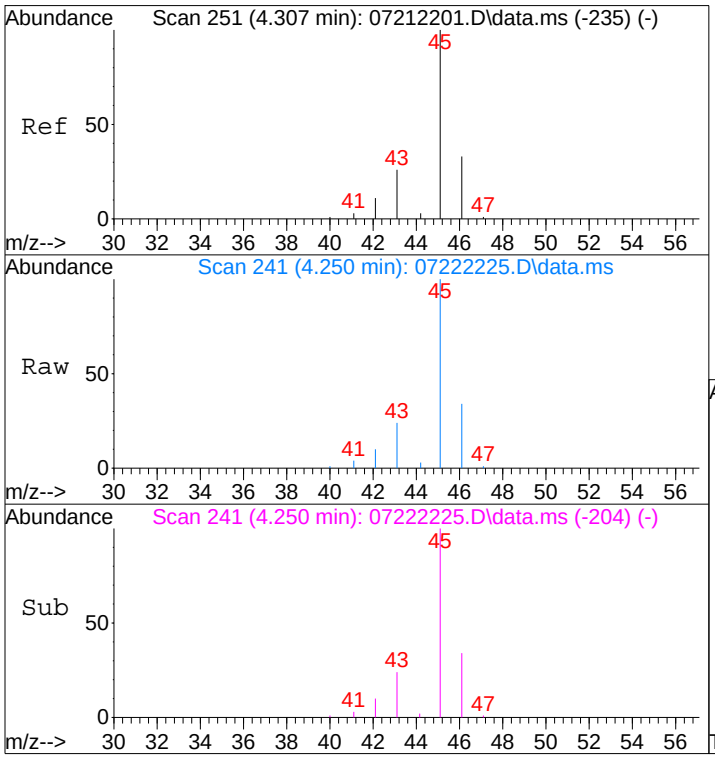


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.25 ng
RT: 3.34 min Scan# 80
Delta R.T. 0.011 min
Lab File: 07222225.D
Acq: 22 Jul 2022 17:46

Tgt Ion: 85 Resp: 46885

Ion	Ratio	Lower	Upper
85	100		
87	32.8	13.1	53.1
101	10.1	0.0	30.1
103	6.4	0.0	26.3

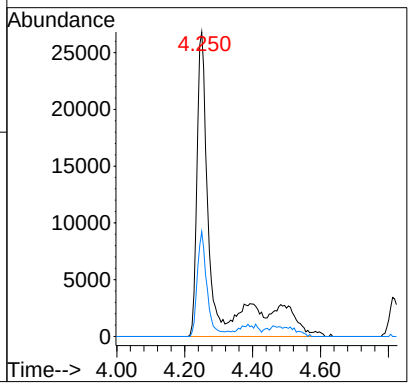


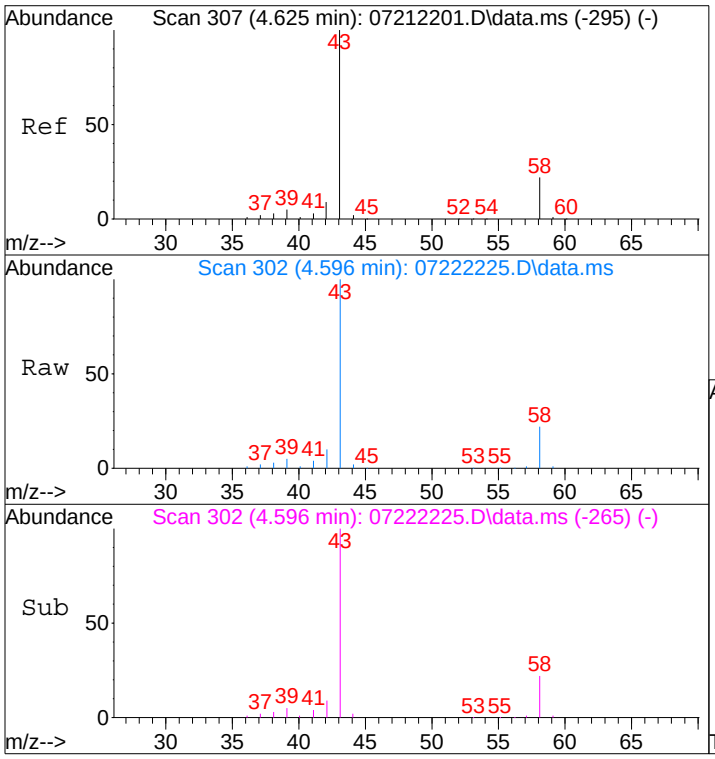


#10
Ethanol
Concen: 8.56 ng
RT: 4.25 min Scan# 241
Delta R.T. -0.041 min
Lab File: 07222225.D
Acq: 22 Jul 2022 17:46

Tgt Ion: 45 Resp: 86144

Ion	Ratio	Lower	Upper
45	100		
46	32.5	12.6	52.6

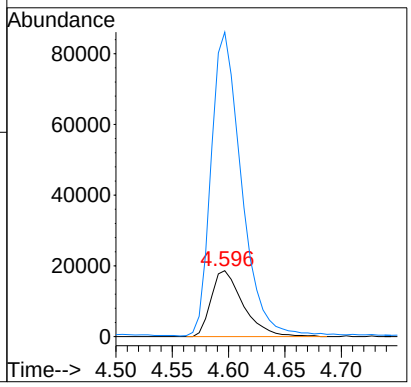


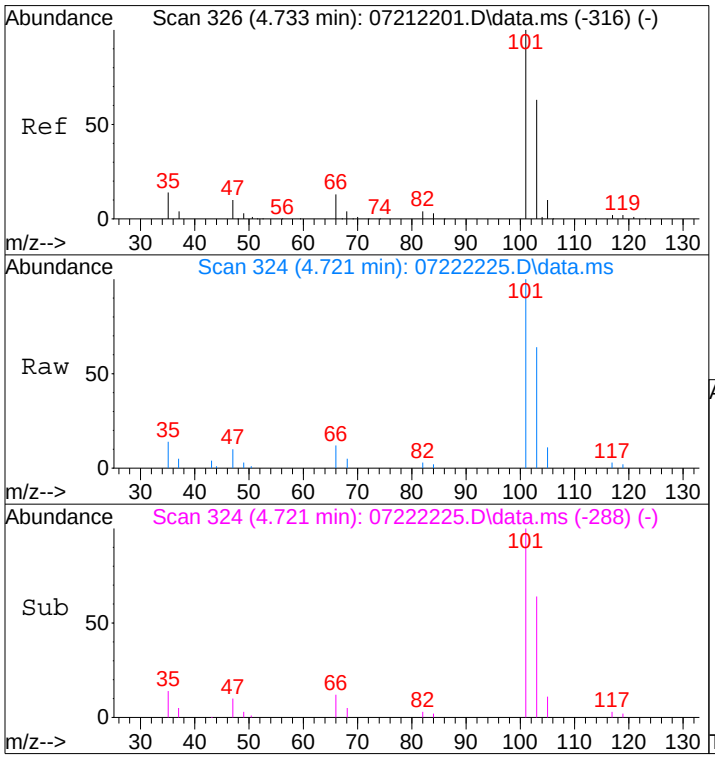


#13
Acetone
Concen: 3.92 ng
RT: 4.60 min Scan# 302
Delta R.T. -0.043 min
Lab File: 07222225.D
Acq: 22 Jul 2022 17:46

Tgt Ion: 58 Resp: 36899

Ion	Ratio	Lower	Upper
58	100		
43	437.1	424.6	484.6

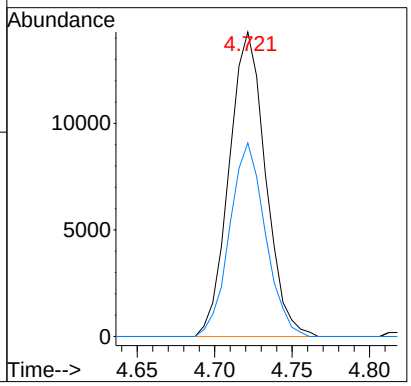


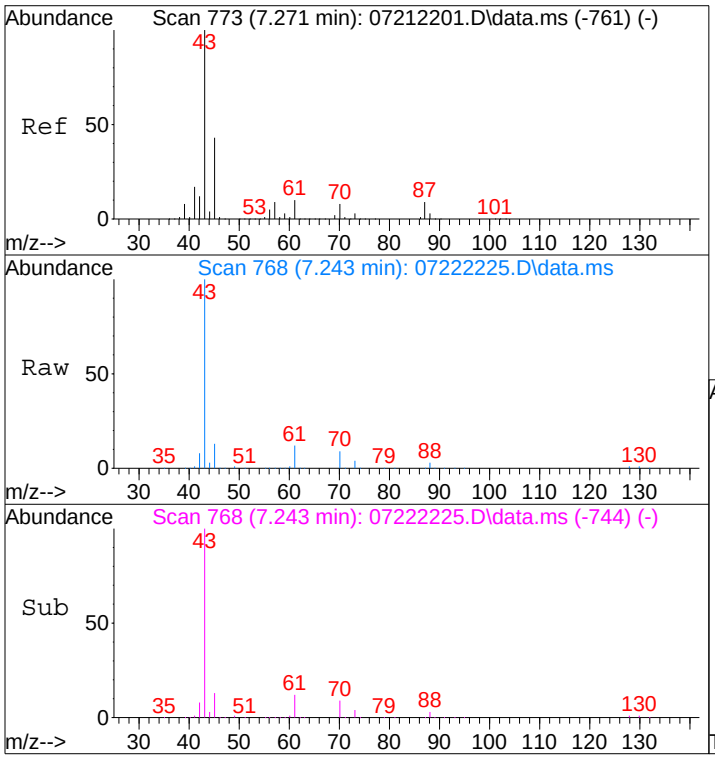


#14
Trichlorofluoromethane
Concen: 0.62 ng
RT: 4.72 min Scan# 324
Delta R.T. -0.043 min
Lab File: 07222225.D
Acq: 22 Jul 2022 17:46

Tgt Ion:101 Resp: 23426

Ion	Ratio	Lower	Upper
101	100		
103	62.2	43.7	83.7

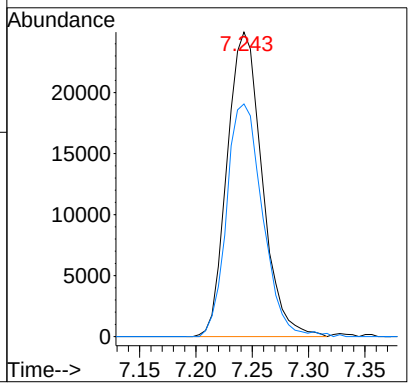




#30
Ethyl Acetate
Concen: 9.96 ng
RT: 7.24 min Scan# 768
Delta R.T. -0.063 min
Lab File: 07222225.D
Acq: 22 Jul 2022 17:46

Tgt Ion: 61 Resp: 53992

Ion	Ratio	Lower	Upper
61	100		
70	78.5	59.3	99.3



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222226.D Vial: 15
Acq On : 22 Jul 2022 18:18 Operator: SC
Sample : P2203145-003 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:42:21 2022 7/25/22
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	153557	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	662747	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	137541	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	318782	12.373	ng	-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
57) Toluene-d8 (SS2)	12.39	98	724504	12.551	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%			
73) Bromofluorobenzene (SS3)	16.79	174	312280	13.391	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%			
Target Compounds						Qvalue
2) Propene	3.27	42	3065	N.D.		
3) Dichlorodifluoromethan...	3.34	85	46072	1.269	ng	100
4) Chloromethane	3.48	50	3676	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	950	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.26	45	115995	11.939	ng	99
11) Acetonitrile	4.43	41	2820	N.D.		
12) Acrolein	4.51	56	740	N.D.		
13) Acetone	4.60	58	35411	3.897	ng	95
14) Trichlorofluoromethane	4.72	101	23343	0.638	ng	99
15) 2-Propanol (Isopropanol)	4.82	45	6941	N.D.		
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.35	59	57	N.D.		
19) Methylene Chloride	5.32	84	2061	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.55	151	4058	N.D.		
22) Carbon Disulfide	5.58	76	201	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.39	86	596	N.D.		
27) 2-Butanone (MEK)	6.65	72	2982	N.D.		
28) cis-1,2-Dichloroethene	7.25	61	7862	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.25	61	10349	1.978	ng	100
31) n-Hexane	7.27	57	999	N.D.		
32) Chloroform	7.32	83	1328	N.D.		
34) Tetrahydrofuran (THF)	7.96	72	139	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.07	62	289	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	22434	No Calib		
40) 1-Butanol	9.19	56	135	No Calib	#	
41) Benzene	8.86	78	3913	N.D.		
42) Carbon Tetrachloride	9.03	117	6329	N.D.		
43) Cyclohexane	9.17	84	129	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.20	57	3797	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222226.D Vial: 15
Acq On : 22 Jul 2022 18:18 Operator: SC
Sample : P2203145-003 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:42:21 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

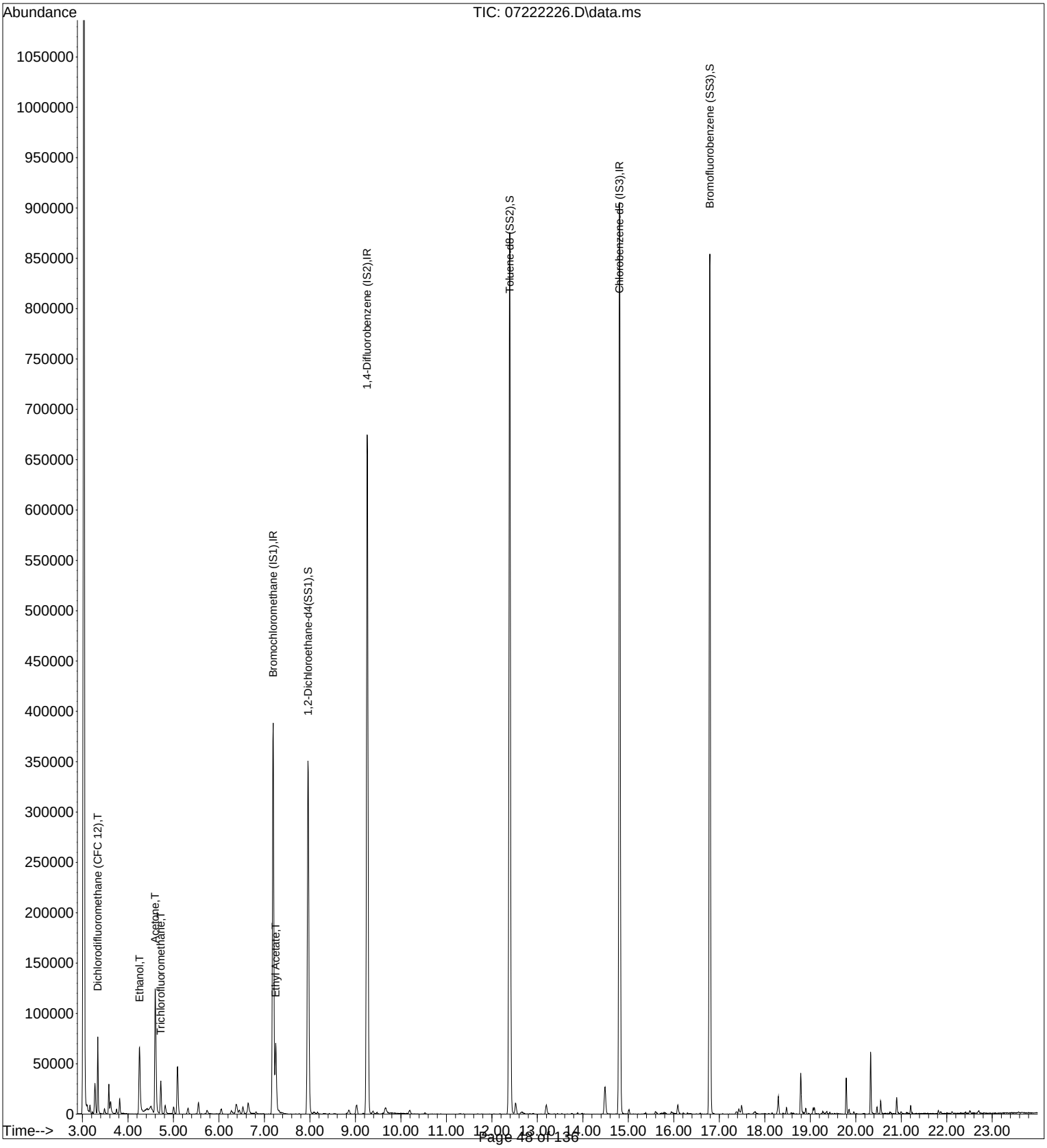
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	281	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	9416	N.D.	
59) 2-Hexanone	12.90	43	1480	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.75	43	1106	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.38	91	1504	N.D.	
67) m- & p-Xylenes	15.60	91	3348	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.08	104	250	N.D.	
70) o-Xylene	16.21	91	1284	N.D.	
71) n-Nonane	16.57	43	604	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	352	N.D.	
75) alpha-Pinene	17.50	93	3724	N.D.	
76) n-Propylbenzene	17.66	91	461	N.D.	
77) 3-Ethyltoluene	16.79	105	352	No Calib	#
78) 4-Ethyltoluene	17.83	105	601	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	196	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.49	105	666	No Calib	#
82) 1,2,4-Trimethylbenzene	18.40	105	1056	N.D.	
83) n-Decane	16.79	58	330	No Calib	#
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	357	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	357	N.D.	
87) sec-Butylbenzene	18.89	105	349	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	3248	N.D.	
89) 1,2,3-Trimethylbenzene	18.40	105	1056	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	1313	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.08	58	199	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.93	128	778	N.D.	
96) n-Dodecane	18.79	58	660	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.79	55	618	No Calib	#
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	19.37	91	440	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222226.D Vial: 15
Acq On : 22 Jul 2022 18:18 Operator: SC
Sample : P2203145-003 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:42:21 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222226.D Vial: 15
Acq On : 22 Jul 2022 18:18 Operator: SC
Sample : P2203145-003 (1000mL) Inst : MS09
Misc : S35-07192201

7/25/22

Quant Time: Jul 25 08:42:21 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

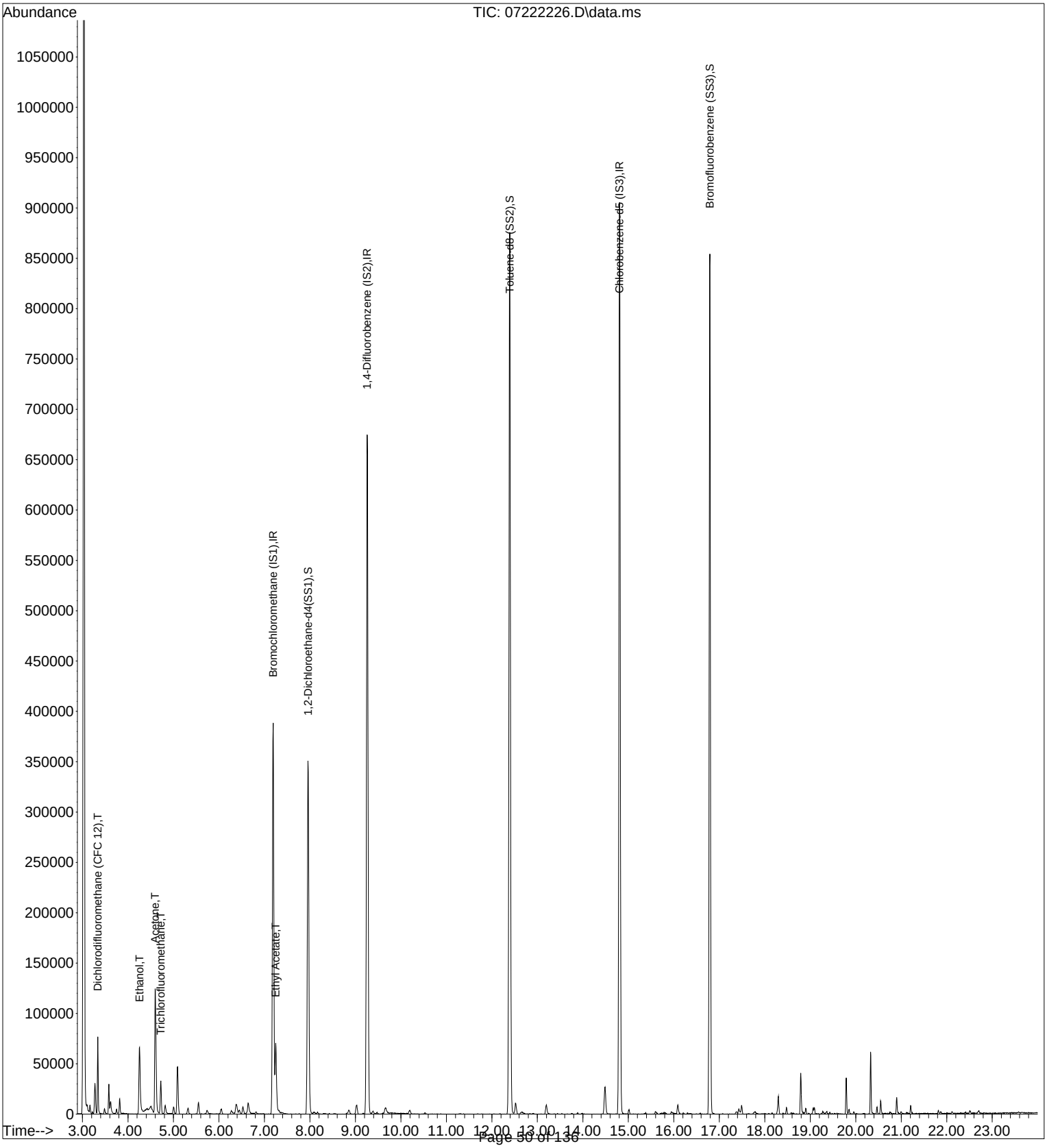
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	153557	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	662747	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	137541	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	318782	12.373	ng	-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
57) Toluene-d8 (SS2)	12.39	98	724504	12.551	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%			
73) Bromofluorobenzene (SS3)	16.79	174	312280	13.391	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.34	85	46072	1.269	ng	100
10) Ethanol	4.26	45	115995	11.939	ng	99
13) Acetone	4.60	58	35411	3.897	ng	95
14) Trichlorofluoromethane	4.72	101	23343	0.638	ng	99
30) Ethyl Acetate	7.25	61	10349	1.978	ng	100

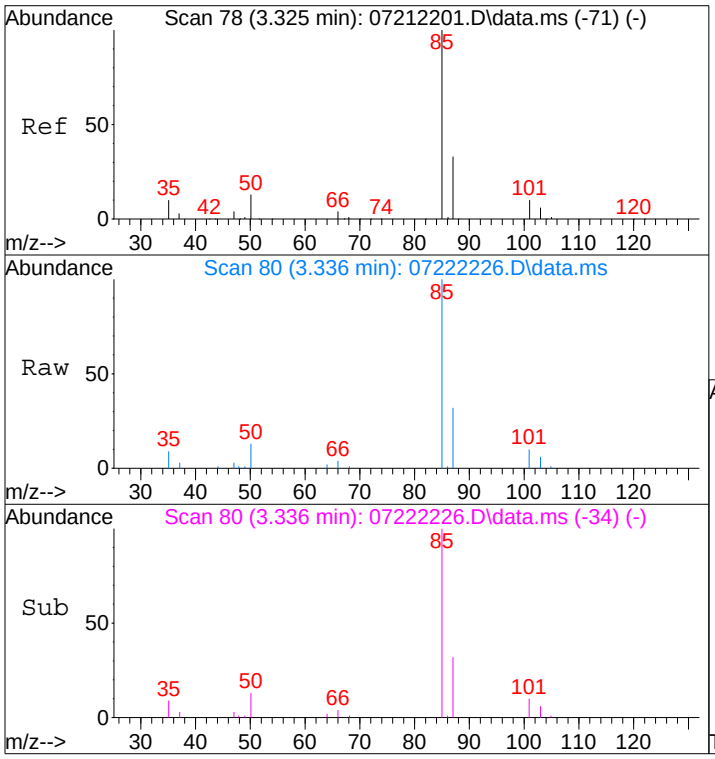
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222226.D Vial: 15
Acq On : 22 Jul 2022 18:18 Operator: SC
Sample : P2203145-003 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:42:21 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

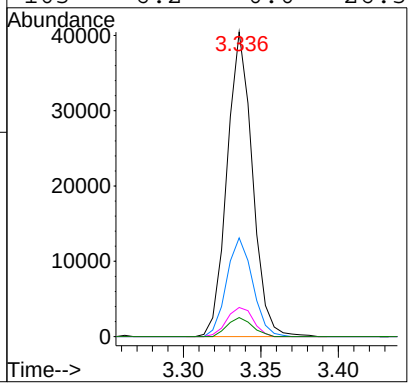


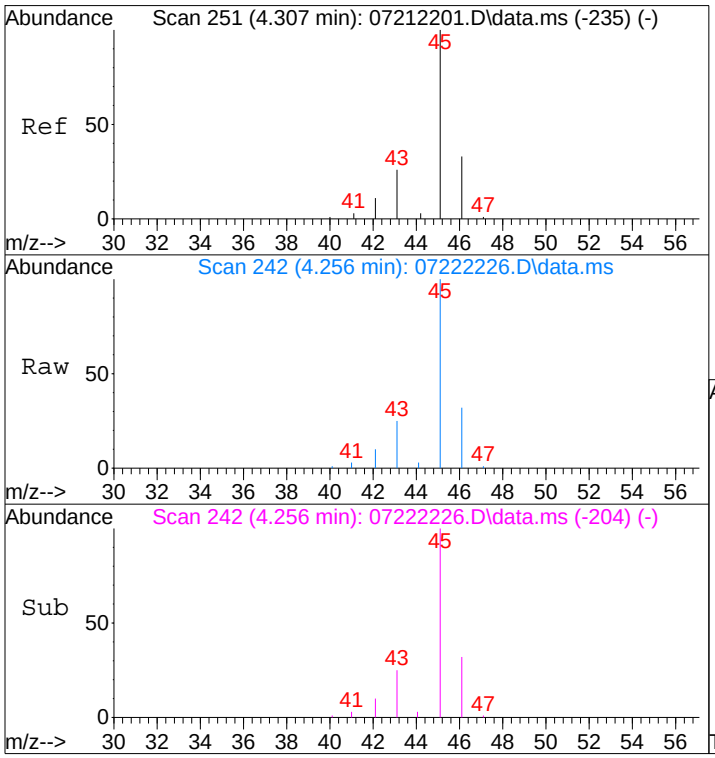


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.27 ng
RT: 3.34 min Scan# 80
Delta R.T. 0.011 min
Lab File: 07222226.D
Acq: 22 Jul 2022 18:18

Tgt Ion: 85 Resp: 46072

Ion	Ratio	Lower	Upper
85	100		
87	33.3	13.1	53.1
101	10.0	0.0	30.1
103	6.2	0.0	26.3

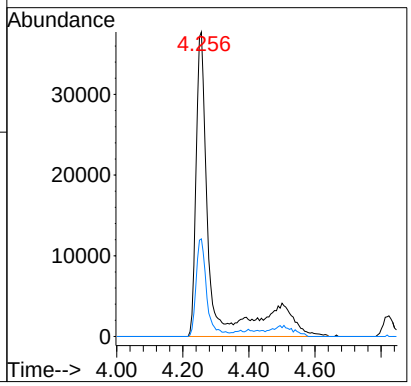


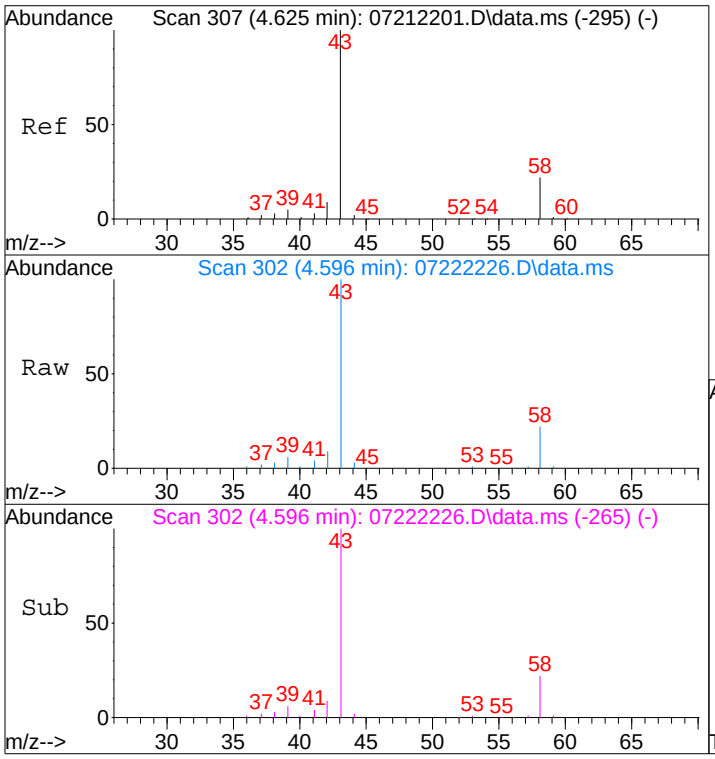


#10
Ethanol
Concen: 11.94 ng
RT: 4.26 min Scan# 242
Delta R.T. -0.035 min
Lab File: 07222226.D
Acq: 22 Jul 2022 18:18

Tgt Ion: 45 Resp: 115995

Ion	Ratio	Lower	Upper
45	100		
46	32.3	12.6	52.6

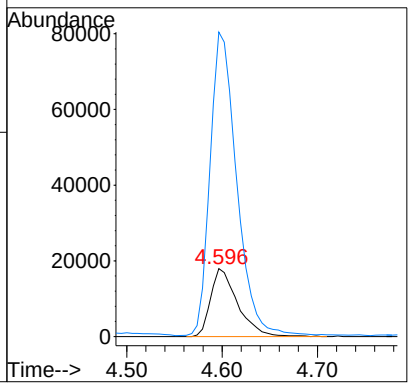


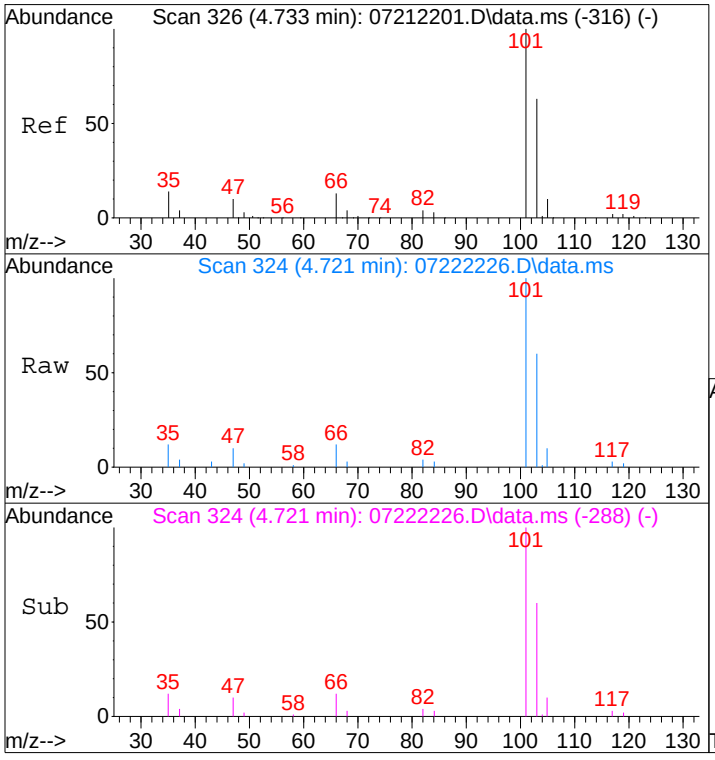


#13
Acetone
Concen: 3.90 ng
RT: 4.60 min Scan# 302
Delta R.T. -0.043 min
Lab File: 07222226.D
Acq: 22 Jul 2022 18:18

Tgt Ion: 58 Resp: 35411

Ion	Ratio	Lower	Upper
58	100		
43	440.7	424.6	484.6

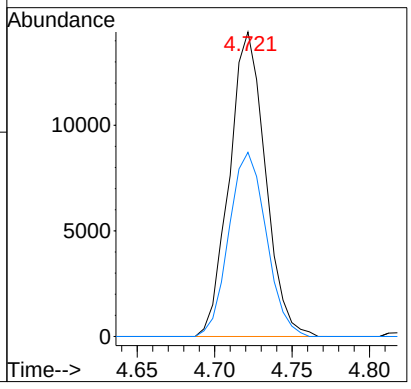


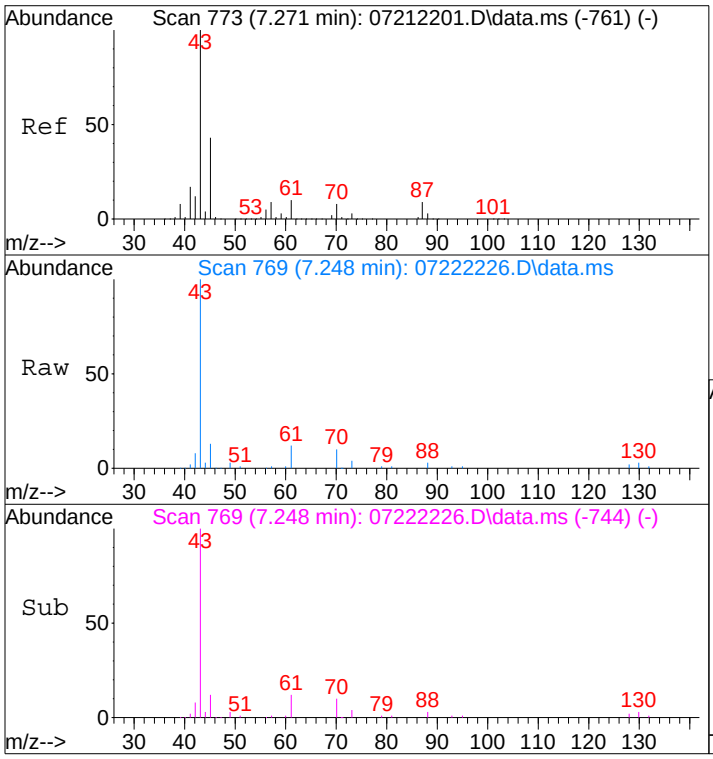


#14
Trichlorofluoromethane
Concen: 0.64 ng
RT: 4.72 min Scan# 324
Delta R.T. -0.043 min
Lab File: 07222226.D
Acq: 22 Jul 2022 18:18

Tgt Ion:101 Resp: 23343

Ion	Ratio	Lower	Upper
101	100		
103	62.6	43.7	83.7

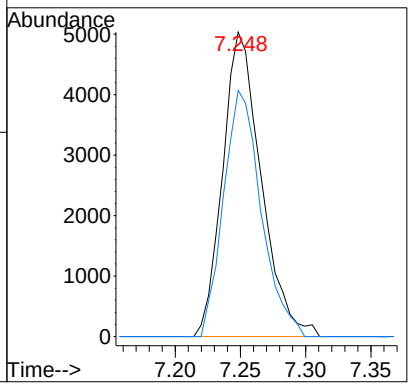




#30
Ethyl Acetate
Concen: 1.98 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.057 min
Lab File: 07222226.D
Acq: 22 Jul 2022 18:18

Tgt Ion: 61 Resp: 10349

Ion	Ratio	Lower	Upper
61	100		
70	78.9	59.3	99.3



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222227.D Vial: 16
Acq On : 22 Jul 2022 18:50 Operator: SC
Sample : P2203145-004 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 23 04:20:24 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/25/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	151396	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	657549	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	135649	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	317019	12.480	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%			
57) Toluene-d8 (SS2)	12.39	98	715419	12.566	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%			
73) Bromofluorobenzene (SS3)	16.79	174	305591	13.287	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%			
Target Compounds						Qvalue
2) Propene	3.28	42	2724	N.D.		
3) Dichlorodifluoromethan...	3.34	85	46311	1.294	ng	99
4) Chloromethane	3.49	50	3451	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	919	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.01	94	113	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.26	45	79557	8.305	ng	99
11) Acetonitrile	4.42	41	3029	N.D.		
12) Acrolein	4.51	56	564	N.D.		
13) Acetone	4.60	58	34538	3.856	ng	96
14) Trichlorofluoromethane	4.73	101	23198	0.643	ng	99
15) 2-Propanol (Isopropanol)	4.82	45	9566	N.D.		
16) Acrylonitrile	5.10	53	4393	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.31	59	702	N.D.		
19) Methylene Chloride	5.33	84	2027	N.D.		
20) 3-Chloro-1-propene (Al...	5.32	41	123	N.D.		
21) Trichlorotrifluoroethane	5.56	151	4031	N.D.		
22) Carbon Disulfide	5.59	76	1952	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.40	86	719	N.D.		
27) 2-Butanone (MEK)	6.65	72	3055	N.D.		
28) cis-1,2-Dichloroethene	7.04	61	778	N.D.		
29) Diisopropyl Ether	7.25	87	578	N.D.		
30) Ethyl Acetate	7.25	61	44138	8.555	ng	100
31) n-Hexane	7.27	57	1138	N.D.		
32) Chloroform	7.32	83	1236	N.D.		
34) Tetrahydrofuran (THF)	7.96	72	130	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.08	62	183	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	22958	No Calib		
40) 1-Butanol	9.17	56	176	No Calib	#	
41) Benzene	8.86	78	4776	N.D.		
42) Carbon Tetrachloride	9.03	117	6474	N.D.		
43) Cyclohexane	9.25	84	623	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.12	130	380	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.20	57	3389	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222227.D Vial: 16
Acq On : 22 Jul 2022 18:50 Operator: SC
Sample : P2203145-004 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 23 04:20:24 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

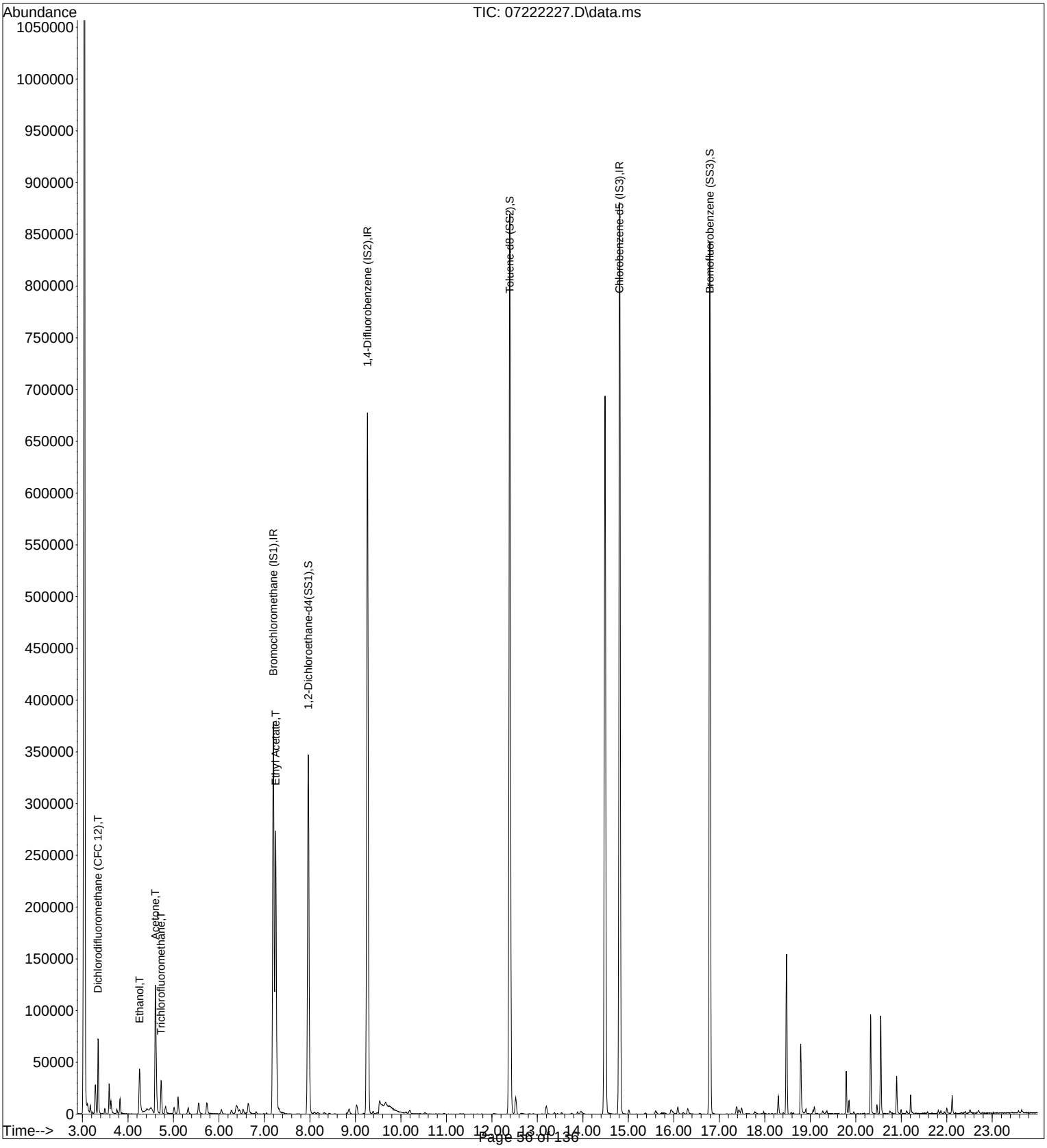
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.53	71	187	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	13800	N.D.	
59) 2-Hexanone	12.90	43	980	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.76	43	1267	N.D.	
63) n-Octane	13.89	57	299	N.D.	
64) Tetrachloroethene	13.99	166	106	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.38	91	1760	N.D.	
67) m- & p-Xylenes	15.60	91	3839	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	283	N.D.	
70) o-Xylene	16.21	91	1521	N.D.	
71) n-Nonane	16.58	43	837	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	445	N.D.	
75) alpha-Pinene	17.49	93	2565	N.D.	
76) n-Propylbenzene	17.66	91	481	N.D.	
77) 3-Ethyltoluene	16.79	105	445	No Calib	#
78) 4-Ethyltoluene	17.83	105	418	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	181	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.43	105	1793	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	1144	N.D.	
83) n-Decane	16.79	58	128	No Calib	#
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	267	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	267	N.D.	
87) sec-Butylbenzene	18.89	105	279	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	2645	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	1144	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	1105	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	798	N.D.	
96) n-Dodecane	18.79	58	1268	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.78	55	586	No Calib	#
99) tert-Butylbenzene	18.47	119	3303	N.D.	
100) n-Butylbenzene	19.35	91	502	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222227.D Vial: 16
Acq On : 22 Jul 2022 18:50 Operator: SC
Sample : P2203145-004 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 23 04:20:24 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222227.D Vial: 16
Acq On : 22 Jul 2022 18:50 Operator: SC
Sample : P2203145-004 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 23 04:20:24 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/25/22

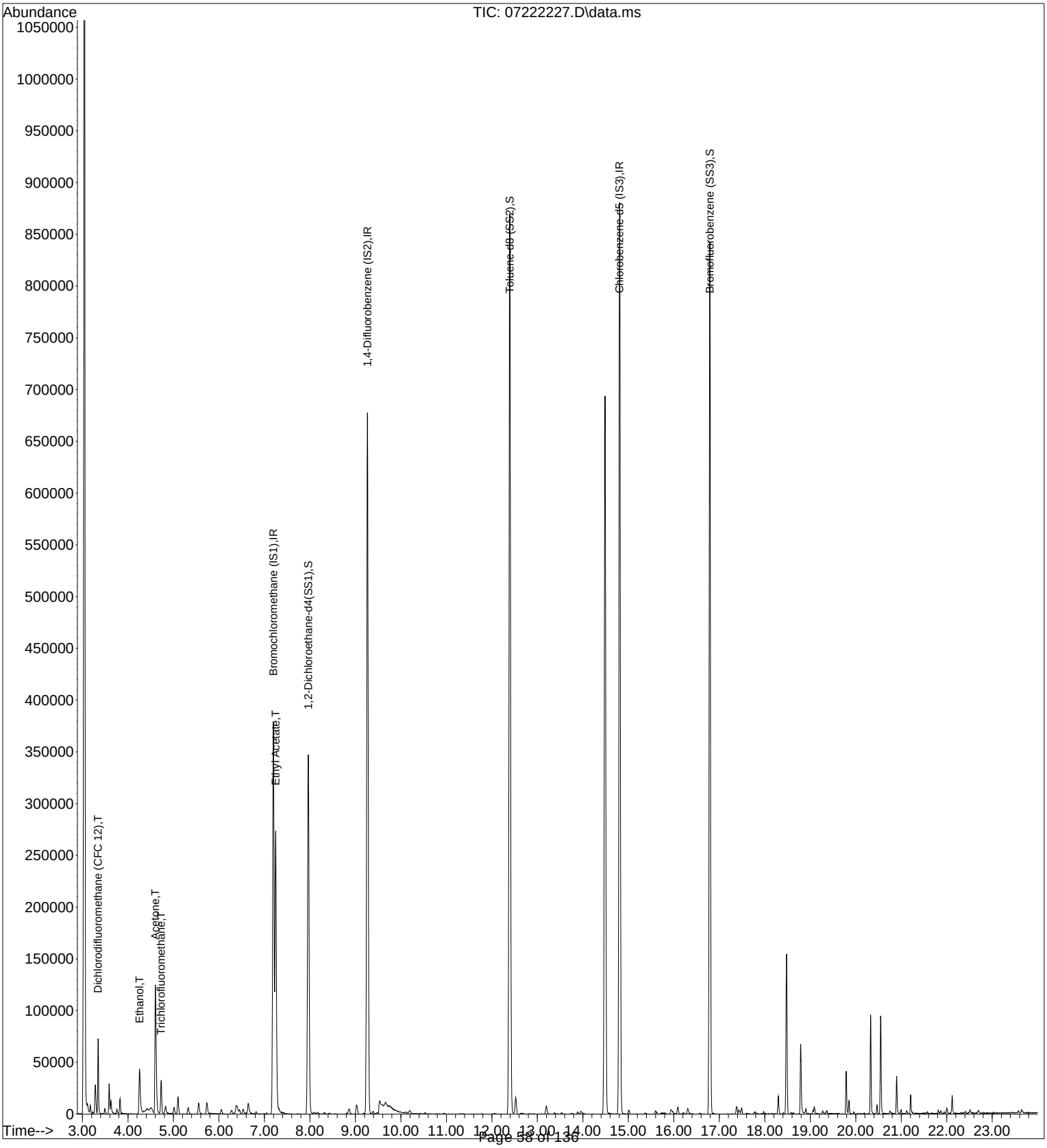
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	151396	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	657549	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	135649	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	317019	12.480	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%			
57) Toluene-d8 (SS2)	12.39	98	715419	12.566	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%			
73) Bromofluorobenzene (SS3)	16.79	174	305591	13.287	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.34	85	46311	1.294	ng	99
10) Ethanol	4.26	45	79557	8.305	ng	99
13) Acetone	4.60	58	34538	3.856	ng	96
14) Trichlorofluoromethane	4.73	101	23198	0.643	ng	99
30) Ethyl Acetate	7.25	61	44138	8.555	ng	100

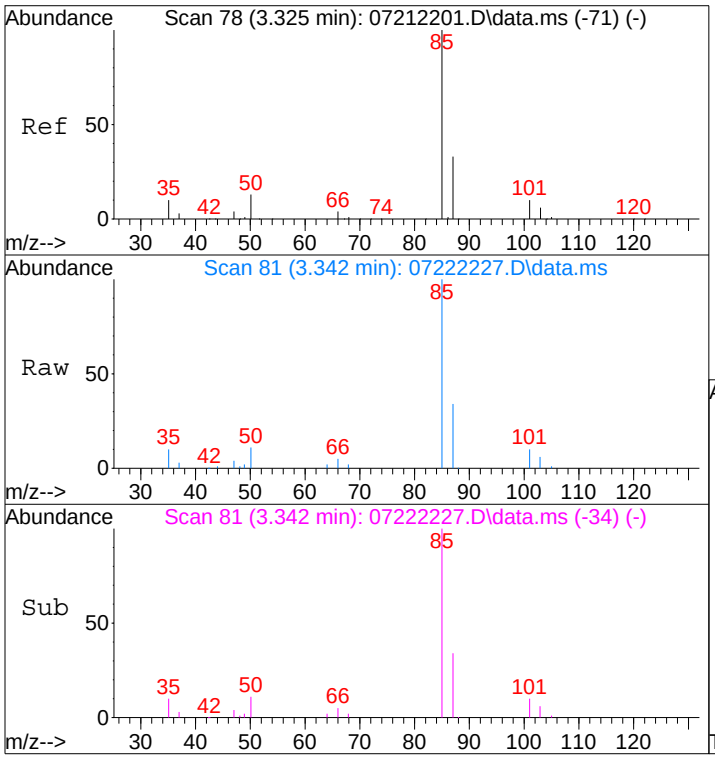
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222227.D Vial: 16
Acq On : 22 Jul 2022 18:50 Operator: SC
Sample : P2203145-004 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 23 04:20:24 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

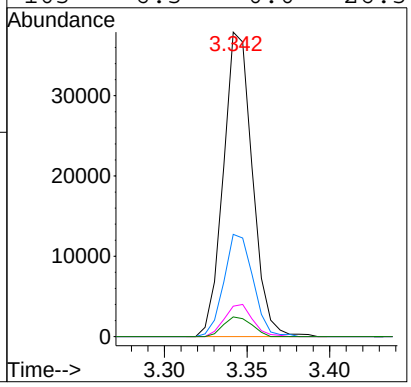


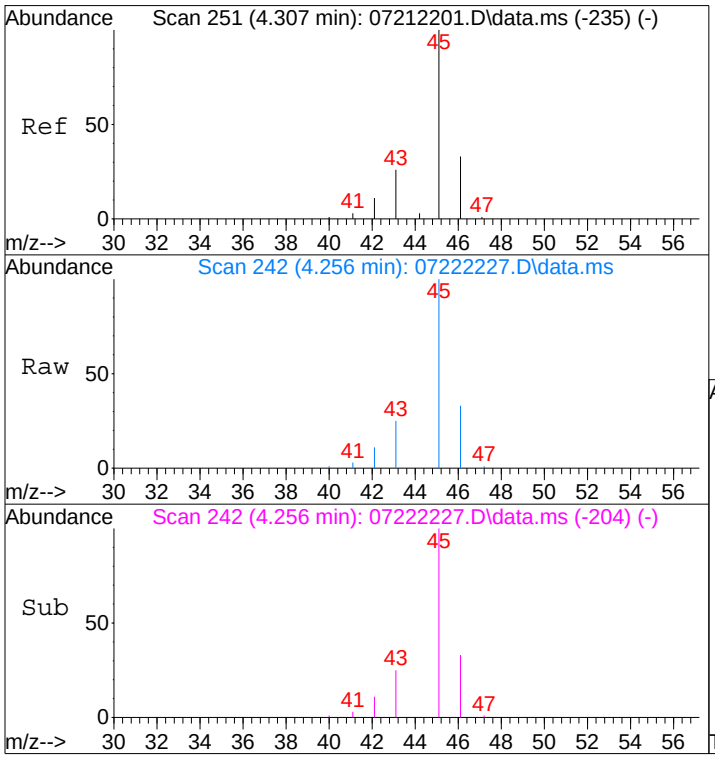


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.29 ng
RT: 3.34 min Scan# 81
Delta R.T. 0.017 min
Lab File: 07222227.D
Acq: 22 Jul 2022 18:50

Tgt Ion: 85 Resp: 46311

Ion	Ratio	Lower	Upper
85	100		
87	33.7	13.1	53.1
101	10.3	0.0	30.1
103	6.3	0.0	26.3

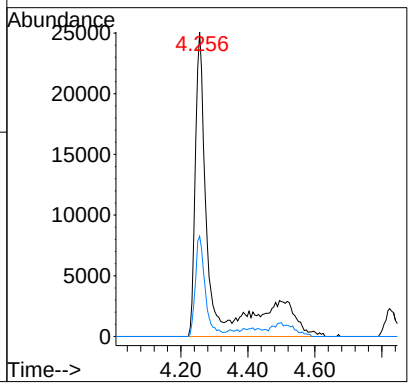


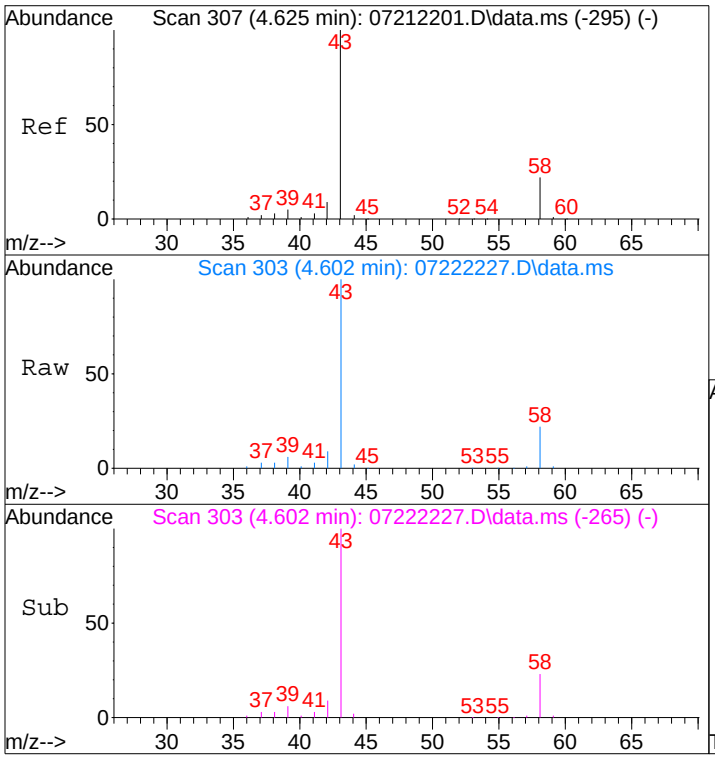


#10
Ethanol
Concen: 8.31 ng
RT: 4.26 min Scan# 242
Delta R.T. -0.035 min
Lab File: 07222227.D
Acq: 22 Jul 2022 18:50

Tgt Ion: 45 Resp: 79557

Ion	Ratio	Lower	Upper
45	100		
46	32.9	12.6	52.6

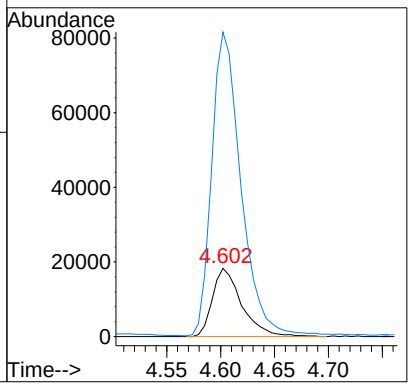


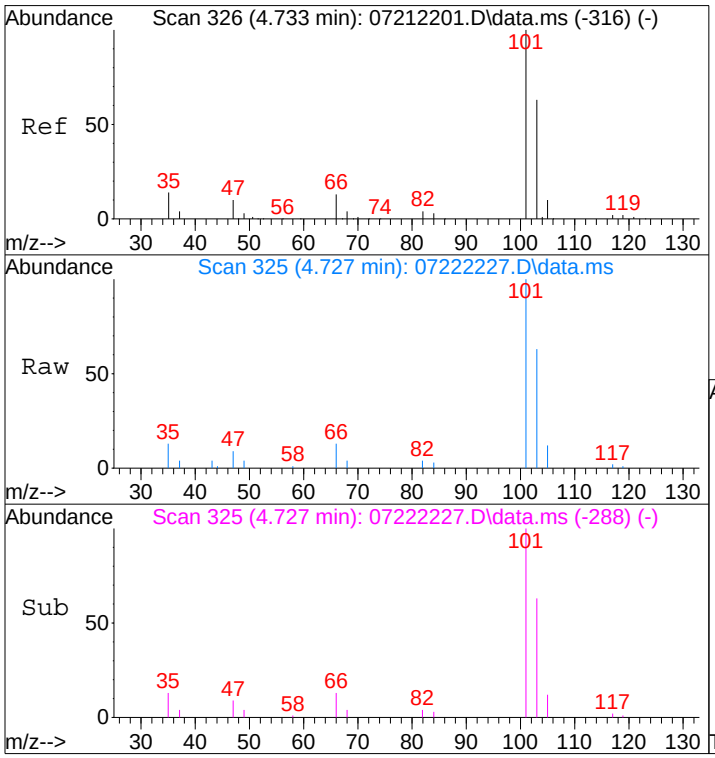


#13
Acetone
Concen: 3.86 ng
RT: 4.60 min Scan# 303
Delta R.T. -0.037 min
Lab File: 07222227.D
Acq: 22 Jul 2022 18:50

Tgt Ion: 58 Resp: 34538

Ion	Ratio	Lower	Upper
58	100		
43	444.8	424.6	484.6

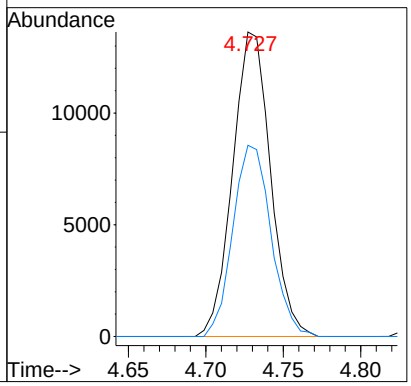


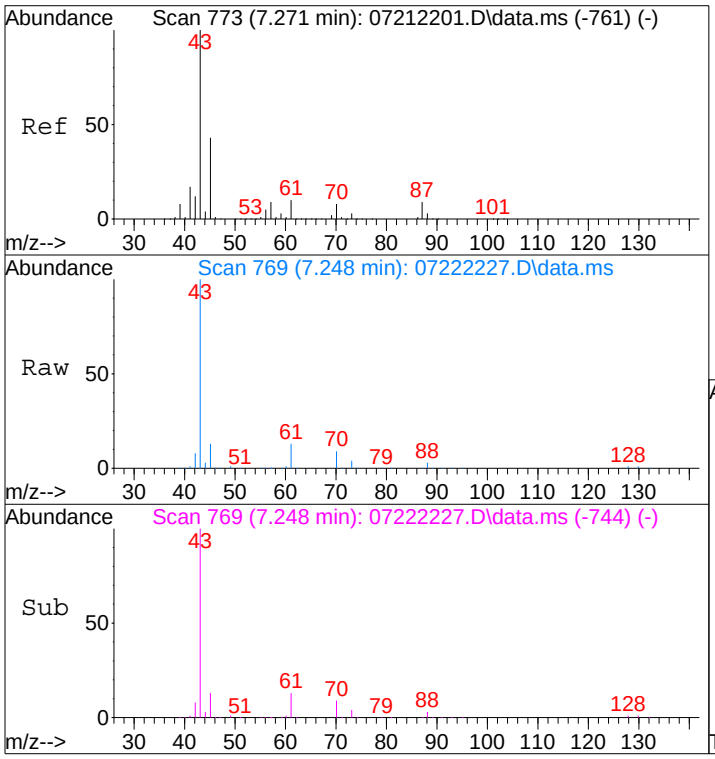


#14
Trichlorofluoromethane
Concen: 0.64 ng
RT: 4.73 min Scan# 325
Delta R.T. -0.038 min
Lab File: 07222227.D
Acq: 22 Jul 2022 18:50

Tgt Ion:101 Resp: 23198

Ion	Ratio	Lower	Upper
101	100		
103	63.2	43.7	83.7

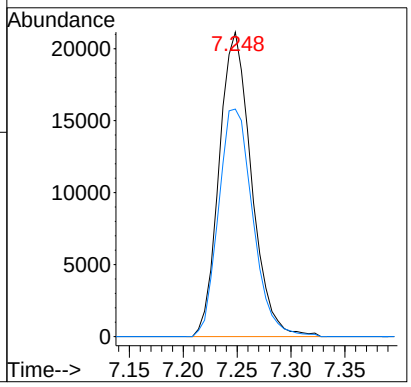




#30
Ethyl Acetate
Concen: 8.56 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.057 min
Lab File: 07222227.D
Acq: 22 Jul 2022 18:50

Tgt Ion: 61 Resp: 44138

Ion	Ratio	Lower	Upper
61	100		
70	79.4	59.3	99.3



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222228.D Vial: 4
Acq On : 22 Jul 2022 19:22 Operator: SC
Sample : P2203145-005 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:47:03 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/25/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	149500	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	648718	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	133109	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	311285	12.410	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
57) Toluene-d8 (SS2)	12.39	98	703222	12.588	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
73) Bromofluorobenzene (SS3)	16.79	174	304173	13.478	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
Target Compounds							Qvalue
2) Propene	3.27	42	3128	N.D.			
3) Dichlorodifluoromethan...	3.34	85	53662	1.518	ng		99
4) Chloromethane	3.48	50	4045	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	1066	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.01	94	391	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	80948	8.558	ng		99
11) Acetonitrile	4.41	41	2681	N.D.			
12) Acrolein	4.51	56	859	N.D.			
13) Acetone	4.60	58	39754	4.494	ng		98
14) Trichlorofluoromethane	4.73	101	26252	0.737	ng		100
15) 2-Propanol (Isopropanol)	4.82	45	10494	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.31	59	916	N.D.			
19) Methylene Chloride	5.33	84	2529	N.D.			
20) 3-Chloro-1-propene (Al...	5.32	41	319	N.D.			
21) Trichlorotrifluoroethane	5.55	151	4436	N.D.			
22) Carbon Disulfide	5.58	76	617	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.65	72	3672	0.461	ng	#	72
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d		
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.25	61	11138	2.186	ng		99
31) n-Hexane	7.27	57	1039	N.D.			
32) Chloroform	7.32	83	1565	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	487	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	22275	No Calib			
40) 1-Butanol	9.17	56	128	No Calib		#	
41) Benzene	8.86	78	4295	N.D.			
42) Carbon Tetrachloride	9.03	117	7631	N.D.			
43) Cyclohexane	9.26	84	636	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	3569	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222228.D Vial: 4
Acq On : 22 Jul 2022 19:22 Operator: SC
Sample : P2203145-005 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:47:03 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

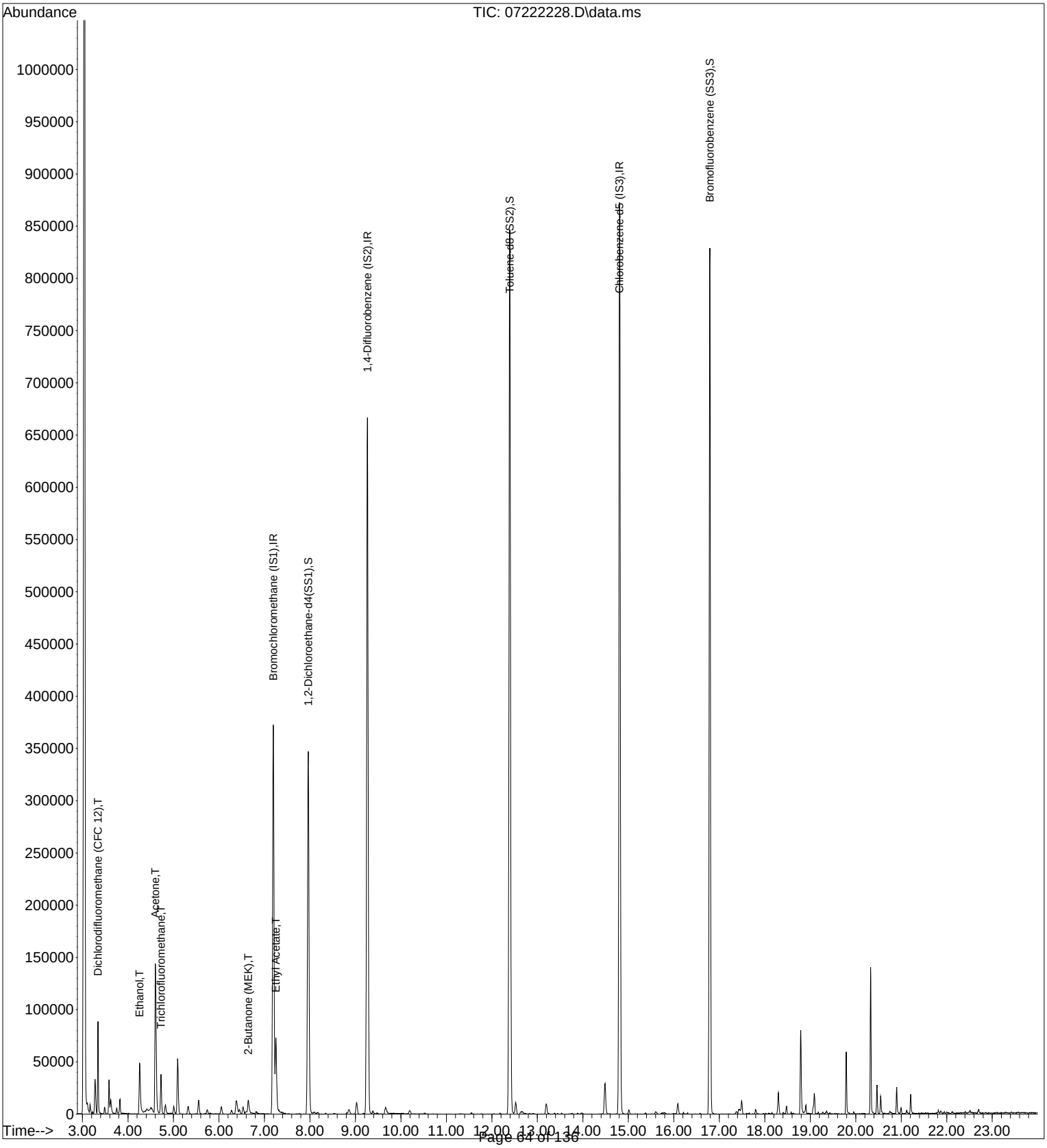
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.53	71	114	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	8936	N.D.	
59) 2-Hexanone	12.91	43	1307	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.76	43	1013	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.37	91	1575	N.D.	
67) m- & p-Xylenes	15.61	91	3242	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	136	N.D.	
70) o-Xylene	16.21	91	1349	N.D.	
71) n-Nonane	16.58	43	607	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	404	N.D.	
75) alpha-Pinene	17.49	93	5589	N.D.	
76) n-Propylbenzene	17.66	91	332	N.D.	
77) 3-Ethyltoluene	16.79	105	404	No Calib	#
78) 4-Ethyltoluene	17.83	105	406	N.D.	
79) 1,3,5-Trimethylbenzene	17.83	105	406	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.49	105	741	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	974	N.D.	
83) n-Decane	16.79	58	283	No Calib	#
84) Benzyl Chloride	18.31	91	387	N.D.	
85) 1,3-Dichlorobenzene	18.64	146	309	N.D.	
86) 1,4-Dichlorobenzene	18.64	146	309	N.D.	
87) sec-Butylbenzene	18.88	105	449	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	4609	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	974	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	1795	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.93	128	713	N.D.	
96) n-Dodecane	18.79	58	1398	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.79	55	718	No Calib	#
99) tert-Butylbenzene	18.48	119	128	N.D.	
100) n-Butylbenzene	19.36	91	851	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222228.D Vial: 4
Acq On : 22 Jul 2022 19:22 Operator: SC
Sample : P2203145-005 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:47:03 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222228.D Vial: 4
Acq On : 22 Jul 2022 19:22 Operator: SC
Sample : P2203145-005 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:47:03 2022 7/25/22
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

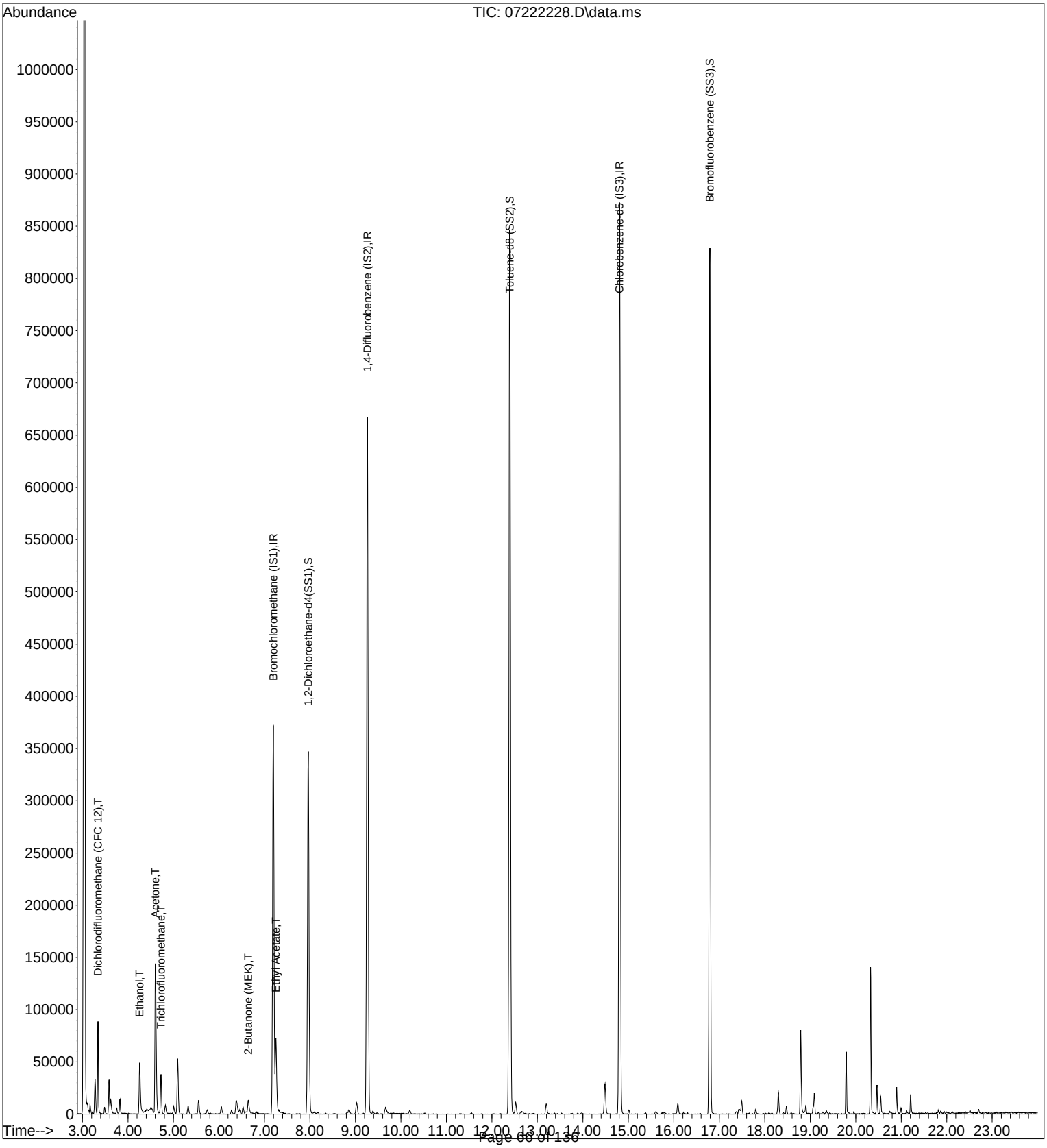
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	149500	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	648718	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	133109	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	311285	12.410	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
57) Toluene-d8 (SS2)	12.39	98	703222	12.588	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
73) Bromofluorobenzene (SS3)	16.79	174	304173	13.478	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.34	85	53662	1.518	ng		99
10) Ethanol	4.26	45	80948	8.558	ng		99
13) Acetone	4.60	58	39754	4.494	ng		98
14) Trichlorofluoromethane	4.73	101	26252	0.737	ng		100
27) 2-Butanone (MEK)	6.65	72	3672	0.461	ng	#	72
30) Ethyl Acetate	7.25	61	11138	2.186	ng		99

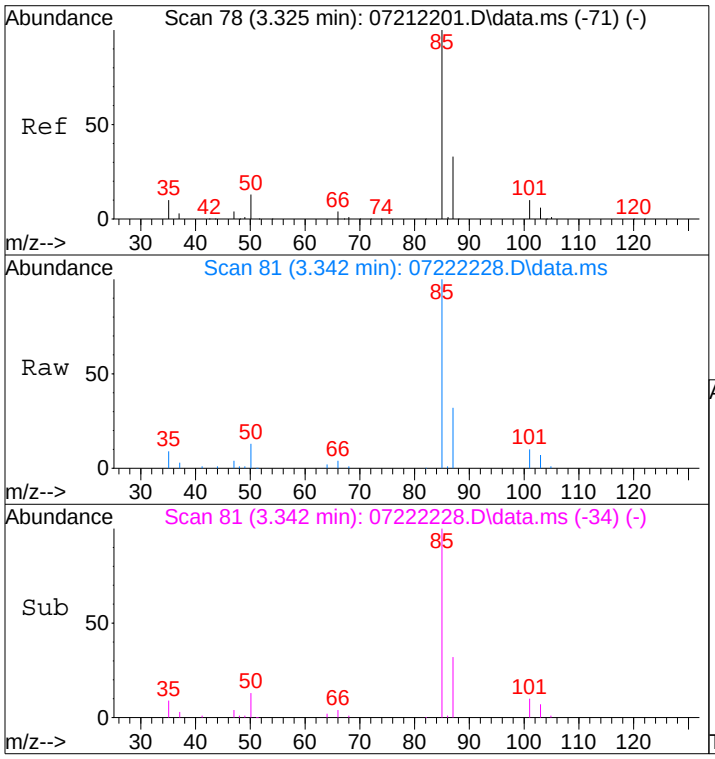
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222228.D Vial: 4
Acq On : 22 Jul 2022 19:22 Operator: SC
Sample : P2203145-005 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Jul 25 08:47:03 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

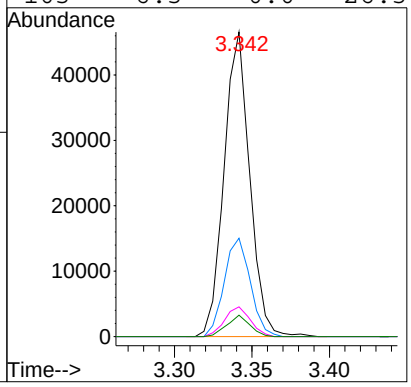


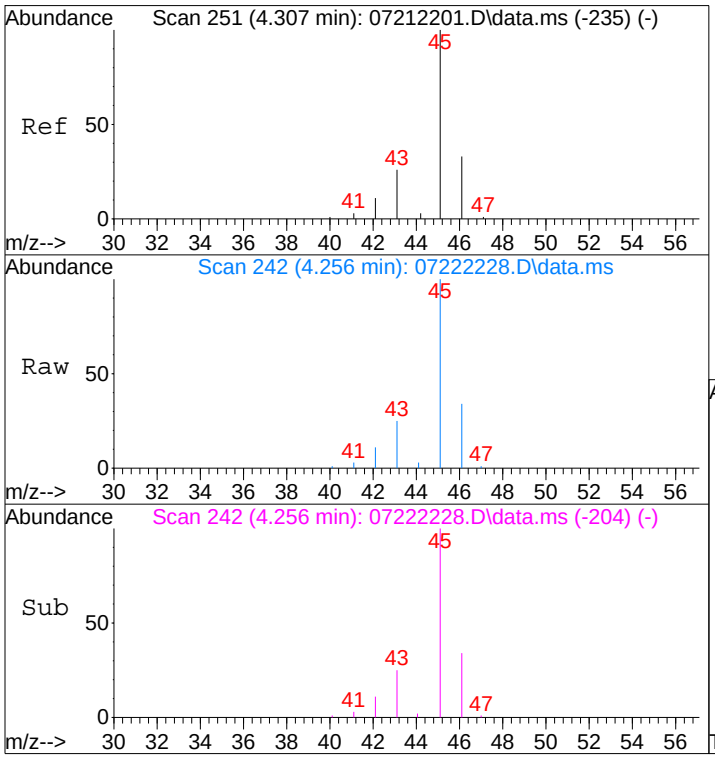


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.52 ng
RT: 3.34 min Scan# 81
Delta R.T. 0.017 min
Lab File: 07222228.D
Acq: 22 Jul 2022 19:22

Tgt Ion: 85 Resp: 53662

Ion	Ratio	Lower	Upper
85	100		
87	32.8	13.1	53.1
101	9.8	0.0	30.1
103	6.3	0.0	26.3

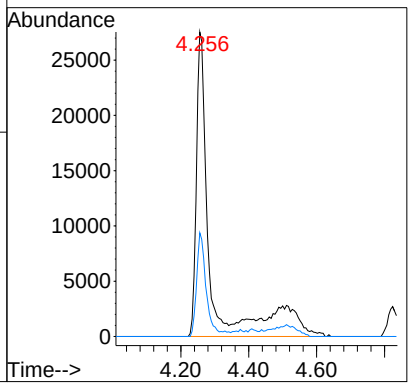


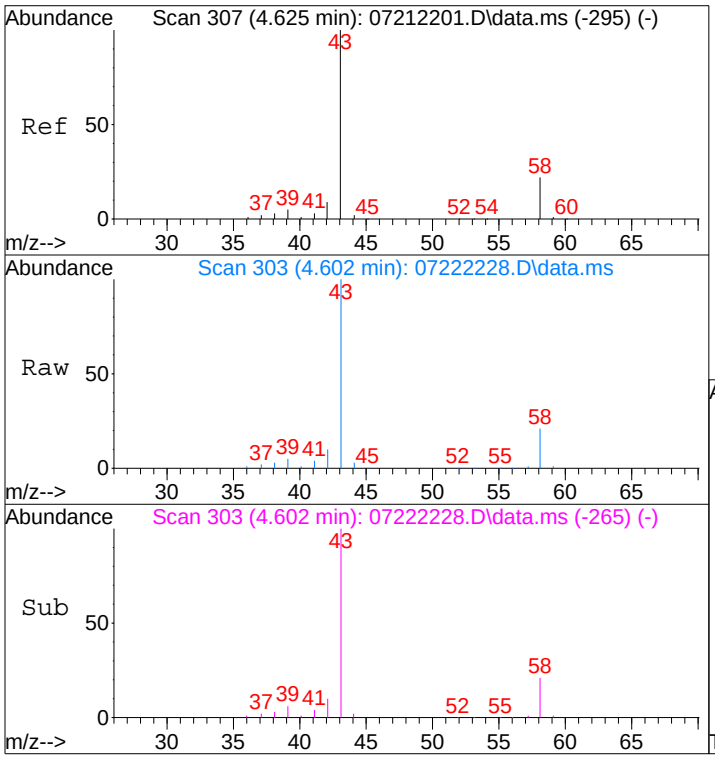


#10
Ethanol
Concen: 8.56 ng
RT: 4.26 min Scan# 242
Delta R.T. -0.035 min
Lab File: 07222228.D
Acq: 22 Jul 2022 19:22

Tgt Ion: 45 Resp: 80948

Ion	Ratio	Lower	Upper
45	100		
46	33.3	12.6	52.6

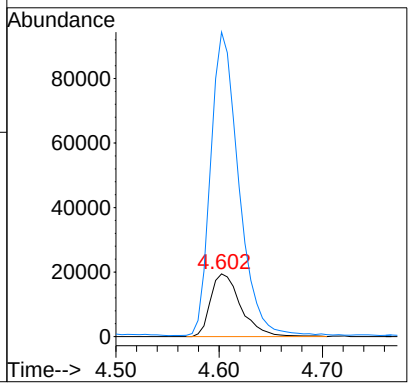


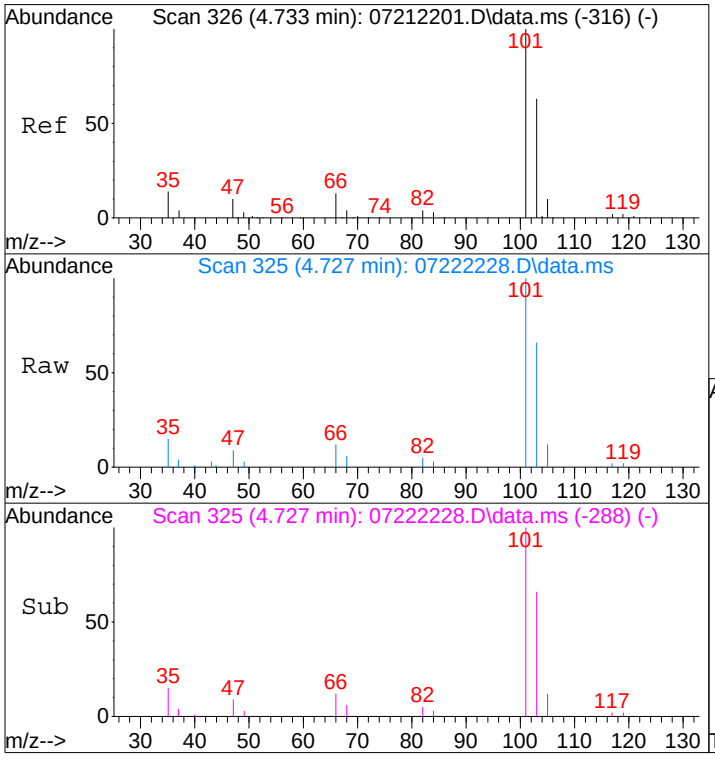


#13
Acetone
Concen: 4.49 ng
RT: 4.60 min Scan# 303
Delta R.T. -0.037 min
Lab File: 07222228.D
Acq: 22 Jul 2022 19:22

Tgt Ion: 58 Resp: 39754

Ion	Ratio	Lower	Upper
58	100		
43	449.6	424.6	484.6

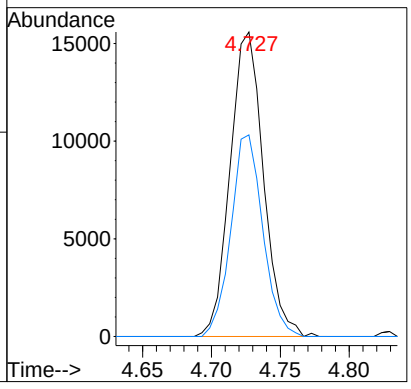


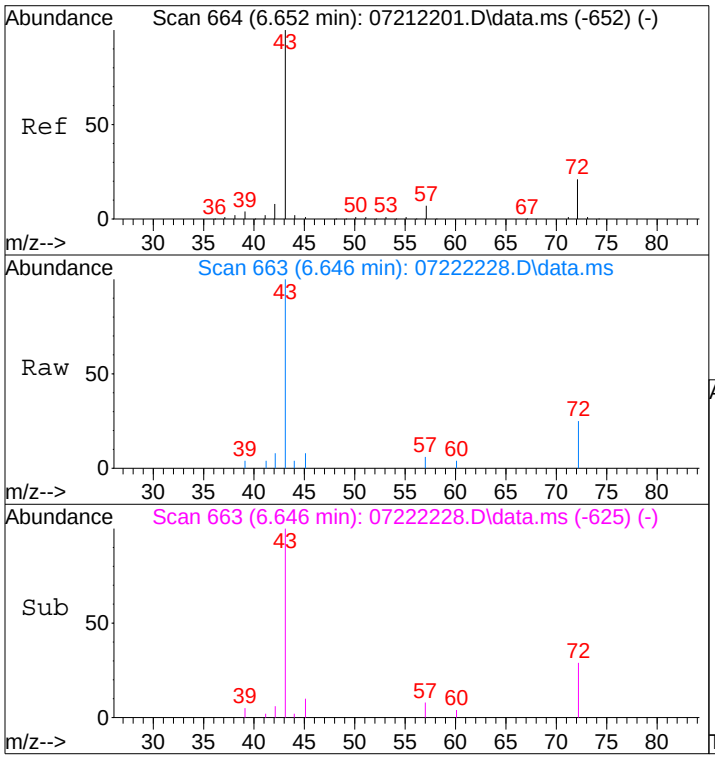


#14
Trichlorofluoromethane
Concen: 0.74 ng
RT: 4.73 min Scan# 325
Delta R.T. -0.038 min
Lab File: 07222228.D
Acq: 22 Jul 2022 19:22

Tgt Ion:101 Resp: 26252

Ion	Ratio	Lower	Upper
101	100		
103	63.3	43.7	83.7

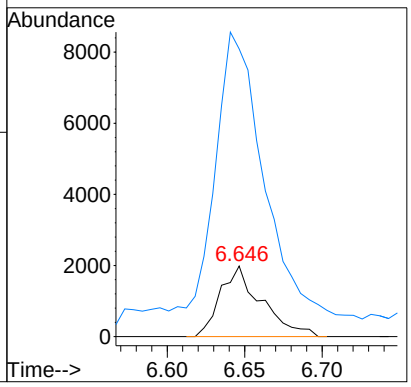


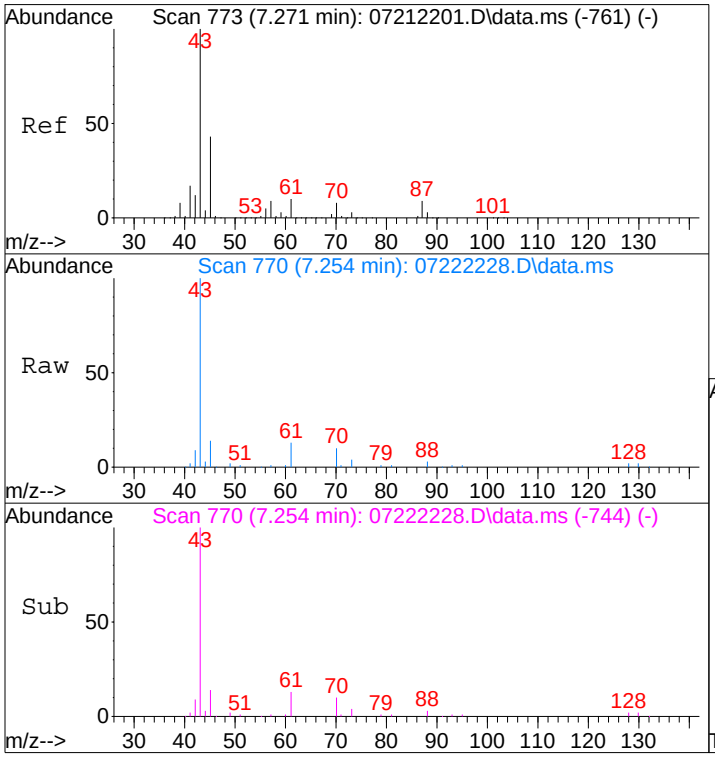


#27
2-Butanone (MEK)
Concen: 0.46 ng
RT: 6.65 min Scan# 663
Delta R.T. -0.037 min
Lab File: 07222228.D
Acq: 22 Jul 2022 19:22

Tgt Ion: 72 Resp: 3672

Ion	Ratio	Lower	Upper
72	100		
43	548.0	454.7	494.7#

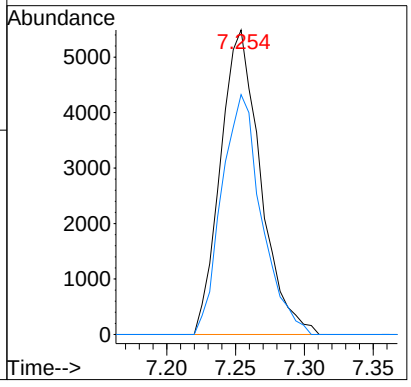




#30
Ethyl Acetate
Concen: 2.19 ng
RT: 7.25 min Scan# 770
Delta R.T. -0.052 min
Lab File: 07222228.D
Acq: 22 Jul 2022 19:22

Tgt Ion: 61 Resp: 11138

Ion	Ratio	Lower	Upper
61	100		
70	78.2	59.3	99.3



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222204.D Vial: 2
Acq On : 21 Jul 2022 23:00 Operator: SC
Sample : MB R9072222 1000mL Inst : MS09
Misc : S35-07192201

Quant Time: Jul 22 04:31:38 2022 7/22/22
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	148791	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	632750	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	135921	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	307147	12.303	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
57) Toluene-d8 (SS2)	12.39	98	699297	12.259	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
73) Bromofluorobenzene (SS3)	16.79	174	313396	13.599	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
Target Compounds							Qvalue
2) Propene	3.31	42	104	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	307	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	4.52	56	381	0.053	ng		87
13) Acetone	4.62	58	4682	0.532	ng	#	65
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	0.00	76	0	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.41	86	452	0.288	ng	#	71
27) 2-Butanone (MEK)	6.67	72	501	0.063	ng	#	33
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	21606	No Calib			
40) 1-Butanol	9.25	56	15234	No Calib		#	
41) Benzene	8.86	78	424	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.24	84	281	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222204.D Vial: 2
Acq On : 21 Jul 2022 23:00 Operator: SC
Sample : MB R9072222 1000mL Inst : MS09
Misc : S35-07192201

Quant Time: Jul 22 04:31:38 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

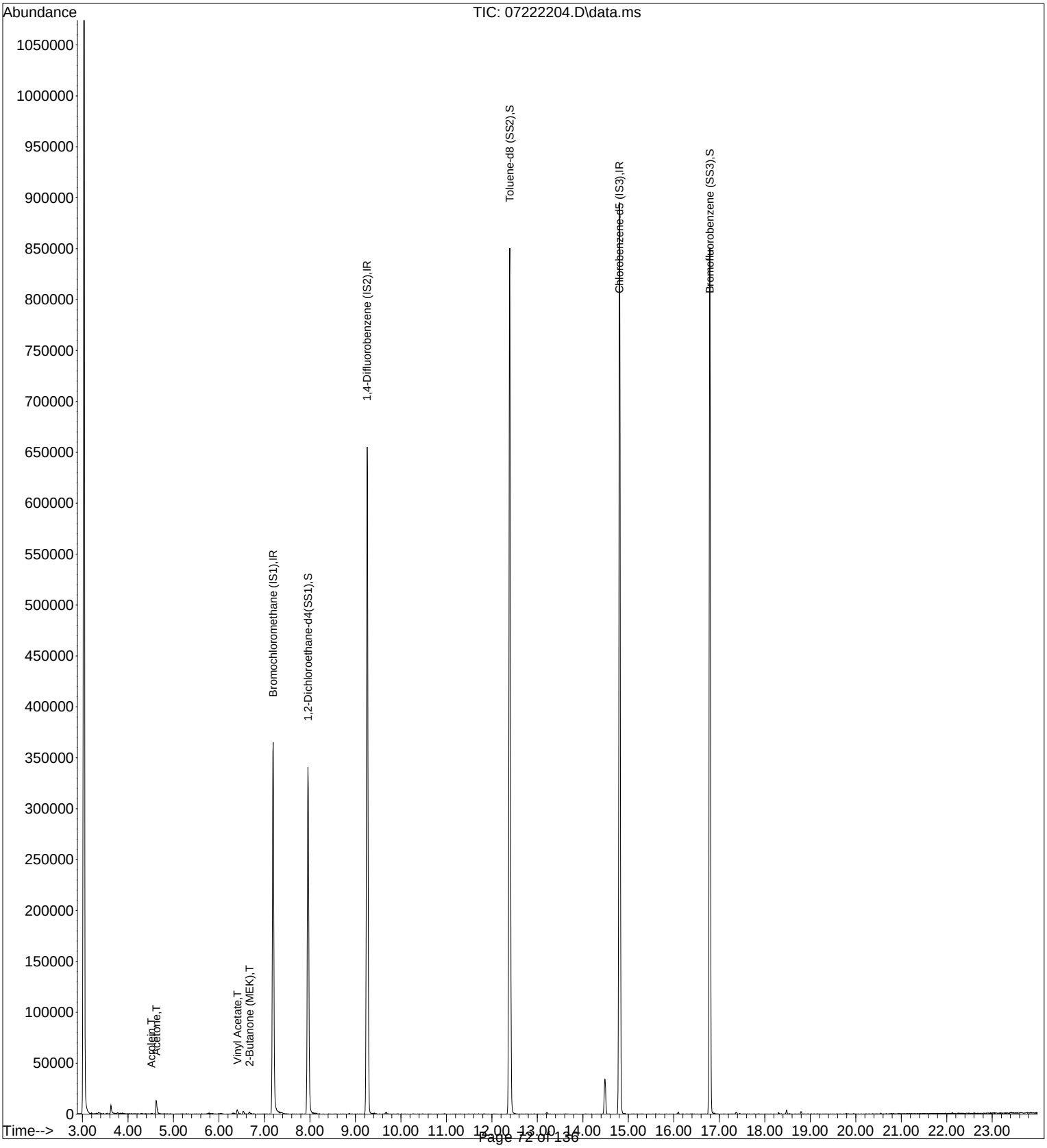
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	0.00	91	0	N.D.		
59) 2-Hexanone	13.21	43	342	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	0.00	91	0	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.80	105	402	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	16.80	105	402	No Calib		#
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.46	105	187	No Calib		#
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
83) n-Decane	16.79	58	235	No Calib		#
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.82	180	273	N.D.		
95) Naphthalene	20.93	128	369	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222204.D Vial: 2
Acq On : 21 Jul 2022 23:00 Operator: SC
Sample : MB R9072222 1000mL Inst : MS09
Misc : S35-07192201

Quant Time: Jul 22 04:31:38 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222205.D Vial: 2
Acq On : 21 Jul 2022 23:32 Operator: SC
Sample : LCS R9072222 25ng Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 22 04:31:41 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/22/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	156703	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	657436	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	142524	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	318878	12.128	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
57) Toluene-d8 (SS2)	12.40	98	721575	12.063	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
73) Bromofluorobenzene (SS3)	16.79	174	335281	13.875	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.96%				
Target Compounds							Qvalue
2) Propene	3.25	42	320519	21.349	ng		99
3) Dichlorodifluoromethan...	3.32	85	777977	20.997	ng		100
4) Chloromethane	3.47	50	355415	20.857	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	353535	22.046	ng		99
6) Vinyl Chloride	3.65	62	343664	21.675	ng		100
7) 1,3-Butadiene	3.77	54	260593	22.804	ng		99
8) Bromomethane	3.99	94	266416	21.544	ng		99
9) Chloroethane	4.13	64	175321	20.490	ng		100
10) Ethanol	4.31	45	892879	90.053	ng		100
11) Acetonitrile	4.44	41	501167	17.194	ng		100
12) Acrolein	4.52	56	319540	42.383	ng		99
13) Acetone	4.62	58	875849	94.461	ng		100
14) Trichlorofluoromethane	4.73	101	771483	20.652	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	1481130	39.712	ng		99
16) Acrylonitrile	5.00	53	639864	40.386	ng		100
17) 1,1-Dichloroethene	5.24	96	286025	21.777	ng		98
18) 2-Methyl-2-Propanol (t...	5.32	59	1559799	44.284	ng		99
19) Methylene Chloride	5.36	84	291124	20.327	ng		96
20) 3-Chloro-1-propene (Al...	5.44	41	464099	17.262	ng		99
21) Trichlorotrifluoroethane	5.56	151	336699	22.104	ng		97
22) Carbon Disulfide	5.58	76	2045480	41.188	ng		100
23) trans-1,2-Dichloroethene	6.13	61	447757	21.392	ng		99
24) 1,1-Dichloroethane	6.32	63	519532	20.819	ng		100
25) Methyl tert-Butyl Ether	6.35	73	995065	21.605	ng		99
26) Vinyl Acetate	6.44	86	227270	137.415	ng	#	93
27) 2-Butanone (MEK)	6.65	72	346393	41.449	ng		96
28) cis-1,2-Dichloroethene	7.07	61	432028	20.875	ng		100
29) Diisopropyl Ether	7.27	87	461487	41.533	ng	#	57
30) Ethyl Acetate	7.27	61	301041	56.373	ng		96
31) n-Hexane	7.28	57	406459	19.714	ng		99
32) Chloroform	7.36	83	643987	21.565	ng		100
34) Tetrahydrofuran (THF)	7.73	72	338493	41.831	ng		97
35) Ethyl tert-Butyl Ether	7.80	87	717577	43.368	ng		98
36) 1,2-Dichloroethane	8.11	62	543517	21.214	ng		100
38) 1,1,1-Trichloroethane	8.38	97	666834	21.751	ng		99
39) Isopropyl Acetate	9.29	61	22562	No Calib			
40) 1-Butanol	9.20	56	884594	No Calib			
41) Benzene	8.88	78	1095856	20.850	ng		100
42) Carbon Tetrachloride	9.05	117	567624	21.501	ng		99
43) Cyclohexane	9.20	84	804219	41.761	ng		98
44) tert-Amyl Methyl Ether	9.57	73	1701837	44.191	ng		99
45) 1,2-Dichloropropane	9.84	63	257921	20.582	ng		100
46) Bromodichloromethane	10.06	83	537547	22.177	ng		100
47) Trichloroethene	10.13	130	354617	22.738	ng		100
48) 1,4-Dioxane	10.09	88	233457	24.604	ng		98
49) 2,2,4-Trimethylpentane...	10.21	57	1030239	20.302	ng		99
50) Methyl Methacrylate	10.38	100	235647	48.074	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222205.D Vial: 2
Acq On : 21 Jul 2022 23:32 Operator: SC
Sample : LCS R9072222 25ng Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 22 04:31:41 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

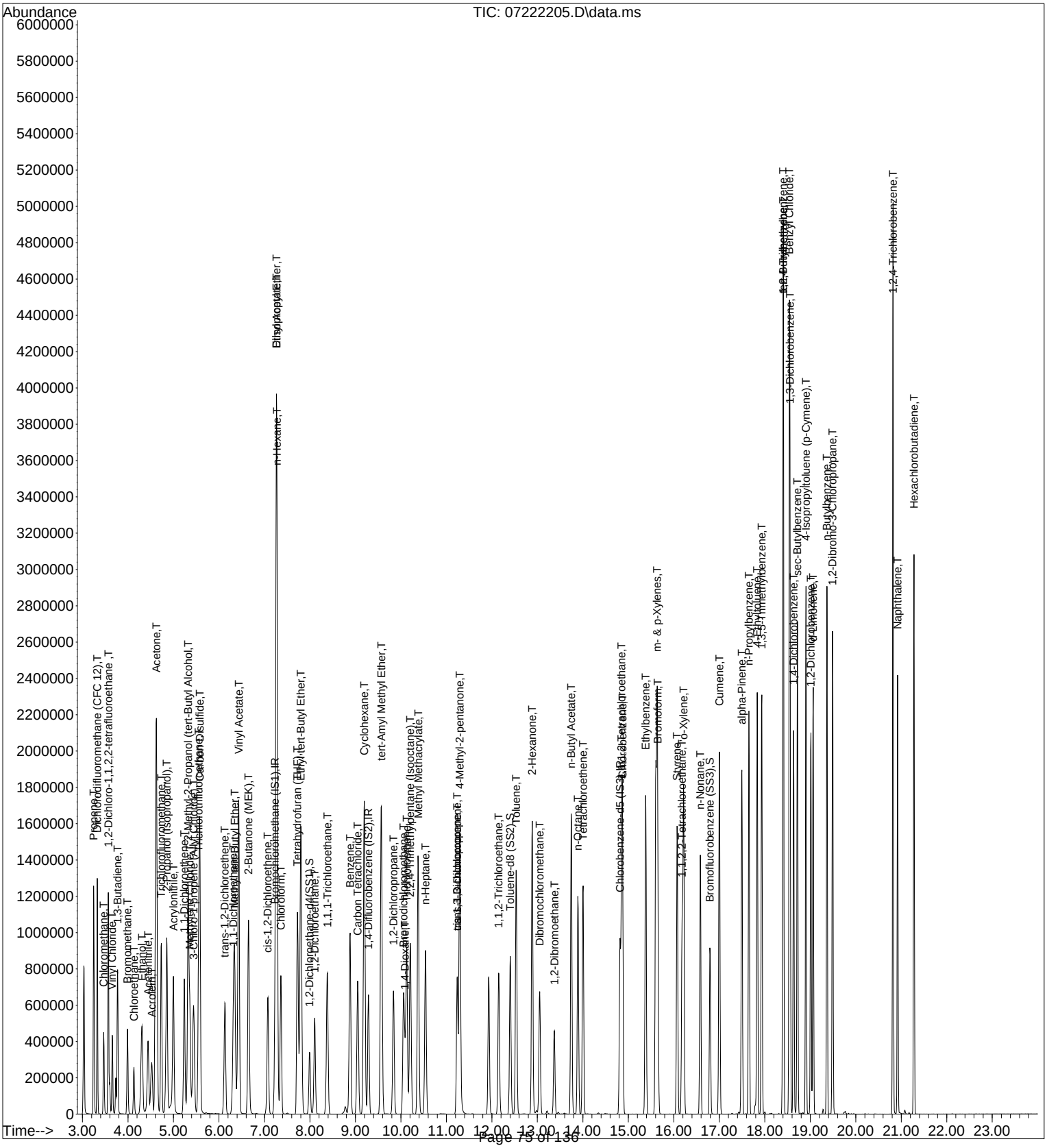
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	253717	21.126	ng		99
52) cis-1,3-Dichloropropene	11.24	75	495589	22.954	ng		99
53) 4-Methyl-2-pentanone	11.30	58	483916	43.999	ng		99
54) trans-1,3-Dichloropropene	11.24	75	495589	22.079	ng		99
55) 1,1,2-Trichloroethane	12.15	97	305929	21.550	ng		100
58) Toluene	12.53	91	1207896	20.068	ng		100
59) 2-Hexanone	12.89	43	1375986	41.409	ng		99
60) Dibromochloromethane	13.05	129	455772	21.856	ng		100
61) 1,2-Dibromoethane	13.38	107	379640	20.863	ng		99
62) n-Butyl Acetate	13.74	43	1518319	42.939	ng		100
63) n-Octane	13.89	57	215609	20.368	ng		97
64) Tetrachloroethene	14.01	166	458423	21.944	ng		100
65) Chlorobenzene	14.87	112	837759	20.414	ng		100
66) Ethylbenzene	15.38	91	1487802	20.933	ng		99
67) m- & p-Xylenes	15.63	91	2488516	42.158	ng		99
68) Bromoform	15.65	173	459388	23.955	ng		100
69) Styrene	16.07	104	875344	21.785	ng		100
70) o-Xylene	16.21	91	1228654	21.508	ng		100
71) n-Nonane	16.58	43	576265	20.172	ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	524863	20.643	ng		99
74) Cumene	17.00	105	1512183	21.192	ng		100
75) alpha-Pinene	17.50	93	775549	22.384	ng		100
76) n-Propylbenzene	17.65	91	1789434	21.017	ng		99
77) 3-Ethyltoluene	17.00	105	1512183	No Calib			
78) 4-Ethyltoluene	17.83	105	1501543	22.025	ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	1300727	21.912	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.50	105	92915	No Calib			
82) 1,2,4-Trimethylbenzene	18.41	105	1346409	21.949	ng		99
83) n-Decane	16.79	58	338	No Calib		#	
84) Benzyl Chloride	18.54	91	2331238	48.585	ng		100
85) 1,3-Dichlorobenzene	18.55	146	840426	22.165	ng		100
86) 1,4-Dichlorobenzene	18.63	146	822353	21.354	ng		100
87) sec-Butylbenzene	18.72	105	1654360	20.810	ng		100
88) 4-Isopropyltoluene (p-...	18.91	119	1492522	21.907	ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	1346409	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	799955	21.834	ng		100
91) d-Limonene	19.06	68	423792	21.341	ng		98
92) 1,2-Dibromo-3-Chloropr...	19.49	157	669832	45.750	ng		97
93) n-Undecane	17.93	58	16797	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	1358328	43.170	ng		100
95) Naphthalene	20.92	128	1515076	20.488	ng		100
96) n-Dodecane	18.90	58	31669	No Calib		#	
97) Hexachlorobutadiene	21.28	225	507882	21.722	ng		100
98) Cyclohexanone	15.60	55	1556	No Calib		#	
99) tert-Butylbenzene	18.41	119	1287947	21.853	ng		100
100) n-Butylbenzene	19.37	91	1386966	21.522	ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	373530	21.513	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222205.D Vial: 2
Acq On : 21 Jul 2022 23:32 Operator: SC
Sample : LCS R9072222 25ng Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 22 04:31:41 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222206.D Vial: 2
Acq On : 22 Jul 2022 00:04 Operator: SC
Sample : LCSD R9072222 25ng Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 22 04:31:43 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/22/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	156441	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	659361	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	143343	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	318894	12.149	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%				
57) Toluene-d8 (SS2)	12.40	98	723629	12.028	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
73) Bromofluorobenzene (SS3)	16.80	174	336522	13.847	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.80%				
Target Compounds							Qvalue
2) Propene	3.24	42	318667	21.261	ng		98
3) Dichlorodifluoromethan...	3.32	85	767021	20.736	ng		100
4) Chloromethane	3.46	50	352123	20.698	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.56	135	363439	22.702	ng		99
6) Vinyl Chloride	3.65	62	349435	22.076	ng		100
7) 1,3-Butadiene	3.77	54	262029	22.968	ng		98
8) Bromomethane	3.99	94	266150	21.559	ng		100
9) Chloroethane	4.13	64	171980	20.133	ng		99
10) Ethanol	4.31	45	893579	90.275	ng		100
11) Acetonitrile	4.44	41	499793	17.176	ng		99
12) Acrolein	4.52	56	319017	42.384	ng		99
13) Acetone	4.62	58	875355	94.566	ng		100
14) Trichlorofluoromethane	4.73	101	771852	20.696	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	1472552	39.548	ng		99
16) Acrylonitrile	5.00	53	641440	40.553	ng		100
17) 1,1-Dichloroethene	5.24	96	283773	21.642	ng		99
18) 2-Methyl-2-Propanol (t...	5.32	59	1572134	44.709	ng		99
19) Methylene Chloride	5.35	84	290512	20.318	ng		96
20) 3-Chloro-1-propene (Al...	5.44	41	471289	17.559	ng		100
21) Trichlorotrifluoroethane	5.56	151	338105	22.234	ng		97
22) Carbon Disulfide	5.58	76	2039474	41.136	ng		100
23) trans-1,2-Dichloroethene	6.13	61	447497	21.415	ng		100
24) 1,1-Dichloroethane	6.32	63	520988	20.912	ng		100
25) Methyl tert-Butyl Ether	6.35	73	997601	21.696	ng		99
26) Vinyl Acetate	6.44	86	229927	139.254	ng	#	92
27) 2-Butanone (MEK)	6.65	72	346695	41.555	ng		97
28) cis-1,2-Dichloroethene	7.07	61	432539	20.935	ng		100
29) Diisopropyl Ether	7.27	87	462109	41.658	ng	#	58
30) Ethyl Acetate	7.27	61	305717	57.345	ng		97
31) n-Hexane	7.28	57	408547	19.849	ng		99
32) Chloroform	7.36	83	645216	21.643	ng		100
34) Tetrahydrofuran (THF)	7.73	72	338613	41.915	ng		97
35) Ethyl tert-Butyl Ether	7.80	87	722505	43.739	ng		98
36) 1,2-Dichloroethane	8.11	62	543291	21.241	ng		100
38) 1,1,1-Trichloroethane	8.38	97	665678	21.650	ng		99
39) Isopropyl Acetate	9.28	61	23114	No Calib			
40) 1-Butanol	9.20	56	894720	No Calib			
41) Benzene	8.88	78	1100502	20.877	ng		100
42) Carbon Tetrachloride	9.05	117	568951	21.488	ng		99
43) Cyclohexane	9.20	84	810937	41.987	ng		98
44) tert-Amyl Methyl Ether	9.56	73	1721926	44.582	ng		99
45) 1,2-Dichloropropane	9.84	63	257905	20.520	ng		99
46) Bromodichloromethane	10.06	83	538372	22.146	ng		99
47) Trichloroethene	10.13	130	356418	22.787	ng		100
48) 1,4-Dioxane	10.09	88	232317	24.413	ng		99
49) 2,2,4-Trimethylpentane...	10.21	57	1040683	20.448	ng		100
50) Methyl Methacrylate	10.38	100	237601	48.331	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222206.D Vial: 2
Acq On : 22 Jul 2022 00:04 Operator: SC
Sample : LCSD R9072222 25ng Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 22 04:31:43 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

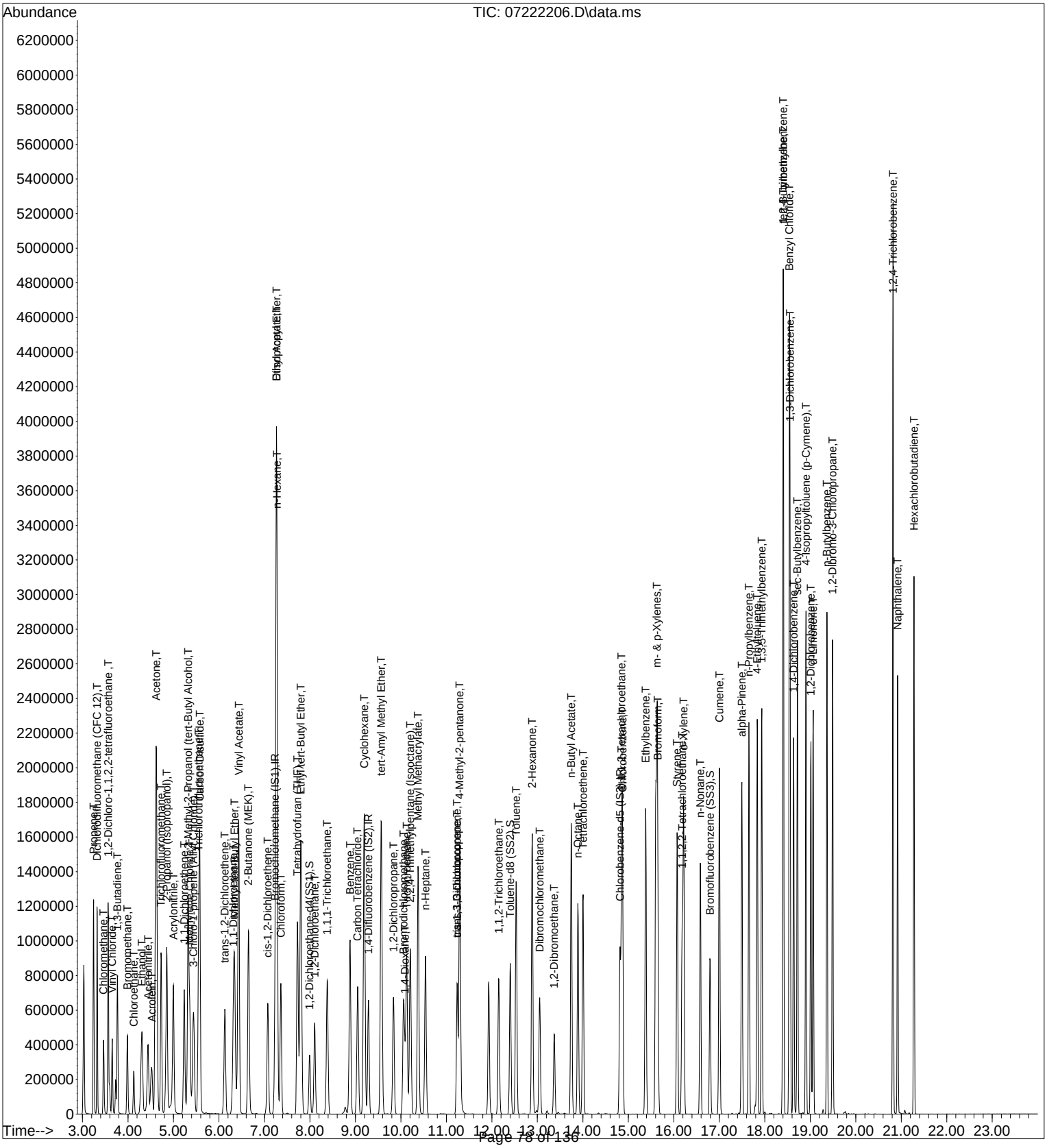
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	253989	21.087 ng		100
52) cis-1,3-Dichloropropene	11.23	75	499025	23.045 ng		100
53) 4-Methyl-2-pentanone	11.29	58	489814	44.405 ng		98
54) trans-1,3-Dichloropropene	11.23	75	499025	22.168 ng		100
55) 1,1,2-Trichloroethane	12.15	97	308204	21.647 ng		100
58) Toluene	12.53	91	1218468	20.128 ng		99
59) 2-Hexanone	12.89	43	1397917	41.829 ng		100
60) Dibromochloromethane	13.05	129	458661	21.869 ng		99
61) 1,2-Dibromoethane	13.37	107	382168	20.882 ng		99
62) n-Butyl Acetate	13.74	43	1535608	43.180 ng		100
63) n-Octane	13.89	57	217889	20.466 ng		97
64) Tetrachloroethene	14.01	166	458282	21.812 ng		100
65) Chlorobenzene	14.87	112	841987	20.400 ng		100
66) Ethylbenzene	15.38	91	1489028	20.830 ng		99
67) m- & p-Xylenes	15.63	91	2496535	42.052 ng		99
68) Bromoform	15.65	173	460664	23.885 ng		100
69) Styrene	16.07	104	879798	21.770 ng		100
70) o-Xylene	16.21	91	1231714	21.439 ng		100
71) n-Nonane	16.58	43	578321	20.128 ng		98
72) 1,1,2,2-Tetrachloroethane	16.19	83	529882	20.721 ng		99
74) Cumene	17.00	105	1515886	21.122 ng		100
75) alpha-Pinene	17.50	93	781647	22.431 ng		99
76) n-Propylbenzene	17.65	91	1795967	20.974 ng		99
77) 3-Ethyltoluene	17.00	105	1515886	No Calib		
78) 4-Ethyltoluene	17.83	105	1470050	21.439 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	1300132	21.777 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.50	105	94398	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1357135	21.997 ng		99
83) n-Decane	16.79	58	313	No Calib	#	
84) Benzyl Chloride	18.54	91	2395459	49.638 ng		100
85) 1,3-Dichlorobenzene	18.55	146	847659	22.228 ng		100
86) 1,4-Dichlorobenzene	18.63	146	825567	21.315 ng		100
87) sec-Butylbenzene	18.72	105	1665918	20.836 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	1494081	21.805 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	1357135	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	804220	21.825 ng		100
91) d-Limonene	19.06	68	427284	21.394 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	673379	45.729 ng		97
93) n-Undecane	17.93	58	17837	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1407079	44.464 ng		100
95) Naphthalene	20.92	128	1588182	21.354 ng		100
96) n-Dodecane	18.89	58	26640	No Calib	#	
97) Hexachlorobutadiene	21.28	225	513752	21.847 ng		100
98) Cyclohexanone	15.61	55	1536	No Calib	#	
99) tert-Butylbenzene	18.41	119	1290126	21.765 ng		100
100) n-Butylbenzene	19.37	91	1390163	21.449 ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	374062	21.421 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222206.D Vial: 2
Acq On : 22 Jul 2022 00:04 Operator: SC
Sample : LCSD R9072222 25ng Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 22 04:31:43 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9071922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jul 20 08:53:45 2022
Response Via : Initial Calibration

7/20/22

Calibration Files
0.1 =07192212.D 0.2 =07192213.D 0.5 =07192214.D 1.0 =07192215.D 5.0 =07192216.D 25 =07192
100 =07192219.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene	1.428	1.214	1.486	1.245	1.109	1.075	1.026	0.998	1.198	15.16
3)	T	Dichlorodifluo...	3.602	3.011	3.913	3.212	2.560	2.683	2.419	2.244	2.956	19.93
4)	T	Chloromethane	1.618	1.380	1.869	1.477	1.184	1.308	1.136	0.903	1.359	22.11
5)	T	1,2-Dichloro-1...	1.546	1.311	1.625	1.355	1.077	1.162	1.101	1.057	1.279	17.06
6)	T	Vinyl Chloride	1.435	1.263	1.648	1.345	1.070	1.160	1.093	1.103	1.265	16.00
7)	T	1,3-Butadiene	1.045	0.818	1.144	0.902	0.794	0.881	0.843	0.865	0.912	13.27
8)	T	Bromomethane	1.163	0.973	1.309	1.020	0.837	0.927	0.853	0.808	0.986	17.63
9)	T	Chloroethane	0.804	0.750	0.854	0.725	0.595	0.630	0.566	0.535	0.683	17.15
10)	T	Ethanol	0.841	0.561	1.137	0.917	0.745	0.773	0.695	0.660	0.791	22.41
11)	T	Acetonitrile	2.956	2.434	2.980	2.435	2.011	2.074	1.907	1.804	2.325	19.63
12)	T	Acrolein	0.675	0.614	0.785	0.643	0.546	0.559	0.507	0.481	0.601	16.53
13)	T	Acetone	1.013	0.795	0.954	0.802	0.626	0.627	0.565	0.534	0.740	24.27
14)	T	Trichlorofluor...	3.681	3.098	3.893	3.147	2.554	2.707	2.460	2.299	2.980	19.47
15)	T	2-Propanol (Is...	3.596	2.956	3.999	3.299	2.463	2.837	2.457	2.194	2.975	20.87
16)	T	Acrylonitrile	1.341	1.141	1.657	1.435	1.182	1.214	1.106	1.035	1.264	16.16
17)	T	1,1-Dichloroet...	1.272	1.029	1.329	1.123	0.918	0.973	0.888	0.849	1.048	17.04
18)	T	2-Methyl-2-Pro...	3.198	2.695	3.626	3.084	2.501	2.872	2.559	1.942	2.810	18.15
19)	T	Methylene Chlo...	1.521	1.122	1.431	1.262	0.965	1.022	0.934	0.883	1.142	20.88
20)	T	3-Chloro-1-pro...		2.113	3.140	2.865	1.973	1.811	1.630	1.481	2.145	29.22
21)	T	Trichlorotrifl...	1.621	1.163	1.541	1.243	1.018	1.104	1.035	0.997	1.215	19.83
22)	T	Carbon Disulfide	4.861	3.888	5.126	4.246	3.464	3.668	3.328	3.111	3.961	18.38
23)	T	trans-1,2-Dich...	1.929	1.568	2.171	1.779	1.482	1.582	1.462	1.383	1.670	16.15
24)	T	1,1-Dichloroet...	2.414	2.052	2.553	2.152	1.712	1.815	1.660	1.567	1.991	18.23
25)	T	Methyl tert-Bu...	3.974	3.522	4.730	3.950	3.243	3.592	3.297	3.085	3.674	14.50
26)	T	Vinyl Acetate	0.077	0.084	0.171	0.145	0.132	0.158	0.148	0.140	0.132	25.64
27)	T	2-Butanone (MEK)	0.757	0.615	0.893	0.729	0.598	0.630	0.574	0.539	0.667	17.64
28)	T	cis-1,2-Dichlo...	1.915	1.593	2.202	1.767	1.429	1.540	1.417	1.344	1.651	17.75
29)	T	Diisopropyl Ether	1.114	0.878	1.141	0.933	0.754	0.794	0.745	0.731	0.886	18.55
30)	T	Ethyl Acetate	0.458	0.414	0.540	0.470	0.379	0.399	0.372	0.375	0.426	13.91
31)	T	n-Hexane	2.006	1.737	2.136	1.709	1.384	1.460	1.362	1.363	1.645	18.47
32)	T	Chloroform	2.909	2.370	3.086	2.565	2.058	2.188	1.995	1.884	2.382	18.41
33)	S	1,2-Dichloroet...	2.120	2.144	2.134	2.132	2.111	2.090	2.033	2.014	2.097	2.32
34)	T	Tetrahydrofura...	0.738	0.655	0.807	0.690	0.579	0.614	0.558	0.522	0.645	14.96
35)	T	Ethyl tert-But...	1.483	1.272	1.685	1.379	1.141	1.288	1.183	1.129	1.320	14.43
36)	T	1,2-Dichloroet...	2.457	2.132	2.621	2.176	1.743	1.881	1.716	1.623	2.044	17.84
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.702	0.576	0.742	0.612	0.498	0.545	0.505	0.482	0.583	16.59
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.315	1.002	1.258	1.048	0.845	0.904	0.832	0.790	0.999	19.79
42)	T	Carbon Tetrach...	0.577	0.460	0.653	0.528	0.436	0.482	0.450	0.430	0.502	15.73
43)	T	Cyclohexane	0.457	0.361	0.466	0.384	0.312	0.337	0.313	0.299	0.366	17.76
44)	T	tert-Amyl Meth...	0.829	0.683	0.908	0.749	0.627	0.728	0.681	0.652	0.732	12.95
45)	T	1,2-Dichloropr...	0.280	0.237	0.320	0.252	0.201	0.220	0.203	0.194	0.238	18.48
46)	T	Bromodichlorom...	0.562	0.428	0.575	0.476	0.403	0.438	0.412	0.393	0.461	15.49
47)	T	Trichloroethene	0.336	0.287	0.371	0.310	0.254	0.285	0.268	0.260	0.297	13.57
48)	T	1,4-Dioxane	0.167	0.144	0.232	0.187	0.174	0.191	0.178	0.171	0.180	13.94
49)	T	2,2,4-Trimethy...	1.192	0.949	1.238	1.035	0.825	0.887	0.819	0.774	0.965	18.15
50)	T	Methyl Methacr...	0.083	0.081	0.119	0.099	0.087	0.097	0.091	0.089	0.093	13.26
51)	T	n-Heptane	0.267	0.221	0.288	0.248	0.200	0.215	0.199	0.189	0.228	15.68
52)	T	cis-1,3-Dichlo...	0.445	0.372	0.505	0.426	0.368	0.411	0.387	0.371	0.411	11.57
53)	T	4-Methyl-2-pen...	0.229	0.187	0.266	0.225	0.185	0.206	0.192	0.184	0.209	13.79
54)	T	trans-1,3-Dich...	0.462	0.386	0.525	0.442	0.382	0.428	0.402	0.386	0.427	11.57

55)	T	1,1,2-Trichlor...	0.329	0.251	0.344	0.287	0.233	0.253	0.236	0.227	0.270	16.72
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	5.380	5.335	5.282	5.301	5.315	5.163	5.118	5.077	5.246	2.13
58)	T	Toluene	6.783	5.176	6.864	5.633	4.534	4.741	4.394	4.107	5.279	20.14
59)	T	2-Hexanone	3.219	2.658	3.675	3.154	2.661	2.844	2.636	2.467	2.914	13.86
60)	T	Dibromochlorom...	2.011	1.751	2.229	1.941	1.620	1.796	1.683	1.601	1.829	11.86
61)	T	1,2-Dibromoethane	1.952	1.504	2.015	1.668	1.398	1.496	1.401	1.333	1.596	16.28
62)	T	n-Butyl Acetate	3.247	2.795	3.890	3.352	2.891	3.097	2.866	2.672	3.101	12.68
63)	T	n-Octane	1.002	0.868	1.252	1.008	0.836	0.877	0.811	0.773	0.928	16.74
64)	T	Tetrachloroethene	2.215	1.769	2.324	1.892	1.567	1.708	1.623	1.558	1.832	15.99
65)	T	Chlorobenzene	4.613	3.568	4.500	3.791	3.044	3.262	3.074	2.942	3.599	18.21
66)	T	Ethylbenzene	7.546	5.877	7.958	6.699	5.502	5.841	5.407	5.039	6.234	16.98
67)	T	m- & p-Xylenes	6.099	4.936	6.577	5.488	4.566	4.882	4.564	4.304	5.177	15.59
68)	T	Bromoform	1.670	1.440	1.954	1.694	1.524	1.802	1.720	1.652	1.682	9.39
69)	T	Styrene	3.911	3.029	4.264	3.779	3.227	3.546	3.314	3.123	3.524	12.23
70)	T	o-Xylene	5.662	4.774	6.414	5.490	4.437	4.749	4.407	4.148	5.010	15.44
71)	T	n-Nonane	2.873	2.376	3.248	2.691	2.256	2.368	2.183	2.050	2.506	16.03
72)	T	1,1,2,2-Tetrac...	2.636	2.151	2.834	2.405	1.989	2.072	1.927	1.826	2.230	16.12
73)	S	Bromofluoroben...	2.095	2.082	2.080	2.104	2.157	2.140	2.162	2.135	2.119	1.57
74)	T	Cumene	7.317	6.045	8.036	6.735	5.488	5.911	5.464	5.071	6.258	16.33
75)	T	alpha-Pinene	3.394	2.902	3.722	3.134	2.681	3.020	2.810	2.647	3.039	12.15
76)	T	n-Propylbenzene	8.518	7.058	9.634	8.206	6.753	7.071	6.500	5.997	7.467	16.22
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	6.762	5.261	7.702	6.561	5.373	5.841	5.305	5.030	5.979	15.71
79)	T	1,3,5-Trimethy...	5.603	4.917	6.673	5.632	4.716	5.047	4.685	4.375	5.206	14.16
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	5.662	4.929	6.859	5.809	4.869	5.323	4.974	4.616	5.380	13.46
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	3.723	3.118	4.797	4.323	4.073	4.840	4.603	4.188	4.208	13.79
85)	T	1,3-Dichlorobe...	3.515	3.198	4.077	3.511	2.932	3.292	3.136	2.942	3.325	11.31
86)	T	1,4-Dichlorobe...	3.767	3.281	4.253	3.528	2.933	3.259	3.081	2.918	3.377	13.53
87)	T	sec-Butylbenzene	8.300	6.562	8.980	7.634	6.154	6.559	6.029	5.561	6.972	17.24
88)	T	4-Isopropyltol...	6.687	5.437	7.505	6.482	5.448	5.843	5.431	4.968	5.975	14.14
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	3.763	3.034	3.960	3.421	2.776	3.090	2.913	2.750	3.213	14.15
91)	T	d-Limonene	1.857	1.486	2.191	1.853	1.598	1.749	1.635	1.565	1.742	12.94
92)	T	1,2-Dibromo-3-...	1.233	1.117	1.552	1.322	1.187	1.346	1.289	1.226	1.284	10.21
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.544	2.205	3.340	2.940	2.543	3.104	2.892	2.510	2.760	13.48
95)	T	Naphthalene	5.666	4.794	7.659	6.899	6.207	7.410	6.941	6.310	6.486	14.57
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	2.373	1.885	2.565	2.157	1.810	2.017	1.896	1.703	2.051	14.40
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	5.901	4.855	6.539	5.571	4.552	5.003	4.645	4.284	5.169	14.87
100)	T	n-Butylbenzene	5.979	5.265	7.239	6.235	5.178	5.541	5.100	4.679	5.652	14.35
101)	T	1,1,1,2-Tetrac...	1.760	1.440	1.936	1.600	1.329	1.448	1.371	1.299	1.523	14.80

(#) = Out of Range

R9071922.M Wed Jul 20 09:38:42 2022

Primary Source Standards Concentrations (Working & Initial Calibration)

7/20/22

1ng/L Std. ID:
4ng/L Std. ID: S35-07192211
20ng/L Std. ID: S35-07192210
40ng/L Std. ID:
200ng/L Std. ID: S35-07192209
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Page 1 of 2

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | **40ng/L Std. ID:**
4ng/L Std. ID: S35-07192211 | **200ng/L Std. ID:** S35-07192209
20ng/L Std. ID: S35-07192210 | **1000ng/L Std. ID:**

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.			Primary Working Standards				Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Uncontrolled Copy

Calibration Status Report MS09

Method   : I:\MS09\Methods\R9071922.M (RTE Integrator)
Title   : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration

7/20/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\DATA\2022_07\19\07192212.D
2	0.2	0	13	I:\MS09\DATA\2022_07\19\07192213.D
3	0.5	1	13	I:\MS09\DATA\2022_07\19\07192214.D
4	1.0	1	13	I:\MS09\DATA\2022_07\19\07192215.D
5	5.0	5	13	I:\MS09\DATA\2022_07\19\07192216.D
6	25	26	13	I:\MS09\DATA\2022_07\19\07192217.D
7	50	52	13	I:\MS09\DATA\2022_07\19\07192218.D
8	100	104	13	I:\MS09\DATA\2022_07\19\07192219.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Jul 20 08:42 2022	Jul 20 08:37 2022	19 Jul 2022 15:22
2	0.2	Jul 20 08:49 2022	Jul 20 08:48 2022	19 Jul 2022 15:54
3	0.5	Jul 20 08:42 2022	Jul 20 08:33 2022	19 Jul 2022 16:26
4	1.0	Jul 20 08:43 2022	Jul 20 08:32 2022	19 Jul 2022 16:57
5	5.0	Jul 20 08:43 2022	Jul 20 08:31 2022	19 Jul 2022 17:29
6	25	Jul 20 08:43 2022	Jul 20 08:30 2022	19 Jul 2022 18:01
7	50	Jul 20 08:43 2022	Jul 20 08:39 2022	19 Jul 2022 18:33
8	100	Jul 20 08:43 2022	Jul 20 08:40 2022	19 Jul 2022 19:05

R9071922.M Wed Jul 20 09:38:13 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192212.D Vial: 5
Acq On : 19 Jul 2022 15:22 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:37:29 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	139128	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	599227	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	122199	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	295020	13.184	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%				
57) Toluene-d8 (SS2)	12.39	98	657399	13.716	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.76%				
73) Bromofluorobenzene (SS3)	16.79	174	255964	14.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.96%				
Target Compounds							Qvalue
2) Propene	3.29	42	1653	0.085	ng		93
3) Dichlorodifluoromethan...	3.36	85	4210	0.131	ng		98
4) Chloromethane	3.51	50	1837	0.098	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	1858	0.142	ng		96
6) Vinyl Chloride	3.69	62	1661	0.108	ng		95
7) 1,3-Butadiene	3.80	54	1210	0.117	ng		90
8) Bromomethane	4.02	94	1320	0.132	ng		96
9) Chloroethane	4.15	64	913	0.104	ng	#	43
10) Ethanol	4.28	45	3387	0.297	ng		96
11) Acetonitrile	4.44	41	3060	0.081	ng	#	21
12) Acrolein	4.52	56	1502	0.192	ng		92
13) Acetone	4.62	58	5852	0.636	ng		98
14) Trichlorofluoromethane	4.74	101	4220	0.140	ng		97
15) 2-Propanol (Isopropanol)	4.84	45	8084	0.231	ng		87
16) Acrylonitrile	4.97	53	3031	0.173	ng		97
17) 1,1-Dichloroethene	5.24	96	1515	0.125	ng		92
18) 2-Methyl-2-Propanol (t...	5.36	59	7474	0.260	ng		77
19) Methylene Chloride	5.33	84	1761	0.132	ng		97
20) 3-Chloro-1-propene (Al...	5.43	41	3471	0.109	ng		79
21) Trichlorotrifluoroethane	5.56	151	1949	0.156	ng		89
22) Carbon Disulfide	5.60	76	11362	0.265	ng		95
23) trans-1,2-Dichloroethene	6.11	61	2276	0.116	ng		99
24) 1,1-Dichloroethane	6.29	63	2821	0.117	ng		95
25) Methyl tert-Butyl Ether	6.37	73	4644	0.120	ng		98
26) Vinyl Acetate	6.42	86	290	0.166	ng	#	1
27) 2-Butanone (MEK)	6.65	72	1736	0.220	ng	#	74
28) cis-1,2-Dichloroethene	7.04	61	2217	0.117	ng		94
29) Diisopropyl Ether	7.26	87	2629	0.270	ng	#	85
30) Ethyl Acetate	7.27	61	2078	0.401	ng		93
31) n-Hexane	7.27	57	2344	0.107	ng		97
32) Chloroform	7.32	83	3464	0.139	ng		97
34) Tetrahydrofuran (THF)	7.75	72	1619	0.210	ng	#	79
35) Ethyl tert-Butyl Ether	7.80	87	3467	0.242	ng		98
36) 1,2-Dichloroethane	8.07	62	2899	0.137	ng		97
38) 1,1,1-Trichloroethane	8.36	97	3502	0.141	ng		97
39) Isopropyl Acetate	9.26	61	21496	No Calib			
40) 1-Butanol	9.18	56	5205	No Calib			
41) Benzene	8.86	78	6558	0.132	ng		91
42) Carbon Tetrachloride	9.03	117	2902	0.130	ng		99
43) Cyclohexane	9.18	84	4531	0.251	ng		98
44) tert-Amyl Methyl Ether	9.58	73	8307	0.244	ng		97
45) 1,2-Dichloropropane	9.83	63	1383	0.106	ng		100
46) Bromodichloromethane	10.04	83	2831	0.143	ng		84
47) Trichloroethene	10.10	130	1659	0.121	ng		95
48) 1,4-Dioxane	10.13	88	834	0.086	ng	#	43
49) 2,2,4-Trimethylpentane...	10.20	57	6057	0.109	ng		97
50) Methyl Methacrylate	10.39	100	823	0.179	ng	#	64

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192212.D Vial: 5
Acq On : 19 Jul 2022 15:22 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:37:29 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

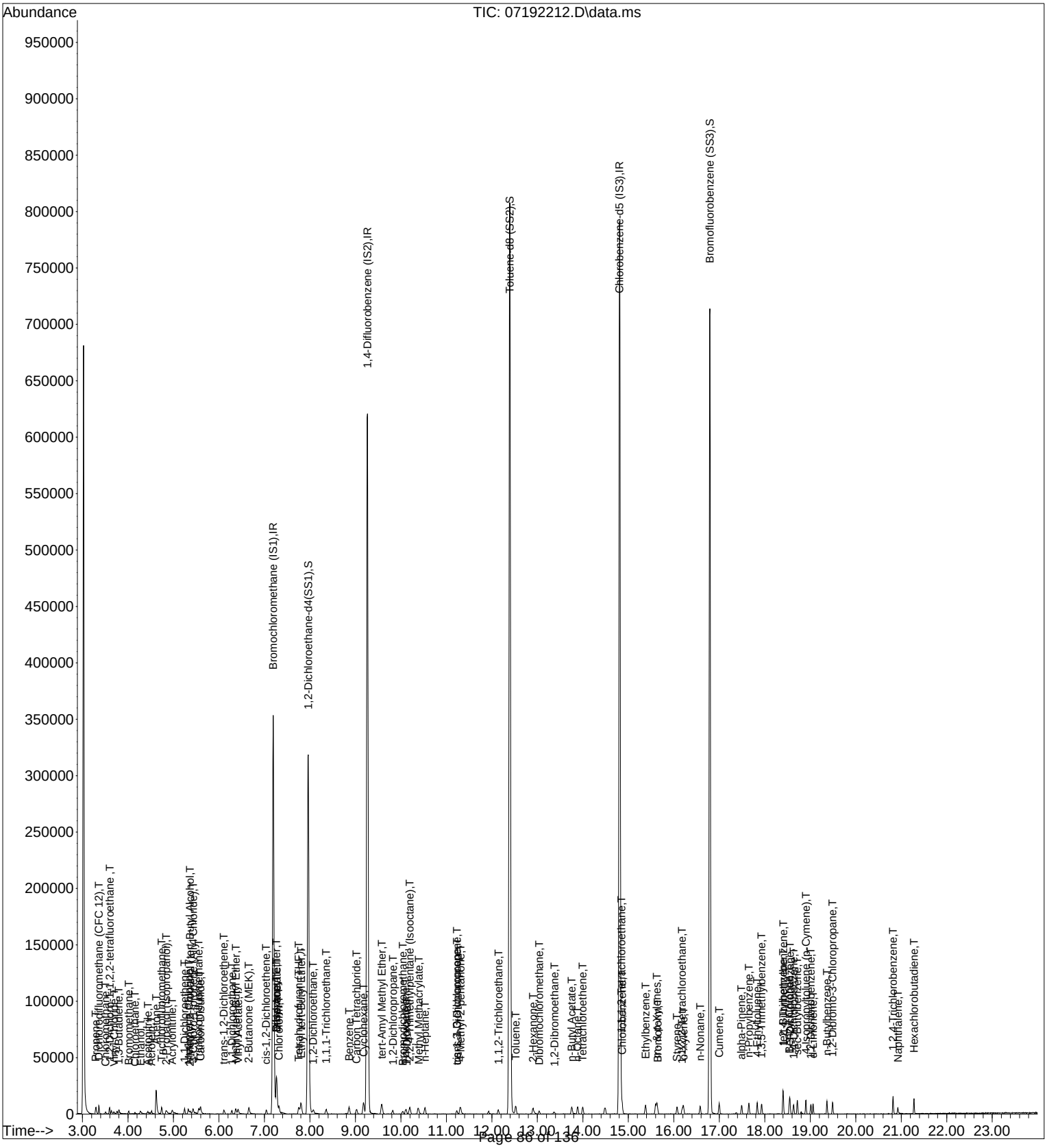
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	1344	0.118 ng		92
52) cis-1,3-Dichloropropene	11.23	75	2238	0.115 ng		92
53) 4-Methyl-2-pentanone	11.31	58	2279	0.196 ng	#	95
54) trans-1,3-Dichloropropene	11.23	75	2238	0.111 ng		92
55) 1,1,2-Trichloroethane	12.14	97	1640	0.127 ng		91
58) Toluene	12.52	91	6830	0.145 ng		97
59) 2-Hexanone	12.90	43	6452	0.196 ng		95
60) Dibromochloromethane	13.04	129	2064	0.141 ng		99
61) 1,2-Dibromoethane	13.37	107	1985	0.142 ng		86
62) n-Butyl Acetate	13.76	43	6476	0.183 ng		97
63) n-Octane	13.88	57	1029	0.105 ng		99
64) Tetrachloroethene	13.99	166	2252	0.152 ng		94
65) Chlorobenzene	14.86	112	4690	0.151 ng		97
66) Ethylbenzene	15.38	91	7598	0.138 ng		96
67) m- & p-Xylenes	15.62	91	12283m	0.277 ng		
68) Bromoform	15.65	173	1698	0.126 ng		97
69) Styrene	16.07	104	3938	0.126 ng		98
70) o-Xylene	16.21	91	5757	0.132 ng		99
71) n-Nonane	16.58	43	2921	0.104 ng		95
72) 1,1,2,2-Tetrachloroethane	16.18	83	2680	0.137 ng		95
74) Cumene	17.00	105	7439	0.141 ng		99
75) alpha-Pinene	17.49	93	3583	0.133 ng		97
76) n-Propylbenzene	17.65	91	8743	0.132 ng		99
77) 3-Ethyltoluene	17.00	105	7439	No Calib		
78) 4-Ethyltoluene	17.83	105	7007	0.139 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	5697	0.131 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.49	105	505	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	5701	0.127 ng		98
83) n-Decane	16.78	58	163	No Calib	#	
84) Benzyl Chloride	18.54	91	7498	0.214 ng		91
85) 1,3-Dichlorobenzene	18.55	146	3574	0.126 ng		95
86) 1,4-Dichlorobenzene	18.63	146	3830	0.137 ng		99
87) sec-Butylbenzene	18.72	105	8439	0.145 ng		98
88) 4-Isopropyltoluene (p-...	18.91	119	6799	0.134 ng		98
89) 1,2,3-Trimethylbenzene	18.41	105	5701	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	3863	0.145 ng		99
91) d-Limonene	19.06	68	1906	0.123 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	2411	0.231 ng	#	77
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.82	180	5073	0.218 ng		99
95) Naphthalene	20.93	128	5761	0.104 ng		97
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.28	225	2389	0.141 ng		96
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	6000	0.138 ng		99
100) n-Butylbenzene	19.37	91	6079	0.122 ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	1789	0.149 ng		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192212.D Vial: 5
Acq On : 19 Jul 2022 15:22 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

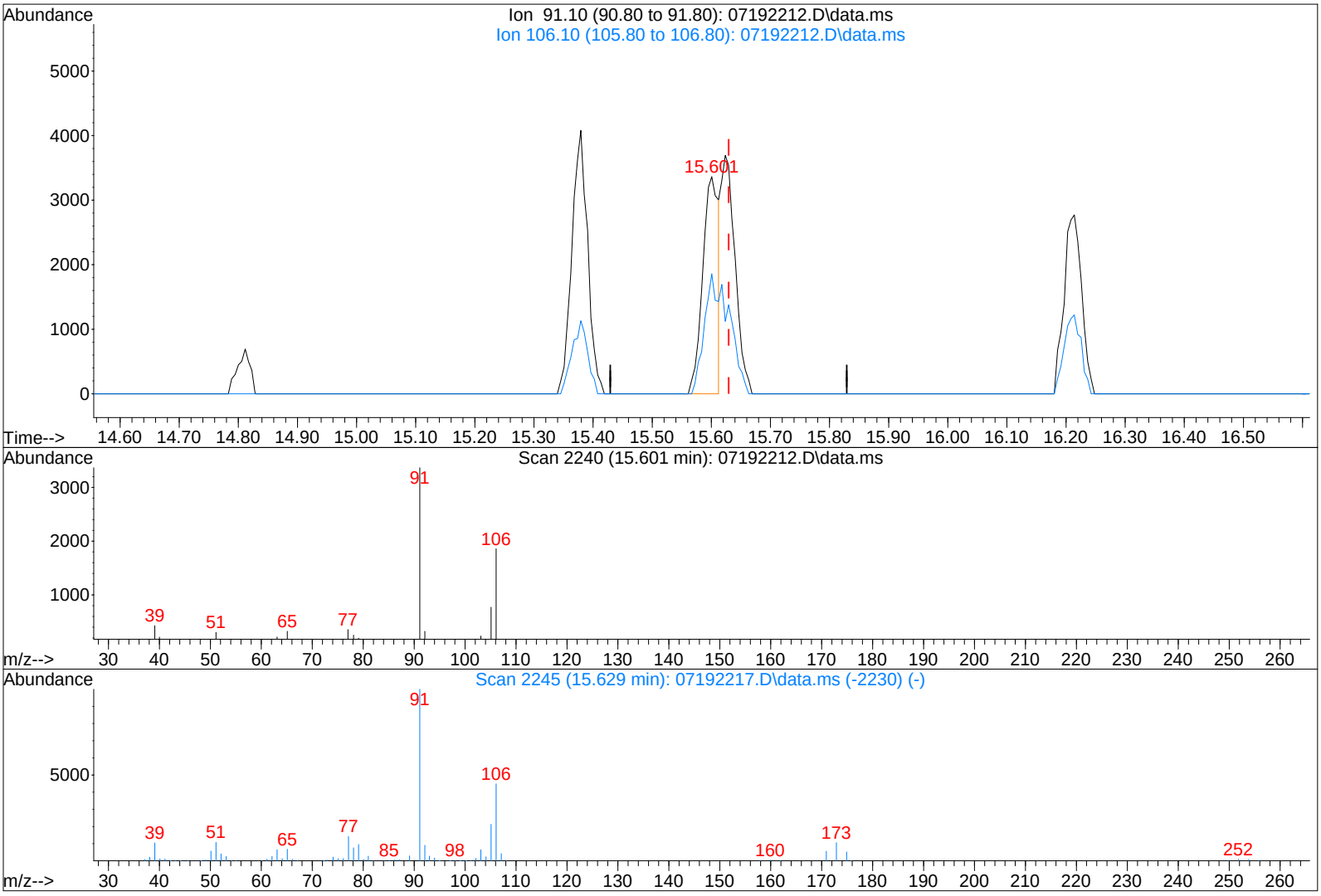
Quant Time: Jul 20 08:37:29 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192212.D Vial: 5
Acq On : 19 Jul 2022 15:22 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:36:37 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192212.D\data.ms

(67) m- & p-Xylenes (T)

15.601min (-0.028) 0.14ng

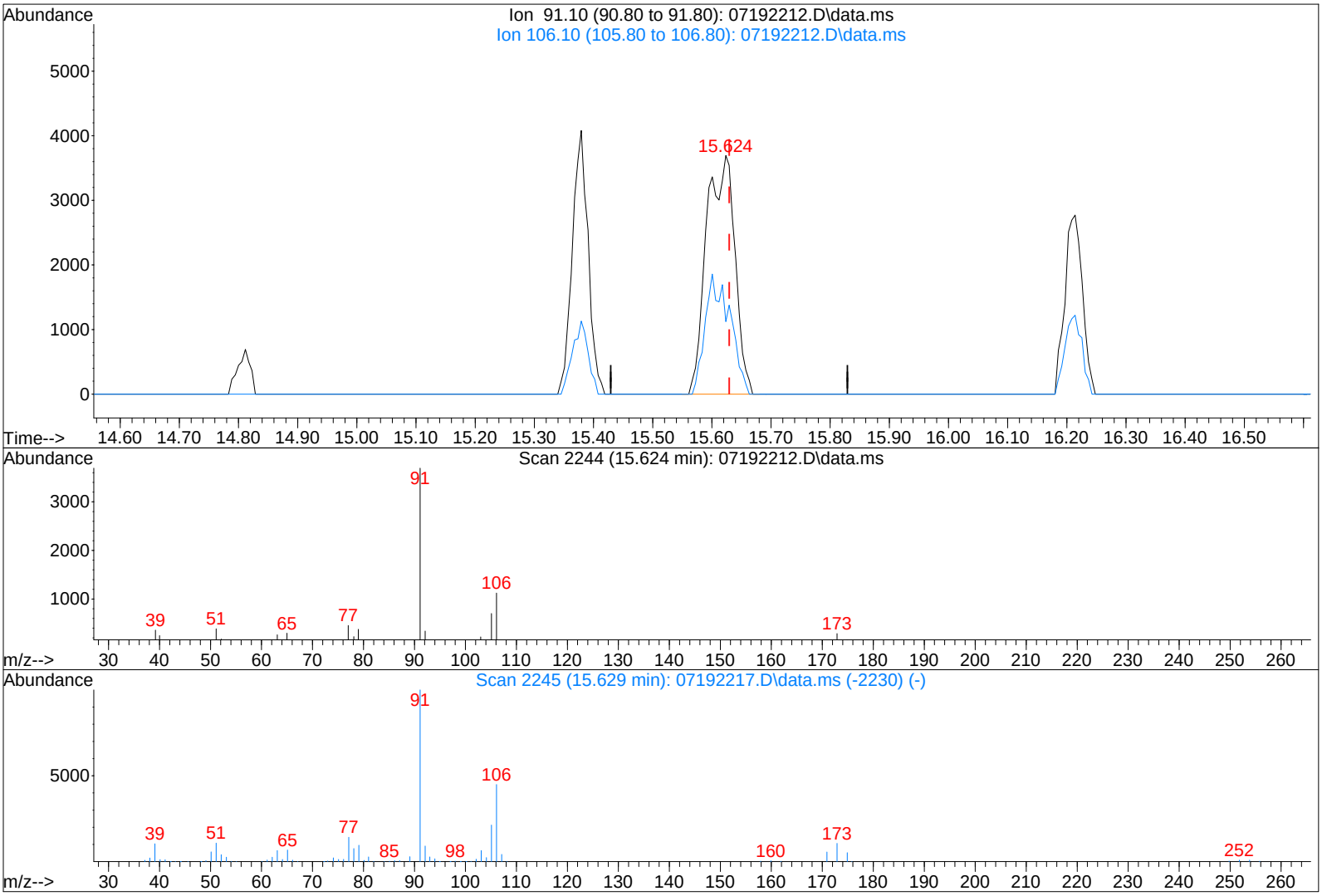
response 6219

Ion	Exp%	Act%
91.10	100	100
106.10	44.00	86.49#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192212.D Vial: 5
Acq On : 19 Jul 2022 15:22 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:36:37 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192212.D\data.ms

(67) m- & p-Xylenes (T)

15.624min (-0.006) 0.28ng m

response 12283

Ion	Exp%	Act%
91.10	100	100
106.10	44.00	43.79
0.00	0.00	0.00
0.00	0.00	0.00

SP

7/20/22

7/27/22

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192213.D Vial: 5
Acq On : 19 Jul 2022 15:54 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:48:23 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	140804	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	615398	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	125729	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	301924	13.332	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%				
57) Toluene-d8 (SS2)	12.39	98	670733	13.602	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
73) Bromofluorobenzene (SS3)	16.79	174	261743	14.030	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.24%				
Target Compounds							Qvalue
2) Propene	3.29	42	2844	0.144	ng		99
3) Dichlorodifluoromethan...	3.36	85	7122	0.219	ng		97
4) Chloromethane	3.50	50	3171	0.167	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	3189	0.240	ng		96
6) Vinyl Chloride	3.69	62	2959	0.191	ng		95
7) 1,3-Butadiene	3.80	54	1916	0.183	ng		88
8) Bromomethane	4.01	94	2237	0.222	ng		91
9) Chloroethane	4.15	64	1723	0.193	ng		85
10) Ethanol	4.27	45	4573	0.396	ng		89
11) Acetonitrile	4.43	41	5099	0.133	ng	#	55
12) Acrolein	4.52	56	2768	0.349	ng		90
13) Acetone	4.61	58	9293	0.998	ng		94
14) Trichlorofluoromethane	4.74	101	7189	0.236	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	13452	0.380	ng		85
16) Acrylonitrile	4.97	53	5216	0.294	ng		98
17) 1,1-Dichloroethene	5.24	96	2480	0.202	ng		100
18) 2-Methyl-2-Propanol (t...	5.37	59	12752	0.438	ng		78
19) Methylene Chloride	5.32	84	2628	0.194	ng		93
20) 3-Chloro-1-propene (Al...	5.43	41	4998m	0.155	ng		
21) Trichlorotrifluoroethane	5.55	151	2829	0.224	ng		97
22) Carbon Disulfide	5.59	76	18394	0.423	ng		96
23) trans-1,2-Dichloroethene	6.11	61	3745	0.189	ng		95
24) 1,1-Dichloroethane	6.29	63	4855	0.199	ng		99
25) Methyl tert-Butyl Ether	6.36	73	8331	0.213	ng		100
26) Vinyl Acetate	6.42	86	646	0.365	ng	#	13
27) 2-Butanone (MEK)	6.65	72	2852	0.357	ng	#	77
28) cis-1,2-Dichloroethene	7.04	61	3732	0.195	ng		98
29) Diisopropyl Ether	7.27	87	4192	0.426	ng		99
30) Ethyl Acetate	7.27	61	3809	0.726	ng		93
31) n-Hexane	7.27	57	4109	0.186	ng		93
32) Chloroform	7.32	83	5714	0.226	ng		97
34) Tetrahydrofuran (THF)	7.75	72	2906	0.373	ng		95
35) Ethyl tert-Butyl Ether	7.80	87	6017	0.415	ng		99
36) 1,2-Dichloroethane	8.08	62	5091	0.238	ng		98
38) 1,1,1-Trichloroethane	8.36	97	5902	0.232	ng		95
39) Isopropyl Acetate	9.26	61	21864	No Calib			
40) 1-Butanol	9.18	56	8245	No Calib			
41) Benzene	8.86	78	10263	0.201	ng		99
42) Carbon Tetrachloride	9.03	117	4754	0.207	ng		98
43) Cyclohexane	9.18	84	7357	0.396	ng		99
44) tert-Amyl Methyl Ether	9.57	73	14063	0.402	ng		97
45) 1,2-Dichloropropane	9.83	63	2400	0.178	ng		98
46) Bromodichloromethane	10.04	83	4424	0.218	ng		100
47) Trichloroethene	10.11	130	2914	0.206	ng		99
48) 1,4-Dioxane	10.12	88	1473	0.148	ng		91
49) 2,2,4-Trimethylpentane...	10.20	57	9903	0.174	ng		97
50) Methyl Methacrylate	10.38	100	1650	0.350	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192213.D Vial: 5
Acq On : 19 Jul 2022 15:54 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:48:23 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

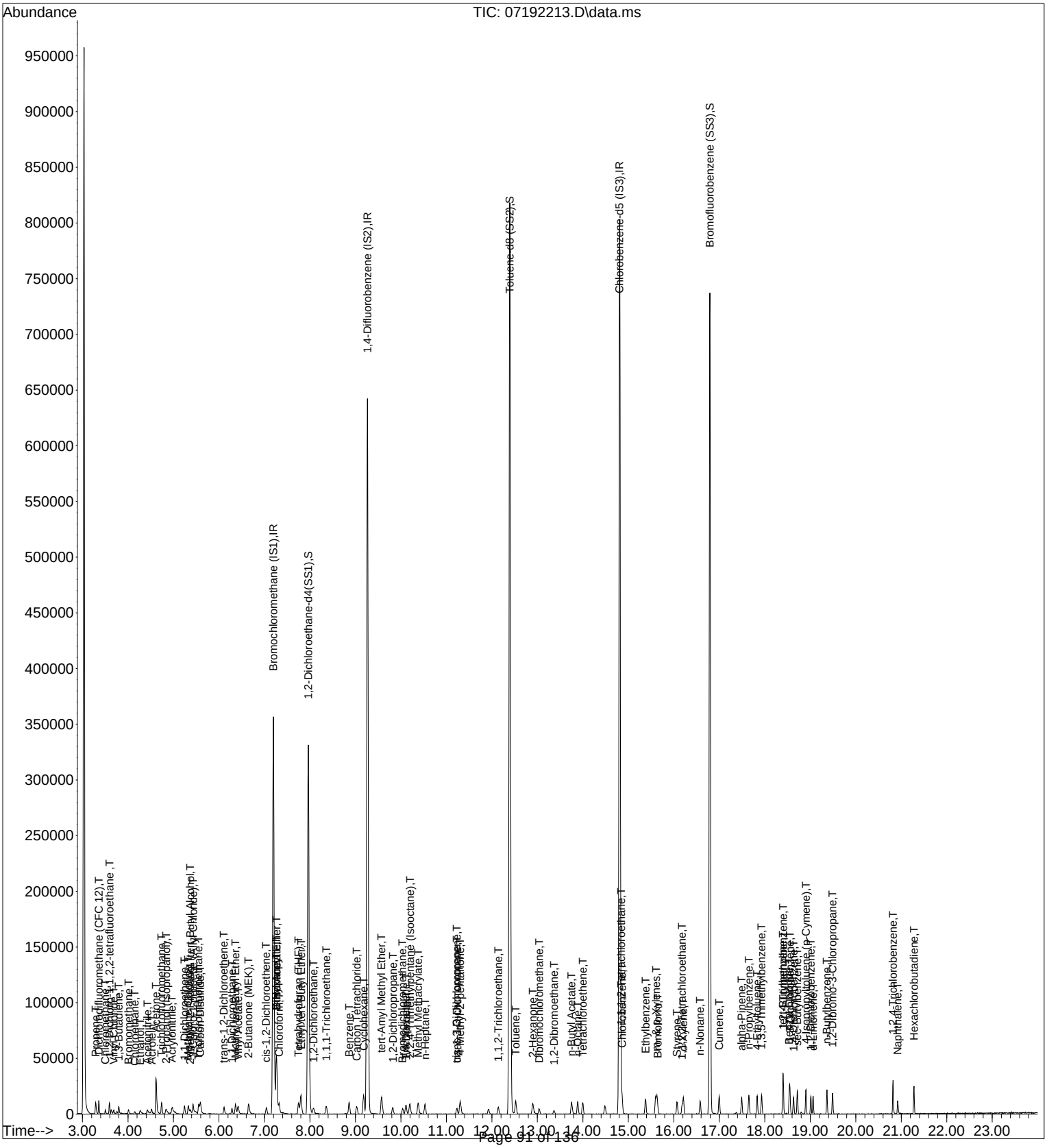
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	2283	0.195 ng		98
52) cis-1,3-Dichloropropene	11.23	75	3842	0.192 ng		91
53) 4-Methyl-2-pentanone	11.30	58	3821	0.320 ng		95
54) trans-1,3-Dichloropropene	11.23	75	3842	0.185 ng		91
55) 1,1,2-Trichloroethane	12.14	97	2573	0.194 ng		94
58) Toluene	12.52	91	10725	0.221 ng		96
59) 2-Hexanone	12.90	43	10963	0.324 ng		97
60) Dibromochloromethane	13.04	129	3698	0.245 ng		91
61) 1,2-Dibromoethane	13.37	107	3146	0.219 ng		97
62) n-Butyl Acetate	13.75	43	11472	0.316 ng		98
63) n-Octane	13.89	57	1833	0.181 ng		94
64) Tetrachloroethene	14.00	166	3702	0.243 ng		99
65) Chlorobenzene	14.86	112	7464	0.233 ng		97
66) Ethylbenzene	15.38	91	12177	0.215 ng		97
67) m- & p-Xylenes	15.61	91	20456	0.448 ng		99
68) Bromoform	15.65	173	3012	0.218 ng		96
69) Styrene	16.07	104	6276	0.195 ng		99
70) o-Xylene	16.21	91	9988	0.222 ng		100
71) n-Nonane	16.58	43	4971	0.172 ng		94
72) 1,1,2,2-Tetrachloroethane	16.18	83	4501	0.223 ng		99
74) Cumene	17.00	105	12646	0.232 ng		99
75) alpha-Pinene	17.49	93	6305	0.227 ng		96
76) n-Propylbenzene	17.65	91	14909	0.218 ng		99
77) 3-Ethyltoluene	17.00	105	12646	No Calib		
78) 4-Ethyltoluene	17.83	105	11218	0.216 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	10287	0.230 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.50	105	860	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	10213	0.220 ng		99
83) n-Decane	16.79	58	119	No Calib	#	
84) Benzyl Chloride	18.54	91	12921	0.358 ng		93
85) 1,3-Dichlorobenzene	18.55	146	6691	0.230 ng		100
86) 1,4-Dichlorobenzene	18.63	146	6865	0.239 ng		96
87) sec-Butylbenzene	18.72	105	13729	0.229 ng		98
88) 4-Isopropyltoluene (p-...	18.91	119	11375	0.218 ng		97
89) 1,2,3-Trimethylbenzene	18.41	105	10213	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	6408	0.233 ng		98
91) d-Limonene	19.06	68	3139	0.197 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.49	157	4496	0.418 ng		87
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.82	180	9047	0.378 ng		98
95) Naphthalene	20.92	128	10029	0.176 ng		94
96) n-Dodecane	18.90	58	384	No Calib	#	
97) Hexachlorobutadiene	21.28	225	3905	0.223 ng		98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	10158	0.227 ng		98
100) n-Butylbenzene	19.37	91	11015	0.214 ng		97
101) 1,1,1,2-Tetrachloroethane	14.85	131	3013	0.245 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192213.D Vial: 5
Acq On : 19 Jul 2022 15:54 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

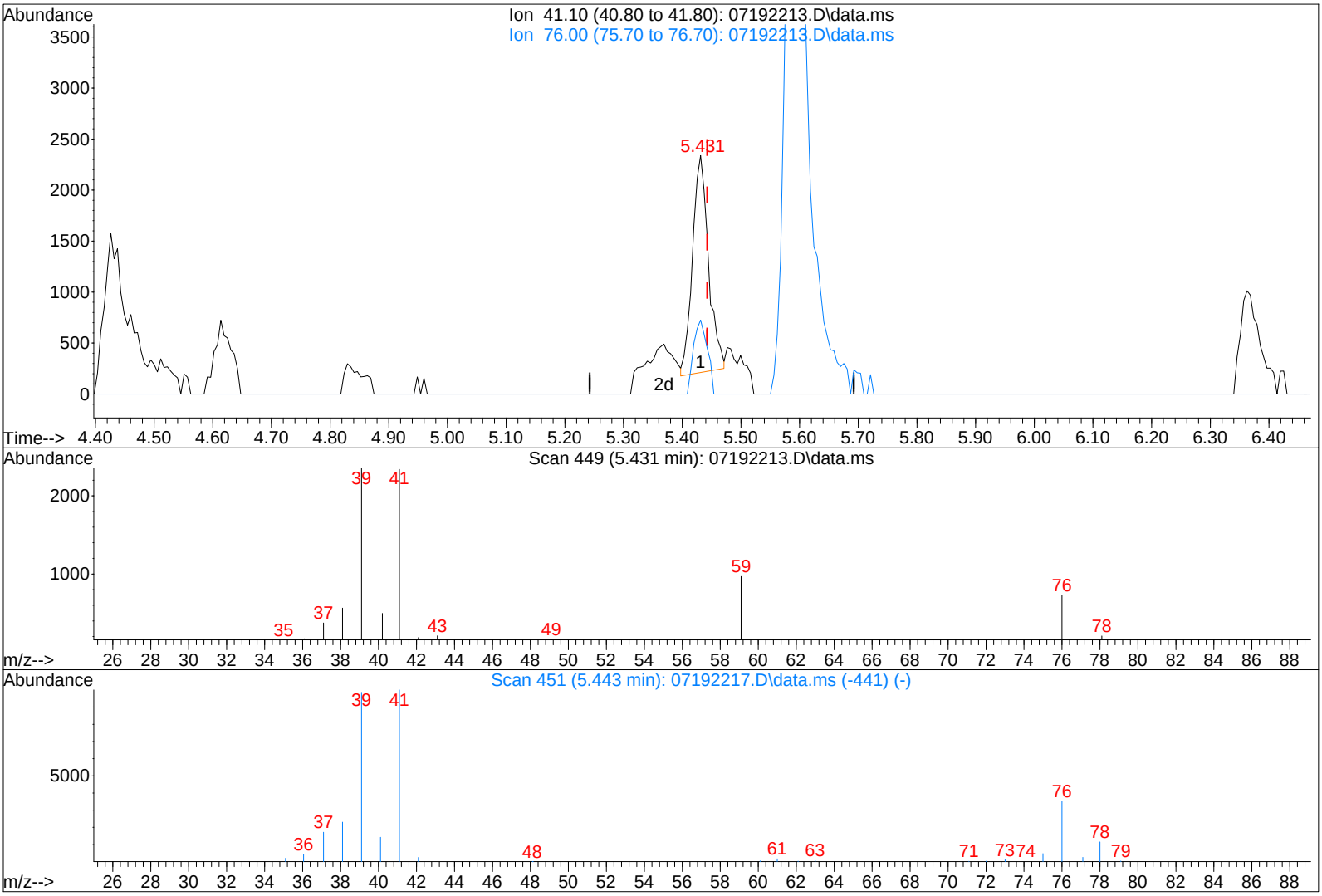
Quant Time: Jul 20 08:48:23 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192213.D Vial: 5
Acq On : 19 Jul 2022 15:54 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:35:09 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192213.D\data.ms

(20) 3-Chloro-1-propene (Allyl Chloride) (T)

5.431min (-0.011) 0.13ng

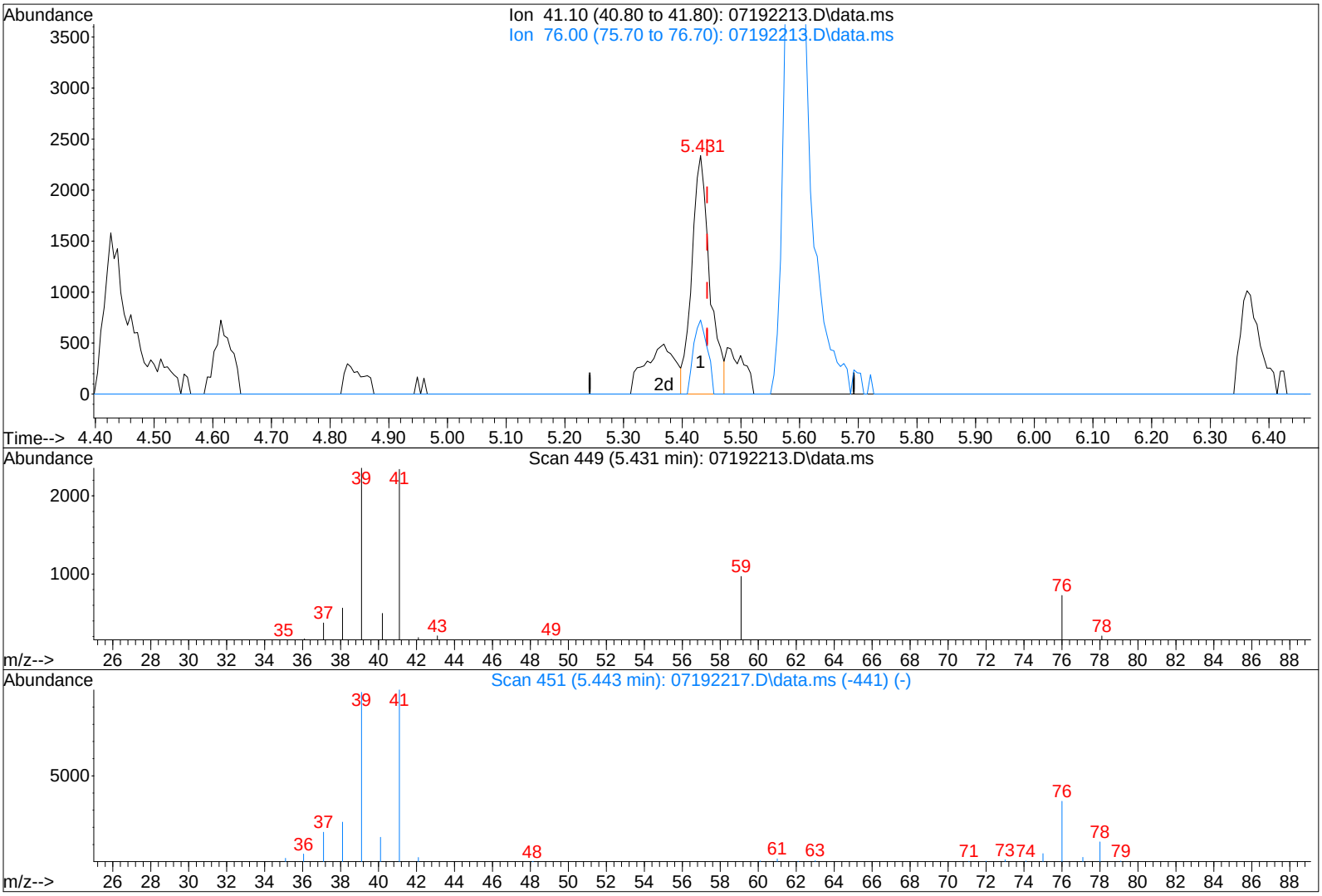
response 4048

Ion	Exp%	Act%
41.10	100	100
76.00	30.40	29.17
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192213.D Vial: 5
Acq On : 19 Jul 2022 15:54 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:35:09 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192213.D\data.ms

(20) 3-Chloro-1-propene (Allyl Chloride) (T)

5.431min (-0.011) 0.15ng m

response 4998

Ion	Exp%	Act%
41.10	100	100
76.00	30.40	23.63
0.00	0.00	0.00
0.00	0.00	0.00

BLC

7/20/22 7/27/22

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192214.D Vial: 6
Acq On : 19 Jul 2022 16:26 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:33:46 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	142495	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	615389	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	127009	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	304016	13.265	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
57) Toluene-d8 (SS2)	12.39	98	670892	13.468	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.76%				
73) Bromofluorobenzene (SS3)	16.79	174	264134	14.016	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.16%				
Target Compounds							Qvalue
2) Propene	3.28	42	8809	0.442	ng		98
3) Dichlorodifluoromethan...	3.35	85	23421	0.713	ng		99
4) Chloromethane	3.49	50	10866	0.564	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	10004	0.744	ng		99
6) Vinyl Chloride	3.67	62	9769	0.623	ng		99
7) 1,3-Butadiene	3.78	54	6782	0.641	ng		97
8) Bromomethane	4.00	94	7610	0.746	ng		96
9) Chloroethane	4.14	64	4963	0.550	ng		97
10) Ethanol	4.26	45	23459	2.008	ng		92
11) Acetonitrile	4.42	41	15794	0.407	ng		81
12) Acrolein	4.51	56	8953	1.116	ng		93
13) Acetone	4.61	58	28216	2.995	ng		100
14) Trichlorofluoromethane	4.73	101	22854	0.742	ng		98
15) 2-Propanol (Isopropanol)	4.81	45	46043	1.284	ng		91
16) Acrylonitrile	4.97	53	19175	1.066	ng		94
17) 1,1-Dichloroethene	5.23	96	8108	0.654	ng		100
18) 2-Methyl-2-Propanol (t...	5.29	59	43407	1.475	ng		94
19) Methylene Chloride	5.32	84	8484	0.620	ng		95
20) 3-Chloro-1-propene (Al...	5.43	41	18790	0.574	ng		84
21) Trichlorotrifluoroethane	5.56	151	9485	0.742	ng		98
22) Carbon Disulfide	5.58	76	61356	1.395	ng		99
23) trans-1,2-Dichloroethene	6.11	61	13117	0.653	ng		99
24) 1,1-Dichloroethane	6.29	63	15277	0.619	ng		99
25) Methyl tert-Butyl Ether	6.35	73	28306	0.717	ng		99
26) Vinyl Acetate	6.41	86	3307	1.847	ng	#	94
27) 2-Butanone (MEK)	6.64	72	10480	1.295	ng		96
28) cis-1,2-Dichloroethene	7.04	61	13054	0.674	ng		96
29) Diisopropyl Ether	7.26	87	13790	1.385	ng		98
30) Ethyl Acetate	7.26	61	12565	2.365	ng		93
31) n-Hexane	7.27	57	12784	0.572	ng		98
32) Chloroform	7.33	83	18823	0.736	ng		99
34) Tetrahydrofuran (THF)	7.74	72	9067	1.150	ng	#	85
35) Ethyl tert-Butyl Ether	7.79	87	20166	1.376	ng		99
36) 1,2-Dichloroethane	8.08	62	15834	0.733	ng		99
38) 1,1,1-Trichloroethane	8.36	97	19005	0.746	ng		100
39) Isopropyl Acetate	9.26	61	22145	No Calib			
40) 1-Butanol	9.18	56	27312	No Calib			
41) Benzene	8.86	78	32199	0.630	ng		98
42) Carbon Tetrachloride	9.03	117	16887	0.734	ng		100
43) Cyclohexane	9.18	84	23745	1.279	ng		99
44) tert-Amyl Methyl Ether	9.56	73	46708	1.336	ng		96
45) 1,2-Dichloropropane	9.82	63	8107	0.603	ng		96
46) Bromodichloromethane	10.04	83	14874	0.733	ng		100
47) Trichloroethene	10.11	130	9399	0.666	ng		99
48) 1,4-Dioxane	10.11	88	5932	0.594	ng		97
49) 2,2,4-Trimethylpentane...	10.20	57	32306	0.566	ng		97
50) Methyl Methacrylate	10.37	100	6105	1.295	ng		91

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192214.D Vial: 6
Acq On : 19 Jul 2022 16:26 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:33:46 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

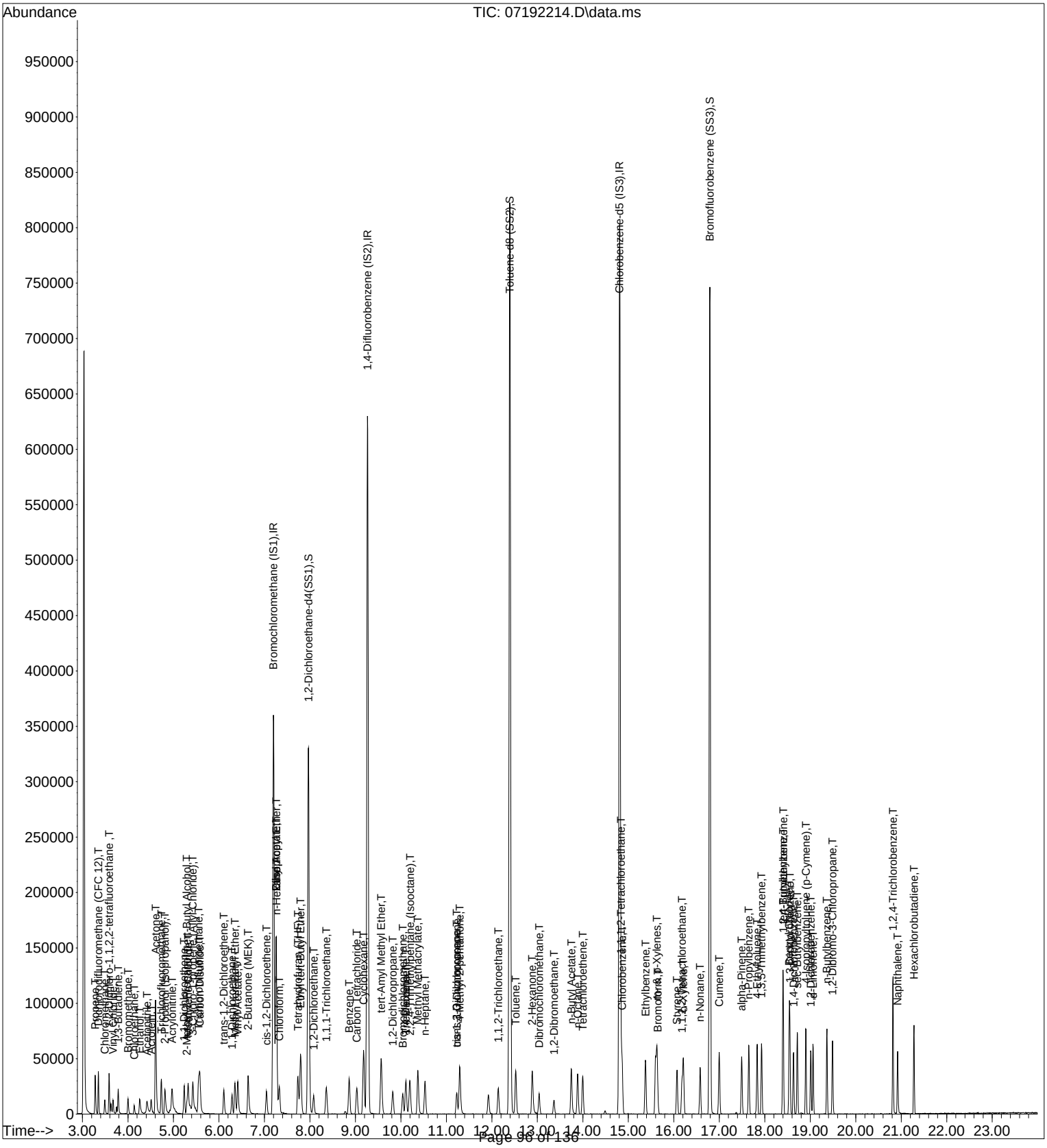
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	7451	0.636 ng		98
52) cis-1,3-Dichloropropene	11.23	75	13055	0.653 ng		98
53) 4-Methyl-2-pentanone	11.30	58	13596	1.137 ng		98
54) trans-1,3-Dichloropropene	11.23	75	13055	0.628 ng		98
55) 1,1,2-Trichloroethane	12.14	97	8797	0.663 ng		99
58) Toluene	12.52	91	35916	0.732 ng		99
59) 2-Hexanone	12.89	43	38275	1.119 ng		99
60) Dibromochloromethane	13.04	129	11888	0.781 ng		97
61) 1,2-Dibromoethane	13.37	107	10647	0.735 ng		99
62) n-Butyl Acetate	13.75	43	40312	1.099 ng		99
63) n-Octane	13.89	57	6676	0.654 ng		99
64) Tetrachloroethene	14.00	166	12281	0.799 ng		100
65) Chlorobenzene	14.86	112	23778	0.736 ng		100
66) Ethylbenzene	15.38	91	41645	0.726 ng		100
67) m- & p-Xylenes	15.62	91	68828	1.492 ng	#	67
68) Bromoform	15.65	173	10323	0.738 ng		99
69) Styrene	16.07	104	22312	0.685 ng		100
70) o-Xylene	16.21	91	33890	0.747 ng		98
71) n-Nonane	16.58	43	17159	0.589 ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	14972	0.734 ng		97
74) Cumene	17.00	105	42461	0.773 ng		100
75) alpha-Pinene	17.49	93	20424	0.728 ng		96
76) n-Propylbenzene	17.65	91	51393	0.745 ng		99
77) 3-Ethyltoluene	17.00	105	42461	No Calib		
78) 4-Ethyltoluene	17.83	105	41478	0.792 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	35259	0.779 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.49	105	2787	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	35894	0.767 ng		99
83) n-Decane	16.79	58	248	No Calib	#	
84) Benzyl Chloride	18.54	91	50202	1.378 ng		97
85) 1,3-Dichlorobenzene	18.55	146	21541	0.733 ng		100
86) 1,4-Dichlorobenzene	18.63	146	22471	0.774 ng		97
87) sec-Butylbenzene	18.72	105	47444	0.784 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	39654	0.753 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	35894	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	21123	0.761 ng		97
91) d-Limonene	19.06	68	11686	0.727 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.49	157	15773	1.453 ng		90
93) n-Undecane	17.93	58	593	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	34612	1.431 ng		98
95) Naphthalene	20.92	128	40469	0.701 ng		99
96) n-Dodecane	18.71	58	124	No Calib	#	
97) Hexachlorobutadiene	21.28	225	13421	0.759 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	34548	0.764 ng		98
100) n-Butylbenzene	19.37	91	38248	0.736 ng		98
101) 1,1,1,2-Tetrachloroethane	14.84	131	10228	0.822 ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192214.D Vial: 6
Acq On : 19 Jul 2022 16:26 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:33:46 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192215.D Vial: 6
Acq On : 19 Jul 2022 16:57 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:32:25 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	140047	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	608267	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	124358	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	298592	13.257	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.08%				
57) Toluene-d8 (SS2)	12.39	98	659206	13.515	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.16%				
73) Bromofluorobenzene (SS3)	16.79	174	261688	14.182	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%				
Target Compounds							Qvalue
2) Propene	3.27	42	14502	0.740	ng		98
3) Dichlorodifluoromethan...	3.34	85	37784	1.170	ng		98
4) Chloromethane	3.48	50	16878	0.892	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	16398	1.242	ng		99
6) Vinyl Chloride	3.66	62	15675	1.017	ng		100
7) 1,3-Butadiene	3.77	54	10509	1.011	ng		93
8) Bromomethane	3.99	94	11659	1.163	ng		97
9) Chloroethane	4.13	64	8289	0.934	ng		99
10) Ethanol	4.26	45	37182	3.239	ng		98
11) Acetonitrile	4.41	41	25368	0.665	ng		96
12) Acrolein	4.50	56	14398	1.827	ng		100
13) Acetone	4.60	58	46642	5.037	ng		97
14) Trichlorofluoromethane	4.73	101	36311	1.199	ng		100
15) 2-Propanol (Isopropanol)	4.81	45	74662	2.119	ng		91
16) Acrylonitrile	4.96	53	32640	1.847	ng		94
17) 1,1-Dichloroethene	5.23	96	13465	1.105	ng		96
18) 2-Methyl-2-Propanol (t...	5.28	59	72550	2.508	ng		94
19) Methylene Chloride	5.32	84	14699	1.092	ng		96
20) 3-Chloro-1-propene (Al...	5.42	41	33706	1.048	ng		83
21) Trichlorotrifluoroethane	5.54	151	15035	1.197	ng		97
22) Carbon Disulfide	5.57	76	99903	2.311	ng		100
23) trans-1,2-Dichloroethene	6.10	61	21133	1.071	ng		99
24) 1,1-Dichloroethane	6.28	63	25315	1.044	ng		99
25) Methyl tert-Butyl Ether	6.34	73	46472	1.197	ng		100
26) Vinyl Acetate	6.41	86	5539	3.148	ng		99
27) 2-Butanone (MEK)	6.63	72	16816	2.114	ng	#	90
28) cis-1,2-Dichloroethene	7.04	61	20589	1.082	ng		99
29) Diisopropyl Ether	7.25	87	22170	2.265	ng		98
30) Ethyl Acetate	7.25	61	21488	4.116	ng		98
31) n-Hexane	7.27	57	20109	0.916	ng		98
32) Chloroform	7.32	83	30752	1.223	ng		99
34) Tetrahydrofuran (THF)	7.73	72	15239	1.967	ng	#	88
35) Ethyl tert-Butyl Ether	7.79	87	32445	2.252	ng		97
36) 1,2-Dichloroethane	8.08	62	25845	1.217	ng		98
38) 1,1,1-Trichloroethane	8.36	97	30969	1.229	ng		99
39) Isopropyl Acetate	9.26	61	20964	No Calib			
40) 1-Butanol	9.18	56	43766	No Calib			
41) Benzene	8.86	78	53046	1.049	ng		100
42) Carbon Tetrachloride	9.03	117	26989	1.187	ng		100
43) Cyclohexane	9.17	84	38720	2.110	ng		99
44) tert-Amyl Methyl Ether	9.56	73	76183	2.204	ng		98
45) 1,2-Dichloropropane	9.81	63	12650	0.951	ng		97
46) Bromodichloromethane	10.04	83	24309	1.212	ng		99
47) Trichloroethene	10.10	130	15533	1.113	ng		98
48) 1,4-Dioxane	10.09	88	9444	0.957	ng		99
49) 2,2,4-Trimethylpentane...	10.20	57	53375	0.946	ng		98
50) Methyl Methacrylate	10.37	100	10055	2.158	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192215.D Vial: 6
Acq On : 19 Jul 2022 16:57 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:32:25 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

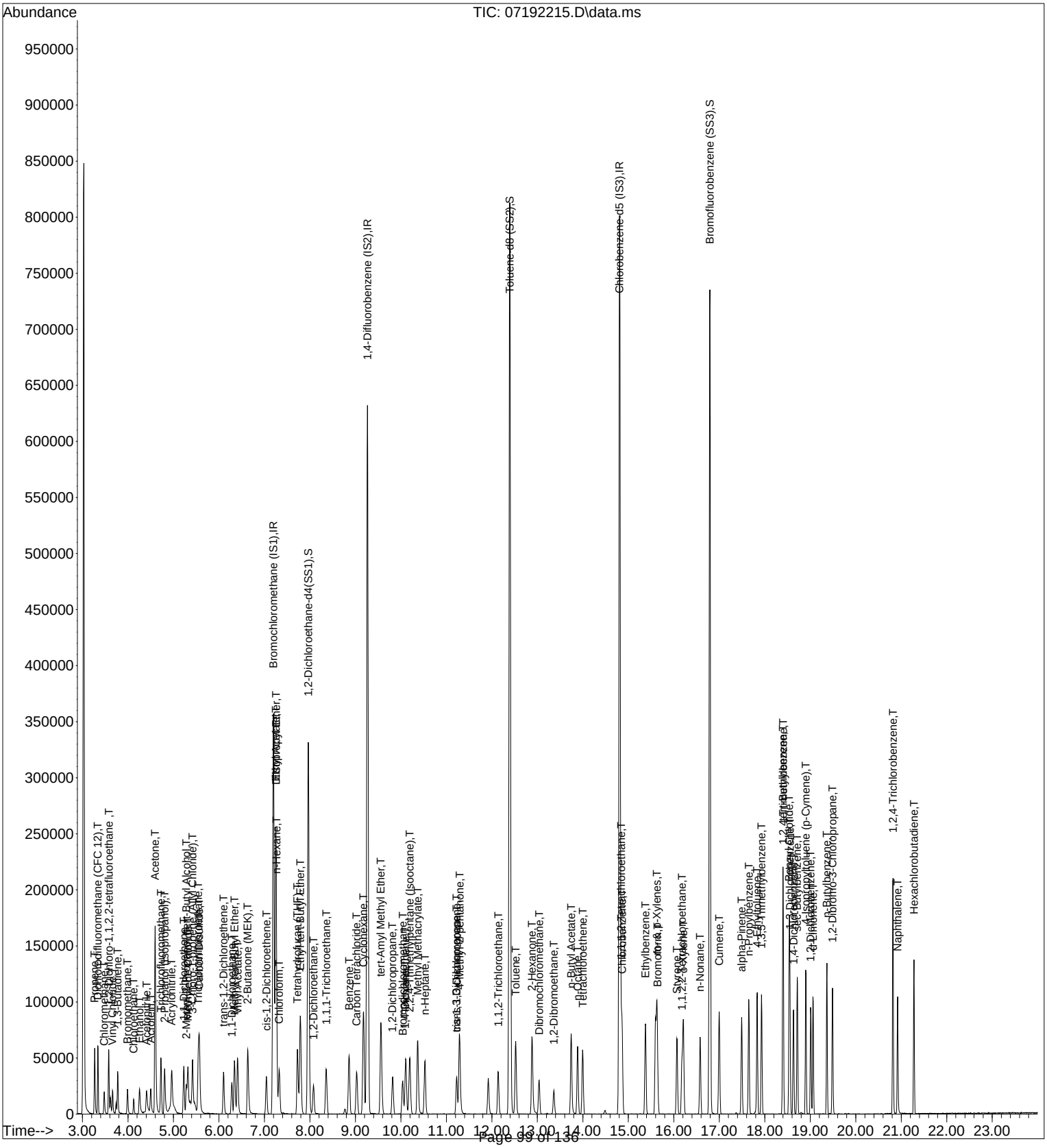
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	12693	1.097 ng		99
52) cis-1,3-Dichloropropene	11.22	75	21745	1.100 ng		99
53) 4-Methyl-2-pentanone	11.29	58	22745	1.925 ng		99
54) trans-1,3-Dichloropropene	11.22	75	21745	1.058 ng		99
55) 1,1,2-Trichloroethane	12.14	97	14537	1.109 ng		98
58) Toluene	12.52	91	57718	1.202 ng		99
59) 2-Hexanone	12.88	43	64328	1.921 ng		100
60) Dibromochloromethane	13.04	129	20280	1.360 ng		100
61) 1,2-Dibromoethane	13.36	107	17253	1.216 ng		98
62) n-Butyl Acetate	13.74	43	68022	1.894 ng		99
63) n-Octane	13.89	57	10533	1.053 ng		97
64) Tetrachloroethene	14.00	166	19578	1.301 ng		99
65) Chlorobenzene	14.86	112	39220	1.240 ng		99
66) Ethylbenzene	15.37	91	68646	1.223 ng		99
67) m- & p-Xylenes	15.62	91	112463	2.491 ng		100
68) Bromoform	15.64	173	17524	1.280 ng		100
69) Styrene	16.07	104	38722	1.214 ng		99
70) o-Xylene	16.21	91	56798	1.278 ng		99
71) n-Nonane	16.58	43	27843	0.976 ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	24880	1.247 ng		100
74) Cumene	17.00	105	69682	1.295 ng		99
75) alpha-Pinene	17.49	93	33668	1.226 ng		95
76) n-Propylbenzene	17.65	91	85718	1.270 ng		98
77) 3-Ethyltoluene	17.00	105	69682	No Calib		
78) 4-Ethyltoluene	17.83	105	69188	1.350 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	58275	1.315 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.49	105	4396	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	59527	1.298 ng		100
83) n-Decane	16.99	58	317	No Calib	#	
84) Benzyl Chloride	18.54	91	88606	2.483 ng		97
85) 1,3-Dichlorobenzene	18.55	146	36332	1.262 ng		99
86) 1,4-Dichlorobenzene	18.63	146	36498	1.284 ng		99
87) sec-Butylbenzene	18.71	105	78983	1.333 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	67071	1.301 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	59527	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	35732	1.314 ng		97
91) d-Limonene	19.06	68	19352	1.230 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.49	157	26311	2.475 ng		92
93) n-Undecane	17.93	58	1351	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	59659	2.518 ng		99
95) Naphthalene	20.92	128	71383	1.263 ng		99
96) n-Dodecane	18.71	58	335	No Calib	#	
97) Hexachlorobutadiene	21.28	225	22104	1.278 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	57642	1.302 ng		97
100) n-Butylbenzene	19.37	91	64511	1.268 ng		97
101) 1,1,1,2-Tetrachloroethane	14.85	131	16553	1.359 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192215.D Vial: 6
Acq On : 19 Jul 2022 16:57 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:32:25 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192216.D Vial: 6
Acq On : 19 Jul 2022 17:29 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:31:07 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	143957	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	9.28	114	620781	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.81	54	127996	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.98	65	303918	13.126	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%			
57) Toluene-d8 (SS2)	12.40	98	680332	13.552	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.40%			
73) Bromofluorobenzene (SS3)	16.79	174	276130	14.539	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.32%			
Target Compounds						Qvalue
2) Propene	3.26	42	66411	3.299	ng	98
3) Dichlorodifluoromethan...	3.33	85	154809	4.662	ng	100
4) Chloromethane	3.47	50	69543	3.575	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	66965	4.933	ng	99
6) Vinyl Chloride	3.65	62	64097	4.044	ng	100
7) 1,3-Butadiene	3.77	54	47557	4.452	ng	99
8) Bromomethane	3.99	94	49142	4.767	ng	99
9) Chloroethane	4.13	64	34970	3.835	ng	99
10) Ethanol	4.27	45	155302	13.160	ng	99
11) Acetonitrile	4.42	41	107704	2.746	ng	98
12) Acrolein	4.51	56	62925	7.767	ng	94
13) Acetone	4.61	58	187218	19.669	ng	95
14) Trichlorofluoromethane	4.73	101	151484	4.866	ng	100
15) 2-Propanol (Isopropanol)	4.82	45	286486	7.911	ng	94
16) Acrylonitrile	4.98	53	138156	7.605	ng	98
17) 1,1-Dichloroethene	5.23	96	56539	4.513	ng	100
18) 2-Methyl-2-Propanol (t...	5.29	59	302416	10.170	ng	95
19) Methylene Chloride	5.33	84	57771	4.176	ng	99
20) 3-Chloro-1-propene (Al...	5.43	41	119277	3.608	ng	90
21) Trichlorotrifluoroethane	5.55	151	63282	4.899	ng	98
22) Carbon Disulfide	5.57	76	418912	9.428	ng	100
23) trans-1,2-Dichloroethene	6.12	61	90475	4.461	ng	99
24) 1,1-Dichloroethane	6.30	63	103535	4.155	ng	100
25) Methyl tert-Butyl Ether	6.34	73	196051	4.913	ng	100
26) Vinyl Acetate	6.42	86	25871	14.302	ng	98
27) 2-Butanone (MEK)	6.64	72	70885	8.668	ng	99
28) cis-1,2-Dichloroethene	7.06	61	85598	4.376	ng	100
29) Diisopropyl Ether	7.25	87	92001	9.143	ng	98
30) Ethyl Acetate	7.25	61	88966	16.578	ng	99
31) n-Hexane	7.27	57	83685	3.708	ng	99
32) Chloroform	7.34	83	126831	4.907	ng	100
34) Tetrahydrofuran (THF)	7.72	72	65653	8.242	ng	92
35) Ethyl tert-Butyl Ether	7.79	87	137980	9.316	ng	99
36) 1,2-Dichloroethane	8.09	62	106414	4.876	ng	100
38) 1,1,1-Trichloroethane	8.37	97	128693	5.006	ng	99
39) Isopropyl Acetate	9.28	61	21656	No Calib		
40) 1-Butanol	9.18	56	182654	No Calib		
41) Benzene	8.87	78	218303	4.232	ng	98
42) Carbon Tetrachloride	9.04	117	113583	4.896	ng	100
43) Cyclohexane	9.19	84	160533	8.571	ng	99
44) tert-Amyl Methyl Ether	9.56	73	325401	9.226	ng	99
45) 1,2-Dichloropropane	9.83	63	51483	3.794	ng	98
46) Bromodichloromethane	10.05	83	104950	5.127	ng	99
47) Trichloroethene	10.12	130	65083	4.569	ng	100
48) 1,4-Dioxane	10.09	88	45037	4.472	ng	96
49) 2,2,4-Trimethylpentane...	10.20	57	217253	3.774	ng	99
50) Methyl Methacrylate	10.38	100	44861	9.432	ng	97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192216.D Vial: 6
Acq On : 19 Jul 2022 17:29 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:31:07 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

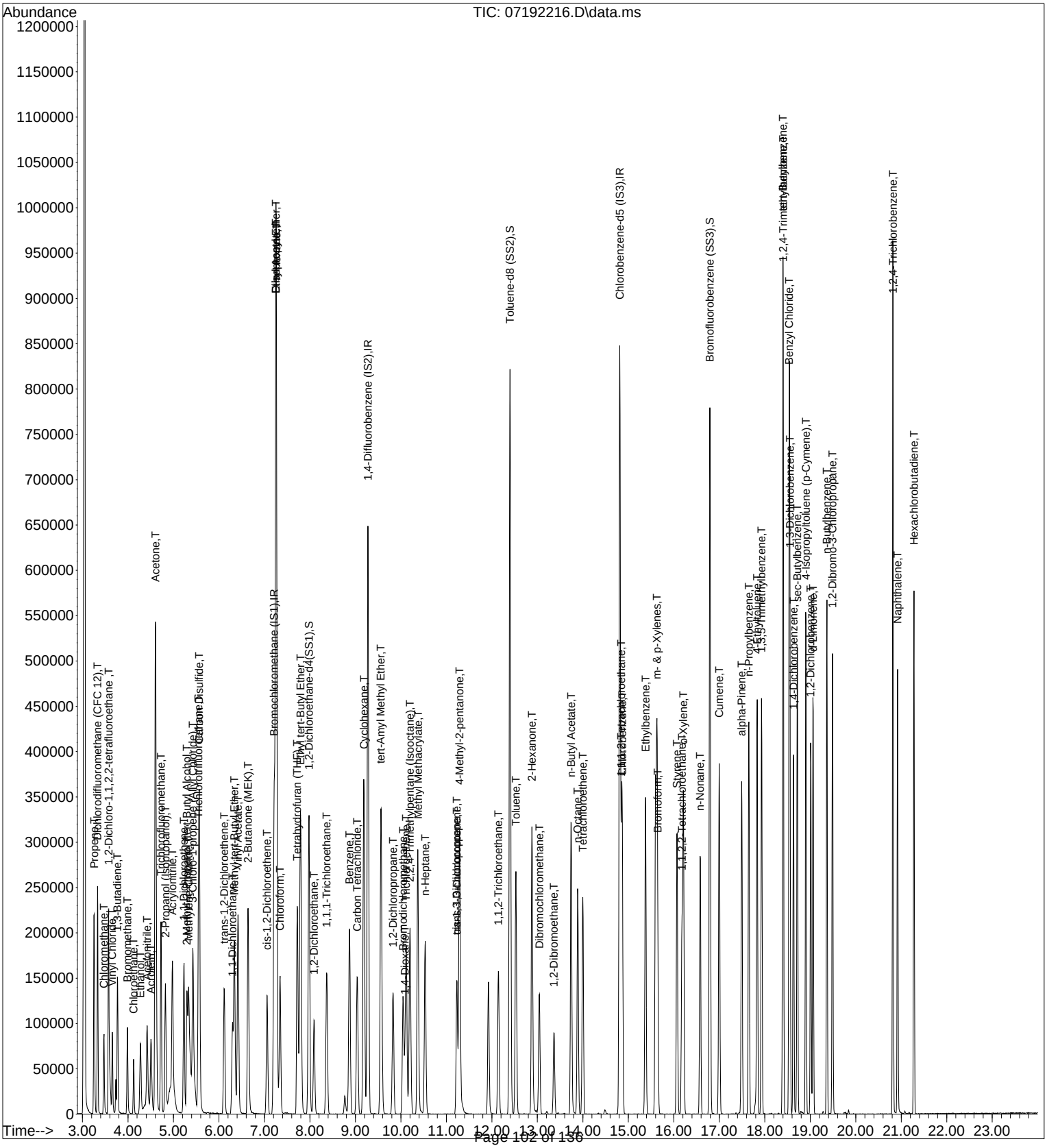
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	52168	4.416 ng		99
52) cis-1,3-Dichloropropene	11.23	75	95912	4.756 ng		99
53) 4-Methyl-2-pentanone	11.29	58	95649	7.931 ng		97
54) trans-1,3-Dichloropropene	11.23	75	95912	4.574 ng		99
55) 1,1,2-Trichloroethane	12.14	97	60180	4.497 ng		99
58) Toluene	12.53	91	239108	4.839 ng		100
59) 2-Hexanone	12.88	43	279260	8.104 ng		100
60) Dibromochloromethane	13.05	129	87063	5.672 ng		99
61) 1,2-Dibromoethane	13.36	107	74447	5.098 ng		100
62) n-Butyl Acetate	13.74	43	301939	8.168 ng		100
63) n-Octane	13.89	57	44953	4.367 ng		100
64) Tetrachloroethene	14.00	166	83430	5.387 ng		100
65) Chlorobenzene	14.87	112	162104	4.981 ng		100
66) Ethylbenzene	15.38	91	290141	5.022 ng		100
67) m- & p-Xylenes	15.62	91	481606	10.363 ng		100
68) Bromoform	15.65	173	81149	5.758 ng		100
69) Styrene	16.07	104	170195	5.184 ng		100
70) o-Xylene	16.21	91	236250	5.166 ng		100
71) n-Nonane	16.58	43	120117	4.091 ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	105908	5.156 ng		98
74) Cumene	17.00	105	292224	5.277 ng		99
75) alpha-Pinene	17.49	93	148259	5.246 ng		99
76) n-Propylbenzene	17.65	91	363017	5.224 ng		99
77) 3-Ethyltoluene	17.00	105	292224	No Calib		
78) 4-Ethyltoluene	17.83	105	291592	5.526 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	251099	5.506 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.44	105	624	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	256743	5.441 ng		99
83) n-Decane	16.99	58	837	No Calib	#	
84) Benzyl Chloride	18.54	91	429623	11.699 ng		98
85) 1,3-Dichlorobenzene	18.55	146	156111	5.269 ng		100
86) 1,4-Dichlorobenzene	18.63	146	156157	5.336 ng		100
87) sec-Butylbenzene	18.72	105	327695	5.375 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	290083	5.468 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	256743	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	149209	5.333 ng		99
91) d-Limonene	19.06	68	85893	5.303 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	121513	11.105 ng		97
93) n-Undecane	17.93	58	3787	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	265590	10.892 ng		99
95) Naphthalene	20.92	128	330503	5.682 ng		99
96) n-Dodecane	18.72	58	1400	No Calib	#	
97) Hexachlorobutadiene	21.28	225	95462	5.360 ng		98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	242397	5.321 ng		99
100) n-Butylbenzene	19.37	91	275704	5.265 ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	70765	5.646 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192216.D Vial: 6
Acq On : 19 Jul 2022 17:29 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:31:07 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192217.D Vial: 7
Acq On : 19 Jul 2022 18:01 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:30:17 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	146047	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	619764	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	131120	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	305271	12.996	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.00%			
57) Toluene-d8 (SS2)	12.40	98	676914	13.163	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.28%			
73) Bromofluorobenzene (SS3)	16.80	174	280622	14.424	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.36%			
Target Compounds						Qvalue
2) Propene	3.25	42	326538	15.989	ng	100
3) Dichlorodifluoromethan...	3.32	85	822730	24.421	ng	100
4) Chloromethane	3.47	50	389628	19.740	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	366558	26.615	ng	100
6) Vinyl Chloride	3.65	62	352490	21.923	ng	100
7) 1,3-Butadiene	3.77	54	267756	24.707	ng	100
8) Bromomethane	3.99	94	276285	26.417	ng	100
9) Chloroethane	4.13	64	187804	20.300	ng	100
10) Ethanol	4.31	45	816841	68.225	ng	100
11) Acetonitrile	4.44	41	563354	14.159	ng	100
12) Acrolein	4.52	56	326643	39.742	ng	100
13) Acetone	4.62	58	950401	98.422	ng	100
14) Trichlorofluoromethane	4.73	101	814449	25.790	ng	100
15) 2-Propanol (Isopropanol)	4.86	45	1673875	45.560	ng	100
16) Acrylonitrile	5.00	53	719783	39.053	ng	100
17) 1,1-Dichloroethene	5.24	96	304220	23.936	ng	100
18) 2-Methyl-2-Propanol (t...	5.33	59	1761868	58.405	ng	100
19) Methylene Chloride	5.36	84	310410	22.116	ng	100
20) 3-Chloro-1-propene (Al...	5.44	41	555400	16.560	ng	100
21) Trichlorotrifluoroethane	5.56	151	348141	26.568	ng	100
22) Carbon Disulfide	5.58	76	2249813	49.908	ng	100
23) trans-1,2-Dichloroethene	6.14	61	489919	23.809	ng	100
24) 1,1-Dichloroethane	6.32	63	556731	22.022	ng	100
25) Methyl tert-Butyl Ether	6.35	73	1101534	27.212	ng	100
26) Vinyl Acetate	6.44	86	156790	85.439	ng	100
27) 2-Butanone (MEK)	6.65	72	379020	45.684	ng	100
28) cis-1,2-Dichloroethene	7.08	61	467687	23.569	ng	100
29) Diisopropyl Ether	7.27	87	491700	48.166	ng	100
30) Ethyl Acetate	7.27	61	476089	87.443	ng	100
31) n-Hexane	7.28	57	447793	19.556	ng	100
32) Chloroform	7.37	83	683841	26.077	ng	100
34) Tetrahydrofuran (THF)	7.73	72	353189	43.706	ng	100
35) Ethyl tert-Butyl Ether	7.80	87	789761	52.560	ng	100
36) 1,2-Dichloroethane	8.11	62	582477	26.307	ng	100
38) 1,1,1-Trichloroethane	8.38	97	702655	27.378	ng	100
39) Isopropyl Acetate	9.29	61	21911	No Calib		
40) 1-Butanol	9.20	56	977930	No Calib		
41) Benzene	8.88	78	1165753	22.635	ng	100
42) Carbon Tetrachloride	9.05	117	627303	27.082	ng	100
43) Cyclohexane	9.20	84	864359	46.224	ng	100
44) tert-Amyl Methyl Ether	9.57	73	1884956	53.532	ng	100
45) 1,2-Dichloropropane	9.84	63	280617	20.712	ng	100
46) Bromodichloromethane	10.06	83	569524	27.870	ng	100
47) Trichloroethene	10.13	130	364232	25.612	ng	100
48) 1,4-Dioxane	10.09	88	246119	24.481	ng	100
49) 2,2,4-Trimethylpentane...	10.21	57	1165536	20.279	ng	100
50) Methyl Methacrylate	10.38	100	250530	52.759	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192217.D Vial: 7
Acq On : 19 Jul 2022 18:01 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:30:17 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

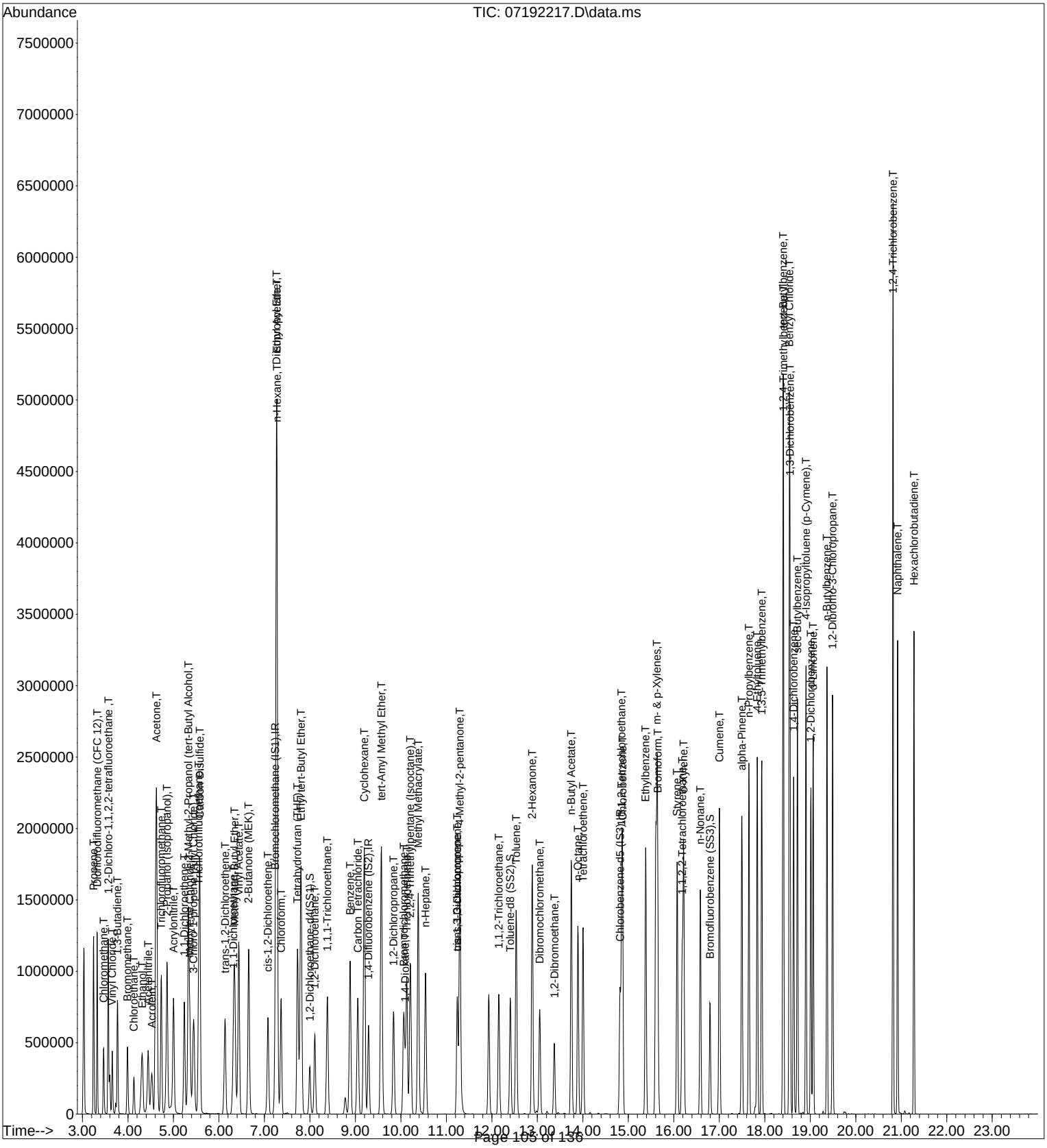
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	279317	23.684	ng		100
52) cis-1,3-Dichloropropene	11.24	75	535477	26.594	ng		100
53) 4-Methyl-2-pentanone	11.30	58	531999	44.182	ng		100
54) trans-1,3-Dichloropropene	11.24	75	535477	25.581	ng		100
55) 1,1,2-Trichloroethane	12.15	97	325575	24.366	ng		100
58) Toluene	12.53	91	1280619	25.298	ng		100
59) 2-Hexanone	12.89	43	1528810	43.310	ng		100
60) Dibromochloromethane	13.05	129	494579	31.455	ng		100
61) 1,2-Dibromoethane	13.38	107	408070	27.277	ng		100
62) n-Butyl Acetate	13.74	43	1656968	43.754	ng		100
63) n-Octane	13.89	57	241478	22.902	ng		100
64) Tetrachloroethene	14.01	166	465905	29.367	ng		100
65) Chlorobenzene	14.87	112	889655	26.685	ng		100
66) Ethylbenzene	15.38	91	1577753	26.656	ng		100
67) m- & p-Xylenes	15.63	91	2637592	55.400	ng		100
68) Bromoform	15.65	173	491576	34.051	ng		100
69) Styrene	16.07	104	957820	28.480	ng		100
70) o-Xylene	16.21	91	1295105	27.643	ng		100
71) n-Nonane	16.58	43	645825	21.472	ng		100
72) 1,1,2,2-Tetrachloroethane	16.19	83	565160	26.856	ng		100
74) Cumene	17.00	105	1612098	28.420	ng		100
75) alpha-Pinene	17.50	93	855373	29.545	ng		100
76) n-Propylbenzene	17.65	91	1947061	27.350	ng		100
77) 3-Ethyltoluene	17.00	105	1612098	No Calib			
78) 4-Ethyltoluene	17.83	105	1623709	30.040	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1376484	29.466	ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.43	105	1828	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.41	105	1437797	29.743	ng		100
83) n-Decane	17.00	58	8786	No Calib		#	
84) Benzyl Chloride	18.54	91	2614809	69.506	ng		100
85) 1,3-Dichlorobenzene	18.55	146	897825	29.579	ng		100
86) 1,4-Dichlorobenzene	18.63	146	888894	29.653	ng		100
87) sec-Butylbenzene	18.72	105	1788792	28.641	ng		100
88) 4-Isopropyltoluene (p-...	18.91	119	1593481	29.319	ng		100
89) 1,2,3-Trimethylbenzene	18.41	105	1437797	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	850890	29.687	ng		100
91) d-Limonene	19.06	68	481491	29.016	ng		100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	705695	62.956	ng		100
93) n-Undecane	17.93	58	19326	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	1660401	66.475	ng		100
95) Naphthalene	20.92	128	2021021	33.919	ng		100
96) n-Dodecane	18.72	58	8262	No Calib		#	
97) Hexachlorobutadiene	21.28	225	544770	29.862	ng		100
98) Cyclohexanone	15.62	55	816	No Calib		#	
99) tert-Butylbenzene	18.41	119	1364488	29.238	ng		100
100) n-Butylbenzene	19.37	91	1511223	28.169	ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	394818	30.748	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192217.D Vial: 7
Acq On : 19 Jul 2022 18:01 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:30:17 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192218.D Vial: 7
Acq On : 19 Jul 2022 18:33 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:39:19 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	151621	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	634185	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.82	54	134500	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	308237	12.640	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
57) Toluene-d8 (SS2)	12.41	98	688310	13.048	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.40%				
73) Bromofluorobenzene (SS3)	16.80	174	290837	14.573	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.56%				
Target Compounds							Qvalue
2) Propene	3.24	42	647372	30.533	ng		99
3) Dichlorodifluoromethan...	3.32	85	1540428	44.043	ng		99
4) Chloromethane	3.47	50	702597	34.288	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	721340	50.450	ng		100
6) Vinyl Chloride	3.66	62	689305	41.295	ng		99
7) 1,3-Butadiene	3.77	54	531991	47.284	ng		99
8) Bromomethane	3.99	94	527972	48.625	ng		100
9) Chloroethane	4.14	64	350366	36.480	ng		100
10) Ethanol	4.33	45	1525424	122.725	ng		99
11) Acetonitrile	4.46	41	1075831	26.045	ng		100
12) Acrolein	4.53	56	615299	72.111	ng		100
13) Acetone	4.64	58	1779531	177.510	ng		100
14) Trichlorofluoromethane	4.74	101	1536907	46.877	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	3010315	78.924	ng		99
16) Acrylonitrile	5.02	53	1361397	71.149	ng		100
17) 1,1-Dichloroethene	5.24	96	576371	43.682	ng		100
18) 2-Methyl-2-Propanol (t...	5.35	59	3259816	104.088	ng		99
19) Methylene Chloride	5.37	84	589104	40.429	ng		100
20) 3-Chloro-1-propene (Al...	5.45	41	1038100	29.815	ng		99
21) Trichlorotrifluoroethane	5.56	151	677721	49.818	ng		98
22) Carbon Disulfide	5.58	76	4238422	90.565	ng		99
23) trans-1,2-Dichloroethene	6.14	61	939875	43.997	ng		99
24) 1,1-Dichloroethane	6.33	63	1056827	40.266	ng		100
25) Methyl tert-Butyl Ether	6.35	73	2099782	49.965	ng		100
26) Vinyl Acetate	6.45	86	305396	160.300	ng	#	96
27) 2-Butanone (MEK)	6.66	72	717032	83.248	ng		99
28) cis-1,2-Dichloroethene	7.09	61	893988	43.395	ng		99
29) Diisopropyl Ether	7.27	87	958511	90.441	ng	#	93
30) Ethyl Acetate	7.28	61	920710	162.889	ng		98
31) n-Hexane	7.28	57	867252	36.482	ng		100
32) Chloroform	7.38	83	1294888	47.563	ng		100
34) Tetrahydrofuran (THF)	7.74	72	667201	79.529	ng		100
35) Ethyl tert-Butyl Ether	7.81	87	1506576	96.579	ng		100
36) 1,2-Dichloroethane	8.12	62	1103063	47.988	ng		100
38) 1,1,1-Trichloroethane	8.39	97	1331940	50.716	ng		100
39) Isopropyl Acetate	9.30	61	21970	No Calib			
40) 1-Butanol	9.20	56	1858521	No Calib			
41) Benzene	8.89	78	2193829	41.627	ng		100
42) Carbon Tetrachloride	9.06	117	1199029	50.587	ng		100
43) Cyclohexane	9.20	84	1642131	85.820	ng		100
44) tert-Amyl Methyl Ether	9.58	73	3612751	100.267	ng		100
45) 1,2-Dichloropropane	9.85	63	529454	38.190	ng		99
46) Bromodichloromethane	10.07	83	1097900	52.504	ng		99
47) Trichloroethene	10.14	130	700936	48.168	ng		100
48) 1,4-Dioxane	10.10	88	468786	45.568	ng		99
49) 2,2,4-Trimethylpentane...	10.21	57	2201253	37.428	ng		100
50) Methyl Methacrylate	10.39	100	480034	98.792	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192218.D Vial: 7
Acq On : 19 Jul 2022 18:33 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:39:19 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

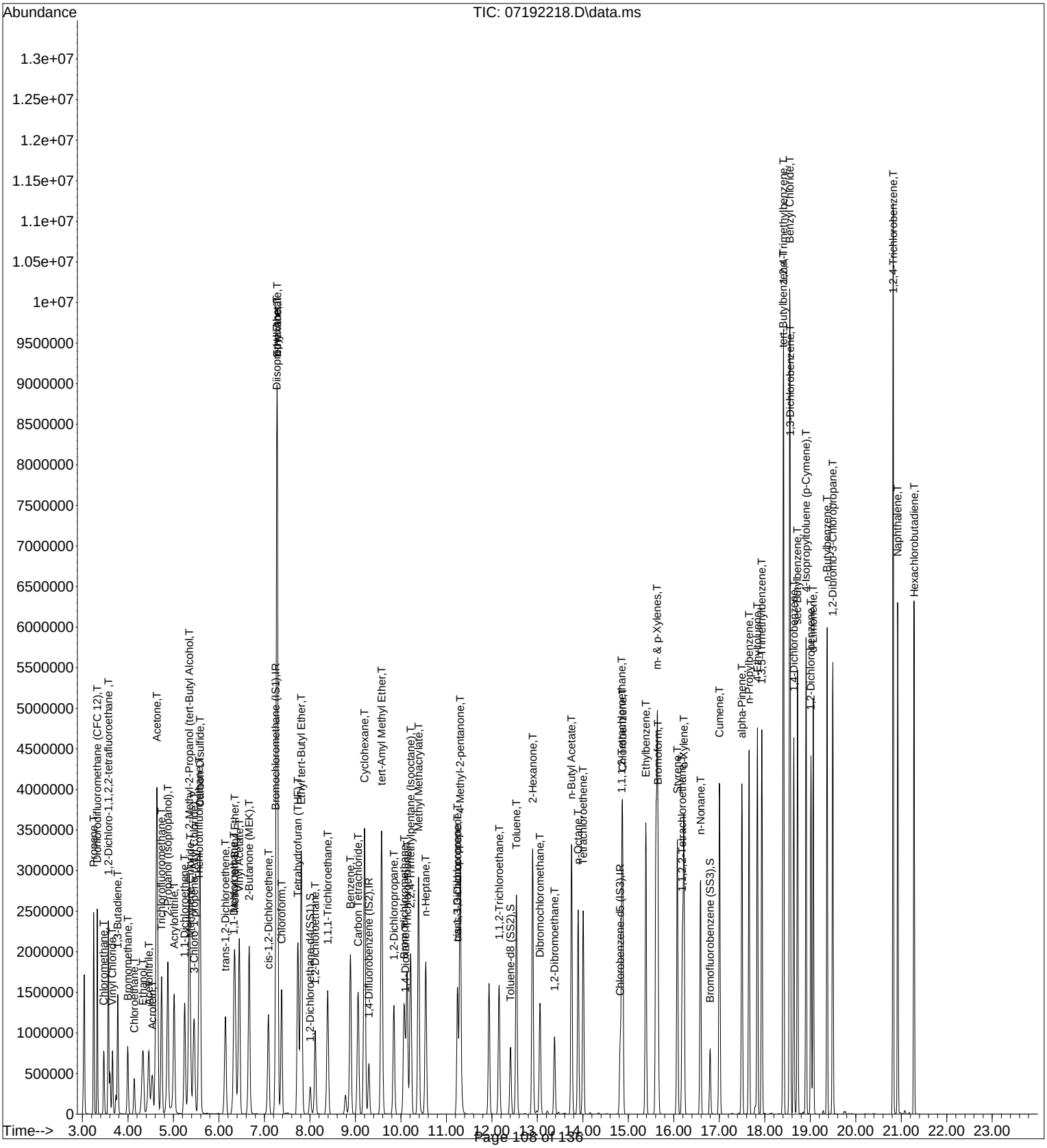
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.55	71	529268	43.858	ng		100
52) cis-1,3-Dichloropropene	11.25	75	1029958	49.989	ng		100
53) 4-Methyl-2-pentanone	11.30	58	1014093	82.304	ng		99
54) trans-1,3-Dichloropropene	11.25	75	1029958	48.085	ng		100
55) 1,1,2-Trichloroethane	12.16	97	622062	45.497	ng		100
58) Toluene	12.54	91	2434818	46.890	ng		100
59) 2-Hexanone	12.90	43	2907427	80.295	ng		100
60) Dibromochloromethane	13.06	129	950822	58.953	ng		99
61) 1,2-Dibromoethane	13.37	107	783985	51.088	ng		100
62) n-Butyl Acetate	13.75	43	3145336	80.970	ng		100
63) n-Octane	13.90	57	458036	42.349	ng		99
64) Tetrachloroethene	14.01	166	908250	55.810	ng		100
65) Chlorobenzene	14.87	112	1719838	50.291	ng		100
66) Ethylbenzene	15.39	91	2996097	49.347	ng		99
67) m- & p-Xylenes	15.63	91	5057932	103.568	ng		99
68) Bromoform	15.65	173	962218	64.976	ng		99
69) Styrene	16.08	104	1836546	53.235	ng		99
70) o-Xylene	16.22	91	2465904	51.310	ng		99
71) n-Nonane	16.59	43	1221622	39.594	ng		99
72) 1,1,2,2-Tetrachloroethane	16.19	83	1077981	49.938	ng		99
74) Cumene	17.00	105	3057379	52.544	ng		99
75) alpha-Pinene	17.50	93	1632826	54.980	ng		99
76) n-Propylbenzene	17.66	91	3672016	50.283	ng		99
77) 3-Ethyltoluene	17.00	105	3057379	No Calib			
78) 4-Ethyltoluene	17.84	105	3025114	54.560	ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	2621376	54.705	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.43	105	3610	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.41	105	2756050	55.581	ng		99
83) n-Decane	17.00	58	14595	No Calib		#	
84) Benzyl Chloride	18.55	91	5101354	132.195	ng		99
85) 1,3-Dichlorobenzene	18.56	146	1754558	56.351	ng		100
86) 1,4-Dichlorobenzene	18.64	146	1723731	56.058	ng		100
87) sec-Butylbenzene	18.72	105	3373202	52.653	ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	3038912	54.510	ng		100
89) 1,2,3-Trimethylbenzene	18.41	105	2756050	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	1645820	55.979	ng		99
91) d-Limonene	19.06	68	923777	54.271	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.50	157	1386750	120.606	ng		99
93) n-Undecane	17.93	58	36982	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	3174135	123.884	ng		100
95) Naphthalene	20.92	128	3883364	63.537	ng		99
96) n-Dodecane	18.72	58	16465	No Calib		#	
97) Hexachlorobutadiene	21.28	225	1050598	56.141	ng		100
98) Cyclohexanone	15.62	55	3469	No Calib		#	
99) tert-Butylbenzene	18.41	119	2599148	54.295	ng		99
100) n-Butylbenzene	19.37	91	2853427	51.852	ng		99
101) 1,1,1,2-Tetrachloroethane	14.86	131	767068	58.238	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192218.D Vial: 7
Acq On : 19 Jul 2022 18:33 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:39:19 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192219.D Vial: 7
Acq On : 19 Jul 2022 19:05 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:40:42 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.26	130	156179	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.30	114	645807	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.82	54	139229	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	314540	12.522	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
57) Toluene-d8 (SS2)	12.42	98	706821	12.944	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
73) Bromofluorobenzene (SS3)	16.80	174	297190	14.386	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.12%				
Target Compounds							Qvalue
2) Propene	3.25	42	1296906	59.382	ng		99
3) Dichlorodifluoromethan...	3.33	85	2944383	81.727	ng		99
4) Chloromethane	3.47	50	1151040	54.534	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	1426056	96.826	ng		99
6) Vinyl Chloride	3.67	62	1433498	83.371	ng		99
7) 1,3-Butadiene	3.78	54	1123393	96.935	ng		96
8) Bromomethane	4.00	94	1030256	92.116	ng		100
9) Chloroethane	4.15	64	682138	68.951	ng		100
10) Ethanol	4.35	45	2984413	233.097	ng		100
11) Acetonitrile	4.48	41	2095972	49.261	ng		99
12) Acrolein	4.55	56	1203105	136.885	ng		99
13) Acetone	4.65	58	3465569	335.605	ng		96
14) Trichlorofluoromethane	4.74	101	2958868	87.615	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	5538038	140.957	ng		99
16) Acrylonitrile	5.03	53	2624443	133.154	ng		99
17) 1,1-Dichloroethene	5.26	96	1134964	83.506	ng		99
18) 2-Methyl-2-Propanol (t...	5.37	59	5094248	157.915	ng		98
19) Methylene Chloride	5.38	84	1147779	76.471	ng		99
20) 3-Chloro-1-propene (Al...	5.47	41	1942954	54.174	ng		96
21) Trichlorotrifluoroethane	5.57	151	1345455	96.015	ng		97
22) Carbon Disulfide	5.60	76	8162080	169.315	ng		99
23) trans-1,2-Dichloroethene	6.15	61	1831368	83.228	ng		99
24) 1,1-Dichloroethane	6.34	63	2055478	76.030	ng		100
25) Methyl tert-Butyl Ether	6.36	73	4047018	93.489	ng		100
26) Vinyl Acetate	6.46	86	595958	303.685	ng	#	92
27) 2-Butanone (MEK)	6.68	72	1386782	156.308	ng		98
28) cis-1,2-Dichloroethene	7.10	61	1745971	82.278	ng		99
29) Diisopropyl Ether	7.28	87	1936592	177.397	ng	#	85
30) Ethyl Acetate	7.30	61	1912448	328.470	ng		98
31) n-Hexane	7.29	57	1787795	73.012	ng		100
32) Chloroform	7.40	83	2518869	89.821	ng		100
34) Tetrahydrofuran (THF)	7.75	72	1284469	148.637	ng		99
35) Ethyl tert-Butyl Ether	7.82	87	2960973	184.273	ng		99
36) 1,2-Dichloroethane	8.13	62	2149509	90.784	ng		100
38) 1,1,1-Trichloroethane	8.40	97	2589064	96.810	ng		99
39) Isopropyl Acetate	9.30	61	22400	No Calib	#		
40) 1-Butanol	9.21	56	3623433	No Calib			
41) Benzene	8.90	78	4243398	79.069	ng		100
42) Carbon Tetrachloride	9.07	117	2332211	96.625	ng		99
43) Cyclohexane	9.21	84	3200988	164.278	ng		100
44) tert-Amyl Methyl Ether	9.58	73	7043427	191.964	ng		99
45) 1,2-Dichloropropane	9.85	63	1029914	72.952	ng		100
46) Bromodichloromethane	10.08	83	2132029	100.123	ng		100
47) Trichloroethene	10.14	130	1384687	93.442	ng		100
48) 1,4-Dioxane	10.11	88	917622	87.592	ng		99
49) 2,2,4-Trimethylpentane...	10.22	57	4238221	70.767	ng		99
50) Methyl Methacrylate	10.40	100	955316	193.068	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192219.D Vial: 7
Acq On : 19 Jul 2022 19:05 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:40:42 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

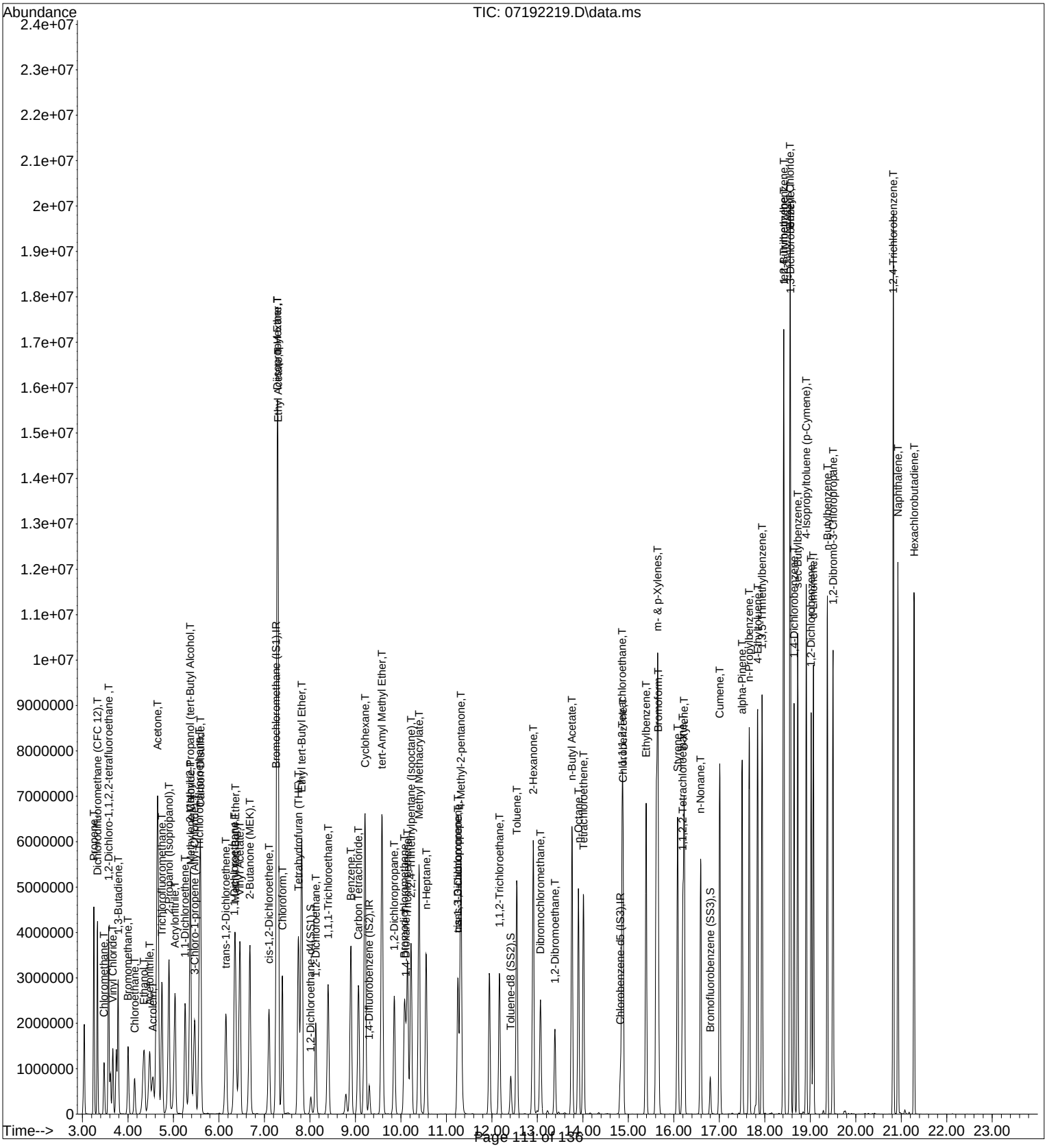
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.56	71	1024104	83.336	ng		99
52) cis-1,3-Dichloropropene	11.25	75	2013599	95.971	ng		100
53) 4-Methyl-2-pentanone	11.32	58	1975284	157.430	ng		98
54) trans-1,3-Dichloropropene	11.25	75	2013599	92.315	ng		100
55) 1,1,2-Trichloroethane	12.17	97	1218856	87.542	ng		99
58) Toluene	12.55	91	4712036	87.662	ng		99
59) 2-Hexanone	12.91	43	5633098	150.287	ng		99
60) Dibromochloromethane	13.07	129	1872701	112.167	ng		99
61) 1,2-Dibromoethane	13.39	107	1544354	97.219	ng		100
62) n-Butyl Acetate	13.76	43	6070829	150.972	ng		99
63) n-Octane	13.90	57	904088	80.751	ng		99
64) Tetrachloroethene	14.02	166	1804584	107.122	ng		99
65) Chlorobenzene	14.89	112	3408280	96.278	ng		100
66) Ethylbenzene	15.39	91	5781071	91.982	ng		98
67) m- & p-Xylenes	15.64	91	9875384	195.343	ng		98
68) Bromoform	15.66	173	1913297	124.812	ng		100
69) Styrene	16.08	104	3582462	100.317	ng		99
70) o-Xylene	16.23	91	4804444	96.574	ng		99
71) n-Nonane	16.59	43	2374189	74.337	ng		99
72) 1,1,2,2-Tetrachloroethane	16.20	83	2115277	94.663	ng		99
74) Cumene	17.01	105	5873845	97.519	ng		98
75) alpha-Pinene	17.50	93	3184028	103.571	ng		99
76) n-Propylbenzene	17.66	91	7014052	92.786	ng		98
77) 3-Ethyltoluene	17.01	105	5873845	No Calib			
78) 4-Ethyltoluene	17.84	105	5938771	103.472	ng		97
79) 1,3,5-Trimethylbenzene	17.94	105	5068248	102.175	ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.43	105	5962	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.42	105	5295919	103.174	ng		99
83) n-Decane	17.01	58	32566	No Calib		#	
84) Benzyl Chloride	18.55	91	9609570	240.562	ng		96
85) 1,3-Dichlorobenzene	18.56	146	3408047	105.739	ng		100
86) 1,4-Dichlorobenzene	18.64	146	3380339	106.199	ng		99
87) sec-Butylbenzene	18.72	105	6441990	97.139	ng		98
88) 4-Isopropyltoluene (p-...	18.91	119	5755081	99.724	ng		98
89) 1,2,3-Trimethylbenzene	18.42	105	5295919	No Calib			
90) 1,2-Dichlorobenzene	19.02	146	3216253	105.679	ng		99
91) d-Limonene	19.07	68	1830767	103.903	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.50	157	2732118	229.542	ng		97
93) n-Undecane	17.94	58	74361	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	5704318	215.073	ng		99
95) Naphthalene	20.93	128	7309281	115.527	ng		97
96) n-Dodecane	18.72	58	32809	No Calib		#	
97) Hexachlorobutadiene	21.28	225	1953627	100.851	ng		100
98) Cyclohexanone	15.64	55	7224	No Calib		#	
99) tert-Butylbenzene	18.42	119	4962625	100.145	ng		98
100) n-Butylbenzene	19.38	91	5420068	95.146	ng		97
101) 1,1,1,2-Tetrachloroethane	14.86	131	1505205	110.398	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192219.D Vial: 7
Acq On : 19 Jul 2022 19:05 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:40:42 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:55:08 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	154549	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.29	114	658534	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	137435	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	316403	12.202	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
57) Toluene-d8 (SS2)	12.40	98	718788	12.461	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	16.79	174	301081	12.921	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
Target Compounds							Qvalue
2) Propene	3.24	42	331278m	22.373	ng		
3) Dichlorodifluoromethan...	3.32	85	829362	22.696	ng		100
4) Chloromethane	3.46	50	398187m	23.692	ng		
5) 1,2-Dichloro-1,1,2,2-t...	3.56	135	384587	24.317	ng		100
6) Vinyl Chloride	3.65	62	401118	25.652	ng		100
7) 1,3-Butadiene	3.77	54	290826	25.804	ng		98
8) Bromomethane	3.98	94	295021	24.190	ng		100
9) Chloroethane	4.13	64	194148	23.006	ng		100
10) Ethanol	4.31	45	1031651	105.499	ng		100
11) Acetonitrile	4.44	41	580650	20.199	ng		100
12) Acrolein	4.52	56	319236	42.933	ng		99
13) Acetone	4.62	58	967839	105.837	ng		97
14) Trichlorofluoromethane	4.73	101	821681	22.302	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	1808902	49.176	ng		99
16) Acrylonitrile	5.00	53	733202	46.922	ng		100
17) 1,1-Dichloroethene	5.23	96	315337	24.343	ng		98
18) 2-Methyl-2-Propanol (t...	5.33	59	1843196	53.059	ng		99
19) Methylene Chloride	5.35	84	321593	22.768	ng		98
20) 3-Chloro-1-propene (Al...	5.44	41	546579	20.613	ng		99
21) Trichlorotrifluoroethane	5.55	151	359646	23.940	ng		99
22) Carbon Disulfide	5.57	76	2251596	45.970	ng		100
23) trans-1,2-Dichloroethene	6.13	61	501560	24.296	ng		99
24) 1,1-Dichloroethane	6.32	63	584530	23.750	ng		99
25) Methyl tert-Butyl Ether	6.35	73	1111363	24.466	ng		100
26) Vinyl Acetate	6.44	86	256666	157.351	ng	#	96
27) 2-Butanone (MEK)	6.65	72	386202	46.857	ng		100
28) cis-1,2-Dichloroethene	7.07	61	478904	23.462	ng		100
29) Diisopropyl Ether	7.26	87	502542	45.858	ng	#	63
30) Ethyl Acetate	7.27	61	339666	64.493	ng		99
31) n-Hexane	7.27	57	460038	22.624	ng		100
32) Chloroform	7.36	83	697682	23.689	ng		100
34) Tetrahydrofuran (THF)	7.73	72	376515	47.178	ng		99
35) Ethyl tert-Butyl Ether	7.80	87	811425	49.724	ng		99
36) 1,2-Dichloroethane	8.11	62	588815	23.303	ng		100
38) 1,1,1-Trichloroethane	8.38	97	714681	23.273	ng		100
39) Isopropyl Acetate	9.29	61	22843	No Calib			
40) 1-Butanol	9.19	56	1014531	No Calib			
41) Benzene	8.88	78	1223750	23.245	ng		100
42) Carbon Tetrachloride	9.05	117	602900	22.799	ng		100
43) Cyclohexane	9.20	84	892292	46.257	ng		99
44) tert-Amyl Methyl Ether	9.57	73	1946026	50.447	ng		100
45) 1,2-Dichloropropane	9.84	63	291298	23.206	ng		100
46) Bromodichloromethane	10.06	83	585390	24.110	ng		100
47) Trichloroethene	10.13	130	380261	24.342	ng		99
48) 1,4-Dioxane	10.09	88	258705	27.220	ng		99
49) 2,2,4-Trimethylpentane...	10.21	57	1182040	23.255	ng		99
50) Methyl Methacrylate	10.38	100	258888	52.727	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:55:08 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

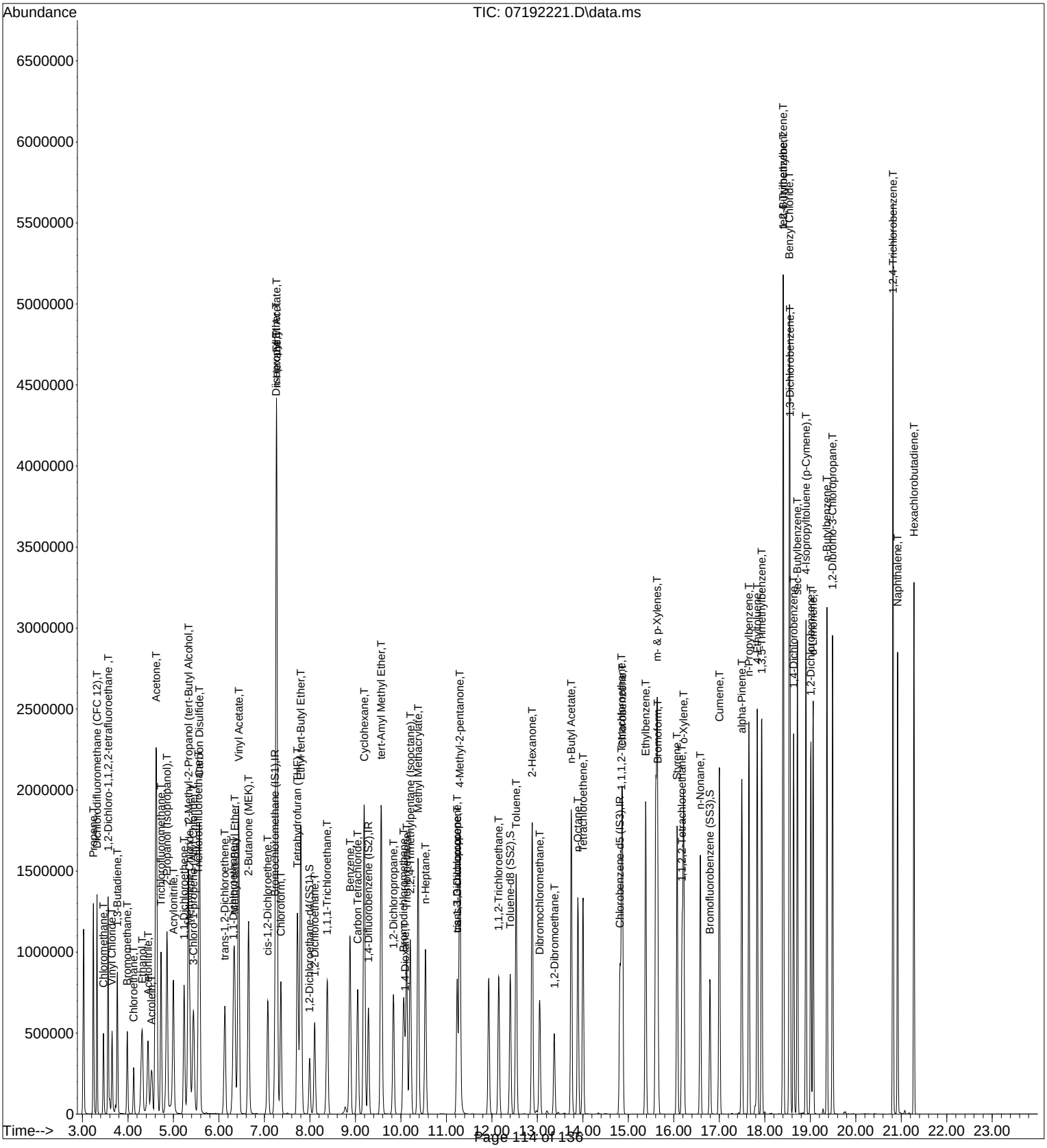
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	283746	23.587	ng		100
52) cis-1,3-Dichloropropene	11.24	75	552175	25.532	ng		100
53) 4-Methyl-2-pentanone	11.30	58	554072	50.293	ng		99
54) trans-1,3-Dichloropropene	11.24	75	552175	24.559	ng		100
55) 1,1,2-Trichloroethane	12.15	97	336332	23.652	ng		100
58) Toluene	12.53	91	1330232	22.919	ng		100
59) 2-Hexanone	12.89	43	1585307	49.475	ng		99
60) Dibromochloromethane	13.05	129	488696	24.302	ng		100
61) 1,2-Dibromoethane	13.38	107	412094	23.485	ng		100
62) n-Butyl Acetate	13.74	43	1747584	51.253	ng		100
63) n-Octane	13.89	57	247223	24.220	ng		100
64) Tetrachloroethene	14.01	166	485404	24.096	ng		99
65) Chlorobenzene	14.87	112	910182	23.000	ng		100
66) Ethylbenzene	15.38	91	1626023	23.724	ng		99
67) m- & p-Xylenes	15.63	91	2713473	47.671	ng		99
68) Bromoform	15.65	173	487816	26.380	ng		100
69) Styrene	16.07	104	958095	24.727	ng		100
70) o-Xylene	16.21	91	1336122	24.256	ng		100
71) n-Nonane	16.58	43	656146	23.818	ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	585362	23.875	ng		99
74) Cumene	17.00	105	1637874	23.803	ng		100
75) alpha-Pinene	17.50	93	855645	25.610	ng		99
76) n-Propylbenzene	17.65	91	1956227	23.827	ng		99
77) 3-Ethyltoluene	17.00	105	1637874	No Calib			
78) 4-Ethyltoluene	17.83	105	1620423	24.648	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1404545	24.538	ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.50	105	100550	No Calib			
82) 1,2,4-Trimethylbenzene	18.41	105	1454995	24.597	ng		100
83) n-Decane	16.79	58	177	No Calib		#	
84) Benzyl Chloride	18.54	91	2605775	56.317	ng		100
85) 1,3-Dichlorobenzene	18.55	146	901099	24.645	ng		100
86) 1,4-Dichlorobenzene	18.63	146	881526	23.739	ng		100
87) sec-Butylbenzene	18.72	105	1797932	23.453	ng		100
88) 4-Isopropyltoluene (p-...	18.91	119	1588486	24.179	ng		100
89) 1,2,3-Trimethylbenzene	18.41	105	1454995	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	848795	24.025	ng		99
91) d-Limonene	19.06	68	476007	24.858	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	711512	50.396	ng		99
93) n-Undecane	17.93	58	20211	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	1503843	49.565	ng		100
95) Naphthalene	20.92	128	1749704	24.537	ng		100
96) n-Dodecane	18.91	58	33826	No Calib		#	
97) Hexachlorobutadiene	21.28	225	535445	23.749	ng		100
98) Cyclohexanone	15.60	55	1105	No Calib		#	
99) tert-Butylbenzene	18.41	119	1377440	24.237	ng		100
100) n-Butylbenzene	19.37	91	1503522	24.195	ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	398288	23.788	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:55:08 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **07192221.D** Acq. Method File: **TO15.M** 7/20/22

Data File Path: **I:\MS09\DATA\2022_07\19** Sample Name: **25ng TO-15 ICV STD**

Operator: **SC** Misc Info: **S35-07192201/S35-06302203 (**

Date Acquired: **7/19/2022 20:09** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**3.24**	**22.4**	**25.75**	87	**56**	**128**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**3.32**	**22.7**	**26.00**	87	**71**	**112**	*	*
4)	**Chloromethane**	**3.46**	**23.7**	**25.75**	92	**53**	**126**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**3.56**	**24.3**	**26.00**	93	**62**	**121**	*	*
6)	**Vinyl Chloride**	**3.65**	**25.7**	**26.00**	99	**63**	**123**	*	*
7)	**1,3-Butadiene**	**3.77**	**25.8**	**25.75**	100	**63**	**135**	*	*
8)	**Bromomethane**	**3.98**	**24.2**	**25.75**	94	**71**	**112**	*	*
9)	**Chloroethane**	**4.13**	**23.0**	**25.75**	89	**66**	**117**	*	*
10)	**Ethanol**	**4.31**	**105**	**104.00**	101	**57**	**117**	*	*
11)	**Acetonitrile**	**4.44**	**20.2**	**25.25**	80	**59**	**131**	*	*
12)	**Acrolein**	**4.52**	**42.9**	**52.00**	83	**71**	**123**	*	*
13)	**Acetone**	**4.62**	**106**	**128.00**	83	**60**	**117**	*	*
14)	**Trichlorofluoromethane**	**4.73**	**22.3**	**25.25**	88	**71**	**114**	*	*
15)	**2-Propanol (Isopropanol)**	**4.86**	**49.2**	**50.00**	98	**61**	**124**	*	*
16)	**Acrylonitrile**	**5.00**	**46.9**	**50.25**	93	**65**	**130**	*	*
17)	**1,1-Dichloroethene**	**5.23**	**24.3**	**26.25**	93	**74**	**114**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	5.33	53.1	51.00	104	56	135	*	*
19)	**Methylene Chloride**	**5.35**	**22.8**	**26.00**	88	**75**	**112**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**5.44**	**20.6**	**25.50**	81	**57**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**5.55**	**23.9**	**27.00**	89	**73**	**114**	*	*
22)	**Carbon Disulfide**	**5.57**	**46.0**	**51.75**	89	**70**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**6.13**	**24.3**	**26.00**	93	**76**	**119**	*	*
24)	**1,1-Dichloroethane**	**6.32**	**23.8**	**26.75**	89	**70**	**114**	*	*
25)	**Methyl tert-Butyl Ether**	**6.35**	**24.5**	**25.75**	95	**72**	**118**	*	*
26)	**Vinyl Acetate**	**6.44**	**157**	**117.75**	133	**56**	**137**	*	*
27)	**2-Butanone (MEK)**	**6.65**	**46.9**	**51.00**	92	**74**	**121**	*	*
28)	**cis-1,2-Dichloroethene**	**7.07**	**23.5**	**25.75**	91	**73**	**117**	*	*
29)	Diisopropyl Ether	7.26	45.9	52.25	88	58	124	*	*
30)	**Ethyl Acetate**	**7.27**	**64.5**	**72.50**	89	**59**	**161**	*	*
31)	**n-Hexane**	**7.27**	**22.6**	**26.00**	87	**55**	**130**	*	*
32)	**Chloroform**	**7.36**	**23.7**	**26.25**	90	**71**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**7.73**	**47.2**	**50.50**	93	**73**	**114**	*	*
35)	Ethyl tert-Butyl Ether	7.80	49.7	51.75	96	76	119	*	*
36)	**1,2-Dichloroethane**	**8.11**	**23.3**	**26.25**	89	**71**	**119**	*	*
38)	**1,1,1-Trichloroethane**	**8.38**	**23.3**	**26.00**	90	**73**	**119**	*	*
41)	**Benzene**	**8.88**	**23.2**	**26.00**	89	**72**	**113**	*	*
42)	**Carbon Tetrachloride**	**9.05**	**22.8**	**25.25**	90	**67**	**123**	*	*
43)	**Cyclohexane**	**9.20**	**46.3**	**51.50**	90	**70**	**119**	*	*
44)	tert-Amyl Methyl Ether	9.57	50.4	**51.50**	98	74	120	*	*
45)	**1,2-Dichloropropane**	**9.84**	**23.2**	**25.75**	90	**70**	**118**	*	*
46)	**Bromodichloromethane**	**10.06**	**24.1**	**26.00**	93	**74**	**119**	*	*
47)	**Trichloroethene**	**10.13**	**24.3**	**25.50**	95	**74**	**115**	*	*
48)	**1,4-Dioxane**	**10.09**	**27.2**	**25.75**	106	**77**	**124**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	10.21	23.3	26.25	89	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **07192221.D** **TO15.M**
Data File Path: **I:\MS09\DATA\2022_07\19** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S35-07192201/S35-06302203 (**
Date Acquired: **7/19/2022 20:09** Instrument Name: **MS09**

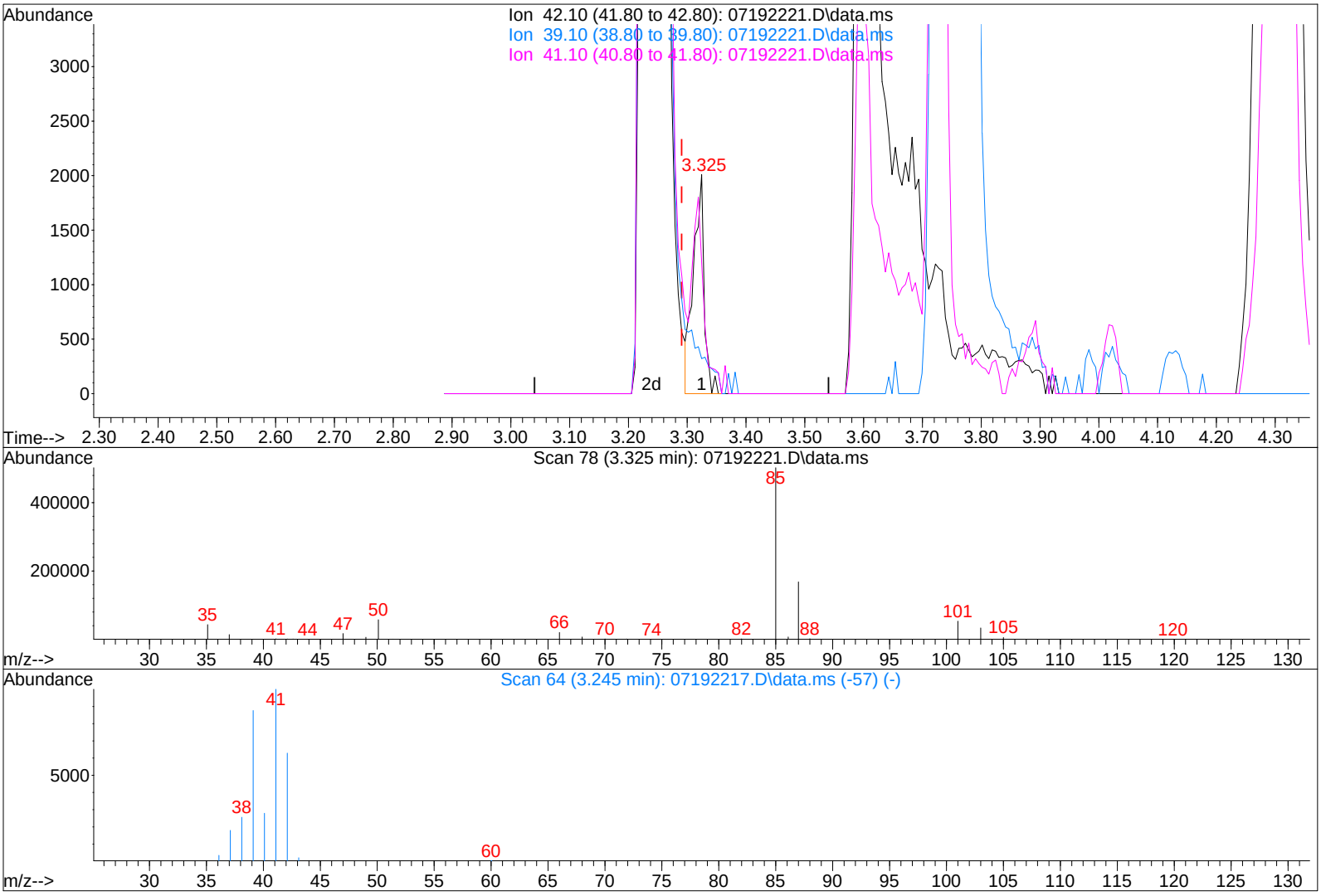
#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**10.38**	**52.7**	**51.25**	103	**78**	**126**	*	*
51)	**n-Heptane**	**10.54**	**23.6**	**25.75**	92	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**11.24**	**25.5**	**26.00**	98	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**11.30**	**50.3**	**51.50**	98	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**11.24**	**24.6**	**25.00**	98	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**12.15**	**23.7**	**26.00**	91	**78**	**117**	*	*
58)	**Toluene**	**12.53**	**22.9**	**25.75**	89	**70**	**118**	*	*
59)	**2-Hexanone**	**12.89**	**49.5**	**50.75**	98	**74**	**132**	*	*
60)	**Dibromochloromethane**	**13.05**	**24.3**	**26.25**	93	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**13.38**	**23.5**	**26.00**	90	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**13.74**	**51.3**	**50.75**	101	**75**	**134**	*	*
63)	**n-Octane**	**13.89**	**24.2**	**26.00**	93	**68**	**120**	*	*
64)	**Tetrachloroethene**	**14.01**	**24.1**	**26.50**	91	**63**	**130**	*	*
65)	**Chlorobenzene**	**14.87**	**23.0**	**25.75**	89	**70**	**118**	*	*
66)	**Ethylbenzene**	**15.38**	**23.7**	**25.75**	92	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**15.63**	**47.7**	**52.00**	92	**67**	**127**	*	*
68)	**Bromoform**	**15.65**	**26.4**	**26.25**	101	**65**	**149**	*	*
69)	**Styrene**	**16.07**	**24.7**	**25.25**	98	**76**	**132**	*	*
70)	**o-Xylene**	**16.21**	**24.3**	**26.00**	93	**69**	**124**	*	*
71)	**n-Nonane**	**16.58**	**23.8**	**26.00**	92	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**16.18**	**23.9**	**26.00**	92	**69**	**128**	*	*
74)	**Cumene**	**17.00**	**23.8**	**25.75**	92	**69**	**125**	*	*
75)	**alpha-Pinene**	**17.50**	**25.6**	**26.25**	98	**68**	**129**	*	*
76)	**n-Propylbenzene**	**17.65**	**23.8**	**26.00**	92	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**17.83**	**24.6**	**26.00**	**95**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**17.93**	**24.5**	**26.00**	**94**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**18.41**	**24.6**	**25.75**	**96**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**18.54**	**56.3**	**52.00**	**108**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**18.55**	**24.6**	**26.00**	**95**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**18.63**	**23.7**	**26.25**	**90**	**63**	**134**	*	*
87)	sec-Butylbenzene	18.72	23.5	25.50	**92**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	18.91	24.2	25.75	**94**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**19.01**	**24.0**	**26.25**	**91**	**64**	**139**	*	*
91)	**d-Limonene**	**19.06**	**24.9**	**25.75**	**97**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**19.49**	**50.4**	**50.50**	**100**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**20.82**	**49.6**	**52.50**	**94**	**62**	**154**	*	*
95)	**Naphthalene**	**20.92**	**24.5**	**26.25**	**93**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**21.28**	**23.7**	**26.50**	**89**	55	142	*	*
99)	tert-Butylbenzene	18.41	24.2	25.75	94	61	140	*	*
100)	n-Butylbenzene	19.37	24.2	26.00	93	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	14.85	23.8	25.75	92	70	130	*	*

Bold = 75 Compound List
*** = Pass**

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:54:11 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192221.D\data.ms

(2) Propene (T)

3.325min (+0.034) 0.17ng

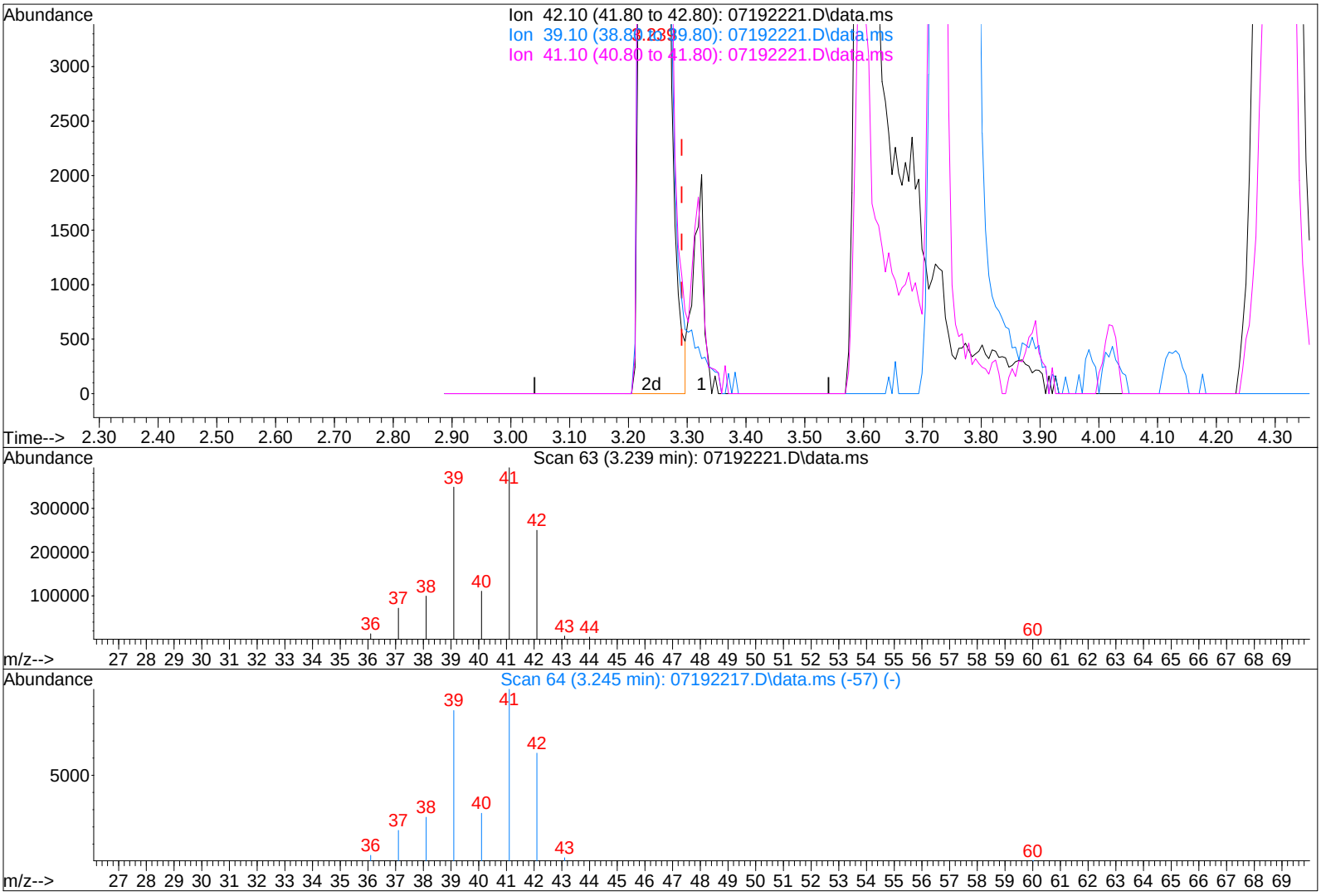
response 2559

Ion	Exp%	Act%
42.10	100	100
39.10	139.50	5.08#
41.10	157.20	95.23#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:54:11 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192221.D\data.ms

(2) Propene (T)

3.239min (-0.051) 22.37ng m

response 331278

Ion	Exp%	Act%
42.10	100	100
39.10	139.50	0.04#
41.10	157.20	0.74#
0.00	0.00	0.00

WP

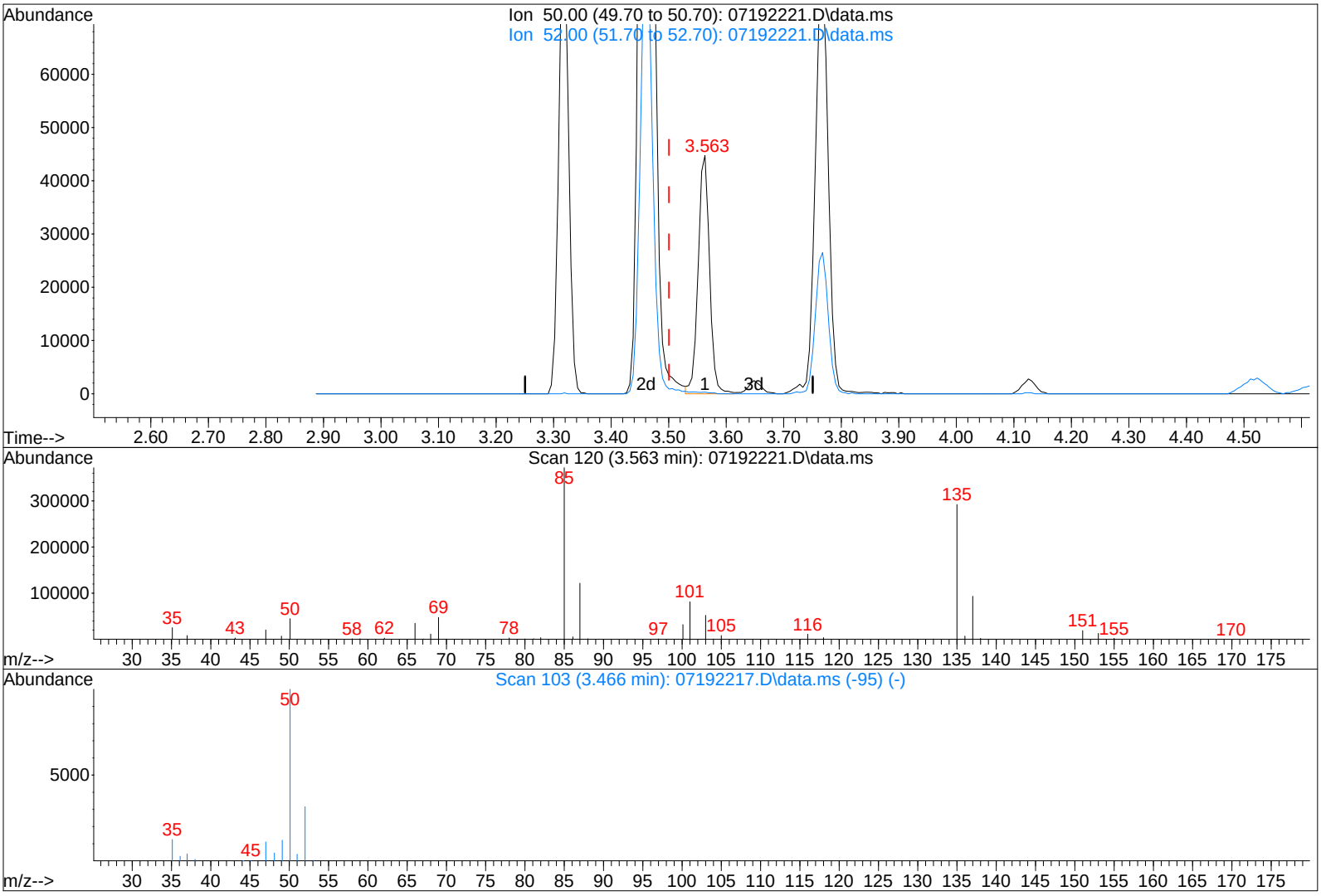
7/20/22

7/27/22

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:54:11 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192221.D\data.ms

(4) Chloromethane (T)

3.563min (+0.062) 3.65ng

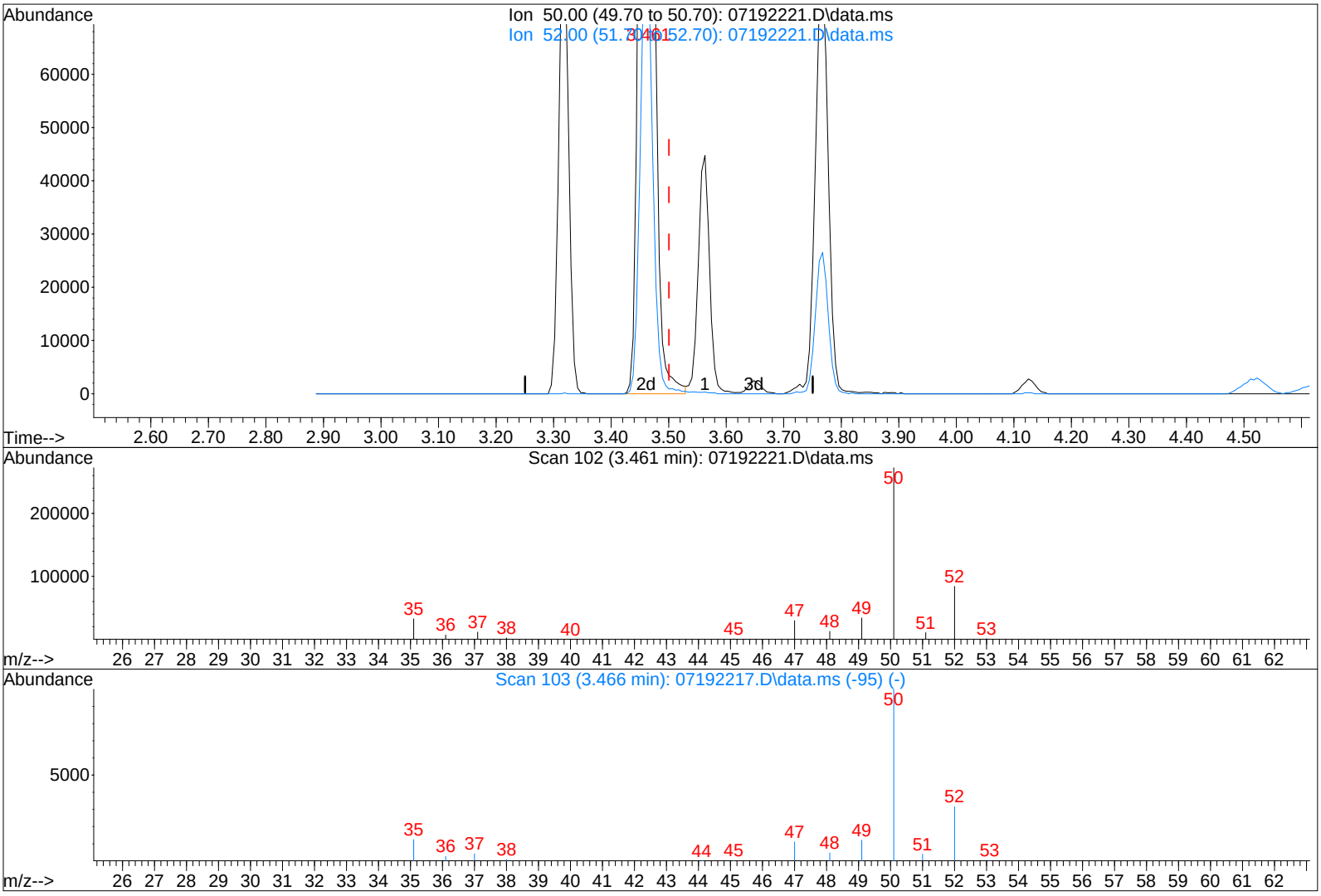
response 61344

Ion	Exp%	Act%
50.00	100	100
52.00	31.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:54:11 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192221.D\data.ms

(4) Chloromethane (T)

3.461min (-0.040) 23.69ng m

response 398187

Ion	Exp%	Act%
50.00	100	100
52.00	31.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

WP 7/20/22 7/27/22

ICV/LCS Standard Concentrations (Secondary Source)

7/20/22

4ng/L Working Std. ID:				
20ng/L Working Std. ID:				
200ng/L Working Std. ID:	S35-06302203			
1000ng/L Working Std. ID:				
Dilution Factor:	1	5	50	250
Working Std. Conc. Utilized:	200			
Working Std. Injection Amounts (L):				0.125

Compounds	mg/m^3	Secondary Working Std. Conc. 1000ng/L	200ng/L	20ng/L	4ng/L	ICV / LCS Actual Conc.(ng)
Propene	1.03	1030	206	20.6	4.12	25.75
Dichlorodifluoromethane(12)	1.04	1040	208	20.8	4.16	26.00
Chloromethane	1.03	1030	206	20.6	4.12	25.75
Freon-114	1.04	1040	208	20.8	4.16	26.00
Vinyl Chloride	1.04	1040	208	20.8	4.16	26.00
1,3-Butadiene	1.03	1030	206	20.6	4.12	25.75
Bromomethane	1.03	1030	206	20.6	4.12	25.75
Chloroethane	1.03	1030	206	20.6	4.12	25.75
Ethanol	4.16	4160	832	83.2	16.64	104.00
Acetonitrile	1.01	1010	202	20.2	4.04	25.25
Acrolein	2.08	2080	416	41.6	8.32	52.00
Acetone	5.12	5120	1024	102.4	20.48	128.00
Trichlorofluoromethane(11)	1.01	1010	202	20.2	4.04	25.25
Isopropanol	2.00	2000	400	40.0	8.00	50.00
Acrylonitrile	2.01	2010	402	40.2	8.04	50.25
1,1-Dichloroethene	1.05	1050	210	21.0	4.20	26.25
tert-Butanol	2.04	2040	408	40.8	8.16	51.00
Methylene Chloride	1.04	1040	208	20.8	4.16	26.00
Allyl Chloride	1.02	1020	204	20.4	4.08	25.50
Trichlorotrifluoroethane(113)	1.08	1080	216	21.6	4.32	27.00
Carbon Disulfide	2.07	2070	414	41.4	8.28	51.75
trans-1,2-Dichloroethene	1.04	1040	208	20.8	4.16	26.00
1,1-Dichloroethane	1.07	1070	214	21.4	4.28	26.75
Methyl tert-Butyl Ether	1.03	1030	206	20.6	4.12	25.75
Vinyl Acetate	4.71	4710	942	94.2	18.84	117.75
2-Butanone	2.04	2040	408	40.8	8.16	51.00
cis-1,2-Dichloroethene	1.03	1030	206	20.6	4.12	25.75
Diisopropyl Ether	2.09	2090	418	41.8	8.36	52.25
Ethyl Acetate	2.90	2900	580	58.0	11.60	72.50
n-Hexane	1.04	1040	208	20.8	4.16	26.00
Chloroform	1.05	1050	210	21.0	4.20	26.25
Tetrahydrofuran	2.02	2020	404	40.4	8.08	50.50
Ethyl tert-Butyl Ether	2.07	2070	414	41.4	8.28	51.75
1,2-Dichloroethane	1.05	1050	210	21.0	4.20	26.25
1,1,1-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Benzene	1.04	1040	208	20.8	4.16	26.00
Carbon Tetrachloride	1.01	1010	202	20.2	4.04	25.25
Cyclohexane	2.06	2060	412	41.2	8.24	51.50
tert-Amyl Methyl Ether	2.06	2060	412	41.2	8.24	51.50
1,2-Dichloropropane	1.03	1030	206	20.6	4.12	25.75
Bromodichloromethane	1.04	1040	208	20.8	4.16	26.00
Trichloroethene	1.02	1020	204	20.4	4.08	25.50
1,4-Dioxane	1.03	1030	206	20.6	4.12	25.75
Isooctane	1.05	1050	210	21.0	4.20	26.25

Compounds	mg/m^3	Secondary Working Std. Conc. 1000ng/L	200ng/L	20ng/L	4ng/L	ICV / LCS Actual Conc.(ng)
Methyl Methacrylate	2.05	2050	410	41.0	8.20	51.25
n-Heptane	1.03	1030	206	20.6	4.12	25.75
cis-1,3-Dichloropropene	1.04	1040	208	20.8	4.16	26.00
4-Methyl-2-pentanone	2.06	2060	412	41.2	8.24	51.50
trans-1,3-Dichloropropene	1.00	1000	200	20.0	4.00	25.00
1,1,2-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Toluene	1.03	1030	206	20.6	4.12	25.75
2-Hexanone	2.03	2030	406	40.6	8.12	50.75
Dibromochloromethane	1.05	1050	210	21.0	4.20	26.25
1,2-Dibromoethane	1.04	1040	208	20.8	4.16	26.00
n-Butyl Acetate	2.03	2030	406	40.6	8.12	50.75
n-Octane	1.04	1040	208	20.8	4.16	26.00
Tetrachloroethene	1.06	1060	212	21.2	4.24	26.50
Chlorobenzene	1.03	1030	206	20.6	4.12	25.75
Ethylbenzene	1.03	1030	206	20.6	4.12	25.75
m-,p-Xylene	2.08	2080	416	41.6	8.32	52.00
Bromoform	1.05	1050	210	21.0	4.20	26.25
Styrene	1.01	1010	202	20.2	4.04	25.25
o-Xylene	1.04	1040	208	20.8	4.16	26.00
n-Nonane	1.04	1040	208	20.8	4.16	26.00
1,1,2,2-Tetrachloroethane	1.04	1040	208	20.8	4.16	26.00
Cumene	1.03	1030	206	20.6	4.12	25.75
alpha-Pinene	1.05	1050	210	21.0	4.20	26.25
n-Propylbenzene	1.04	1040	208	20.8	4.16	26.00
4-Ethyltoluene	1.04	1040	208	20.8	4.16	26.00
1,3,5-Trimethylbenzene	1.04	1040	208	20.8	4.16	26.00
1,2,4-Trimethylbenzene	1.03	1030	206	20.6	4.12	25.75
Benzyl Chloride	2.08	2080	416	41.6	8.32	52.00
1,3-Dichlorobenzene	1.04	1040	208	20.8	4.16	26.00
1,4-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
sec-Butylbenzene	1.02	1020	204	20.4	4.08	25.50
p-Isopropyltoluene	1.03	1030	206	20.6	4.12	25.75
1,2-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
d-Limonene	1.03	1030	206	20.6	4.12	25.75
1,2-Dibromo-3-chloropropane	2.02	2020	404	40.4	8.08	50.50
1,2,4-Trichlorobenzene	2.10	2100	420	42.0	8.40	52.50
Naphthalene	1.05	1050	210	21.0	4.20	26.25
Hexachloro-1,3-butadiene	1.06	1060	212	21.2	4.24	26.50
tert-Butylbenzene	1.03	1030	206	20.6	4.12	25.75
n-Butylbenzene	1.04	1040	208	20.8	4.16	26.00
1,1,1,2-Tetrachloroethane	1.03	1030	206	20.6	4.12	25.75

***Enter Information in the Solid Shaded Areas ONLY.**

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 07\22\07222201.D Vial: 2
Acq On : 21 Jul 2022 21:24 Operator: SC
Sample : CCV R9072222 25ng Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 22 04:31:31 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 7/22/22
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	115	0.00
2	T	Propene	1.198	0.923	23.0	99	0.00
3	T	Dichlorodifluoromethane (CF	2.956	2.270	23.2	97	0.00
4	T	Chloromethane	1.359	1.068	21.4	94	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.279	1.008	21.2	100	0.00
6	T	Vinyl Chloride	1.265	0.991	21.7	98	-0.05
7	T	1,3-Butadiene	0.912	0.765	16.1	100	-0.04
8	T	Bromomethane	0.986	0.781	20.8	97	-0.04
9	T	Chloroethane	0.683	0.518	24.2	94	-0.03
10	T	Ethanol	0.791	0.627	20.7	93	0.02
11	T	Acetonitrile	2.325	1.672	28.1	93	0.00
12	T	Acrolein	0.601	0.476	20.8	98	-0.02
13	T	Acetone	0.740	0.522	29.5	96	0.00
14	T	Trichlorofluoromethane	2.980	2.295	23.0	97	-0.03
15	T	2-Propanol (Isopropanol)	2.975	2.249	24.4	91	-0.01
16	T	Acrylonitrile	1.264	0.996	21.2	94	0.01
17	T	1,1-Dichloroethene	1.048	0.825	21.3	97	-0.03
18	T	2-Methyl-2-Propanol (tert-B	2.810	2.317	17.5	93	-0.07
19	T	Methylene Chloride	1.142	0.858	24.9	96	0.00
20	T	3-Chloro-1-propene (Allyl C	2.145	1.481	31.0#	94	-0.01
21	T	Trichlorotrifluoroethane	1.215	0.967	20.4	100	-0.02
22	T	Carbon Disulfide	3.961	3.081	22.2	96	-0.04
23	T	trans-1,2-Dichloroethene	1.670	1.316	21.2	95	0.00
24	T	1,1-Dichloroethane	1.991	1.500	24.7	95	0.00
25	T	Methyl tert-Butyl Ether	3.674	2.991	18.6	96	-0.05
26	T	Vinyl Acetate	0.132	0.133	-0.8	97	-0.01
27	T	2-Butanone (MEK)	0.667	0.525	21.3	96	-0.03
28	T	cis-1,2-Dichloroethene	1.651	1.282	22.4	96	0.00
29	T	Diisopropyl Ether	0.886	0.675	23.8	98	-0.03
30	T	Ethyl Acetate	0.426	0.331	22.3	95	-0.03
31	T	n-Hexane	1.645	1.209	26.5	95	-0.02
32	T	Chloroform	2.382	1.845	22.5	97	0.00
33	S	1,2-Dichloroethane-d4(SS1)	2.097	2.011	4.1	110	-0.01
34	T	Tetrahydrofuran (THF)	0.645	0.512	20.6	96	-0.06
35	T	Ethyl tert-Butyl Ether	1.320	1.063	19.5	95	-0.04
36	T	1,2-Dichloroethane	2.044	1.567	23.3	96	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	113	0.00
38	T	1,1,1-Trichloroethane	0.583	0.470	19.4	98	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	107	0.00
40	T	1-Butanol	0.000	0.000	0.0	94	0.00
41	T	Benzene	0.999	0.761	23.8	95	0.00
42	T	Carbon Tetrachloride	0.502	0.415	17.3	98	0.00
43	T	Cyclohexane	0.366	0.288	21.3	97	0.00
44	T	tert-Amyl Methyl Ether	0.732	0.609	16.8	95	-0.02
45	T	1,2-Dichloropropane	0.238	0.181	23.9	94	0.00
46	T	Bromodichloromethane	0.461	0.375	18.7	97	0.00
47	T	Trichloroethene	0.297	0.247	16.8	98	0.00
48	T	1,4-Dioxane	0.180	0.162	10.0	96	-0.05
49	T	2,2,4-Trimethylpentane (Iso	0.965	0.735	23.8	94	-0.01
50	T	Methyl Methacrylate	0.093	0.083	10.8	97	-0.02
51	T	n-Heptane	0.228	0.181	20.6	96	-0.02
52	T	cis-1,3-Dichloropropene	0.411	0.350	14.8	96	-0.02
53	T	4-Methyl-2-pentanone	0.209	0.171	18.2	94	-0.03
54	T	trans-1,3-Dichloropropene	0.427	0.364	14.8	96	-0.02
55	T	1,1,2-Trichloroethane	0.270	0.217	19.6	97	-0.02

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 07\22\07222201.D Vial: 2
Acq On : 21 Jul 2022 21:24 Operator: SC
Sample : CCV R9072222 25ng Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 22 04:31:31 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	116	0.00
57	S	Toluene-d8 (SS2)	5.246	5.071	3.3	114	0.02
58	T	Toluene	5.279	3.987	24.5	97	0.01
59	T	2-Hexanone	2.914	2.301	21.0	94	-0.01
60	T	Dibromochloromethane	1.829	1.520	16.9	98	0.01
61	T	1,2-Dibromoethane	1.596	1.272	20.3	98	0.00
62	T	n-Butyl Acetate	3.101	2.496	19.5	93	0.00
63	T	n-Octane	0.928	0.710	23.5	94	0.00
64	T	Tetrachloroethene	1.832	1.481	19.2	100	0.00
65	T	Chlorobenzene	3.599	2.782	22.7	99	0.01
66	T	Ethylbenzene	6.234	4.883	21.7	97	0.00
67	T	m- & p-Xylenes	5.177	4.068	21.4	97	0.02
68	T	Bromoform	1.682	1.533	8.9	99	0.00
69	T	Styrene	3.524	2.979	15.5	97	0.00
70	T	o-Xylene	5.010	3.962	20.9	97	0.00
71	T	n-Nonane	2.506	1.885	24.8	92	0.00
72	T	1,1,2,2-Tetrachloroethane	2.230	1.710	23.3	96	0.00
73	S	Bromofluorobenzene (SS3)	2.119	2.331	-10.0	126	0.00
74	T	Cumene	6.258	4.985	20.3	98	0.00
75	T	alpha-Pinene	3.039	2.528	16.8	97	0.00
76	T	n-Propylbenzene	7.467	5.890	21.1	96	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	98	0.00
78	T	4-Ethyltoluene	5.979	4.822	19.4	96	0.00
79	T	1,3,5-Trimethylbenzene	5.206	4.250	18.4	98	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	-16.45#
81	T	2-Ethyltoluene	0.000	0.000	0.0	5392#	0.00
82	T	1,2,4-Trimethylbenzene	5.380	4.457	17.2	97	0.00
83	T	n-Decane	0.000	0.000	0.0	4#	0.00
84	T	Benzyl Chloride	4.208	4.063	3.4	97	0.00
85	T	1,3-Dichlorobenzene	3.325	2.816	15.3	99	0.00
86	T	1,4-Dichlorobenzene	3.377	2.778	17.7	99	0.00
87	T	sec-Butylbenzene	6.972	5.487	21.3	97	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.975	4.951	17.1	98	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	97	0.00
90	T	1,2-Dichlorobenzene	3.213	2.647	17.6	99	0.00
91	T	d-Limonene	1.742	1.414	18.8	94	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.284	1.151	10.4	99	0.00
93	T	n-Undecane	0.000	0.000	0.0	93	-0.01
94	T	1,2,4-Trichlorobenzene	2.760	2.631	4.7	98	0.00
95	T	Naphthalene	6.486	6.277	3.2	98	0.00
96	T	n-Dodecane	0.000	0.000	0.0	296#	0.00
97	T	Hexachlorobutadiene	2.051	1.712	16.5	98	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	188	-0.02
99	T	tert-Butylbenzene	5.169	4.225	18.3	98	0.00
100	T	n-Butylbenzene	5.652	4.609	18.5	96	0.00
101	T	1,1,1,2-Tetrachloroethane	1.523	1.240	18.6	99	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222201.D Vial: 2
Acq On : 21 Jul 2022 21:24 Operator: SC
Sample : CCV R9072222 25ng Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 22 04:31:31 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/22/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	167574	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	702087	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	151883	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	336939	11.984	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	12.41	98	770186	12.082	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	16.80	174	354083	13.750	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.00%				
Target Compounds							Qvalue
2) Propene	3.25	42	321839	20.046	ng		99
3) Dichlorodifluoromethan...	3.33	85	798923	20.163	ng		100
4) Chloromethane	3.47	50	365206	20.041	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	364895	21.278	ng		100
6) Vinyl Chloride	3.66	62	345539	20.380	ng		100
7) 1,3-Butadiene	3.78	54	266559	21.812	ng		99
8) Bromomethane	3.99	94	266902	20.184	ng		100
9) Chloroethane	4.14	64	177092	19.354	ng		100
10) Ethanol	4.31	45	760656	71.741	ng		99
11) Acetonitrile	4.45	41	521214	16.722	ng		100
12) Acrolein	4.53	56	319133	39.583	ng		100
13) Acetone	4.63	58	908531	91.629	ng		100
14) Trichlorofluoromethane	4.74	101	792128	19.829	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	1522394	38.170	ng		100
16) Acrylonitrile	5.01	53	677412	39.982	ng		100
17) 1,1-Dichloroethene	5.24	96	295989	21.073	ng		97
18) 2-Methyl-2-Propanol (t...	5.33	59	1630779	43.296	ng		99
19) Methylene Chloride	5.36	84	299152	19.533	ng		97
20) 3-Chloro-1-propene (Al...	5.45	41	521234	18.129	ng		99
21) Trichlorotrifluoroethane	5.56	151	349838	21.477	ng		97
22) Carbon Disulfide	5.58	76	2168282	40.828	ng		100
23) trans-1,2-Dichloroethene	6.14	61	467408	20.882	ng		99
24) 1,1-Dichloroethane	6.32	63	527918	19.783	ng		100
25) Methyl tert-Butyl Ether	6.35	73	1052568	21.371	ng		100
26) Vinyl Acetate	6.44	86	151720	85.784	ng	#	92
27) 2-Butanone (MEK)	6.66	72	362222	40.532	ng		95
28) cis-1,2-Dichloroethene	7.08	61	446887	20.192	ng		99
29) Diisopropyl Ether	7.27	87	479643	40.366	ng	#	92
30) Ethyl Acetate	7.27	61	452610	79.258	ng		97
31) n-Hexane	7.28	57	425572	19.302	ng		100
32) Chloroform	7.37	83	661543	20.716	ng		100
34) Tetrahydrofuran (THF)	7.73	72	338127	39.075	ng		96
35) Ethyl tert-Butyl Ether	7.80	87	748478	42.301	ng		99
36) 1,2-Dichloroethane	8.11	62	556590	20.315	ng		99
38) 1,1,1-Trichloroethane	8.38	97	686610	20.972	ng		99
39) Isopropyl Acetate	9.29	61	23410	No Calib			
40) 1-Butanol	9.20	56	923037	No Calib			
41) Benzene	8.89	78	1111924	19.810	ng		100
42) Carbon Tetrachloride	9.05	117	611636	21.694	ng		99
43) Cyclohexane	9.20	84	836284	40.664	ng		98
44) tert-Amyl Methyl Ether	9.57	73	1788491	43.487	ng		99
45) 1,2-Dichloropropane	9.84	63	262441	19.610	ng		99
46) Bromodichloromethane	10.06	83	552828	21.357	ng		99
47) Trichloroethene	10.13	130	356860	21.427	ng		99
48) 1,4-Dioxane	10.09	88	236792	23.369	ng		99
49) 2,2,4-Trimethylpentane...	10.21	57	1094573	20.198	ng		100
50) Methyl Methacrylate	10.38	100	243545	46.525	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222201.D Vial: 2
Acq On : 21 Jul 2022 21:24 Operator: SC
Sample : CCV R9072222 25ng Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 22 04:31:31 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

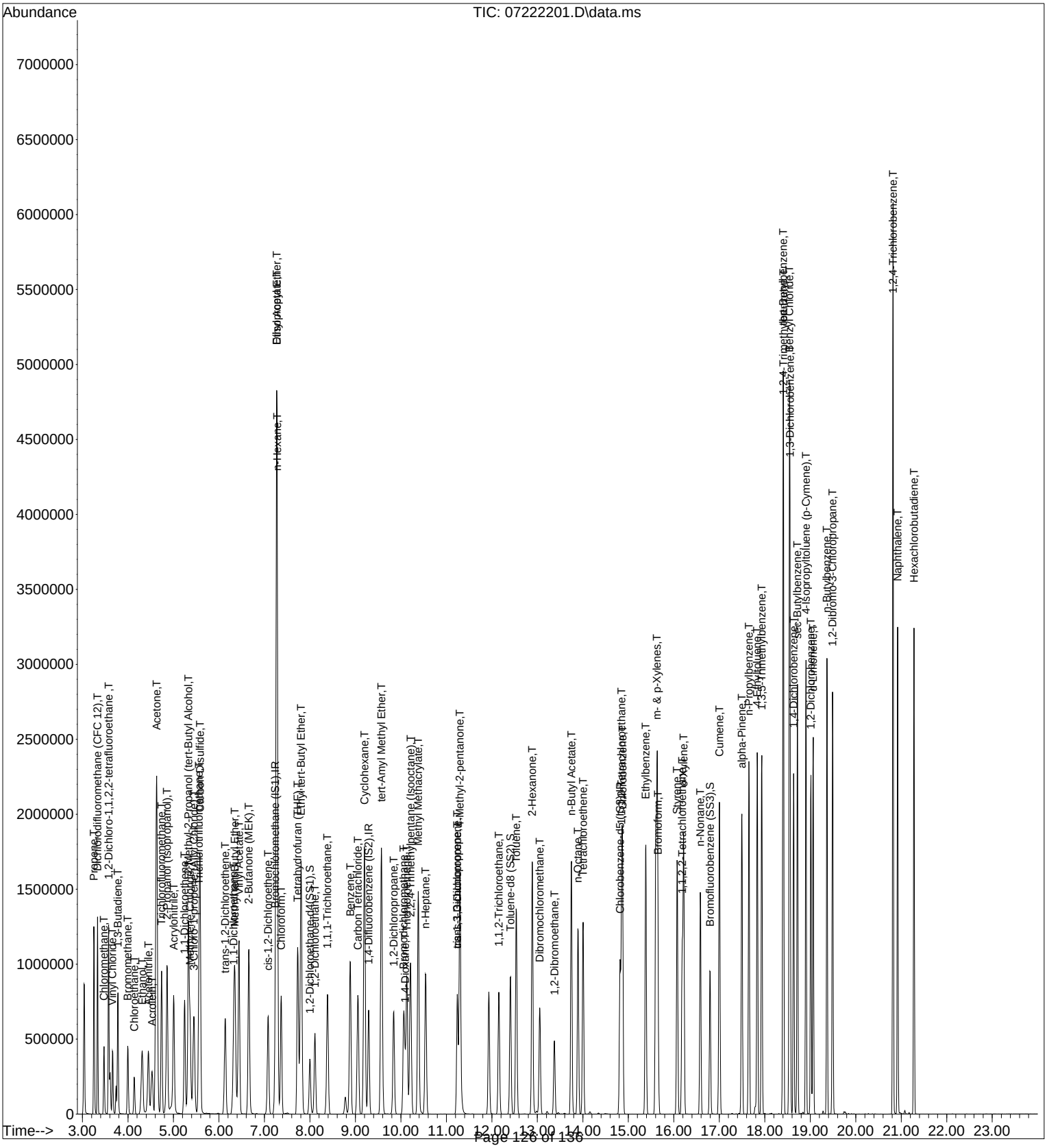
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	266937	20.814 ng		98
52) cis-1,3-Dichloropropene	11.24	75	516424	22.398 ng		100
53) 4-Methyl-2-pentanone	11.30	58	499908	42.562 ng		98
54) trans-1,3-Dichloropropene	11.24	75	516424	21.544 ng		100
55) 1,1,2-Trichloroethane	12.15	97	316813	20.898 ng		99
58) Toluene	12.53	91	1247376	19.447 ng		100
59) 2-Hexanone	12.89	43	1432691	40.459 ng		99
60) Dibromochloromethane	13.05	129	484825	21.816 ng		100
61) 1,2-Dibromoethane	13.37	107	401918	20.726 ng		99
62) n-Butyl Acetate	13.75	43	1546793	41.049 ng		99
63) n-Octane	13.89	57	226562	20.084 ng		97
64) Tetrachloroethene	14.01	166	468002	21.022 ng		100
65) Chlorobenzene	14.87	112	879033	20.100 ng		100
66) Ethylbenzene	15.38	91	1527869	20.172 ng		99
67) m- & p-Xylenes	15.63	91	2545653	40.469 ng		99
68) Bromoform	15.65	173	484215	23.694 ng		100
69) Styrene	16.07	104	932141	21.769 ng		100
70) o-Xylene	16.21	91	1251603	20.560 ng		99
71) n-Nonane	16.58	43	595580	19.563 ng		98
72) 1,1,2,2-Tetrachloroethane	16.19	83	540118	19.934 ng		99
74) Cumene	17.00	105	1574756	20.709 ng		100
75) alpha-Pinene	17.50	93	829311	22.461 ng		99
76) n-Propylbenzene	17.65	91	1878781	20.707 ng		99
77) 3-Ethyltoluene	17.00	105	1574756	No Calib		
78) 4-Ethyltoluene	17.83	105	1552742	21.372 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	1342540	21.223 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.50	105	98563	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1394347	21.329 ng		99
83) n-Decane	16.79	58	364	No Calib	#	
84) Benzyl Chloride	18.54	91	2542296	49.719 ng		100
85) 1,3-Dichlorobenzene	18.55	146	889754	22.020 ng		100
86) 1,4-Dichlorobenzene	18.63	146	877660	21.386 ng		100
87) sec-Butylbenzene	18.72	105	1733300	20.459 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	1564192	21.544 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	1394347	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	844400	21.627 ng		99
91) d-Limonene	19.06	68	450993	21.311 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.49	157	699338	44.822 ng		97
93) n-Undecane	17.93	58	17919	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1630345	48.622 ng		100
95) Naphthalene	20.92	128	1982917	25.162 ng		100
96) n-Dodecane	18.91	58	24466	No Calib	#	
97) Hexachlorobutadiene	21.28	225	535765	21.502 ng		100
98) Cyclohexanone	15.62	55	1533	No Calib	#	
99) tert-Butylbenzene	18.41	119	1334637	21.250 ng		100
100) n-Butylbenzene	19.37	91	1456167	21.204 ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	391854	21.178 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\22\07222201.D Vial: 2
Acq On : 21 Jul 2022 21:24 Operator: SC
Sample : CCV R9072222 25ng Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 22 04:31:31 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

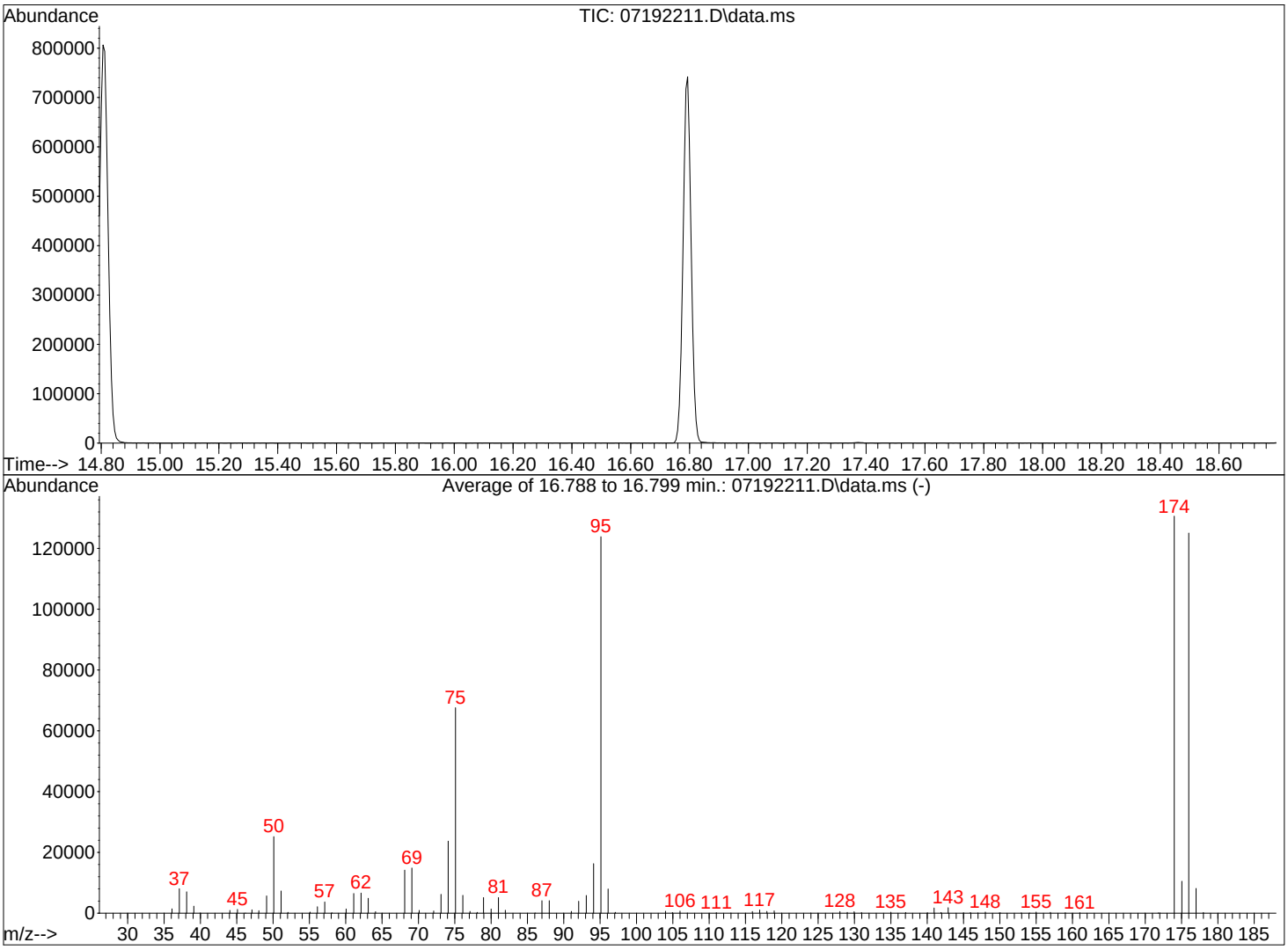


Data Path : I:\MS09\DATA\2022 07\19\
Data File : 07192211.D
Acq On : 19 Jul 2022 14:50
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S35-07192201
ALS Vial : 2 Sample Multiplier: 1

7/20/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9071922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jul 20 08:30:01 2022



AutoFind: Scans 2449, 2450, 2451; Background Corrected with Scan 2440

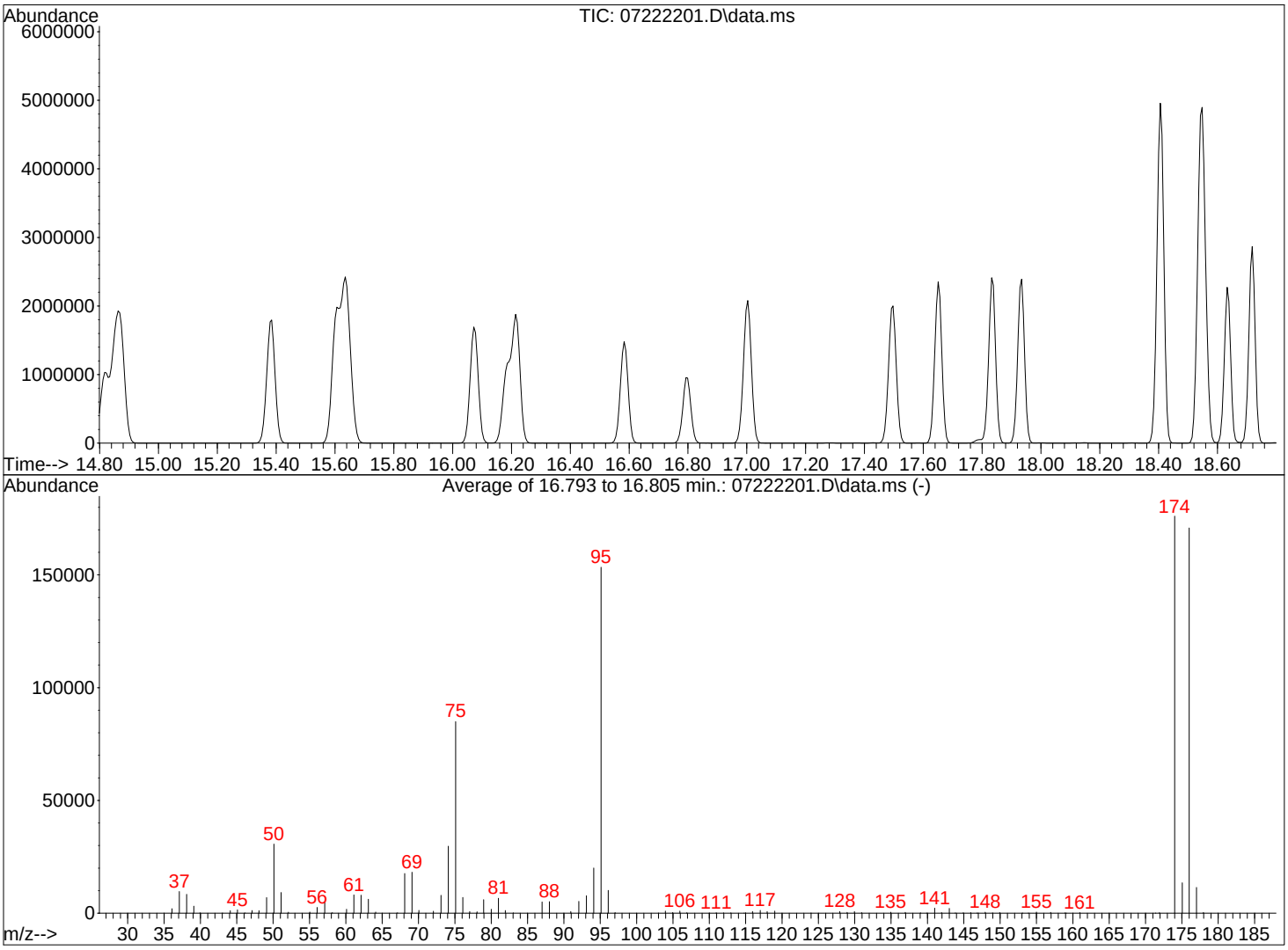
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.3	25179	PASS
75	95	30	66	54.6	67611	PASS
95	95	100	100	100.0	123861	PASS
96	95	5	9	6.4	7989	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	105.5	130613	PASS
175	174	4	9	8.0	10509	PASS
176	174	93	101	95.7	125040	PASS
177	176	5	9	6.5	8130	PASS

Data Path : I:\MS09\DATA\2022 07\22\
Data File : 07222201.D
Acq On : 21 Jul 2022 21:24
Operator : SC
Sample : CCV R9072222 25ng
Misc : S35-07192201/S35-07192209 (8/18)
ALS Vial : 2 Sample Multiplier: 1

7/22/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9071922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Jul 21 10:51:48 2022



AutoFind: Scans 2450, 2451, 2452; Background Corrected with Scan 2441

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.0	30619	PASS
75	95	30	66	55.4	84957	PASS
95	95	100	100	100.0	153397	PASS
96	95	5	9	6.6	10108	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	114.8	176043	PASS
175	174	4	9	7.7	13501	PASS
176	174	93	101	97.0	170837	PASS
177	176	5	9	6.7	11433	PASS

Injection Log

Directory: J:\MS09\DATA\2022_07\19\

11	7/19/22 14:50	07192211.D	12.5ng TO-15 BFB STD	S35-07192201	SC	2	pass
12	7/19/22 15:22	07192212.D	0.1ng TO-15 ICAL STD	S35-07192201/S35-07192211 (8/18)	SC	5	
13	7/19/22 15:54	07192213.D	0.2ng TO-15 ICAL STD	S35-07192201/S35-07192211 (8/18)	SC	5	
14	7/19/22 16:26	07192214.D	0.5ng TO-15 ICAL STD	S35-07192201/S35-07192210 (8/18)	SC	6	
15	7/19/22 16:57	07192215.D	1.0ng TO-15 ICAL STD	S35-07192201/S35-07192210 (8/18)	SC	6	
16	7/19/22 17:29	07192216.D	5.0ng TO-15 ICAL STD	S35-07192201/S35-07192210 (8/18)	SC	6	
17	7/19/22 18:01	07192217.D	25ng TO-15 ICAL STD	S35-07192201/S35-07192209 (8/18)	SC	7	
18	7/19/22 18:33	07192218.D	50ng TO-15 ICAL STD	S35-07192201/S35-07192209 (8/18)	SC	7	
19	7/19/22 19:05	07192219.D	100ng TO-15 ICAL STD	S35-07192201/S35-07192209 (8/18)	SC	7	
20	7/19/22 19:37	07192220.D	Blank	S35-07192201	SC	2	
21	7/19/22 20:09	07192221.D	25ng TO-15 ICV STD	S35-07192201/S35-06302203 (7/30)	SC	8	pass
22	7/19/22 20:41	07192222.D	25ng TO-15 ICV STD	S35-07192201/S35-06302203 (7/30)	SC	8	pass
23	7/19/22 21:14	07192223.D	12.5ng TO-15 Custom BFB	S35-07192201	SC	2	pass
24	7/19/22 21:46	07192224.D	0.4ng TO-15 Custom ICAL	S35-07192201/S35-06282203 (7/27)	SC	9	
25	7/19/22 22:18	07192225.D	1.0ng TO-15 Custom ICAL	S35-07192201/S35-06282203 (7/27)	SC	9	
26	7/19/22 22:50	07192226.D	2.5ng TO-15 Custom ICAL	S35-07192201/S35-06282203 (7/27)	SC	9	
27	7/19/22 23:22	07192227.D	5.0ng TO-15 Custom ICAL	S35-07192201/S35-06282203 (7/27)	SC	9	
28	7/19/22 23:55	07192228.D	25ng TO-15 Custom ICAL	S35-07192201/S35-06272203 (7/26)	SC	10	
29	7/20/22 0:27	07192229.D	50ng TO-15 Custom ICAL	S35-07192201/S35-06272203 (7/26)	SC	10	
30	7/20/22 0:59	07192230.D	100ng TO-15 Custom ICAL	S35-07192201/S35-06272203 (7/26)	SC	10	
31	7/20/22 1:32	07192231.D	Blank	S35-07192201	SC	2	
32	7/20/22 2:04	07192232.D	25ng TO-15 Custom ICV	S35-07192201/S35-06292201 (7/28)	SC	11	pass
33	7/20/22 2:36	07192233.D	25ng TO-15 Custom ICV	S35-07192201/S35-06292201 (7/28)	SC	11	pass
34							
35							
36							
37							
38							

7/20/22

Injection Log

Directory: I:\MS09\DATA\2022_07\22\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	7/21/22 21:24	07222201.D	CCV R9072222_25ng	S35-07192201/S35-07192209 (8/18)	SC	2	Passed
2	7/21/22 21:56	07222202.D	CCV C9072222_25ng	S35-07192201/S35-06282203 (7/27)	SC	3	Passed
3	7/21/22 22:28	07222203.D	Blank	S35-07192201	SC	1	
4	7/21/22 23:00	07222204.D	MB R9072222_1000mL	S35-07192201	SC	2	Passed
5	7/21/22 23:32	07222205.D	LCS R9072222_25ng	S35-07192201/S35-06302203 (7/30)	SC	2	Passed
6	7/22/22 0:04	07222206.D	LCSD R9072222_25ng	S35-07192201/S35-06302203 (7/30)	SC	2	Passed
7	7/22/22 7:20	07222207.D	P2203116-012 (1000mL)	S35-07192201	SC	6	
8	7/22/22 7:52	07222208.D	P2203116-016 (1000mL)	S35-07192201	SC	10	
9	7/22/22 8:24	07222209.D	P2203116-008 (1000mL)	S35-07192201	SC	12	
10	7/22/22 8:56	07222210.D	P2203116-011Dil (100mL)	S35-07192201	SC	4	
11	7/22/22 9:28	07222211.D	P2203116-012dup(1000mL)	S35-07192201	SC	6	Passed
12	7/22/22 10:10	07222212.D	P2203112-005 (1000mL)	S35-07192201	SC	5	
13	7/22/22 10:42	07222213.D	P2203178-001 (1000mL)	S35-07192201	SC	13	
14	7/22/22 11:14	07222214.D	P2203178-002 (1000mL)	S35-07192201	SC	14	
15	7/22/22 11:46	07222215.D	P2203178-003 (1000mL)	S35-07192201	SC	15	
16	7/22/22 12:18	07222216.D	P2203178-004 (1000mL)	S35-07192201	SC	16	
17	7/22/22 13:05	07222217.D	P2203161-001 (1000mL)	S35-07192201	SC	4	
18	7/22/22 13:37	07222218.D	P2203127-001 (1000mL)	S35-07192201	SC	5	
19	7/22/22 14:09	07222219.D	P2203127-002 (1000mL)	S35-07192201	SC	6	
20	7/22/22 14:41	07222220.D	RL R9072222_0.5ng	S35-07192201/S35-07192210 (8/18)	SC	4	
21	7/22/22 15:38	07222221.D	P2203127-003 (1000mL)	S35-07192201	SC	7	
22	7/22/22 16:10	07222222.D	P2203127-004 (1000mL)	S35-07192201	SC	8	
23	7/22/22 16:42	07222223.D	P2203127-005 (1000mL)	S35-07192201	SC	9	
24	7/22/22 17:14	07222224.D	P2203145-001 (1000mL)	S35-07192201	SC	13	
25	7/22/22 17:46	07222225.D	P2203145-002 (1000mL)	S35-07192201	SC	14	
26	7/22/22 18:18	07222226.D	P2203145-003 (1000mL)	S35-07192201	SC	15	
27	7/22/22 18:50	07222227.D	P2203145-004 (1000mL)	S35-07192201	SC	16	
28	7/22/22 19:22	07222228.D	P2203145-005 (1000mL)	S35-07192201	SC	4	
	CCV: allyl chloride out low (RL check- passed)						
						7/23/22	

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-07
Cycles: 30
Batch: 29622

Batch Started By: ANAKLOWYCZ on 7/11/22 0925
Finished Cleaning By: ANAKLOWYCZ on 7/11/22 0928

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS01057	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0928	ANAKLOWYCZ	-14.0	7/19/22 0809		
AS00744	7/11/22	7/12/22	Pass w/ Conditions	-14.3	7/11/22 0928	ANAKLOWYCZ	-14.0	7/15/22 1147		MS21_07/11/22
AC02070	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0928	ANAKLOWYCZ	-14.0	7/21/22 0844		
AS01110	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0928	ANAKLOWYCZ	-14.0	7/15/22 0243		
AS00564	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0928	ANAKLOWYCZ	-14.0	7/15/22 0243		
AC01782	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0928	ANAKLOWYCZ	-14.0	7/15/22 0917		
AS00845	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0928	ANAKLOWYCZ	-14.0	7/19/22 0809		
AS01716	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0928	ANAKLOWYCZ	-14.0	7/19/22 0809		
AS01590	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0928	ANAKLOWYCZ	-14.0	7/15/22 0243		
AC01795	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0928	ANAKLOWYCZ	-14.0	7/15/22 0243		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 07\11\
Data File : 07112211.D
Acq On : 11 Jul 2022 6:09 pm
Operator : KM
Sample : 071122 AS00744 29622
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

RVT 7/12/22

Quant Time: Jul 12 07:37:57 2022
Quant Method : I:\MS21\Methods\F21061622A.M
Quant Title : EPA TO-15
QLast Update : Tue Jun 28 09:57:24 2022
Response via : Initial Calibration

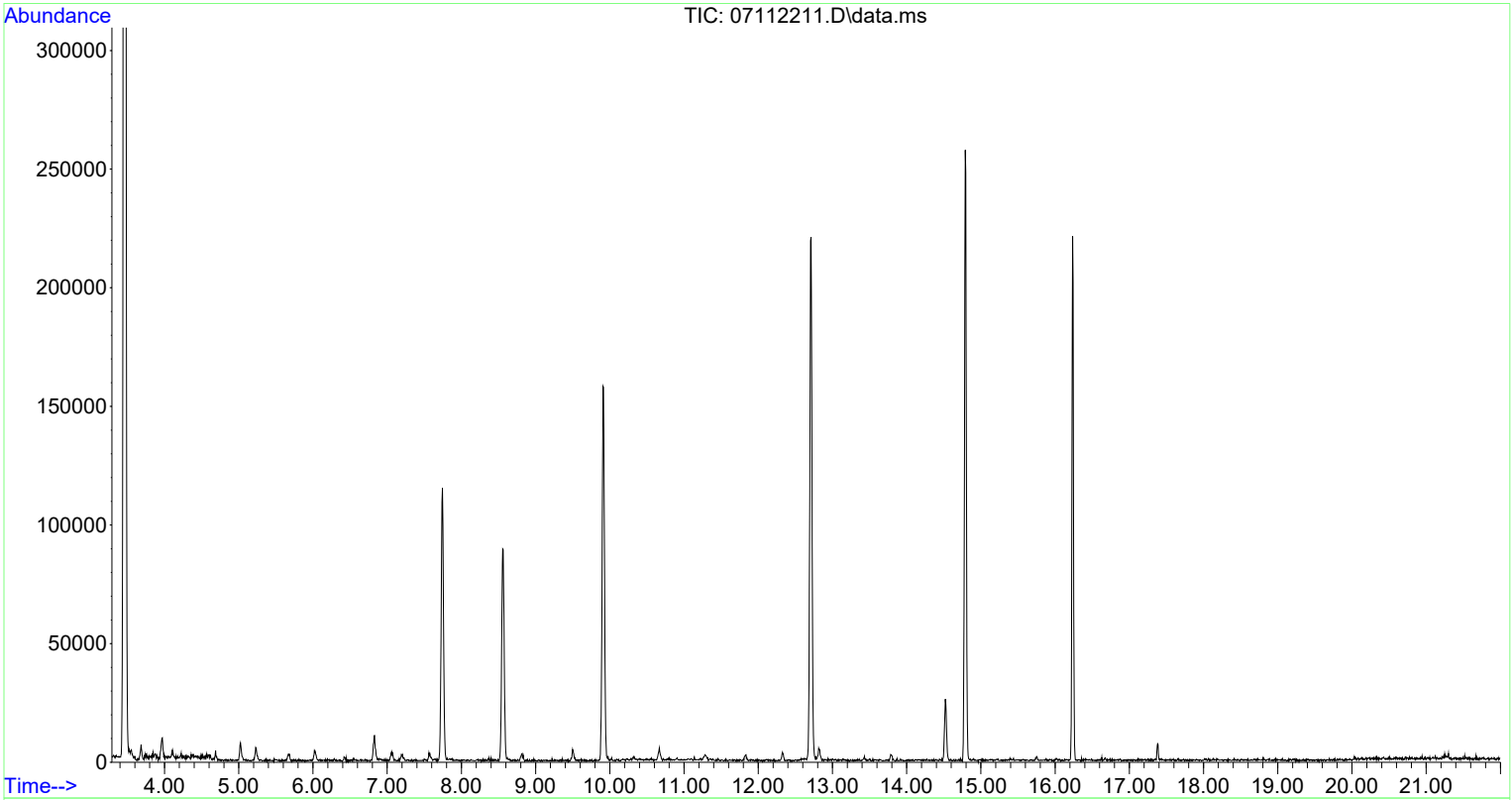
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.747	130	59518	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.912	114	170726	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.792	54	27636	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.560	65	82121	957.10	pg		0.00
Spiked Amount 1000.000			Recovery = 95.71%				
57) Toluene-d8 (SS2)	12.707	98	179564	1045.85	pg		0.00
Spiked Amount 1000.000			Recovery = 104.58%				
74) Bromofluorobenzene (SS3)	16.238	174	74992	1007.24	pg		0.00
Spiked Amount 1000.000			Recovery = 100.72%				
Target Compounds							Qvalue
10] * Ethanol	4.611	45	1231	27.247	pg		99
13] * Acetone	5.026	58	2967	66.323	pg		75
15] * 2-Propanol (Isopropa...	5.231	45	5715	46.780	pg	#	88
22] * Carbon Disulfide	6.031	76	7114	26.568	pg		100
27] * 2-Butanone (MEK)	7.199	72	1029	31.781	pg		80
53] * 4-Methyl-2-pentanone	11.826	58	674	19.991	pg		97
58] * Toluene	12.821	91	4307	24.677	pg		98

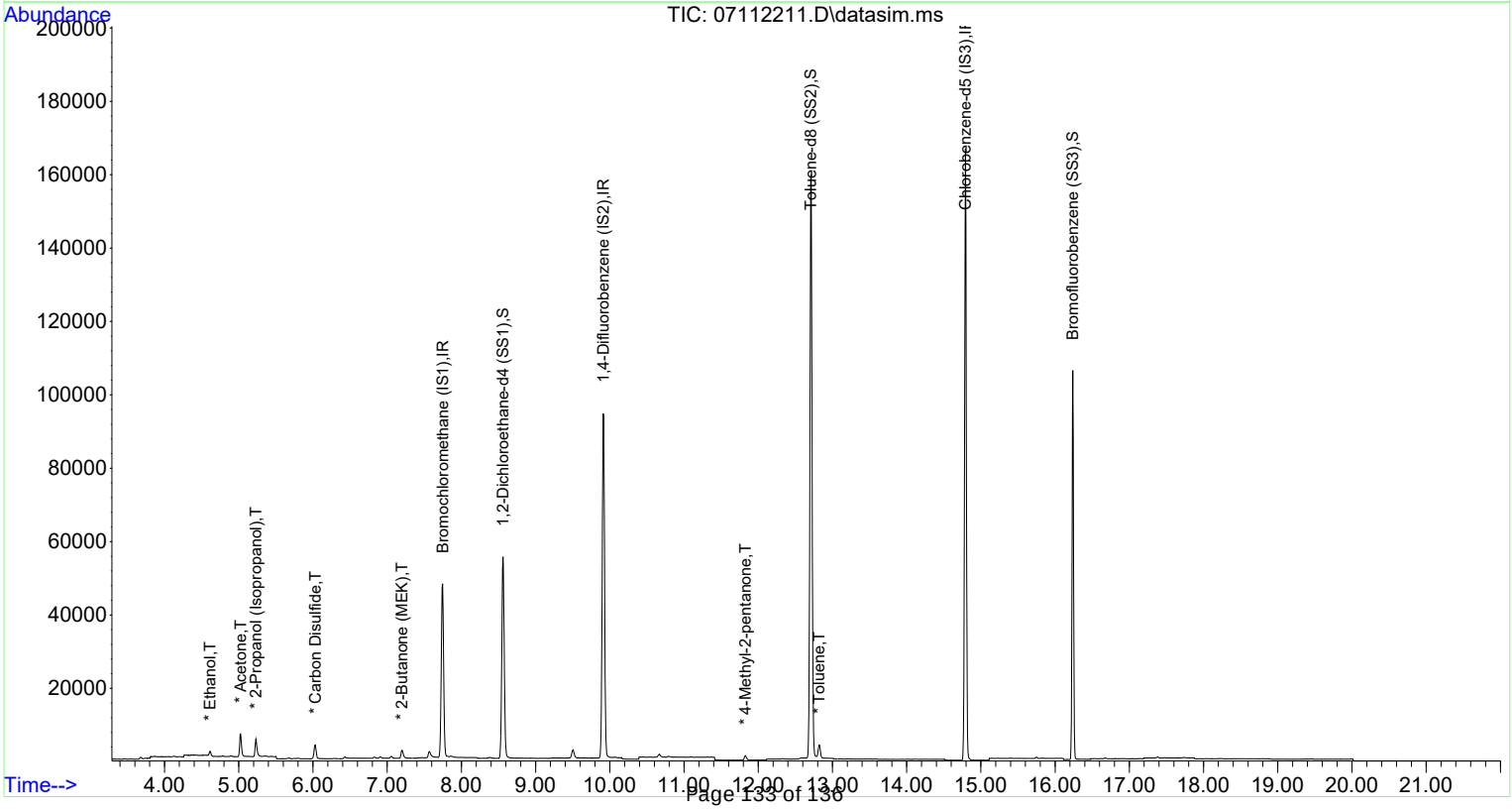
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 07\11\
Data File : 07112211.D
Acq On : 11 Jul 2022 6:09 pm
Operator : KM
Sample : 071122 AS00744 29622
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 12 07:37:57 2022
Quant Method : I:\MS21\Methods\F21061622A.M
Quant Title : EPA TO-15
QLast Update : Tue Jun 28 09:57:24 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-09
Cycles: 30
Batch: 29621

Batch Started By: ANAKLOWYCZ on 7/11/22 0923
Finished Cleaning By: ANAKLOWYCZ on 7/11/22 0923

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS00936	7/11/22	7/11/22	Pass w/ Conditions	-14.3	7/11/22 0923	ANAKLOWYCZ	-14.0	7/15/22 1143		MS21_07/11/22
AS01469	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0923	ANAKLOWYCZ	-14.0	7/15/22 0243		
AS01597	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0923	ANAKLOWYCZ	-14.0	7/15/22 0242		
AS01047	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0923	ANAKLOWYCZ	-14.0	7/13/22 0820		
AS01384	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0923	ANAKLOWYCZ	-14.0	7/13/22 0820		
AC02094	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0923	ANAKLOWYCZ	-14.0	7/15/22 0241		
AC02515	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0923	ANAKLOWYCZ	-14.0	7/13/22 0820		
AS01388	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0923	ANAKLOWYCZ	-14.0	7/15/22 0242		
AS01627	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0923	ANAKLOWYCZ	-14.0	7/15/22 0242		
AS00827	7/11/22		Pass w/ Conditions	-14.3	7/11/22 0923	ANAKLOWYCZ	-14.0	7/15/22 0242		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 07\11\
Data File : 07112210.D
Acq On : 11 Jul 2022 5:26 pm
Operator : KM
Sample : 071122 AS00936 29621
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 12 07:37:48 2022
Quant Method : I:\MS21\Methods\F21061622A.M
Quant Title : EPA TO-15
QLast Update : Tue Jun 28 09:57:24 2022
Response via : Initial Calibration

RVT 7/12/22

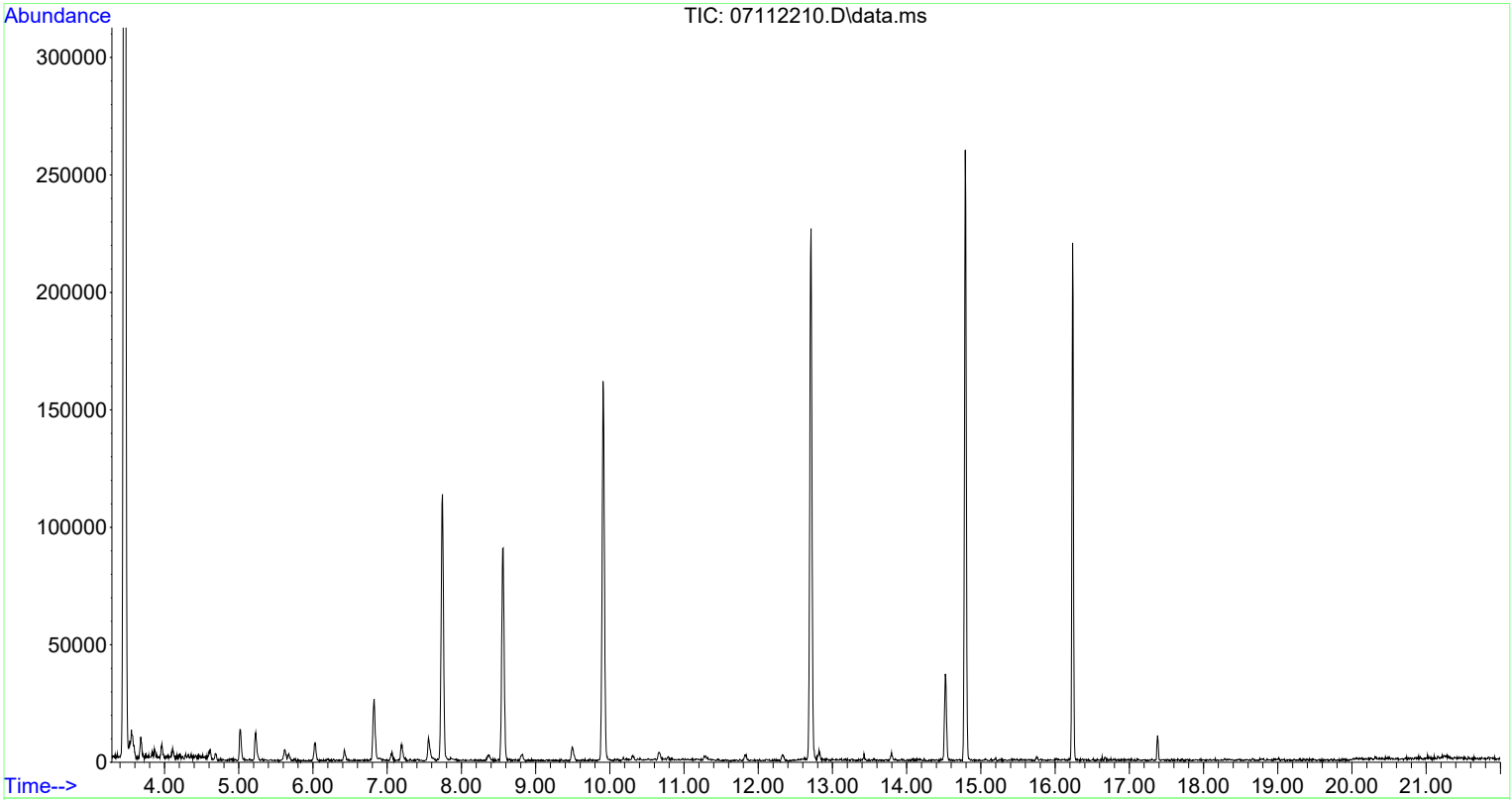
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.747	130	59165	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.912	114	172120	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.793	54	27463	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.560	65	82085	962.39	pg		0.00
Spiked Amount 1000.000			Recovery = 96.24%				
57) Toluene-d8 (SS2)	12.713	98	179109	1049.77	pg		0.00
Spiked Amount 1000.000			Recovery = 104.98%				
74) Bromofluorobenzene (SS3)	16.238	174	74107	1001.63	pg		0.00
Spiked Amount 1000.000			Recovery = 100.16%				
Target Compounds							Qvalue
10] * Ethanol	4.612	45	3157	70.295	pg		99
13] * Acetone	5.020	58	5100	114.683	pg		85
15] * 2-Propanol (Isopropa...	5.225	45	11994	98.763	pg	#	87
22] * Carbon Disulfide	6.026	76	12213	45.883	pg		100
27] * 2-Butanone (MEK)	7.199	72	2598	80.719	pg		89
53] * 4-Methyl-2-pentanone	11.826	58	706	20.770	pg		99
58] * Toluene	12.821	91	3088	17.804	pg		99

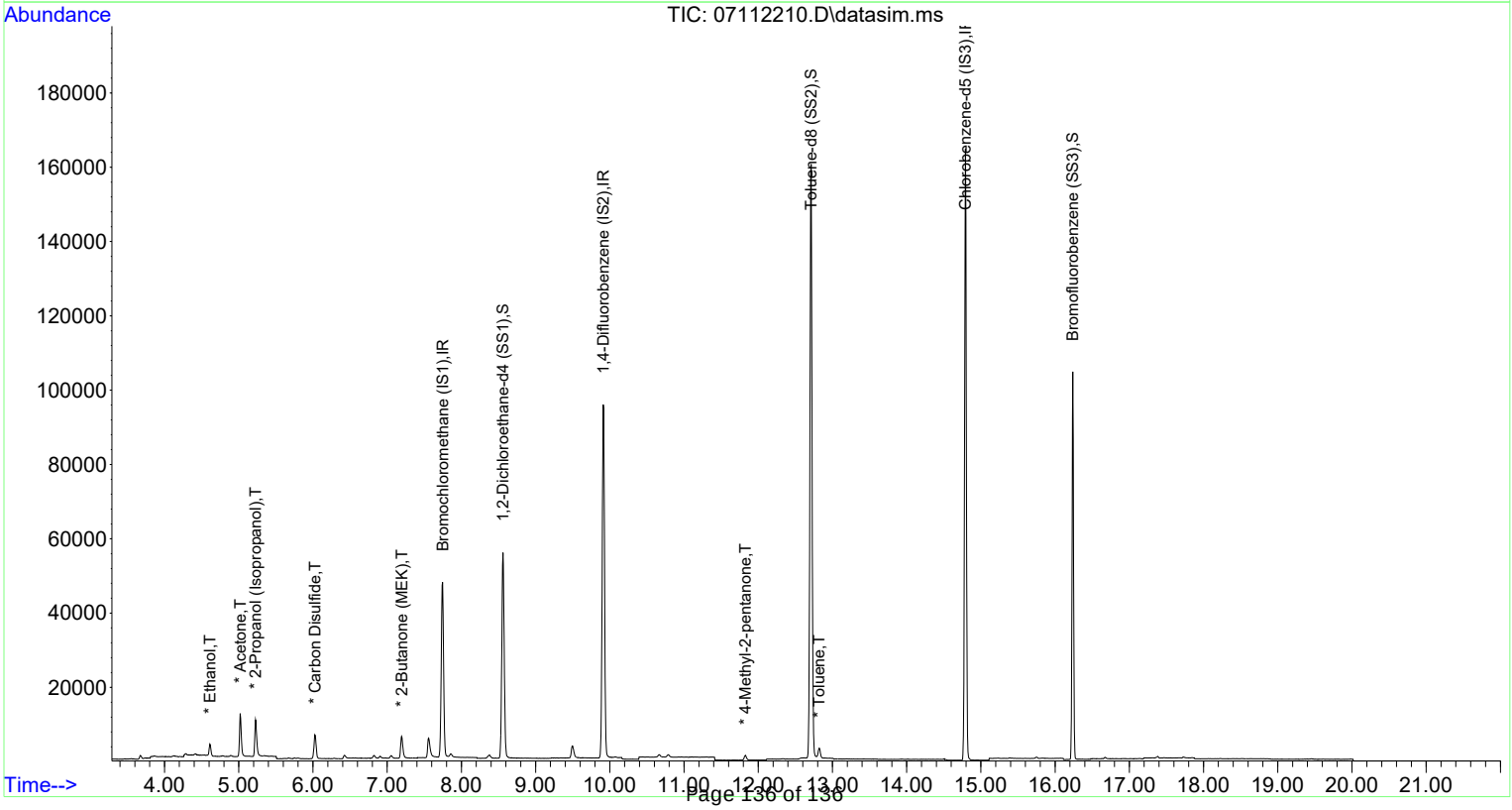
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 07\11\
Data File : 07112210.D
Acq On : 11 Jul 2022 5:26 pm
Operator : KM
Sample : 071122 AS00936 29621
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 12 07:37:48 2022
Quant Method : I:\MS21\Methods\F21061622A.M
Quant Title : EPA TO-15
QLast Update : Tue Jun 28 09:57:24 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

August 19, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on August 2, 2022. For your reference, these analyses have been assigned our service request number P2203366.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

By Sue Anderson at 5:13 pm, Aug 19, 2022

For Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2203366
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on August 2, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The upper control criterion was exceeded for Naphthalene in the Continuing Calibration Verification (CCV) analyzed on August 10, 2022. Since the apparent problem equates to a potential high bias and the field samples analyzed in this sequence did not contain the analyte in question, the data quality has not been affected. No corrective action was required.

The spike recovery of Trichloroethene for the LCS and DLCS analyzed on August 10, 2022 was outside the laboratory generated control criteria. The recovery error equates to a potential high bias. However, the spike recovery of the analyte in question was within the method criteria; therefore, the data quality has not been significantly affected.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2203366

Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 8/2/2022

Time Received: 13:23

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_080222_S	P2203366-001	Air	8/2/2022	11:00	AS01259	-2.03	3.68	X
DOE-2_080222_S	P2203366-002	Air	8/2/2022	11:15	AS01621	-0.43	3.77	X
DOE-3_080222_S	P2203366-003	Air	8/2/2022	11:30	AC02192	-2.41	3.98	X
DOE-4_080222_S	P2203366-004	Air	8/2/2022	11:45	AS01439	-2.90	3.84	X
DOE-4_080222_D	P2203366-005	Air	8/2/2022	11:46	AS00202	-2.57	3.67	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time In Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. R2203366

Company Name & Address (Reporting Information)	North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304
Project Manager	Trina Cesnik
Phone	805-587-0691
Fax	
Email Address for Result Reporting	cchristensen@northwindgrp.com; denise.gonzalez@northwindg
Project Name	DOE Perimeter Air
Project Number	080153.015.15
P.O. # / Billing Information	PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Sampler (Print & Sign)	T. Stewart Williford
ALS Contact:	Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_080222_S	1	8/2/2022	1100	AS01259	FCR00429	-28.0	-2.0		X		
DOE-2_080222_S	2	8/2/2022	1115	AS01621	FCR00346	-28.0	-1.0		X		
DOE-3_080222_S	3	8/2/2022	1130	AC02192	FCR00117	-28.0	-2.5		X		
DOE-4_080222_S	4	8/2/2022	1145	AS01439	FCR00208	-28.0	-4.0		X		
DOE-4_080222_D	X	8/2/2022	1146	AS00202	FCR00187	-29.5	-3.0		X		

Report Tier Levels - please select
Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) X Tier IV (Data Validation Package) 10% Surcharge X

EDD required Yes / No
Type: EQuIS Units:

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

	Date:	Time:		Date:	Time:
Relinquished by: (Signature) T. Stewart Williford	8/2/22	1329	Received by: (Signature)	8-2-22	1329
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2203366

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 8/2/22 Date opened: 8/2/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2203366-001.01	6.0 L Silonite Can					
P2203366-002.01	6.0 L Silonite Can					
P2203366-003.01	6.0 L Ambient Can					
P2203366-004.01	6.0 L Silonite Can					
P2203366-005.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_080222_S** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-001

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01259

Initial Pressure (psig): -2.03 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.7**	0.77	**0.34**	0.16	
74-87-3	Chloromethane	ND	0.74	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.78	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
107-02-8	Acrolein	ND	1.5	ND	0.63	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.82**	0.75	**0.15**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.59	
107-13-1	Acrylonitrile	ND	1.5	ND	0.67	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.75	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.77	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.3	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	**35**	3.0	**9.6**	0.85	
110-54-3	n-Hexane	ND	0.77	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_080222_S** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-001

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01259

Initial Pressure (psig): -2.03 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.78	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.77	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.75	ND	0.14	
71-43-2	Benzene	ND	0.73	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.73	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.73	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.77	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
142-82-5	n-Heptane	ND	0.77	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.73	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.74	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.75	ND	0.14	
108-88-3	Toluene	**1.7**	0.75	**0.45**	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.77	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.75	ND	0.098	
111-65-9	n-Octane	ND	0.77	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.75	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_080222_S** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-001

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01259

Initial Pressure (psig): -2.03 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.75	ND	0.073	
100-42-5	Styrene	ND	0.73	ND	0.17	
95-47-6	o-Xylene	ND	0.75	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.77	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.77	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.75	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.75	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.75	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.75	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.75	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.77	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.071	
104-51-8	n-Butylbenzene	ND	0.75	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.77	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_080222_S** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-002

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01621

Initial Pressure (psig): -0.43 Final Pressure (psig): 3.77

Canister Dilution Factor: 1.29

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.7**	0.68	**0.35**	0.14	
74-87-3	Chloromethane	ND	0.66	ND	0.32	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.70	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.67	ND	0.26	
106-99-0	1,3-Butadiene	ND	0.67	ND	0.30	
74-83-9	Bromomethane	ND	0.66	ND	0.17	
75-00-3	Chloroethane	ND	0.66	ND	0.25	
107-02-8	Acrolein	ND	1.3	ND	0.56	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.86**	0.67	**0.15**	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.3	ND	0.53	
107-13-1	Acrylonitrile	ND	1.3	ND	0.59	
75-35-4	1,1-Dichloroethene	ND	0.70	ND	0.18	
75-09-2	Methylene Chloride	ND	0.67	ND	0.19	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.70	ND	0.091	
75-15-0	Carbon Disulfide	ND	1.4	ND	0.46	
156-60-5	trans-1,2-Dichloroethene	ND	0.68	ND	0.17	
75-34-3	1,1-Dichloroethane	ND	0.68	ND	0.17	
1634-04-4	Methyl tert-Butyl Ether	ND	0.68	ND	0.19	
108-05-4	Vinyl Acetate	ND	6.5	ND	1.8	
78-93-3	2-Butanone (MEK)	ND	1.3	ND	0.44	
156-59-2	cis-1,2-Dichloroethene	ND	0.67	ND	0.17	
141-78-6	Ethyl Acetate	**33**	2.7	**9.1**	0.75	
110-54-3	n-Hexane	ND	0.68	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_080222_S** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-002

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01621

Initial Pressure (psig): -0.43 Final Pressure (psig): 3.77

Canister Dilution Factor: 1.29

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.70	ND	0.14	
109-99-9	Tetrahydrofuran (THF)	ND	1.3	ND	0.44	
107-06-2	1,2-Dichloroethane	ND	0.68	ND	0.17	
71-55-6	1,1,1-Trichloroethane	ND	0.67	ND	0.12	
71-43-2	Benzene	ND	0.65	ND	0.20	
56-23-5	Carbon Tetrachloride	ND	0.65	ND	0.10	
110-82-7	Cyclohexane	ND	1.4	ND	0.41	
78-87-5	1,2-Dichloropropane	ND	0.65	ND	0.14	
75-27-4	Bromodichloromethane	ND	0.68	ND	0.10	
79-01-6	Trichloroethene	ND	0.67	ND	0.12	
123-91-1	1,4-Dioxane	ND	0.67	ND	0.19	
142-82-5	n-Heptane	ND	0.68	ND	0.17	
10061-01-5	cis-1,3-Dichloropropene	ND	0.65	ND	0.14	
108-10-1	4-Methyl-2-pentanone	ND	1.4	ND	0.35	
10061-02-6	trans-1,3-Dichloropropene	ND	0.66	ND	0.14	
79-00-5	1,1,2-Trichloroethane	ND	0.67	ND	0.12	
108-88-3	Toluene	**1.3**	0.67	**0.34**	0.18	
591-78-6	2-Hexanone	ND	1.4	ND	0.35	
124-48-1	Dibromochloromethane	ND	0.68	ND	0.080	
106-93-4	1,2-Dibromoethane	ND	0.67	ND	0.087	
111-65-9	n-Octane	ND	0.68	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.67	ND	0.099	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_080222_S** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-002

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01621

Initial Pressure (psig): -0.43 Final Pressure (psig): 3.77

Canister Dilution Factor: 1.29

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.67	ND	0.15	
179601-23-1	m,p-Xylenes	ND	1.4	ND	0.33	
75-25-2	Bromoform	ND	0.67	ND	0.065	
100-42-5	Styrene	ND	0.65	ND	0.15	
95-47-6	o-Xylene	ND	0.67	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.67	ND	0.098	
98-82-8	Cumene	ND	0.67	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.68	ND	0.14	
622-96-8	4-Ethyltoluene	ND	0.68	ND	0.14	
108-67-8	1,3,5-Trimethylbenzene	ND	0.67	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.67	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.4	ND	0.27	
541-73-1	1,3-Dichlorobenzene	ND	0.67	ND	0.11	
106-46-7	1,4-Dichlorobenzene	ND	0.67	ND	0.11	
135-98-8	sec-Butylbenzene	ND	0.67	ND	0.12	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.67	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.68	ND	0.11	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ND	0.19	
91-20-3	Naphthalene	ND	0.67	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.67	ND	0.063	
104-51-8	n-Butylbenzene	ND	0.67	ND	0.12	
1330-20-7	Xylenes, Total	ND	0.68	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_080222_S** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-003

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02192

Initial Pressure (psig): -2.41 Final Pressure (psig): 3.98

Canister Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.7**	0.81	**0.34**	0.16	
74-87-3	Chloromethane	ND	0.78	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.82	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.79	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.79	ND	0.36	
74-83-9	Bromomethane	ND	0.78	ND	0.20	
75-00-3	Chloroethane	ND	0.78	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.66	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.83**	0.79	**0.15**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.62	
107-13-1	Acrylonitrile	ND	1.5	ND	0.70	
75-35-4	1,1-Dichloroethene	ND	0.82	ND	0.21	
75-09-2	Methylene Chloride	ND	0.79	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.81	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.81	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.81	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.6	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	
156-59-2	cis-1,2-Dichloroethene	ND	0.79	ND	0.20	
141-78-6	Ethyl Acetate	**22**	3.2	**6.0**	0.89	
110-54-3	n-Hexane	ND	0.81	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_080222_S** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-003

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02192

Initial Pressure (psig): -2.41 Final Pressure (psig): 3.98

Canister Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.82	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.52	
107-06-2	1,2-Dichloroethane	ND	0.81	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.79	ND	0.14	
71-43-2	Benzene	ND	0.76	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.76	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.76	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.81	ND	0.12	
79-01-6	Trichloroethene	ND	0.79	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.79	ND	0.22	
142-82-5	n-Heptane	ND	0.81	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.76	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.78	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.79	ND	0.14	
108-88-3	Toluene	**1.2**	0.79	**0.33**	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.81	ND	0.095	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
111-65-9	n-Octane	ND	0.81	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.79	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_080222_S** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-003

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02192

Initial Pressure (psig): -2.41 Final Pressure (psig): 3.98

Canister Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.79	ND	0.076	
100-42-5	Styrene	ND	0.76	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.79	ND	0.12	
98-82-8	Cumene	ND	0.79	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.81	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.81	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.79	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.79	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.79	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.81	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.79	ND	0.074	
104-51-8	n-Butylbenzene	ND	0.79	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.81	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_080222_S** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-004

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01439

Initial Pressure (psig): -2.90 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.7**	0.83	**0.33**	0.17	
74-87-3	Chloromethane	ND	0.80	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.85	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.82	ND	0.37	
74-83-9	Bromomethane	ND	0.80	ND	0.21	
75-00-3	Chloroethane	ND	0.80	ND	0.30	
107-02-8	Acrolein	ND	1.6	ND	0.69	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.84**	0.82	**0.15**	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.64	
107-13-1	Acrylonitrile	ND	1.6	ND	0.72	
75-35-4	1,1-Dichloroethene	ND	0.85	ND	0.21	
75-09-2	Methylene Chloride	ND	0.82	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.85	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.55	
156-60-5	trans-1,2-Dichloroethene	ND	0.83	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.83	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.83	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.9	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.53	
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
141-78-6	Ethyl Acetate	**12**	3.3	**3.4**	0.92	
110-54-3	n-Hexane	ND	0.83	ND	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_080222_S** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-004

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01439

Initial Pressure (psig): -2.90 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.85	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.53	
107-06-2	1,2-Dichloroethane	ND	0.83	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.82	ND	0.15	
71-43-2	Benzene	ND	0.79	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.79	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.50	
78-87-5	1,2-Dichloropropane	ND	0.79	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.83	ND	0.12	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.82	ND	0.23	
142-82-5	n-Heptane	ND	0.83	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.79	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.42	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.82	ND	0.15	
108-88-3	Toluene	ND	0.82	ND	0.22	
591-78-6	2-Hexanone	ND	1.7	ND	0.42	
124-48-1	Dibromochloromethane	ND	0.83	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.82	ND	0.11	
111-65-9	n-Octane	ND	0.83	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.82	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_080222_S** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-004

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01439

Initial Pressure (psig): -2.90 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.82	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.40	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.79	ND	0.18	
95-47-6	o-Xylene	ND	0.82	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
98-82-8	Cumene	ND	0.82	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.83	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.83	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.82	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.82	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.82	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.82	ND	0.14	
135-98-8	sec-Butylbenzene	ND	0.82	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.82	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.83	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.82	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.82	ND	0.077	
104-51-8	n-Butylbenzene	ND	0.82	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.83	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_080222_D** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-005

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00202

Initial Pressure (psig): -2.57 Final Pressure (psig): 3.67

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.7**	0.80	**0.34**	0.16	
74-87-3	Chloromethane	ND	0.77	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.82	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.79	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.79	ND	0.36	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.77	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.66	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.85**	0.79	**0.15**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.70	
75-35-4	1,1-Dichloroethene	ND	0.82	ND	0.21	
75-09-2	Methylene Chloride	ND	0.79	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.6	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	0.79	ND	0.20	
141-78-6	Ethyl Acetate	**19**	3.2	**5.2**	0.88	
110-54-3	n-Hexane	ND	0.80	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_080222_D** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-005

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00202

Initial Pressure (psig): -2.57 Final Pressure (psig): 3.67

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.82	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.79	ND	0.14	
71-43-2	Benzene	ND	0.76	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.76	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	0.76	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.79	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.79	ND	0.22	
142-82-5	n-Heptane	ND	0.80	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.76	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.79	ND	0.14	
108-88-3	Toluene	**1.3**	0.79	**0.33**	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.094	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.79	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_080222_D** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203366-005

Test Code: EPA TO-15 Date Collected: 8/2/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 8/2/22
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00202

Initial Pressure (psig): -2.57 Final Pressure (psig): 3.67

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.38	
75-25-2	Bromoform	ND	0.79	ND	0.076	
100-42-5	Styrene	ND	0.76	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.79	ND	0.11	
98-82-8	Cumene	ND	0.79	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.79	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.79	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.79	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.22	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.79	ND	0.074	
104-51-8	n-Butylbenzene	ND	0.79	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.80	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220809-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 8/9/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220809-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 8/9/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220809-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 8/9/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2203366

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 8/2/22
Analyst: Simon Cao Date(s) Received: 8/2/22
Sample Type: 6.0 L Silonite Canister(s) Date(s) Analyzed: 8/9 - 8/10/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220809-MB	**94**	**98**	**110**	70-130	
Lab Control Sample	P220809-LCS	**93**	**97**	**110**	70-130	
Duplicate Lab Control Sample	P220809-DLCS	**92**	**98**	**112**	70-130	
DOE-1_080222_S	P2203366-001	**94**	**99**	**104**	70-130	
DOE-2_080222_S	P2203366-002	**95**	**100**	**105**	70-130	
DOE-3_080222_S	P2203366-003	**94**	**99**	**106**	70-130	
DOE-4_080222_S	P2203366-004	**94**	**99**	**106**	70-130	
DOE-4_080222_D	P2203366-005	**94**	**99**	**105**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220809-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	41.6	43.4	43.4	**104**	**104**	71-112	0	25	
74-87-3	Chloromethane	41.2	38.1	38.0	**92**	**92**	53-126	0	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	41.6	48.1	47.2	**116**	**113**	62-121	3	25	
75-01-4	Vinyl Chloride	41.6	47.4	47.9	**114**	**115**	63-123	0.9	25	
106-99-0	1,3-Butadiene	41.2	52.5	52.0	**127**	**126**	63-135	0.8	25	
74-83-9	Bromomethane	41.2	39.9	39.8	**97**	**97**	71-112	0	25	
75-00-3	Chloroethane	41.2	35.4	34.7	**86**	**84**	66-117	2	25	
107-02-8	Acrolein	83.2	73.2	73.4	**88**	**88**	71-123	0	25	
75-69-4	Trichlorofluoromethane (CFC 11)	40.4	42.5	42.2	**105**	**104**	71-114	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	80.0	84.0	83.8	**105**	**105**	61-124	0	25	
107-13-1	Acrylonitrile	80.4	74.7	74.6	**93**	**93**	65-130	0	25	
75-35-4	1,1-Dichloroethene	42.0	44.6	44.1	**106**	**105**	74-114	0.9	25	
75-09-2	Methylene Chloride	41.6	38.9	39.4	**94**	**95**	75-112	1	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	43.2	46.2	46.4	**107**	**107**	73-114	0	25	
75-15-0	Carbon Disulfide	82.8	74.1	73.8	**89**	**89**	70-113	0	25	
156-60-5	trans-1,2-Dichloroethene	41.6	40.7	40.6	**98**	**98**	76-119	0	25	
75-34-3	1,1-Dichloroethane	42.8	39.9	39.8	**93**	**93**	70-114	0	25	
1634-04-4	Methyl tert-Butyl Ether	41.2	42.5	42.7	**103**	**104**	72-118	1	25	
108-05-4	Vinyl Acetate	188	233	233	**124**	**124**	56-137	0	25	
78-93-3	2-Butanone (MEK)	81.6	76.3	76.0	**94**	**93**	74-121	1	25	
156-59-2	cis-1,2-Dichloroethene	41.2	39.8	39.7	**97**	**96**	73-117	1	25	
141-78-6	Ethyl Acetate	116	104	104	**90**	**90**	59-161	0	25	
110-54-3	n-Hexane	41.6	38.8	38.5	**93**	**93**	55-130	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220809-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	42.0	41.8	41.9	**100**	**100**	71-114	0	25	
109-99-9	Tetrahydrofuran (THF)	80.8	77.6	78.0	**96**	**97**	73-114	1	25	
107-06-2	1,2-Dichloroethane	42.0	44.8	44.5	**107**	**106**	71-119	0.9	25	
71-55-6	1,1,1-Trichloroethane	41.6	45.9	46.3	**110**	**111**	73-119	0.9	25	
71-43-2	Benzene	41.6	41.7	41.9	**100**	**101**	72-113	1	25	
56-23-5	Carbon Tetrachloride	40.4	46.9	47.6	**116**	**118**	67-123	2	25	
110-82-7	Cyclohexane	82.4	85.9	87.2	**104**	**106**	70-119	2	25	
78-87-5	1,2-Dichloropropane	41.2	37.8	38.0	**92**	**92**	70-118	0	25	
75-27-4	Bromodichloromethane	41.6	43.8	44.2	**105**	**106**	74-119	0.9	25	
79-01-6	Trichloroethene	40.8	51.4	52.3	**126**	**128**	74-115	2	25	**L**
123-91-1	1,4-Dioxane	41.2	50.0	50.9	**121**	**124**	77-124	2	25	
142-82-5	n-Heptane	41.2	40.9	40.9	**99**	**99**	70-119	0	25	
10061-01-5	cis-1,3-Dichloropropene	41.6	44.1	44.2	**106**	**106**	81-126	0	25	
108-10-1	4-Methyl-2-pentanone	82.4	82.7	84.6	**100**	**103**	73-129	3	25	
10061-02-6	trans-1,3-Dichloropropene	40.0	42.4	42.5	**106**	**106**	80-127	0	25	
79-00-5	1,1,2-Trichloroethane	41.6	43.5	43.6	**105**	**105**	78-117	0	25	
108-88-3	Toluene	41.2	43.1	44.4	**105**	**108**	70-118	3	25	
591-78-6	2-Hexanone	81.2	82.2	84.9	**101**	**105**	74-132	4	25	
124-48-1	Dibromochloromethane	42.0	48.9	49.7	**116**	**118**	69-137	2	25	
106-93-4	1,2-Dibromoethane	41.6	43.0	43.9	**103**	**106**	76-128	3	25	
111-65-9	n-Octane	41.6	40.8	42.4	**98**	**102**	68-120	4	25	
127-18-4	Tetrachloroethene	42.4	46.9	47.9	**111**	**113**	63-130	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2203366
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220809-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 8/10/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	41.2	44.8	45.9	**109**	**111**	71-123	2	25	
179601-23-1	m,p-Xylenes	83.2	90.4	91.6	**109**	**110**	67-127	0.9	25	
75-25-2	Bromoform	42.0	48.7	49.5	**116**	**118**	65-149	2	25	
100-42-5	Styrene	40.4	44.1	45.4	**109**	**112**	76-132	3	25	
95-47-6	o-Xylene	41.6	46.3	47.2	**111**	**113**	69-124	2	25	
79-34-5	1,1,2,2-Tetrachloroethane	41.6	39.2	39.9	**94**	**96**	69-128	2	25	
98-82-8	Cumene	41.2	46.0	47.3	**112**	**115**	69-125	3	25	
103-65-1	n-Propylbenzene	41.6	44.8	45.9	**108**	**110**	70-127	2	25	
622-96-8	4-Ethyltoluene	41.6	46.6	47.2	**112**	**113**	69-127	0.9	25	
108-67-8	1,3,5-Trimethylbenzene	41.6	48.1	49.0	**116**	**118**	66-129	2	25	
95-63-6	1,2,4-Trimethylbenzene	41.2	48.0	48.5	**117**	**118**	63-142	0.9	25	
100-44-7	Benzyl Chloride	83.2	86.1	90.5	**103**	**109**	73-145	6	25	
541-73-1	1,3-Dichlorobenzene	41.6	44.7	45.4	**107**	**109**	67-136	2	25	
106-46-7	1,4-Dichlorobenzene	42.0	42.2	42.9	**100**	**102**	63-134	2	25	
135-98-8	sec-Butylbenzene	40.8	45.3	46.1	**111**	**113**	68-130	2	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	41.2	50.0	50.7	**121**	**123**	60-139	2	25	
95-50-1	1,2-Dichlorobenzene	42.0	46.6	46.8	**111**	**111**	64-139	0	25	
120-82-1	1,2,4-Trichlorobenzene	84.0	78.2	79.8	**93**	**95**	62-154	2	25	
91-20-3	Naphthalene	42.0	37.2	38.4	**89**	**91**	62-156	2	25	
87-68-3	Hexachlorobutadiene	42.4	47.0	48.0	**111**	**113**	55-142	2	25	
104-51-8	n-Butylbenzene	41.6	45.4	46.1	**109**	**111**	70-131	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2203366

Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 08102201.D

Analyst: Simon Cao Date Analyzed: 8/9/22

Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 22:04

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	151026	7.21	615797	9.28	128519	14.81
	Upper Limit	211436	7.54	862116	9.61	179927	15.14
	Lower Limit	90616	6.88	369478	8.95	77111	14.48
	Client Sample ID						
01	Method Blank	134395	7.20	553050	9.26	116492	14.81
02	Lab Control Sample	138575	7.21	561939	9.27	119608	14.81
03	Duplicate Lab Control Sample	139963	7.21	563385	9.28	118144	14.81
04	DOE-1_080222_S	141560	7.20	570259	9.27	116540	14.81
05	DOE-2_080222_S	128992	7.21	529642	9.27	107020	14.81
06	DOE-3_080222_S	128621	7.20	526243	9.27	107840	14.81
07	DOE-4_080222_S	129428	7.20	529887	9.27	108678	14.81
08	DOE-4_080222_D	128497	7.20	522454	9.27	107388	14.81
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102208.D Vial: 12
Acq On : 10 Aug 2022 9:08 Operator: SC
Sample : P2203366-001 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 09:44:47 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	141560	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	570259	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	116540	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	279099	11.751	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
57) Toluene-d8 (SS2)	12.39	98	604588	12.361	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
73) Bromofluorobenzene (SS3)	16.79	174	257237	13.019	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
Target Compounds							Qvalue
2) Propene	3.28	42	2801	N.D.			
3) Dichlorodifluoromethan...	3.35	85	38289	1.144	ng		100
4) Chloromethane	3.50	50	1983	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	790	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	53209	5.941	ng		100
11) Acetonitrile	4.42	41	1440	N.D.			
12) Acrolein	4.51	56	567	N.D.			
13) Acetone	4.61	58	18698	2.232	ng	#	76
14) Trichlorofluoromethane	4.73	101	19061	0.565	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	5731	N.D.			
16) Acrylonitrile	5.10	53	4825	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	106	N.D.			
19) Methylene Chloride	5.33	84	1214	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3859	N.D.			
22) Carbon Disulfide	5.59	76	3399	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.65	72	1502	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d			
29) Diisopropyl Ether	7.25	87	1194	N.D.			
30) Ethyl Acetate	7.25	61	115623	23.968	ng		97
31) n-Hexane	7.27	57	984	N.D.			
32) Chloroform	7.33	83	848	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.27	61	19437	No Calib			
40) 1-Butanol	9.17	56	208	No Calib			
41) Benzene	8.86	78	7169	N.D.			
42) Carbon Tetrachloride	9.03	117	5840	N.D.			
43) Cyclohexane	9.17	84	106	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.12	130	610	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.19	57	3439	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102208.D Vial: 12
Acq On : 10 Aug 2022 9:08 Operator: SC
Sample : P2203366-001 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 09:44:47 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

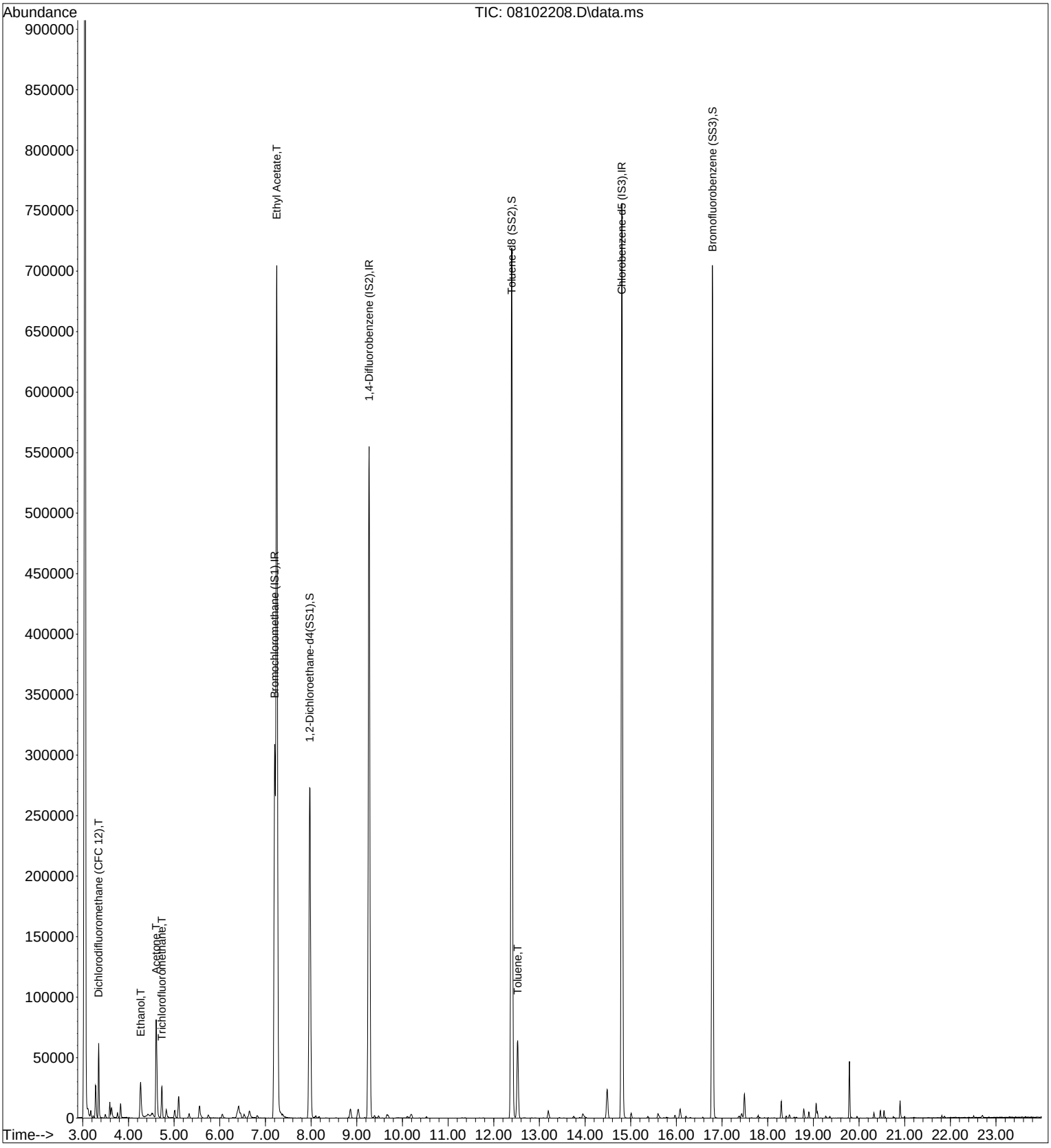
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	124	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	57352	1.165 ng	99
59) 2-Hexanone	12.90	43	351	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.75	43	1740	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.37	91	1722	N.D.	
67) m- & p-Xylenes	15.61	91	4520	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	1637	N.D.	
70) o-Xylene	16.21	91	1598	N.D.	
71) n-Nonane	16.58	43	484	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	197	N.D.	
75) alpha-Pinene	17.49	93	8324	N.D.	
76) n-Propylbenzene	17.65	91	494	N.D.	
77) 3-Ethyltoluene	16.79	105	197	No Calib	#
78) 4-Ethyltoluene	17.83	105	574	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	320	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.49	105	1128	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	1578	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.64	146	277	N.D.	
86) 1,4-Dichlorobenzene	18.64	146	277	N.D.	
87) sec-Butylbenzene	18.88	105	446	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	3137	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	1578	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	2106	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	1149	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.79	55	404	No Calib	#
99) tert-Butylbenzene	18.40	119	114	N.D.	
100) n-Butylbenzene	19.36	91	485	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102208.D Vial: 12
Acq On : 10 Aug 2022 9:08 Operator: SC
Sample : P2203366-001 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 09:44:47 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102208.D Vial: 12
Acq On : 10 Aug 2022 9:08 Operator: SC
Sample : P2203366-001 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 09:44:47 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/10/22

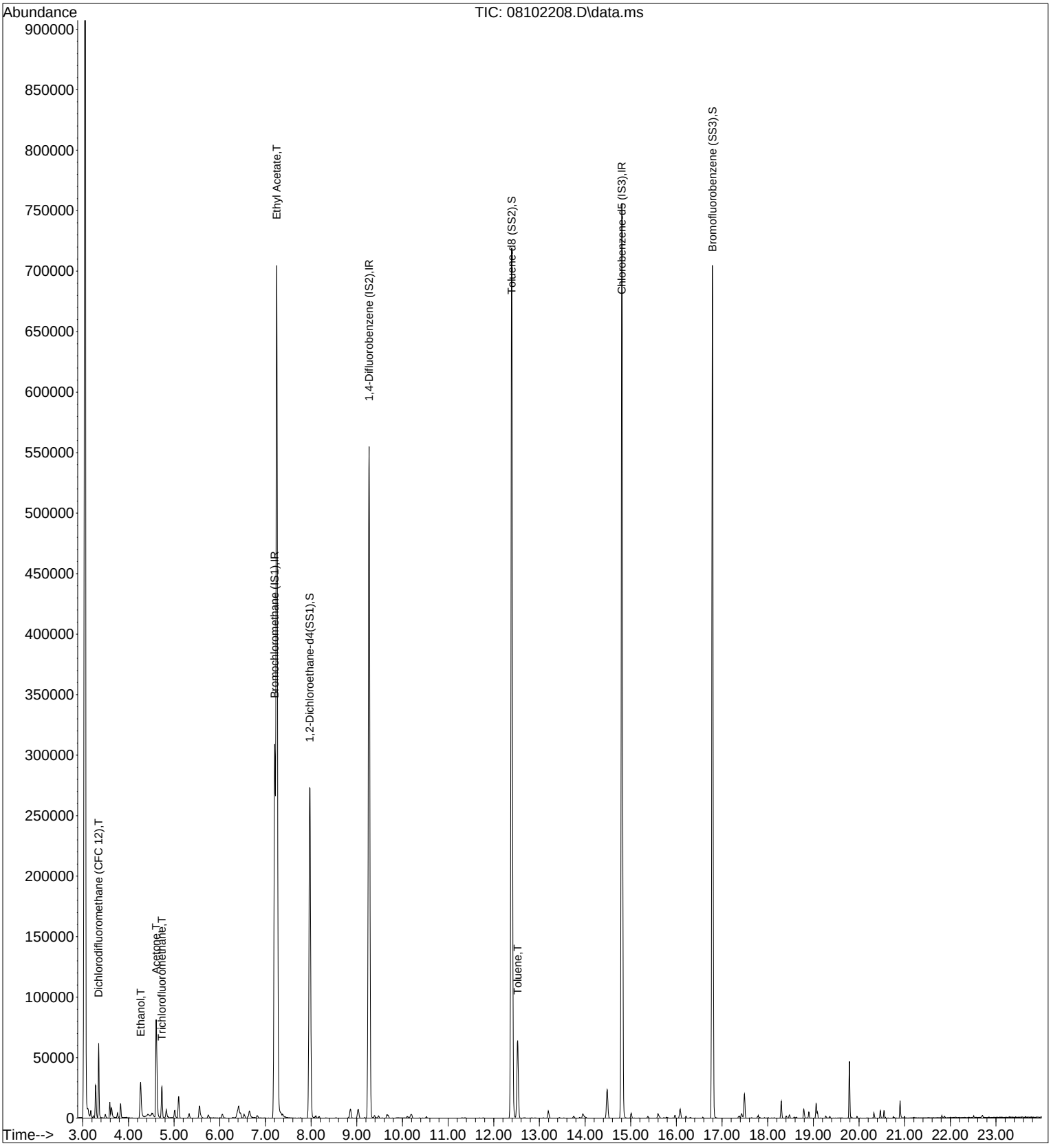
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	141560	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	570259	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	116540	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	279099	11.751	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
57) Toluene-d8 (SS2)	12.39	98	604588	12.361	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
73) Bromofluorobenzene (SS3)	16.79	174	257237	13.019	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	38289	1.144	ng		100
10) Ethanol	4.27	45	53209	5.941	ng		100
13) Acetone	4.61	58	18698	2.232	ng	#	76
14) Trichlorofluoromethane	4.73	101	19061	0.565	ng		100
30) Ethyl Acetate	7.25	61	115623	23.968	ng		97
58) Toluene	12.52	91	57352	1.165	ng		99

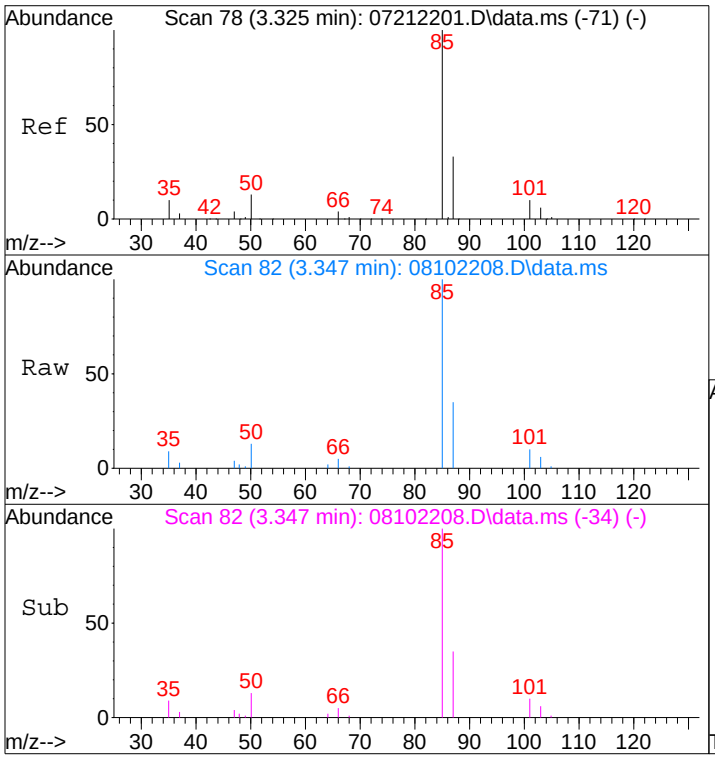
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102208.D Vial: 12
Acq On : 10 Aug 2022 9:08 Operator: SC
Sample : P2203366-001 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 09:44:47 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

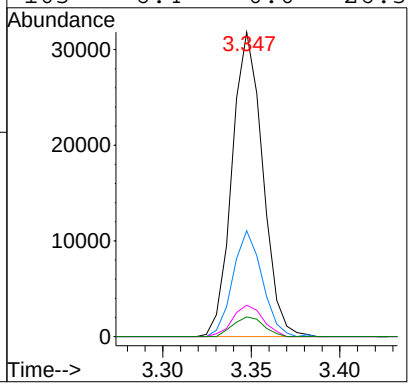


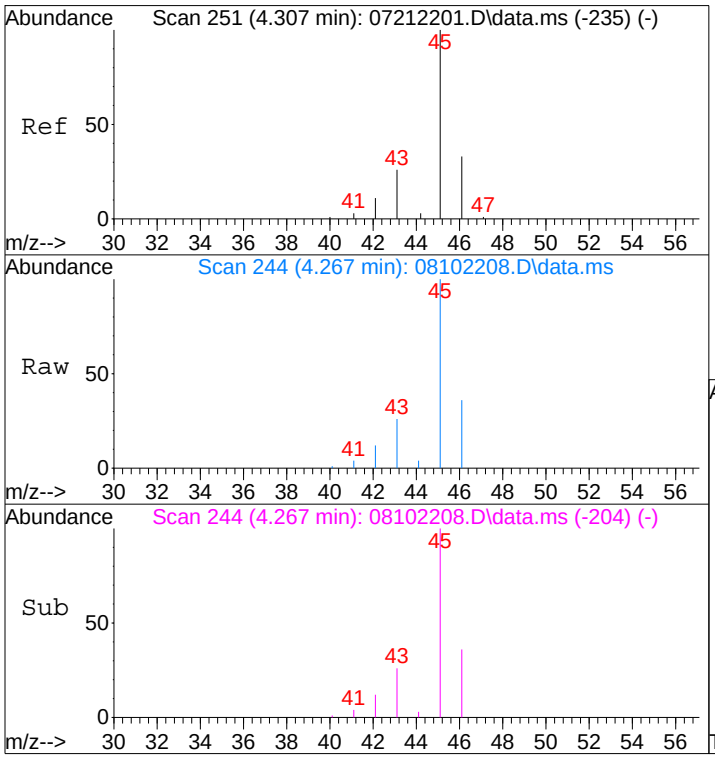


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.14 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.023 min
Lab File: 08102208.D
Acq: 10 Aug 2022 9:08

Tgt Ion: 85 Resp: 38289

Ion	Ratio	Lower	Upper
85	100		
87	33.4	13.1	53.1
101	10.3	0.0	30.1
103	6.4	0.0	26.3

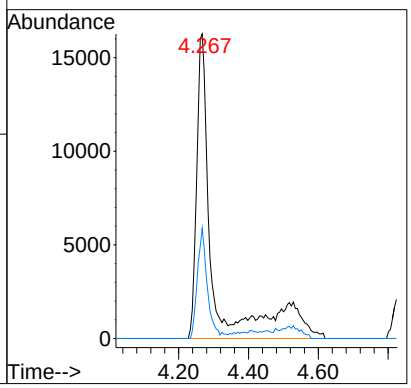


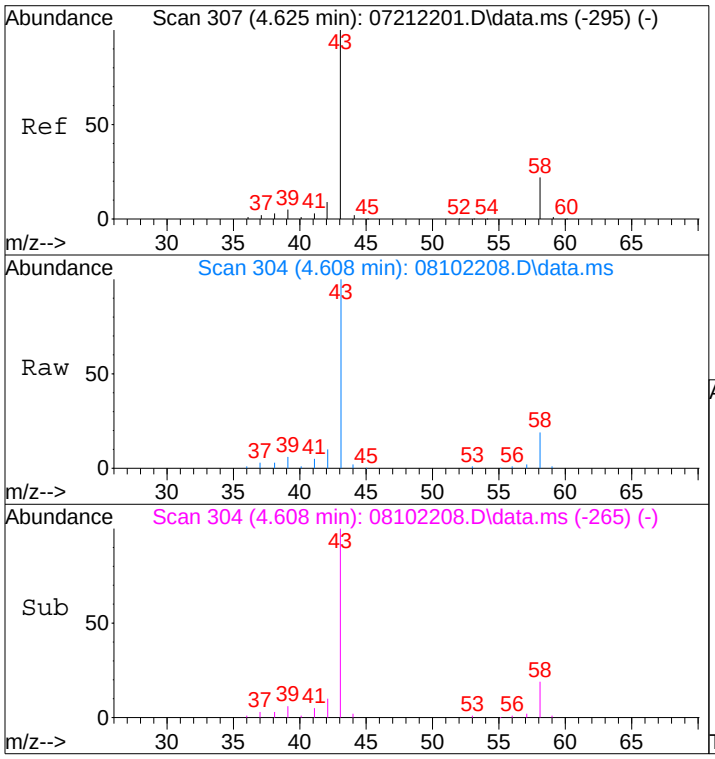


#10
Ethanol
Concen: 5.94 ng
RT: 4.27 min Scan# 244
Delta R.T. -0.024 min
Lab File: 08102208.D
Acq: 10 Aug 2022 9:08

Tgt Ion: 45 Resp: 53209

Ion	Ratio	Lower	Upper
45	100		
46	32.5	12.6	52.6

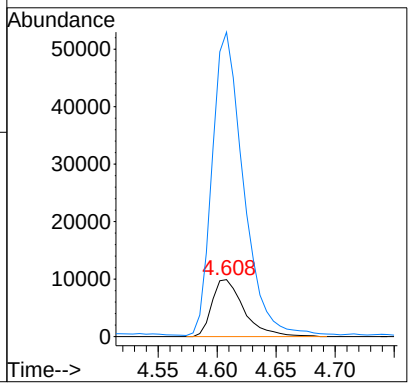


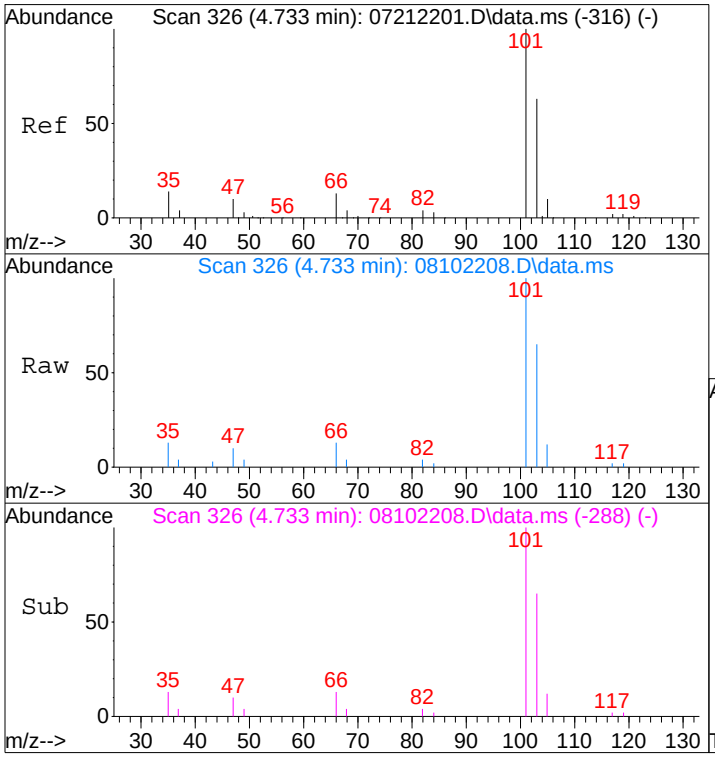


#13
Acetone
Concen: 2.23 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.031 min
Lab File: 08102208.D
Acq: 10 Aug 2022 9:08

Tgt Ion: 58 Resp: 18698

Ion	Ratio	Lower	Upper
58	100		
43	516.5	424.6	484.6#

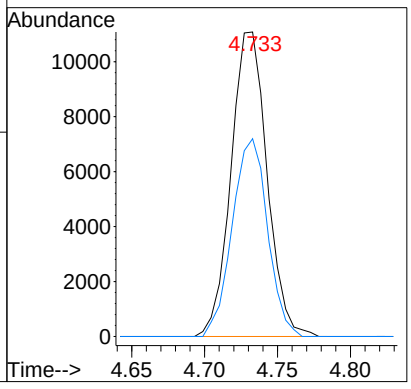


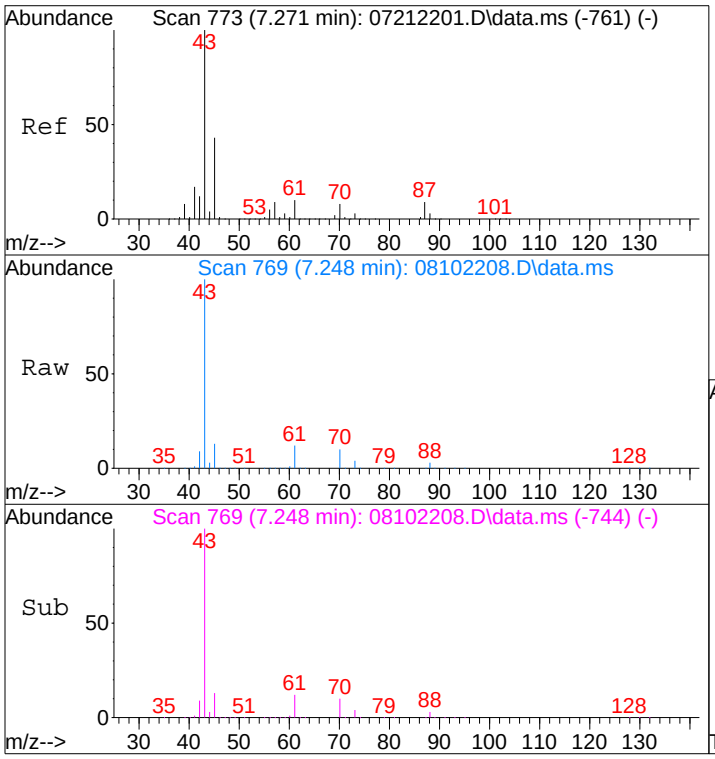


#14
Trichlorofluoromethane
Concen: 0.56 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.032 min
Lab File: 08102208.D
Acq: 10 Aug 2022 9:08

Tgt Ion:101 Resp: 19061

Ion	Ratio	Lower	Upper
101	100		
103	63.6	43.7	83.7

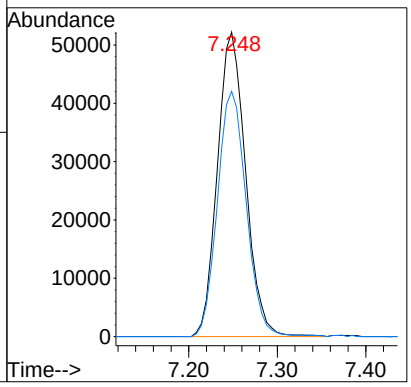


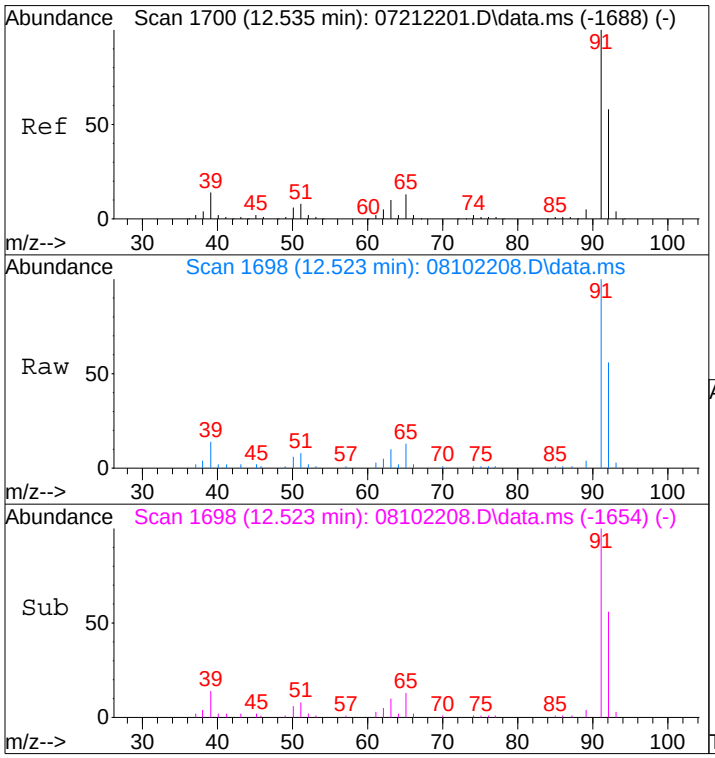


#30
Ethyl Acetate
Concen: 23.97 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.057 min
Lab File: 08102208.D
Acq: 10 Aug 2022 9:08

Tgt Ion: 61 Resp: 115623

Ion	Ratio	Lower	Upper
61	100		
70	82.4	59.3	99.3

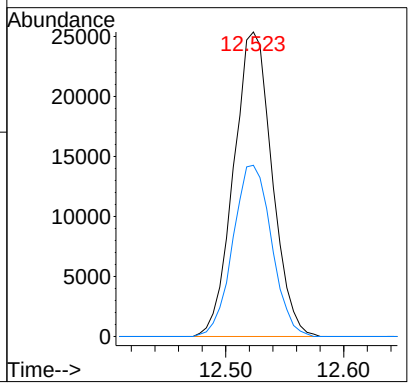




#58
Toluene
Concen: 1.17 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.000 min
Lab File: 08102208.D
Acq: 10 Aug 2022 9:08

Tgt Ion: 91 Resp: 57352

Ion	Ratio	Lower	Upper
91	100		
92	56.6	37.2	77.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102209.D Vial: 13
Acq On : 10 Aug 2022 9:40 Operator: SC
Sample : P2203366-002 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 10:02:08 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	128992	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	529642	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	107020	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	256114	11.833	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
57) Toluene-d8 (SS2)	12.39	98	559121	12.448	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
73) Bromofluorobenzene (SS3)	16.79	174	238885	13.165	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
2) Propene	3.28	42	2152	N.D.			
3) Dichlorodifluoromethan...	3.35	85	40539	1.329	ng		99
4) Chloromethane	3.50	50	2145	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	880	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	45133	5.530	ng		100
11) Acetonitrile	4.43	41	1389	N.D.			
12) Acrolein	4.51	56	426	N.D.			
13) Acetone	4.61	58	19947	2.613	ng	#	71
14) Trichlorofluoromethane	4.73	101	20477	0.666	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	4035	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.32	59	134	N.D.			
19) Methylene Chloride	5.34	84	1137	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3563	N.D.			
22) Carbon Disulfide	5.59	76	5973	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.65	72	1681	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d		
29) Diisopropyl Ether	7.24	87	1910	N.D.			
30) Ethyl Acetate	7.25	61	111666	25.403	ng		96
31) n-Hexane	7.27	57	930	N.D.			
32) Chloroform	7.33	83	882	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.27	61	17770	No Calib			
40) 1-Butanol	9.17	56	107	No Calib		#	
41) Benzene	8.87	78	6443	N.D.			
42) Carbon Tetrachloride	9.04	117	6254	N.D.			
43) Cyclohexane	9.27	84	394	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	2720	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102209.D Vial: 13
Acq On : 10 Aug 2022 9:40 Operator: SC
Sample : P2203366-002 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 10:02:08 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

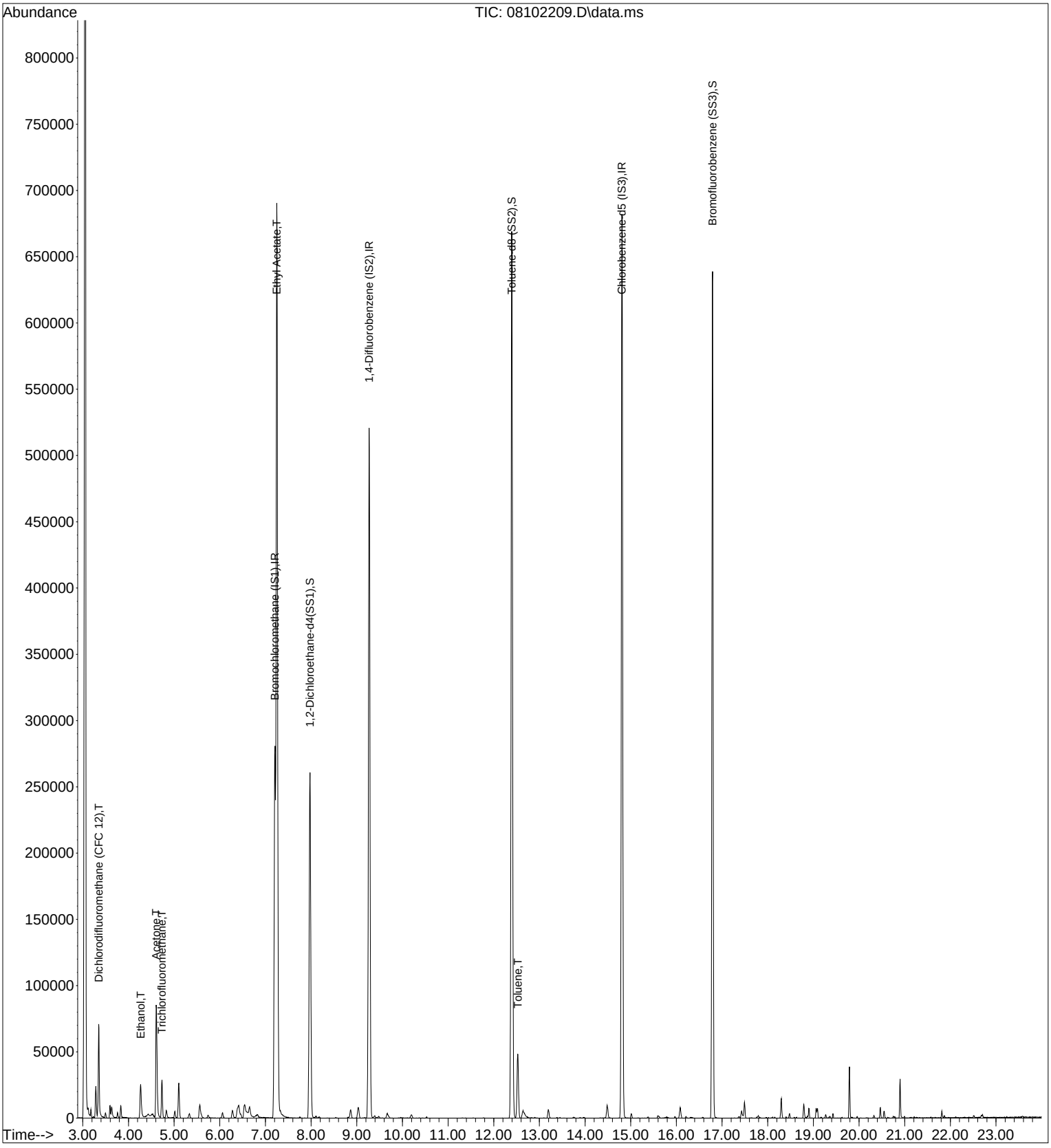
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	119	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.53	91	44908	0.994 ng	99
59) 2-Hexanone	12.90	43	851	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.76	43	1507	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.38	91	1260	N.D.	
67) m- & p-Xylenes	15.60	91	2805	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	1508	N.D.	
70) o-Xylene	16.21	91	1191	N.D.	
71) n-Nonane	16.57	43	506	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	248	N.D.	
75) alpha-Pinene	17.49	93	5128	N.D.	
76) n-Propylbenzene	17.65	91	311	N.D.	
77) 3-Ethyltoluene	16.79	105	248	No Calib	#
78) 4-Ethyltoluene	17.84	105	362	N.D.	
79) 1,3,5-Trimethylbenzene	17.84	105	362	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.49	105	714	No Calib	#
82) 1,2,4-Trimethylbenzene	18.40	105	946	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	292	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	292	N.D.	
87) sec-Butylbenzene	18.90	105	353	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	4409	N.D.	
89) 1,2,3-Trimethylbenzene	18.40	105	946	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	1606	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	912	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.78	55	426	No Calib	#
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	19.37	91	370	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102209.D Vial: 13
Acq On : 10 Aug 2022 9:40 Operator: SC
Sample : P2203366-002 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 10:02:08 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102209.D Vial: 13
Acq On : 10 Aug 2022 9:40 Operator: SC
Sample : P2203366-002 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 10:02:08 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/10/22

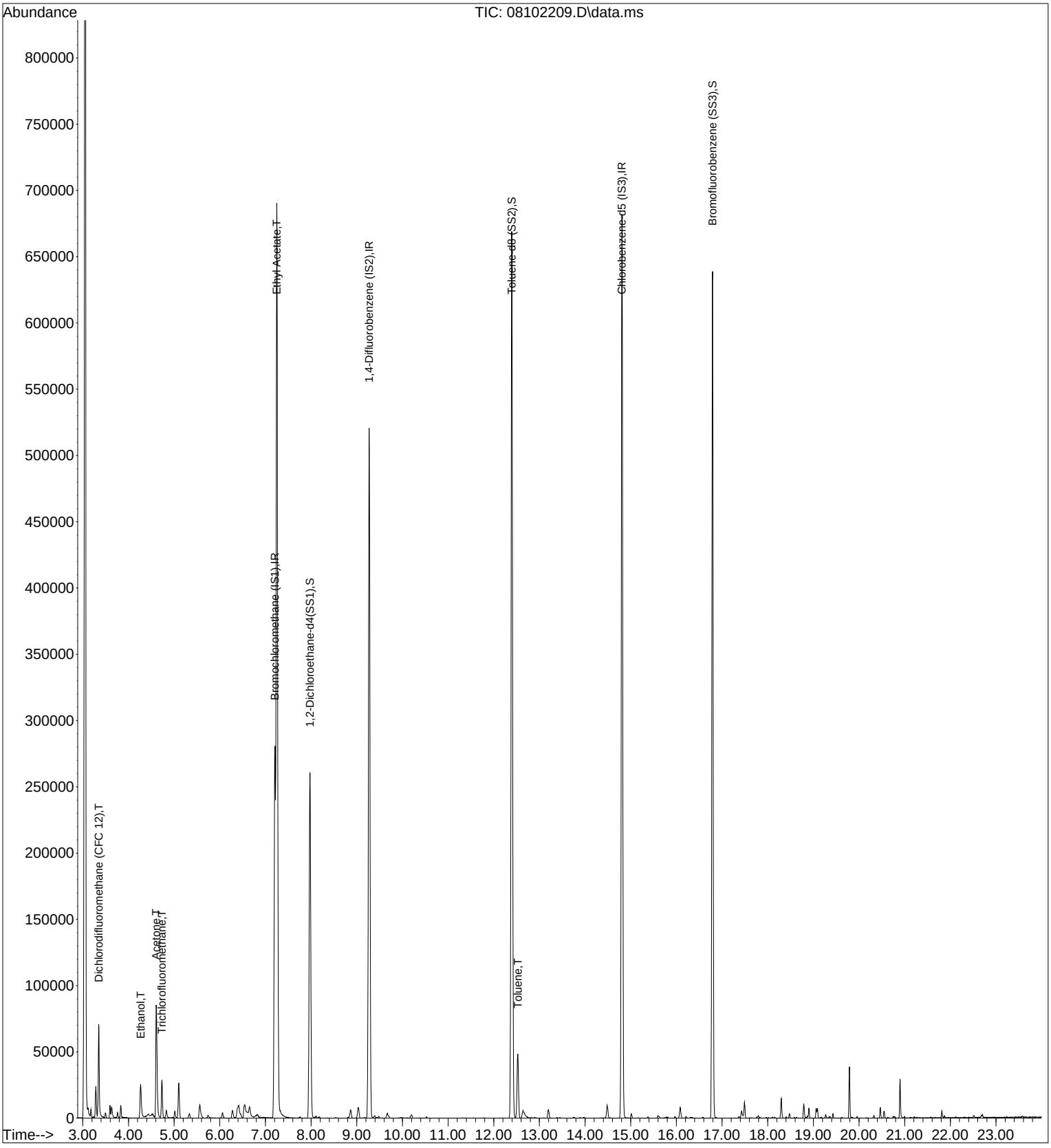
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	128992	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	529642	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	107020	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	256114	11.833	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
57) Toluene-d8 (SS2)	12.39	98	559121	12.448	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
73) Bromofluorobenzene (SS3)	16.79	174	238885	13.165	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	40539	1.329	ng		99
10) Ethanol	4.27	45	45133	5.530	ng		100
13) Acetone	4.61	58	19947	2.613	ng	#	71
14) Trichlorofluoromethane	4.73	101	20477	0.666	ng		100
30) Ethyl Acetate	7.25	61	111666	25.403	ng		96
58) Toluene	12.53	91	44908	0.994	ng		99

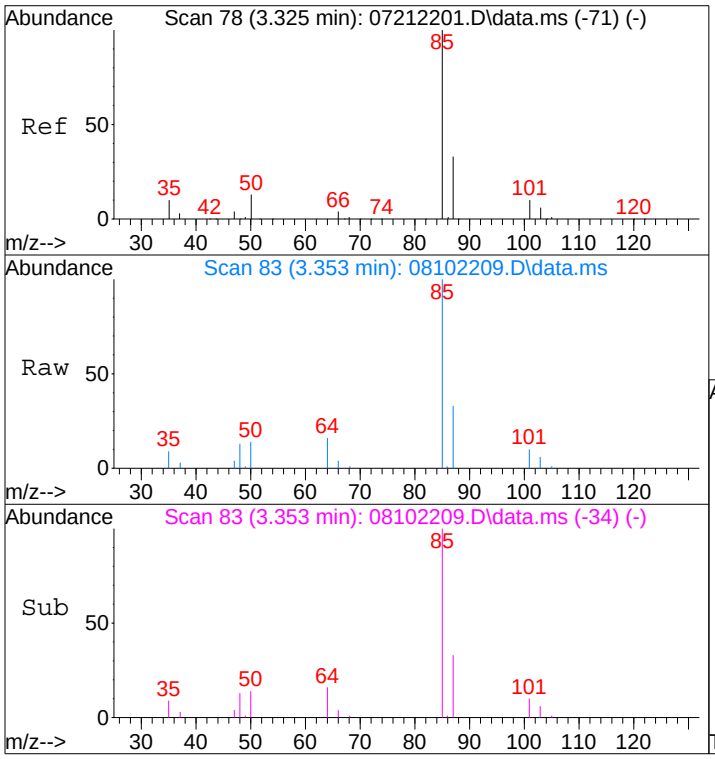
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102209.D Vial: 13
Acq On : 10 Aug 2022 9:40 Operator: SC
Sample : P2203366-002 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 10:02:08 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

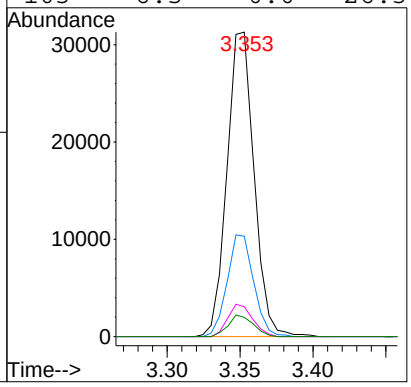


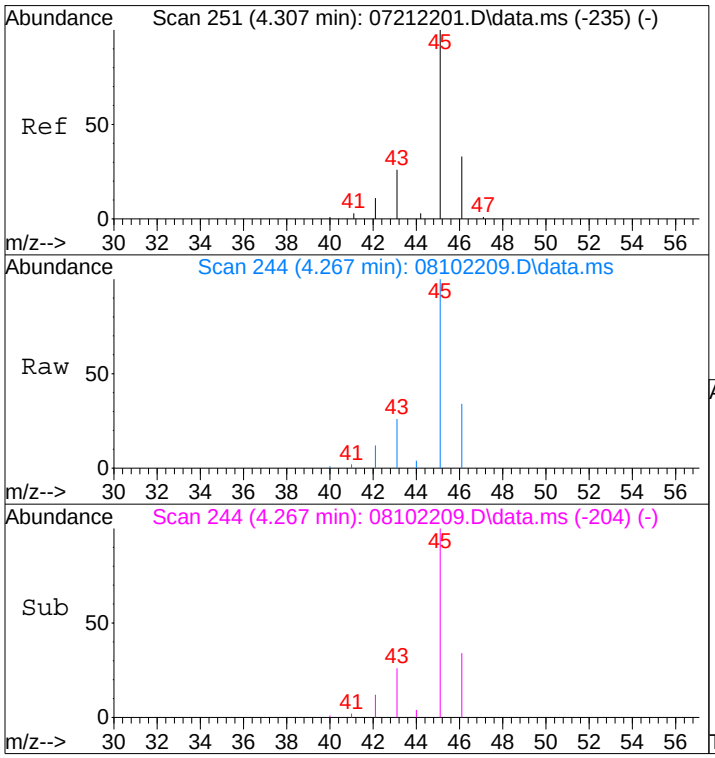


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.33 ng
RT: 3.35 min Scan# 83
Delta R.T. 0.028 min
Lab File: 08102209.D
Acq: 10 Aug 2022 9:40

Tgt Ion: 85 Resp: 40539

Ion	Ratio	Lower	Upper
85	100		
87	32.6	13.1	53.1
101	9.8	0.0	30.1
103	6.5	0.0	26.3

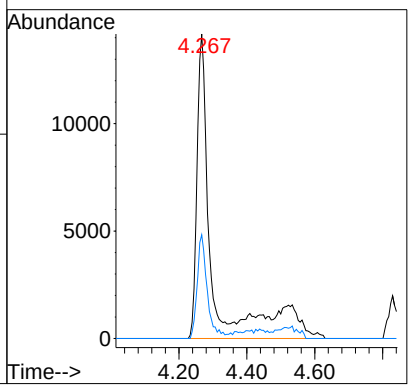


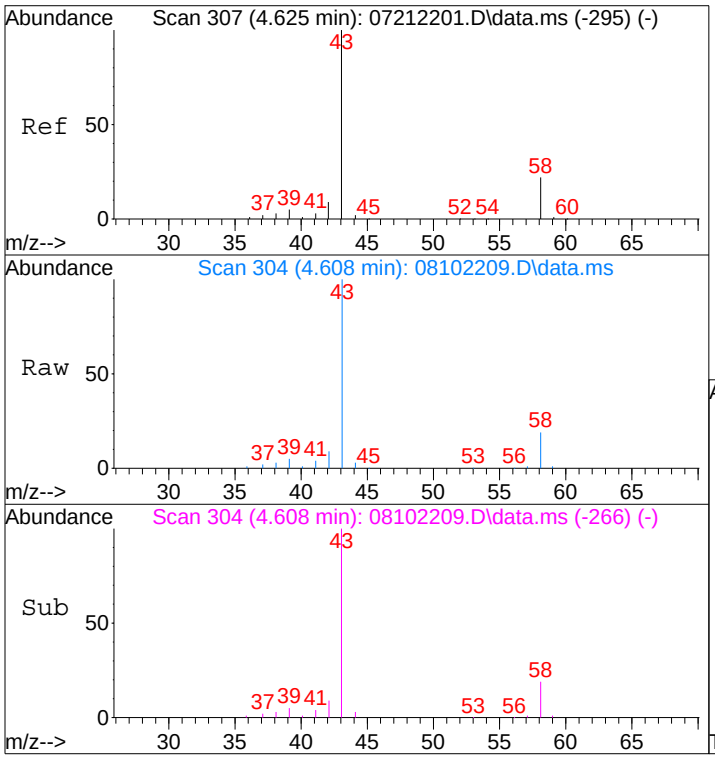


#10
Ethanol
Concen: 5.53 ng
RT: 4.27 min Scan# 244
Delta R.T. -0.024 min
Lab File: 08102209.D
Acq: 10 Aug 2022 9:40

Tgt Ion: 45 Resp: 45133

Ion	Ratio	Lower	Upper
45	100		
46	32.7	12.6	52.6

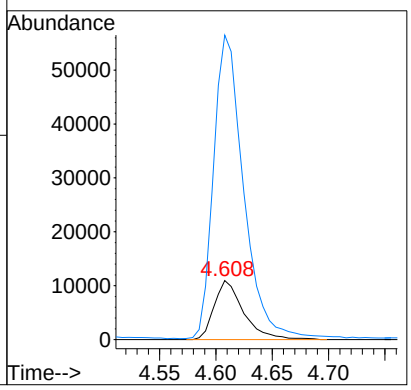


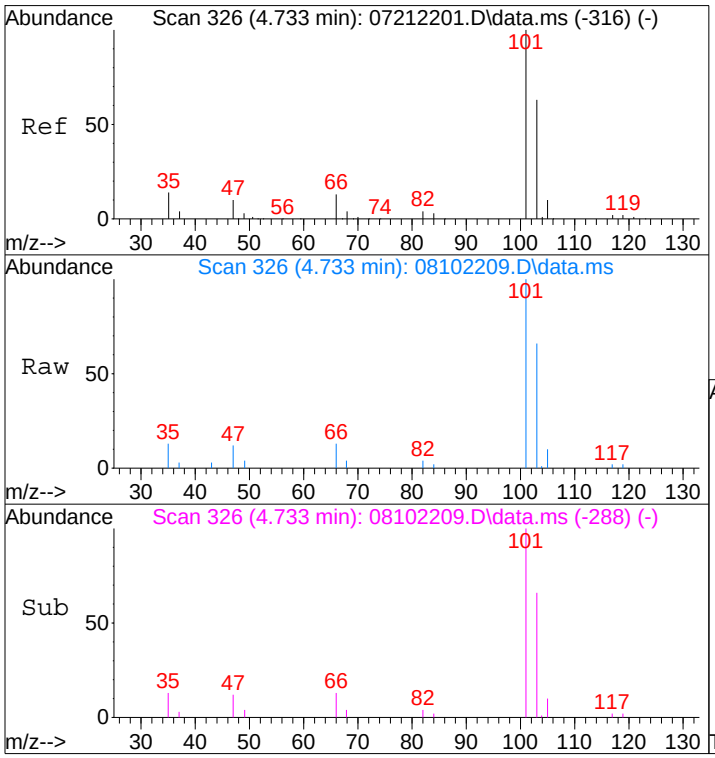


#13
Acetone
Concen: 2.61 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.031 min
Lab File: 08102209.D
Acq: 10 Aug 2022 9:40

Tgt Ion: 58 Resp: 19947

Ion	Ratio	Lower	Upper
58	100		
43	528.7	424.6	484.6#

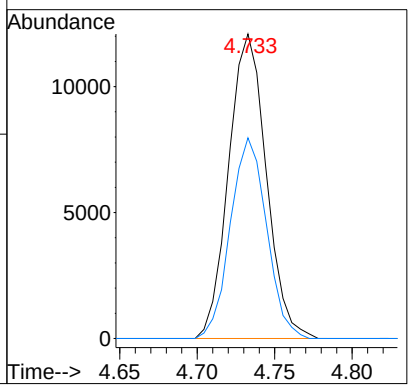


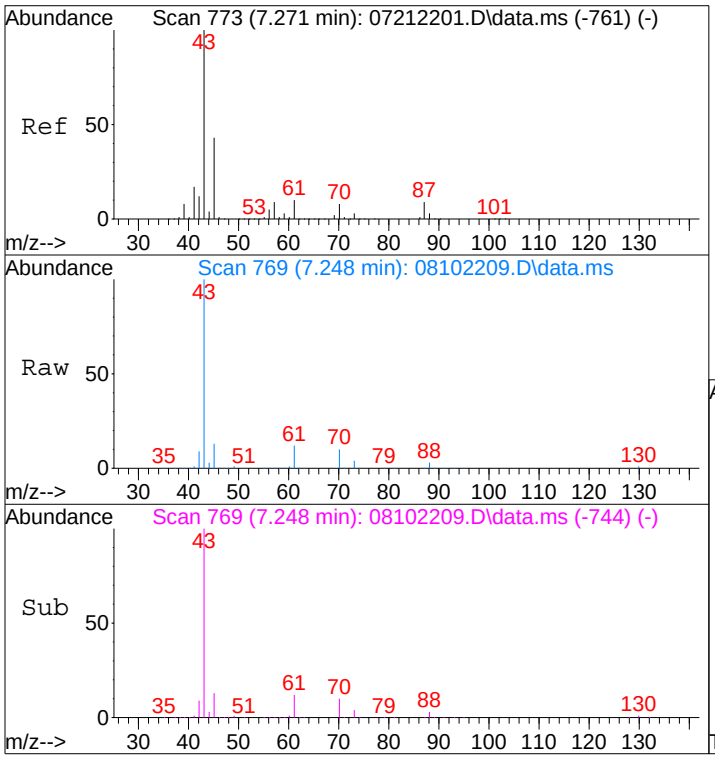


#14
Trichlorofluoromethane
Concen: 0.67 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.032 min
Lab File: 08102209.D
Acq: 10 Aug 2022 9:40

Tgt Ion:101 Resp: 20477

Ion	Ratio	Lower	Upper
101	100		
103	63.4	43.7	83.7

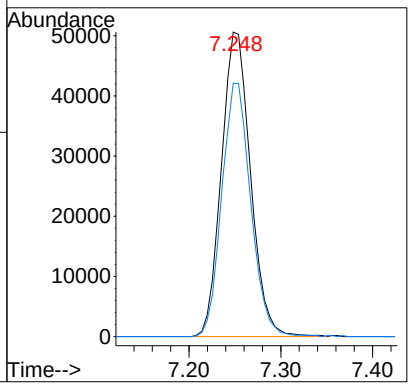


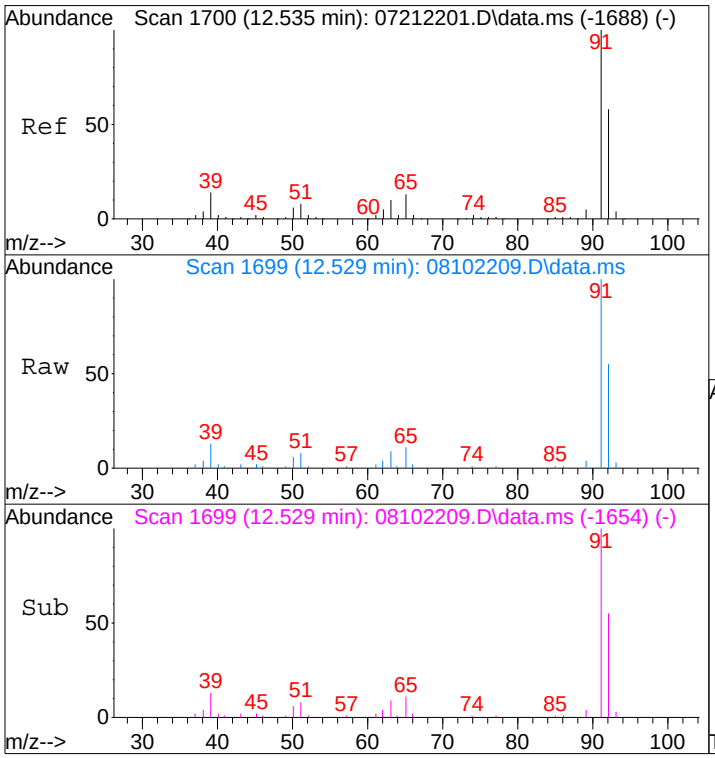


#30
Ethyl Acetate
Concen: 25.40 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.057 min
Lab File: 08102209.D
Acq: 10 Aug 2022 9:40

Tgt Ion: 61 Resp: 111666

Ion	Ratio	Lower	Upper
61	100		
70	82.7	59.3	99.3

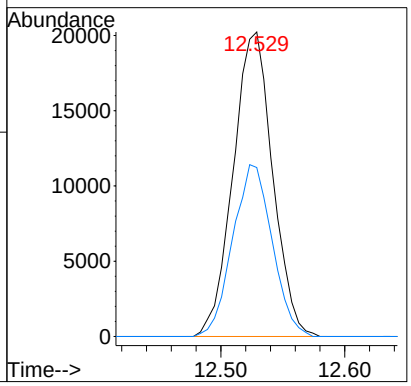




#58
Toluene
Concen: 0.99 ng
RT: 12.53 min Scan# 1699
Delta R.T. 0.005 min
Lab File: 08102209.D
Acq: 10 Aug 2022 9:40

Tgt Ion: 91 Resp: 44908

Ion	Ratio	Lower	Upper
91	100		
92	56.3	37.2	77.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102210.D Vial: 14
Acq On : 10 Aug 2022 10:12 Operator: SC
Sample : P2203366-003 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 11:07:55 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	128621	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	526243	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	107840	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	252471	11.699	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%				
57) Toluene-d8 (SS2)	12.39	98	561616	12.409	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	16.79	174	241132	13.188	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.52%				
Target Compounds							Qvalue
2) Propene	3.28	42	2385	N.D.			
3) Dichlorodifluoromethan...	3.35	85	33978	1.117	ng		99
4) Chloromethane	3.49	50	1608	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	752	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	42140	5.178	ng		97
11) Acetonitrile	4.43	41	1287	N.D.			
12) Acrolein	4.52	56	298	N.D.			
13) Acetone	4.61	58	15973	2.099	ng	#	70
14) Trichlorofluoromethane	4.73	101	16781	0.547	ng		98
15) 2-Propanol (Isopropanol)	4.83	45	4056	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.33	84	995	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3235	N.D.			
22) Carbon Disulfide	5.60	76	500	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.65	72	1201	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d		
29) Diisopropyl Ether	7.25	87	916	N.D.			
30) Ethyl Acetate	7.25	61	62428	14.243	ng		97
31) n-Hexane	7.27	57	838	N.D.			
32) Chloroform	7.33	83	633	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.27	61	18158	No Calib			
40) 1-Butanol	9.26	56	11769	No Calib		#	
41) Benzene	8.87	78	4751	N.D.			
42) Carbon Tetrachloride	9.03	117	5112	N.D.			
43) Cyclohexane	9.27	84	332	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	3032	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS09\DATA\2022 08\10\08102210.D Vial: 14
Acq On : 10 Aug 2022 10:12 Operator: SC
Sample : P2203366-003 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 11:07:55 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

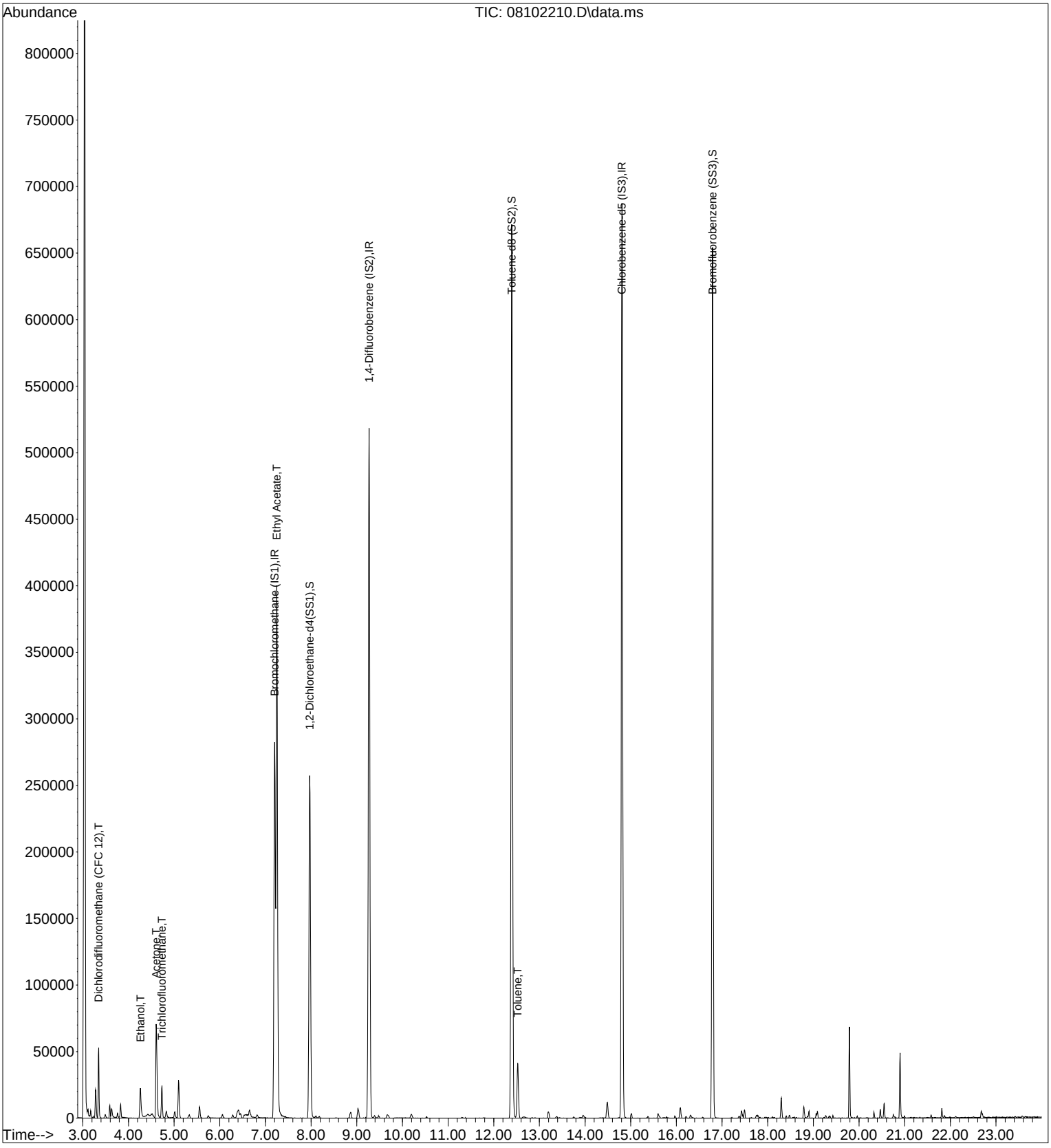
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.54	71	295	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	37187	0.817 ng	99
59) 2-Hexanone	12.89	43	196	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.76	43	1305	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.37	91	1560	N.D.	
67) m- & p-Xylenes	15.60	91	4213	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	1180	N.D.	
70) o-Xylene	16.21	91	1502	N.D.	
71) n-Nonane	16.57	43	433	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	183	N.D.	
75) alpha-Pinene	17.49	93	2866	N.D.	
76) n-Propylbenzene	17.66	91	396	N.D.	
77) 3-Ethyltoluene	16.79	105	183	No Calib	#
78) 4-Ethyltoluene	17.83	105	560	N.D.	
79) 1,3,5-Trimethylbenzene	17.94	105	349	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.50	105	370	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	1439	N.D.	
83) n-Decane	16.79	58	108	No Calib	#
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	241	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	241	N.D.	
87) sec-Butylbenzene	18.88	105	412	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	3027	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	1439	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	603	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	1232	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.79	55	296	No Calib	#
99) tert-Butylbenzene	18.40	119	108	N.D.	
100) n-Butylbenzene	19.37	91	407	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102210.D Vial: 14
Acq On : 10 Aug 2022 10:12 Operator: SC
Sample : P2203366-003 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 11:07:55 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102210.D Vial: 14
Acq On : 10 Aug 2022 10:12 Operator: SC
Sample : P2203366-003 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 11:07:55 2022 8/10/22
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

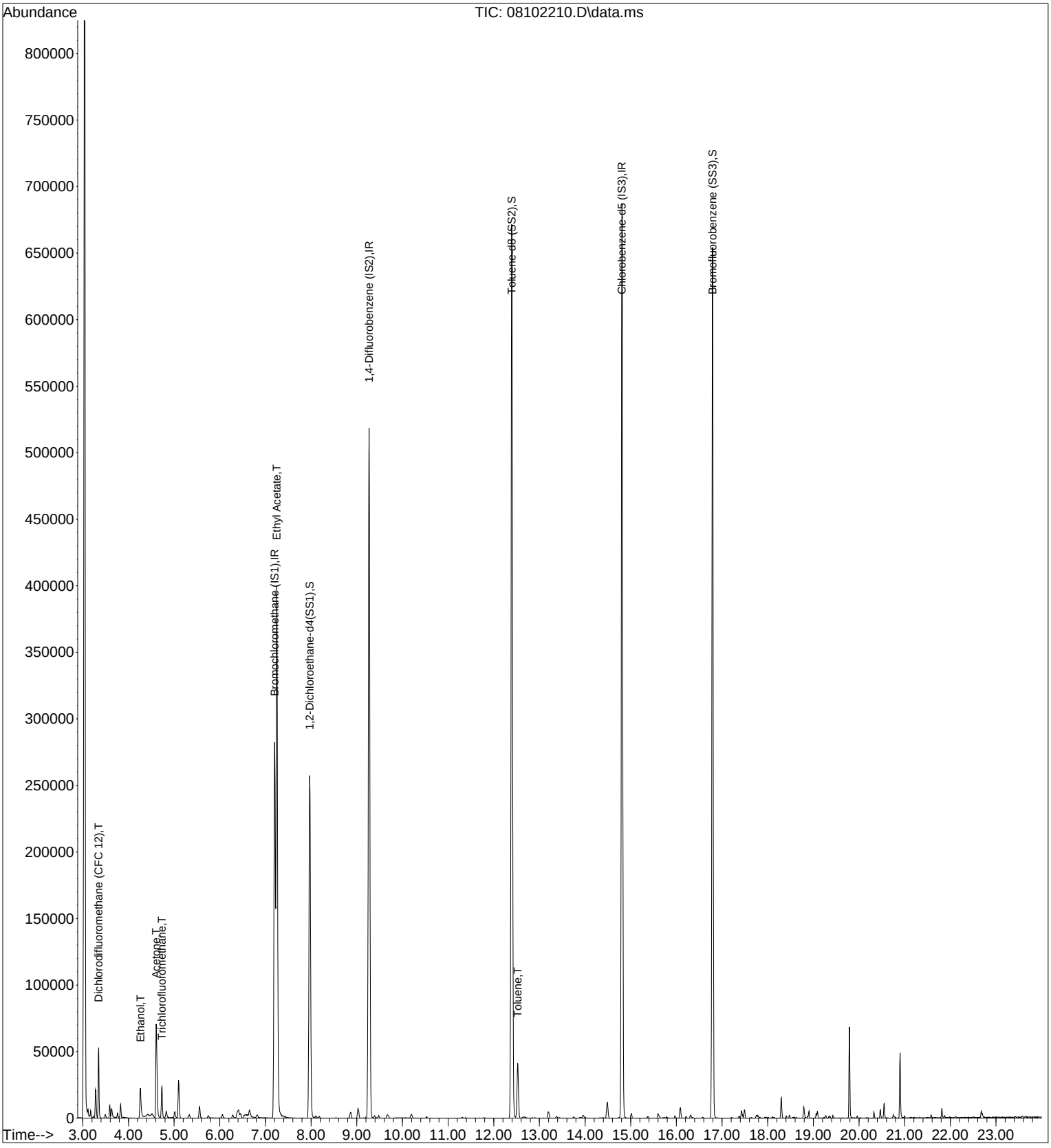
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	128621	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	526243	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	107840	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	252471	11.699	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%				
57) Toluene-d8 (SS2)	12.39	98	561616	12.409	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	16.79	174	241132	13.188	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.52%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	33978	1.117	ng		99
10) Ethanol	4.26	45	42140	5.178	ng		97
13) Acetone	4.61	58	15973	2.099	ng	#	70
14) Trichlorofluoromethane	4.73	101	16781	0.547	ng		98
30) Ethyl Acetate	7.25	61	62428	14.243	ng		97
58) Toluene	12.52	91	37187	0.817	ng		99

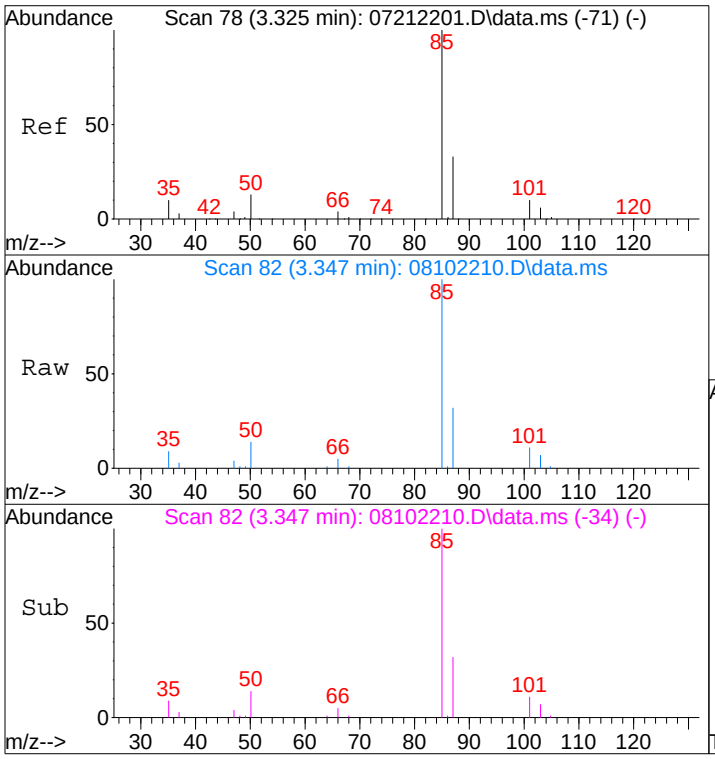
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102210.D Vial: 14
Acq On : 10 Aug 2022 10:12 Operator: SC
Sample : P2203366-003 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 11:07:55 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

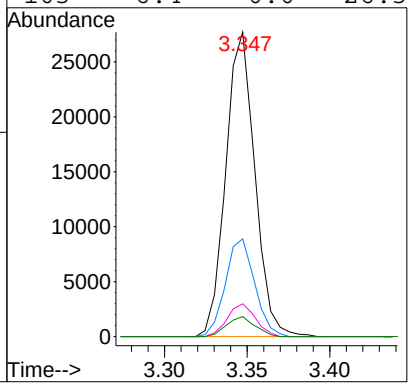


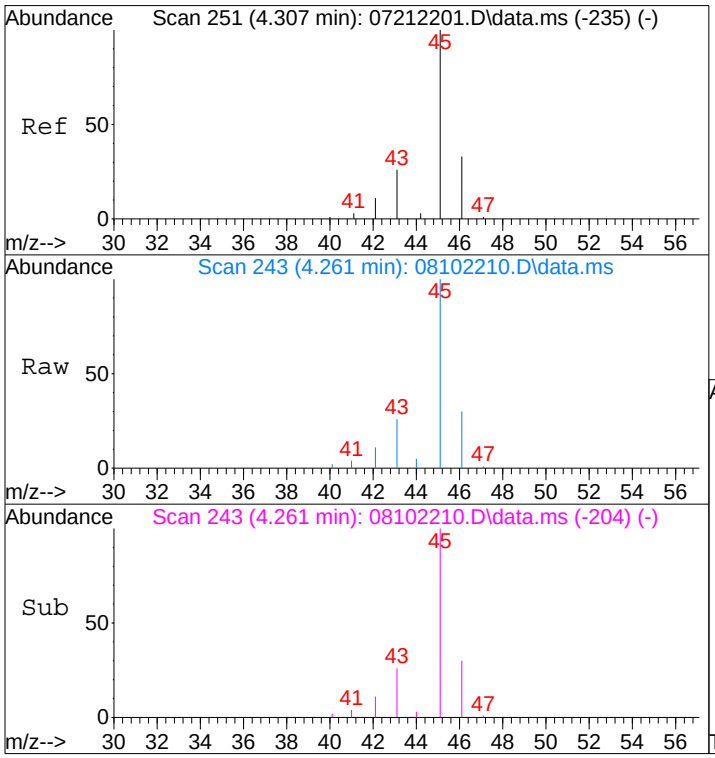


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.12 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.023 min
Lab File: 08102210.D
Acq: 10 Aug 2022 10:12

Tgt Ion: 85 Resp: 33978

Ion	Ratio	Lower	Upper
85	100		
87	32.2	13.1	53.1
101	10.4	0.0	30.1
103	6.4	0.0	26.3

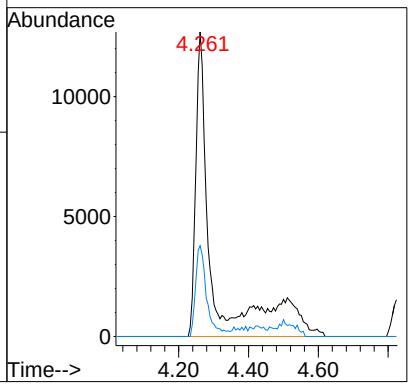


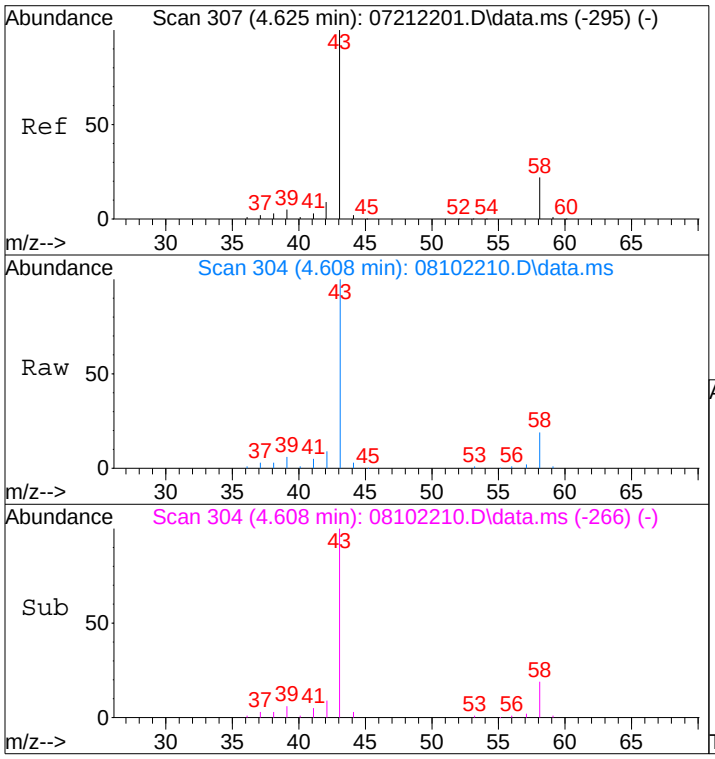


#10
Ethanol
Concen: 5.18 ng
RT: 4.26 min Scan# 243
Delta R.T. -0.029 min
Lab File: 08102210.D
Acq: 10 Aug 2022 10:12

Tgt Ion: 45 Resp: 42140

Ion	Ratio	Lower	Upper
45	100		
46	31.1	12.6	52.6

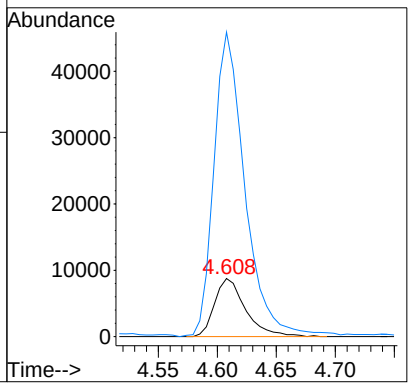


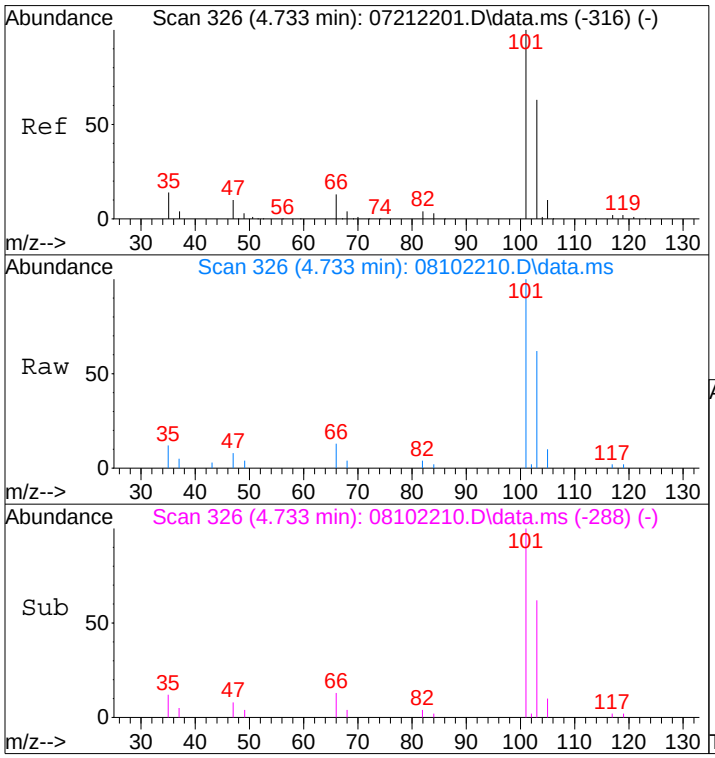


#13
Acetone
Concen: 2.10 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.031 min
Lab File: 08102210.D
Acq: 10 Aug 2022 10:12

Tgt Ion: 58 Resp: 15973

Ion	Ratio	Lower	Upper
58	100		
43	533.0	424.6	484.6#

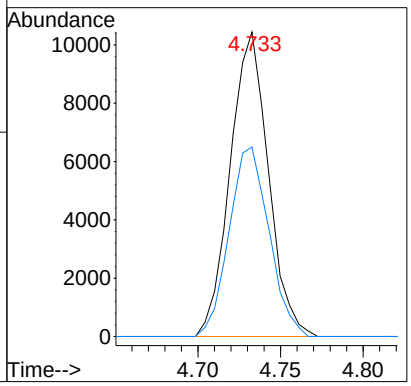


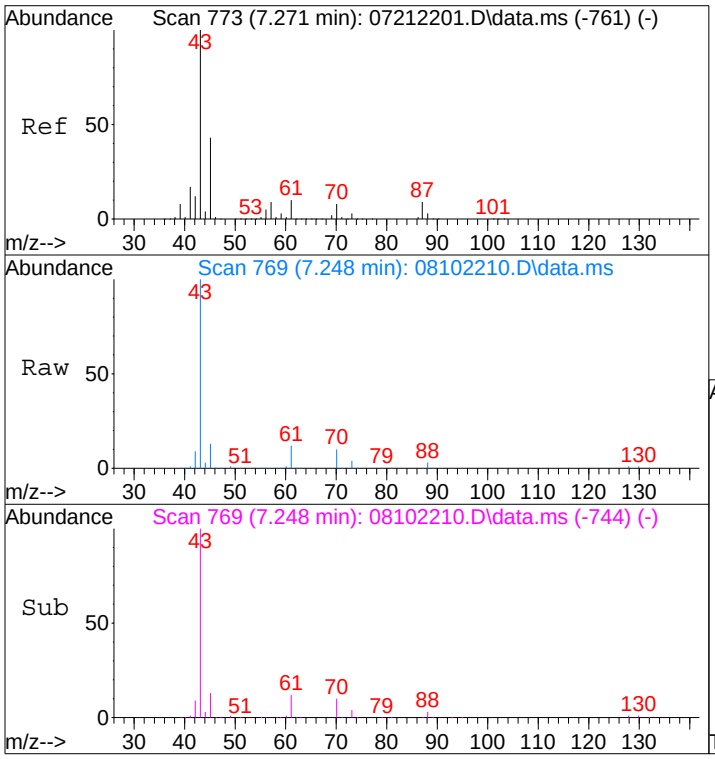


#14
Trichlorofluoromethane
Concen: 0.55 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.032 min
Lab File: 08102210.D
Acq: 10 Aug 2022 10:12

Tgt Ion:101 Resp: 16781

Ion	Ratio	Lower	Upper
101	100		
103	65.0	43.7	83.7

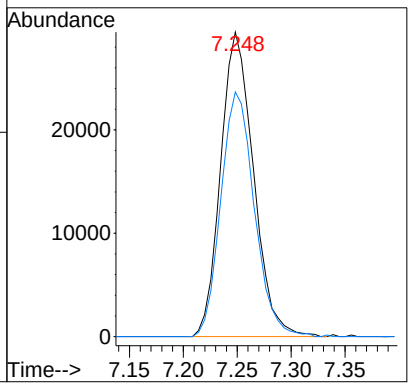


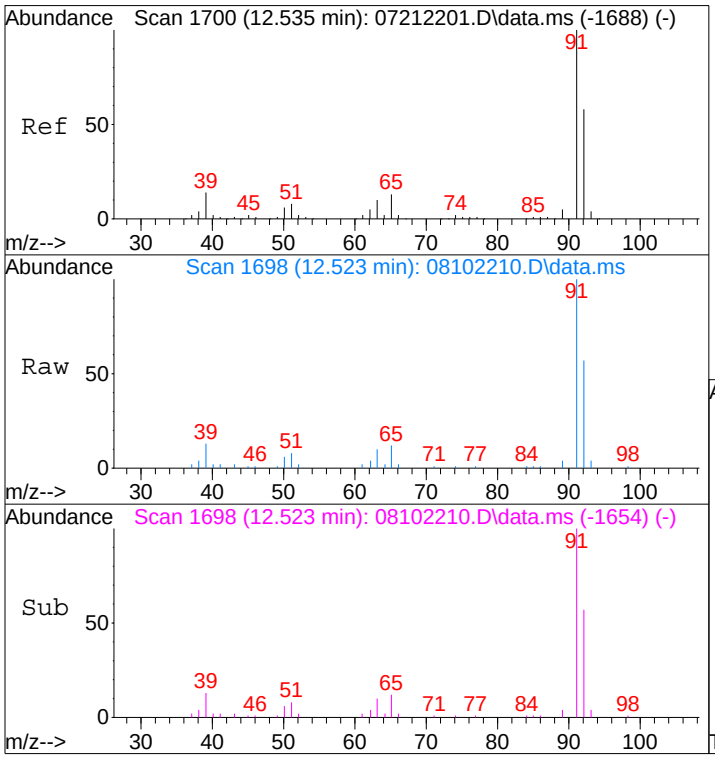


#30
Ethyl Acetate
Concen: 14.24 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.057 min
Lab File: 08102210.D
Acq: 10 Aug 2022 10:12

Tgt Ion: 61 Resp: 62428

Ion	Ratio	Lower	Upper
61	100		
70	81.8	59.3	99.3

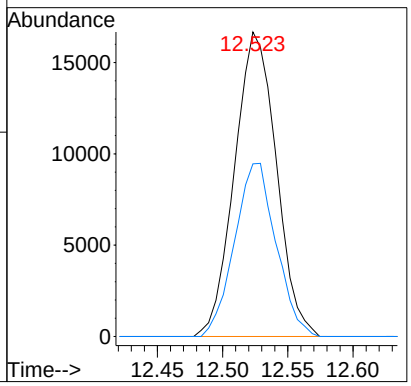




#58
Toluene
Concen: 0.82 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.000 min
Lab File: 08102210.D
Acq: 10 Aug 2022 10:12

Tgt Ion: 91 Resp: 37187

Ion	Ratio	Lower	Upper
91	100		
92	56.3	37.2	77.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102216.D Vial: 15
Acq On : 10 Aug 2022 13:33 Operator: SC
Sample : P2203366-004 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 14:09:12 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	129428	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	529887	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	108678	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	255904	11.784	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
57) Toluene-d8 (SS2)	12.39	98	562024	12.322	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	16.79	174	244173	13.251	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%				
Target Compounds							Qvalue
2) Propene	3.28	42	2273	N.D.			
3) Dichlorodifluoromethan...	3.35	85	32259	1.054	ng		99
4) Chloromethane	3.49	50	1641	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	679	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	52562	6.418	ng		99
11) Acetonitrile	4.42	41	1514	N.D.			
12) Acrolein	4.52	56	353	N.D.			
13) Acetone	4.61	58	16710	2.182	ng	#	73
14) Trichlorofluoromethane	4.73	101	16454	0.533	ng		98
15) 2-Propanol (Isopropanol)	4.83	45	4113	N.D.			
16) Acrylonitrile	5.11	53	1678	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	103	N.D.			
19) Methylene Chloride	5.33	84	1029	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3166	N.D.			
22) Carbon Disulfide	5.59	76	203	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.41	86	336	N.D.			
27) 2-Butanone (MEK)	6.65	72	1148	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d			
29) Diisopropyl Ether	7.24	87	479	N.D.			
30) Ethyl Acetate	7.25	61	34560	7.836	ng		97
31) n-Hexane	7.28	57	836	N.D.			
32) Chloroform	7.33	83	819	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.27	61	17520	No Calib			
40) 1-Butanol	9.27	56	11599	No Calib		#	
41) Benzene	8.86	78	3494	N.D.			
42) Carbon Tetrachloride	9.03	117	4730	N.D.			
43) Cyclohexane	9.26	84	413	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	2973	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102216.D Vial: 15
Acq On : 10 Aug 2022 13:33 Operator: SC
Sample : P2203366-004 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 14:09:12 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

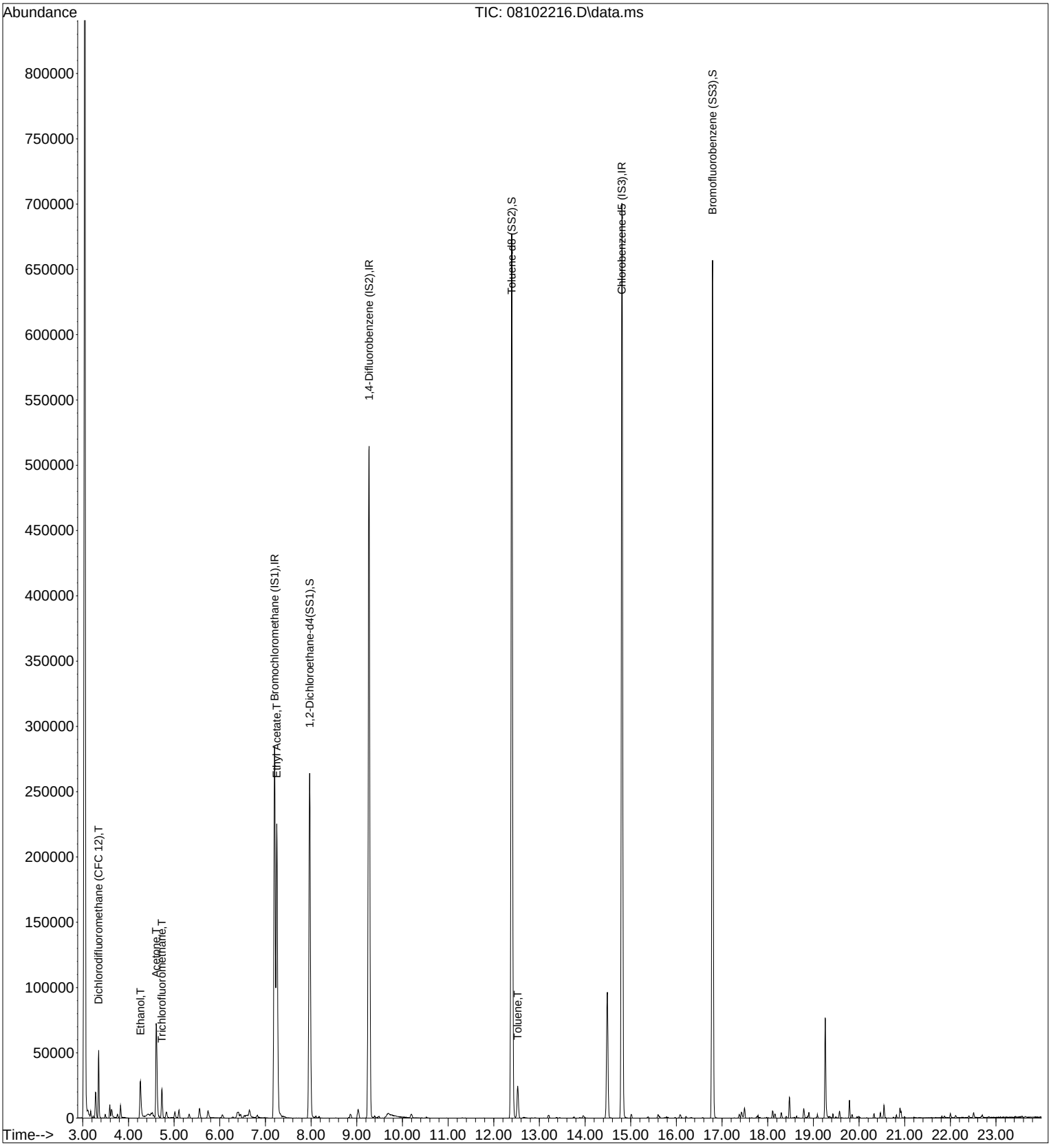
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	22084	0.481 ng	100
59) 2-Hexanone	12.90	43	729	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.75	43	1248	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.38	91	1440	N.D.	
67) m- & p-Xylenes	15.60	91	3668	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.08	104	1061	N.D.	
70) o-Xylene	16.21	91	1555	N.D.	
71) n-Nonane	16.57	43	334	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	189	N.D.	
75) alpha-Pinene	17.49	93	3440	N.D.	
76) n-Propylbenzene	17.65	91	437	N.D.	
77) 3-Ethyltoluene	16.79	105	189	No Calib	#
78) 4-Ethyltoluene	17.84	105	510	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	226	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.49	105	411	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	1330	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.54	91	422	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	747	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	747	N.D.	
87) sec-Butylbenzene	18.88	105	390	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	2829	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	1330	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	19.50	157	270	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.82	180	951	N.D.	
95) Naphthalene	20.92	128	3944	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.78	55	406	No Calib	#
99) tert-Butylbenzene	18.47	119	348	N.D.	
100) n-Butylbenzene	19.36	91	356	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102216.D Vial: 15
Acq On : 10 Aug 2022 13:33 Operator: SC
Sample : P2203366-004 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 14:09:12 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102216.D Vial: 15
Acq On : 10 Aug 2022 13:33 Operator: SC
Sample : P2203366-004 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 14:09:12 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/10/22

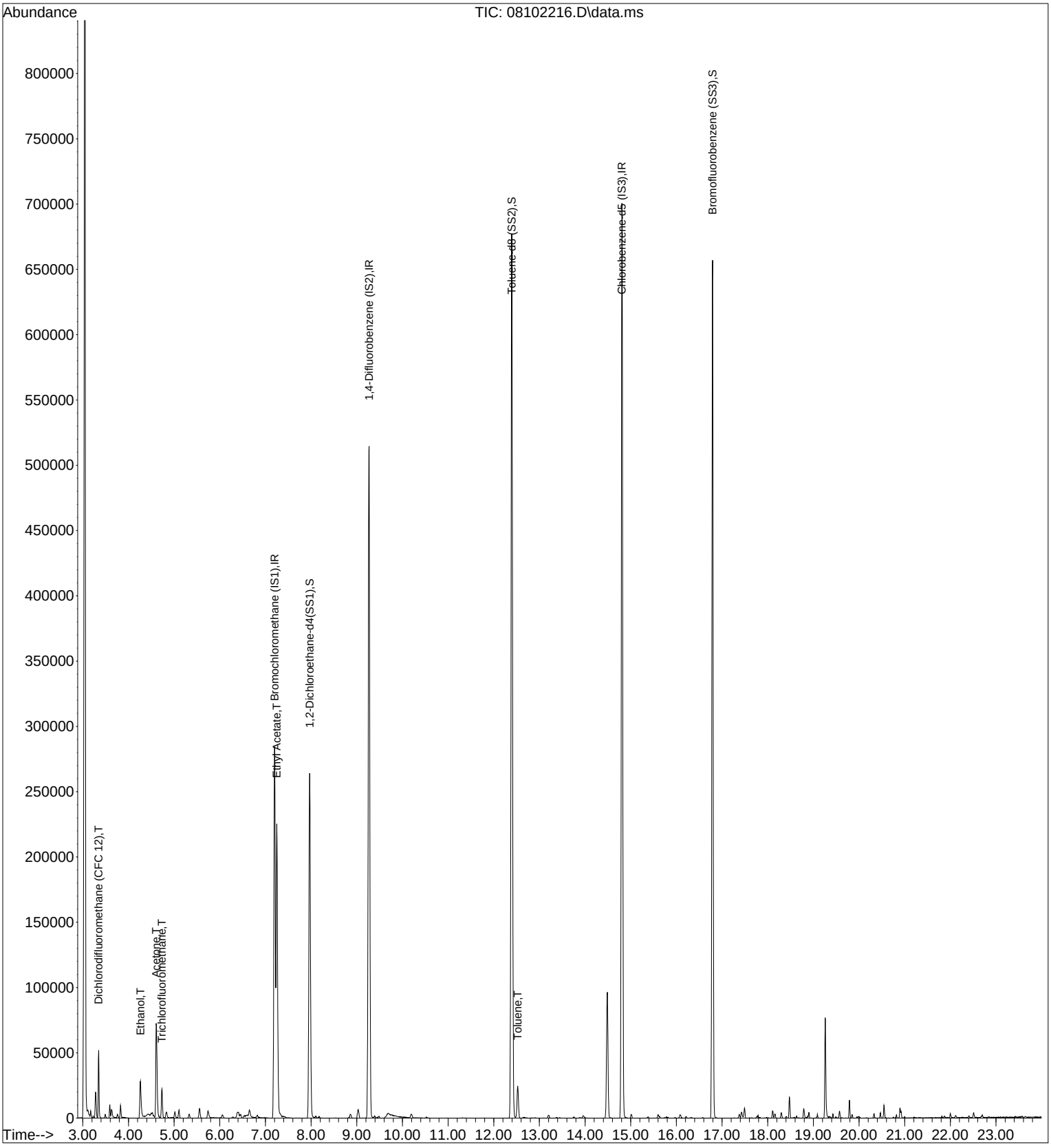
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	129428	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	529887	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	108678	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	255904	11.784	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
57) Toluene-d8 (SS2)	12.39	98	562024	12.322	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	16.79	174	244173	13.251	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	32259	1.054	ng		99
10) Ethanol	4.26	45	52562	6.418	ng		99
13) Acetone	4.61	58	16710	2.182	ng	#	73
14) Trichlorofluoromethane	4.73	101	16454	0.533	ng		98
30) Ethyl Acetate	7.25	61	34560	7.836	ng		97
58) Toluene	12.52	91	22084	0.481	ng		100

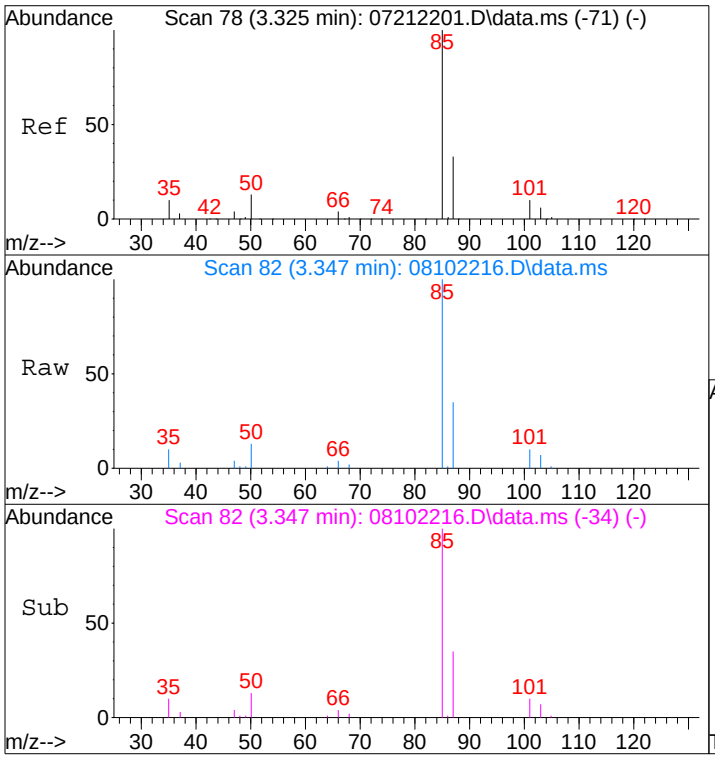
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102216.D Vial: 15
Acq On : 10 Aug 2022 13:33 Operator: SC
Sample : P2203366-004 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 14:09:12 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

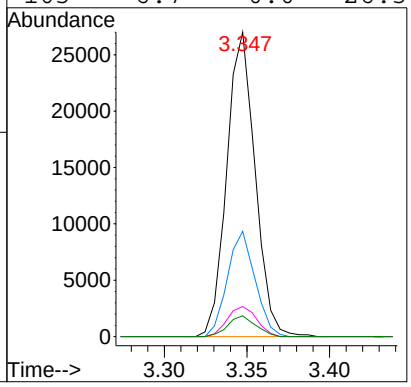


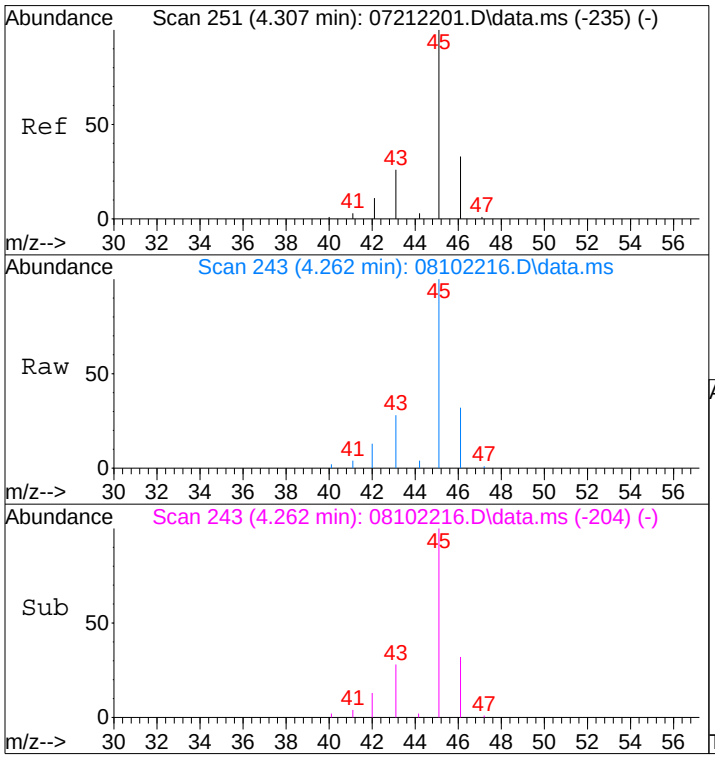


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.05 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.023 min
Lab File: 08102216.D
Acq: 10 Aug 2022 13:33

Tgt Ion: 85 Resp: 32259

Ion	Ratio	Lower	Upper
85	100		
87	33.7	13.1	53.1
101	10.3	0.0	30.1
103	6.7	0.0	26.3

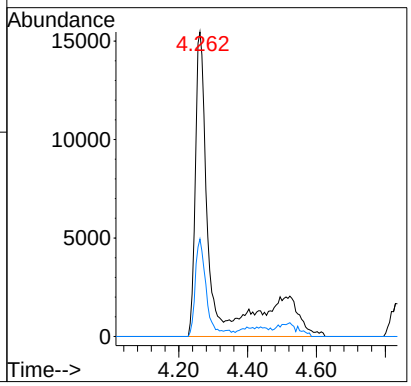


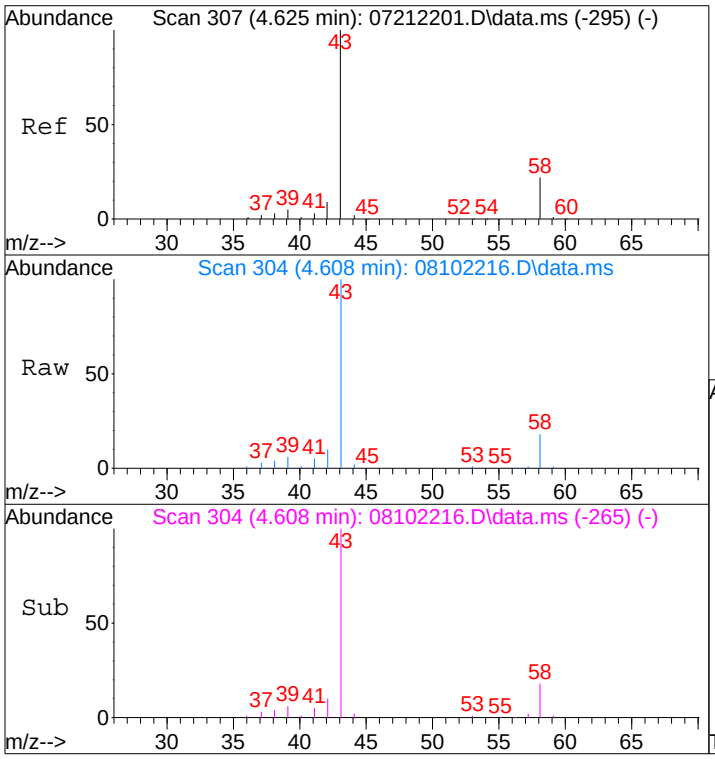


#10
Ethanol
Concen: 6.42 ng
RT: 4.26 min Scan# 243
Delta R.T. -0.029 min
Lab File: 08102216.D
Acq: 10 Aug 2022 13:33

Tgt Ion: 45 Resp: 52562

Ion	Ratio	Lower	Upper
45	100		
46	31.9	12.6	52.6

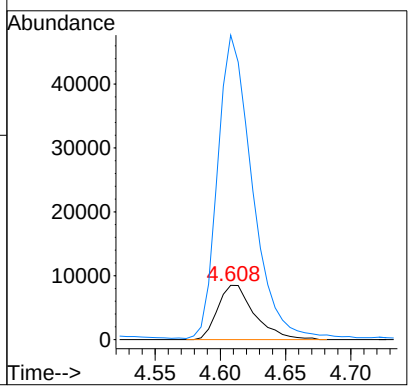


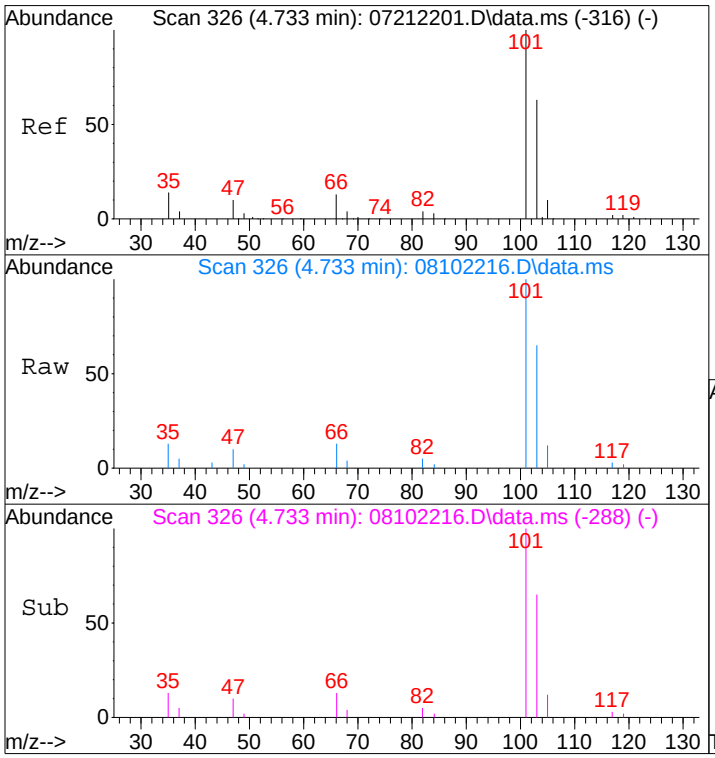


#13
Acetone
Concen: 2.18 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.031 min
Lab File: 08102216.D
Acq: 10 Aug 2022 13:33

Tgt Ion: 58 Resp: 16710

Ion	Ratio	Lower	Upper
58	100		
43	525.4	424.6	484.6#

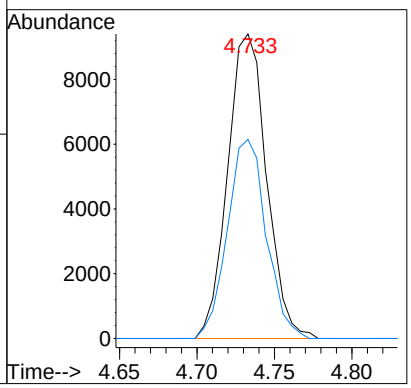


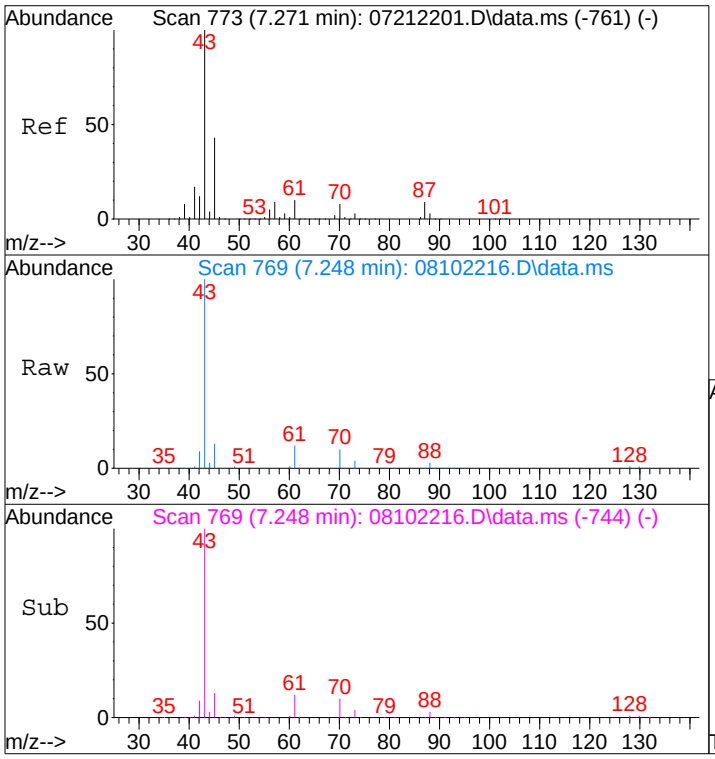


#14
Trichlorofluoromethane
Concen: 0.53 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.032 min
Lab File: 08102216.D
Acq: 10 Aug 2022 13:33

Tgt Ion:101 Resp: 16454

Ion	Ratio	Lower	Upper
101	100		
103	65.3	43.7	83.7

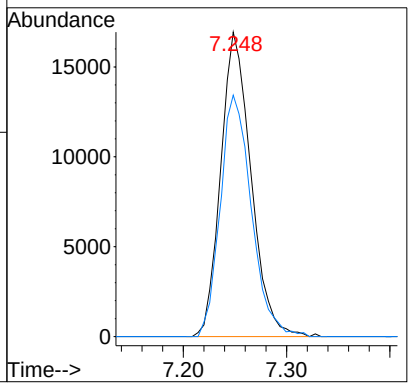


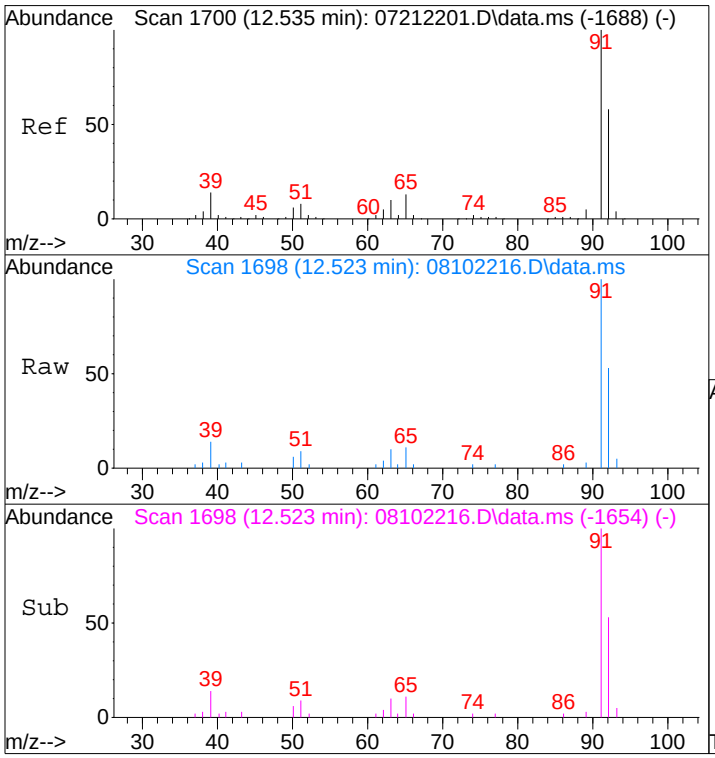


#30
Ethyl Acetate
Concen: 7.84 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.057 min
Lab File: 08102216.D
Acq: 10 Aug 2022 13:33

Tgt Ion: 61 Resp: 34560

Ion	Ratio	Lower	Upper
61	100		
70	81.7	59.3	99.3

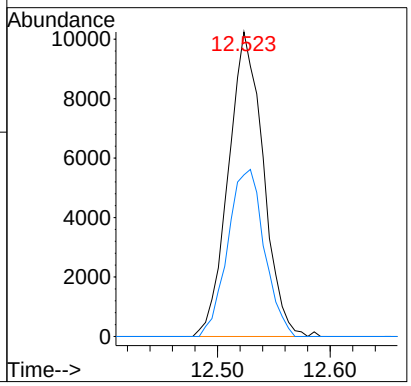




#58
Toluene
Concen: 0.48 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.000 min
Lab File: 08102216.D
Acq: 10 Aug 2022 13:33

Tgt Ion: 91 Resp: 22084

Ion	Ratio	Lower	Upper
91	100		
92	57.4	37.2	77.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102217.D Vial: 16
Acq On : 10 Aug 2022 14:08 Operator: SC
Sample : P2203366-005 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 14:30:39 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	128497	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	522454	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	107388	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	254288	11.794	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
57) Toluene-d8 (SS2)	12.39	98	555283	12.320	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	16.79	174	239235	13.139	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%				
Target Compounds							Qvalue
2) Propene	3.28	42	2602	N.D.			
3) Dichlorodifluoromethan...	3.35	85	33987	1.119	ng		99
4) Chloromethane	3.49	50	1722	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	778	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	36002	4.428	ng		99
11) Acetonitrile	4.43	41	1247	N.D.			
12) Acrolein	4.52	56	156	N.D.			
13) Acetone	4.61	58	17834	2.346	ng	#	72
14) Trichlorofluoromethane	4.73	101	17163	0.560	ng		98
15) 2-Propanol (Isopropanol)	4.83	45	4278	N.D.			
16) Acrylonitrile	5.11	53	2055	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.32	59	137	N.D.			
19) Methylene Chloride	5.33	84	1005	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3158	N.D.			
22) Carbon Disulfide	5.60	76	974	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.41	86	516	N.D.			
27) 2-Butanone (MEK)	6.65	72	1342	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d			
29) Diisopropyl Ether	7.24	87	932	N.D.			
30) Ethyl Acetate	7.25	61	54065	12.347	ng		97
31) n-Hexane	7.27	57	1104	N.D.			
32) Chloroform	7.33	83	709	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	17729	No Calib			
40) 1-Butanol	9.18	56	113	No Calib		#	
41) Benzene	8.86	78	4646	N.D.			
42) Carbon Tetrachloride	9.03	117	5251	N.D.			
43) Cyclohexane	9.26	84	202	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	3126	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102217.D Vial: 16
Acq On : 10 Aug 2022 14:08 Operator: SC
Sample : P2203366-005 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 14:30:39 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

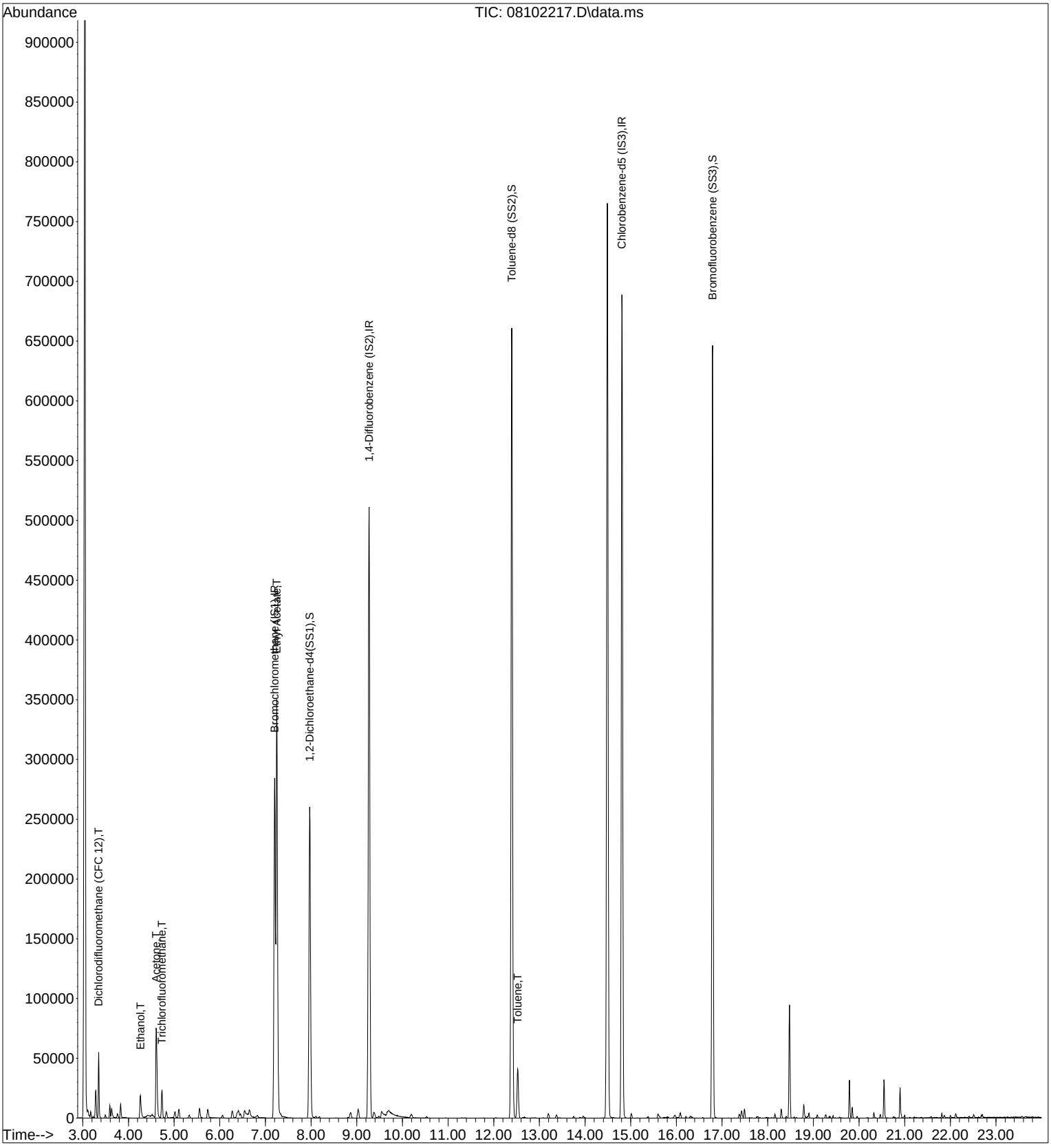
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.54	71	245	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	37863	0.835 ng	98
59) 2-Hexanone	12.90	43	715	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.75	43	1760	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.38	91	1585	N.D.	
67) m- & p-Xylenes	15.60	91	4124	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	1188	N.D.	
70) o-Xylene	16.21	91	1500	N.D.	
71) n-Nonane	16.58	43	362	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	244	N.D.	
75) alpha-Pinene	17.49	93	3262	N.D.	
76) n-Propylbenzene	17.66	91	538	N.D.	
77) 3-Ethyltoluene	16.79	105	244	No Calib	#
78) 4-Ethyltoluene	17.83	105	508	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	290	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.49	105	497	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	1363	N.D.	
83) n-Decane	16.79	58	112	No Calib	#
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	383	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	383	N.D.	
87) sec-Butylbenzene	18.88	105	559	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	2598	N.D.	
89) 1,2,3-Trimethylbenzene	18.41	105	1363	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	2286	N.D.	
96) n-Dodecane	18.79	58	165	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.79	55	421	No Calib	#
99) tert-Butylbenzene	18.47	119	2011	N.D.	
100) n-Butylbenzene	19.35	91	361	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102217.D Vial: 16
Acq On : 10 Aug 2022 14:08 Operator: SC
Sample : P2203366-005 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 14:30:39 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102217.D Vial: 16
Acq On : 10 Aug 2022 14:08 Operator: SC
Sample : P2203366-005 (1000mL) Inst : MS09
Misc : S35-07192201

8/10/22

Quant Time: Aug 10 14:30:39 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

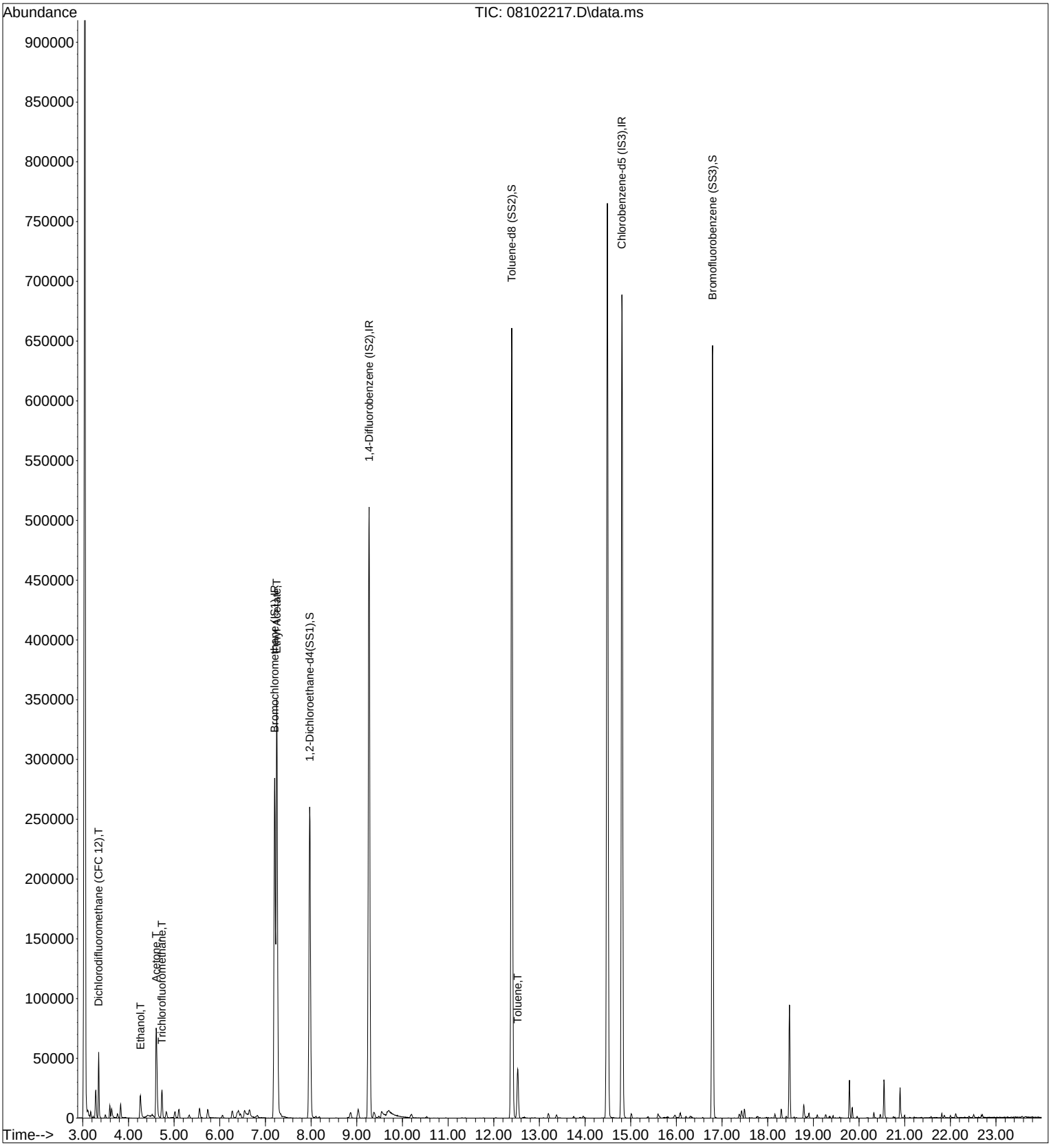
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	128497	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	522454	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	107388	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	254288	11.794	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
57) Toluene-d8 (SS2)	12.39	98	555283	12.320	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	16.79	174	239235	13.139	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	33987	1.119	ng		99
10) Ethanol	4.26	45	36002	4.428	ng		99
13) Acetone	4.61	58	17834	2.346	ng	#	72
14) Trichlorofluoromethane	4.73	101	17163	0.560	ng		98
30) Ethyl Acetate	7.25	61	54065	12.347	ng		97
58) Toluene	12.52	91	37863	0.835	ng		98

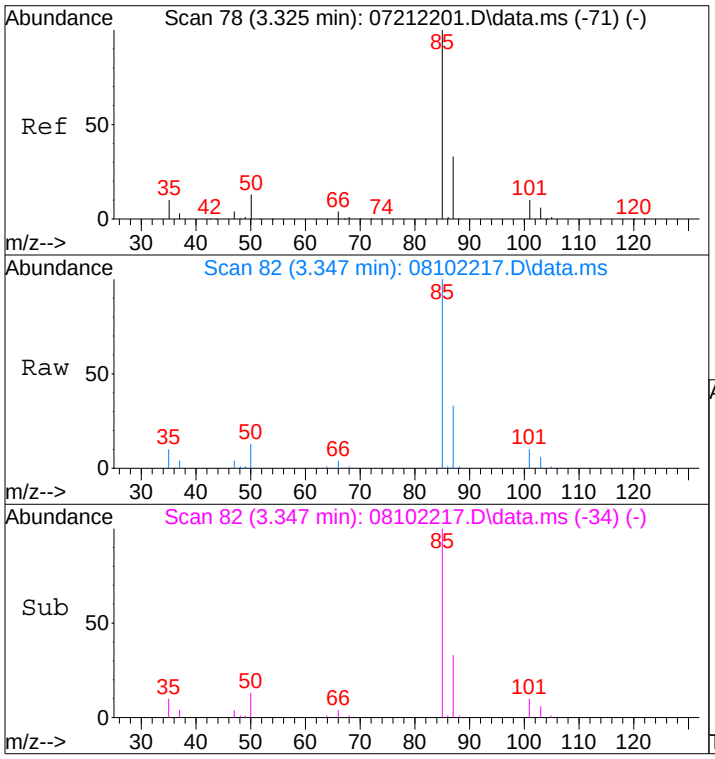
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102217.D Vial: 16
Acq On : 10 Aug 2022 14:08 Operator: SC
Sample : P2203366-005 (1000mL) Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 14:30:39 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

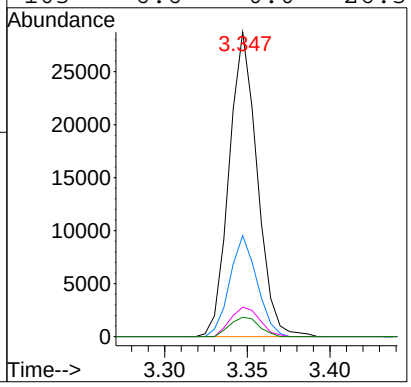


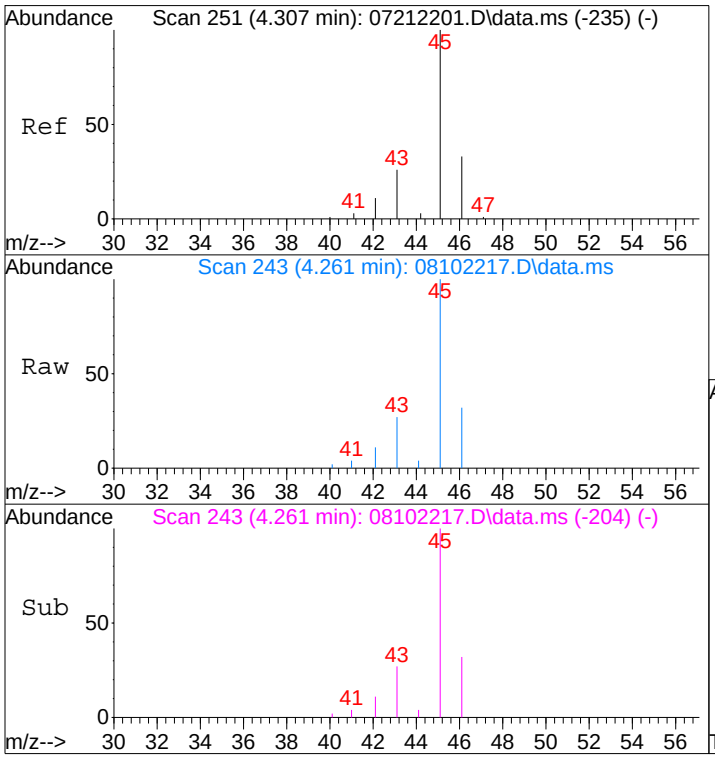


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.12 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.023 min
Lab File: 08102217.D
Acq: 10 Aug 2022 14:08

Tgt Ion: 85 Resp: 33987

Ion	Ratio	Lower	Upper
85	100		
87	32.2	13.1	53.1
101	10.1	0.0	30.1
103	6.6	0.0	26.3

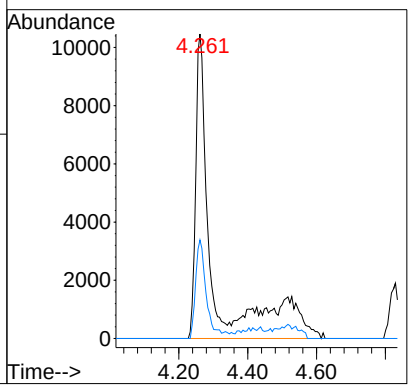


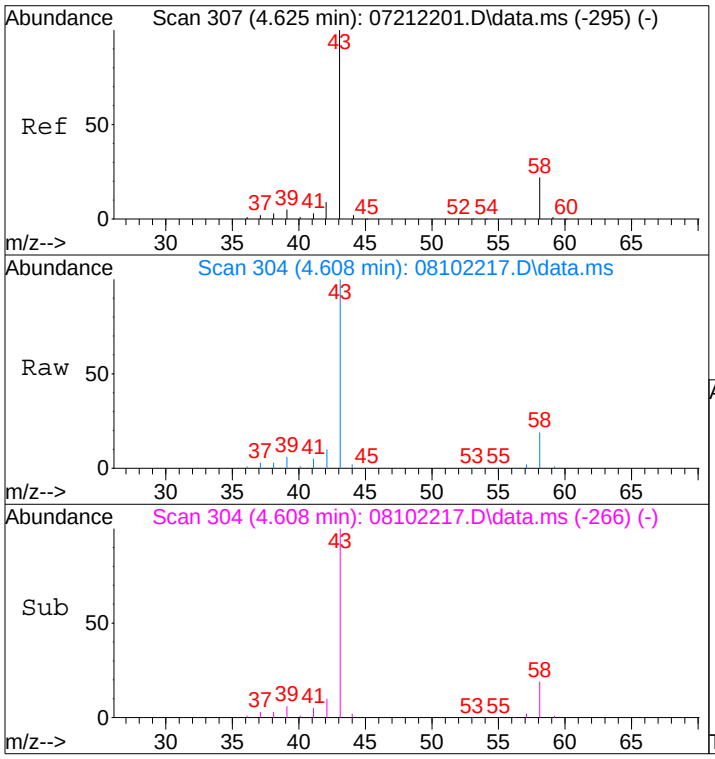


#10
Ethanol
Concen: 4.43 ng
RT: 4.26 min Scan# 243
Delta R.T. -0.030 min
Lab File: 08102217.D
Acq: 10 Aug 2022 14:08

Tgt Ion: 45 Resp: 36002

Ion	Ratio	Lower	Upper
45	100		
46	31.8	12.6	52.6

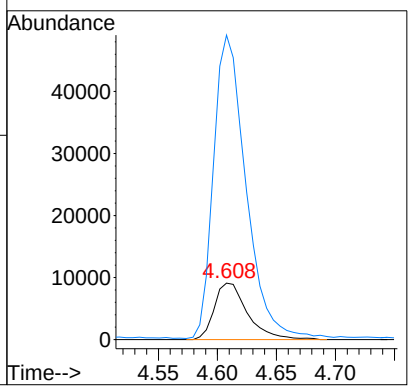


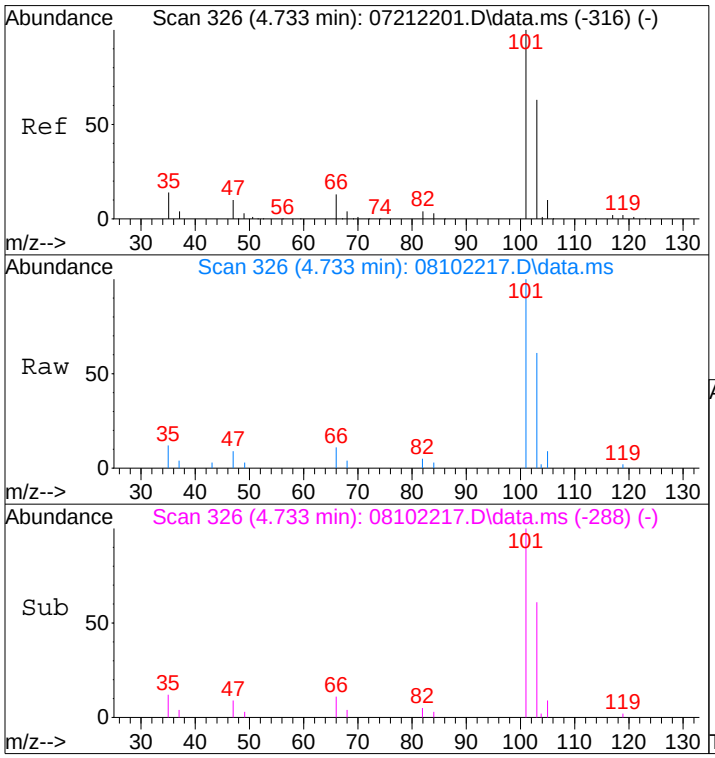


#13
Acetone
Concen: 2.35 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.031 min
Lab File: 08102217.D
Acq: 10 Aug 2022 14:08

Tgt Ion: 58 Resp: 17834

Ion	Ratio	Lower	Upper
58	100		
43	526.4	424.6	484.6#

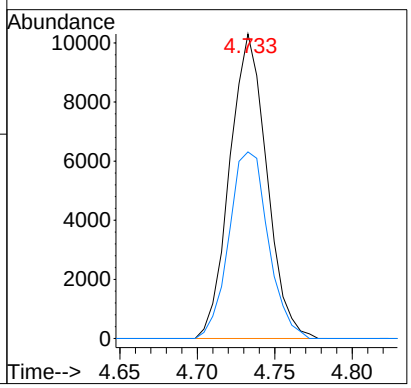


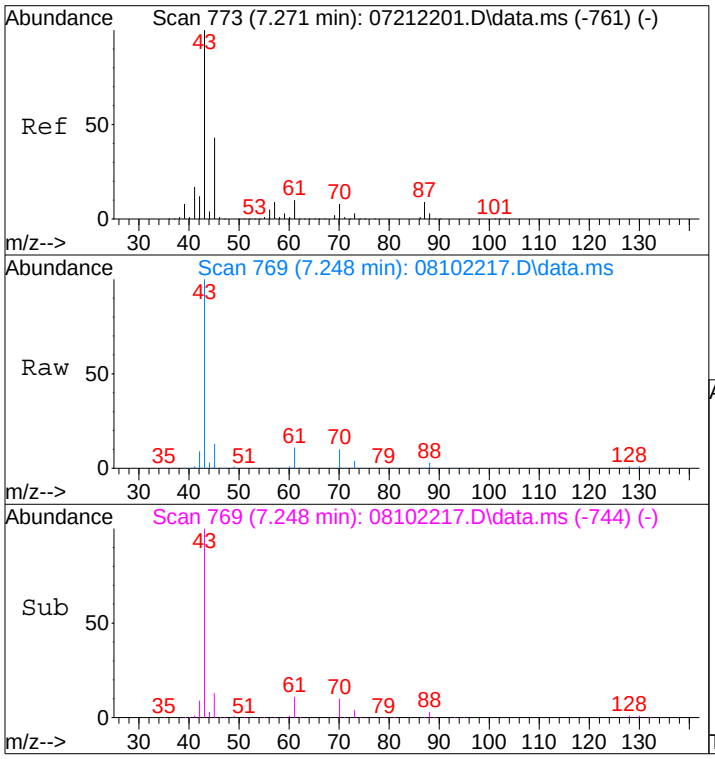


#14
Trichlorofluoromethane
Concen: 0.56 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.032 min
Lab File: 08102217.D
Acq: 10 Aug 2022 14:08

Tgt Ion:101 Resp: 17163

Ion	Ratio	Lower	Upper
101	100		
103	64.9	43.7	83.7

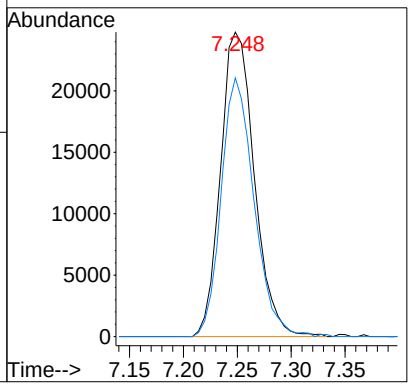


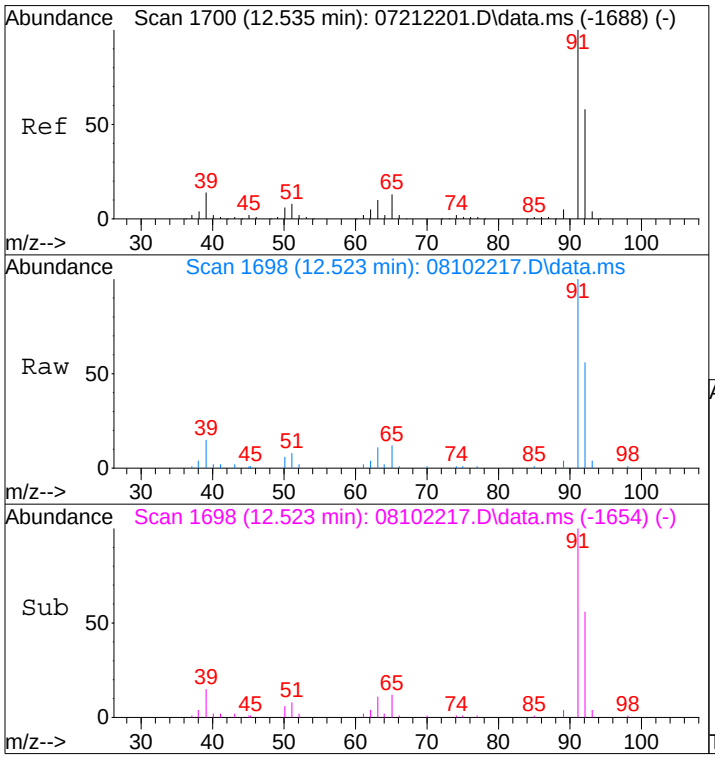


#30
Ethyl Acetate
Concen: 12.35 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.058 min
Lab File: 08102217.D
Acq: 10 Aug 2022 14:08

Tgt Ion: 61 Resp: 54065

Ion	Ratio	Lower	Upper
61	100		
70	82.3	59.3	99.3

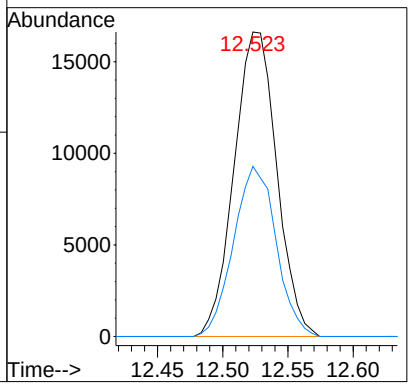




#58
Toluene
Concen: 0.83 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.000 min
Lab File: 08102217.D
Acq: 10 Aug 2022 14:08

Tgt Ion: 91 Resp: 37863

Ion	Ratio	Lower	Upper
91	100		
92	55.6	37.2	77.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102204.D Vial: 2
Acq On : 9 Aug 2022 23:40 Operator: SC
Sample : MB R9081022 1000mL Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 06:58:26 2022 8/10/22
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	134395	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	553050	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	116492	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	263996	11.707	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.68%			
57) Toluene-d8 (SS2)	12.39	98	599062	12.253	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%			
73) Bromofluorobenzene (SS3)	16.79	174	271154	13.729	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	4.53	56	116	N.D.		
13) Acetone	4.63	58	2148	0.270	ng	91
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	6.67	72	168	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	17747	No Calib		
40) 1-Butanol	9.26	56	12386	No Calib	#	
41) Benzene	8.87	78	180	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.25	84	478	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102204.D Vial: 2
Acq On : 9 Aug 2022 23:40 Operator: SC
Sample : MB R9081022 1000mL Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 06:58:26 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

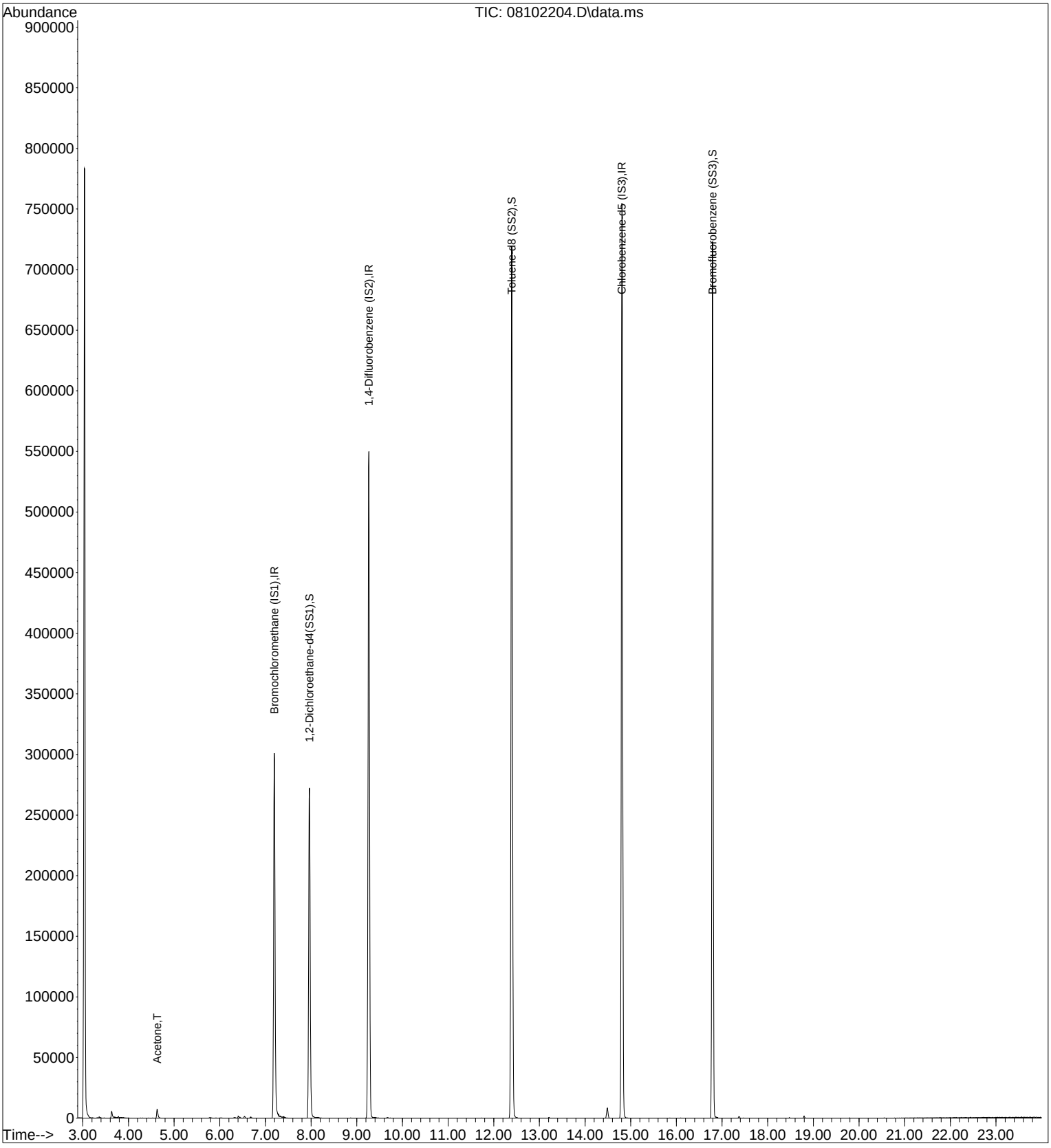
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	0.00	91	0	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	0.00	91	0	N.D.	
67) m- & p-Xylenes	0.00	91	0	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	0.00	91	0	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.79	105	295	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	16.79	105	295	No Calib	#
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102204.D Vial: 2
Acq On : 9 Aug 2022 23:40 Operator: SC
Sample : MB R9081022 1000mL Inst : MS09
Misc : S35-07192201

Quant Time: Aug 10 06:58:26 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102205.D Vial: 2
Acq On : 10 Aug 2022 00:12 Operator: SC
Sample : LCS R9081022 5.0ng Inst : MS09
Misc : S35-07192201/S35-07202205 (8/19)

Quant Time: Aug 10 06:58:29 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	138575	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	561939	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	119608	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	269425	11.588	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.72%				
57) Toluene-d8 (SS2)	12.40	98	611492	12.181	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
73) Bromofluorobenzene (SS3)	16.79	174	279179	13.767	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%				
Target Compounds							Qvalue
2) Propene	3.25	42	57163	4.306	ng		94
3) Dichlorodifluoromethan...	3.32	85	177608	5.421	ng		99
4) Chloromethane	3.46	50	71813	4.765	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.56	135	85216	6.009	ng		99
6) Vinyl Chloride	3.65	62	83005	5.920	ng		99
7) 1,3-Butadiene	3.76	54	66269	6.558	ng		97
8) Bromomethane	3.98	94	54574	4.991	ng		94
9) Chloroethane	4.12	64	33462	4.422	ng		97
10) Ethanol	4.27	45	183386	20.915	ng		99
11) Acetonitrile	4.41	41	96853	3.758	ng		98
12) Acrolein	4.50	56	60997	9.149	ng		95
13) Acetone	4.60	58	183891	22.427	ng	#	79
14) Trichlorofluoromethane	4.72	101	175312	5.307	ng		98
15) 2-Propanol (Isopropanol)	4.82	45	346245	10.498	ng		95
16) Acrylonitrile	4.97	53	130785	9.335	ng		94
17) 1,1-Dichloroethene	5.23	96	64721	5.572	ng		93
18) 2-Methyl-2-Propanol (t...	5.29	59	350986	11.268	ng		97
19) Methylene Chloride	5.33	84	61550	4.860	ng		97
20) 3-Chloro-1-propene (Al...	5.42	41	102714	4.320	ng		95
21) Trichlorotrifluoroethane	5.54	151	77820	5.777	ng		92
22) Carbon Disulfide	5.57	76	406939	9.266	ng		99
23) trans-1,2-Dichloroethene	6.11	61	94157	5.087	ng		94
24) 1,1-Dichloroethane	6.29	63	110021	4.986	ng		99
25) Methyl tert-Butyl Ether	6.33	73	216439	5.314	ng		99
26) Vinyl Acetate	6.41	86	42644	29.157	ng	#	88
27) 2-Butanone (MEK)	6.63	72	70450	9.533	ng		99
28) cis-1,2-Dichloroethene	7.06	61	91045	4.975	ng		93
29) Diisopropyl Ether	7.25	87	102817	10.464	ng	#	51
30) Ethyl Acetate	7.25	61	61309	12.983	ng		92
31) n-Hexane	7.27	57	88361	4.846	ng		99
32) Chloroform	7.34	83	138107	5.230	ng		96
34) Tetrahydrofuran (THF)	7.72	72	69410	9.700	ng		94
35) Ethyl tert-Butyl Ether	7.79	87	159658	10.912	ng		93
36) 1,2-Dichloroethane	8.09	62	126855	5.599	ng		98
38) 1,1,1-Trichloroethane	8.37	97	150440	5.741	ng		98
39) Isopropyl Acetate	9.27	61	18751	No Calib			
40) 1-Butanol	9.18	56	185868	No Calib			
41) Benzene	8.87	78	233958	5.208	ng		100
42) Carbon Tetrachloride	9.04	117	132287	5.862	ng		99
43) Cyclohexane	9.18	84	176747	10.738	ng		94
44) tert-Amyl Methyl Ether	9.56	73	364097	11.061	ng		98
45) 1,2-Dichloropropane	9.83	63	50573	4.721	ng		99
46) Bromodichloromethane	10.04	83	113493	5.478	ng		97
47) Trichloroethene	10.12	130	85670	6.427	ng		99
48) 1,4-Dioxane	10.08	88	50672	6.248	ng		92
49) 2,2,4-Trimethylpentane...	10.20	57	215640	4.972	ng		96
50) Methyl Methacrylate	10.37	100	51639	12.325	ng	#	83

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102205.D Vial: 2
Acq On : 10 Aug 2022 00:12 Operator: SC
Sample : LCS R9081022 5.0ng Inst : MS09
Misc : S35-07192201/S35-07202205 (8/19)

Quant Time: Aug 10 06:58:29 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

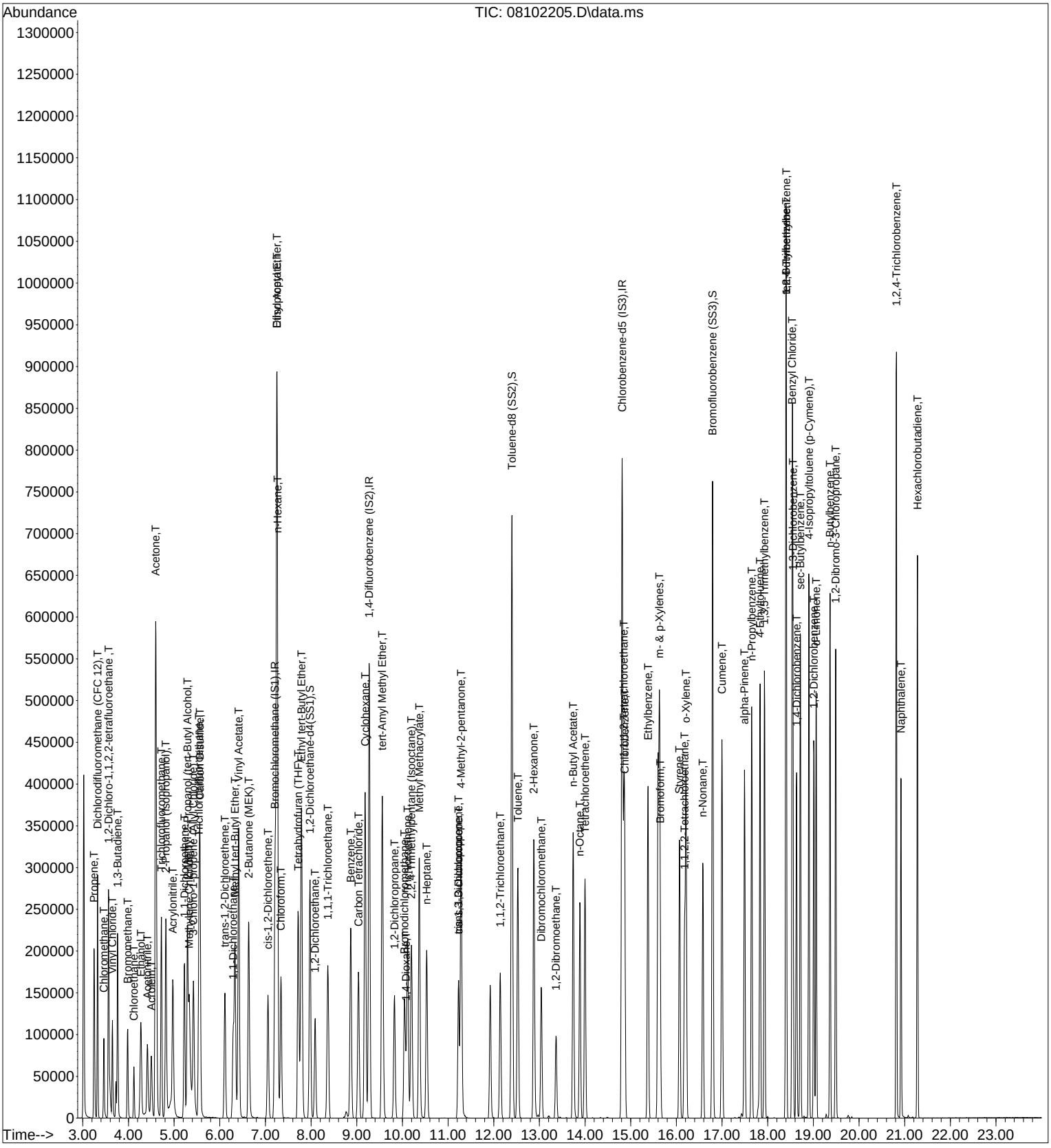
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.53	71	52505	5.115	ng		99
52) cis-1,3-Dichloropropene	11.23	75	101630	5.507	ng		100
53) 4-Methyl-2-pentanone	11.29	58	97153	10.334	ng		94
54) trans-1,3-Dichloropropene	11.23	75	101630	5.297	ng		100
55) 1,1,2-Trichloroethane	12.14	97	66004	5.440	ng		94
58) Toluene	12.53	91	272007	5.385	ng		99
59) 2-Hexanone	12.88	43	286460	10.272	ng		97
60) Dibromochloromethane	13.04	129	107022	6.115	ng		100
61) 1,2-Dibromoethane	13.36	107	82093	5.376	ng		99
62) n-Butyl Acetate	13.74	43	304471	10.260	ng		100
63) n-Octane	13.89	57	45269	5.096	ng		94
64) Tetrachloroethene	14.00	166	102854	5.867	ng		99
65) Chlorobenzene	14.87	112	190942	5.544	ng		100
66) Ethylbenzene	15.38	91	333799	5.596	ng		97
67) m- & p-Xylenes	15.62	91	559954	11.304	ng		97
68) Bromoform	15.65	173	98029	6.091	ng		100
69) Styrene	16.07	104	186012	5.516	ng		98
70) o-Xylene	16.21	91	277210	5.782	ng		97
71) n-Nonane	16.58	43	118144	4.928	ng		95
72) 1,1,2,2-Tetrachloroethane	16.18	83	104430	4.894	ng		96
74) Cumene	17.00	105	344400	5.751	ng		96
75) alpha-Pinene	17.49	93	164401	5.654	ng		100
76) n-Propylbenzene	17.65	91	400579	5.606	ng		97
77) 3-Ethyltoluene	17.00	105	344400	No Calib			
78) 4-Ethyltoluene	17.83	105	333279	5.825	ng		94
79) 1,3,5-Trimethylbenzene	17.93	105	299503	6.012	ng		95
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.49	105	20547	No Calib			
82) 1,2,4-Trimethylbenzene	18.41	105	308690	5.996	ng		94
83) n-Decane	16.79	58	146	No Calib		#	
84) Benzyl Chloride	18.54	91	433191	10.758	ng		98
85) 1,3-Dichlorobenzene	18.55	146	177829	5.589	ng		98
86) 1,4-Dichlorobenzene	18.63	146	170597	5.279	ng		99
87) sec-Butylbenzene	18.72	105	378167	5.668	ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	356989	6.244	ng		98
89) 1,2,3-Trimethylbenzene	18.41	105	308690	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	178945	5.820	ng		99
91) d-Limonene	19.06	68	83522	5.012	ng		89
92) 1,2-Dibromo-3-Chloropr...	19.49	157	145308	11.826	ng		95
93) n-Undecane	17.93	58	3418	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	258227	9.779	ng		99
95) Naphthalene	20.92	128	288897	4.655	ng		99
96) n-Dodecane	18.90	58	5777	No Calib		#	
97) Hexachlorobutadiene	21.28	225	115180	5.870	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.40	119	308021	6.228	ng		99
100) n-Butylbenzene	19.37	91	306651	5.670	ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	89076	6.113	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102205.D Vial: 2
Acq On : 10 Aug 2022 00:12 Operator: SC
Sample : LCS R9081022 5.0ng Inst : MS09
Misc : S35-07192201/S35-07202205 (8/19)

Quant Time: Aug 10 06:58:29 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102206.D Vial: 2
Acq On : 10 Aug 2022 00:45 Operator: SC
Sample : LCSD R9081022 5.0ng Inst : MS09
Misc : S35-07192201/S35-07202205 (8/19)

Quant Time: Aug 10 08:30:19 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/10/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	139963	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.28	114	563385	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.81	54	118144	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	269228	11.464	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.68%				
57) Toluene-d8 (SS2)	12.40	98	610255	12.307	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
73) Bromofluorobenzene (SS3)	16.79	174	279880	13.972	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.76%				
Target Compounds							Qvalue
2) Propene	3.25	42	58520	4.364	ng		95
3) Dichlorodifluoromethan...	3.33	85	179368	5.420	ng		99
4) Chloromethane	3.47	50	72310	4.751	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	84419	5.894	ng		98
6) Vinyl Chloride	3.65	62	84756	5.985	ng		98
7) 1,3-Butadiene	3.77	54	66380	6.503	ng		96
8) Bromomethane	3.98	94	54904	4.971	ng		94
9) Chloroethane	4.13	64	33193m	4.343	ng		
10) Ethanol	4.28	45	182797	20.641	ng		100
11) Acetonitrile	4.42	41	97988	3.764	ng		98
12) Acrolein	4.51	56	61746	9.169	ng		99
13) Acetone	4.60	58	184813	22.316	ng	#	79
14) Trichlorofluoromethane	4.72	101	175961	5.274	ng		98
15) 2-Propanol (Isopropanol)	4.82	45	349092	10.479	ng		95
16) Acrylonitrile	4.97	53	132030	9.330	ng		92
17) 1,1-Dichloroethene	5.23	96	64691	5.514	ng		96
18) 2-Methyl-2-Propanol (t...	5.29	59	354543	11.270	ng		97
19) Methylene Chloride	5.33	84	62984	4.924	ng		96
20) 3-Chloro-1-propene (Al...	5.43	41	105561	4.396	ng		94
21) Trichlorotrifluoroethane	5.55	151	78890	5.799	ng		93
22) Carbon Disulfide	5.57	76	409121	9.223	ng		99
23) trans-1,2-Dichloroethene	6.12	61	94875	5.075	ng		95
24) 1,1-Dichloroethane	6.30	63	110765	4.970	ng		99
25) Methyl tert-Butyl Ether	6.33	73	219591	5.338	ng		99
26) Vinyl Acetate	6.42	86	43075	29.160	ng	#	92
27) 2-Butanone (MEK)	6.64	72	70958	9.506	ng		98
28) cis-1,2-Dichloroethene	7.06	61	91679	4.960	ng		94
29) Diisopropyl Ether	7.25	87	104907	10.571	ng	#	50
30) Ethyl Acetate	7.25	61	61861	12.970	ng		94
31) n-Hexane	7.27	57	88522	4.807	ng		100
32) Chloroform	7.34	83	139757	5.240	ng		97
34) Tetrahydrofuran (THF)	7.72	72	70434	9.745	ng		94
35) Ethyl tert-Butyl Ether	7.79	87	162422	10.990	ng		93
36) 1,2-Dichloroethane	8.09	62	127230	5.560	ng		98
38) 1,1,1-Trichloroethane	8.37	97	152197	5.793	ng		98
39) Isopropyl Acetate	9.28	61	18632	No Calib			
40) 1-Butanol	9.18	56	187746	No Calib			
41) Benzene	8.87	78	236016	5.240	ng		99
42) Carbon Tetrachloride	9.04	117	134607	5.950	ng		98
43) Cyclohexane	9.18	84	179918	10.902	ng		93
44) tert-Amyl Methyl Ether	9.56	73	372300	11.281	ng		98
45) 1,2-Dichloropropane	9.83	63	51002	4.749	ng		100
46) Bromodichloromethane	10.05	83	114851	5.529	ng		97
47) Trichloroethene	10.12	130	87310	6.533	ng		100
48) 1,4-Dioxane	10.09	88	51711	6.360	ng		92
49) 2,2,4-Trimethylpentane...	10.20	57	217965	5.012	ng		95
50) Methyl Methacrylate	10.37	100	52401	12.475	ng	#	82

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102206.D Vial: 2
Acq On : 10 Aug 2022 00:45 Operator: SC
Sample : LCSD R9081022 5.0ng Inst : MS09
Misc : S35-07192201/S35-07202205 (8/19)

Quant Time: Aug 10 08:30:19 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

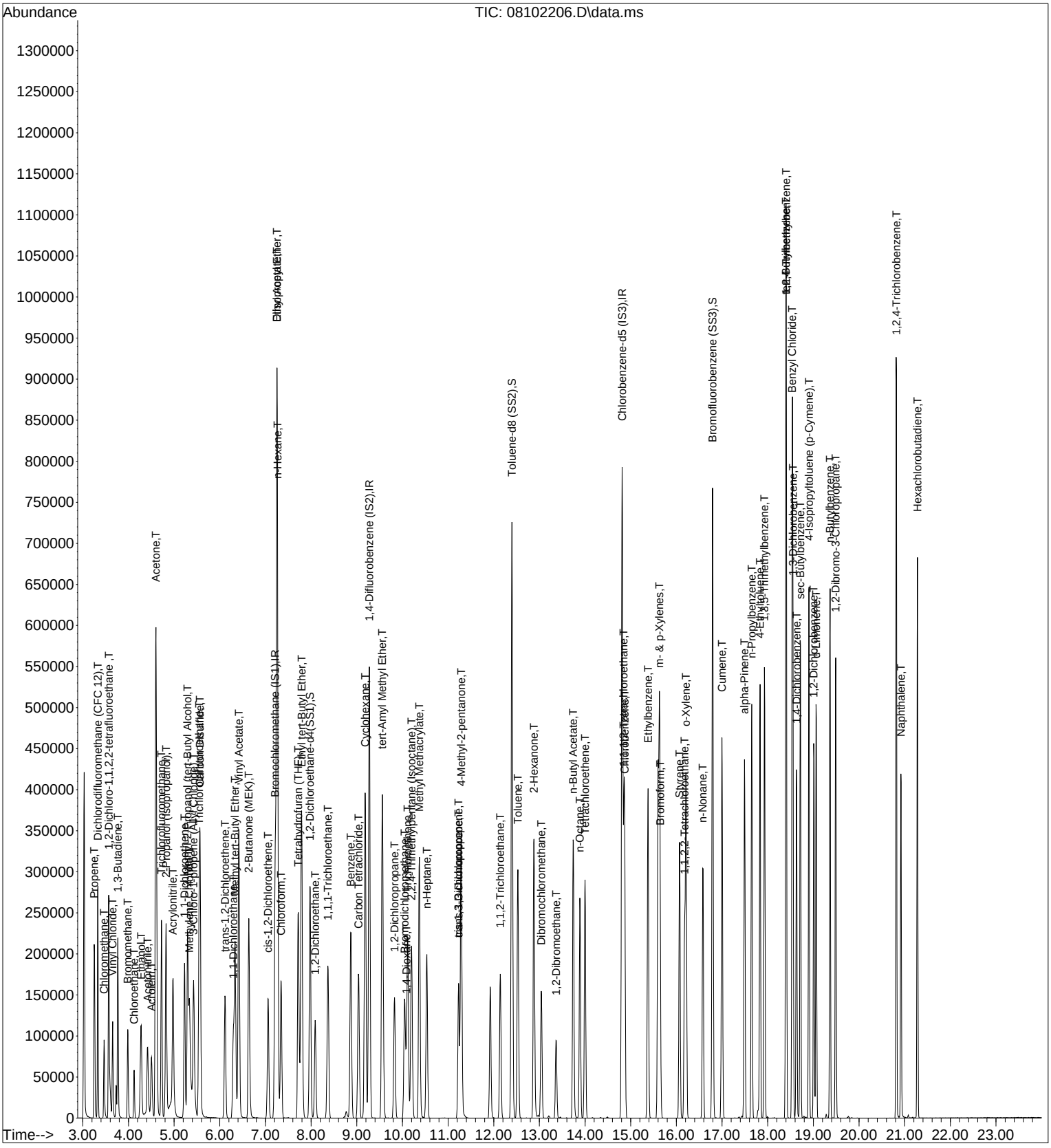
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	52652	5.116	ng		98
52) cis-1,3-Dichloropropene	11.23	75	102195	5.523	ng		100
53) 4-Methyl-2-pentanone	11.29	58	99687	10.577	ng		96
54) trans-1,3-Dichloropropene	11.23	75	102195	5.313	ng		100
55) 1,1,2-Trichloroethane	12.14	97	66376	5.456	ng		93
58) Toluene	12.53	91	277055	5.553	ng		99
59) 2-Hexanone	12.88	43	292298	10.612	ng		97
60) Dibromochloromethane	13.04	129	107359	6.211	ng		99
61) 1,2-Dibromoethane	13.37	107	82843	5.492	ng		98
62) n-Butyl Acetate	13.74	43	306855	10.469	ng		100
63) n-Octane	13.89	57	46544	5.304	ng		94
64) Tetrachloroethene	14.00	166	103770	5.992	ng		99
65) Chlorobenzene	14.87	112	192650	5.663	ng		99
66) Ethylbenzene	15.38	91	338014	5.737	ng		97
67) m- & p-Xylenes	15.62	91	560102	11.447	ng		97
68) Bromoform	15.65	173	98414	6.191	ng		99
69) Styrene	16.07	104	188920	5.672	ng		98
70) o-Xylene	16.21	91	279205	5.896	ng		98
71) n-Nonane	16.58	43	119364	5.040	ng		97
72) 1,1,2,2-Tetrachloroethane	16.18	83	105039	4.984	ng		96
74) Cumene	17.00	105	349593	5.910	ng		96
75) alpha-Pinene	17.49	93	169607	5.905	ng		100
76) n-Propylbenzene	17.65	91	405310	5.743	ng		97
77) 3-Ethyltoluene	17.00	105	349593	No Calib			
78) 4-Ethyltoluene	17.83	105	333737	5.905	ng		94
79) 1,3,5-Trimethylbenzene	17.93	105	301153	6.120	ng		95
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.50	105	21467	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.41	105	308566	6.068	ng		94
83) n-Decane	16.58	58	4014	No Calib		#	
84) Benzyl Chloride	18.54	91	449941	11.312	ng		99
85) 1,3-Dichlorobenzene	18.55	146	178514	5.680	ng		99
86) 1,4-Dichlorobenzene	18.63	146	171080	5.359	ng		99
87) sec-Butylbenzene	18.72	105	379990	5.766	ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	357690	6.334	ng		98
89) 1,2,3-Trimethylbenzene	18.41	105	308566	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	177554	5.846	ng		99
91) d-Limonene	19.06	68	85875	5.217	ng		90
92) 1,2-Dibromo-3-Chloropr...	19.49	157	145929	12.024	ng		94
93) n-Undecane	17.92	58	3844	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	260299	9.980	ng		99
95) Naphthalene	20.92	128	294043	4.797	ng		99
96) n-Dodecane	18.90	58	4988	No Calib		#	
97) Hexachlorobutadiene	21.28	225	116311	6.001	ng		100
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.40	119	308622	6.317	ng		99
100) n-Butylbenzene	19.37	91	307796	5.762	ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	88917	6.178	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102206.D Vial: 2
Acq On : 10 Aug 2022 00:45 Operator: SC
Sample : LCSD R9081022 5.0ng Inst : MS09
Misc : S35-07192201/S35-07202205 (8/19)

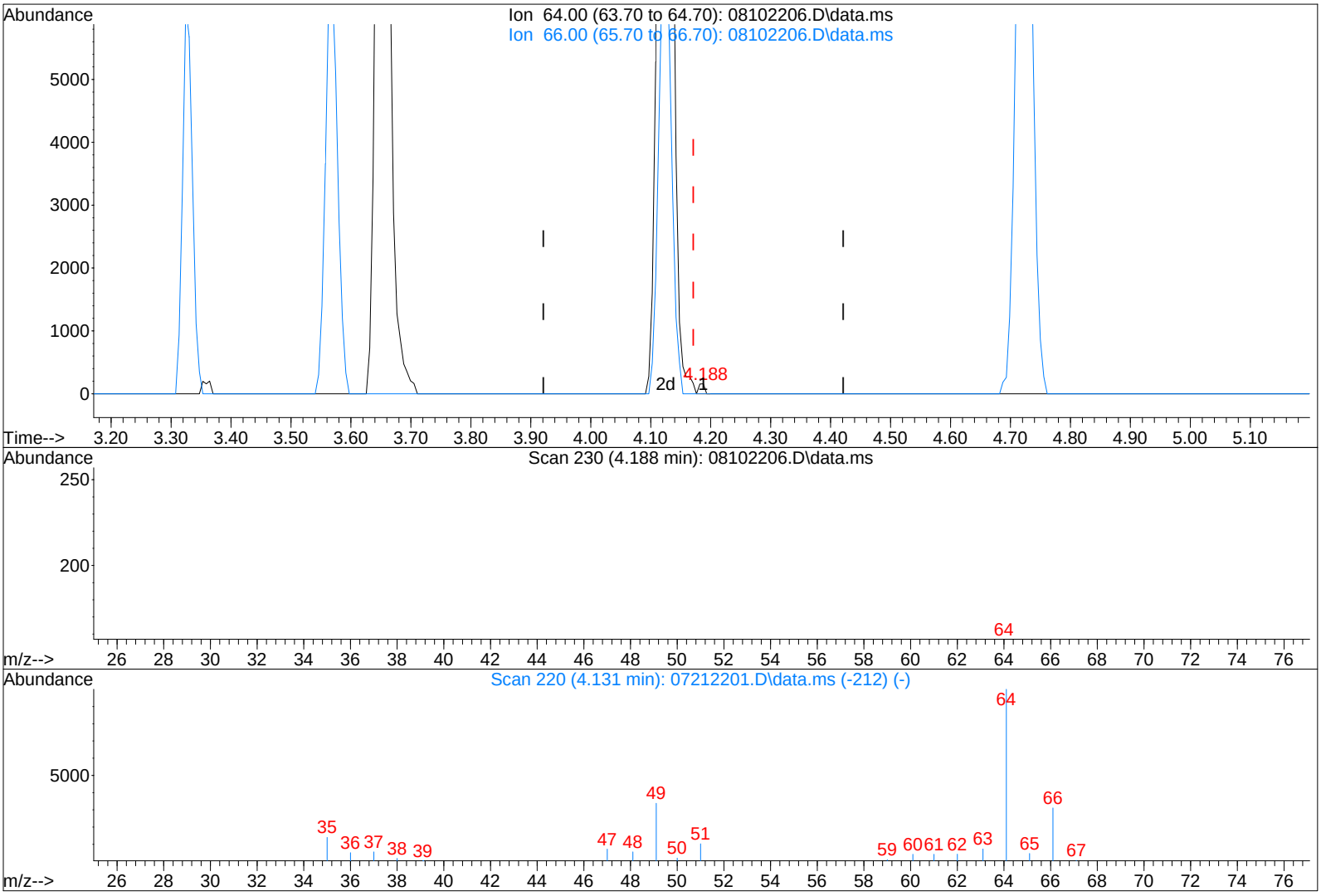
Quant Time: Aug 10 08:30:19 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 08\10\08102206.D Vial: 2
Acq On : 10 Aug 2022 00:45 Operator: SC
Sample : LCSD R9081022 5.0ng Inst : MS09
Misc : S35-07192201/S35-07202205 (8/19)

Quant Time: Aug 10 06:58:32 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 08102206.D\data.ms

(9) Chloroethane (T)

4.188min (+0.017) 0.01ng

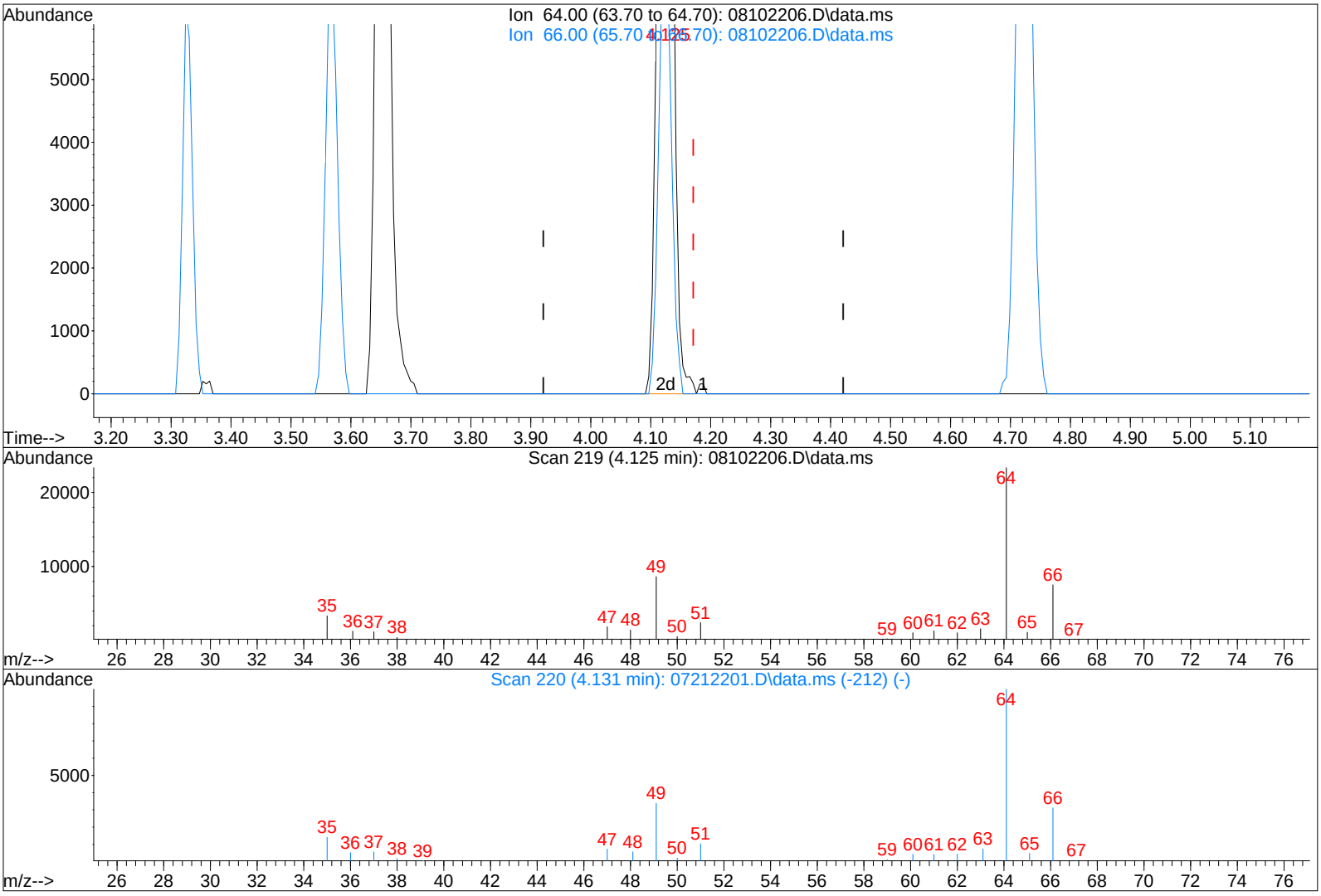
response 107

Ion	Exp%	Act%
64.00	100	100
66.00	31.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 08\10\08102206.D Vial: 2
Acq On : 10 Aug 2022 00:45 Operator: SC
Sample : LCSD R9081022 5.0ng Inst : MS09
Misc : S35-07192201/S35-07202205 (8/19)

Quant Time: Aug 10 06:58:32 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 08102206.D\data.ms

(9) Chloroethane (T)

4.125min (-0.046) 4.34ng m

response 33193

Ion	Exp%	Act%
64.00	100	100
66.00	31.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP

8/10/22

Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9071922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jul 20 08:53:45 2022
Response Via : Initial Calibration

7/20/22

Calibration Files
0.1 =07192212.D 0.2 =07192213.D 0.5 =07192214.D 1.0 =07192215.D 5.0 =07192216.D 25 =07192
100 =07192219.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	1.428	1.214	1.486	1.245	1.109	1.075	1.026	0.998	1.198	15.16
3)	T	Dichlorodifluo...	3.602	3.011	3.913	3.212	2.560	2.683	2.419	2.244	2.956	19.93
4)	T	Chloromethane	1.618	1.380	1.869	1.477	1.184	1.308	1.136	0.903	1.359	22.11
5)	T	1,2-Dichloro-1...	1.546	1.311	1.625	1.355	1.077	1.162	1.101	1.057	1.279	17.06
6)	T	Vinyl Chloride	1.435	1.263	1.648	1.345	1.070	1.160	1.093	1.103	1.265	16.00
7)	T	1,3-Butadiene	1.045	0.818	1.144	0.902	0.794	0.881	0.843	0.865	0.912	13.27
8)	T	Bromomethane	1.163	0.973	1.309	1.020	0.837	0.927	0.853	0.808	0.986	17.63
9)	T	Chloroethane	0.804	0.750	0.854	0.725	0.595	0.630	0.566	0.535	0.683	17.15
10)	T	Ethanol	0.841	0.561	1.137	0.917	0.745	0.773	0.695	0.660	0.791	22.41
11)	T	Acetonitrile	2.956	2.434	2.980	2.435	2.011	2.074	1.907	1.804	2.325	19.63
12)	T	Acrolein	0.675	0.614	0.785	0.643	0.546	0.559	0.507	0.481	0.601	16.53
13)	T	Acetone	1.013	0.795	0.954	0.802	0.626	0.627	0.565	0.534	0.740	24.27
14)	T	Trichlorofluor...	3.681	3.098	3.893	3.147	2.554	2.707	2.460	2.299	2.980	19.47
15)	T	2-Propanol (Is...	3.596	2.956	3.999	3.299	2.463	2.837	2.457	2.194	2.975	20.87
16)	T	Acrylonitrile	1.341	1.141	1.657	1.435	1.182	1.214	1.106	1.035	1.264	16.16
17)	T	1,1-Dichloroet...	1.272	1.029	1.329	1.123	0.918	0.973	0.888	0.849	1.048	17.04
18)	T	2-Methyl-2-Pro...	3.198	2.695	3.626	3.084	2.501	2.872	2.559	1.942	2.810	18.15
19)	T	Methylene Chlo...	1.521	1.122	1.431	1.262	0.965	1.022	0.934	0.883	1.142	20.88
20)	T	3-Chloro-1-pro...		2.113	3.140	2.865	1.973	1.811	1.630	1.481	2.145	29.22
21)	T	Trichlorotrifl...	1.621	1.163	1.541	1.243	1.018	1.104	1.035	0.997	1.215	19.83
22)	T	Carbon Disulfide	4.861	3.888	5.126	4.246	3.464	3.668	3.328	3.111	3.961	18.38
23)	T	trans-1,2-Dich...	1.929	1.568	2.171	1.779	1.482	1.582	1.462	1.383	1.670	16.15
24)	T	1,1-Dichloroet...	2.414	2.052	2.553	2.152	1.712	1.815	1.660	1.567	1.991	18.23
25)	T	Methyl tert-Bu...	3.974	3.522	4.730	3.950	3.243	3.592	3.297	3.085	3.674	14.50
26)	T	Vinyl Acetate	0.077	0.084	0.171	0.145	0.132	0.158	0.148	0.140	0.132	25.64
27)	T	2-Butanone (MEK)	0.757	0.615	0.893	0.729	0.598	0.630	0.574	0.539	0.667	17.64
28)	T	cis-1,2-Dichlo...	1.915	1.593	2.202	1.767	1.429	1.540	1.417	1.344	1.651	17.75
29)	T	Diisopropyl Ether	1.114	0.878	1.141	0.933	0.754	0.794	0.745	0.731	0.886	18.55
30)	T	Ethyl Acetate	0.458	0.414	0.540	0.470	0.379	0.399	0.372	0.375	0.426	13.91
31)	T	n-Hexane	2.006	1.737	2.136	1.709	1.384	1.460	1.362	1.363	1.645	18.47
32)	T	Chloroform	2.909	2.370	3.086	2.565	2.058	2.188	1.995	1.884	2.382	18.41
33)	S	1,2-Dichloroet...	2.120	2.144	2.134	2.132	2.111	2.090	2.033	2.014	2.097	2.32
34)	T	Tetrahydrofura...	0.738	0.655	0.807	0.690	0.579	0.614	0.558	0.522	0.645	14.96
35)	T	Ethyl tert-But...	1.483	1.272	1.685	1.379	1.141	1.288	1.183	1.129	1.320	14.43
36)	T	1,2-Dichloroet...	2.457	2.132	2.621	2.176	1.743	1.881	1.716	1.623	2.044	17.84
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.702	0.576	0.742	0.612	0.498	0.545	0.505	0.482	0.583	16.59
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.315	1.002	1.258	1.048	0.845	0.904	0.832	0.790	0.999	19.79
42)	T	Carbon Tetrach...	0.577	0.460	0.653	0.528	0.436	0.482	0.450	0.430	0.502	15.73
43)	T	Cyclohexane	0.457	0.361	0.466	0.384	0.312	0.337	0.313	0.299	0.366	17.76
44)	T	tert-Amyl Meth...	0.829	0.683	0.908	0.749	0.627	0.728	0.681	0.652	0.732	12.95
45)	T	1,2-Dichloropr...	0.280	0.237	0.320	0.252	0.201	0.220	0.203	0.194	0.238	18.48
46)	T	Bromodichlorom...	0.562	0.428	0.575	0.476	0.403	0.438	0.412	0.393	0.461	15.49
47)	T	Trichloroethene	0.336	0.287	0.371	0.310	0.254	0.285	0.268	0.260	0.297	13.57
48)	T	1,4-Dioxane	0.167	0.144	0.232	0.187	0.174	0.191	0.178	0.171	0.180	13.94
49)	T	2,2,4-Trimethy...	1.192	0.949	1.238	1.035	0.825	0.887	0.819	0.774	0.965	18.15
50)	T	Methyl Methacr...	0.083	0.081	0.119	0.099	0.087	0.097	0.091	0.089	0.093	13.26
51)	T	n-Heptane	0.267	0.221	0.288	0.248	0.200	0.215	0.199	0.189	0.228	15.68
52)	T	cis-1,3-Dichlo...	0.445	0.372	0.505	0.426	0.368	0.411	0.387	0.371	0.411	11.57
53)	T	4-Methyl-2-pen...	0.229	0.187	0.266	0.225	0.185	0.206	0.192	0.184	0.209	13.79
54)	T	trans-1,3-Dich...	0.462	0.386	0.525	0.442	0.382	0.428	0.402	0.386	0.427	11.57

55)	T	1,1,2-Trichlor...	0.329	0.251	0.344	0.287	0.233	0.253	0.236	0.227	0.270	16.72
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	5.380	5.335	5.282	5.301	5.315	5.163	5.118	5.077	5.246	2.13
58)	T	Toluene	6.783	5.176	6.864	5.633	4.534	4.741	4.394	4.107	5.279	20.14
59)	T	2-Hexanone	3.219	2.658	3.675	3.154	2.661	2.844	2.636	2.467	2.914	13.86
60)	T	Dibromochlorom...	2.011	1.751	2.229	1.941	1.620	1.796	1.683	1.601	1.829	11.86
61)	T	1,2-Dibromoethane	1.952	1.504	2.015	1.668	1.398	1.496	1.401	1.333	1.596	16.28
62)	T	n-Butyl Acetate	3.247	2.795	3.890	3.352	2.891	3.097	2.866	2.672	3.101	12.68
63)	T	n-Octane	1.002	0.868	1.252	1.008	0.836	0.877	0.811	0.773	0.928	16.74
64)	T	Tetrachloroethene	2.215	1.769	2.324	1.892	1.567	1.708	1.623	1.558	1.832	15.99
65)	T	Chlorobenzene	4.613	3.568	4.500	3.791	3.044	3.262	3.074	2.942	3.599	18.21
66)	T	Ethylbenzene	7.546	5.877	7.958	6.699	5.502	5.841	5.407	5.039	6.234	16.98
67)	T	m- & p-Xylenes	6.099	4.936	6.577	5.488	4.566	4.882	4.564	4.304	5.177	15.59
68)	T	Bromoform	1.670	1.440	1.954	1.694	1.524	1.802	1.720	1.652	1.682	9.39
69)	T	Styrene	3.911	3.029	4.264	3.779	3.227	3.546	3.314	3.123	3.524	12.23
70)	T	o-Xylene	5.662	4.774	6.414	5.490	4.437	4.749	4.407	4.148	5.010	15.44
71)	T	n-Nonane	2.873	2.376	3.248	2.691	2.256	2.368	2.183	2.050	2.506	16.03
72)	T	1,1,2,2-Tetrac...	2.636	2.151	2.834	2.405	1.989	2.072	1.927	1.826	2.230	16.12
73)	S	Bromofluoroben...	2.095	2.082	2.080	2.104	2.157	2.140	2.162	2.135	2.119	1.57
74)	T	Cumene	7.317	6.045	8.036	6.735	5.488	5.911	5.464	5.071	6.258	16.33
75)	T	alpha-Pinene	3.394	2.902	3.722	3.134	2.681	3.020	2.810	2.647	3.039	12.15
76)	T	n-Propylbenzene	8.518	7.058	9.634	8.206	6.753	7.071	6.500	5.997	7.467	16.22
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	6.762	5.261	7.702	6.561	5.373	5.841	5.305	5.030	5.979	15.71
79)	T	1,3,5-Trimethy...	5.603	4.917	6.673	5.632	4.716	5.047	4.685	4.375	5.206	14.16
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	5.662	4.929	6.859	5.809	4.869	5.323	4.974	4.616	5.380	13.46
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	3.723	3.118	4.797	4.323	4.073	4.840	4.603	4.188	4.208	13.79
85)	T	1,3-Dichlorobe...	3.515	3.198	4.077	3.511	2.932	3.292	3.136	2.942	3.325	11.31
86)	T	1,4-Dichlorobe...	3.767	3.281	4.253	3.528	2.933	3.259	3.081	2.918	3.377	13.53
87)	T	sec-Butylbenzene	8.300	6.562	8.980	7.634	6.154	6.559	6.029	5.561	6.972	17.24
88)	T	4-Isopropyltol...	6.687	5.437	7.505	6.482	5.448	5.843	5.431	4.968	5.975	14.14
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	3.763	3.034	3.960	3.421	2.776	3.090	2.913	2.750	3.213	14.15
91)	T	d-Limonene	1.857	1.486	2.191	1.853	1.598	1.749	1.635	1.565	1.742	12.94
92)	T	1,2-Dibromo-3-...	1.233	1.117	1.552	1.322	1.187	1.346	1.289	1.226	1.284	10.21
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.544	2.205	3.340	2.940	2.543	3.104	2.892	2.510	2.760	13.48
95)	T	Naphthalene	5.666	4.794	7.659	6.899	6.207	7.410	6.941	6.310	6.486	14.57
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	2.373	1.885	2.565	2.157	1.810	2.017	1.896	1.703	2.051	14.40
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	5.901	4.855	6.539	5.571	4.552	5.003	4.645	4.284	5.169	14.87
100)	T	n-Butylbenzene	5.979	5.265	7.239	6.235	5.178	5.541	5.100	4.679	5.652	14.35
101)	T	1,1,1,2-Tetrac...	1.760	1.440	1.936	1.600	1.329	1.448	1.371	1.299	1.523	14.80

(#) = Out of Range

R9071922.M Wed Jul 20 09:38:42 2022

Primary Source Standards Concentrations (Working & Initial Calibration)

7/20/22

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-07192211 | 200ng/L Std. ID: S35-07192209
20ng/L Std. ID: S35-07192210 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Dichlorodifluoromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3-Butadiene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Ethanol	3.62	3620	724	144.8	72.4	14.48	3.62		0.362	0.724	1.810	3.62	18.10	90.50	181.0	362
Acetonitrile	0.93	930	186	37.2	18.6	3.72	0.93		0.093	0.186	0.465	0.93	4.65	23.25	46.5	93
Acrolein	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
Acetone	5.19	5190	1038	207.6	103.8	20.76	5.19		0.519	1.038	2.595	5.19	25.95	129.75	259.5	519
Trichlorofluoromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Isopropanol	2.02	2020	404	80.8	40.4	8.08	2.02		0.202	0.404	1.010	2.02	10.10	50.50	101.0	202
Acrylonitrile	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
1,1-Dichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
tert-Butanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Methylene Chloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Allyl Chloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Methyl tert-Butyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Acetate	3.40	3400	680	136.0	68.0	13.60	3.40		0.340	0.680	1.700	3.40	17.00	85.00	170.0	340
2-Butanone	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
cis-1,2-Dichloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.08	4080	816	163.2	81.6	16.32	4.08		0.408	0.816	2.040	4.08	20.40	102.00	204.0	408
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.97	1970	394	78.8	39.4	7.88	1.97		0.197	0.394	0.985	1.97	9.85	49.25	98.5	197
Ethyl tert-Butyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,1-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Benzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
tert-Amyl Methyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloropropane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Bromodichloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S35-07192211
20ng/L Std. ID: S35-07192210
40ng/L Std. ID:
200ng/L Std. ID: S35-07192209
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.			Primary Working Standards				Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
trans-1,3-Dichloropropene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,2-Trichloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Toluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
2-Hexanone	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Dibromochloromethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
n-Octane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Ethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
m-&p-Xylene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Bromoform	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Styrene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
o-Xylene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
alpha-Pinene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Propylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3,5-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
d-Limonene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,2-Dibromo-3-chloropropane	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,2,4-Trichlorobenzene	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Naphthalene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Calibration Status Report MS09

Method   : I:\MS09\Methods\R9071922.M (RTE Integrator)
Title   : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration

7/20/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\DATA\2022_07\19\07192212.D
2	0.2	0	13	I:\MS09\DATA\2022_07\19\07192213.D
3	0.5	1	13	I:\MS09\DATA\2022_07\19\07192214.D
4	1.0	1	13	I:\MS09\DATA\2022_07\19\07192215.D
5	5.0	5	13	I:\MS09\DATA\2022_07\19\07192216.D
6	25	26	13	I:\MS09\DATA\2022_07\19\07192217.D
7	50	52	13	I:\MS09\DATA\2022_07\19\07192218.D
8	100	104	13	I:\MS09\DATA\2022_07\19\07192219.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Jul 20 08:42 2022	Jul 20 08:37 2022	19 Jul 2022 15:22
2	0.2	Jul 20 08:49 2022	Jul 20 08:48 2022	19 Jul 2022 15:54
3	0.5	Jul 20 08:42 2022	Jul 20 08:33 2022	19 Jul 2022 16:26
4	1.0	Jul 20 08:43 2022	Jul 20 08:32 2022	19 Jul 2022 16:57
5	5.0	Jul 20 08:43 2022	Jul 20 08:31 2022	19 Jul 2022 17:29
6	25	Jul 20 08:43 2022	Jul 20 08:30 2022	19 Jul 2022 18:01
7	50	Jul 20 08:43 2022	Jul 20 08:39 2022	19 Jul 2022 18:33
8	100	Jul 20 08:43 2022	Jul 20 08:40 2022	19 Jul 2022 19:05

R9071922.M Wed Jul 20 09:38:13 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192212.D Vial: 5
Acq On : 19 Jul 2022 15:22 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:37:29 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	139128	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	599227	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	122199	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	295020	13.184	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%				
57) Toluene-d8 (SS2)	12.39	98	657399	13.716	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.76%				
73) Bromofluorobenzene (SS3)	16.79	174	255964	14.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.96%				
Target Compounds							Qvalue
2) Propene	3.29	42	1653	0.085	ng		93
3) Dichlorodifluoromethan...	3.36	85	4210	0.131	ng		98
4) Chloromethane	3.51	50	1837	0.098	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	1858	0.142	ng		96
6) Vinyl Chloride	3.69	62	1661	0.108	ng		95
7) 1,3-Butadiene	3.80	54	1210	0.117	ng		90
8) Bromomethane	4.02	94	1320	0.132	ng		96
9) Chloroethane	4.15	64	913	0.104	ng	#	43
10) Ethanol	4.28	45	3387	0.297	ng		96
11) Acetonitrile	4.44	41	3060	0.081	ng	#	21
12) Acrolein	4.52	56	1502	0.192	ng		92
13) Acetone	4.62	58	5852	0.636	ng		98
14) Trichlorofluoromethane	4.74	101	4220	0.140	ng		97
15) 2-Propanol (Isopropanol)	4.84	45	8084	0.231	ng		87
16) Acrylonitrile	4.97	53	3031	0.173	ng		97
17) 1,1-Dichloroethene	5.24	96	1515	0.125	ng		92
18) 2-Methyl-2-Propanol (t...	5.36	59	7474	0.260	ng		77
19) Methylene Chloride	5.33	84	1761	0.132	ng		97
20) 3-Chloro-1-propene (Al...	5.43	41	3471	0.109	ng		79
21) Trichlorotrifluoroethane	5.56	151	1949	0.156	ng		89
22) Carbon Disulfide	5.60	76	11362	0.265	ng		95
23) trans-1,2-Dichloroethene	6.11	61	2276	0.116	ng		99
24) 1,1-Dichloroethane	6.29	63	2821	0.117	ng		95
25) Methyl tert-Butyl Ether	6.37	73	4644	0.120	ng		98
26) Vinyl Acetate	6.42	86	290	0.166	ng	#	1
27) 2-Butanone (MEK)	6.65	72	1736	0.220	ng	#	74
28) cis-1,2-Dichloroethene	7.04	61	2217	0.117	ng		94
29) Diisopropyl Ether	7.26	87	2629	0.270	ng	#	85
30) Ethyl Acetate	7.27	61	2078	0.401	ng		93
31) n-Hexane	7.27	57	2344	0.107	ng		97
32) Chloroform	7.32	83	3464	0.139	ng		97
34) Tetrahydrofuran (THF)	7.75	72	1619	0.210	ng	#	79
35) Ethyl tert-Butyl Ether	7.80	87	3467	0.242	ng		98
36) 1,2-Dichloroethane	8.07	62	2899	0.137	ng		97
38) 1,1,1-Trichloroethane	8.36	97	3502	0.141	ng		97
39) Isopropyl Acetate	9.26	61	21496	No Calib			
40) 1-Butanol	9.18	56	5205	No Calib			
41) Benzene	8.86	78	6558	0.132	ng		91
42) Carbon Tetrachloride	9.03	117	2902	0.130	ng		99
43) Cyclohexane	9.18	84	4531	0.251	ng		98
44) tert-Amyl Methyl Ether	9.58	73	8307	0.244	ng		97
45) 1,2-Dichloropropane	9.83	63	1383	0.106	ng		100
46) Bromodichloromethane	10.04	83	2831	0.143	ng		84
47) Trichloroethene	10.10	130	1659	0.121	ng		95
48) 1,4-Dioxane	10.13	88	834	0.086	ng	#	43
49) 2,2,4-Trimethylpentane...	10.20	57	6057	0.109	ng		97
50) Methyl Methacrylate	10.39	100	823	0.179	ng	#	64

Data File : I:\MS09\DATA\2022 07\19\07192212.D Vial: 5
Acq On : 19 Jul 2022 15:22 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:37:29 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

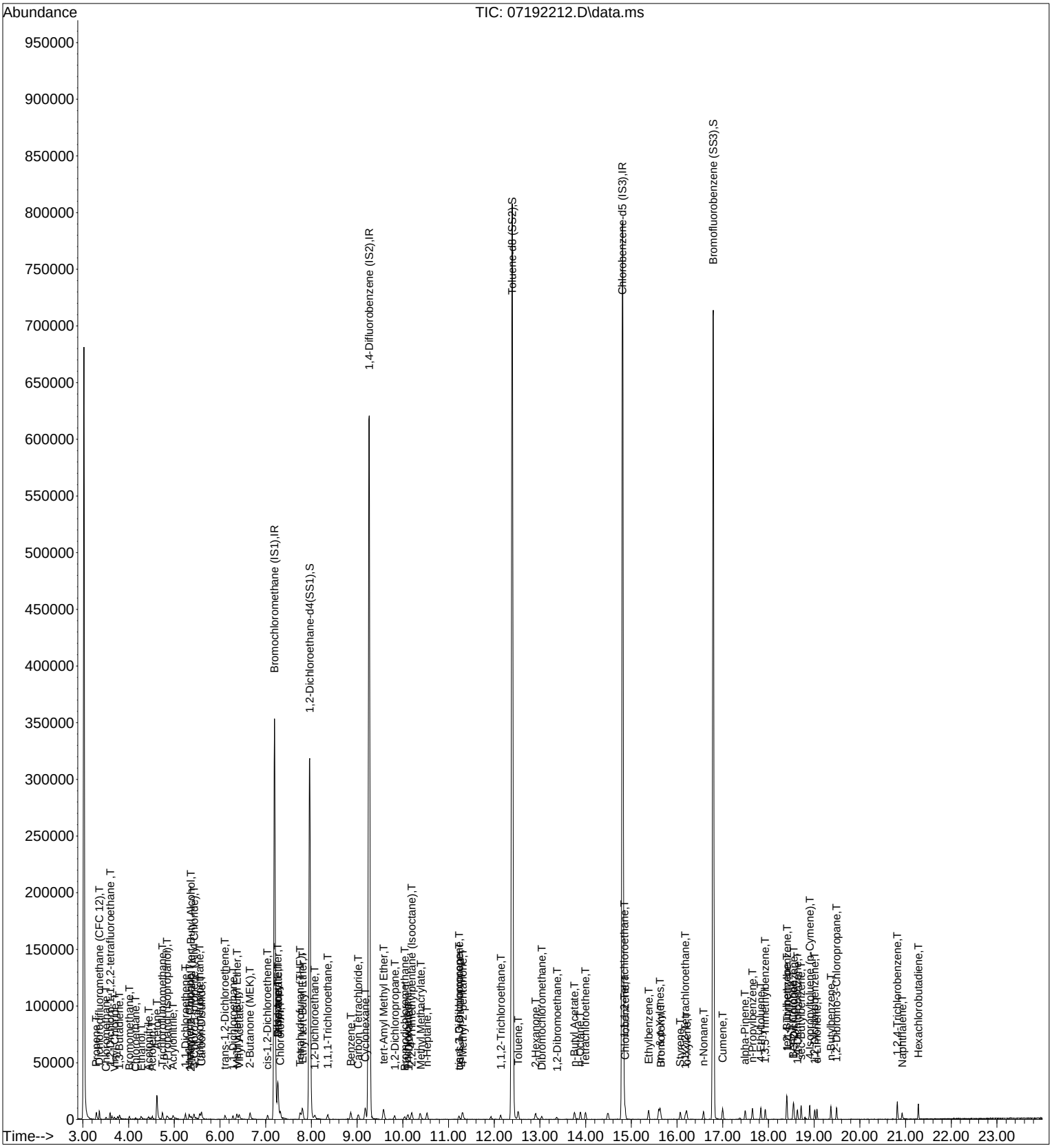
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	1344	0.118 ng		92
52) cis-1,3-Dichloropropene	11.23	75	2238	0.115 ng		92
53) 4-Methyl-2-pentanone	11.31	58	2279	0.196 ng	#	95
54) trans-1,3-Dichloropropene	11.23	75	2238	0.111 ng		92
55) 1,1,2-Trichloroethane	12.14	97	1640	0.127 ng		91
58) Toluene	12.52	91	6830	0.145 ng		97
59) 2-Hexanone	12.90	43	6452	0.196 ng		95
60) Dibromochloromethane	13.04	129	2064	0.141 ng		99
61) 1,2-Dibromoethane	13.37	107	1985	0.142 ng		86
62) n-Butyl Acetate	13.76	43	6476	0.183 ng		97
63) n-Octane	13.88	57	1029	0.105 ng		99
64) Tetrachloroethene	13.99	166	2252	0.152 ng		94
65) Chlorobenzene	14.86	112	4690	0.151 ng		97
66) Ethylbenzene	15.38	91	7598	0.138 ng		96
67) m- & p-Xylenes	15.62	91	12283m	0.277 ng		
68) Bromoform	15.65	173	1698	0.126 ng		97
69) Styrene	16.07	104	3938	0.126 ng		98
70) o-Xylene	16.21	91	5757	0.132 ng		99
71) n-Nonane	16.58	43	2921	0.104 ng		95
72) 1,1,2,2-Tetrachloroethane	16.18	83	2680	0.137 ng		95
74) Cumene	17.00	105	7439	0.141 ng		99
75) alpha-Pinene	17.49	93	3583	0.133 ng		97
76) n-Propylbenzene	17.65	91	8743	0.132 ng		99
77) 3-Ethyltoluene	17.00	105	7439	No Calib		
78) 4-Ethyltoluene	17.83	105	7007	0.139 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	5697	0.131 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.49	105	505	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	5701	0.127 ng		98
83) n-Decane	16.78	58	163	No Calib	#	
84) Benzyl Chloride	18.54	91	7498	0.214 ng		91
85) 1,3-Dichlorobenzene	18.55	146	3574	0.126 ng		95
86) 1,4-Dichlorobenzene	18.63	146	3830	0.137 ng		99
87) sec-Butylbenzene	18.72	105	8439	0.145 ng		98
88) 4-Isopropyltoluene (p-...	18.91	119	6799	0.134 ng		98
89) 1,2,3-Trimethylbenzene	18.41	105	5701	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	3863	0.145 ng		99
91) d-Limonene	19.06	68	1906	0.123 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	2411	0.231 ng	#	77
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.82	180	5073	0.218 ng		99
95) Naphthalene	20.93	128	5761	0.104 ng		97
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.28	225	2389	0.141 ng		96
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	6000	0.138 ng		99
100) n-Butylbenzene	19.37	91	6079	0.122 ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	1789	0.149 ng		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192212.D Vial: 5
Acq On : 19 Jul 2022 15:22 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

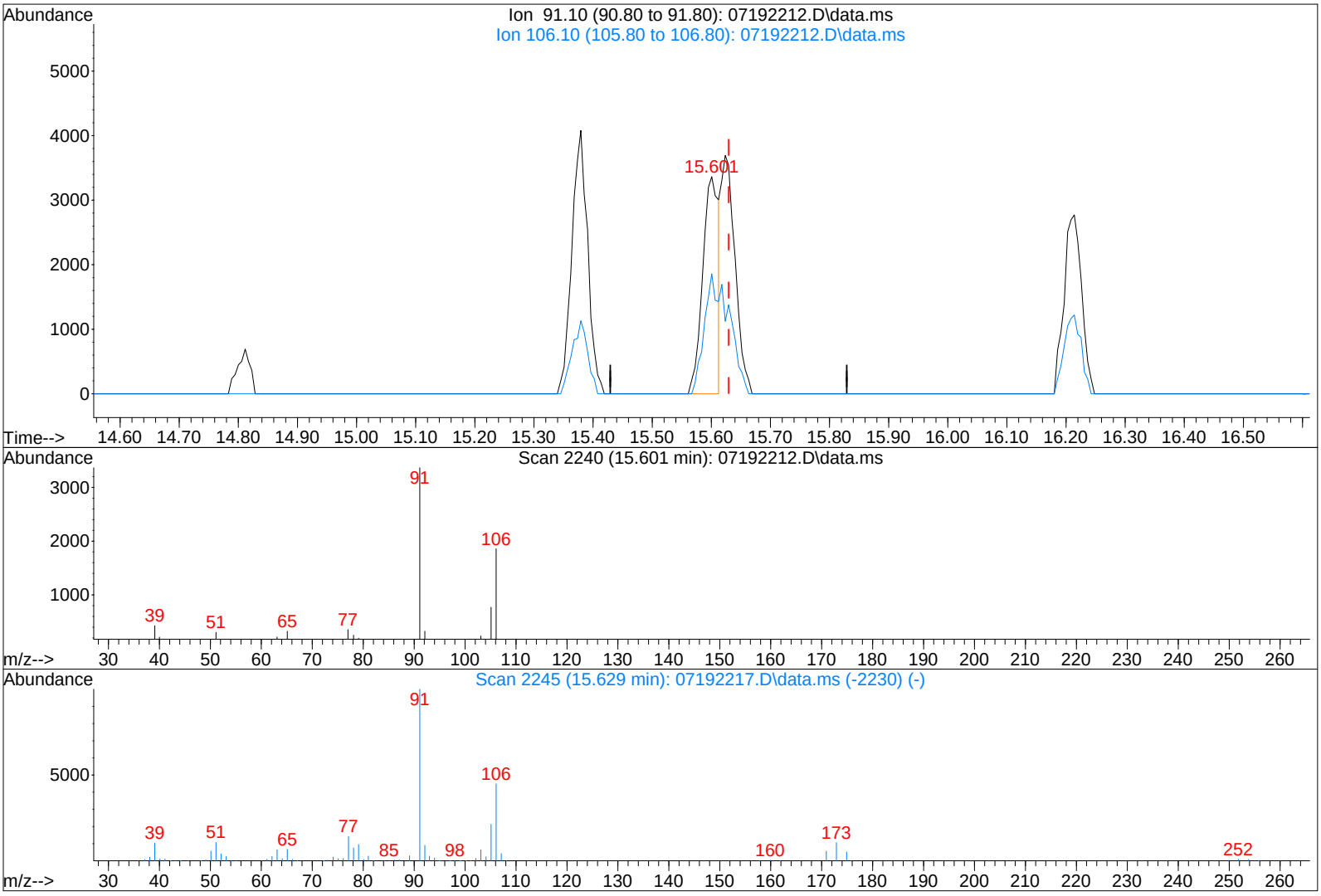
Quant Time: Jul 20 08:37:29 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192212.D Vial: 5
Acq On : 19 Jul 2022 15:22 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:36:37 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192212.D\data.ms

(67) m- & p-Xylenes (T)

15.601min (-0.028) 0.14ng

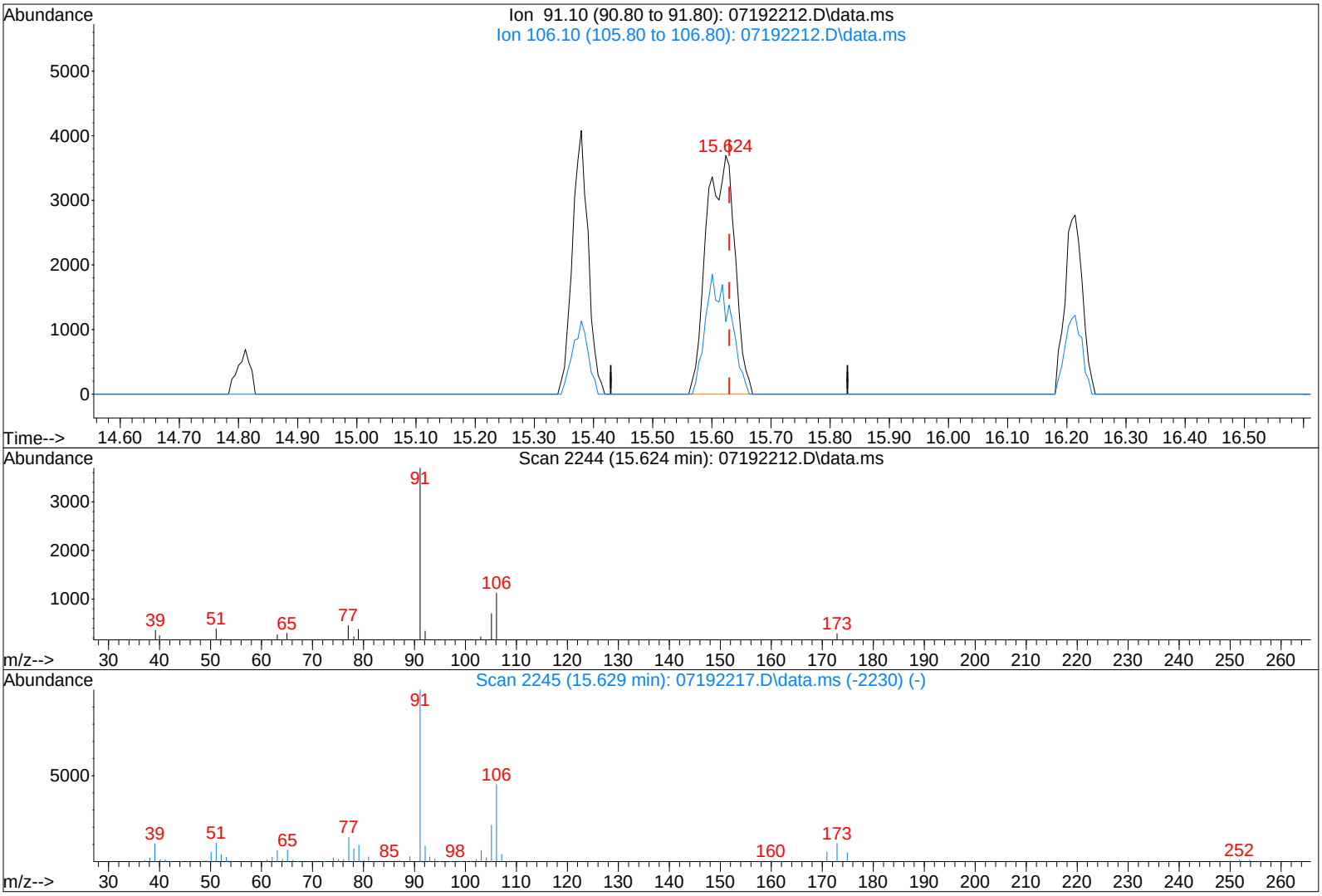
response 6219

Ion	Exp%	Act%
91.10	100	100
106.10	44.00	86.49#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192212.D Vial: 5
Acq On : 19 Jul 2022 15:22 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:36:37 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192212.D\data.ms

(67) m- & p-Xylenes (T)

15.624min (-0.006) 0.28ng m

response 12283

Ion	Exp%	Act%
91.10	100	100
106.10	44.00	43.79
0.00	0.00	0.00
0.00	0.00	0.00

SP

7/20/22

7/27/22

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192213.D Vial: 5
Acq On : 19 Jul 2022 15:54 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:48:23 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	140804	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	615398	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	125729	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	301924	13.332	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%				
57) Toluene-d8 (SS2)	12.39	98	670733	13.602	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
73) Bromofluorobenzene (SS3)	16.79	174	261743	14.030	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.24%				
Target Compounds							Qvalue
2) Propene	3.29	42	2844	0.144	ng		99
3) Dichlorodifluoromethan...	3.36	85	7122	0.219	ng		97
4) Chloromethane	3.50	50	3171	0.167	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	3189	0.240	ng		96
6) Vinyl Chloride	3.69	62	2959	0.191	ng		95
7) 1,3-Butadiene	3.80	54	1916	0.183	ng		88
8) Bromomethane	4.01	94	2237	0.222	ng		91
9) Chloroethane	4.15	64	1723	0.193	ng		85
10) Ethanol	4.27	45	4573	0.396	ng		89
11) Acetonitrile	4.43	41	5099	0.133	ng	#	55
12) Acrolein	4.52	56	2768	0.349	ng		90
13) Acetone	4.61	58	9293	0.998	ng		94
14) Trichlorofluoromethane	4.74	101	7189	0.236	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	13452	0.380	ng		85
16) Acrylonitrile	4.97	53	5216	0.294	ng		98
17) 1,1-Dichloroethene	5.24	96	2480	0.202	ng		100
18) 2-Methyl-2-Propanol (t...	5.37	59	12752	0.438	ng		78
19) Methylene Chloride	5.32	84	2628	0.194	ng		93
20) 3-Chloro-1-propene (Al...	5.43	41	4998m	0.155	ng		
21) Trichlorotrifluoroethane	5.55	151	2829	0.224	ng		97
22) Carbon Disulfide	5.59	76	18394	0.423	ng		96
23) trans-1,2-Dichloroethene	6.11	61	3745	0.189	ng		95
24) 1,1-Dichloroethane	6.29	63	4855	0.199	ng		99
25) Methyl tert-Butyl Ether	6.36	73	8331	0.213	ng		100
26) Vinyl Acetate	6.42	86	646	0.365	ng	#	13
27) 2-Butanone (MEK)	6.65	72	2852	0.357	ng	#	77
28) cis-1,2-Dichloroethene	7.04	61	3732	0.195	ng		98
29) Diisopropyl Ether	7.27	87	4192	0.426	ng		99
30) Ethyl Acetate	7.27	61	3809	0.726	ng		93
31) n-Hexane	7.27	57	4109	0.186	ng		93
32) Chloroform	7.32	83	5714	0.226	ng		97
34) Tetrahydrofuran (THF)	7.75	72	2906	0.373	ng		95
35) Ethyl tert-Butyl Ether	7.80	87	6017	0.415	ng		99
36) 1,2-Dichloroethane	8.08	62	5091	0.238	ng		98
38) 1,1,1-Trichloroethane	8.36	97	5902	0.232	ng		95
39) Isopropyl Acetate	9.26	61	21864	No Calib			
40) 1-Butanol	9.18	56	8245	No Calib			
41) Benzene	8.86	78	10263	0.201	ng		99
42) Carbon Tetrachloride	9.03	117	4754	0.207	ng		98
43) Cyclohexane	9.18	84	7357	0.396	ng		99
44) tert-Amyl Methyl Ether	9.57	73	14063	0.402	ng		97
45) 1,2-Dichloropropane	9.83	63	2400	0.178	ng		98
46) Bromodichloromethane	10.04	83	4424	0.218	ng		100
47) Trichloroethene	10.11	130	2914	0.206	ng		99
48) 1,4-Dioxane	10.12	88	1473	0.148	ng		91
49) 2,2,4-Trimethylpentane...	10.20	57	9903	0.174	ng		97
50) Methyl Methacrylate	10.38	100	1650	0.350	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192213.D Vial: 5
Acq On : 19 Jul 2022 15:54 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:48:23 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

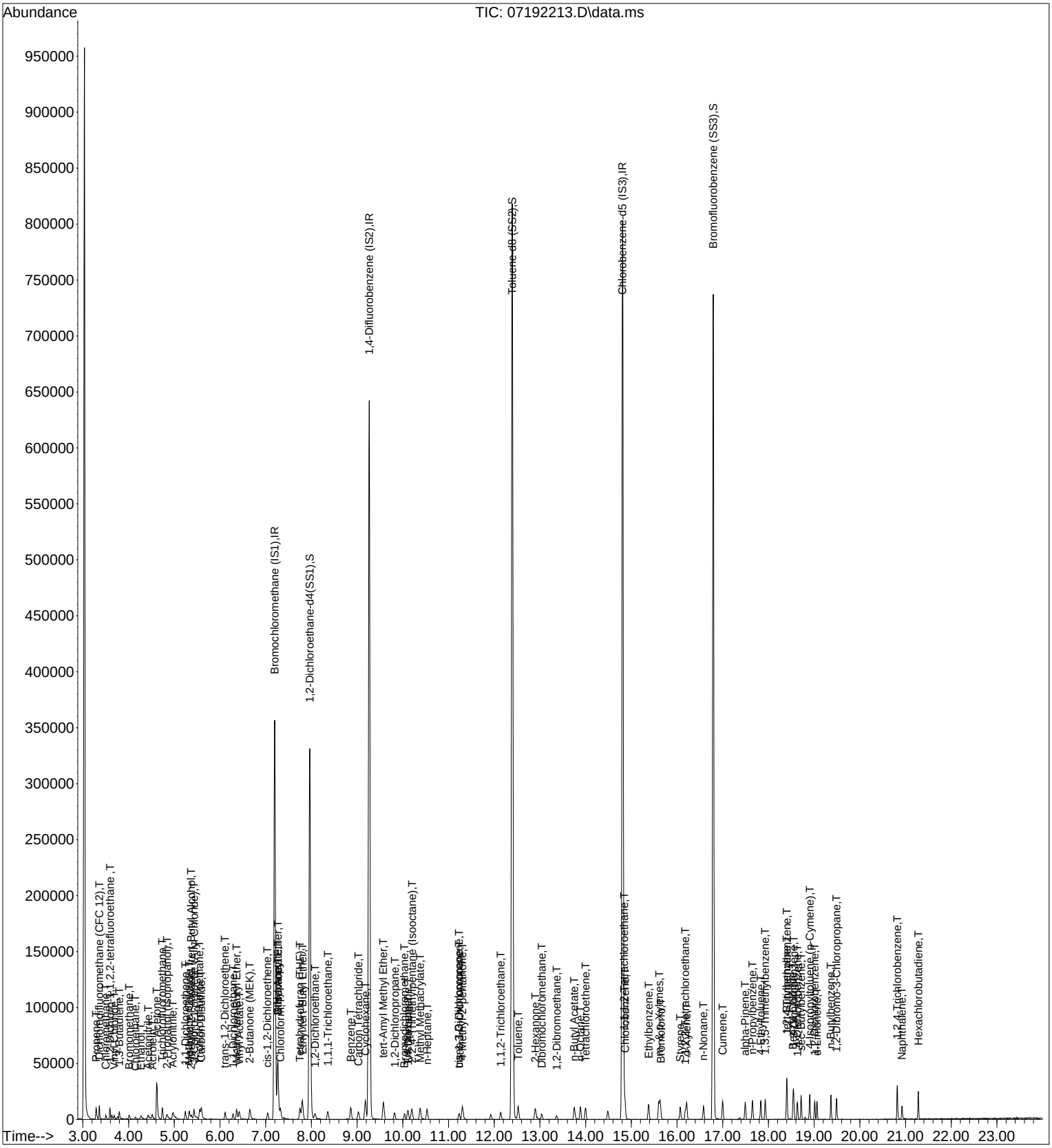
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.54	71	2283	0.195 ng	98
52) cis-1,3-Dichloropropene	11.23	75	3842	0.192 ng	91
53) 4-Methyl-2-pentanone	11.30	58	3821	0.320 ng	95
54) trans-1,3-Dichloropropene	11.23	75	3842	0.185 ng	91
55) 1,1,2-Trichloroethane	12.14	97	2573	0.194 ng	94
58) Toluene	12.52	91	10725	0.221 ng	96
59) 2-Hexanone	12.90	43	10963	0.324 ng	97
60) Dibromochloromethane	13.04	129	3698	0.245 ng	91
61) 1,2-Dibromoethane	13.37	107	3146	0.219 ng	97
62) n-Butyl Acetate	13.75	43	11472	0.316 ng	98
63) n-Octane	13.89	57	1833	0.181 ng	94
64) Tetrachloroethene	14.00	166	3702	0.243 ng	99
65) Chlorobenzene	14.86	112	7464	0.233 ng	97
66) Ethylbenzene	15.38	91	12177	0.215 ng	97
67) m- & p-Xylenes	15.61	91	20456	0.448 ng	99
68) Bromoform	15.65	173	3012	0.218 ng	96
69) Styrene	16.07	104	6276	0.195 ng	99
70) o-Xylene	16.21	91	9988	0.222 ng	100
71) n-Nonane	16.58	43	4971	0.172 ng	94
72) 1,1,2,2-Tetrachloroethane	16.18	83	4501	0.223 ng	99
74) Cumene	17.00	105	12646	0.232 ng	99
75) alpha-Pinene	17.49	93	6305	0.227 ng	96
76) n-Propylbenzene	17.65	91	14909	0.218 ng	99
77) 3-Ethyltoluene	17.00	105	12646	No Calib	
78) 4-Ethyltoluene	17.83	105	11218	0.216 ng	98
79) 1,3,5-Trimethylbenzene	17.93	105	10287	0.230 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.50	105	860	No Calib #	
82) 1,2,4-Trimethylbenzene	18.41	105	10213	0.220 ng	99
83) n-Decane	16.79	58	119	No Calib #	
84) Benzyl Chloride	18.54	91	12921	0.358 ng	93
85) 1,3-Dichlorobenzene	18.55	146	6691	0.230 ng	100
86) 1,4-Dichlorobenzene	18.63	146	6865	0.239 ng	96
87) sec-Butylbenzene	18.72	105	13729	0.229 ng	98
88) 4-Isopropyltoluene (p-...	18.91	119	11375	0.218 ng	97
89) 1,2,3-Trimethylbenzene	18.41	105	10213	No Calib	
90) 1,2-Dichlorobenzene	19.01	146	6408	0.233 ng	98
91) d-Limonene	19.06	68	3139	0.197 ng	97
92) 1,2-Dibromo-3-Chloropr...	19.49	157	4496	0.418 ng	87
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.82	180	9047	0.378 ng	98
95) Naphthalene	20.92	128	10029	0.176 ng	94
96) n-Dodecane	18.90	58	384	No Calib #	
97) Hexachlorobutadiene	21.28	225	3905	0.223 ng	98
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.40	119	10158	0.227 ng	98
100) n-Butylbenzene	19.37	91	11015	0.214 ng	97
101) 1,1,1,2-Tetrachloroethane	14.85	131	3013	0.245 ng	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192213.D Vial: 5
Acq On : 19 Jul 2022 15:54 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

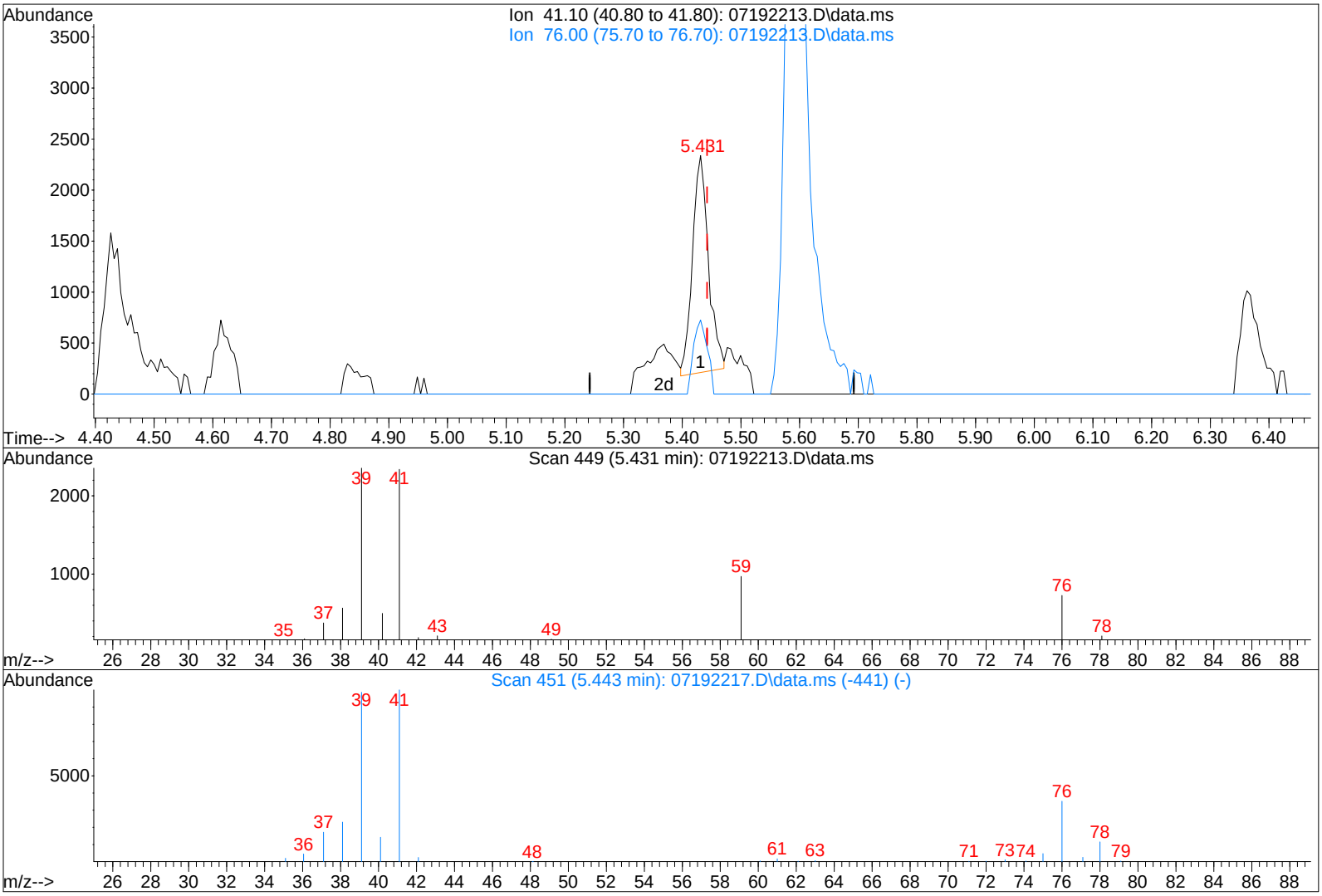
Quant Time: Jul 20 08:48:23 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192213.D Vial: 5
Acq On : 19 Jul 2022 15:54 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:35:09 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192213.D\data.ms

(20) 3-Chloro-1-propene (Allyl Chloride) (T)

5.431min (-0.011) 0.13ng

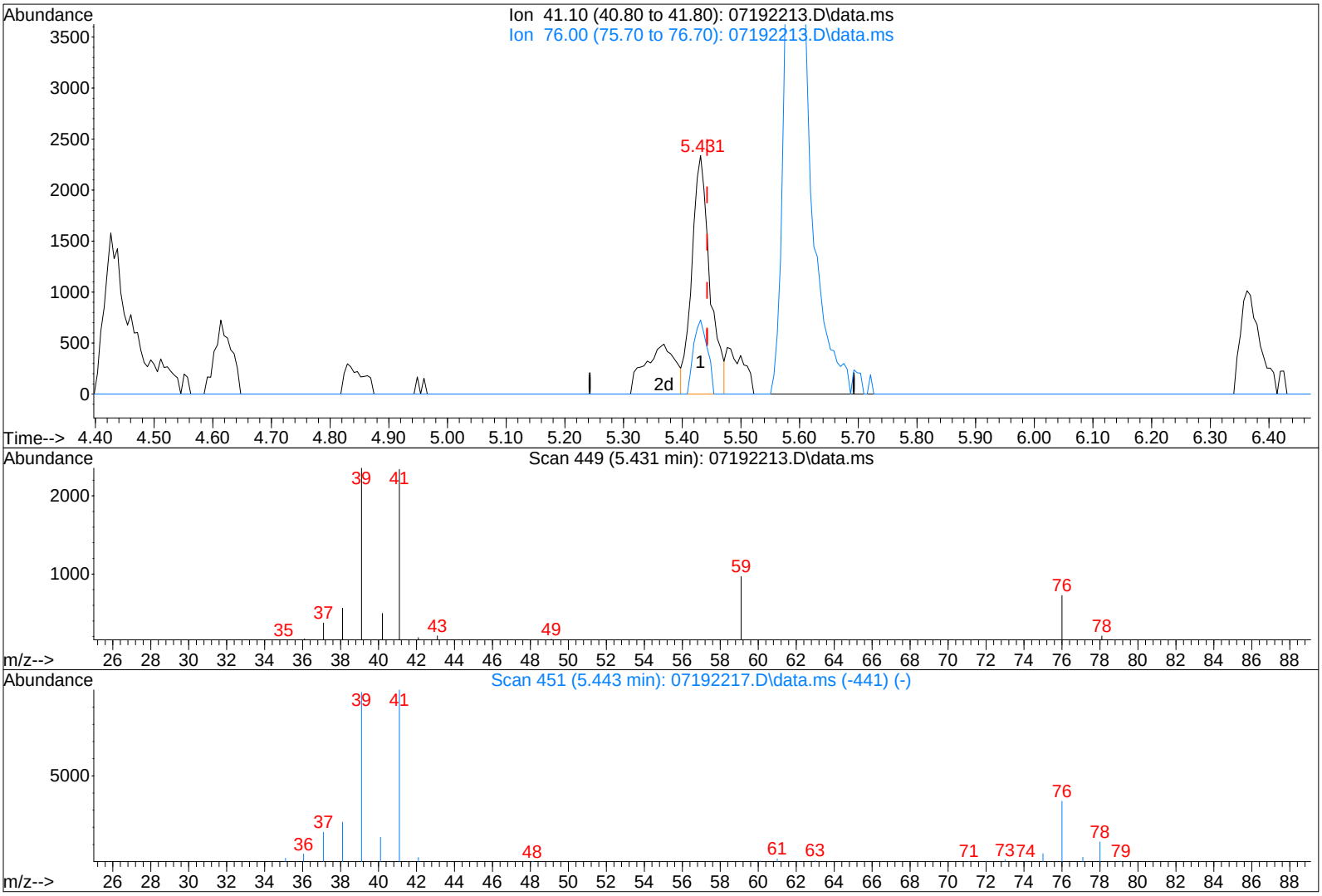
response 4048

Ion	Exp%	Act%
41.10	100	100
76.00	30.40	29.17
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192213.D Vial: 5
Acq On : 19 Jul 2022 15:54 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192211 (8/18)

Quant Time: Jul 20 08:35:09 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192213.D\data.ms

(20) 3-Chloro-1-propene (Allyl Chloride) (T)

5.431min (-0.011) 0.15ng m

response 4998

Ion	Exp%	Act%
41.10	100	100
76.00	30.40	23.63
0.00	0.00	0.00
0.00	0.00	0.00

BLC

7/20/22 7/27/22

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192214.D Vial: 6
Acq On : 19 Jul 2022 16:26 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:33:46 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	142495	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	615389	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	127009	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	304016	13.265	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
57) Toluene-d8 (SS2)	12.39	98	670892	13.468	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.76%				
73) Bromofluorobenzene (SS3)	16.79	174	264134	14.016	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.16%				
Target Compounds							Qvalue
2) Propene	3.28	42	8809	0.442	ng		98
3) Dichlorodifluoromethan...	3.35	85	23421	0.713	ng		99
4) Chloromethane	3.49	50	10866	0.564	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	10004	0.744	ng		99
6) Vinyl Chloride	3.67	62	9769	0.623	ng		99
7) 1,3-Butadiene	3.78	54	6782	0.641	ng		97
8) Bromomethane	4.00	94	7610	0.746	ng		96
9) Chloroethane	4.14	64	4963	0.550	ng		97
10) Ethanol	4.26	45	23459	2.008	ng		92
11) Acetonitrile	4.42	41	15794	0.407	ng		81
12) Acrolein	4.51	56	8953	1.116	ng		93
13) Acetone	4.61	58	28216	2.995	ng		100
14) Trichlorofluoromethane	4.73	101	22854	0.742	ng		98
15) 2-Propanol (Isopropanol)	4.81	45	46043	1.284	ng		91
16) Acrylonitrile	4.97	53	19175	1.066	ng		94
17) 1,1-Dichloroethene	5.23	96	8108	0.654	ng		100
18) 2-Methyl-2-Propanol (t...	5.29	59	43407	1.475	ng		94
19) Methylene Chloride	5.32	84	8484	0.620	ng		95
20) 3-Chloro-1-propene (Al...	5.43	41	18790	0.574	ng		84
21) Trichlorotrifluoroethane	5.56	151	9485	0.742	ng		98
22) Carbon Disulfide	5.58	76	61356	1.395	ng		99
23) trans-1,2-Dichloroethene	6.11	61	13117	0.653	ng		99
24) 1,1-Dichloroethane	6.29	63	15277	0.619	ng		99
25) Methyl tert-Butyl Ether	6.35	73	28306	0.717	ng		99
26) Vinyl Acetate	6.41	86	3307	1.847	ng	#	94
27) 2-Butanone (MEK)	6.64	72	10480	1.295	ng		96
28) cis-1,2-Dichloroethene	7.04	61	13054	0.674	ng		96
29) Diisopropyl Ether	7.26	87	13790	1.385	ng		98
30) Ethyl Acetate	7.26	61	12565	2.365	ng		93
31) n-Hexane	7.27	57	12784	0.572	ng		98
32) Chloroform	7.33	83	18823	0.736	ng		99
34) Tetrahydrofuran (THF)	7.74	72	9067	1.150	ng	#	85
35) Ethyl tert-Butyl Ether	7.79	87	20166	1.376	ng		99
36) 1,2-Dichloroethane	8.08	62	15834	0.733	ng		99
38) 1,1,1-Trichloroethane	8.36	97	19005	0.746	ng		100
39) Isopropyl Acetate	9.26	61	22145	No Calib			
40) 1-Butanol	9.18	56	27312	No Calib			
41) Benzene	8.86	78	32199	0.630	ng		98
42) Carbon Tetrachloride	9.03	117	16887	0.734	ng		100
43) Cyclohexane	9.18	84	23745	1.279	ng		99
44) tert-Amyl Methyl Ether	9.56	73	46708	1.336	ng		96
45) 1,2-Dichloropropane	9.82	63	8107	0.603	ng		96
46) Bromodichloromethane	10.04	83	14874	0.733	ng		100
47) Trichloroethene	10.11	130	9399	0.666	ng		99
48) 1,4-Dioxane	10.11	88	5932	0.594	ng		97
49) 2,2,4-Trimethylpentane...	10.20	57	32306	0.566	ng		97
50) Methyl Methacrylate	10.37	100	6105	1.295	ng		91

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192214.D Vial: 6
Acq On : 19 Jul 2022 16:26 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:33:46 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

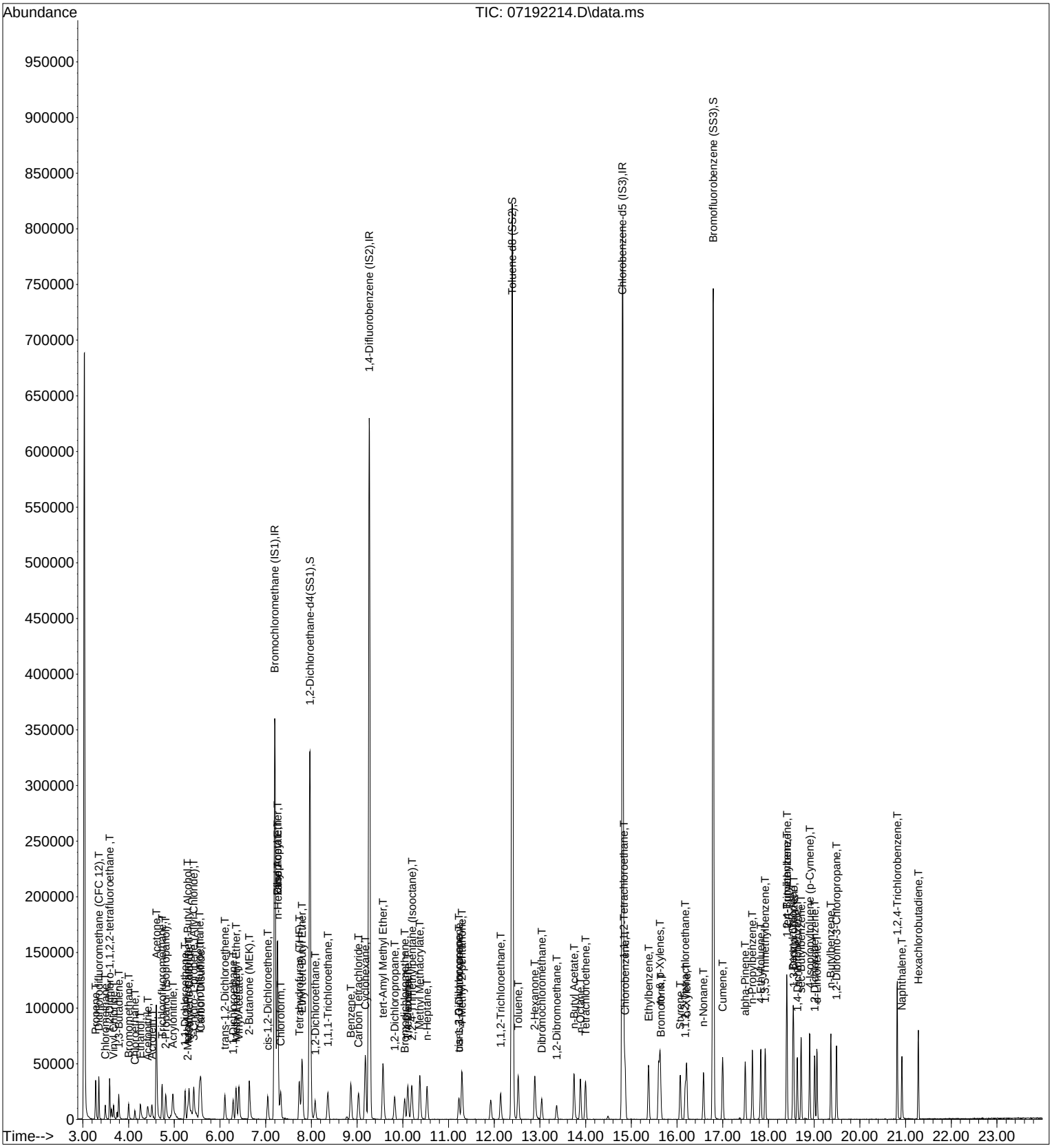
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	7451	0.636 ng		98
52) cis-1,3-Dichloropropene	11.23	75	13055	0.653 ng		98
53) 4-Methyl-2-pentanone	11.30	58	13596	1.137 ng		98
54) trans-1,3-Dichloropropene	11.23	75	13055	0.628 ng		98
55) 1,1,2-Trichloroethane	12.14	97	8797	0.663 ng		99
58) Toluene	12.52	91	35916	0.732 ng		99
59) 2-Hexanone	12.89	43	38275	1.119 ng		99
60) Dibromochloromethane	13.04	129	11888	0.781 ng		97
61) 1,2-Dibromoethane	13.37	107	10647	0.735 ng		99
62) n-Butyl Acetate	13.75	43	40312	1.099 ng		99
63) n-Octane	13.89	57	6676	0.654 ng		99
64) Tetrachloroethene	14.00	166	12281	0.799 ng		100
65) Chlorobenzene	14.86	112	23778	0.736 ng		100
66) Ethylbenzene	15.38	91	41645	0.726 ng		100
67) m- & p-Xylenes	15.62	91	68828	1.492 ng	#	67
68) Bromoform	15.65	173	10323	0.738 ng		99
69) Styrene	16.07	104	22312	0.685 ng		100
70) o-Xylene	16.21	91	33890	0.747 ng		98
71) n-Nonane	16.58	43	17159	0.589 ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	14972	0.734 ng		97
74) Cumene	17.00	105	42461	0.773 ng		100
75) alpha-Pinene	17.49	93	20424	0.728 ng		96
76) n-Propylbenzene	17.65	91	51393	0.745 ng		99
77) 3-Ethyltoluene	17.00	105	42461	No Calib		
78) 4-Ethyltoluene	17.83	105	41478	0.792 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	35259	0.779 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.49	105	2787	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	35894	0.767 ng		99
83) n-Decane	16.79	58	248	No Calib	#	
84) Benzyl Chloride	18.54	91	50202	1.378 ng		97
85) 1,3-Dichlorobenzene	18.55	146	21541	0.733 ng		100
86) 1,4-Dichlorobenzene	18.63	146	22471	0.774 ng		97
87) sec-Butylbenzene	18.72	105	47444	0.784 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	39654	0.753 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	35894	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	21123	0.761 ng		97
91) d-Limonene	19.06	68	11686	0.727 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.49	157	15773	1.453 ng		90
93) n-Undecane	17.93	58	593	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	34612	1.431 ng		98
95) Naphthalene	20.92	128	40469	0.701 ng		99
96) n-Dodecane	18.71	58	124	No Calib	#	
97) Hexachlorobutadiene	21.28	225	13421	0.759 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	34548	0.764 ng		98
100) n-Butylbenzene	19.37	91	38248	0.736 ng		98
101) 1,1,1,2-Tetrachloroethane	14.84	131	10228	0.822 ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192214.D Vial: 6
Acq On : 19 Jul 2022 16:26 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:33:46 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192215.D Vial: 6
Acq On : 19 Jul 2022 16:57 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:32:25 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	140047	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	608267	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	124358	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	298592	13.257	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.08%				
57) Toluene-d8 (SS2)	12.39	98	659206	13.515	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.16%				
73) Bromofluorobenzene (SS3)	16.79	174	261688	14.182	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%				
Target Compounds							Qvalue
2) Propene	3.27	42	14502	0.740	ng		98
3) Dichlorodifluoromethan...	3.34	85	37784	1.170	ng		98
4) Chloromethane	3.48	50	16878	0.892	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	16398	1.242	ng		99
6) Vinyl Chloride	3.66	62	15675	1.017	ng		100
7) 1,3-Butadiene	3.77	54	10509	1.011	ng		93
8) Bromomethane	3.99	94	11659	1.163	ng		97
9) Chloroethane	4.13	64	8289	0.934	ng		99
10) Ethanol	4.26	45	37182	3.239	ng		98
11) Acetonitrile	4.41	41	25368	0.665	ng		96
12) Acrolein	4.50	56	14398	1.827	ng		100
13) Acetone	4.60	58	46642	5.037	ng		97
14) Trichlorofluoromethane	4.73	101	36311	1.199	ng		100
15) 2-Propanol (Isopropanol)	4.81	45	74662	2.119	ng		91
16) Acrylonitrile	4.96	53	32640	1.847	ng		94
17) 1,1-Dichloroethene	5.23	96	13465	1.105	ng		96
18) 2-Methyl-2-Propanol (t...	5.28	59	72550	2.508	ng		94
19) Methylene Chloride	5.32	84	14699	1.092	ng		96
20) 3-Chloro-1-propene (Al...	5.42	41	33706	1.048	ng		83
21) Trichlorotrifluoroethane	5.54	151	15035	1.197	ng		97
22) Carbon Disulfide	5.57	76	99903	2.311	ng		100
23) trans-1,2-Dichloroethene	6.10	61	21133	1.071	ng		99
24) 1,1-Dichloroethane	6.28	63	25315	1.044	ng		99
25) Methyl tert-Butyl Ether	6.34	73	46472	1.197	ng		100
26) Vinyl Acetate	6.41	86	5539	3.148	ng		99
27) 2-Butanone (MEK)	6.63	72	16816	2.114	ng	#	90
28) cis-1,2-Dichloroethene	7.04	61	20589	1.082	ng		99
29) Diisopropyl Ether	7.25	87	22170	2.265	ng		98
30) Ethyl Acetate	7.25	61	21488	4.116	ng		98
31) n-Hexane	7.27	57	20109	0.916	ng		98
32) Chloroform	7.32	83	30752	1.223	ng		99
34) Tetrahydrofuran (THF)	7.73	72	15239	1.967	ng	#	88
35) Ethyl tert-Butyl Ether	7.79	87	32445	2.252	ng		97
36) 1,2-Dichloroethane	8.08	62	25845	1.217	ng		98
38) 1,1,1-Trichloroethane	8.36	97	30969	1.229	ng		99
39) Isopropyl Acetate	9.26	61	20964	No Calib			
40) 1-Butanol	9.18	56	43766	No Calib			
41) Benzene	8.86	78	53046	1.049	ng		100
42) Carbon Tetrachloride	9.03	117	26989	1.187	ng		100
43) Cyclohexane	9.17	84	38720	2.110	ng		99
44) tert-Amyl Methyl Ether	9.56	73	76183	2.204	ng		98
45) 1,2-Dichloropropane	9.81	63	12650	0.951	ng		97
46) Bromodichloromethane	10.04	83	24309	1.212	ng		99
47) Trichloroethene	10.10	130	15533	1.113	ng		98
48) 1,4-Dioxane	10.09	88	9444	0.957	ng		99
49) 2,2,4-Trimethylpentane...	10.20	57	53375	0.946	ng		98
50) Methyl Methacrylate	10.37	100	10055	2.158	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192215.D Vial: 6
Acq On : 19 Jul 2022 16:57 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:32:25 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

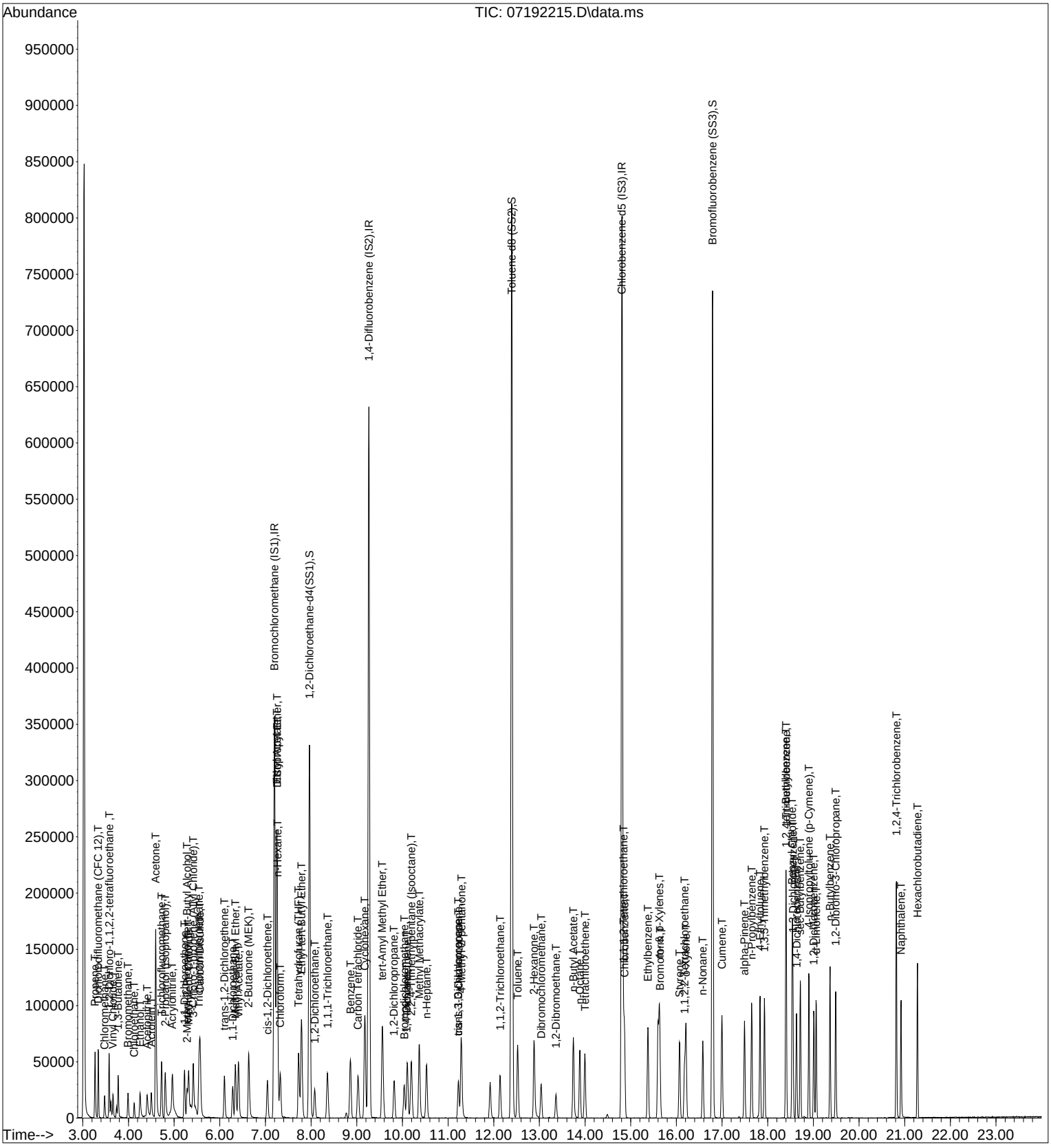
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	12693	1.097 ng		99
52) cis-1,3-Dichloropropene	11.22	75	21745	1.100 ng		99
53) 4-Methyl-2-pentanone	11.29	58	22745	1.925 ng		99
54) trans-1,3-Dichloropropene	11.22	75	21745	1.058 ng		99
55) 1,1,2-Trichloroethane	12.14	97	14537	1.109 ng		98
58) Toluene	12.52	91	57718	1.202 ng		99
59) 2-Hexanone	12.88	43	64328	1.921 ng		100
60) Dibromochloromethane	13.04	129	20280	1.360 ng		100
61) 1,2-Dibromoethane	13.36	107	17253	1.216 ng		98
62) n-Butyl Acetate	13.74	43	68022	1.894 ng		99
63) n-Octane	13.89	57	10533	1.053 ng		97
64) Tetrachloroethene	14.00	166	19578	1.301 ng		99
65) Chlorobenzene	14.86	112	39220	1.240 ng		99
66) Ethylbenzene	15.37	91	68646	1.223 ng		99
67) m- & p-Xylenes	15.62	91	112463	2.491 ng		100
68) Bromoform	15.64	173	17524	1.280 ng		100
69) Styrene	16.07	104	38722	1.214 ng		99
70) o-Xylene	16.21	91	56798	1.278 ng		99
71) n-Nonane	16.58	43	27843	0.976 ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	24880	1.247 ng		100
74) Cumene	17.00	105	69682	1.295 ng		99
75) alpha-Pinene	17.49	93	33668	1.226 ng		95
76) n-Propylbenzene	17.65	91	85718	1.270 ng		98
77) 3-Ethyltoluene	17.00	105	69682	No Calib		
78) 4-Ethyltoluene	17.83	105	69188	1.350 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	58275	1.315 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.49	105	4396	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.41	105	59527	1.298 ng		100
83) n-Decane	16.99	58	317	No Calib	#	
84) Benzyl Chloride	18.54	91	88606	2.483 ng		97
85) 1,3-Dichlorobenzene	18.55	146	36332	1.262 ng		99
86) 1,4-Dichlorobenzene	18.63	146	36498	1.284 ng		99
87) sec-Butylbenzene	18.71	105	78983	1.333 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	67071	1.301 ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	59527	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	35732	1.314 ng		97
91) d-Limonene	19.06	68	19352	1.230 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.49	157	26311	2.475 ng		92
93) n-Undecane	17.93	58	1351	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	59659	2.518 ng		99
95) Naphthalene	20.92	128	71383	1.263 ng		99
96) n-Dodecane	18.71	58	335	No Calib	#	
97) Hexachlorobutadiene	21.28	225	22104	1.278 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	57642	1.302 ng		97
100) n-Butylbenzene	19.37	91	64511	1.268 ng		97
101) 1,1,1,2-Tetrachloroethane	14.85	131	16553	1.359 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192215.D Vial: 6
Acq On : 19 Jul 2022 16:57 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:32:25 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192216.D Vial: 6
Acq On : 19 Jul 2022 17:29 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:31:07 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	143957	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	9.28	114	620781	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.81	54	127996	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.98	65	303918	13.126	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%			
57) Toluene-d8 (SS2)	12.40	98	680332	13.552	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.40%			
73) Bromofluorobenzene (SS3)	16.79	174	276130	14.539	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.32%			
Target Compounds						Qvalue
2) Propene	3.26	42	66411	3.299	ng	98
3) Dichlorodifluoromethan...	3.33	85	154809	4.662	ng	100
4) Chloromethane	3.47	50	69543	3.575	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	66965	4.933	ng	99
6) Vinyl Chloride	3.65	62	64097	4.044	ng	100
7) 1,3-Butadiene	3.77	54	47557	4.452	ng	99
8) Bromomethane	3.99	94	49142	4.767	ng	99
9) Chloroethane	4.13	64	34970	3.835	ng	99
10) Ethanol	4.27	45	155302	13.160	ng	99
11) Acetonitrile	4.42	41	107704	2.746	ng	98
12) Acrolein	4.51	56	62925	7.767	ng	94
13) Acetone	4.61	58	187218	19.669	ng	95
14) Trichlorofluoromethane	4.73	101	151484	4.866	ng	100
15) 2-Propanol (Isopropanol)	4.82	45	286486	7.911	ng	94
16) Acrylonitrile	4.98	53	138156	7.605	ng	98
17) 1,1-Dichloroethene	5.23	96	56539	4.513	ng	100
18) 2-Methyl-2-Propanol (t...	5.29	59	302416	10.170	ng	95
19) Methylene Chloride	5.33	84	57771	4.176	ng	99
20) 3-Chloro-1-propene (Al...	5.43	41	119277	3.608	ng	90
21) Trichlorotrifluoroethane	5.55	151	63282	4.899	ng	98
22) Carbon Disulfide	5.57	76	418912	9.428	ng	100
23) trans-1,2-Dichloroethene	6.12	61	90475	4.461	ng	99
24) 1,1-Dichloroethane	6.30	63	103535	4.155	ng	100
25) Methyl tert-Butyl Ether	6.34	73	196051	4.913	ng	100
26) Vinyl Acetate	6.42	86	25871	14.302	ng	98
27) 2-Butanone (MEK)	6.64	72	70885	8.668	ng	99
28) cis-1,2-Dichloroethene	7.06	61	85598	4.376	ng	100
29) Diisopropyl Ether	7.25	87	92001	9.143	ng	98
30) Ethyl Acetate	7.25	61	88966	16.578	ng	99
31) n-Hexane	7.27	57	83685	3.708	ng	99
32) Chloroform	7.34	83	126831	4.907	ng	100
34) Tetrahydrofuran (THF)	7.72	72	65653	8.242	ng	92
35) Ethyl tert-Butyl Ether	7.79	87	137980	9.316	ng	99
36) 1,2-Dichloroethane	8.09	62	106414	4.876	ng	100
38) 1,1,1-Trichloroethane	8.37	97	128693	5.006	ng	99
39) Isopropyl Acetate	9.28	61	21656	No Calib		
40) 1-Butanol	9.18	56	182654	No Calib		
41) Benzene	8.87	78	218303	4.232	ng	98
42) Carbon Tetrachloride	9.04	117	113583	4.896	ng	100
43) Cyclohexane	9.19	84	160533	8.571	ng	99
44) tert-Amyl Methyl Ether	9.56	73	325401	9.226	ng	99
45) 1,2-Dichloropropane	9.83	63	51483	3.794	ng	98
46) Bromodichloromethane	10.05	83	104950	5.127	ng	99
47) Trichloroethene	10.12	130	65083	4.569	ng	100
48) 1,4-Dioxane	10.09	88	45037	4.472	ng	96
49) 2,2,4-Trimethylpentane...	10.20	57	217253	3.774	ng	99
50) Methyl Methacrylate	10.38	100	44861	9.432	ng	97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192216.D Vial: 6
Acq On : 19 Jul 2022 17:29 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:31:07 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

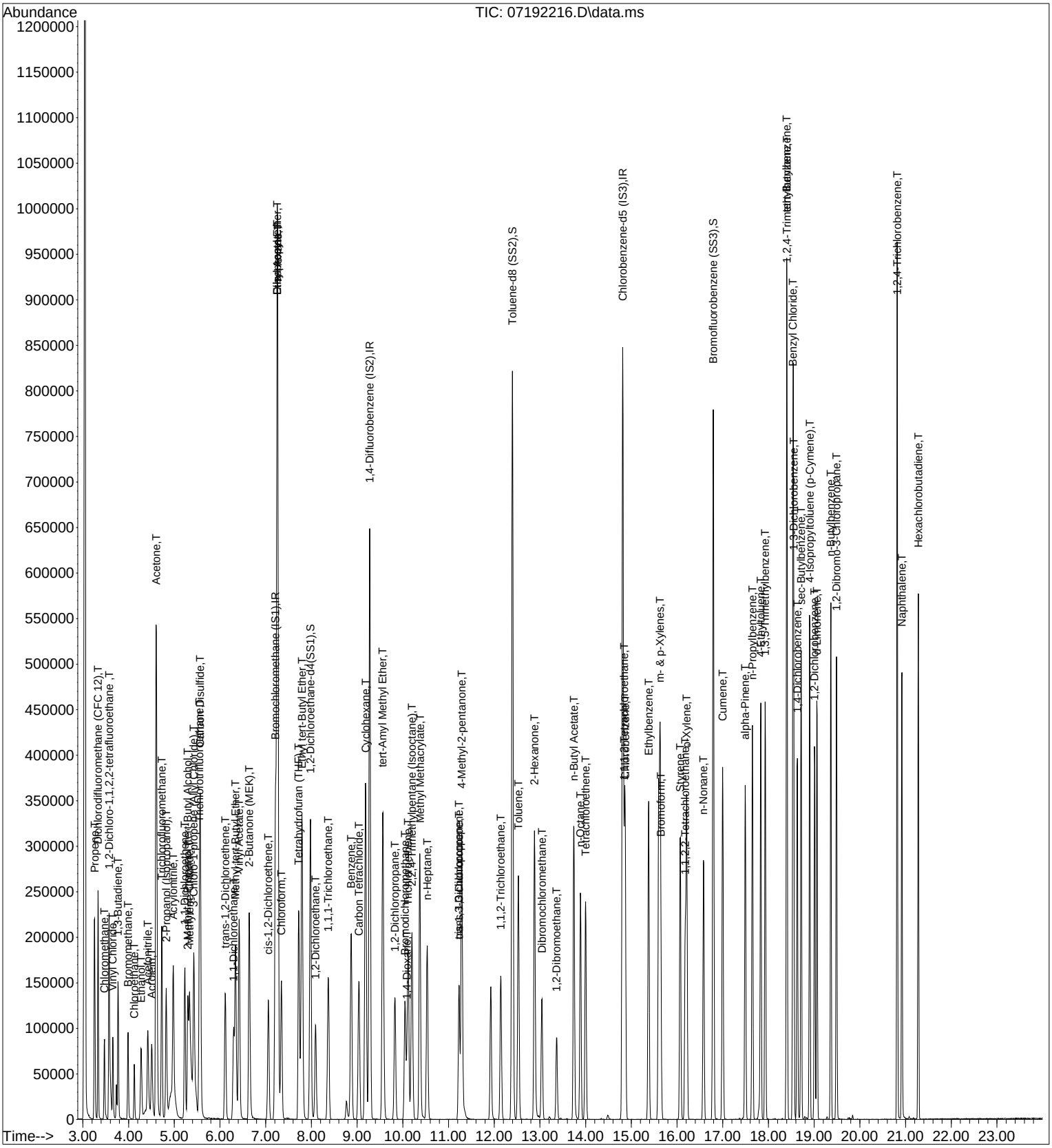
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	52168	4.416	ng		99
52) cis-1,3-Dichloropropene	11.23	75	95912	4.756	ng		99
53) 4-Methyl-2-pentanone	11.29	58	95649	7.931	ng		97
54) trans-1,3-Dichloropropene	11.23	75	95912	4.574	ng		99
55) 1,1,2-Trichloroethane	12.14	97	60180	4.497	ng		99
58) Toluene	12.53	91	239108	4.839	ng		100
59) 2-Hexanone	12.88	43	279260	8.104	ng		100
60) Dibromochloromethane	13.05	129	87063	5.672	ng		99
61) 1,2-Dibromoethane	13.36	107	74447	5.098	ng		100
62) n-Butyl Acetate	13.74	43	301939	8.168	ng		100
63) n-Octane	13.89	57	44953	4.367	ng		100
64) Tetrachloroethene	14.00	166	83430	5.387	ng		100
65) Chlorobenzene	14.87	112	162104	4.981	ng		100
66) Ethylbenzene	15.38	91	290141	5.022	ng		100
67) m- & p-Xylenes	15.62	91	481606	10.363	ng		100
68) Bromoform	15.65	173	81149	5.758	ng		100
69) Styrene	16.07	104	170195	5.184	ng		100
70) o-Xylene	16.21	91	236250	5.166	ng		100
71) n-Nonane	16.58	43	120117	4.091	ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	105908	5.156	ng		98
74) Cumene	17.00	105	292224	5.277	ng		99
75) alpha-Pinene	17.49	93	148259	5.246	ng		99
76) n-Propylbenzene	17.65	91	363017	5.224	ng		99
77) 3-Ethyltoluene	17.00	105	292224	No Calib			
78) 4-Ethyltoluene	17.83	105	291592	5.526	ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	251099	5.506	ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.44	105	624	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.41	105	256743	5.441	ng		99
83) n-Decane	16.99	58	837	No Calib		#	
84) Benzyl Chloride	18.54	91	429623	11.699	ng		98
85) 1,3-Dichlorobenzene	18.55	146	156111	5.269	ng		100
86) 1,4-Dichlorobenzene	18.63	146	156157	5.336	ng		100
87) sec-Butylbenzene	18.72	105	327695	5.375	ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	290083	5.468	ng		99
89) 1,2,3-Trimethylbenzene	18.41	105	256743	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	149209	5.333	ng		99
91) d-Limonene	19.06	68	85893	5.303	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	121513	11.105	ng		97
93) n-Undecane	17.93	58	3787	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	265590	10.892	ng		99
95) Naphthalene	20.92	128	330503	5.682	ng		99
96) n-Dodecane	18.72	58	1400	No Calib		#	
97) Hexachlorobutadiene	21.28	225	95462	5.360	ng		98
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.40	119	242397	5.321	ng		99
100) n-Butylbenzene	19.37	91	275704	5.265	ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	70765	5.646	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192216.D Vial: 6
Acq On : 19 Jul 2022 17:29 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192210 (8/18)

Quant Time: Jul 20 08:31:07 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192217.D Vial: 7
Acq On : 19 Jul 2022 18:01 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:30:17 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	146047	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	619764	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	131120	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	305271	12.996	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.00%			
57) Toluene-d8 (SS2)	12.40	98	676914	13.163	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.28%			
73) Bromofluorobenzene (SS3)	16.80	174	280622	14.424	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.36%			
Target Compounds						Qvalue
2) Propene	3.25	42	326538	15.989	ng	100
3) Dichlorodifluoromethan...	3.32	85	822730	24.421	ng	100
4) Chloromethane	3.47	50	389628	19.740	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	366558	26.615	ng	100
6) Vinyl Chloride	3.65	62	352490	21.923	ng	100
7) 1,3-Butadiene	3.77	54	267756	24.707	ng	100
8) Bromomethane	3.99	94	276285	26.417	ng	100
9) Chloroethane	4.13	64	187804	20.300	ng	100
10) Ethanol	4.31	45	816841	68.225	ng	100
11) Acetonitrile	4.44	41	563354	14.159	ng	100
12) Acrolein	4.52	56	326643	39.742	ng	100
13) Acetone	4.62	58	950401	98.422	ng	100
14) Trichlorofluoromethane	4.73	101	814449	25.790	ng	100
15) 2-Propanol (Isopropanol)	4.86	45	1673875	45.560	ng	100
16) Acrylonitrile	5.00	53	719783	39.053	ng	100
17) 1,1-Dichloroethene	5.24	96	304220	23.936	ng	100
18) 2-Methyl-2-Propanol (t...	5.33	59	1761868	58.405	ng	100
19) Methylene Chloride	5.36	84	310410	22.116	ng	100
20) 3-Chloro-1-propene (Al...	5.44	41	555400	16.560	ng	100
21) Trichlorotrifluoroethane	5.56	151	348141	26.568	ng	100
22) Carbon Disulfide	5.58	76	2249813	49.908	ng	100
23) trans-1,2-Dichloroethene	6.14	61	489919	23.809	ng	100
24) 1,1-Dichloroethane	6.32	63	556731	22.022	ng	100
25) Methyl tert-Butyl Ether	6.35	73	1101534	27.212	ng	100
26) Vinyl Acetate	6.44	86	156790	85.439	ng	100
27) 2-Butanone (MEK)	6.65	72	379020	45.684	ng	100
28) cis-1,2-Dichloroethene	7.08	61	467687	23.569	ng	100
29) Diisopropyl Ether	7.27	87	491700	48.166	ng	100
30) Ethyl Acetate	7.27	61	476089	87.443	ng	100
31) n-Hexane	7.28	57	447793	19.556	ng	100
32) Chloroform	7.37	83	683841	26.077	ng	100
34) Tetrahydrofuran (THF)	7.73	72	353189	43.706	ng	100
35) Ethyl tert-Butyl Ether	7.80	87	789761	52.560	ng	100
36) 1,2-Dichloroethane	8.11	62	582477	26.307	ng	100
38) 1,1,1-Trichloroethane	8.38	97	702655	27.378	ng	100
39) Isopropyl Acetate	9.29	61	21911	No Calib		
40) 1-Butanol	9.20	56	977930	No Calib		
41) Benzene	8.88	78	1165753	22.635	ng	100
42) Carbon Tetrachloride	9.05	117	627303	27.082	ng	100
43) Cyclohexane	9.20	84	864359	46.224	ng	100
44) tert-Amyl Methyl Ether	9.57	73	1884956	53.532	ng	100
45) 1,2-Dichloropropane	9.84	63	280617	20.712	ng	100
46) Bromodichloromethane	10.06	83	569524	27.870	ng	100
47) Trichloroethene	10.13	130	364232	25.612	ng	100
48) 1,4-Dioxane	10.09	88	246119	24.481	ng	100
49) 2,2,4-Trimethylpentane...	10.21	57	1165536	20.279	ng	100
50) Methyl Methacrylate	10.38	100	250530	52.759	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192217.D Vial: 7
Acq On : 19 Jul 2022 18:01 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:30:17 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

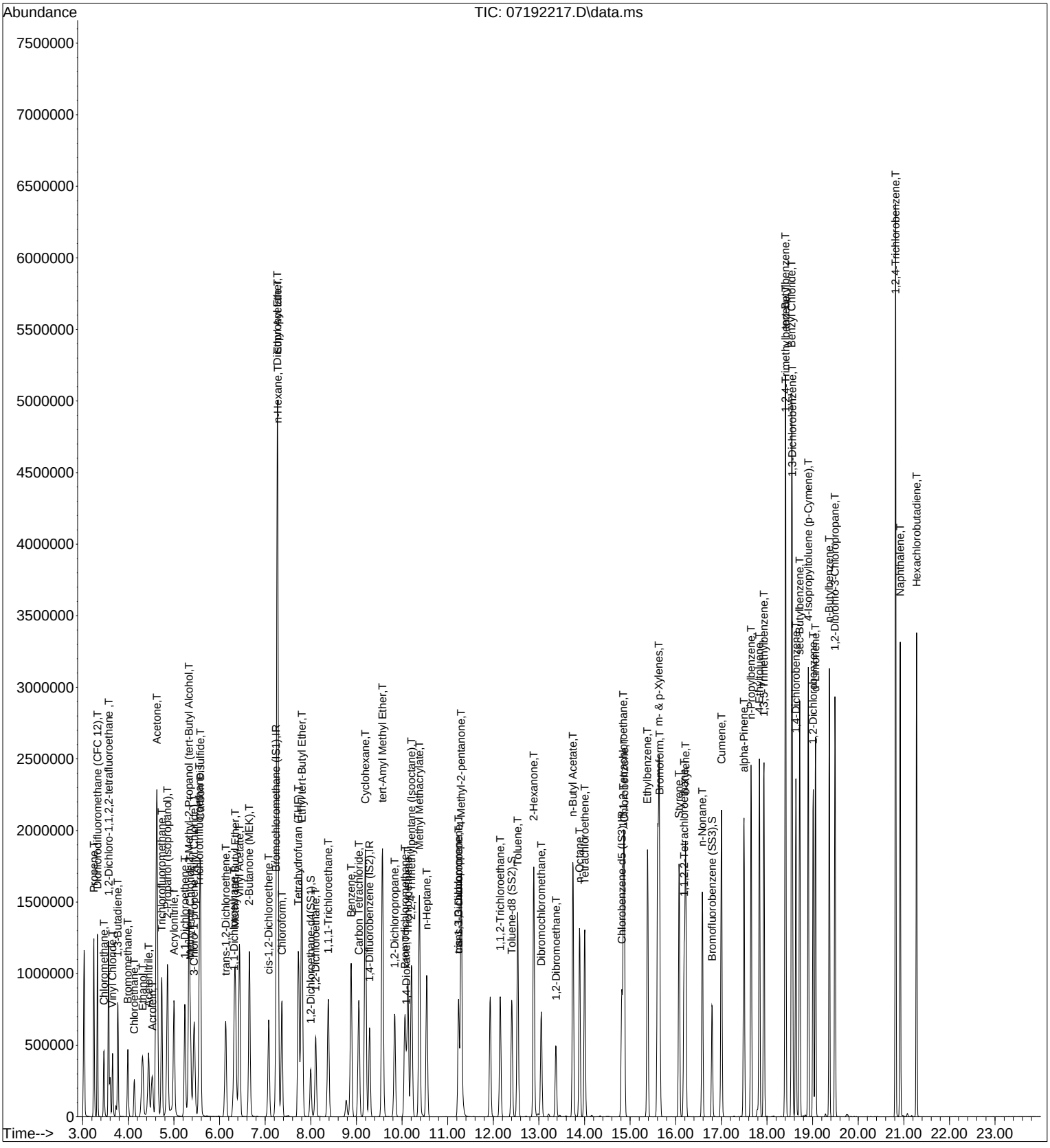
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	279317	23.684	ng		100
52) cis-1,3-Dichloropropene	11.24	75	535477	26.594	ng		100
53) 4-Methyl-2-pentanone	11.30	58	531999	44.182	ng		100
54) trans-1,3-Dichloropropene	11.24	75	535477	25.581	ng		100
55) 1,1,2-Trichloroethane	12.15	97	325575	24.366	ng		100
58) Toluene	12.53	91	1280619	25.298	ng		100
59) 2-Hexanone	12.89	43	1528810	43.310	ng		100
60) Dibromochloromethane	13.05	129	494579	31.455	ng		100
61) 1,2-Dibromoethane	13.38	107	408070	27.277	ng		100
62) n-Butyl Acetate	13.74	43	1656968	43.754	ng		100
63) n-Octane	13.89	57	241478	22.902	ng		100
64) Tetrachloroethene	14.01	166	465905	29.367	ng		100
65) Chlorobenzene	14.87	112	889655	26.685	ng		100
66) Ethylbenzene	15.38	91	1577753	26.656	ng		100
67) m- & p-Xylenes	15.63	91	2637592	55.400	ng		100
68) Bromoform	15.65	173	491576	34.051	ng		100
69) Styrene	16.07	104	957820	28.480	ng		100
70) o-Xylene	16.21	91	1295105	27.643	ng		100
71) n-Nonane	16.58	43	645825	21.472	ng		100
72) 1,1,2,2-Tetrachloroethane	16.19	83	565160	26.856	ng		100
74) Cumene	17.00	105	1612098	28.420	ng		100
75) alpha-Pinene	17.50	93	855373	29.545	ng		100
76) n-Propylbenzene	17.65	91	1947061	27.350	ng		100
77) 3-Ethyltoluene	17.00	105	1612098	No Calib			
78) 4-Ethyltoluene	17.83	105	1623709	30.040	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1376484	29.466	ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.43	105	1828	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.41	105	1437797	29.743	ng		100
83) n-Decane	17.00	58	8786	No Calib		#	
84) Benzyl Chloride	18.54	91	2614809	69.506	ng		100
85) 1,3-Dichlorobenzene	18.55	146	897825	29.579	ng		100
86) 1,4-Dichlorobenzene	18.63	146	888894	29.653	ng		100
87) sec-Butylbenzene	18.72	105	1788792	28.641	ng		100
88) 4-Isopropyltoluene (p-...	18.91	119	1593481	29.319	ng		100
89) 1,2,3-Trimethylbenzene	18.41	105	1437797	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	850890	29.687	ng		100
91) d-Limonene	19.06	68	481491	29.016	ng		100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	705695	62.956	ng		100
93) n-Undecane	17.93	58	19326	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	1660401	66.475	ng		100
95) Naphthalene	20.92	128	2021021	33.919	ng		100
96) n-Dodecane	18.72	58	8262	No Calib		#	
97) Hexachlorobutadiene	21.28	225	544770	29.862	ng		100
98) Cyclohexanone	15.62	55	816	No Calib		#	
99) tert-Butylbenzene	18.41	119	1364488	29.238	ng		100
100) n-Butylbenzene	19.37	91	1511223	28.169	ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	394818	30.748	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192217.D Vial: 7
Acq On : 19 Jul 2022 18:01 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:30:17 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192218.D Vial: 7
Acq On : 19 Jul 2022 18:33 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:39:19 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	151621	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	634185	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.82	54	134500	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	308237	12.640	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
57) Toluene-d8 (SS2)	12.41	98	688310	13.048	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.40%				
73) Bromofluorobenzene (SS3)	16.80	174	290837	14.573	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.56%				
Target Compounds							Qvalue
2) Propene	3.24	42	647372	30.533	ng		99
3) Dichlorodifluoromethan...	3.32	85	1540428	44.043	ng		99
4) Chloromethane	3.47	50	702597	34.288	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	721340	50.450	ng		100
6) Vinyl Chloride	3.66	62	689305	41.295	ng		99
7) 1,3-Butadiene	3.77	54	531991	47.284	ng		99
8) Bromomethane	3.99	94	527972	48.625	ng		100
9) Chloroethane	4.14	64	350366	36.480	ng		100
10) Ethanol	4.33	45	1525424	122.725	ng		99
11) Acetonitrile	4.46	41	1075831	26.045	ng		100
12) Acrolein	4.53	56	615299	72.111	ng		100
13) Acetone	4.64	58	1779531	177.510	ng		100
14) Trichlorofluoromethane	4.74	101	1536907	46.877	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	3010315	78.924	ng		99
16) Acrylonitrile	5.02	53	1361397	71.149	ng		100
17) 1,1-Dichloroethene	5.24	96	576371	43.682	ng		100
18) 2-Methyl-2-Propanol (t...	5.35	59	3259816	104.088	ng		99
19) Methylene Chloride	5.37	84	589104	40.429	ng		100
20) 3-Chloro-1-propene (Al...	5.45	41	1038100	29.815	ng		99
21) Trichlorotrifluoroethane	5.56	151	677721	49.818	ng		98
22) Carbon Disulfide	5.58	76	4238422	90.565	ng		99
23) trans-1,2-Dichloroethene	6.14	61	939875	43.997	ng		99
24) 1,1-Dichloroethane	6.33	63	1056827	40.266	ng		100
25) Methyl tert-Butyl Ether	6.35	73	2099782	49.965	ng		100
26) Vinyl Acetate	6.45	86	305396	160.300	ng	#	96
27) 2-Butanone (MEK)	6.66	72	717032	83.248	ng		99
28) cis-1,2-Dichloroethene	7.09	61	893988	43.395	ng		99
29) Diisopropyl Ether	7.27	87	958511	90.441	ng	#	93
30) Ethyl Acetate	7.28	61	920710	162.889	ng		98
31) n-Hexane	7.28	57	867252	36.482	ng		100
32) Chloroform	7.38	83	1294888	47.563	ng		100
34) Tetrahydrofuran (THF)	7.74	72	667201	79.529	ng		100
35) Ethyl tert-Butyl Ether	7.81	87	1506576	96.579	ng		100
36) 1,2-Dichloroethane	8.12	62	1103063	47.988	ng		100
38) 1,1,1-Trichloroethane	8.39	97	1331940	50.716	ng		100
39) Isopropyl Acetate	9.30	61	21970	No Calib			
40) 1-Butanol	9.20	56	1858521	No Calib			
41) Benzene	8.89	78	2193829	41.627	ng		100
42) Carbon Tetrachloride	9.06	117	1199029	50.587	ng		100
43) Cyclohexane	9.20	84	1642131	85.820	ng		100
44) tert-Amyl Methyl Ether	9.58	73	3612751	100.267	ng		100
45) 1,2-Dichloropropane	9.85	63	529454	38.190	ng		99
46) Bromodichloromethane	10.07	83	1097900	52.504	ng		99
47) Trichloroethene	10.14	130	700936	48.168	ng		100
48) 1,4-Dioxane	10.10	88	468786	45.568	ng		99
49) 2,2,4-Trimethylpentane...	10.21	57	2201253	37.428	ng		100
50) Methyl Methacrylate	10.39	100	480034	98.792	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192218.D Vial: 7
Acq On : 19 Jul 2022 18:33 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:39:19 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

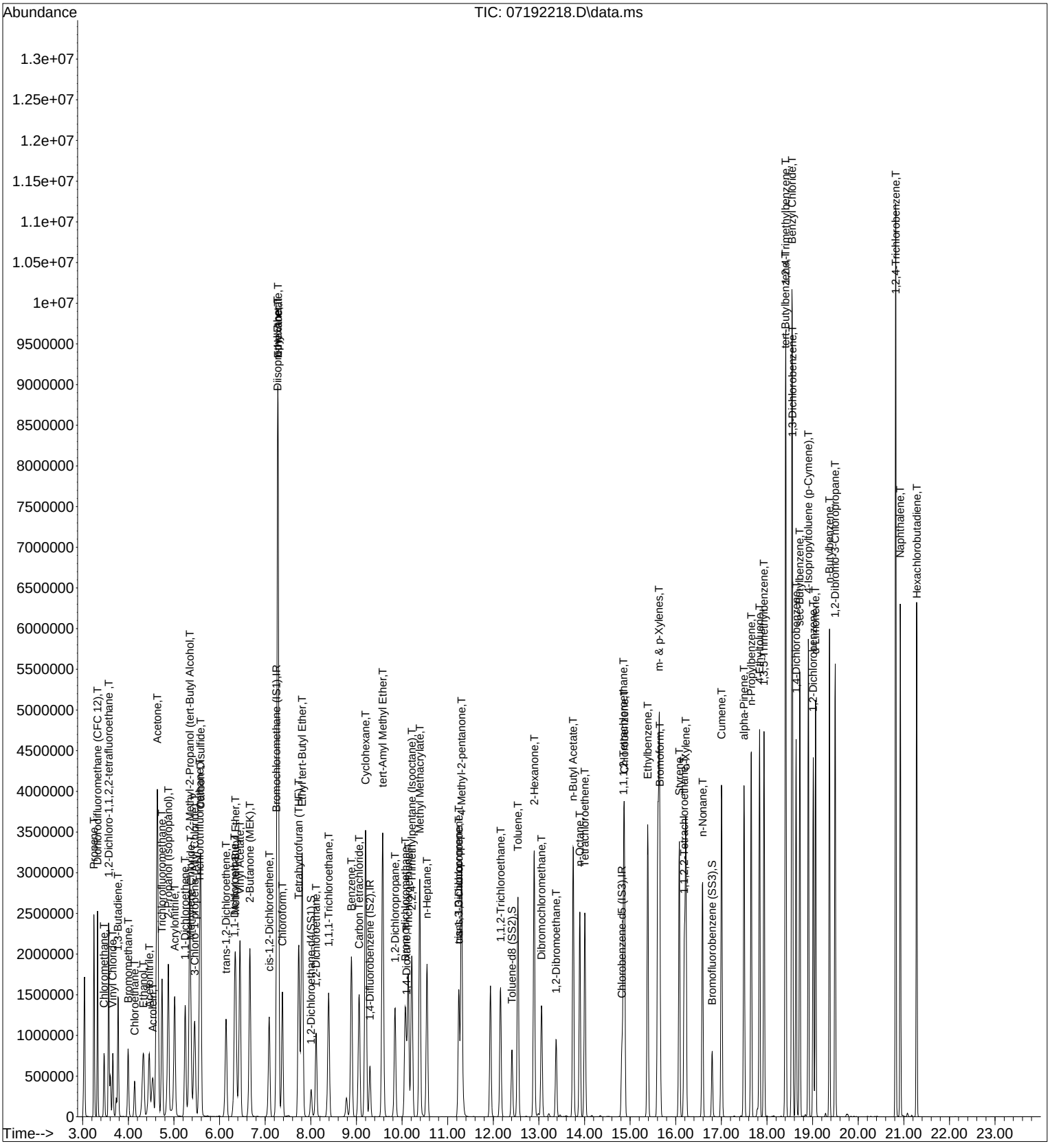
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.55	71	529268	43.858	ng		100
52) cis-1,3-Dichloropropene	11.25	75	1029958	49.989	ng		100
53) 4-Methyl-2-pentanone	11.30	58	1014093	82.304	ng		99
54) trans-1,3-Dichloropropene	11.25	75	1029958	48.085	ng		100
55) 1,1,2-Trichloroethane	12.16	97	622062	45.497	ng		100
58) Toluene	12.54	91	2434818	46.890	ng		100
59) 2-Hexanone	12.90	43	2907427	80.295	ng		100
60) Dibromochloromethane	13.06	129	950822	58.953	ng		99
61) 1,2-Dibromoethane	13.37	107	783985	51.088	ng		100
62) n-Butyl Acetate	13.75	43	3145336	80.970	ng		100
63) n-Octane	13.90	57	458036	42.349	ng		99
64) Tetrachloroethene	14.01	166	908250	55.810	ng		100
65) Chlorobenzene	14.87	112	1719838	50.291	ng		100
66) Ethylbenzene	15.39	91	2996097	49.347	ng		99
67) m- & p-Xylenes	15.63	91	5057932	103.568	ng		99
68) Bromoform	15.65	173	962218	64.976	ng		99
69) Styrene	16.08	104	1836546	53.235	ng		99
70) o-Xylene	16.22	91	2465904	51.310	ng		99
71) n-Nonane	16.59	43	1221622	39.594	ng		99
72) 1,1,2,2-Tetrachloroethane	16.19	83	1077981	49.938	ng		99
74) Cumene	17.00	105	3057379	52.544	ng		99
75) alpha-Pinene	17.50	93	1632826	54.980	ng		99
76) n-Propylbenzene	17.66	91	3672016	50.283	ng		99
77) 3-Ethyltoluene	17.00	105	3057379	No Calib			
78) 4-Ethyltoluene	17.84	105	3025114	54.560	ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	2621376	54.705	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.43	105	3610	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.41	105	2756050	55.581	ng		99
83) n-Decane	17.00	58	14595	No Calib		#	
84) Benzyl Chloride	18.55	91	5101354	132.195	ng		99
85) 1,3-Dichlorobenzene	18.56	146	1754558	56.351	ng		100
86) 1,4-Dichlorobenzene	18.64	146	1723731	56.058	ng		100
87) sec-Butylbenzene	18.72	105	3373202	52.653	ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	3038912	54.510	ng		100
89) 1,2,3-Trimethylbenzene	18.41	105	2756050	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	1645820	55.979	ng		99
91) d-Limonene	19.06	68	923777	54.271	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.50	157	1386750	120.606	ng		99
93) n-Undecane	17.93	58	36982	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	3174135	123.884	ng		100
95) Naphthalene	20.92	128	3883364	63.537	ng		99
96) n-Dodecane	18.72	58	16465	No Calib		#	
97) Hexachlorobutadiene	21.28	225	1050598	56.141	ng		100
98) Cyclohexanone	15.62	55	3469	No Calib		#	
99) tert-Butylbenzene	18.41	119	2599148	54.295	ng		99
100) n-Butylbenzene	19.37	91	2853427	51.852	ng		99
101) 1,1,1,2-Tetrachloroethane	14.86	131	767068	58.238	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192218.D Vial: 7
Acq On : 19 Jul 2022 18:33 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:39:19 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192219.D Vial: 7
Acq On : 19 Jul 2022 19:05 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:40:42 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.26	130	156179	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.30	114	645807	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.82	54	139229	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	314540	12.522	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
57) Toluene-d8 (SS2)	12.42	98	706821	12.944	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
73) Bromofluorobenzene (SS3)	16.80	174	297190	14.386	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.12%				
Target Compounds							Qvalue
2) Propene	3.25	42	1296906	59.382	ng		99
3) Dichlorodifluoromethan...	3.33	85	2944383	81.727	ng		99
4) Chloromethane	3.47	50	1151040	54.534	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	1426056	96.826	ng		99
6) Vinyl Chloride	3.67	62	1433498	83.371	ng		99
7) 1,3-Butadiene	3.78	54	1123393	96.935	ng		96
8) Bromomethane	4.00	94	1030256	92.116	ng		100
9) Chloroethane	4.15	64	682138	68.951	ng		100
10) Ethanol	4.35	45	2984413	233.097	ng		100
11) Acetonitrile	4.48	41	2095972	49.261	ng		99
12) Acrolein	4.55	56	1203105	136.885	ng		99
13) Acetone	4.65	58	3465569	335.605	ng		96
14) Trichlorofluoromethane	4.74	101	2958868	87.615	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	5538038	140.957	ng		99
16) Acrylonitrile	5.03	53	2624443	133.154	ng		99
17) 1,1-Dichloroethene	5.26	96	1134964	83.506	ng		99
18) 2-Methyl-2-Propanol (t...	5.37	59	5094248	157.915	ng		98
19) Methylene Chloride	5.38	84	1147779	76.471	ng		99
20) 3-Chloro-1-propene (Al...	5.47	41	1942954	54.174	ng		96
21) Trichlorotrifluoroethane	5.57	151	1345455	96.015	ng		97
22) Carbon Disulfide	5.60	76	8162080	169.315	ng		99
23) trans-1,2-Dichloroethene	6.15	61	1831368	83.228	ng		99
24) 1,1-Dichloroethane	6.34	63	2055478	76.030	ng		100
25) Methyl tert-Butyl Ether	6.36	73	4047018	93.489	ng		100
26) Vinyl Acetate	6.46	86	595958	303.685	ng	#	92
27) 2-Butanone (MEK)	6.68	72	1386782	156.308	ng		98
28) cis-1,2-Dichloroethene	7.10	61	1745971	82.278	ng		99
29) Diisopropyl Ether	7.28	87	1936592	177.397	ng	#	85
30) Ethyl Acetate	7.30	61	1912448	328.470	ng		98
31) n-Hexane	7.29	57	1787795	73.012	ng		100
32) Chloroform	7.40	83	2518869	89.821	ng		100
34) Tetrahydrofuran (THF)	7.75	72	1284469	148.637	ng		99
35) Ethyl tert-Butyl Ether	7.82	87	2960973	184.273	ng		99
36) 1,2-Dichloroethane	8.13	62	2149509	90.784	ng		100
38) 1,1,1-Trichloroethane	8.40	97	2589064	96.810	ng		99
39) Isopropyl Acetate	9.30	61	22400	No Calib	#		
40) 1-Butanol	9.21	56	3623433	No Calib			
41) Benzene	8.90	78	4243398	79.069	ng		100
42) Carbon Tetrachloride	9.07	117	2332211	96.625	ng		99
43) Cyclohexane	9.21	84	3200988	164.278	ng		100
44) tert-Amyl Methyl Ether	9.58	73	7043427	191.964	ng		99
45) 1,2-Dichloropropane	9.85	63	1029914	72.952	ng		100
46) Bromodichloromethane	10.08	83	2132029	100.123	ng		100
47) Trichloroethene	10.14	130	1384687	93.442	ng		100
48) 1,4-Dioxane	10.11	88	917622	87.592	ng		99
49) 2,2,4-Trimethylpentane...	10.22	57	4238221	70.767	ng		99
50) Methyl Methacrylate	10.40	100	955316	193.068	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192219.D Vial: 7
Acq On : 19 Jul 2022 19:05 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:40:42 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

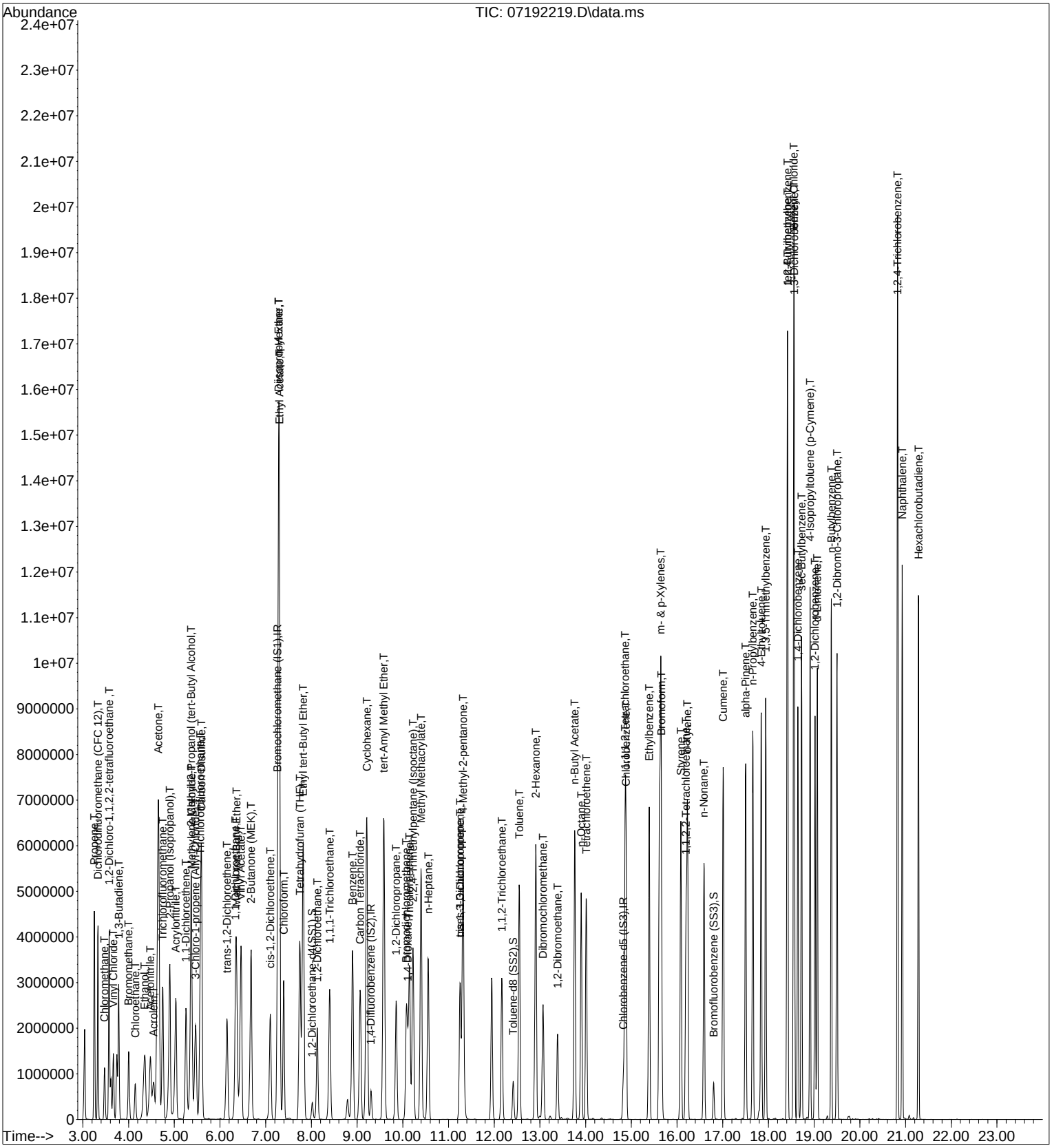
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.56	71	1024104	83.336	ng		99
52) cis-1,3-Dichloropropene	11.25	75	2013599	95.971	ng		100
53) 4-Methyl-2-pentanone	11.32	58	1975284	157.430	ng		98
54) trans-1,3-Dichloropropene	11.25	75	2013599	92.315	ng		100
55) 1,1,2-Trichloroethane	12.17	97	1218856	87.542	ng		99
58) Toluene	12.55	91	4712036	87.662	ng		99
59) 2-Hexanone	12.91	43	5633098	150.287	ng		99
60) Dibromochloromethane	13.07	129	1872701	112.167	ng		99
61) 1,2-Dibromoethane	13.39	107	1544354	97.219	ng		100
62) n-Butyl Acetate	13.76	43	6070829	150.972	ng		99
63) n-Octane	13.90	57	904088	80.751	ng		99
64) Tetrachloroethene	14.02	166	1804584	107.122	ng		99
65) Chlorobenzene	14.89	112	3408280	96.278	ng		100
66) Ethylbenzene	15.39	91	5781071	91.982	ng		98
67) m- & p-Xylenes	15.64	91	9875384	195.343	ng		98
68) Bromoform	15.66	173	1913297	124.812	ng		100
69) Styrene	16.08	104	3582462	100.317	ng		99
70) o-Xylene	16.23	91	4804444	96.574	ng		99
71) n-Nonane	16.59	43	2374189	74.337	ng		99
72) 1,1,2,2-Tetrachloroethane	16.20	83	2115277	94.663	ng		99
74) Cumene	17.01	105	5873845	97.519	ng		98
75) alpha-Pinene	17.50	93	3184028	103.571	ng		99
76) n-Propylbenzene	17.66	91	7014052	92.786	ng		98
77) 3-Ethyltoluene	17.01	105	5873845	No Calib			
78) 4-Ethyltoluene	17.84	105	5938771	103.472	ng		97
79) 1,3,5-Trimethylbenzene	17.94	105	5068248	102.175	ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.43	105	5962	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.42	105	5295919	103.174	ng		99
83) n-Decane	17.01	58	32566	No Calib		#	
84) Benzyl Chloride	18.55	91	9609570	240.562	ng		96
85) 1,3-Dichlorobenzene	18.56	146	3408047	105.739	ng		100
86) 1,4-Dichlorobenzene	18.64	146	3380339	106.199	ng		99
87) sec-Butylbenzene	18.72	105	6441990	97.139	ng		98
88) 4-Isopropyltoluene (p-...	18.91	119	5755081	99.724	ng		98
89) 1,2,3-Trimethylbenzene	18.42	105	5295919	No Calib			
90) 1,2-Dichlorobenzene	19.02	146	3216253	105.679	ng		99
91) d-Limonene	19.07	68	1830767	103.903	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.50	157	2732118	229.542	ng		97
93) n-Undecane	17.94	58	74361	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	5704318	215.073	ng		99
95) Naphthalene	20.93	128	7309281	115.527	ng		97
96) n-Dodecane	18.72	58	32809	No Calib		#	
97) Hexachlorobutadiene	21.28	225	1953627	100.851	ng		100
98) Cyclohexanone	15.64	55	7224	No Calib		#	
99) tert-Butylbenzene	18.42	119	4962625	100.145	ng		98
100) n-Butylbenzene	19.38	91	5420068	95.146	ng		97
101) 1,1,1,2-Tetrachloroethane	14.86	131	1505205	110.398	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192219.D Vial: 7
Acq On : 19 Jul 2022 19:05 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-07192201/S35-07192209 (8/18)

Quant Time: Jul 20 08:40:42 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:30:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:55:08 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	154549	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.29	114	658534	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	137435	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	316403	12.202	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
57) Toluene-d8 (SS2)	12.40	98	718788	12.461	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	16.79	174	301081	12.921	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
Target Compounds							Qvalue
2) Propene	3.24	42	331278m	22.373	ng		
3) Dichlorodifluoromethan...	3.32	85	829362	22.696	ng		100
4) Chloromethane	3.46	50	398187m	23.692	ng		
5) 1,2-Dichloro-1,1,2,2-t...	3.56	135	384587	24.317	ng		100
6) Vinyl Chloride	3.65	62	401118	25.652	ng		100
7) 1,3-Butadiene	3.77	54	290826	25.804	ng		98
8) Bromomethane	3.98	94	295021	24.190	ng		100
9) Chloroethane	4.13	64	194148	23.006	ng		100
10) Ethanol	4.31	45	1031651	105.499	ng		100
11) Acetonitrile	4.44	41	580650	20.199	ng		100
12) Acrolein	4.52	56	319236	42.933	ng		99
13) Acetone	4.62	58	967839	105.837	ng		97
14) Trichlorofluoromethane	4.73	101	821681	22.302	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	1808902	49.176	ng		99
16) Acrylonitrile	5.00	53	733202	46.922	ng		100
17) 1,1-Dichloroethene	5.23	96	315337	24.343	ng		98
18) 2-Methyl-2-Propanol (t...	5.33	59	1843196	53.059	ng		99
19) Methylene Chloride	5.35	84	321593	22.768	ng		98
20) 3-Chloro-1-propene (Al...	5.44	41	546579	20.613	ng		99
21) Trichlorotrifluoroethane	5.55	151	359646	23.940	ng		99
22) Carbon Disulfide	5.57	76	2251596	45.970	ng		100
23) trans-1,2-Dichloroethene	6.13	61	501560	24.296	ng		99
24) 1,1-Dichloroethane	6.32	63	584530	23.750	ng		99
25) Methyl tert-Butyl Ether	6.35	73	1111363	24.466	ng		100
26) Vinyl Acetate	6.44	86	256666	157.351	ng	#	96
27) 2-Butanone (MEK)	6.65	72	386202	46.857	ng		100
28) cis-1,2-Dichloroethene	7.07	61	478904	23.462	ng		100
29) Diisopropyl Ether	7.26	87	502542	45.858	ng	#	63
30) Ethyl Acetate	7.27	61	339666	64.493	ng		99
31) n-Hexane	7.27	57	460038	22.624	ng		100
32) Chloroform	7.36	83	697682	23.689	ng		100
34) Tetrahydrofuran (THF)	7.73	72	376515	47.178	ng		99
35) Ethyl tert-Butyl Ether	7.80	87	811425	49.724	ng		99
36) 1,2-Dichloroethane	8.11	62	588815	23.303	ng		100
38) 1,1,1-Trichloroethane	8.38	97	714681	23.273	ng		100
39) Isopropyl Acetate	9.29	61	22843	No Calib			
40) 1-Butanol	9.19	56	1014531	No Calib			
41) Benzene	8.88	78	1223750	23.245	ng		100
42) Carbon Tetrachloride	9.05	117	602900	22.799	ng		100
43) Cyclohexane	9.20	84	892292	46.257	ng		99
44) tert-Amyl Methyl Ether	9.57	73	1946026	50.447	ng		100
45) 1,2-Dichloropropane	9.84	63	291298	23.206	ng		100
46) Bromodichloromethane	10.06	83	585390	24.110	ng		100
47) Trichloroethene	10.13	130	380261	24.342	ng		99
48) 1,4-Dioxane	10.09	88	258705	27.220	ng		99
49) 2,2,4-Trimethylpentane...	10.21	57	1182040	23.255	ng		99
50) Methyl Methacrylate	10.38	100	258888	52.727	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:55:08 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

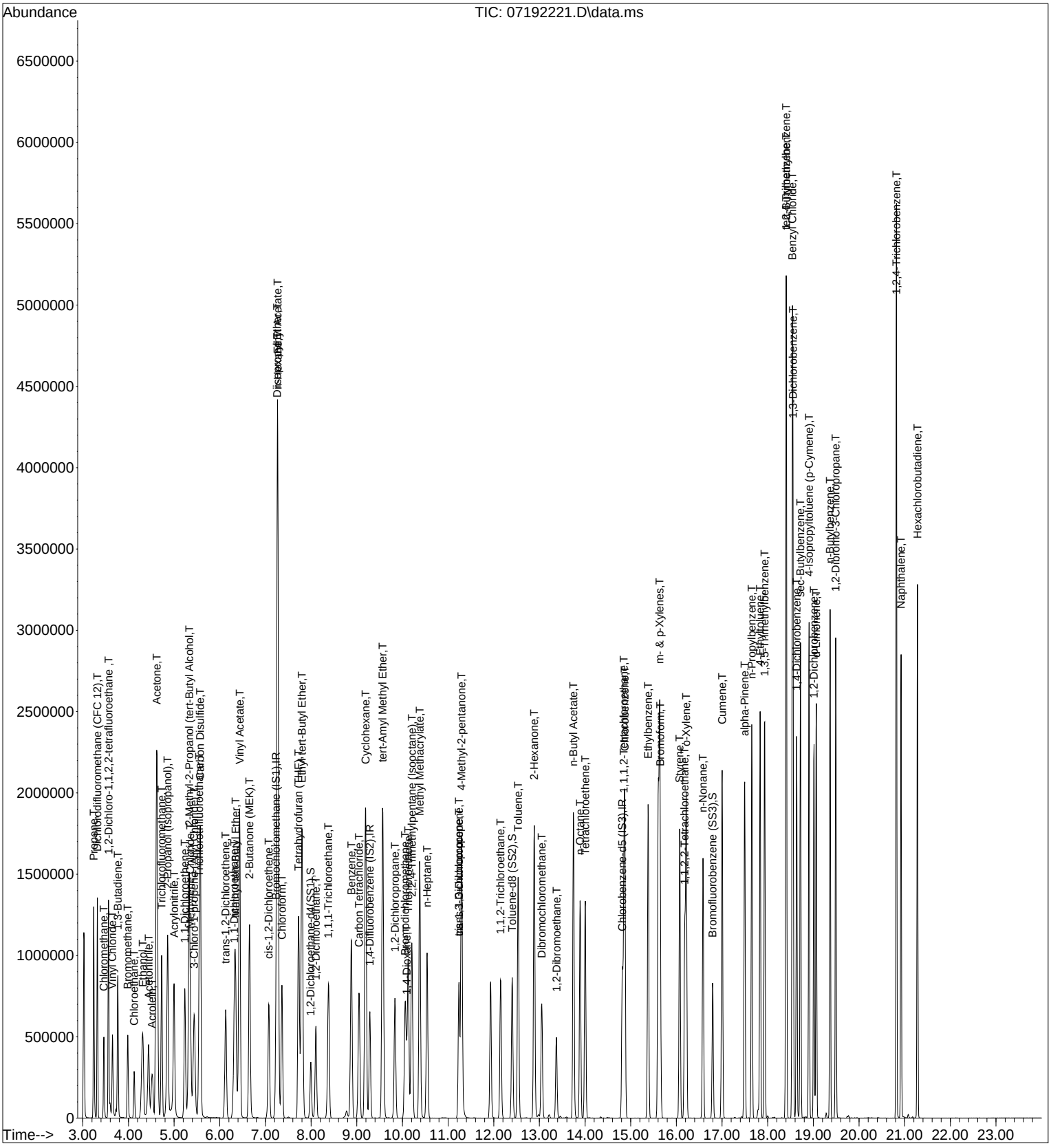
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	283746	23.587	ng		100
52) cis-1,3-Dichloropropene	11.24	75	552175	25.532	ng		100
53) 4-Methyl-2-pentanone	11.30	58	554072	50.293	ng		99
54) trans-1,3-Dichloropropene	11.24	75	552175	24.559	ng		100
55) 1,1,2-Trichloroethane	12.15	97	336332	23.652	ng		100
58) Toluene	12.53	91	1330232	22.919	ng		100
59) 2-Hexanone	12.89	43	1585307	49.475	ng		99
60) Dibromochloromethane	13.05	129	488696	24.302	ng		100
61) 1,2-Dibromoethane	13.38	107	412094	23.485	ng		100
62) n-Butyl Acetate	13.74	43	1747584	51.253	ng		100
63) n-Octane	13.89	57	247223	24.220	ng		100
64) Tetrachloroethene	14.01	166	485404	24.096	ng		99
65) Chlorobenzene	14.87	112	910182	23.000	ng		100
66) Ethylbenzene	15.38	91	1626023	23.724	ng		99
67) m- & p-Xylenes	15.63	91	2713473	47.671	ng		99
68) Bromoform	15.65	173	487816	26.380	ng		100
69) Styrene	16.07	104	958095	24.727	ng		100
70) o-Xylene	16.21	91	1336122	24.256	ng		100
71) n-Nonane	16.58	43	656146	23.818	ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	585362	23.875	ng		99
74) Cumene	17.00	105	1637874	23.803	ng		100
75) alpha-Pinene	17.50	93	855645	25.610	ng		99
76) n-Propylbenzene	17.65	91	1956227	23.827	ng		99
77) 3-Ethyltoluene	17.00	105	1637874	No Calib			
78) 4-Ethyltoluene	17.83	105	1620423	24.648	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1404545	24.538	ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.50	105	100550	No Calib			
82) 1,2,4-Trimethylbenzene	18.41	105	1454995	24.597	ng		100
83) n-Decane	16.79	58	177	No Calib		#	
84) Benzyl Chloride	18.54	91	2605775	56.317	ng		100
85) 1,3-Dichlorobenzene	18.55	146	901099	24.645	ng		100
86) 1,4-Dichlorobenzene	18.63	146	881526	23.739	ng		100
87) sec-Butylbenzene	18.72	105	1797932	23.453	ng		100
88) 4-Isopropyltoluene (p-...	18.91	119	1588486	24.179	ng		100
89) 1,2,3-Trimethylbenzene	18.41	105	1454995	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	848795	24.025	ng		99
91) d-Limonene	19.06	68	476007	24.858	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	711512	50.396	ng		99
93) n-Undecane	17.93	58	20211	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	1503843	49.565	ng		100
95) Naphthalene	20.92	128	1749704	24.537	ng		100
96) n-Dodecane	18.91	58	33826	No Calib		#	
97) Hexachlorobutadiene	21.28	225	535445	23.749	ng		100
98) Cyclohexanone	15.60	55	1105	No Calib		#	
99) tert-Butylbenzene	18.41	119	1377440	24.237	ng		100
100) n-Butylbenzene	19.37	91	1503522	24.195	ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	398288	23.788	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:55:08 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **07192221.D** Acq. Method File: **TO15.M** 7/20/22

Data File Path: **I:\MS09\DATA\2022_07\19** Sample Name: **25ng TO-15 ICV STD**

Operator: **SC** Misc Info: **S35-07192201/S35-06302203 (**

Date Acquired: **7/19/2022 20:09** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**3.24**	**22.4**	**25.75**	87	**56**	**128**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**3.32**	**22.7**	**26.00**	87	**71**	**112**	*	*
4)	**Chloromethane**	**3.46**	**23.7**	**25.75**	92	**53**	**126**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**3.56**	**24.3**	**26.00**	93	**62**	**121**	*	*
6)	**Vinyl Chloride**	**3.65**	**25.7**	**26.00**	99	**63**	**123**	*	*
7)	**1,3-Butadiene**	**3.77**	**25.8**	**25.75**	100	**63**	**135**	*	*
8)	**Bromomethane**	**3.98**	**24.2**	**25.75**	94	**71**	**112**	*	*
9)	**Chloroethane**	**4.13**	**23.0**	**25.75**	89	**66**	**117**	*	*
10)	**Ethanol**	**4.31**	**105**	**104.00**	101	**57**	**117**	*	*
11)	**Acetonitrile**	**4.44**	**20.2**	**25.25**	80	**59**	**131**	*	*
12)	**Acrolein**	**4.52**	**42.9**	**52.00**	83	**71**	**123**	*	*
13)	**Acetone**	**4.62**	**106**	**128.00**	83	**60**	**117**	*	*
14)	**Trichlorofluoromethane**	**4.73**	**22.3**	**25.25**	88	**71**	**114**	*	*
15)	**2-Propanol (Isopropanol)**	**4.86**	**49.2**	**50.00**	98	**61**	**124**	*	*
16)	**Acrylonitrile**	**5.00**	**46.9**	**50.25**	93	**65**	**130**	*	*
17)	**1,1-Dichloroethene**	**5.23**	**24.3**	**26.25**	93	**74**	**114**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	5.33	53.1	51.00	104	56	135	*	*
19)	**Methylene Chloride**	**5.35**	**22.8**	**26.00**	88	**75**	**112**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**5.44**	**20.6**	**25.50**	81	**57**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**5.55**	**23.9**	**27.00**	89	**73**	**114**	*	*
22)	**Carbon Disulfide**	**5.57**	**46.0**	**51.75**	89	**70**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**6.13**	**24.3**	**26.00**	93	**76**	**119**	*	*
24)	**1,1-Dichloroethane**	**6.32**	**23.8**	**26.75**	89	**70**	**114**	*	*
25)	**Methyl tert-Butyl Ether**	**6.35**	**24.5**	**25.75**	95	**72**	**118**	*	*
26)	**Vinyl Acetate**	**6.44**	**157**	**117.75**	133	**56**	**137**	*	*
27)	**2-Butanone (MEK)**	**6.65**	**46.9**	**51.00**	92	**74**	**121**	*	*
28)	**cis-1,2-Dichloroethene**	**7.07**	**23.5**	**25.75**	91	**73**	**117**	*	*
29)	Diisopropyl Ether	7.26	45.9	52.25	88	58	124	*	*
30)	**Ethyl Acetate**	**7.27**	**64.5**	**72.50**	89	**59**	**161**	*	*
31)	**n-Hexane**	**7.27**	**22.6**	**26.00**	87	**55**	**130**	*	*
32)	**Chloroform**	**7.36**	**23.7**	**26.25**	90	**71**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**7.73**	**47.2**	**50.50**	93	**73**	**114**	*	*
35)	Ethyl tert-Butyl Ether	7.80	49.7	51.75	96	76	119	*	*
36)	**1,2-Dichloroethane**	**8.11**	**23.3**	**26.25**	89	**71**	**119**	*	*
38)	**1,1,1-Trichloroethane**	**8.38**	**23.3**	**26.00**	90	**73**	**119**	*	*
41)	**Benzene**	**8.88**	**23.2**	**26.00**	89	**72**	**113**	*	*
42)	**Carbon Tetrachloride**	**9.05**	**22.8**	**25.25**	90	**67**	**123**	*	*
43)	**Cyclohexane**	**9.20**	**46.3**	**51.50**	90	**70**	**119**	*	*
44)	tert-Amyl Methyl Ether	9.57	50.4	**51.50**	98	74	120	*	*
45)	**1,2-Dichloropropane**	**9.84**	**23.2**	**25.75**	90	**70**	**118**	*	*
46)	**Bromodichloromethane**	**10.06**	**24.1**	**26.00**	93	**74**	**119**	*	*
47)	**Trichloroethene**	**10.13**	**24.3**	**25.50**	95	**74**	**115**	*	*
48)	**1,4-Dioxane**	**10.09**	**27.2**	**25.75**	106	**77**	**124**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	10.21	23.3	26.25	89	65	120	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **07192221.D** **TO15.M**
Data File Path: **I:\MS09\DATA\2022_07\19** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S35-07192201/S35-06302203 (**
Date Acquired: **7/19/2022 20:09** Instrument Name: **MS09**

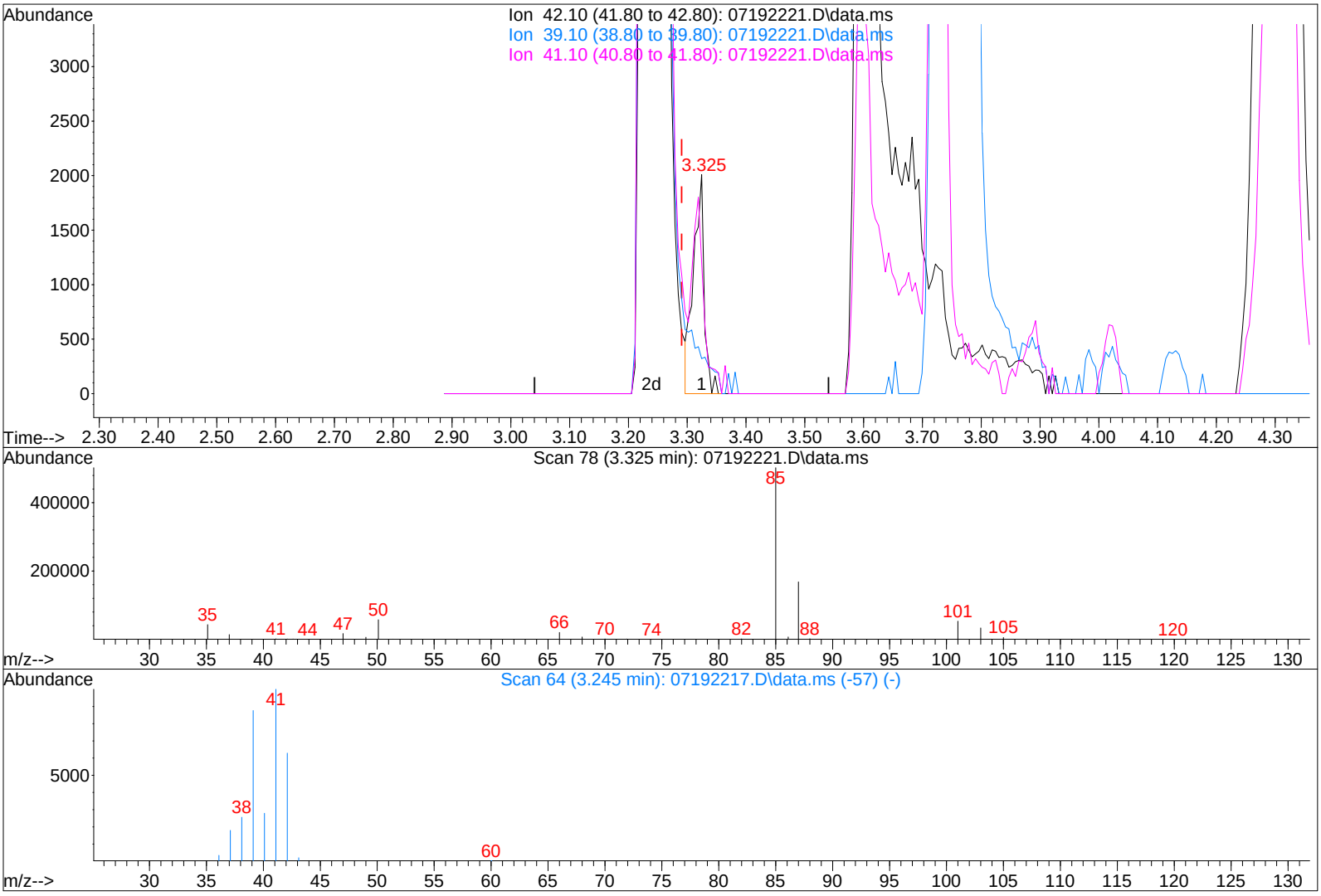
#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**10.38**	**52.7**	**51.25**	103	**78**	**126**	*	*
51)	**n-Heptane**	**10.54**	**23.6**	**25.75**	92	**70**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**11.24**	**25.5**	**26.00**	98	**81**	**126**	*	*
53)	**4-Methyl-2-pentanone**	**11.30**	**50.3**	**51.50**	98	**73**	**129**	*	*
54)	**trans-1,3-Dichloropropene**	**11.24**	**24.6**	**25.00**	98	**80**	**127**	*	*
55)	**1,1,2-Trichloroethane**	**12.15**	**23.7**	**26.00**	91	**78**	**117**	*	*
58)	**Toluene**	**12.53**	**22.9**	**25.75**	89	**70**	**118**	*	*
59)	**2-Hexanone**	**12.89**	**49.5**	**50.75**	98	**74**	**132**	*	*
60)	**Dibromochloromethane**	**13.05**	**24.3**	**26.25**	93	**69**	**137**	*	*
61)	**1,2-Dibromoethane**	**13.38**	**23.5**	**26.00**	90	**76**	**128**	*	*
62)	**n-Butyl Acetate**	**13.74**	**51.3**	**50.75**	101	**75**	**134**	*	*
63)	**n-Octane**	**13.89**	**24.2**	**26.00**	93	**68**	**120**	*	*
64)	**Tetrachloroethene**	**14.01**	**24.1**	**26.50**	91	**63**	**130**	*	*
65)	**Chlorobenzene**	**14.87**	**23.0**	**25.75**	89	**70**	**118**	*	*
66)	**Ethylbenzene**	**15.38**	**23.7**	**25.75**	92	**71**	**123**	*	*
67)	**m- & p-Xylenes**	**15.63**	**47.7**	**52.00**	92	**67**	**127**	*	*
68)	**Bromoform**	**15.65**	**26.4**	**26.25**	101	**65**	**149**	*	*
69)	**Styrene**	**16.07**	**24.7**	**25.25**	98	**76**	**132**	*	*
70)	**o-Xylene**	**16.21**	**24.3**	**26.00**	93	**69**	**124**	*	*
71)	**n-Nonane**	**16.58**	**23.8**	**26.00**	92	**64**	**127**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**16.18**	**23.9**	**26.00**	92	**69**	**128**	*	*
74)	**Cumene**	**17.00**	**23.8**	**25.75**	92	**69**	**125**	*	*
75)	**alpha-Pinene**	**17.50**	**25.6**	**26.25**	98	**68**	**129**	*	*
76)	**n-Propylbenzene**	**17.65**	**23.8**	**26.00**	92	**70**	**127**	*	*
78)	**4-Ethyltoluene**	**17.83**	**24.6**	**26.00**	**95**	**69**	**127**	*	*
79)	**1,3,5-Trimethylbenzene**	**17.93**	**24.5**	**26.00**	**94**	**66**	**129**	*	*
82)	**1,2,4-Trimethylbenzene**	**18.41**	**24.6**	**25.75**	**96**	**63**	**142**	*	*
84)	**Benzyl Chloride**	**18.54**	**56.3**	**52.00**	**108**	**73**	**145**	*	*
85)	**1,3-Dichlorobenzene**	**18.55**	**24.6**	**26.00**	**95**	**67**	**136**	*	*
86)	**1,4-Dichlorobenzene**	**18.63**	**23.7**	**26.25**	**90**	**63**	**134**	*	*
87)	sec-Butylbenzene	18.72	23.5	25.50	**92**	68	130	*	*
88)	4-Isopropyltoluene (p-Cymene)	18.91	24.2	25.75	**94**	60	139	*	*
90)	**1,2-Dichlorobenzene**	**19.01**	**24.0**	**26.25**	**91**	**64**	**139**	*	*
91)	**d-Limonene**	**19.06**	**24.9**	**25.75**	**97**	**63**	**137**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**19.49**	**50.4**	**50.50**	**100**	**72**	**145**	*	*
94)	**1,2,4-Trichlorobenzene**	**20.82**	**49.6**	**52.50**	**94**	**62**	**154**	*	*
95)	**Naphthalene**	**20.92**	**24.5**	**26.25**	**93**	**62**	**156**	*	*
97)	**Hexachlorobutadiene**	**21.28**	**23.7**	**26.50**	**89**	55	142	*	*
99)	tert-Butylbenzene	18.41	24.2	25.75	94	61	140	*	*
100)	n-Butylbenzene	19.37	24.2	26.00	93	70	131	*	*
101)	1,1,1,2-Tetrachloroethane	14.85	23.8	25.75	92	70	130	*	*

Bold = 75 Compound List
*** = Pass**

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:54:11 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192221.D\data.ms

(2) Propene (T)

3.325min (+0.034) 0.17ng

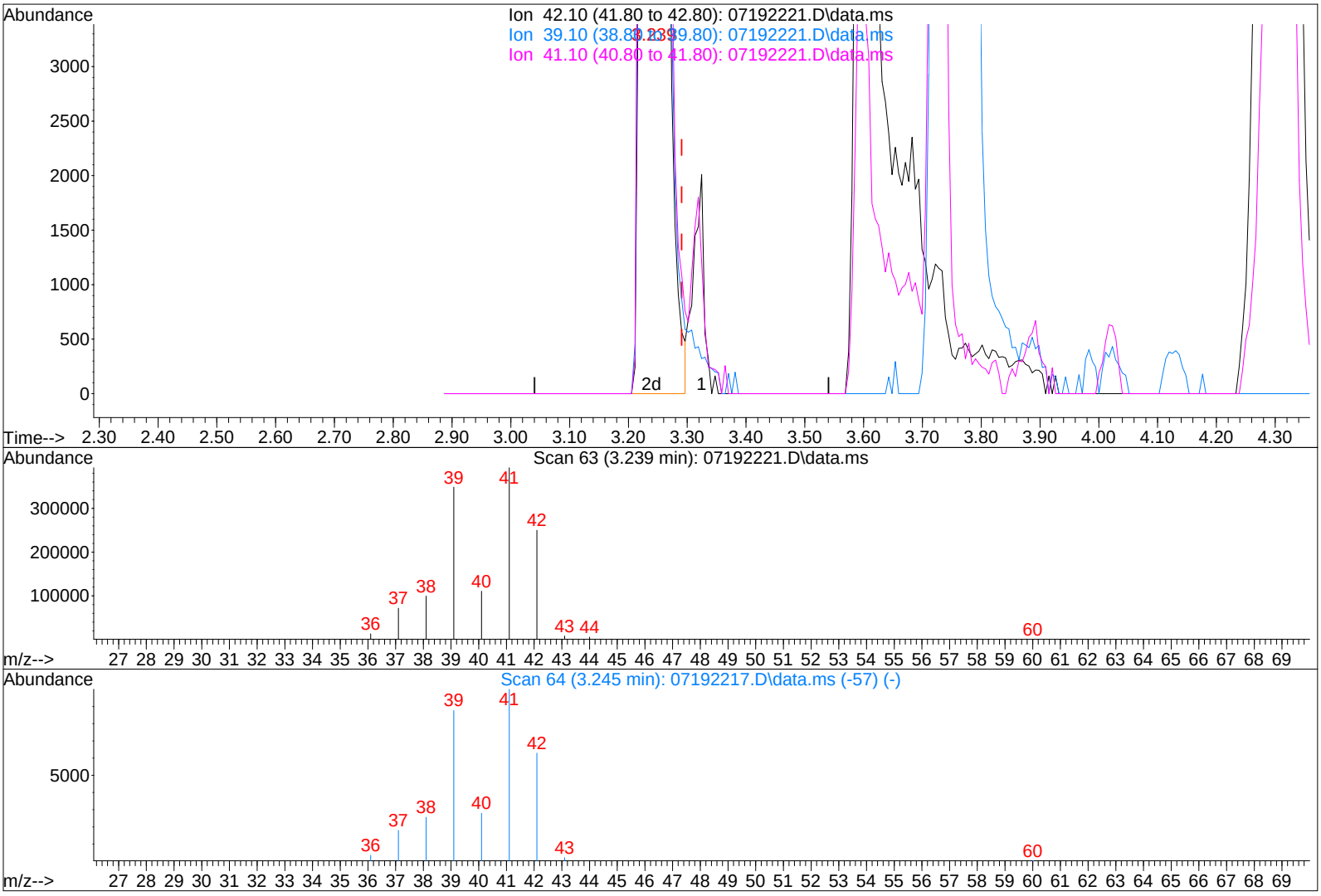
response 2559

Ion	Exp%	Act%
42.10	100	100
39.10	139.50	5.08#
41.10	157.20	95.23#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:54:11 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192221.D\data.ms

(2) Propene (T)

3.239min (-0.051) 22.37ng m

response 331278

Ion	Exp%	Act%
42.10	100	100
39.10	139.50	0.04#
41.10	157.20	0.74#
0.00	0.00	0.00

WP

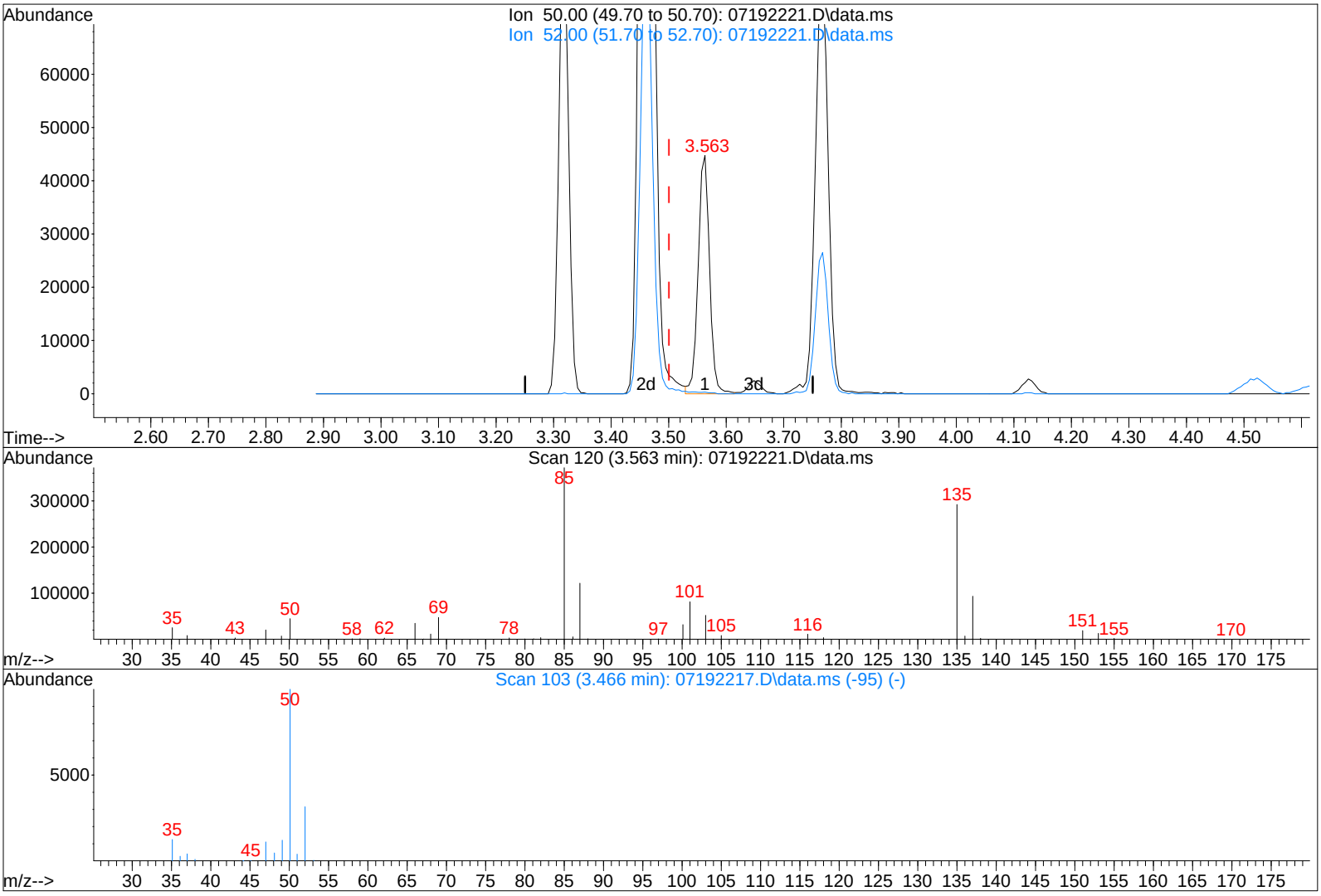
7/20/22

7/27/22

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:54:11 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192221.D\data.ms

(4) Chloromethane (T)

3.563min (+0.062) 3.65ng

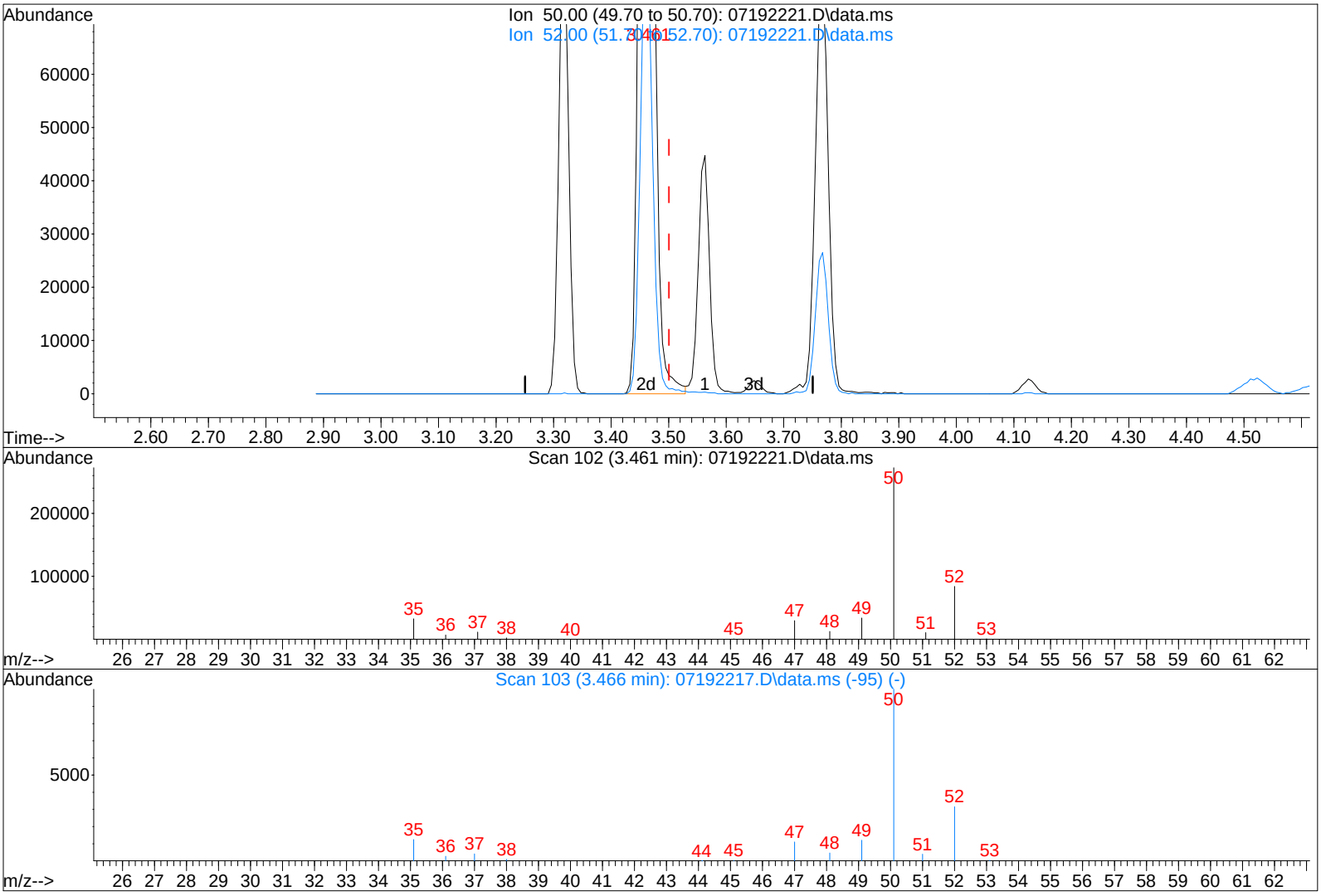
response 61344

Ion	Exp%	Act%
50.00	100	100
52.00	31.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 07\19\07192221.D Vial: 8
Acq On : 19 Jul 2022 20:09 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-07192201/S35-06302203 (7/30)

Quant Time: Jul 20 08:54:11 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jul 20 08:53:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07192221.D\data.ms

(4) Chloromethane (T)

3.461min (-0.040) 23.69ng m

response 398187

Ion	Exp%	Act%
50.00	100	100
52.00	31.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

WP

7/20/22

7/27/22

ICV/LCS Standard Concentrations (Secondary Source)

7/20/22

4ng/L Working Std. ID:					
20ng/L Working Std. ID:					
200ng/L Working Std. ID:	S35-06302203				
1000ng/L Working Std. ID:					
Dilution Factor:	1	5	50	250	
Working Std. Conc. Utilized:	200				
Working Std. Injection Amounts (L):					0.125

		Secondary Working Std. Conc.				ICV / LCS
Compounds	mg/m^3	1000ng/L	200ng/L	20ng/L	4ng/L	Actual Conc.(ng)
Propene	1.03	1030	206	20.6	4.12	25.75
Dichlorodifluoromethane(12)	1.04	1040	208	20.8	4.16	26.00
Chloromethane	1.03	1030	206	20.6	4.12	25.75
Freon-114	1.04	1040	208	20.8	4.16	26.00
Vinyl Chloride	1.04	1040	208	20.8	4.16	26.00
1,3-Butadiene	1.03	1030	206	20.6	4.12	25.75
Bromomethane	1.03	1030	206	20.6	4.12	25.75
Chloroethane	1.03	1030	206	20.6	4.12	25.75
Ethanol	4.16	4160	832	83.2	16.64	104.00
Acetonitrile	1.01	1010	202	20.2	4.04	25.25
Acrolein	2.08	2080	416	41.6	8.32	52.00
Acetone	5.12	5120	1024	102.4	20.48	128.00
Trichlorofluoromethane(11)	1.01	1010	202	20.2	4.04	25.25
Isopropanol	2.00	2000	400	40.0	8.00	50.00
Acrylonitrile	2.01	2010	402	40.2	8.04	50.25
1,1-Dichloroethene	1.05	1050	210	21.0	4.20	26.25
tert-Butanol	2.04	2040	408	40.8	8.16	51.00
Methylene Chloride	1.04	1040	208	20.8	4.16	26.00
Allyl Chloride	1.02	1020	204	20.4	4.08	25.50
Trichlorotrifluoroethane(113)	1.08	1080	216	21.6	4.32	27.00
Carbon Disulfide	2.07	2070	414	41.4	8.28	51.75
trans-1,2-Dichloroethene	1.04	1040	208	20.8	4.16	26.00
1,1-Dichloroethane	1.07	1070	214	21.4	4.28	26.75
Methyl tert-Butyl Ether	1.03	1030	206	20.6	4.12	25.75
Vinyl Acetate	4.71	4710	942	94.2	18.84	117.75
2-Butanone	2.04	2040	408	40.8	8.16	51.00
cis-1,2-Dichloroethene	1.03	1030	206	20.6	4.12	25.75
Diisopropyl Ether	2.09	2090	418	41.8	8.36	52.25
Ethyl Acetate	2.90	2900	580	58.0	11.60	72.50
n-Hexane	1.04	1040	208	20.8	4.16	26.00
Chloroform	1.05	1050	210	21.0	4.20	26.25
Tetrahydrofuran	2.02	2020	404	40.4	8.08	50.50
Ethyl tert-Butyl Ether	2.07	2070	414	41.4	8.28	51.75
1,2-Dichloroethane	1.05	1050	210	21.0	4.20	26.25
1,1,1-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Benzene	1.04	1040	208	20.8	4.16	26.00
Carbon Tetrachloride	1.01	1010	202	20.2	4.04	25.25
Cyclohexane	2.06	2060	412	41.2	8.24	51.50
tert-Amyl Methyl Ether	2.06	2060	412	41.2	8.24	51.50
1,2-Dichloropropane	1.03	1030	206	20.6	4.12	25.75
Bromodichloromethane	1.04	1040	208	20.8	4.16	26.00
Trichloroethene	1.02	1020	204	20.4	4.08	25.50
1,4-Dioxane	1.03	1030	206	20.6	4.12	25.75
Isooctane	1.05	1050	210	21.0	4.20	26.25

		Secondary Working Std. Conc.				ICV / LCS
Compounds	mg/m^3	1000ng/L	200ng/L	20ng/L	4ng/L	Actual Conc.(ng)
Methyl Methacrylate	2.05	2050	410	41.0	8.20	51.25
n-Heptane	1.03	1030	206	20.6	4.12	25.75
cis-1,3-Dichloropropene	1.04	1040	208	20.8	4.16	26.00
4-Methyl-2-pentanone	2.06	2060	412	41.2	8.24	51.50
trans-1,3-Dichloropropene	1.00	1000	200	20.0	4.00	25.00
1,1,2-Trichloroethane	1.04	1040	208	20.8	4.16	26.00
Toluene	1.03	1030	206	20.6	4.12	25.75
2-Hexanone	2.03	2030	406	40.6	8.12	50.75
Dibromochloromethane	1.05	1050	210	21.0	4.20	26.25
1,2-Dibromoethane	1.04	1040	208	20.8	4.16	26.00
n-Butyl Acetate	2.03	2030	406	40.6	8.12	50.75
n-Octane	1.04	1040	208	20.8	4.16	26.00
Tetrachloroethene	1.06	1060	212	21.2	4.24	26.50
Chlorobenzene	1.03	1030	206	20.6	4.12	25.75
Ethylbenzene	1.03	1030	206	20.6	4.12	25.75
m-,p-Xylene	2.08	2080	416	41.6	8.32	52.00
Bromoform	1.05	1050	210	21.0	4.20	26.25
Styrene	1.01	1010	202	20.2	4.04	25.25
o-Xylene	1.04	1040	208	20.8	4.16	26.00
n-Nonane	1.04	1040	208	20.8	4.16	26.00
1,1,2,2-Tetrachloroethane	1.04	1040	208	20.8	4.16	26.00
Cumene	1.03	1030	206	20.6	4.12	25.75
alpha-Pinene	1.05	1050	210	21.0	4.20	26.25
n-Propylbenzene	1.04	1040	208	20.8	4.16	26.00
4-Ethyltoluene	1.04	1040	208	20.8	4.16	26.00
1,3,5-Trimethylbenzene	1.04	1040	208	20.8	4.16	26.00
1,2,4-Trimethylbenzene	1.03	1030	206	20.6	4.12	25.75
Benzyl Chloride	2.08	2080	416	41.6	8.32	52.00
1,3-Dichlorobenzene	1.04	1040	208	20.8	4.16	26.00
1,4-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
sec-Butylbenzene	1.02	1020	204	20.4	4.08	25.50
p-Isopropyltoluene	1.03	1030	206	20.6	4.12	25.75
1,2-Dichlorobenzene	1.05	1050	210	21.0	4.20	26.25
d-Limonene	1.03	1030	206	20.6	4.12	25.75
1,2-Dibromo-3-chloropropane	2.02	2020	404	40.4	8.08	50.50
1,2,4-Trichlorobenzene	2.10	2100	420	42.0	8.40	52.50
Naphthalene	1.05	1050	210	21.0	4.20	26.25
Hexachloro-1,3-butadiene	1.06	1060	212	21.2	4.24	26.50
tert-Butylbenzene	1.03	1030	206	20.6	4.12	25.75
n-Butylbenzene	1.04	1040	208	20.8	4.16	26.00
1,1,1,2-Tetrachloroethane	1.03	1030	206	20.6	4.12	25.75

***Enter Information in the Solid Shaded Areas ONLY.**

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 08\10\08102201.D Vial: 2
Acq On : 9 Aug 2022 22:04 Operator: SC
Sample : CCV R9081022 5.0ng Inst : MS09
Misc : S35-07192201/S35-07192205 (8/18)

Quant Time: Aug 10 06:58:17 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/10/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	105	-0.02
2	T	Propene	1.198	0.946	21.0	90	0.01
3	T	Dichlorodifluoromethane (CF	2.956	2.828	4.3	116	0.00
4	T	Chloromethane	1.359	1.173	13.7	104	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.279	1.316	-2.9	128	0.00
6	T	Vinyl Chloride	1.265	1.332	-5.3	131	-0.05
7	T	1,3-Butadiene	0.912	1.079	-18.3	142	-0.04
8	T	Bromomethane	0.986	0.902	8.5	113	-0.05
9	T	Chloroethane	0.683	0.548	19.8	97	-0.05
10	T	Ethanol	0.791	0.711	10.1	100	-0.01
11	T	Acetonitrile	2.325	1.790	23.0	93	-0.03
12	T	Acrolein	0.601	0.540	10.1	104	-0.04
13	T	Acetone	0.740	0.610	17.6	102	-0.04
14	T	Trichlorofluoromethane	2.980	2.843	4.6	117	-0.04
15	T	2-Propanol (Isopropanol)	2.975	2.913	2.1	124	-0.04
16	T	Acrylonitrile	1.264	1.125	11.0	100	-0.02
17	T	1,1-Dichloroethene	1.048	1.027	2.0	117	-0.04
18	T	2-Methyl-2-Propanol (tert-B	2.810	2.944	-4.8	124	-0.10
19	T	Methylene Chloride	1.142	1.014	11.2	110	-0.01
20	T	3-Chloro-1-propene (Allyl C	2.145	1.791	16.5	95	-0.03
21	T	Trichlorotrifluoroethane	1.215	1.234	-1.6	127	-0.03
22	T	Carbon Disulfide	3.961	3.354	15.3	102	-0.05
23	T	trans-1,2-Dichloroethene	1.670	1.512	9.5	107	-0.02
24	T	1,1-Dichloroethane	1.991	1.740	12.6	107	-0.02
25	T	Methyl tert-Butyl Ether	3.674	3.589	2.3	116	-0.06
26	T	Vinyl Acetate	0.132	0.143	-8.3	113	-0.04
27	T	2-Butanone (MEK)	0.667	0.598	10.3	105	-0.05
28	T	cis-1,2-Dichloroethene	1.651	1.487	9.9	109	-0.02
29	T	Diisopropyl Ether	0.886	0.832	6.1	116	-0.05
30	T	Ethyl Acetate	0.426	0.372	12.7	103	-0.05
31	T	n-Hexane	1.645	1.445	12.2	110	-0.04
32	T	Chloroform	2.382	2.191	8.0	112	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	2.097	1.941	7.4	96	-0.03
34	T	Tetrahydrofuran (THF)	0.645	0.577	10.5	105	-0.07
35	T	Ethyl tert-Butyl Ether	1.320	1.294	2.0	119	-0.05
36	T	1,2-Dichloroethane	2.044	2.026	0.9	122	-0.03
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	99	-0.01
38	T	1,1,1-Trichloroethane	0.583	0.587	-0.7	117	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	94	-0.01
40	T	1-Butanol	0.000	0.000	0.0	105	-0.02
41	T	Benzene	0.999	0.930	6.9	109	-0.01
42	T	Carbon Tetrachloride	0.502	0.544	-8.4	124	-0.01
43	T	Cyclohexane	0.366	0.356	2.7	113	-0.02
44	T	tert-Amyl Methyl Ether	0.732	0.738	-0.8	117	-0.04
45	T	1,2-Dichloropropane	0.238	0.207	13.0	102	-0.02
46	T	Bromodichloromethane	0.461	0.450	2.4	111	-0.01
47	T	Trichloroethene	0.297	0.343	-15.5	134	-0.02
48	T	1,4-Dioxane	0.180	0.201	-11.7	114	-0.06
49	T	2,2,4-Trimethylpentane (Iso	0.965	0.869	9.9	104	-0.03
50	T	Methyl Methacrylate	0.093	0.105	-12.9	120	-0.03
51	T	n-Heptane	0.228	0.210	7.9	104	-0.03
52	T	cis-1,3-Dichloropropene	0.411	0.412	-0.2	111	-0.03
53	T	4-Methyl-2-pentanone	0.209	0.199	4.8	107	-0.05
54	T	trans-1,3-Dichloropropene	0.427	0.428	-0.2	111	-0.03
55	T	1,1,2-Trichloroethane	0.270	0.261	3.3	111	-0.02

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 08\10\08102201.D Vial: 2
Acq On : 9 Aug 2022 22:04 Operator: SC
Sample : CCV R9081022 5.0ng Inst : MS09
Misc : S35-07192201/S35-07192205 (8/18)

Quant Time: Aug 10 06:58:17 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	100	0.00
57	S	Toluene-d8 (SS2)	5.246	5.190	1.1	98	0.00
58	T	Toluene	5.279	5.253	0.5	116	0.00
59	T	2-Hexanone	2.914	2.885	1.0	109	-0.02
60	T	Dibromochloromethane	1.829	2.090	-14.3	130	0.00
61	T	1,2-Dibromoethane	1.596	1.638	-2.6	118	0.00
62	T	n-Butyl Acetate	3.101	3.061	1.3	106	-0.01
63	T	n-Octane	0.928	0.876	5.6	105	0.00
64	T	Tetrachloroethene	1.832	1.926	-5.1	123	0.00
65	T	Chlorobenzene	3.599	3.771	-4.8	124	0.00
66	T	Ethylbenzene	6.234	6.473	-3.8	118	0.00
67	T	m- & p-Xylenes	5.177	5.398	-4.3	119	0.01
68	T	Bromoform	1.682	1.921	-14.2	127	0.00
69	T	Styrene	3.524	3.888	-10.3	121	0.00
70	T	o-Xylene	5.010	5.278	-5.3	119	0.00
71	T	n-Nonane	2.506	2.300	8.2	102	0.00
72	T	1,1,2,2-Tetrachloroethane	2.230	2.005	10.1	101	0.00
73	S	Bromofluorobenzene (SS3)	2.119	2.346	-10.7	109	0.00
74	T	Cumene	6.258	6.620	-5.8	121	0.00
75	T	alpha-Pinene	3.039	3.190	-5.0	119	0.00
76	T	n-Propylbenzene	7.467	7.843	-5.0	117	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	121	0.00
78	T	4-Ethyltoluene	5.979	6.581	-10.1	123	0.00
79	T	1,3,5-Trimethylbenzene	5.206	5.703	-9.5	121	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	-16.45#
81	T	2-Ethyltoluene	0.000	0.000	0.0	3487#	0.00
82	T	1,2,4-Trimethylbenzene	5.380	5.977	-11.1	123	0.00
83	T	n-Decane	0.000	0.000	0.0	24#	0.00
84	T	Benzyl Chloride	4.208	5.215	-23.9	129	0.00
85	T	1,3-Dichlorobenzene	3.325	3.764	-13.2	129	0.00
86	T	1,4-Dichlorobenzene	3.377	3.790	-12.2	130	0.00
87	T	sec-Butylbenzene	6.972	7.335	-5.2	120	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.975	6.949	-16.3	128	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	123	0.00
90	T	1,2-Dichlorobenzene	3.213	3.566	-11.0	129	0.00
91	T	d-Limonene	1.742	1.640	5.9	103	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.284	1.528	-19.0	129	0.00
93	T	n-Undecane	0.000	0.000	0.0	92	-0.01
94	T	1,2,4-Trichlorobenzene	2.760	3.353	-21.5	132	0.00
95	T	Naphthalene	6.486	8.810	-35.8#	143	0.00
96	T	n-Dodecane	0.000	0.000	0.0	353#	0.00
97	T	Hexachlorobutadiene	2.051	2.249	-9.7	125	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-15.64#
99	T	tert-Butylbenzene	5.169	5.894	-14.0	130	0.00
100	T	n-Butylbenzene	5.652	6.136	-8.6	119	0.00
101	T	1,1,1,2-Tetrachloroethane	1.523	1.702	-11.8	129	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102201.D Vial: 2
Acq On : 9 Aug 2022 22:04 Operator: SC
Sample : CCV R9081022 5.0ng Inst : MS09
Misc : S35-07192201/S35-07192205 (8/18)

Quant Time: Aug 10 06:58:17 2022 8/10/22
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	151026	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.28	114	615797	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.81	54	128519	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	293091	11.566	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
57) Toluene-d8 (SS2)	12.40	98	666977	12.365	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
73) Bromofluorobenzene (SS3)	16.79	174	301568	13.840	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.72%				
Target Compounds							Qvalue
2) Propene	3.26	42	59439	4.108	ng		95
3) Dichlorodifluoromethan...	3.33	85	179370	5.023	ng		99
4) Chloromethane	3.47	50	72251	4.399	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	85871	5.556	ng		99
6) Vinyl Chloride	3.65	62	83696	5.477	ng		99
7) 1,3-Butadiene	3.77	54	67759	6.152	ng		97
8) Bromomethane	3.99	94	55573	4.663	ng		95
9) Chloroethane	4.12	64	33783	4.097	ng		97
10) Ethanol	4.28	45	155500	16.273	ng		99
11) Acetonitrile	4.42	41	100562	3.580	ng		98
12) Acrolein	4.51	56	65266	8.982	ng		98
13) Acetone	4.60	58	191296	21.407	ng	#	81
14) Trichlorofluoromethane	4.73	101	176884	4.913	ng		98
15) 2-Propanol (Isopropanol)	4.82	45	355505	9.890	ng		96
16) Acrylonitrile	4.98	53	137921	9.032	ng		93
17) 1,1-Dichloroethene	5.23	96	66384	5.244	ng		93
18) 2-Methyl-2-Propanol (t...	5.29	59	373500	11.003	ng		97
19) Methylene Chloride	5.34	84	63733	4.617	ng		96
20) 3-Chloro-1-propene (Al...	5.43	41	113612	4.385	ng		95
21) Trichlorotrifluoroethane	5.55	151	80509	5.484	ng		92
22) Carbon Disulfide	5.57	76	425505	8.890	ng		98
23) trans-1,2-Dichloroethene	6.12	61	96806	4.799	ng		93
24) 1,1-Dichloroethane	6.30	63	110376	4.589	ng		100
25) Methyl tert-Butyl Ether	6.34	73	227646	5.128	ng		99
26) Vinyl Acetate	6.42	86	29319	18.394	ng	#	93
27) 2-Butanone (MEK)	6.63	72	74469	9.246	ng		100
28) cis-1,2-Dichloroethene	7.06	61	93422	4.684	ng		94
29) Diisopropyl Ether	7.25	87	106561	9.951	ng	#	88
30) Ethyl Acetate	7.25	61	91697	17.817	ng		94
31) n-Hexane	7.26	57	91675	4.614	ng		98
32) Chloroform	7.34	83	141622	4.921	ng		97
34) Tetrahydrofuran (THF)	7.72	72	68622	8.799	ng		95
35) Ethyl tert-Butyl Ether	7.79	87	164137	10.293	ng		95
36) 1,2-Dichloroethane	8.09	62	129708	5.253	ng		98
38) 1,1,1-Trichloroethane	8.37	97	150247	5.232	ng		97
39) Isopropyl Acetate	9.28	61	20312	No Calib			
40) 1-Butanol	9.18	56	192251	No Calib			
41) Benzene	8.87	78	238289	4.840	ng		100
42) Carbon Tetrachloride	9.04	117	140655	5.688	ng		98
43) Cyclohexane	9.18	84	181703	10.073	ng		94
44) tert-Amyl Methyl Ether	9.56	73	379934	10.533	ng		98
45) 1,2-Dichloropropane	9.83	63	52445	4.468	ng		98
46) Bromodichloromethane	10.05	83	116492	5.131	ng		98
47) Trichloroethene	10.12	130	86943	5.952	ng		100
48) 1,4-Dioxane	10.08	88	51531	5.798	ng		91
49) 2,2,4-Trimethylpentane...	10.20	57	226917	4.774	ng		96
50) Methyl Methacrylate	10.37	100	53758	11.709	ng	#	85

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102201.D Vial: 2
Acq On : 9 Aug 2022 22:04 Operator: SC
Sample : CCV R9081022 5.0ng Inst : MS09
Misc : S35-07192201/S35-07192205 (8/18)

Quant Time: Aug 10 06:58:17 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

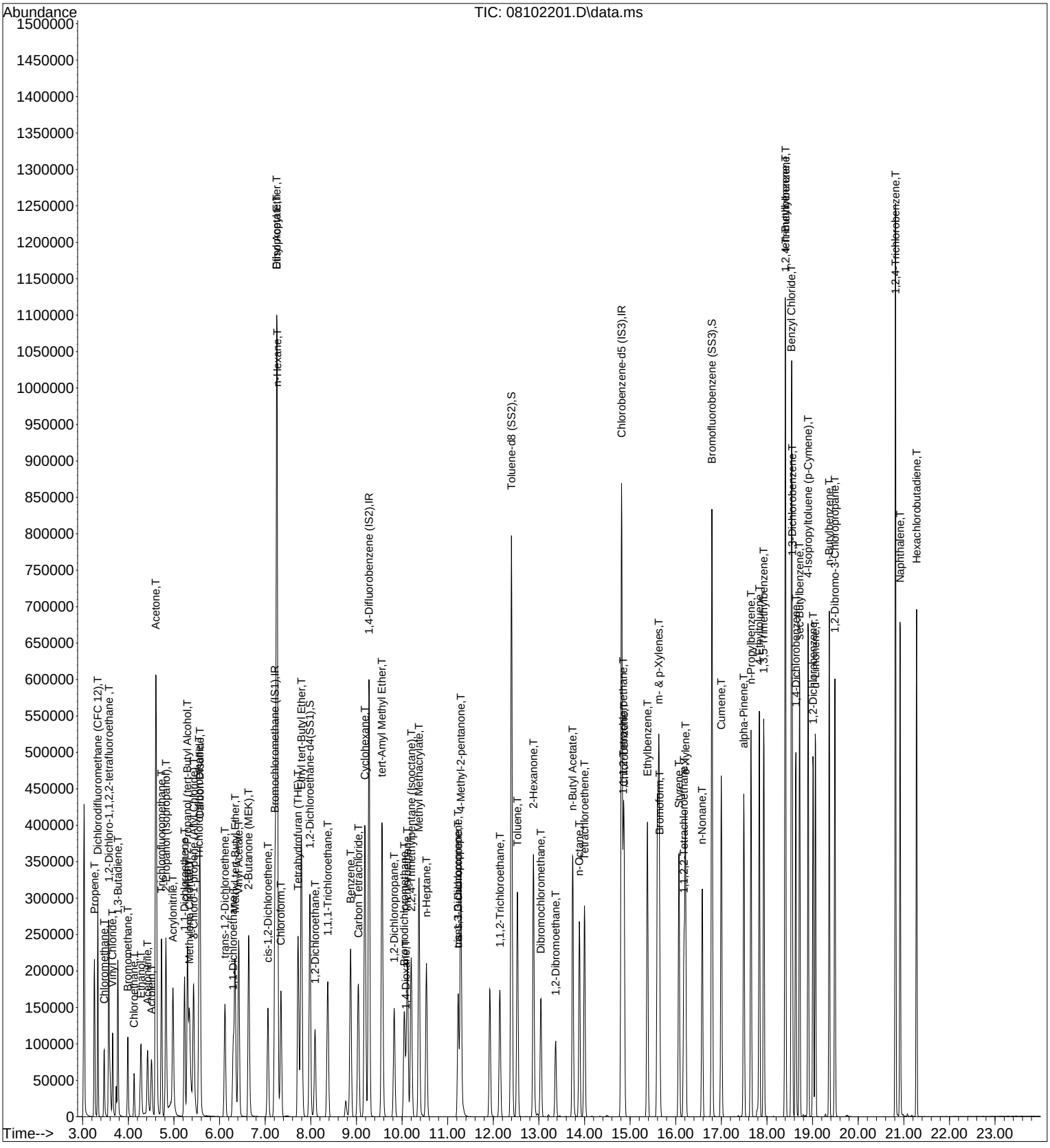
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	54319	4.829	ng		97
52) cis-1,3-Dichloropropene	11.23	75	106586	5.270	ng		100
53) 4-Methyl-2-pentanone	11.29	58	101972	9.898	ng		96
54) trans-1,3-Dichloropropene	11.23	75	106586	5.070	ng		100
55) 1,1,2-Trichloroethane	12.15	97	66980	5.037	ng		94
58) Toluene	12.53	91	278130	5.124	ng		99
59) 2-Hexanone	12.88	43	304053	10.147	ng		98
60) Dibromochloromethane	13.04	129	112826	6.000	ng		99
61) 1,2-Dibromoethane	13.37	107	87553	5.336	ng		97
62) n-Butyl Acetate	13.74	43	320995	10.067	ng		100
63) n-Octane	13.89	57	47288	4.954	ng		92
64) Tetrachloroethene	14.00	166	102952	5.465	ng		98
65) Chlorobenzene	14.87	112	201589	5.447	ng		100
66) Ethylbenzene	15.38	91	342740	5.348	ng		97
67) m- & p-Xylenes	15.62	91	571652	10.740	ng		96
68) Bromoform	15.65	173	102692	5.939	ng		99
69) Styrene	16.07	104	205879	5.682	ng		98
70) o-Xylene	16.21	91	282199	5.478	ng		97
71) n-Nonane	16.58	43	122976	4.774	ng		95
72) 1,1,2,2-Tetrachloroethane	16.18	83	107170	4.674	ng		95
74) Cumene	17.00	105	353908	5.500	ng		96
75) alpha-Pinene	17.49	93	177105	5.669	ng		99
76) n-Propylbenzene	17.65	91	423356	5.514	ng		97
77) 3-Ethyltoluene	17.00	105	353908	No Calib			
78) 4-Ethyltoluene	17.83	105	358635	5.834	ng		95
79) 1,3,5-Trimethylbenzene	17.93	105	304900	5.696	ng		94
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.49	105	21761	No Calib			
82) 1,2,4-Trimethylbenzene	18.41	105	316505	5.722	ng		94
83) n-Decane	16.79	58	204	No Calib		#	
84) Benzyl Chloride	18.54	91	552220	12.763	ng		98
85) 1,3-Dichlorobenzene	18.55	146	201246	5.886	ng		99
86) 1,4-Dichlorobenzene	18.63	146	202654	5.836	ng		99
87) sec-Butylbenzene	18.72	105	392182	5.471	ng		99
88) 4-Isopropyltoluene (p-...	18.90	119	371538	6.048	ng		97
89) 1,2,3-Trimethylbenzene	18.41	105	316505	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	192460	5.825	ng		98
91) d-Limonene	19.06	68	88521	4.943	ng		91
92) 1,2-Dibromo-3-Chloropr...	19.49	157	157112	11.900	ng		94
93) n-Undecane	17.93	58	3488	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	351589	12.392	ng		99
95) Naphthalene	20.92	128	471003	7.063	ng		99
96) n-Dodecane	18.90	58	4943	No Calib		#	
97) Hexachlorobutadiene	21.28	225	119093	5.649	ng		100
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.40	119	315090	5.929	ng		100
100) n-Butylbenzene	19.37	91	328040	5.645	ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	91013	5.813	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 08\10\08102201.D Vial: 2
Acq On : 9 Aug 2022 22:04 Operator: SC
Sample : CCV R9081022 5.0ng Inst : MS09
Misc : S35-07192201/S35-07192205 (8/18)

Quant Time: Aug 10 06:58:17 2022
Quant Method : I:\MS09\Methods\R9071922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Jul 21 10:51:48 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

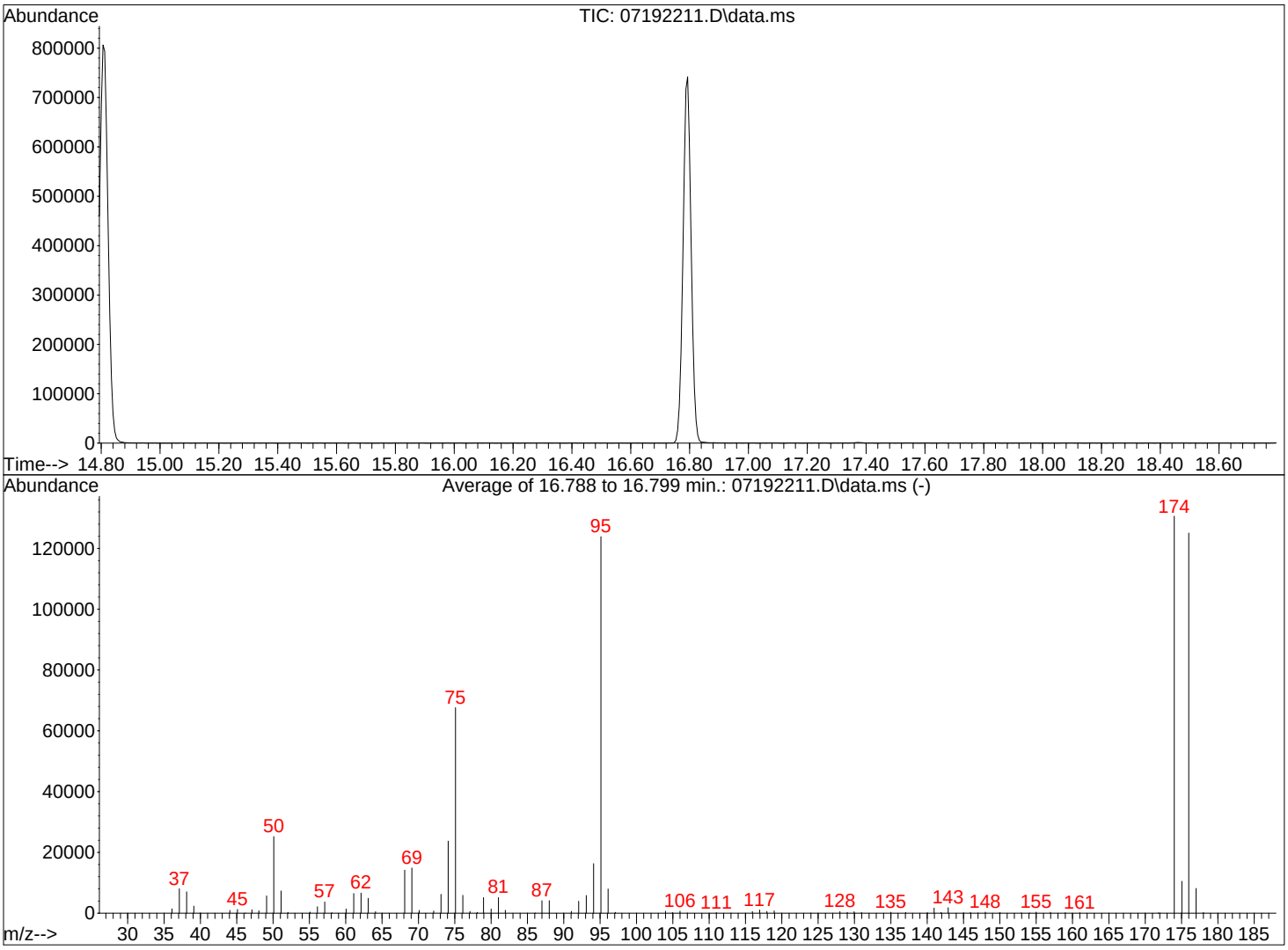


Data Path : I:\MS09\DATA\2022 07\19\
Data File : 07192211.D
Acq On : 19 Jul 2022 14:50
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S35-07192201
ALS Vial : 2 Sample Multiplier: 1

7/20/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9071922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jul 20 08:30:01 2022



AutoFind: Scans 2449, 2450, 2451; Background Corrected with Scan 2440

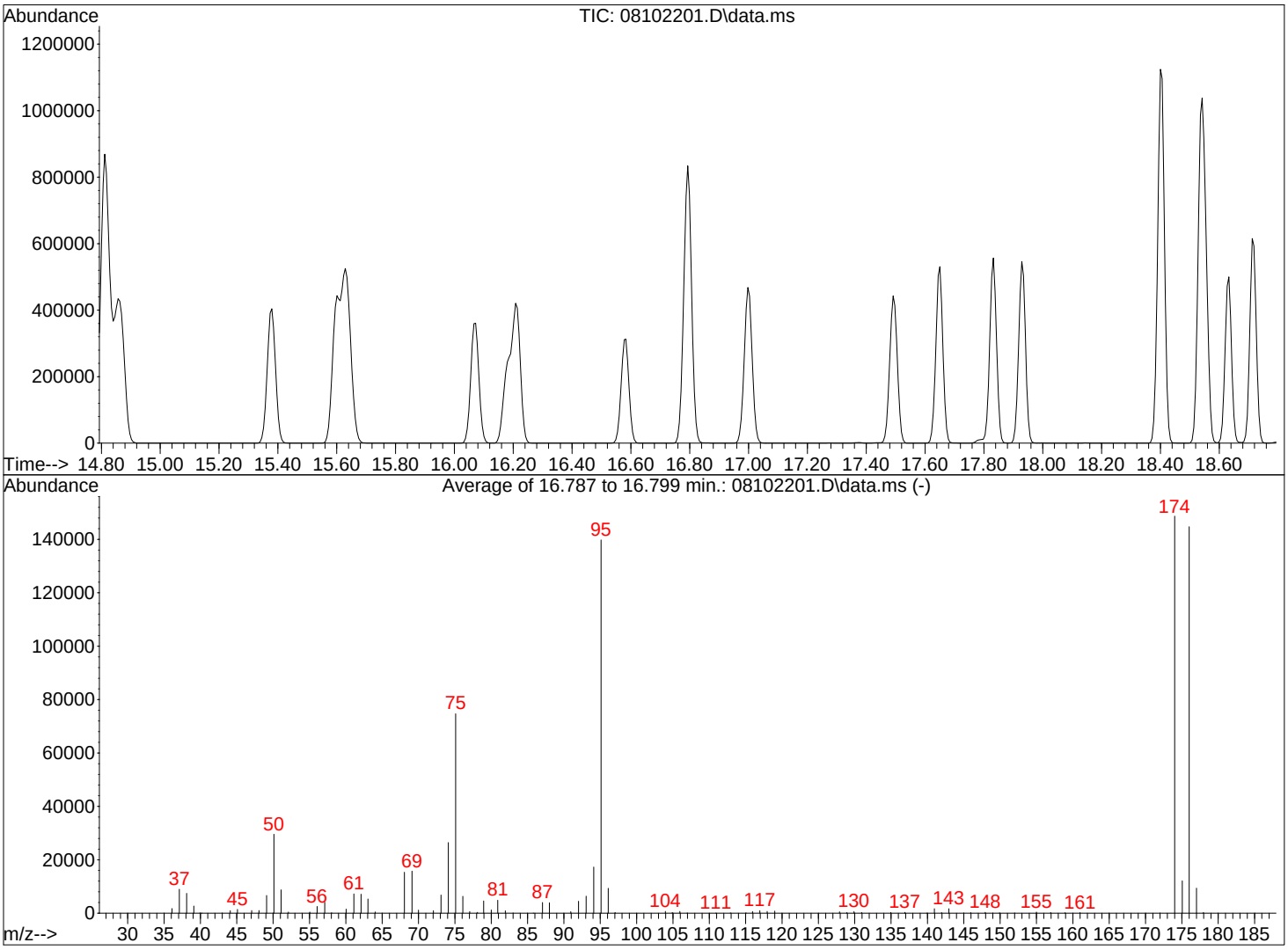
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.3	25179	PASS
75	95	30	66	54.6	67611	PASS
95	95	100	100	100.0	123861	PASS
96	95	5	9	6.4	7989	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	105.5	130613	PASS
175	174	4	9	8.0	10509	PASS
176	174	93	101	95.7	125040	PASS
177	176	5	9	6.5	8130	PASS

Data Path : I:\MS09\DATA\2022 08\10\
Data File : 08102201.D
Acq On : 9 Aug 2022 22:04
Operator : SC
Sample : CCV R9081022 5.0ng
Misc : S35-07192201/S35-07192205 (8/18)
ALS Vial : 2 Sample Multiplier: 1

8/10/22

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9071922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Jul 21 10:51:48 2022



AutoFind: Scans 2449, 2450, 2451; Background Corrected with Scan 2441

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	21.1	29563	PASS
75	95	30	66	53.4	74717	PASS
95	95	100	100	100.0	139797	PASS
96	95	5	9	6.7	9322	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	106.4	148693	PASS
175	174	4	9	8.2	12134	PASS
176	174	93	101	97.4	144768	PASS
177	176	5	9	6.5	9375	PASS

Injection Log

Directory: J:\MS09\DATA\2022_07\19\

11	7/19/22 14:50	07192211.D	12.5ng TO-15 BFB STD	S35-07192201	SC	2	pass
12	7/19/22 15:22	07192212.D	0.1ng TO-15 ICAL STD	S35-07192201/S35-07192211 (8/18)	SC	5	
13	7/19/22 15:54	07192213.D	0.2ng TO-15 ICAL STD	S35-07192201/S35-07192211 (8/18)	SC	5	
14	7/19/22 16:26	07192214.D	0.5ng TO-15 ICAL STD	S35-07192201/S35-07192210 (8/18)	SC	6	
15	7/19/22 16:57	07192215.D	1.0ng TO-15 ICAL STD	S35-07192201/S35-07192210 (8/18)	SC	6	
16	7/19/22 17:29	07192216.D	5.0ng TO-15 ICAL STD	S35-07192201/S35-07192210 (8/18)	SC	6	
17	7/19/22 18:01	07192217.D	25ng TO-15 ICAL STD	S35-07192201/S35-07192209 (8/18)	SC	7	
18	7/19/22 18:33	07192218.D	50ng TO-15 ICAL STD	S35-07192201/S35-07192209 (8/18)	SC	7	
19	7/19/22 19:05	07192219.D	100ng TO-15 ICAL STD	S35-07192201/S35-07192209 (8/18)	SC	7	
20	7/19/22 19:37	07192220.D	Blank	S35-07192201	SC	2	
21	7/19/22 20:09	07192221.D	25ng TO-15 ICV STD	S35-07192201/S35-06302203 (7/30)	SC	8	pass
22	7/19/22 20:41	07192222.D	25ng TO-15 ICV STD	S35-07192201/S35-06302203 (7/30)	SC	8	pass
23	7/19/22 21:14	07192223.D	12.5ng TO-15 Custom BFB	S35-07192201	SC	2	pass
24	7/19/22 21:46	07192224.D	0.4ng TO-15 Custom ICAL	S35-07192201/S35-06282203 (7/27)	SC	9	
25	7/19/22 22:18	07192225.D	1.0ng TO-15 Custom ICAL	S35-07192201/S35-06282203 (7/27)	SC	9	
26	7/19/22 22:50	07192226.D	2.5ng TO-15 Custom ICAL	S35-07192201/S35-06282203 (7/27)	SC	9	
27	7/19/22 23:22	07192227.D	5.0ng TO-15 Custom ICAL	S35-07192201/S35-06282203 (7/27)	SC	9	
28	7/19/22 23:55	07192228.D	25ng TO-15 Custom ICAL	S35-07192201/S35-06272203 (7/26)	SC	10	
29	7/20/22 0:27	07192229.D	50ng TO-15 Custom ICAL	S35-07192201/S35-06272203 (7/26)	SC	10	
30	7/20/22 0:59	07192230.D	100ng TO-15 Custom ICAL	S35-07192201/S35-06272203 (7/26)	SC	10	
31	7/20/22 1:32	07192231.D	Blank	S35-07192201	SC	2	
32	7/20/22 2:04	07192232.D	25ng TO-15 Custom ICV	S35-07192201/S35-06292201 (7/28)	SC	11	pass
33	7/20/22 2:36	07192233.D	25ng TO-15 Custom ICV	S35-07192201/S35-06292201 (7/28)	SC	11	pass
34							
35							
36							
37							
38							

7/20/22

Injection Log

Directory: I:\MS09\DATA\2022_08\10\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	8/9/22 22:04	08102201.D	CCV R9081022_5.0ng	S35-07192201/S35-07192205 (8/18)	SC	2	Passed
2	8/9/22 22:36	08102202.D	CCV C9080922_5.0ng	S35-07192201/S35-07272203 (8/26)	SC	3	Passed
3	8/9/22 23:08	08102203.D	Blank	S35-07192201	SC	1	
4	8/9/22 23:40	08102204.D	MB R9081022_1000mL	S35-07192201	SC	2	Passed
5	8/10/22 0:12	08102205.D	LCS R9081022_5.0ng	S35-07192201/S35-07202205 (8/19)	SC	2	Passed
6	8/10/22 0:45	08102206.D	LCSD R9081022_5.0ng	S35-07192201/S35-07202205 (8/19)	SC	2	Passed
7	8/10/22 1:17	08102207.D	RL R9081022_0.5ng	S35-07192201/S35-07192210 (8/18)	SC	4	
8	8/10/22 9:08	08102208.D	P2203366-001 (1000mL)	S35-07192201	SC	12	
9	8/10/22 9:40	08102209.D	P2203366-002 (1000mL)	S35-07192201	SC	13	
10	8/10/22 10:12	08102210.D	P2203366-003 (1000mL)	S35-07192201	SC	14	
11	8/10/22 10:53	08102211.D	P2203341-006 (400mL)PF2	S35-07192201	SC	9	
12	8/10/22 11:25	08102212.D	P2203341-007 (400mL)PF2	S35-07192201	SC	10	
13	8/10/22 11:57	08102213.D	P2203341-008 (400mL)PF2	S35-07192201	SC	11	
14	8/10/22 12:29	08102214.D	P2203341-009 (40mL)	S35-07192201	SC	12	
15	8/10/22 13:01	08102215.D	System	S35-07192201	SC	2	
16	8/10/22 13:33	08102216.D	P2203366-004 (1000mL)	S35-07192201	SC	15	
17	8/10/22 14:08	08102217.D	P2203366-005 (1000mL)	S35-07192201	SC	16	
18	8/10/22 14:57	08102218.D	P2203395-001 (1000mL)	S35-07192201	SC	5	
19	8/10/22 15:29	08102219.D	P2203395-002 (1000mL)	S35-07192201	SC	6	
20	8/10/22 16:01	08102220.D	P2203395-003 (1000mL)	S35-07192201	SC	7	
21	8/10/22 16:33	08102221.D	P2203395-004 (1000mL)	S35-07192201	SC	8	
22	8/10/22 17:08	08102222.D	P2203395-002Dil (100mL)	S35-07192201	SC	6	
23	8/10/22 17:40	08102223.D	P2203395-003Dil (50mL)	S35-07192201	SC	7	
24	8/10/22 18:12	08102224.D	P2203445-001 (1000mL)	S35-07192201	SC	9	
25	8/10/22 18:44	08102225.D	P2203445-002 (1000mL)	S35-07192201	SC	10	
26	8/10/22 19:16	08102226.D	P2203445-003 (1000mL)	S35-07192201	SC	11	
27	8/10/22 19:48	08102227.D	P2203445-004 (1000mL)	S35-07192201	SC	12	
28	8/10/22 20:21	08102228.D	P2203445-005 (1000mL)	S35-07192201	SC	13	
29	8/10/22 20:53	08102229.D	P2203445-006 (1000mL)	S35-07192201	SC	14	
30	8/10/22 21:25	08102230.D	P2203445-007 (1000mL)	S35-07192201	SC	15	
31	8/10/22 21:57	08102231.D	P2203445-007dup (1000mL)	S35-07192201	SC	15	batch QC
	CCV: naphthalene out high						
						WDA 8/11/22	

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-07
Cycles: 30
Batch: 29682

Batch Started By: ANAKLOWYCZ on 7/22/22 0821
Finished Cleaning By: EVAN.GARCIA on 7/29/22 1212

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS01299	7/22/22	7/25/22	Pass w/ Conditions	-14.3	7/29/22 1212	EVAN.GARCIA	-14.0	7/29/22 1216		
AS01334	7/22/22	7/25/22	Pass w/ Conditions	-14.3	7/29/22 1212	EVAN.GARCIA	-14.0	8/4/22 0833		ms21-07/25/22
AS01599	7/22/22	7/25/22	Pass w/ Conditions	-14.3	7/29/22 1212	EVAN.GARCIA				
AS00978	7/22/22	7/25/22	Pass w/ Conditions	-14.3	7/29/22 1212	EVAN.GARCIA				
AS00839	7/22/22	7/25/22	Pass w/ Conditions	-14.3	7/29/22 1212	EVAN.GARCIA	-8.0	7/29/22 1215		GC22_072922
AS01498	7/22/22	7/25/22	Pass w/ Conditions	-14.3	7/29/22 1212	EVAN.GARCIA				
AS01317	7/22/22	7/25/22	Pass w/ Conditions	-14.3	7/29/22 1212	EVAN.GARCIA				
AS01259	7/22/22	7/25/22	Pass w/ Conditions	-14.3	7/29/22 1212	EVAN.GARCIA	-14.0	8/1/22 0844		
AS01529	7/22/22	7/25/22	Pass w/ Conditions	-14.3	7/29/22 1212	EVAN.GARCIA	-14.0	7/29/22 1216		
AS01479	7/22/22	7/25/22	Pass w/ Conditions	-14.3	7/29/22 1212	EVAN.GARCIA				

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 07\25\
Data File : 07252207.D
Acq On : 25 Jul 2022 14:15
Operator : KM
Sample : 072222 AS01334 29682
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 3 Sample Multiplier: 1

APL 7/26/22

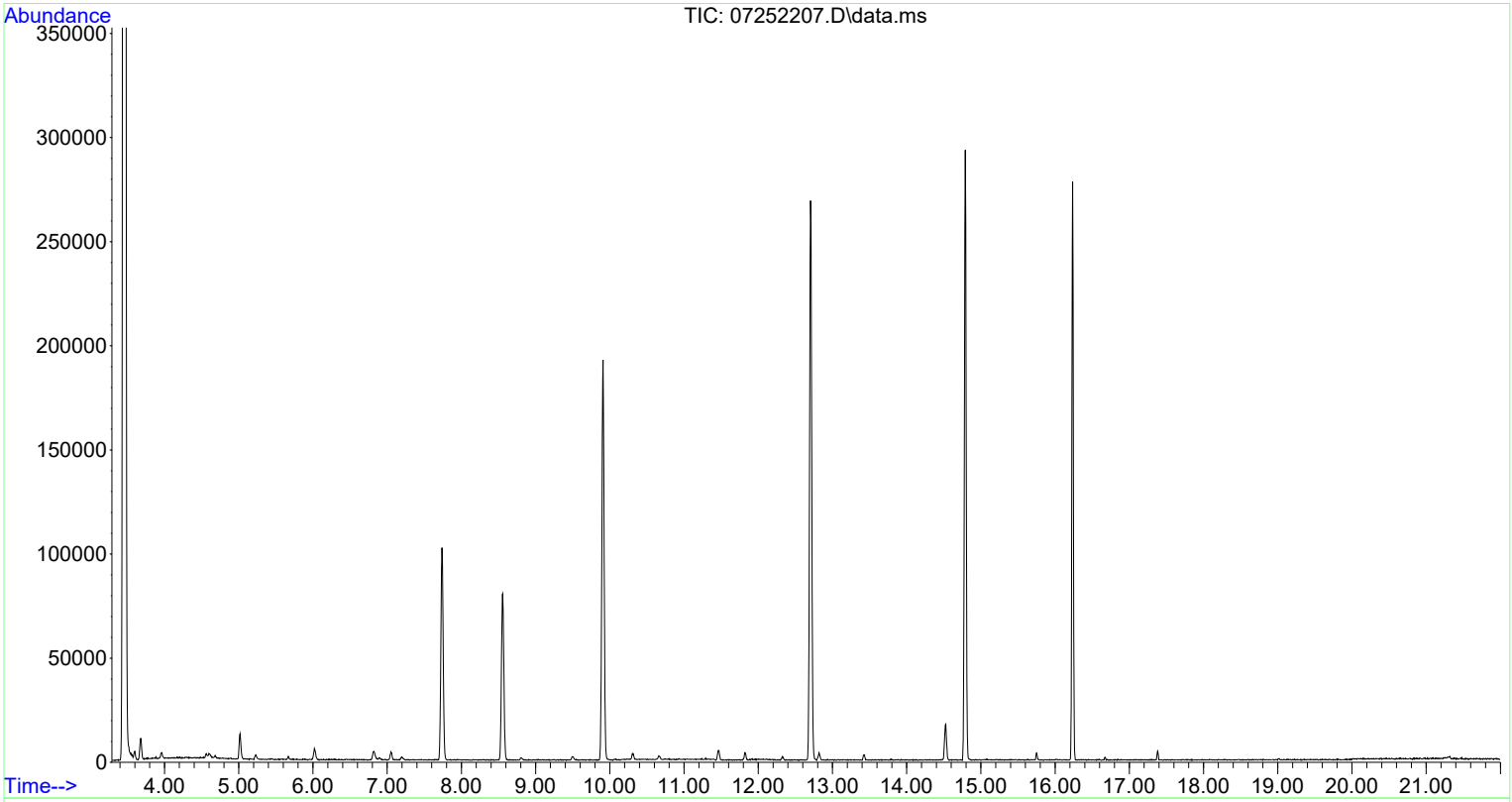
Quant Time: Jul 26 04:35:34 2022
Quant Method : I:\MS21\Methods\F21071922.M
Quant Title : EPA TO-15
QLast Update : Wed Jul 20 08:57:00 2022
Response via : Initial Calibration

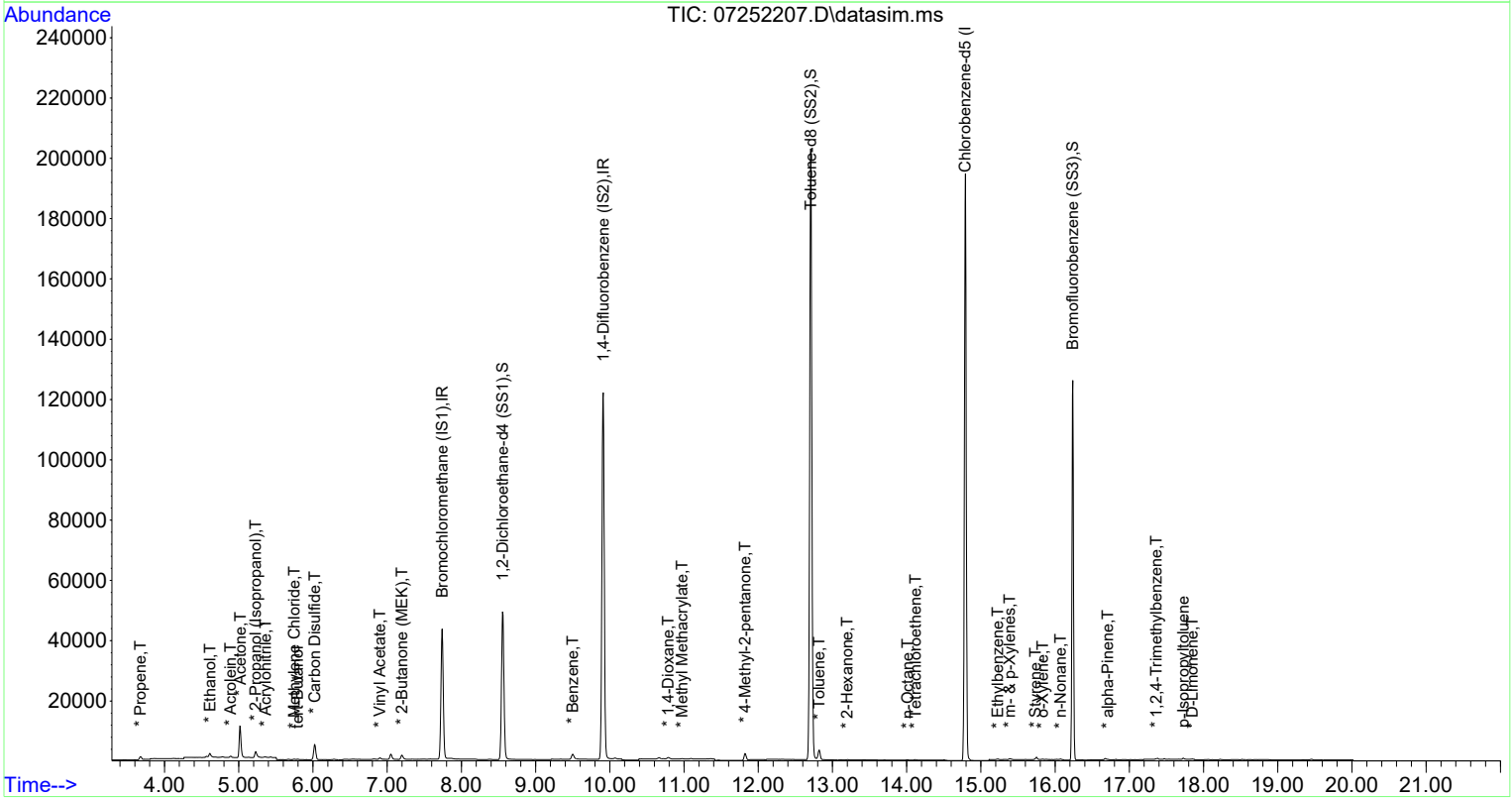
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.74	130	53470	1000.000	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.91	114	221504	1000.000	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.79	54	31730	1000.000	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.56	65	72270	1088.332	pg		0.00
Spiked Amount 1000.000			Recovery = 108.83%				
57) Toluene-d8 (SS2)	12.71	98	223946	900.328	pg		0.00
Spiked Amount 1000.000			Recovery = 90.03%				
74) Bromofluorobenzene (SS3)	16.24	174	90078	885.608	pg		0.00
Spiked Amount 1000.000			Recovery = 88.56%				
Target Compounds							Qvalue
2) * Propene	3.67	42	544	10.483	pg	#	45
10) * Ethanol	4.61	45	1369	32.180	pg		97
12) * Acrolein	4.89	56	445	13.584	pg		99
13) * Acetone	5.02	58	6094	99.543	pg		72
15) * 2-Propanol (Isopropa...	5.23	45	3529	25.846	pg		97
16) * Acrylonitrile	5.36	53	86	1.205	pg	#	78
18) tert-Butanol	5.79	59	348	2.539	pg		98
19) * Methylene Chloride	5.75	84	202	2.910	pg		95
22) * Carbon Disulfide	6.02	76	9508	33.390	pg		99
26) * Vinyl Acetate	6.90	86	149	11.168	pg		70
27) * 2-Butanone (MEK)	7.20	72	686	13.586	pg		82
39) * Benzene	9.50	78	1461	6.017	pg		98
48) * 1,4-Dioxane	10.79	88	507	6.873	pg		88
50) * Methyl Methacrylate	10.97	69	157	2.300	pg		100
53) * 4-Methyl-2-pentanone	11.82	58	1334	22.893	pg		97
58) * Toluene	12.82	91	3596	10.610	pg		99
59) * 2-Hexanone	13.20	58	186	2.701	pg		92
63) * n-Octane	14.01	85	92	1.346	pg		85
64) * Tetrachloroethene	14.12	166	146	1.701	pg		96
66) * Ethylbenzene	15.23	91	233	0.787	pg		98
67) * m- & p-Xylenes	15.39	91	339	1.515	pg		99
70) * Styrene	15.73	104	211	1.458	pg		98
71) * o-Xylene	15.83	91	126	0.548	pg		96
72) * n-Nonane	16.07	57	123	1.422	pg		91
76) * alpha-Pinene	16.71	93	95	0.590	pg	#	81
84) * 1,2,4-Trimethylbenzene	17.36	105	146	0.706	pg		96
91) p-Isopropyltoluene	17.73	134	70	0.978	pg		78
93) * D-Limonene	17.85	68	57	0.826	pg		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS21\DATA\2022 07\25\
Data File : 07252207.D
Acq On : 25 Jul 2022 14:15
Operator : KM
Sample : 072222 AS01334 29682
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 26 04:35:34 2022
Quant Method : I:\MS21\Methods\F21071922.M
Quant Title : EPA TO-15
QLast Update : Wed Jul 20 08:57:00 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 29680

Batch Started By: on 7/21/22 0333
Finished Cleaning By: ALESAICHERRE on 7/26/22 0502

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC01918	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	8/4/22 0943		
AC02077	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	7/27/22 0807		
AS01576	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	7/27/22 0807		
AS01643	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	7/27/22 0807		
AS01621	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	8/1/22 0844		
AC00679	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	8/4/22 0943		
AS01449	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	8/4/22 0943		
AC02192	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	8/1/22 0844		
AS01090	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	7/29/22 0830		
AS01439	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	8/1/22 0844		
AS01327	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	7/27/22 0807		
AS01099	7/21/22	7/25/22	Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	8/4/22 0833		ms21-07/25/22
AS01124	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	7/27/22 0807		
AS00582	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	7/29/22 0830		
AS00202	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	8/1/22 0844		
AC02124	7/21/22		Pass w/ Conditions	-14.3	7/26/22 0502	ALESAICHERRE	-14.0	7/29/22 0830		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 07\25\
Data File : 07252206.D
Acq On : 25 Jul 2022 13:32
Operator : KM
Sample : 072222 AS01099 29680
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

APL 7/26/22

Quant Time: Jul 26 04:31:36 2022
Quant Method : I:\MS21\Methods\F21071922.M
Quant Title : EPA TO-15
QLast Update : Wed Jul 20 08:57:00 2022
Response via : Initial Calibration

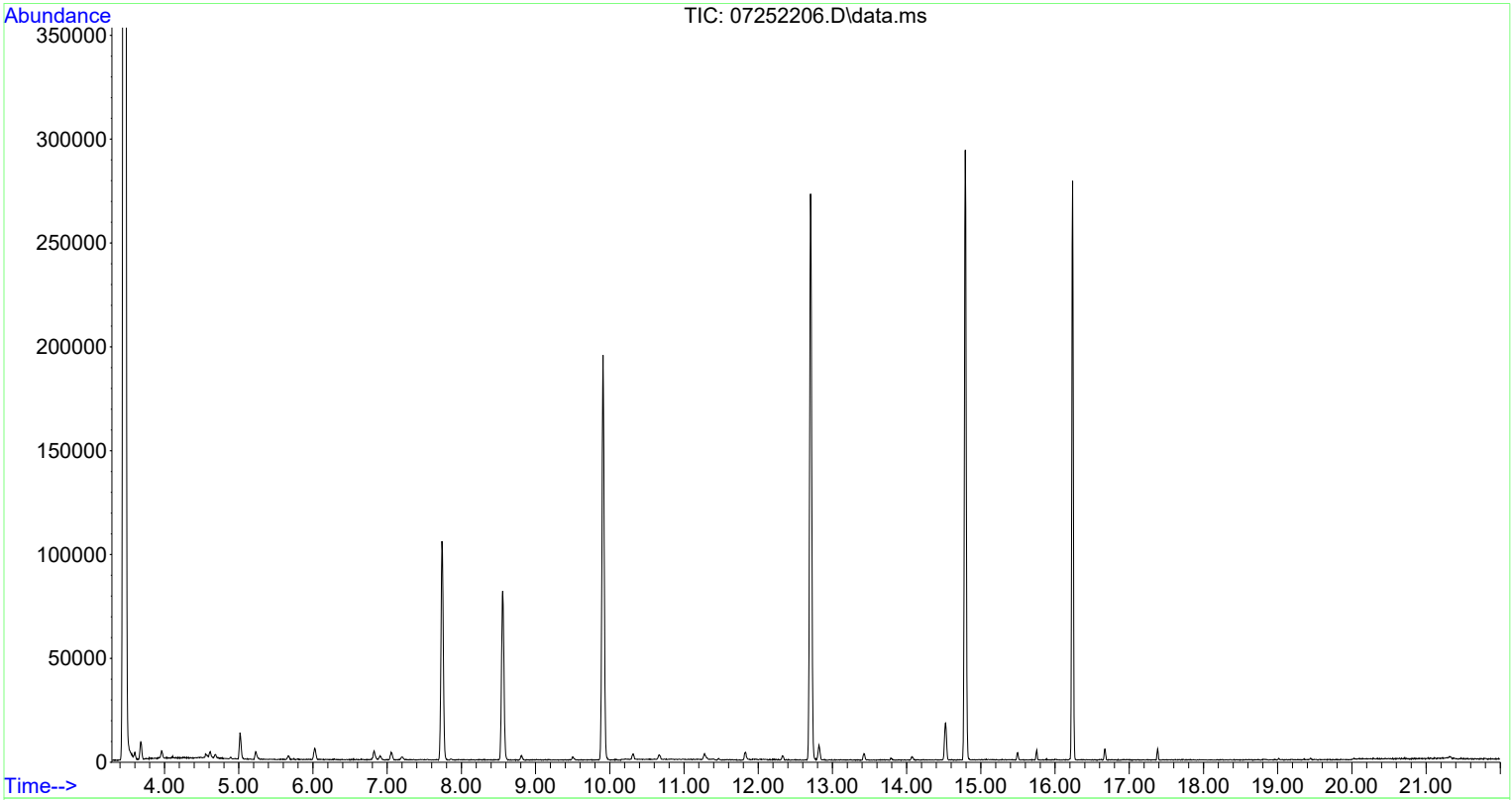
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.74	130	54156	1000.000	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.91	114	224804	1000.000	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.79	54	31991	1000.000	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.56	65	72917	1084.166	pg		0.00
Spiked Amount 1000.000			Recovery = 108.42%				
57) Toluene-d8 (SS2)	12.71	98	226131	901.695	pg		0.00
Spiked Amount 1000.000			Recovery = 90.17%				
74) Bromofluorobenzene (SS3)	16.24	174	91313	890.426	pg		0.00
Spiked Amount 1000.000			Recovery = 89.04%				
Target Compounds							Qvalue
2) * Propene	3.68	42	496	9.437	pg	#	28
4) * Chloromethane	3.86	50	139	5.124	pg	#	82
10) * Ethanol	4.61	45	2394	55.561	pg		99
12) * Acrolein	4.89	56	710	21.399	pg		97
13) * Acetone	5.02	58	5830	94.025	pg		86
14) * Trichlorofluoromethane	5.14	101	89	0.757	pg		95
15) * 2-Propanol (Isopropa...	5.23	45	5357	38.737	pg		92
16) * Acrylonitrile	5.36	53	93	1.287	pg		93
18) tert-Butanol	5.80	59	544	3.918	pg		99
19) * Methylene Chloride	5.75	84	435	6.187	pg		99
22) * Carbon Disulfide	6.03	76	9938	34.458	pg		100
26) * Vinyl Acetate	6.90	86	211	15.614	pg		84
27) * 2-Butanone (MEK)	7.20	72	777	15.193	pg		86
30) * Ethyl Acetate	7.86	61	106	4.441	pg		94
39) * Benzene	9.49	78	939	3.811	pg		98
48) * 1,4-Dioxane	10.79	88	425	5.677	pg		89
50) * Methyl Methacrylate	10.97	69	91	1.314	pg	#	31
53) * 4-Methyl-2-pentanone	11.83	58	1412	23.876	pg		93
58) * Toluene	12.82	91	7565	22.138	pg		99
63) * n-Octane	14.02	85	87	1.262	pg		98
66) * Ethylbenzene	15.23	91	162	0.542	pg		98
67) * m- & p-Xylenes	15.39	91	371	1.645	pg		97
70) * Styrene	15.73	104	279	1.913	pg		98
71) * o-Xylene	15.83	91	130	0.561	pg		98
72) * n-Nonane	16.07	57	137	1.571	pg		95
76) * alpha-Pinene	16.71	93	131	0.807	pg	#	86
84) * 1,2,4-Trimethylbenzene	17.36	105	237	1.137	pg	#	82
91) p-Isopropyltoluene	17.73	134	122	1.691	pg		99
93) * D-Limonene	17.85	68	147	2.112	pg		82
97) * 1,2,4-Trichlorobenzene	19.33	180	72	1.830	pg		90
98) * Naphthalene	19.44	128	921	9.795	pg		96

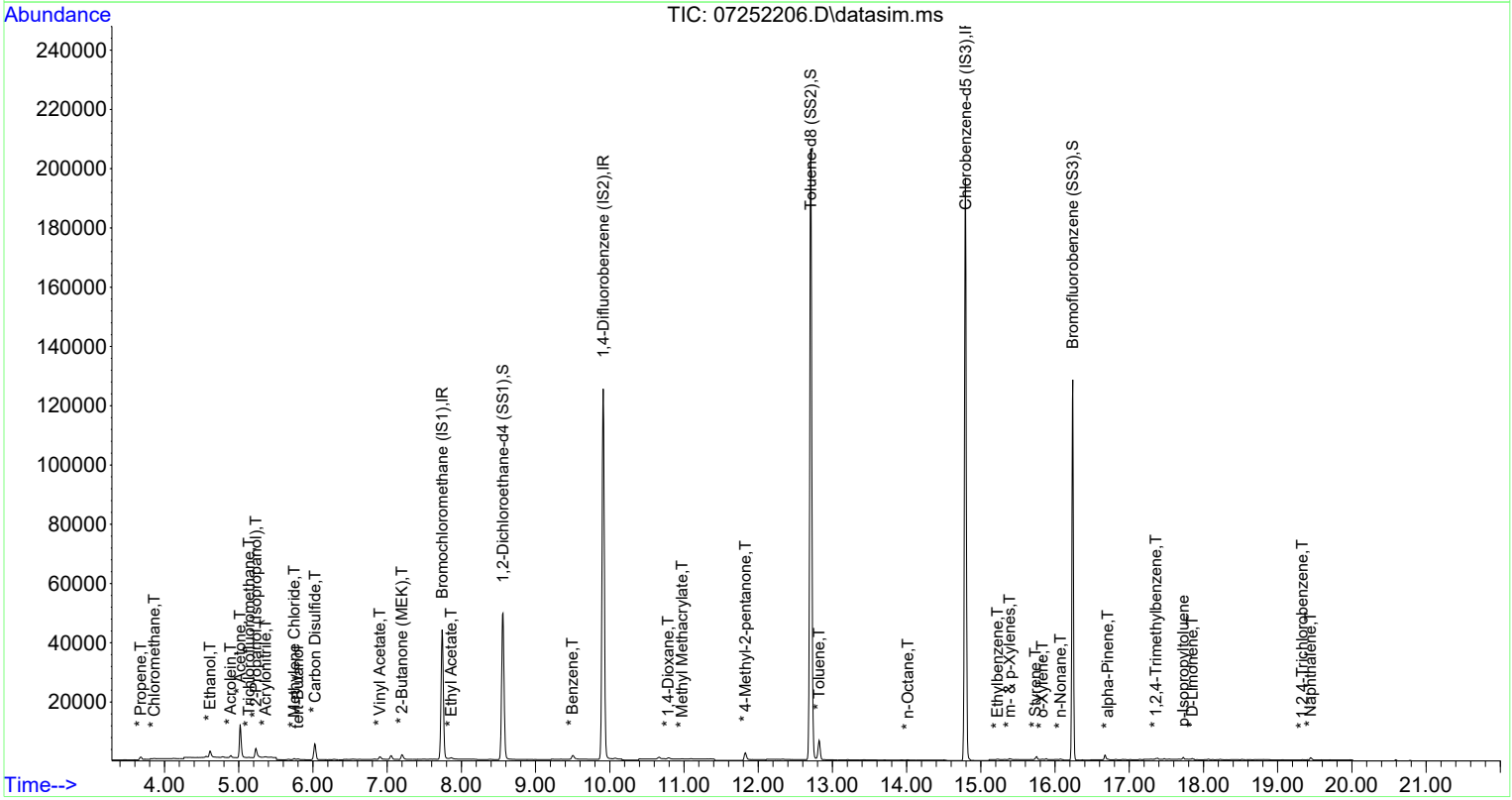
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 07\25\
Data File : 07252206.D
Acq On : 25 Jul 2022 13:32
Operator : KM
Sample : 072222 AS01099 29680
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 26 04:31:36 2022
Quant Method : I:\MS21\Methods\F21071922.M
Quant Title : EPA TO-15
QLast Update : Wed Jul 20 08:57:00 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

September 23, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on September 1, 2022. For your reference, these analyses have been assigned our service request number P2203912.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

By Sue Anderson at 2:12 pm, Sep 23, 2022

For Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2203912
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on September 1, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The analyte Vinyl Acetate could not be reported for this data set, due to a vendor anomaly found in the new standard being used. Once the issue has been resolved subsequent reports will include the compound in question.

The upper control criterion was exceeded for 1,2,4-Trichlorobenzene and Naphthalene in the Continuing Calibration Verification (CCV) analyzed on September 8, 2022. Since the apparent problem equates to a potential high bias and the field samples analyzed in this sequence did not contain the analytes in question, the data quality has not been affected. No corrective action was required.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2203912
Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 9/1/2022
Time Received: 13:20

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_090122_S	P2203912-001	Air	9/1/2022	11:00	AC02516	-2.12	3.99	X
DOE-2_090122_S	P2203912-002	Air	9/1/2022	11:15	AS00356	-2.70	3.88	X
DOE-3_090122_S	P2203912-003	Air	9/1/2022	11:30	AC02345	-4.21	3.79	X
DOE-4_090122_S	P2203912-004	Air	9/1/2022	11:45	AC02228	-3.26	3.86	X
DOE-2_090122_D	P2203912-005	Air	9/1/2022	11:16	AC02283	-2.89	3.92	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. R2203912

Company Name & Address (Reporting Information) North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304	Project Name: DOE Perimeter Air Project Number: 080153.015.15
Project Manager: Trina Cesnik	P.O. # / Billing Information: PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Phone: 805-587-0691 / Fax:	
Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg	Sampler (Print & Sign): T. Stewart Williford

ALS Contact: Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_090122_S	1	9/1/2022	1100	AC02516	FCR00437	-28.5	-2.5		X		
DOE-2_090122_S	2	9/1/2022	1115	AS00356	FCR00343	-29.0	-3.0		X		
DOE-3_090122_S	3	9/1/2022	1130	AC02345	FCR00355	-28.5	-2.0		X		
DOE-4_090122_S	4	9/1/2022	1145	AC02228	FCR00340	-29.0	-3.5		X		
DOE-2_090122_D	5	9/1/2022	1116	AC02283	FCR00589	-28.0	-2.0		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) X Tier IV (Data Validation Package) 10% Surcharge X

EDD required Yes / No
Type: EQuIS Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
T. Stewart Williford	9/1/22	1320	Evan Garcia	9-1-22	1320
Relinquished by: (Signature)	Date: 9/1/22	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2203912

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 9/1/22 Date opened: 9/1/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2203912-001.01	6.0 L Ambient Can					
P2203912-002.01	6.0 L Silonite Can					
P2203912-003.01	6.0 L Ambient Can					
P2203912-004.01	6.0 L Ambient Can					
P2203912-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_090122_S** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-001

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02516

Initial Pressure (psig): -2.12 Final Pressure (psig): 3.99

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.79	**0.44**	0.16	
74-87-3	Chloromethane	ND	0.76	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.76	ND	0.20	
75-00-3	Chloroethane	ND	0.76	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.65	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.77	**0.19**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.69	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.80	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.79	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.79	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.79	ND	0.22	
78-93-3	2-Butanone (MEK)	**2.4**	1.5	**0.80**	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.20	
141-78-6	Ethyl Acetate	**11**	3.1	**3.0**	0.87	
110-54-3	n-Hexane	ND	0.79	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_090122_S** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-001

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02516

Initial Pressure (psig): -2.12 Final Pressure (psig): 3.99

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.79	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.75	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.75	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	0.75	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.79	ND	0.12	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.22	
142-82-5	n-Heptane	ND	0.79	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.75	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.40	
10061-02-6	trans-1,3-Dichloropropene	ND	0.76	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	ND	0.77	ND	0.21	
591-78-6	2-Hexanone	ND	1.6	ND	0.40	
124-48-1	Dibromochloromethane	ND	0.79	ND	0.093	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
111-65-9	n-Octane	ND	0.79	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.77	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_090122_S** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-001

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02516

Initial Pressure (psig): -2.12 Final Pressure (psig): 3.99

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.77	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.38	
75-25-2	Bromoform	ND	0.77	ND	0.075	
100-42-5	Styrene	ND	0.75	ND	0.18	
95-47-6	o-Xylene	ND	0.77	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.79	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.79	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.77	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.77	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.79	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.77	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.073	
104-51-8	n-Butylbenzene	ND	0.77	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.79	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_090122_S** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-002

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00356

Initial Pressure (psig): -2.70 Final Pressure (psig): 3.88

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.82	**0.43**	0.17	
74-87-3	Chloromethane	ND	0.79	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.84	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.81	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.81	ND	0.36	
74-83-9	Bromomethane	ND	0.79	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
107-02-8	Acrolein	ND	1.6	ND	0.68	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.81	**0.19**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.63	
107-13-1	Acrylonitrile	ND	1.6	ND	0.71	
75-35-4	1,1-Dichloroethene	ND	0.84	ND	0.21	
75-09-2	Methylene Chloride	ND	0.81	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.84	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.55	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.82	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.82	ND	0.23	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.53	
156-59-2	cis-1,2-Dichloroethene	ND	0.81	ND	0.20	
141-78-6	Ethyl Acetate	**23**	3.3	**6.4**	0.90	
110-54-3	n-Hexane	ND	0.82	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_090122_S** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-002

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00356

Initial Pressure (psig): -2.70 Final Pressure (psig): 3.88

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.84	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.53	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.81	ND	0.15	
71-43-2	Benzene	ND	0.78	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.78	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.50	
78-87-5	1,2-Dichloropropane	ND	0.78	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.81	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.81	ND	0.22	
142-82-5	n-Heptane	ND	0.82	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.78	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.42	
10061-02-6	trans-1,3-Dichloropropene	ND	0.79	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.81	ND	0.15	
108-88-3	Toluene	ND	0.81	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.42	
124-48-1	Dibromochloromethane	ND	0.82	ND	0.096	
106-93-4	1,2-Dibromoethane	ND	0.81	ND	0.10	
111-65-9	n-Octane	ND	0.82	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.81	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_090122_S** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-002

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00356

Initial Pressure (psig): -2.70 Final Pressure (psig): 3.88

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.81	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.81	ND	0.078	
100-42-5	Styrene	ND	0.78	ND	0.18	
95-47-6	o-Xylene	ND	0.81	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.81	ND	0.12	
98-82-8	Cumene	ND	0.81	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.82	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.81	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.81	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.81	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.81	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.81	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.81	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.82	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.81	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.81	ND	0.076	
104-51-8	n-Butylbenzene	ND	0.81	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.82	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_090122_S** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-003

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02345

Initial Pressure (psig): -4.21 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.93	ND	0.19	
74-87-3	Chloromethane	ND	0.90	ND	0.43	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.95	ND	0.14	
75-01-4	Vinyl Chloride	ND	0.92	ND	0.36	
106-99-0	1,3-Butadiene	ND	0.92	ND	0.41	
74-83-9	Bromomethane	ND	0.90	ND	0.23	
75-00-3	Chloroethane	ND	0.90	ND	0.34	
107-02-8	Acrolein	ND	1.8	ND	0.77	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.92	**0.19**	0.16	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.8	ND	0.72	
107-13-1	Acrylonitrile	ND	1.8	ND	0.81	
75-35-4	1,1-Dichloroethene	ND	0.95	ND	0.24	
75-09-2	Methylene Chloride	ND	0.92	ND	0.26	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.95	ND	0.12	
75-15-0	Carbon Disulfide	ND	1.9	ND	0.62	
156-60-5	trans-1,2-Dichloroethene	ND	0.93	ND	0.24	
75-34-3	1,1-Dichloroethane	ND	0.93	ND	0.23	
1634-04-4	Methyl tert-Butyl Ether	ND	0.93	ND	0.26	
78-93-3	2-Butanone (MEK)	ND	1.8	ND	0.60	
156-59-2	cis-1,2-Dichloroethene	ND	0.92	ND	0.23	
141-78-6	Ethyl Acetate	**18**	3.7	**5.0**	1.0	
110-54-3	n-Hexane	ND	0.93	ND	0.26	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_090122_S** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-003

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02345

Initial Pressure (psig): -4.21 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.95	ND	0.19	
109-99-9	Tetrahydrofuran (THF)	ND	1.8	ND	0.60	
107-06-2	1,2-Dichloroethane	ND	0.93	ND	0.23	
71-55-6	1,1,1-Trichloroethane	ND	0.92	ND	0.17	
71-43-2	Benzene	ND	0.88	ND	0.28	
56-23-5	Carbon Tetrachloride	ND	0.88	ND	0.14	
110-82-7	Cyclohexane	ND	1.9	ND	0.56	
78-87-5	1,2-Dichloropropane	ND	0.88	ND	0.19	
75-27-4	Bromodichloromethane	ND	0.93	ND	0.14	
79-01-6	Trichloroethene	ND	0.92	ND	0.17	
123-91-1	1,4-Dioxane	ND	0.92	ND	0.25	
142-82-5	n-Heptane	ND	0.93	ND	0.23	
10061-01-5	cis-1,3-Dichloropropene	ND	0.88	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	1.9	ND	0.47	
10061-02-6	trans-1,3-Dichloropropene	ND	0.90	ND	0.20	
79-00-5	1,1,2-Trichloroethane	ND	0.92	ND	0.17	
108-88-3	Toluene	ND	0.92	ND	0.24	
591-78-6	2-Hexanone	ND	1.9	ND	0.47	
124-48-1	Dibromochloromethane	ND	0.93	ND	0.11	
106-93-4	1,2-Dibromoethane	ND	0.92	ND	0.12	
111-65-9	n-Octane	ND	0.93	ND	0.20	
127-18-4	Tetrachloroethene	ND	0.92	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_090122_S** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-003

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02345

Initial Pressure (psig): -4.21 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.92	ND	0.21	
179601-23-1	m,p-Xylenes	ND	1.9	ND	0.45	
75-25-2	Bromoform	ND	0.92	ND	0.089	
100-42-5	Styrene	ND	0.88	ND	0.21	
95-47-6	o-Xylene	ND	0.92	ND	0.21	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.92	ND	0.13	
98-82-8	Cumene	ND	0.92	ND	0.19	
103-65-1	n-Propylbenzene	ND	0.93	ND	0.19	
622-96-8	4-Ethyltoluene	ND	0.93	ND	0.19	
108-67-8	1,3,5-Trimethylbenzene	ND	0.92	ND	0.19	
95-63-6	1,2,4-Trimethylbenzene	ND	0.92	ND	0.19	
100-44-7	Benzyl Chloride	ND	1.9	ND	0.37	
541-73-1	1,3-Dichlorobenzene	ND	0.92	ND	0.15	
106-46-7	1,4-Dichlorobenzene	ND	0.92	ND	0.15	
135-98-8	sec-Butylbenzene	ND	0.92	ND	0.17	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.92	ND	0.17	
95-50-1	1,2-Dichlorobenzene	ND	0.93	ND	0.16	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	ND	0.26	
91-20-3	Naphthalene	ND	0.92	ND	0.17	
87-68-3	Hexachlorobutadiene	ND	0.92	ND	0.086	
104-51-8	n-Butylbenzene	ND	0.92	ND	0.17	
1330-20-7	Xylenes, Total	ND	0.93	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_090122_S** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-004

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02228

Initial Pressure (psig): -3.26 Final Pressure (psig): 3.86

Canister Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.86	**0.45**	0.17	
74-87-3	Chloromethane	ND	0.83	ND	0.40	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.87	ND	0.13	
75-01-4	Vinyl Chloride	ND	0.84	ND	0.33	
106-99-0	1,3-Butadiene	ND	0.84	ND	0.38	
74-83-9	Bromomethane	ND	0.83	ND	0.21	
75-00-3	Chloroethane	ND	0.83	ND	0.31	
107-02-8	Acrolein	ND	1.6	ND	0.71	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.84	**0.20**	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.66	
107-13-1	Acrylonitrile	ND	1.6	ND	0.75	
75-35-4	1,1-Dichloroethene	ND	0.87	ND	0.22	
75-09-2	Methylene Chloride	ND	0.84	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.87	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.8	ND	0.57	
156-60-5	trans-1,2-Dichloroethene	ND	0.86	ND	0.22	
75-34-3	1,1-Dichloroethane	ND	0.86	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.86	ND	0.24	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.55	
156-59-2	cis-1,2-Dichloroethene	ND	0.84	ND	0.21	
141-78-6	Ethyl Acetate	**11**	3.4	**3.2**	0.94	
110-54-3	n-Hexane	ND	0.86	ND	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_090122_S** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-004

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02228

Initial Pressure (psig): -3.26 Final Pressure (psig): 3.86

Canister Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.87	ND	0.18	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.55	
107-06-2	1,2-Dichloroethane	ND	0.86	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.84	ND	0.15	
71-43-2	Benzene	ND	0.81	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.81	ND	0.13	
110-82-7	Cyclohexane	ND	1.8	ND	0.52	
78-87-5	1,2-Dichloropropane	ND	0.81	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.86	ND	0.13	
79-01-6	Trichloroethene	ND	0.84	ND	0.16	
123-91-1	1,4-Dioxane	ND	0.84	ND	0.23	
142-82-5	n-Heptane	ND	0.86	ND	0.21	
10061-01-5	cis-1,3-Dichloropropene	ND	0.81	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	1.8	ND	0.44	
10061-02-6	trans-1,3-Dichloropropene	ND	0.83	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.84	ND	0.15	
108-88-3	Toluene	ND	0.84	ND	0.22	
591-78-6	2-Hexanone	ND	1.8	ND	0.44	
124-48-1	Dibromochloromethane	ND	0.86	ND	0.10	
106-93-4	1,2-Dibromoethane	ND	0.84	ND	0.11	
111-65-9	n-Octane	ND	0.86	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.84	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_090122_S** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-004

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02228

Initial Pressure (psig): -3.26 Final Pressure (psig): 3.86

Canister Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.84	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.8	ND	0.41	
75-25-2	Bromoform	ND	0.84	ND	0.082	
100-42-5	Styrene	ND	0.81	ND	0.19	
95-47-6	o-Xylene	ND	0.84	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.84	ND	0.12	
98-82-8	Cumene	ND	0.84	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.86	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.86	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.84	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.84	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.8	ND	0.34	
541-73-1	1,3-Dichlorobenzene	ND	0.84	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.84	ND	0.14	
135-98-8	sec-Butylbenzene	ND	0.84	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.84	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.86	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	ND	0.24	
91-20-3	Naphthalene	ND	0.84	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.84	ND	0.079	
104-51-8	n-Butylbenzene	ND	0.84	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.86	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_090122_D** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-005

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02283

Initial Pressure (psig): -2.89 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.84	ND	0.17	
74-87-3	Chloromethane	ND	0.81	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.85	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.82	ND	0.37	
74-83-9	Bromomethane	ND	0.81	ND	0.21	
75-00-3	Chloroethane	ND	0.81	ND	0.31	
107-02-8	Acrolein	ND	1.6	ND	0.69	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.82	**0.19**	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.64	
107-13-1	Acrylonitrile	ND	1.6	ND	0.73	
75-35-4	1,1-Dichloroethene	ND	0.85	ND	0.22	
75-09-2	Methylene Chloride	ND	0.82	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.85	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.56	
156-60-5	trans-1,2-Dichloroethene	ND	0.84	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.84	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.84	ND	0.23	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.54	
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
141-78-6	Ethyl Acetate	**14**	3.3	**3.8**	0.92	
110-54-3	n-Hexane	ND	0.84	ND	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_090122_D** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-005

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02283

Initial Pressure (psig): -2.89 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.85	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.54	
107-06-2	1,2-Dichloroethane	ND	0.84	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.82	ND	0.15	
71-43-2	Benzene	ND	0.79	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.79	ND	0.13	
110-82-7	Cyclohexane	ND	1.7	ND	0.51	
78-87-5	1,2-Dichloropropane	ND	0.79	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.84	ND	0.13	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.82	ND	0.23	
142-82-5	n-Heptane	ND	0.84	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.79	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.42	
10061-02-6	trans-1,3-Dichloropropene	ND	0.81	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.82	ND	0.15	
108-88-3	Toluene	ND	0.82	ND	0.22	
591-78-6	2-Hexanone	ND	1.7	ND	0.42	
124-48-1	Dibromochloromethane	ND	0.84	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.82	ND	0.11	
111-65-9	n-Octane	ND	0.84	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.82	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_090122_D** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2203912-005

Test Code: EPA TO-15 Date Collected: 9/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/1/22
Analyst: Topacio Zavala Date Analyzed: 9/9/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02283

Initial Pressure (psig): -2.89 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.82	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.40	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.79	ND	0.19	
95-47-6	o-Xylene	ND	0.82	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
98-82-8	Cumene	ND	0.82	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.84	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.84	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.82	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.82	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.34	
541-73-1	1,3-Dichlorobenzene	ND	0.82	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.82	ND	0.14	
135-98-8	sec-Butylbenzene	ND	0.82	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.82	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.84	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.82	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.82	ND	0.077	
104-51-8	n-Butylbenzene	ND	0.82	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.84	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220908-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220908-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220908-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2203912

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date(s) Collected: 9/1/22
Analyst: Topacio Zavala Date(s) Received: 9/1/22
Sample Type: 6.0 L Summa Canister(s) / 6.0 L Silonite Canister(s) Date(s) Analyzed: 9/8 - 9/9/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220908-MB	**94**	**96**	**111**	70-130	
Lab Control Sample	P220908-LCS	**105**	**91**	**111**	70-130	
Duplicate Lab Control Sample	P220908-DLCS	**104**	**90**	**112**	70-130	
DOE-1_090122_S	P2203912-001	**97**	**89**	**111**	70-130	
DOE-2_090122_S	P2203912-002	**97**	**92**	**113**	70-130	
DOE-3_090122_S	P2203912-003	**98**	**91**	**113**	70-130	
DOE-4_090122_S	P2203912-004	**98**	**89**	**110**	70-130	
DOE-2_090122_D	P2203912-005	**99**	**90**	**111**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220908-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	212	188	185	**89**	**87**	71-112	2	25	
74-87-3	Chloromethane	206	195	195	**95**	**95**	53-126	0	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	179	176	**87**	**85**	62-121	2	25	
75-01-4	Vinyl Chloride	204	180	189	**88**	**93**	63-123	6	25	
106-99-0	1,3-Butadiene	212	208	208	**98**	**98**	63-135	0	25	
74-83-9	Bromomethane	206	179	178	**87**	**86**	71-112	1	25	
75-00-3	Chloroethane	208	200	200	**96**	**96**	66-117	0	25	
107-02-8	Acrolein	388	370	370	**95**	**95**	71-123	0	25	
75-69-4	Trichlorofluoromethane (CFC 11)	210	183	181	**87**	**86**	71-114	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	412	405	399	**98**	**97**	61-124	1	25	
107-13-1	Acrylonitrile	412	397	389	**96**	**94**	65-130	2	25	
75-35-4	1,1-Dichloroethene	216	199	196	**92**	**91**	74-114	1	25	
75-09-2	Methylene Chloride	212	186	184	**88**	**87**	75-112	1	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	191	187	**88**	**87**	73-114	1	25	
75-15-0	Carbon Disulfide	426	346	346	**81**	**81**	70-113	0	25	
156-60-5	trans-1,2-Dichloroethene	216	198	197	**92**	**91**	76-119	1	25	
75-34-3	1,1-Dichloroethane	216	198	196	**92**	**91**	70-114	1	25	
1634-04-4	Methyl tert-Butyl Ether	214	200	199	**93**	**93**	72-118	0	25	
78-93-3	2-Butanone (MEK)	418	398	397	**95**	**95**	74-121	0	25	
156-59-2	cis-1,2-Dichloroethene	214	203	202	**95**	**94**	73-117	1	25	
141-78-6	Ethyl Acetate	856	548	545	**64**	**64**	59-161	0	25	
110-54-3	n-Hexane	212	206	204	**97**	**96**	55-130	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220908-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	212	194	191	**92**	**90**	71-114	2	25	
109-99-9	Tetrahydrofuran (THF)	412	412	411	**100**	**100**	73-114	0	25	
107-06-2	1,2-Dichloroethane	216	205	201	**95**	**93**	71-119	2	25	
71-55-6	1,1,1-Trichloroethane	210	193	190	**92**	**90**	73-119	2	25	
71-43-2	Benzene	216	195	194	**90**	**90**	72-113	0	25	
56-23-5	Carbon Tetrachloride	206	186	183	**90**	**89**	67-123	1	25	
110-82-7	Cyclohexane	422	404	399	**96**	**95**	70-119	1	25	
78-87-5	1,2-Dichloropropane	212	195	198	**92**	**93**	70-118	1	25	
75-27-4	Bromodichloromethane	216	203	200	**94**	**93**	74-119	1	25	
79-01-6	Trichloroethene	212	199	197	**94**	**93**	74-115	1	25	
123-91-1	1,4-Dioxane	212	215	214	**101**	**101**	77-124	0	25	
142-82-5	n-Heptane	212	220	221	**104**	**104**	70-119	0	25	
10061-01-5	cis-1,3-Dichloropropene	216	208	208	**96**	**96**	81-126	0	25	
108-10-1	4-Methyl-2-pentanone	432	418	425	**97**	**98**	73-129	1	25	
10061-02-6	trans-1,3-Dichloropropene	206	205	203	**100**	**99**	80-127	1	25	
79-00-5	1,1,2-Trichloroethane	212	207	207	**98**	**98**	78-117	0	25	
108-88-3	Toluene	212	176	175	**83**	**83**	70-118	0	25	
591-78-6	2-Hexanone	426	364	360	**85**	**85**	74-132	0	25	
124-48-1	Dibromochloromethane	216	175	172	**81**	**80**	69-137	1	25	
106-93-4	1,2-Dibromoethane	208	169	169	**81**	**81**	76-128	0	25	
111-65-9	n-Octane	214	186	182	**87**	**85**	68-120	2	25	
127-18-4	Tetrachloroethene	212	179	177	**84**	**83**	63-130	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2203912
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220908-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 9/8/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	210	193	191	**92**	**91**	71-123	1	25	
179601-23-1	m,p-Xylenes	420	390	383	**93**	**91**	67-127	2	25	
75-25-2	Bromoform	214	184	181	**86**	**85**	65-149	1	25	
100-42-5	Styrene	212	206	201	**97**	**95**	76-132	2	25	
95-47-6	o-Xylene	212	198	195	**93**	**92**	69-124	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	185	183	**87**	**86**	69-128	1	25	
98-82-8	Cumene	212	212	208	**100**	**98**	69-125	2	25	
103-65-1	n-Propylbenzene	214	206	203	**96**	**95**	70-127	1	25	
622-96-8	4-Ethyltoluene	216	221	218	**102**	**101**	69-127	1	25	
108-67-8	1,3,5-Trimethylbenzene	210	220	214	**105**	**102**	66-129	3	25	
95-63-6	1,2,4-Trimethylbenzene	208	228	224	**110**	**108**	63-142	2	25	
100-44-7	Benzyl Chloride	420	454	449	**108**	**107**	73-145	0.9	25	
541-73-1	1,3-Dichlorobenzene	210	214	209	**102**	**100**	67-136	2	25	
106-46-7	1,4-Dichlorobenzene	212	213	207	**100**	**98**	63-134	2	25	
135-98-8	sec-Butylbenzene	210	221	216	**105**	**103**	68-130	2	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	210	229	225	**109**	**107**	60-139	2	25	
95-50-1	1,2-Dichlorobenzene	212	213	209	**100**	**99**	64-139	1	25	
120-82-1	1,2,4-Trichlorobenzene	412	515	510	**125**	**124**	62-154	0.8	25	
91-20-3	Naphthalene	216	271	268	**125**	**124**	62-156	0.8	25	
87-68-3	Hexachlorobutadiene	210	232	225	**110**	**107**	55-142	3	25	
104-51-8	n-Butylbenzene	210	223	218	**106**	**104**	70-131	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2203912

Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Lab File ID: 09082201.D

Analyst: Topacio Zavala Date Analyzed: 9/8/22

Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 14:19

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	162916	7.67	757802	9.88	168407	15.79
	Upper Limit	228082	8.00	1060923	10.21	235770	16.12
	Lower Limit	97750	7.34	454681	9.55	101044	15.46
	Client Sample ID						
01	Method Blank	156735	7.63	714503	9.85	159005	15.79
02	Lab Control Sample	156147	7.69	718720	9.89	170158	15.81
03	Duplicate Lab Control Sample	161132	7.69	735341	9.89	175752	15.81
04	DOE-1_090122_S	153561	7.64	693819	9.86	168108	15.81
05	DOE-2_090122_S	153691	7.65	696009	9.87	162811	15.81
06	DOE-3_090122_S	147108	7.65	680483	9.87	160172	15.81
07	DOE-4_090122_S	147077	7.65	676828	9.87	161547	15.81
08	DOE-2_090122_D	146388	7.65	676089	9.88	162787	15.81
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082213.D Vial: 10
Acq On : 8 Sep 2022 22:17 Operator: TZ
Sample : P2203912-001 (1000mL) Inst : MS13
Misc : S35-08172209

TZ 9/9/22

Quant Time: Sep 09 07:43:45 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.64	130	153561	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.86	114	693819	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.81	54	168108	12.500	ng		0.02
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.46	65	298888	12.178	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
57) Toluene-d8 (SS2)	13.18	98	858884	11.174	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.36%				
73) Bromofluorobenzene (SS3)	18.01	174	319504	13.925	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.44%				
Target Compounds							Qvalue
2) Propene	3.49	42	5389	N.D.			
3) Dichlorodifluoromethan...	3.56	85	52287	1.466	ng		99
4) Chloromethane	3.70	50	3647	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.81	135	1340	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.01	54	521	N.D.			
8) Bromomethane	4.24	94	274	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.52	45	59975	5.507	ng		98
11) Acetonitrile	4.68	41	6864	N.D.			
12) Acrolein	4.77	56	7073	0.791	ng		95
13) Acetone	4.88	58	74631	7.993	ng	#	65
14) Trichlorofluoromethane	5.02	101	23140	0.727	ng		99
15) 2-Propanol (Isopropanol)	5.11	45	15459	0.452	ng		85
16) Acrylonitrile	5.27	53	786	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.63	59	1878	N.D.			
19) Methylene Chloride	5.65	84	1814	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.89	151	4519	N.D.			
22) Carbon Disulfide	5.91	76	8640	N.D.			
23) trans-1,2-Dichloroethene	6.46	61	290	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.78	86	3955	1.607	ng	#	51
27) 2-Butanone (MEK)	7.04	72	13522	1.588	ng	#	84
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.68	87	269	N.D.			
30) Ethyl Acetate	7.69	61	39585	7.263	ng		93
31) n-Hexane	7.71	57	1176	N.D.			
32) Chloroform	7.77	83	998	N.D.			
34) Tetrahydrofuran (THF)	8.22	72	895	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.48	62	437	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.86	61	24613	No Calib		#	
40) 1-Butanol	9.34	56	7100	No Calib		#	
41) Benzene	9.43	78	8020	N.D.			
42) Carbon Tetrachloride	9.62	117	5484	N.D.			
43) Cyclohexane	9.87	84	961	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	10.78	88	330	N.D.			
49) 2,2,4-Trimethylpentane...	10.87	57	2420	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082213.D Vial: 10
Acq On : 8 Sep 2022 22:17 Operator: TZ
Sample : P2203912-001 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:45 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

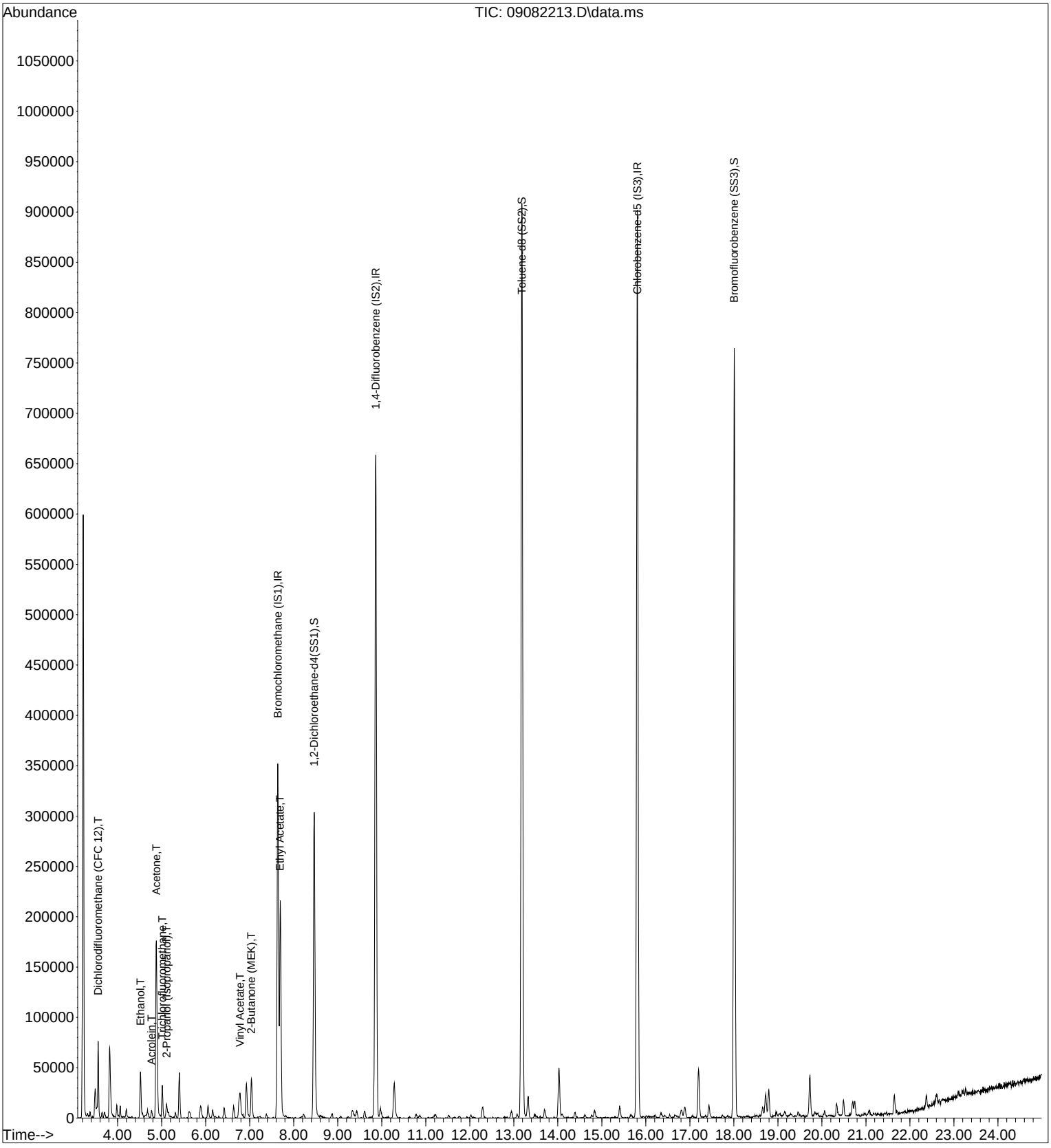
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	11.23	71	421	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.02	58	676	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.32	91	19780	N.D.	
59) 2-Hexanone	13.69	43	8232	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.62	43	2874	N.D.	
63) n-Octane	14.78	57	296	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	16.42	91	1777	N.D.	
67) m- & p-Xylenes	16.68	91	4196	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	17.19	104	921	N.D.	
70) o-Xylene	17.35	91	1542	N.D.	
71) n-Nonane	17.74	43	1489	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	18.24	105	472	N.D.	
75) alpha-Pinene	18.79	93	13303	N.D.	
76) n-Propylbenzene	18.97	91	1764	N.D.	
77) 3-Ethyltoluene	18.00	105	290	No Calib	#
78) 4-Ethyltoluene	19.12	105	941	N.D.	
79) 1,3,5-Trimethylbenzene	19.29	105	206	N.D.	
80) alpha-Methylstyrene	18.00	118	844	No Calib	#
81) 2-Ethyltoluene	18.00	105	290	No Calib	#
82) 1,2,4-Trimethylbenzene	19.87	105	1950	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.03	91	2334	N.D.	
85) 1,3-Dichlorobenzene	20.06	146	133	N.D.	
86) 1,4-Dichlorobenzene	20.17	146	680	N.D.	
87) sec-Butylbenzene	20.26	105	188	N.D.	
88) 4-Isopropyltoluene (p-...	20.49	119	11973	N.D.	
89) 1,2,3-Trimethylbenzene	18.00	105	290	No Calib	#
90) 1,2-Dichlorobenzene	20.65	146	571	N.D.	
91) d-Limonene	20.71	68	4841	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.27	157	507	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	23.11	180	2971	N.D.	
95) Naphthalene	23.26	128	7645	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	23.79	225	121	N.D.	
98) Cyclohexanone	16.18	55	924	No Calib	#
99) tert-Butylbenzene	19.89	119	323	N.D.	
100) n-Butylbenzene	21.08	91	2741	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082213.D Vial: 10
Acq On : 8 Sep 2022 22:17 Operator: TZ
Sample : P2203912-001 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:45 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082213.D Vial: 10
Acq On : 8 Sep 2022 22:17 Operator: TZ
Sample : P2203912-001 (1000mL) Inst : MS13
Misc : S35-08172209

TZ 9/9/22

Quant Time: Sep 09 07:43:45 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

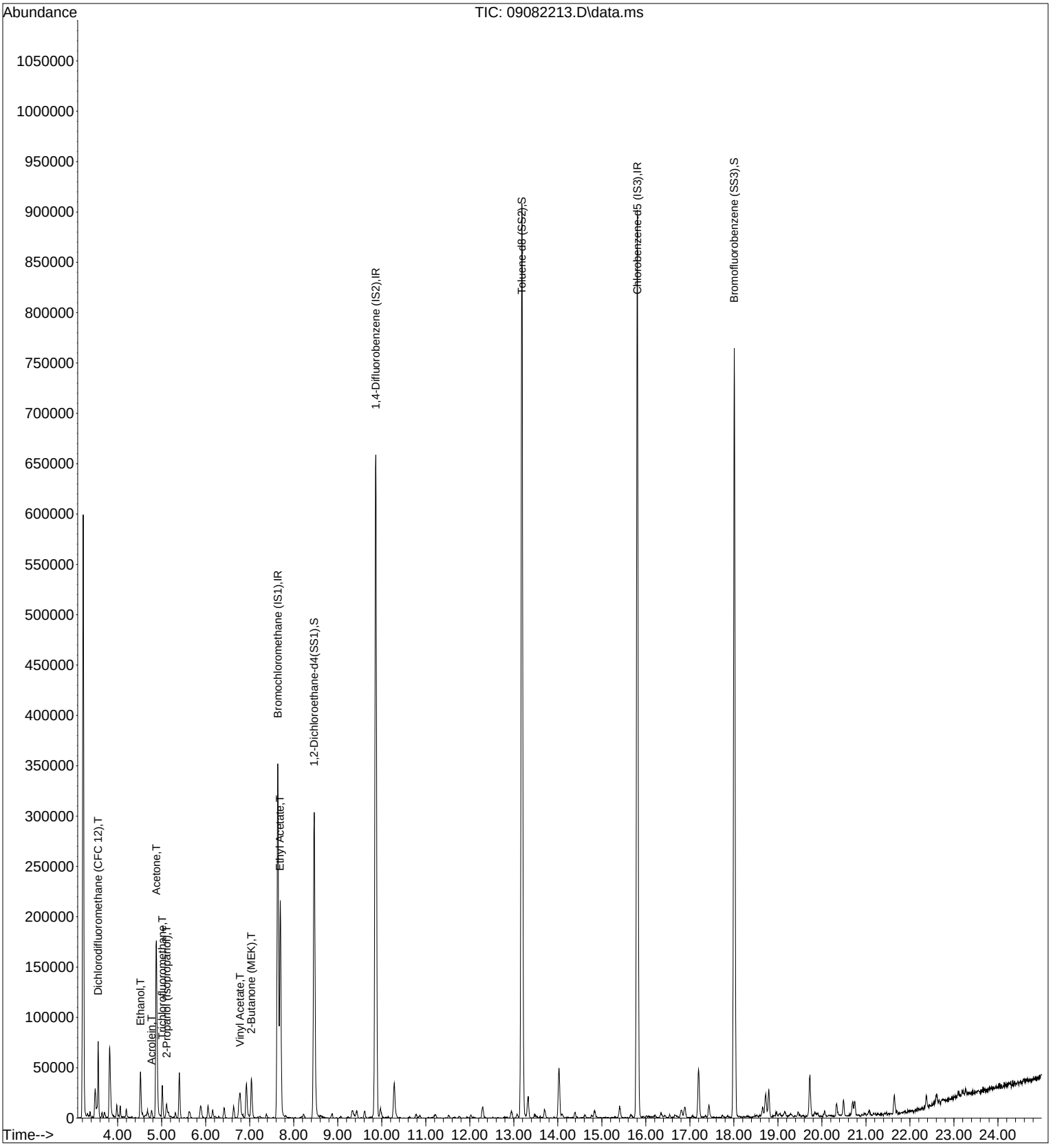
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.64	130	153561	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.86	114	693819	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.81	54	168108	12.500	ng		0.02
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.46	65	298888	12.178	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
57) Toluene-d8 (SS2)	13.18	98	858884	11.174	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.36%				
73) Bromofluorobenzene (SS3)	18.01	174	319504	13.925	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.44%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.56	85	52287	1.466	ng		99
10) Ethanol	4.52	45	59975	5.507	ng		98
12) Acrolein	4.77	56	7073	0.791	ng		95
13) Acetone	4.88	58	74631	7.993	ng	#	65
14) Trichlorofluoromethane	5.02	101	23140	0.727	ng		99
15) 2-Propanol (Isopropanol)	5.11	45	15459	0.452	ng		85
26) Vinyl Acetate	6.78	86	3955	1.607	ng	#	51
27) 2-Butanone (MEK)	7.04	72	13522	1.588	ng	#	84
30) Ethyl Acetate	7.69	61	39585	7.263	ng		93

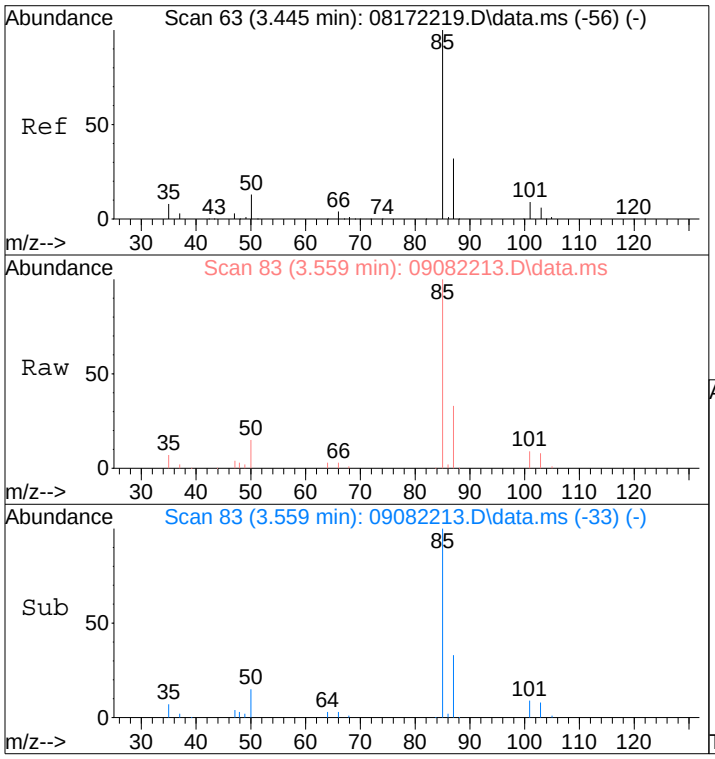
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082213.D Vial: 10
Acq On : 8 Sep 2022 22:17 Operator: TZ
Sample : P2203912-001 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:45 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

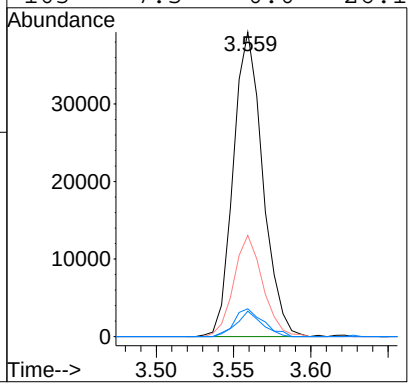


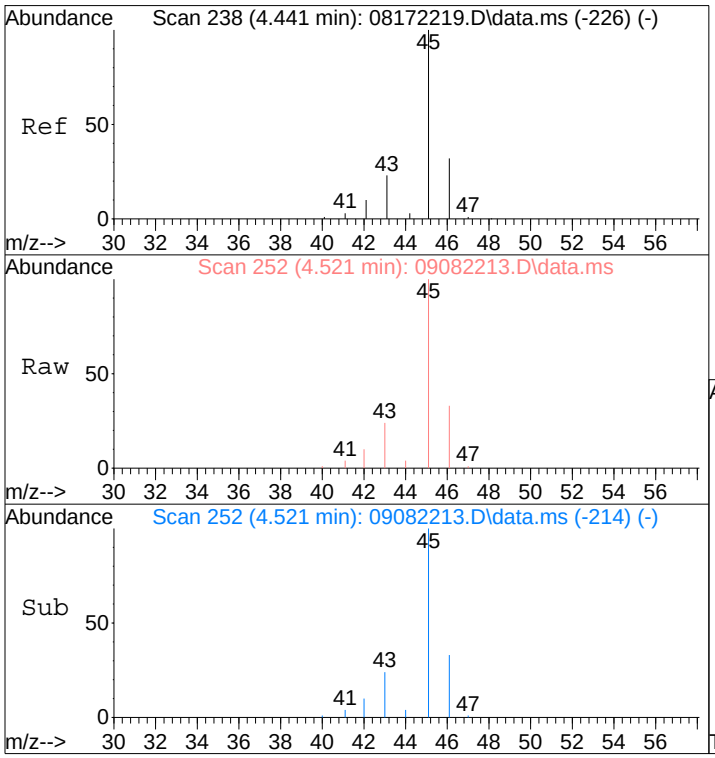


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.47 ng
RT: 3.56 min Scan# 83
Delta R.T. 0.034 min
Lab File: 09082213.D
Acq: 8 Sep 2022 22:17

Tgt Ion: 85 Resp: 52287

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.3	52.3
101	8.8	0.0	29.3
103	7.5	0.0	26.1

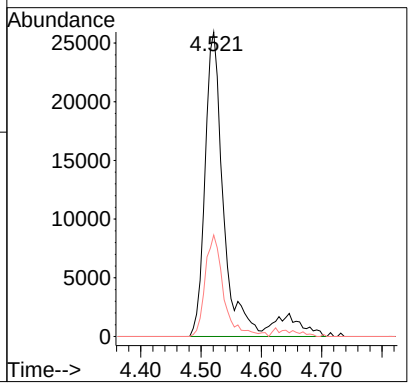


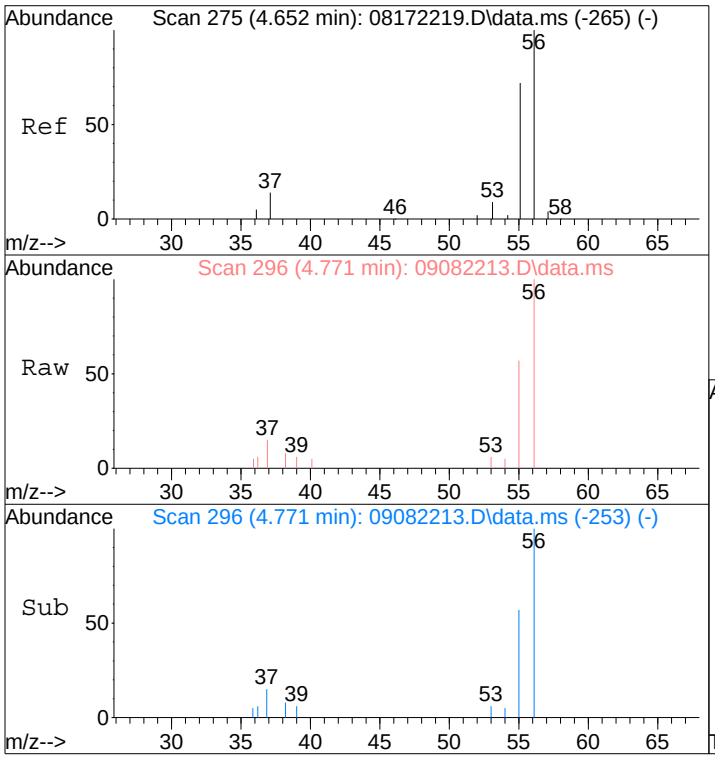


#10
Ethanol
Concen: 5.51 ng
RT: 4.52 min Scan# 252
Delta R.T. -0.034 min
Lab File: 09082213.D
Acq: 8 Sep 2022 22:17

Tgt Ion: 45 Resp: 59975

Ion	Ratio	Lower	Upper
45	100		
46	30.6	11.5	51.5

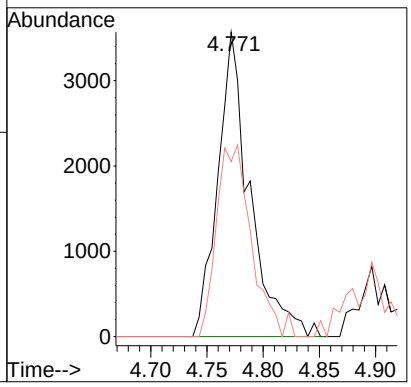


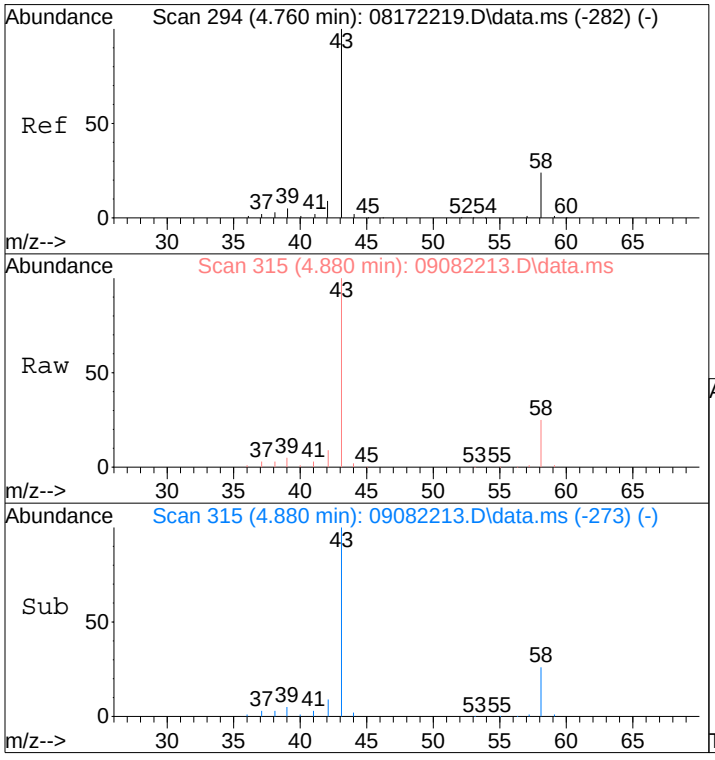


#12
Acrolein
Concen: 0.79 ng
RT: 4.77 min Scan# 296
Delta R.T. -0.006 min
Lab File: 09082213.D
Acq: 8 Sep 2022 22:17

Tgt Ion: 56 Resp: 7073

Ion	Ratio	Lower	Upper
56	100		
55	68.4	52.3	92.3

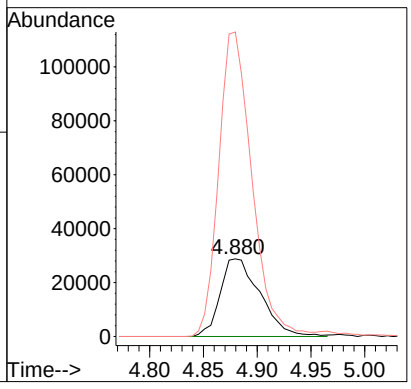


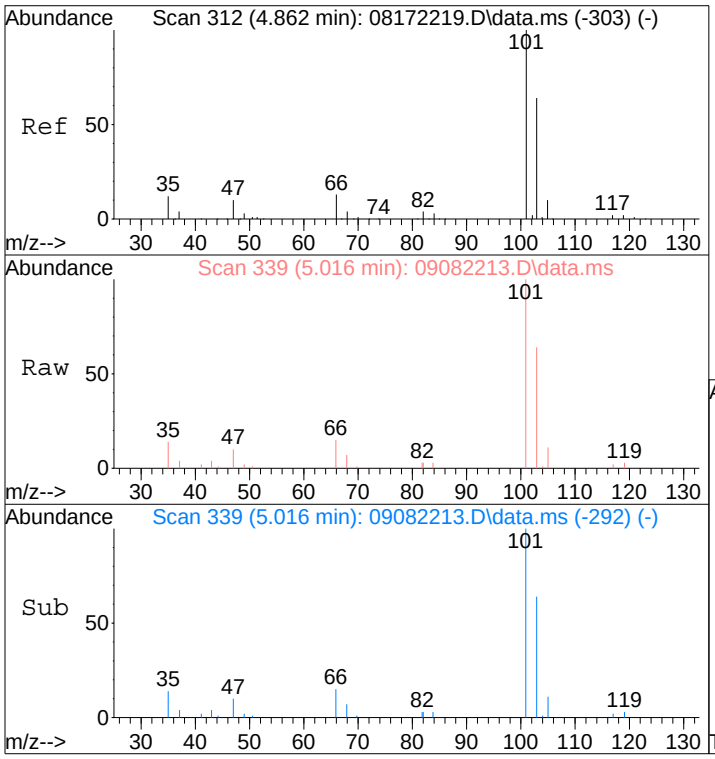


#13
Acetone
Concen: 7.99 ng
RT: 4.88 min Scan# 315
Delta R.T. -0.011 min
Lab File: 09082213.D
Acq: 8 Sep 2022 22:17

Tgt Ion: 58 Resp: 74631

Ion	Ratio	Lower	Upper
58	100		
43	324.8	379.3	439.3#

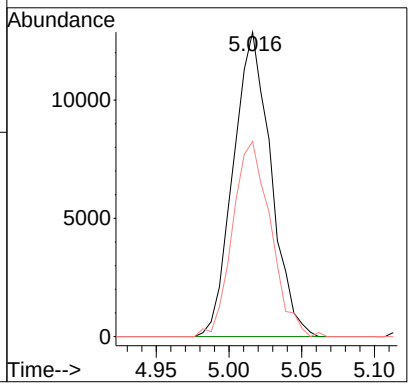


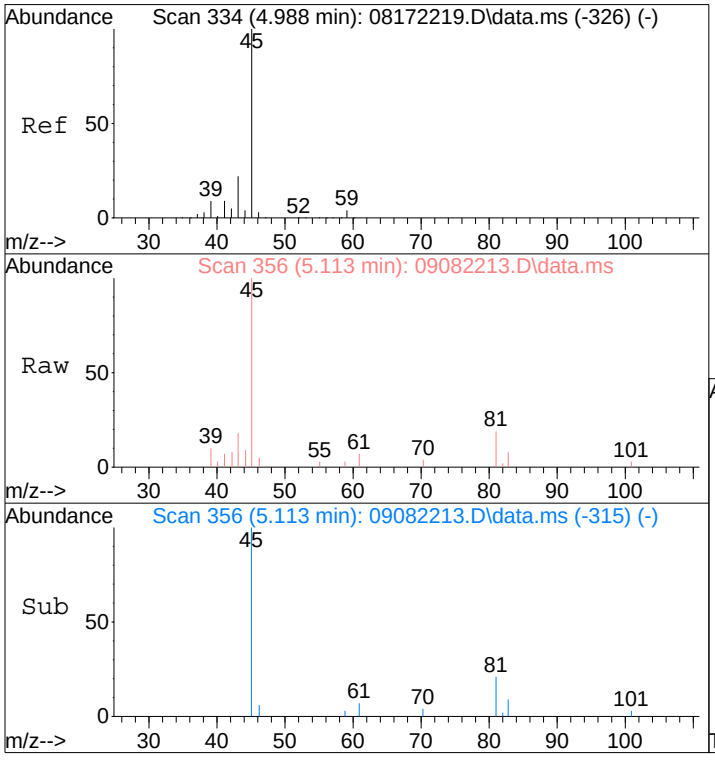


#14
Trichlorofluoromethane
Concen: 0.73 ng
RT: 5.02 min Scan# 339
Delta R.T. 0.017 min
Lab File: 09082213.D
Acq: 8 Sep 2022 22:17

Tgt Ion:101 Resp: 23140

Ion	Ratio	Lower	Upper
101	100		
103	64.9	44.0	84.0

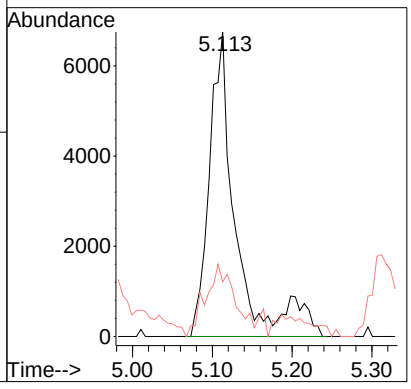


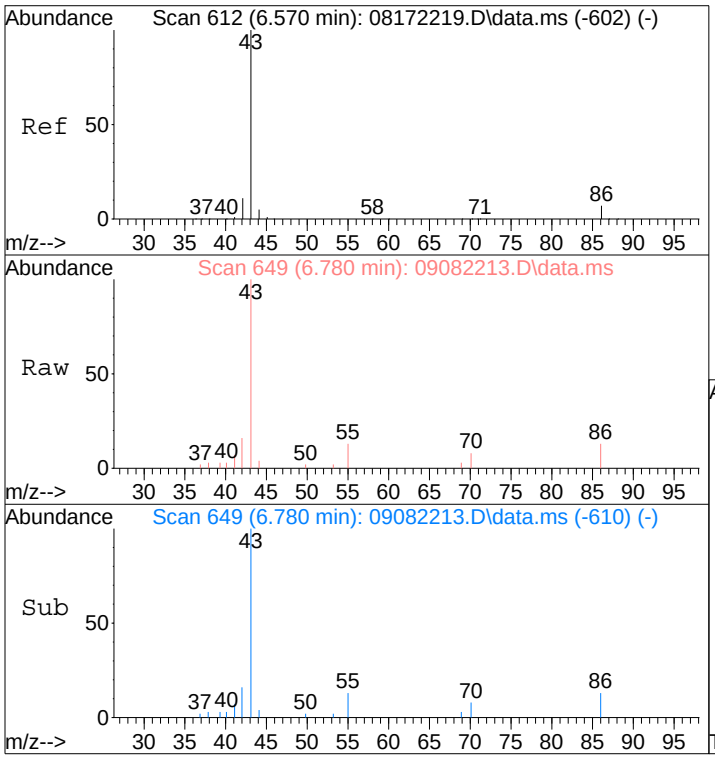


#15
2-Propanol (Isopropanol)
Concen: 0.45 ng
RT: 5.11 min Scan# 356
Delta R.T. -0.017 min
Lab File: 09082213.D
Acq: 8 Sep 2022 22:17

Tgt Ion: 45 Resp: 15459

Ion	Ratio	Lower	Upper
45	100		
43	28.5	1.5	41.5

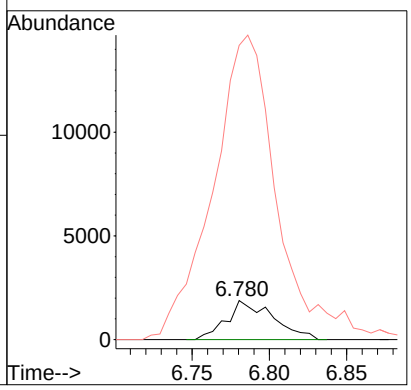


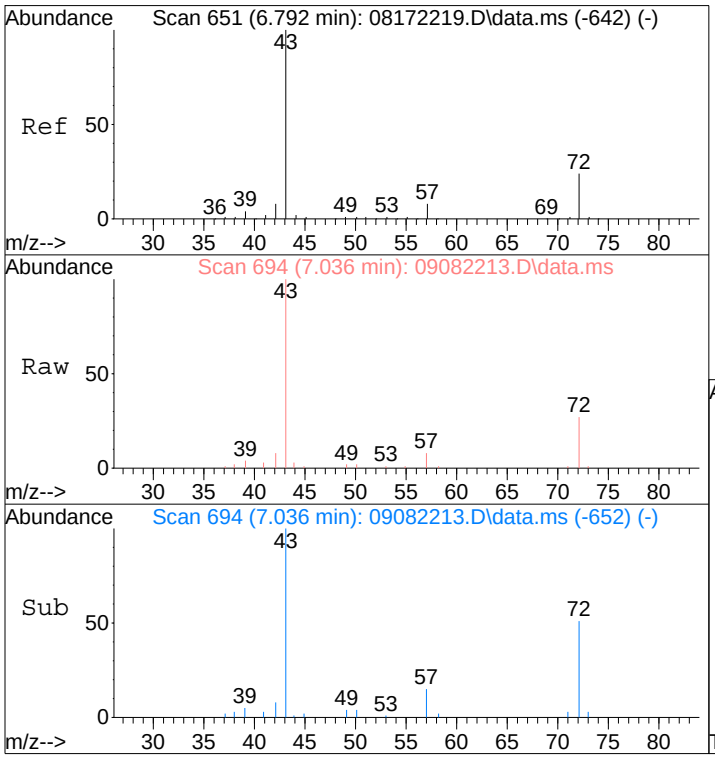


#26
Vinyl Acetate
Concen: 1.61 ng
RT: 6.78 min Scan# 649
Delta R.T. -0.028 min
Lab File: 09082213.D
Acq: 8 Sep 2022 22:17

Tgt Ion: 86 Resp: 3955

Ion	Ratio	Lower	Upper
86	100		
43	1083.4	1333.2	1373.2#

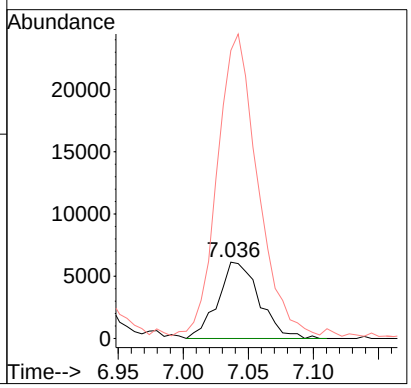


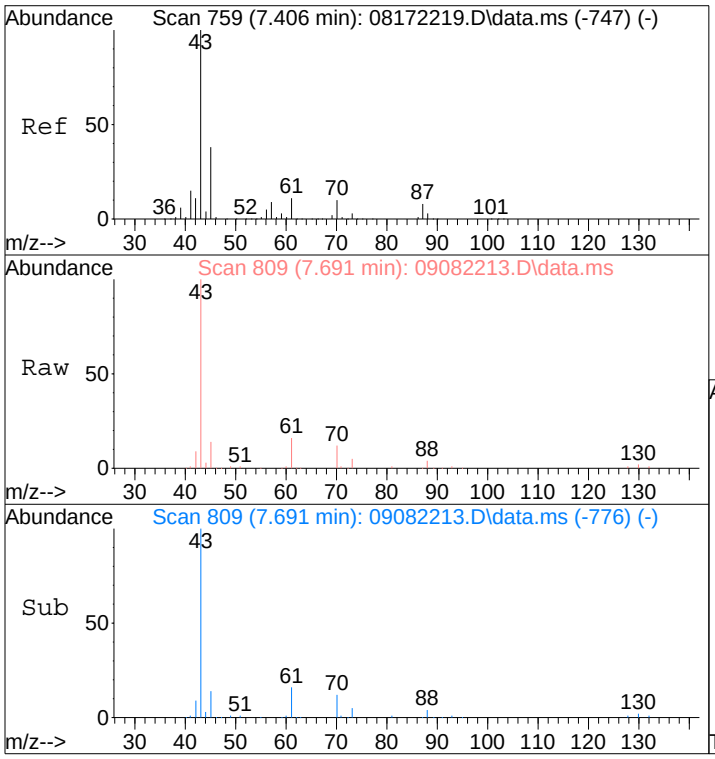


#27
2-Butanone (MEK)
Concen: 1.59 ng
RT: 7.04 min Scan# 694
Delta R.T. -0.011 min
Lab File: 09082213.D
Acq: 8 Sep 2022 22:17

Tgt Ion: 72 Resp: 13522

Ion	Ratio	Lower	Upper
72	100		
43	385.5	405.4	445.4#

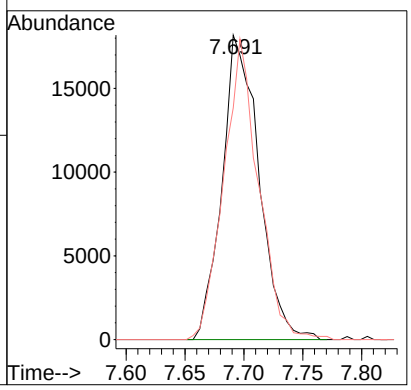




#30
Ethyl Acetate
Concen: 7.26 ng
RT: 7.69 min Scan# 809
Delta R.T. -0.011 min
Lab File: 09082213.D
Acq: 8 Sep 2022 22:17

Tgt Ion: 61 Resp: 39585

Ion	Ratio	Lower	Upper
61	100		
70	93.5	67.4	107.4



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082214.D Vial: 11
Acq On : 8 Sep 2022 22:56 Operator: TZ
Sample : P2203912-002 (1000mL) Inst : MS13
Misc : S35-08172209

TZ 9/9/22

Quant Time: Sep 09 07:43:47 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.65	130	153691	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.87	114	696009	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	15.81	54	162811	12.500	ng		0.02
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.46	65	299074	12.175	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
57) Toluene-d8 (SS2)	13.19	98	857586	11.520	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.16%				
73) Bromofluorobenzene (SS3)	18.01	174	315105	14.181	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%				
Target Compounds							Qvalue
2) Propene	3.50	42	3110	N.D.			
3) Dichlorodifluoromethan...	3.56	85	49184	1.378	ng		98
4) Chloromethane	3.71	50	4091	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.82	135	1004	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.03	54	147	N.D.			
8) Bromomethane	4.25	94	182	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.51	45	21459	1.969	ng		92
11) Acetonitrile	4.68	41	5816	N.D.			
12) Acrolein	4.78	56	1701	N.D.			
13) Acetone	4.89	58	39683	4.247	ng	#	85
14) Trichlorofluoromethane	5.02	101	22293	0.700	ng		97
15) 2-Propanol (Isopropanol)	5.12	45	6295	N.D.			
16) Acrylonitrile	5.27	53	282	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.63	59	1266	N.D.			
19) Methylene Chloride	5.65	84	1336	N.D.			
20) 3-Chloro-1-propene (Al...	5.64	41	129	N.D.			
21) Trichlorotrifluoroethane	5.89	151	3737	N.D.			
22) Carbon Disulfide	5.92	76	10529	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.80	86	1814	0.737	ng		97
27) 2-Butanone (MEK)	7.05	72	3987	0.468	ng	#	83
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.70	87	807	N.D.			
30) Ethyl Acetate	7.70	61	81069	14.862	ng		99
31) n-Hexane	7.72	57	897	N.D.			
32) Chloroform	7.78	83	892	N.D.			
34) Tetrahydrofuran (THF)	8.22	72	155	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.59	62	138	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	9.34	56	1667	No Calib		#	
41) Benzene	9.43	78	11483	N.D.			
42) Carbon Tetrachloride	9.61	117	7025	N.D.			
43) Cyclohexane	9.85	84	315	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	10.79	88	298	N.D.			
49) 2,2,4-Trimethylpentane...	10.87	57	1660	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082214.D Vial: 11
Acq On : 8 Sep 2022 22:56 Operator: TZ
Sample : P2203912-002 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:47 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

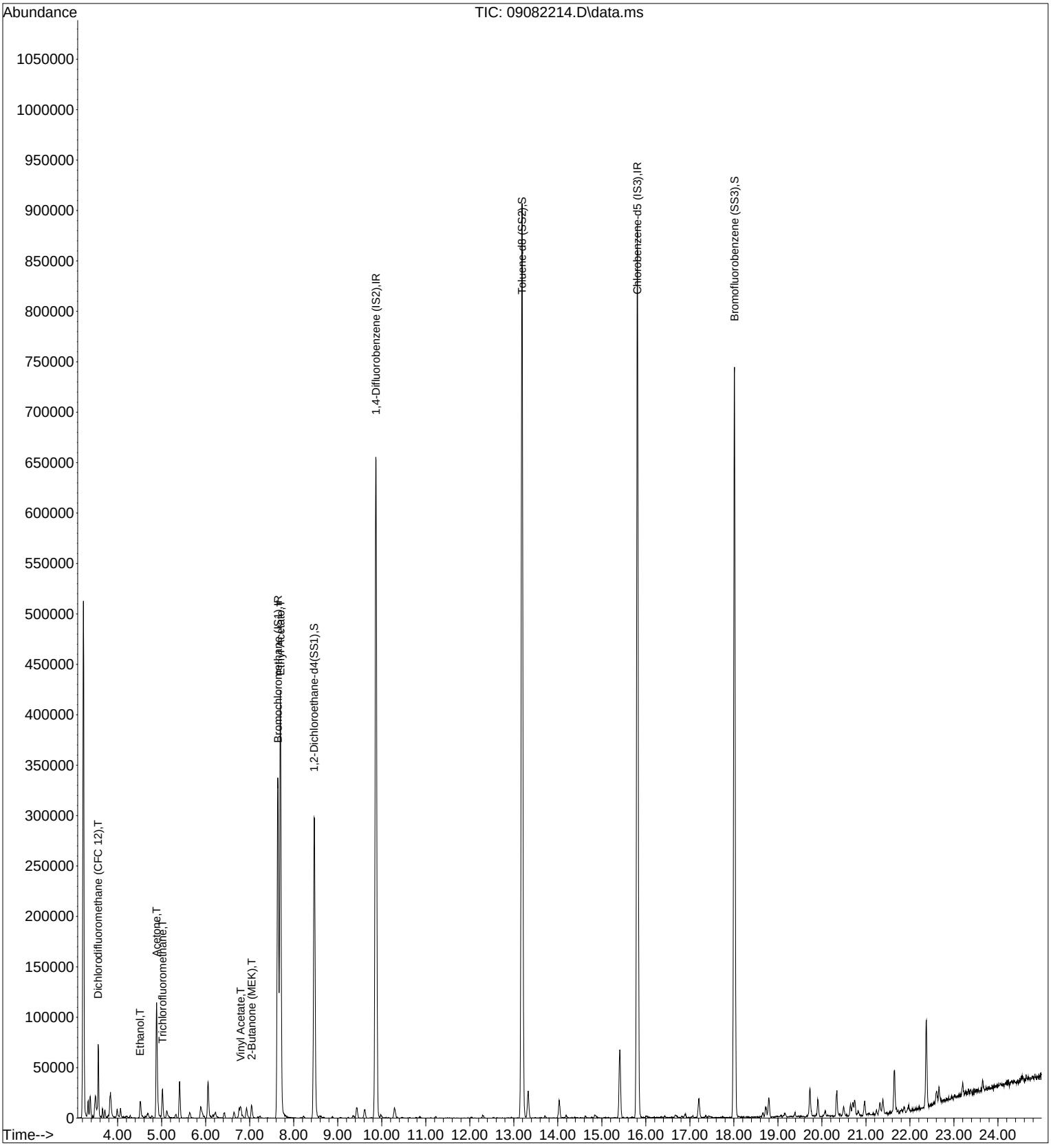
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	11.23	71	419	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.02	58	237	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.33	91	25448	N.D.	
59) 2-Hexanone	13.71	43	1824	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.63	43	1580	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	16.43	91	2071	N.D.	
67) m- & p-Xylenes	16.67	91	4077	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	17.21	104	568	N.D.	
70) o-Xylene	17.37	91	1636	N.D.	
71) n-Nonane	17.75	43	552	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	18.79	93	10672	N.D.	
76) n-Propylbenzene	18.96	91	441	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.19	105	776	N.D.	
79) 1,3,5-Trimethylbenzene	19.30	105	157	N.D.	
80) alpha-Methylstyrene	18.01	118	1529	No Calib	#
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	19.88	105	1667	N.D.	
83) n-Decane	18.03	58	153	No Calib	#
84) Benzyl Chloride	20.03	91	1051	N.D.	
85) 1,3-Dichlorobenzene	20.07	146	1725	N.D.	
86) 1,4-Dichlorobenzene	20.17	146	445	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.49	119	7814	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	20.64	146	142	N.D.	
91) d-Limonene	20.70	68	4669	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	23.11	180	1376	N.D.	
95) Naphthalene	23.27	128	4105	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	19.91	119	502	N.D.	
100) n-Butylbenzene	21.10	91	299	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082214.D Vial: 11
Acq On : 8 Sep 2022 22:56 Operator: TZ
Sample : P2203912-002 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:47 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082214.D Vial: 11
Acq On : 8 Sep 2022 22:56 Operator: TZ
Sample : P2203912-002 (1000mL) Inst : MS13
Misc : S35-08172209

TZ 9/9/22

Quant Time: Sep 09 07:43:47 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

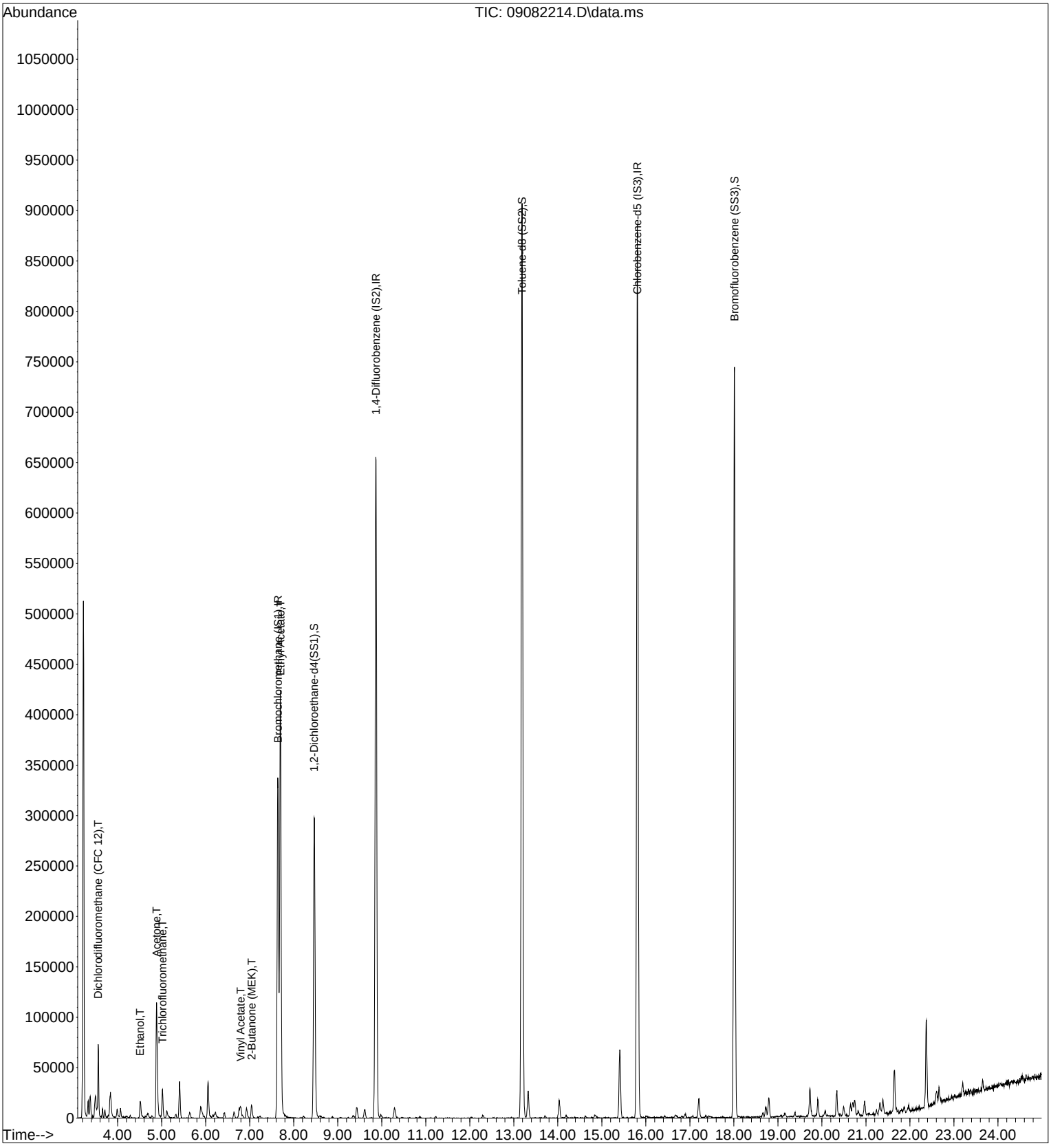
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.65	130	153691	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.87	114	696009	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	15.81	54	162811	12.500	ng		0.02
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.46	65	299074	12.175	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
57) Toluene-d8 (SS2)	13.19	98	857586	11.520	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.16%				
73) Bromofluorobenzene (SS3)	18.01	174	315105	14.181	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.56	85	49184	1.378	ng		98
10) Ethanol	4.51	45	21459	1.969	ng		92
13) Acetone	4.89	58	39683	4.247	ng	#	85
14) Trichlorofluoromethane	5.02	101	22293	0.700	ng		97
26) Vinyl Acetate	6.80	86	1814	0.737	ng		97
27) 2-Butanone (MEK)	7.05	72	3987	0.468	ng	#	83
30) Ethyl Acetate	7.70	61	81069	14.862	ng		99

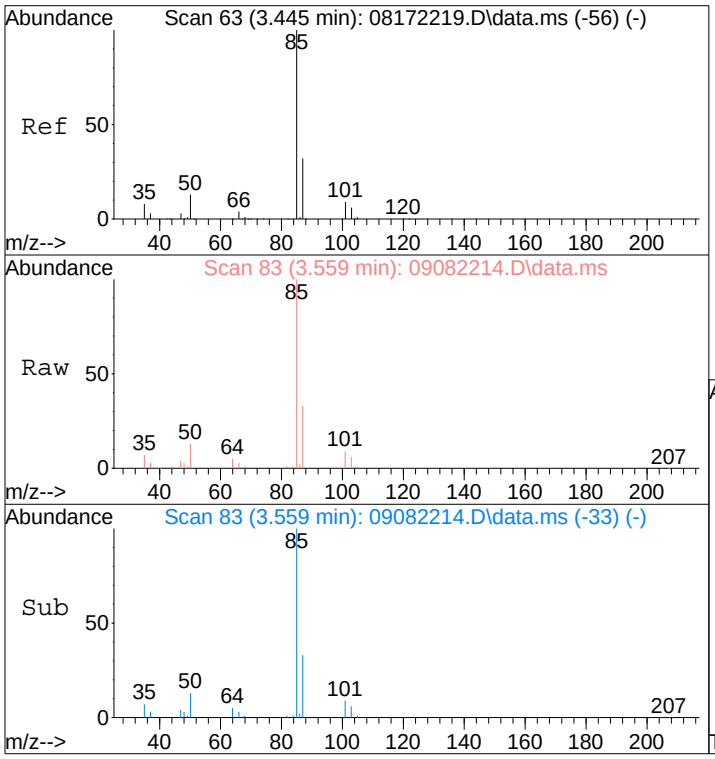
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082214.D Vial: 11
Acq On : 8 Sep 2022 22:56 Operator: TZ
Sample : P2203912-002 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:47 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

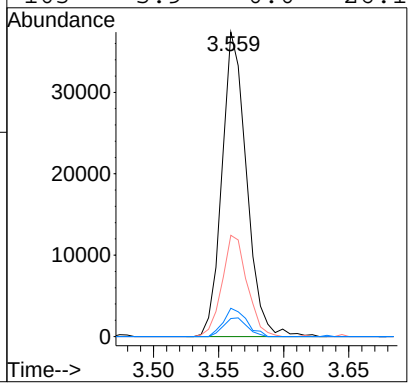


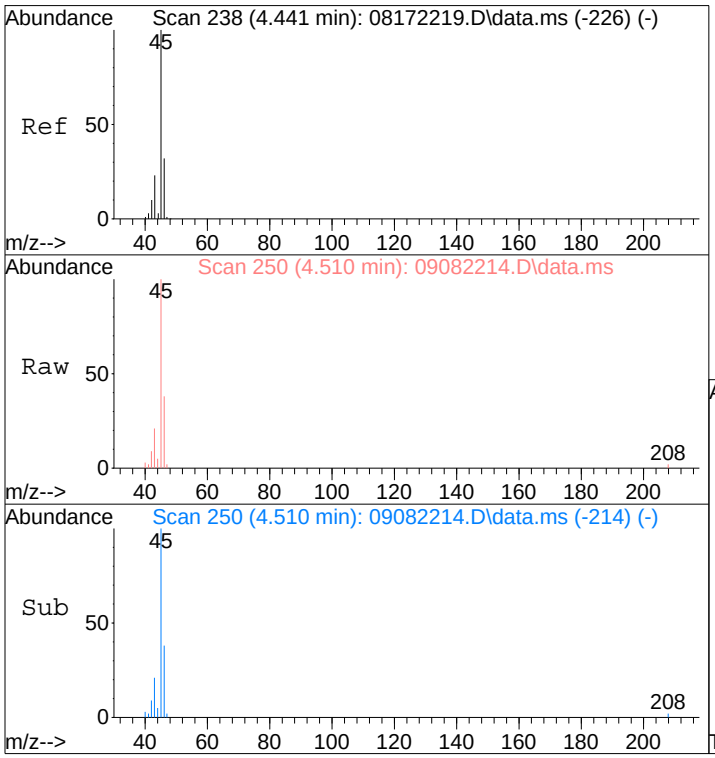


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.38 ng
RT: 3.56 min Scan# 83
Delta R.T. 0.034 min
Lab File: 09082214.D
Acq: 8 Sep 2022 22:56

Tgt Ion: 85 Resp: 49184

Ion	Ratio	Lower	Upper
85	100		
87	34.0	12.3	52.3
101	8.8	0.0	29.3
103	5.9	0.0	26.1

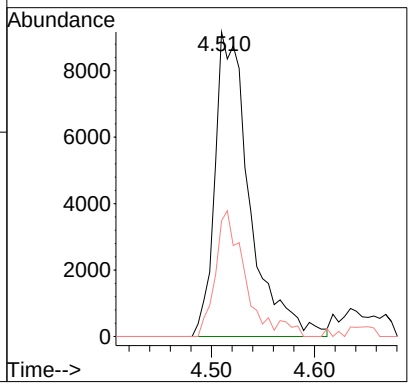


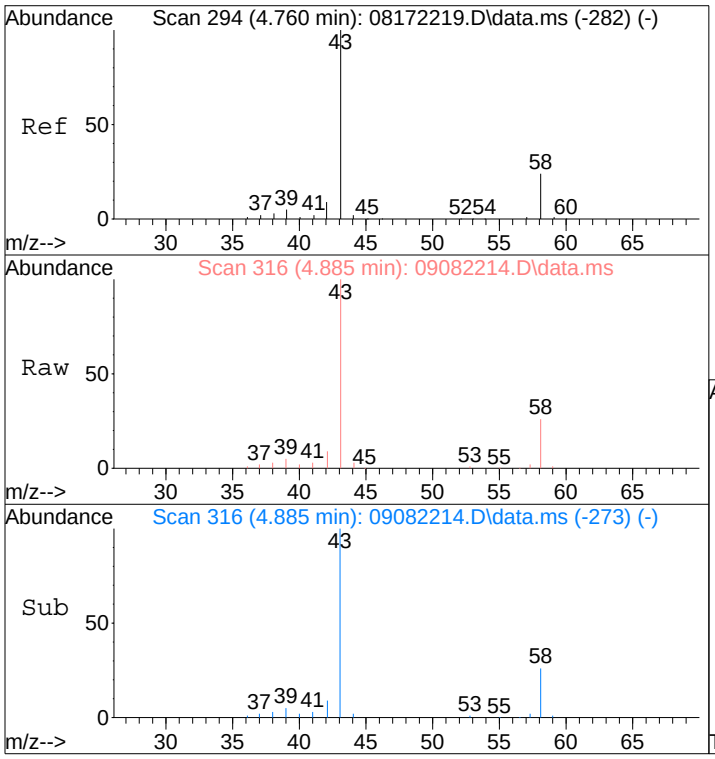


#10
Ethanol
Concen: 1.97 ng
RT: 4.51 min Scan# 250
Delta R.T. -0.045 min
Lab File: 09082214.D
Acq: 8 Sep 2022 22:56

Tgt Ion: 45 Resp: 21459

Ion	Ratio	Lower	Upper
45	100		
46	35.7	11.5	51.5

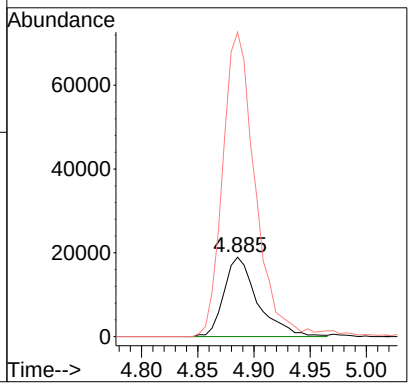


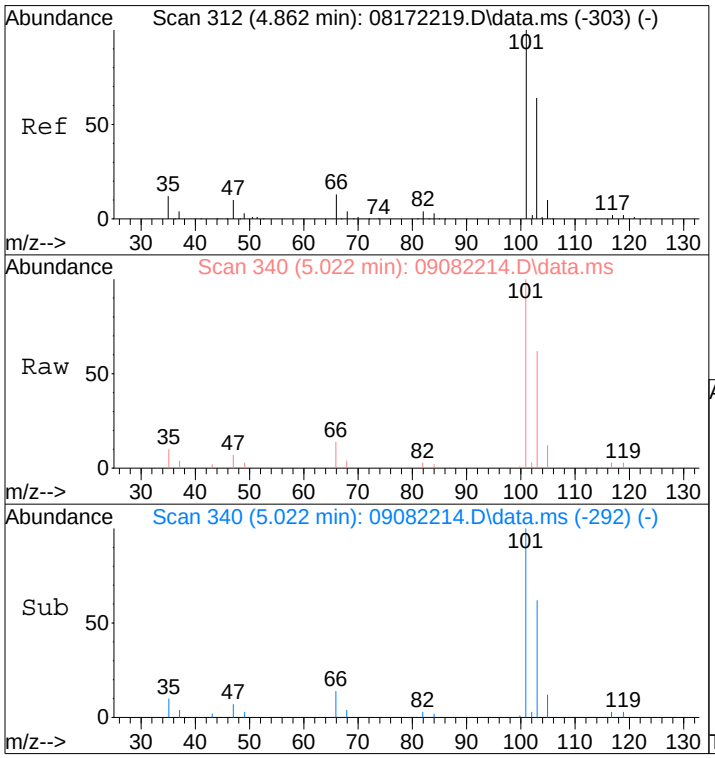


#13
Acetone
Concen: 4.25 ng
RT: 4.89 min Scan# 316
Delta R.T. -0.006 min
Lab File: 09082214.D
Acq: 8 Sep 2022 22:56

Tgt Ion: 58 Resp: 39683

Ion	Ratio	Lower	Upper
58	100		
43	372.9	379.3	439.3#

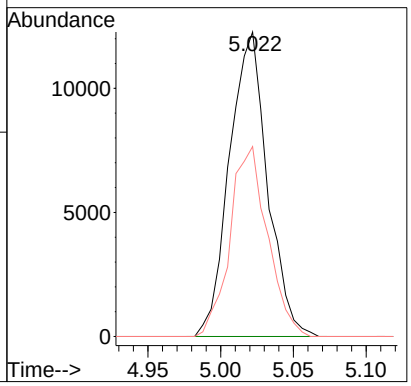


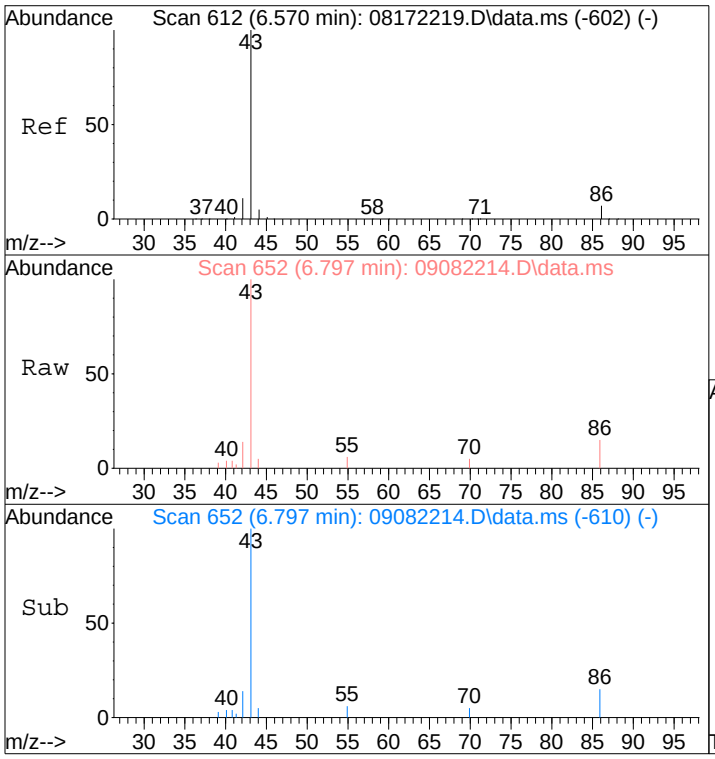


#14
Trichlorofluoromethane
Concen: 0.70 ng
RT: 5.02 min Scan# 340
Delta R.T. 0.023 min
Lab File: 09082214.D
Acq: 8 Sep 2022 22:56

Tgt Ion:101 Resp: 22293

Ion	Ratio	Lower	Upper
101	100		
103	61.5	44.0	84.0

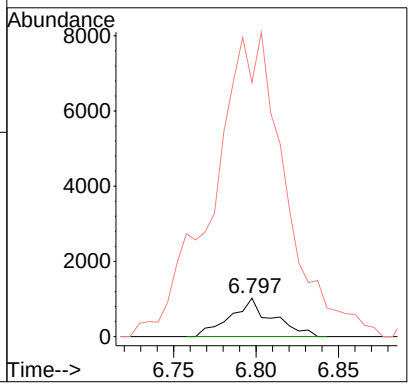


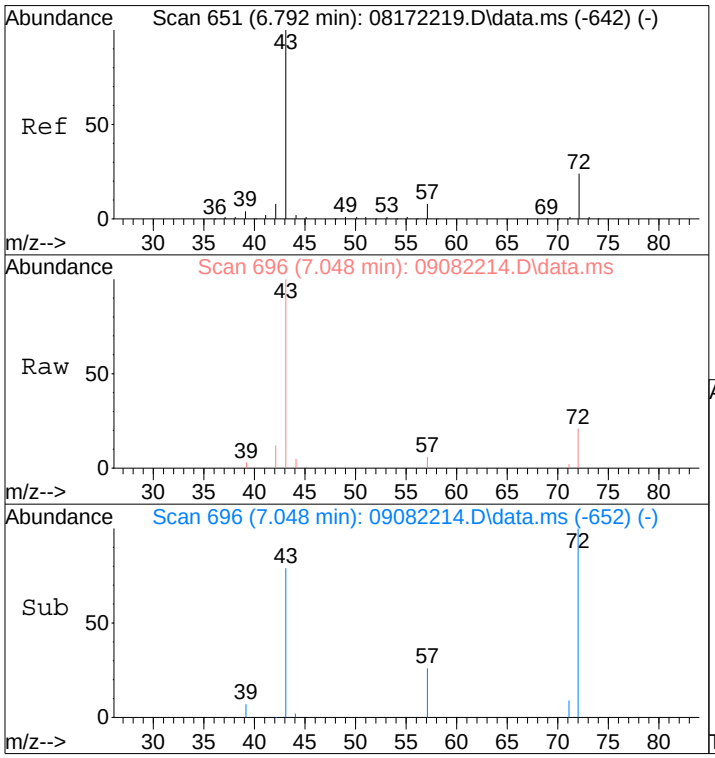


#26
Vinyl Acetate
Concen: 0.74 ng
RT: 6.80 min Scan# 652
Delta R.T. -0.011 min
Lab File: 09082214.D
Acq: 8 Sep 2022 22:56

Tgt Ion: 86 Resp: 1814

Ion	Ratio	Lower	Upper
86	100		
43	1372.5	1333.2	1373.2

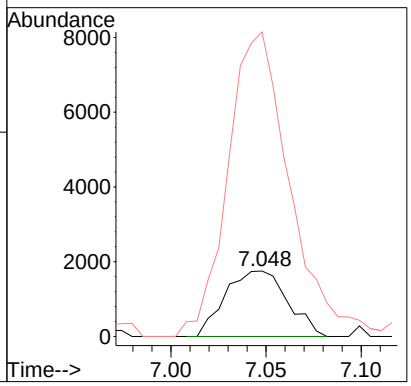


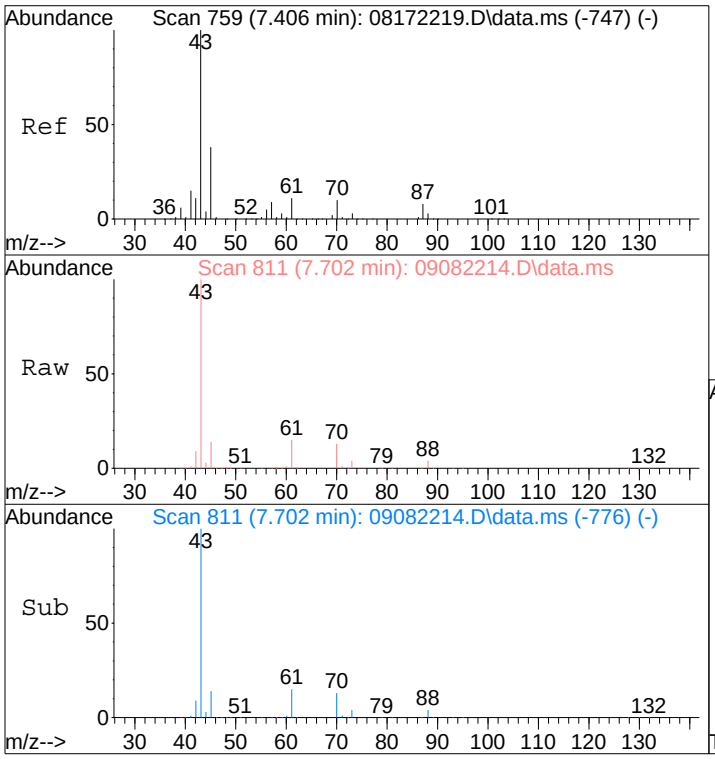


#27
2-Butanone (MEK)
Concen: 0.47 ng
RT: 7.05 min Scan# 696
Delta R.T. 0.000 min
Lab File: 09082214.D
Acq: 8 Sep 2022 22:56

Tgt Ion: 72 Resp: 3987

Ion	Ratio	Lower	Upper
72	100		
43	466.7	405.4	445.4#

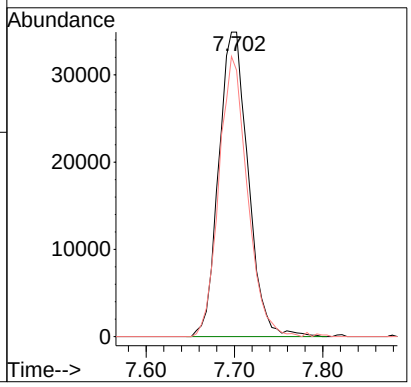




#30
Ethyl Acetate
Concen: 14.86 ng
RT: 7.70 min Scan# 811
Delta R.T. 0.000 min
Lab File: 09082214.D
Acq: 8 Sep 2022 22:56

Tgt Ion: 61 Resp: 81069

Ion	Ratio	Lower	Upper
61	100		
70	88.5	67.4	107.4



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082215.D Vial: 12
Acq On : 8 Sep 2022 23:36 Operator: TZ
Sample : P2203912-003 (1000mL) Inst : MS13
Misc : S35-08172209

TZ 9/9/22

Quant Time: Sep 09 07:43:49 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.65	130	147108	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	9.87	114	680483	12.500	ng	0.01
56) Chlorobenzene-d5 (IS3)	15.81	54	160172	12.500	ng	0.03
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.48	65	287917	12.245	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%			
57) Toluene-d8 (SS2)	13.19	98	836332	11.420	ng	0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.36%			
73) Bromofluorobenzene (SS3)	18.01	174	309167	14.143	ng	0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.12%			
Target Compounds						Qvalue
2) Propene	3.51	42	2288	N.D.		
3) Dichlorodifluoromethan...	3.49	85	167	N.D.		
4) Chloromethane	3.72	50	2838	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.83	135	1034	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.53	45	31288	2.999	ng	97
11) Acetonitrile	4.70	41	3599	N.D.		
12) Acrolein	4.79	56	526	N.D.		
13) Acetone	4.90	58	32046	3.583	ng	91
14) Trichlorofluoromethane	5.03	101	18801	0.617	ng	94
15) 2-Propanol (Isopropanol)	5.13	45	3671	N.D.		
16) Acrylonitrile	5.28	53	152	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.66	59	452	N.D.		
19) Methylene Chloride	5.66	84	1407	N.D.		
20) 3-Chloro-1-propene (Al...	5.64	41	183	N.D.		
21) Trichlorotrifluoroethane	5.90	151	3227	N.D.		
22) Carbon Disulfide	5.93	76	5078	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.80	86	641	N.D.		
27) 2-Butanone (MEK)	7.06	72	2994	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	7.70	87	399	N.D.		
30) Ethyl Acetate	7.71	61	53047	10.160	ng	98
31) n-Hexane	7.71	57	249	N.D.		
32) Chloroform	7.79	83	789	N.D.		
34) Tetrahydrofuran (THF)	8.23	72	317	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.48	62	111	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	9.38	56	254	No Calib		
41) Benzene	9.44	78	6393	N.D.		
42) Carbon Tetrachloride	9.61	117	5963	N.D.		
43) Cyclohexane	9.85	84	572	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.88	57	1293	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082215.D Vial: 12
Acq On : 8 Sep 2022 23:36 Operator: TZ
Sample : P2203912-003 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:49 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

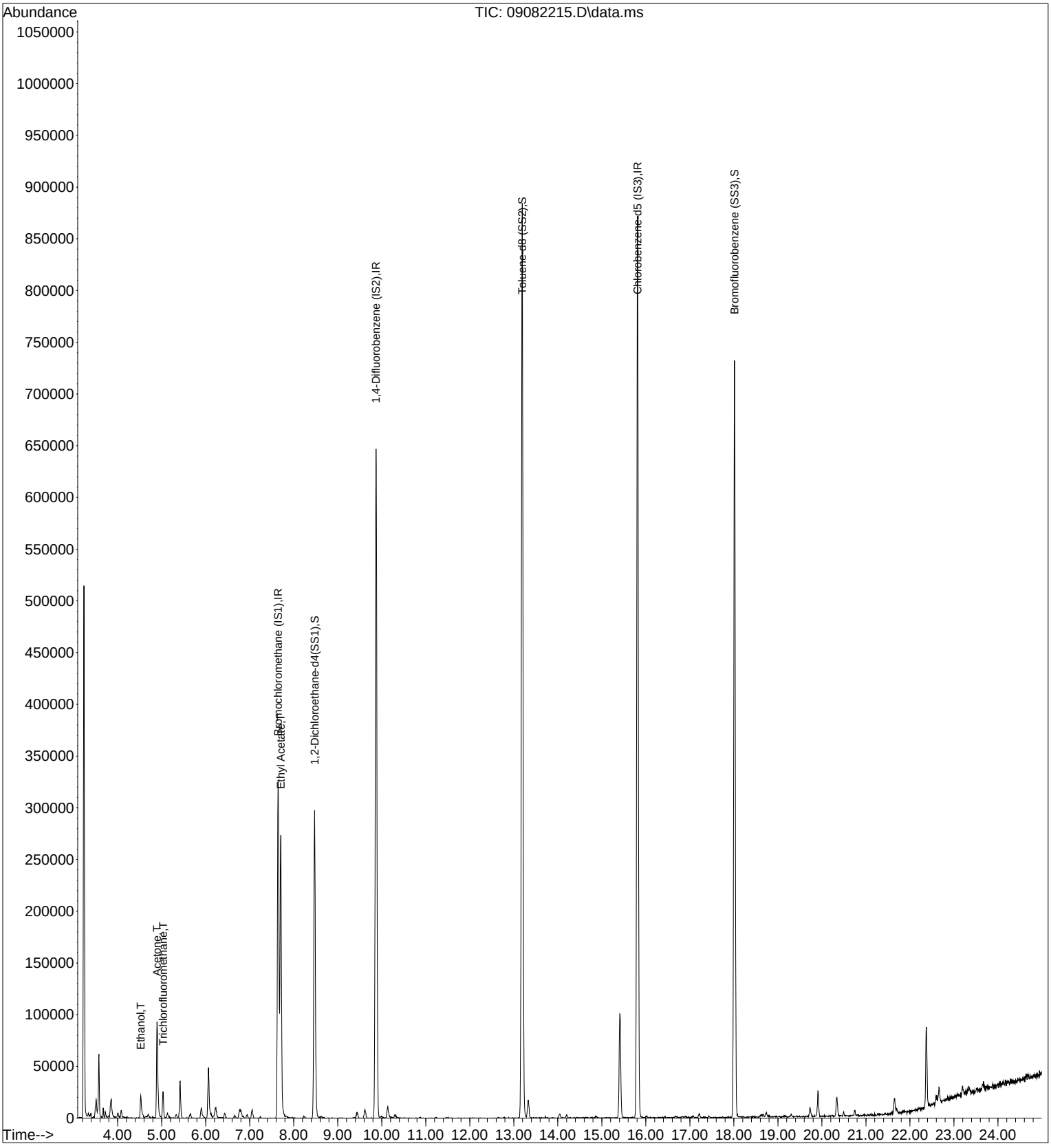
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.33	91	17619	N.D.		
59) 2-Hexanone	13.73	43	789	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.61	43	202	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.92	166	124	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	16.43	91	1413	N.D.		
67) m- & p-Xylenes	16.68	91	1502	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	17.36	91	802	N.D.		
71) n-Nonane	17.74	43	318	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	18.81	93	919	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	18.03	105	326	No Calib		#
78) 4-Ethyltoluene	19.19	105	209	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	18.01	118	1552	No Calib		#
81) 2-Ethyltoluene	18.03	105	326	No Calib		#
82) 1,2,4-Trimethylbenzene	19.87	105	380	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	20.06	91	226	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	20.50	119	3281	N.D.		
89) 1,2,3-Trimethylbenzene	18.03	105	326	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	23.10	180	617	N.D.		
95) Naphthalene	23.27	128	1581	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	19.90	119	638	N.D.		
100) n-Butylbenzene	21.09	91	125	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082215.D Vial: 12
Acq On : 8 Sep 2022 23:36 Operator: TZ
Sample : P2203912-003 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:49 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082215.D Vial: 12
Acq On : 8 Sep 2022 23:36 Operator: TZ
Sample : P2203912-003 (1000mL) Inst : MS13
Misc : S35-08172209

TZ 9/9/22

Quant Time: Sep 09 07:43:49 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

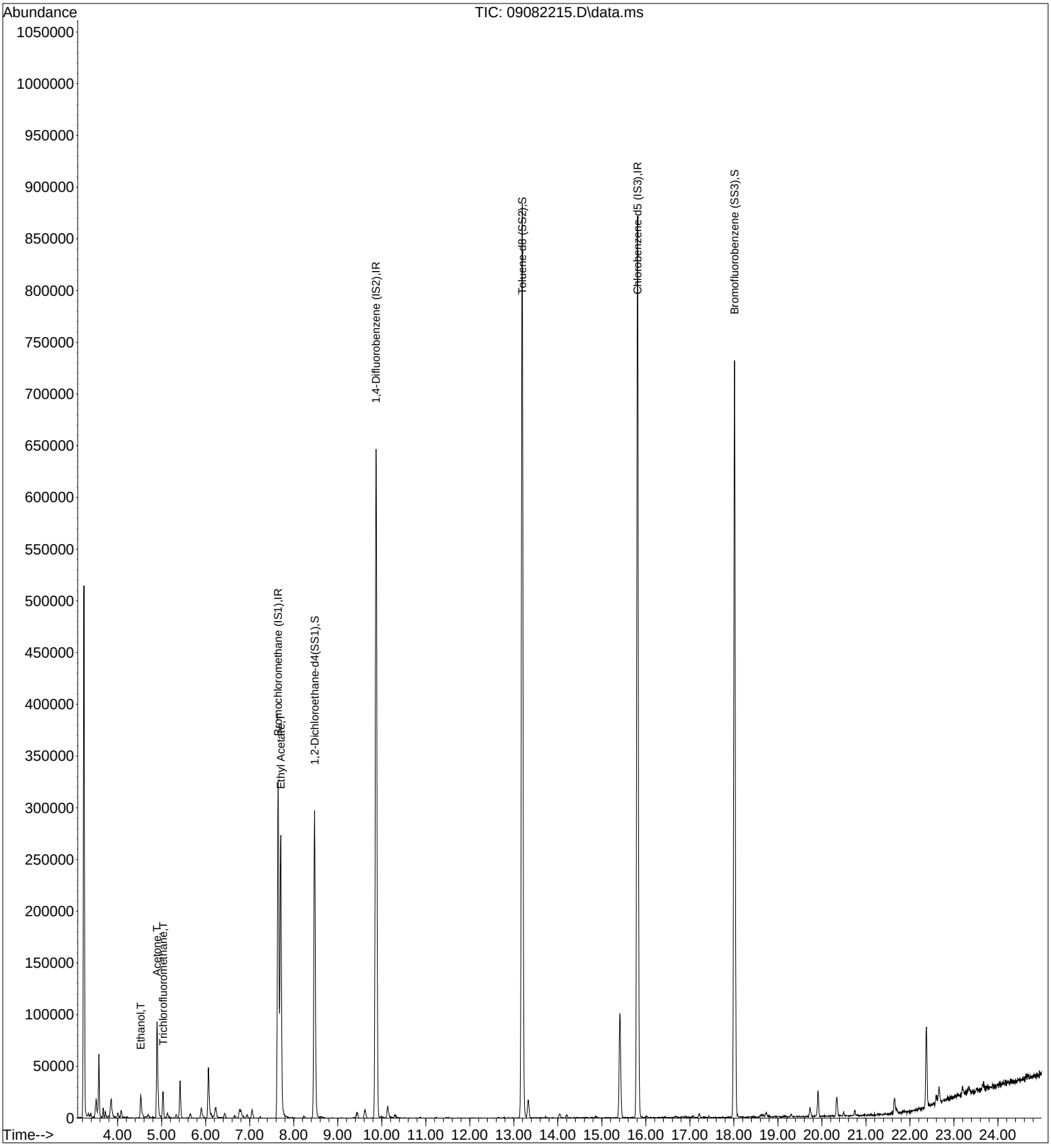
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.65	130	147108	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	9.87	114	680483	12.500	ng	0.01
56) Chlorobenzene-d5 (IS3)	15.81	54	160172	12.500	ng	0.03
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.48	65	287917	12.245	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%			
57) Toluene-d8 (SS2)	13.19	98	836332	11.420	ng	0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.36%			
73) Bromofluorobenzene (SS3)	18.01	174	309167	14.143	ng	0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.12%			
Target Compounds						Qvalue
10) Ethanol	4.53	45	31288	2.999	ng	97
13) Acetone	4.90	58	32046	3.583	ng	91
14) Trichlorofluoromethane	5.03	101	18801	0.617	ng	94
30) Ethyl Acetate	7.71	61	53047	10.160	ng	98

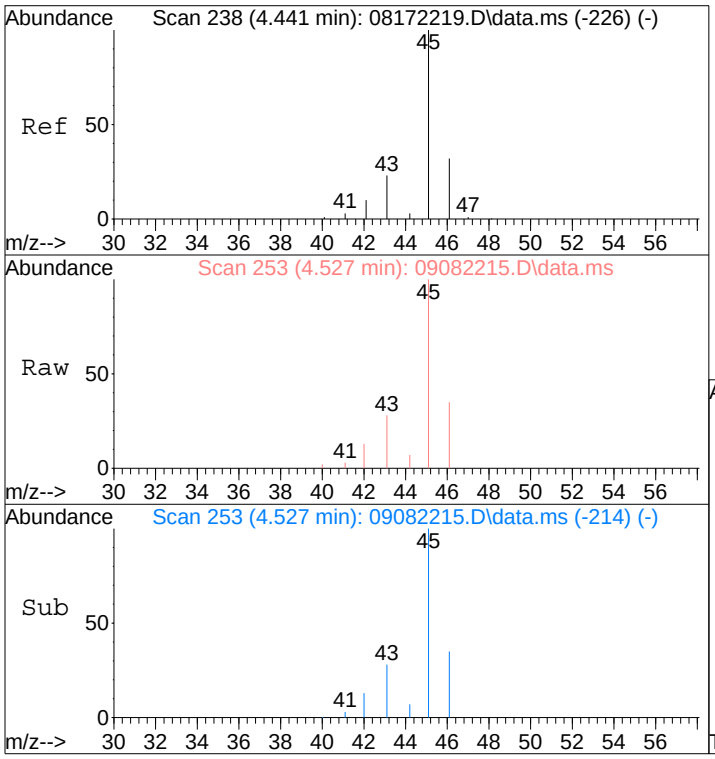
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082215.D Vial: 12
Acq On : 8 Sep 2022 23:36 Operator: TZ
Sample : P2203912-003 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:49 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

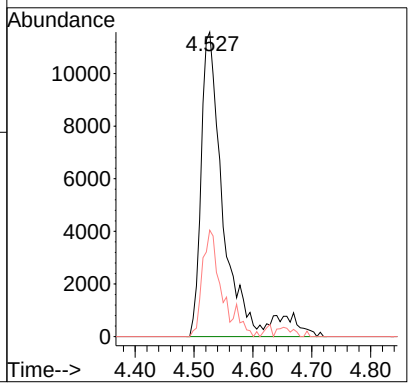


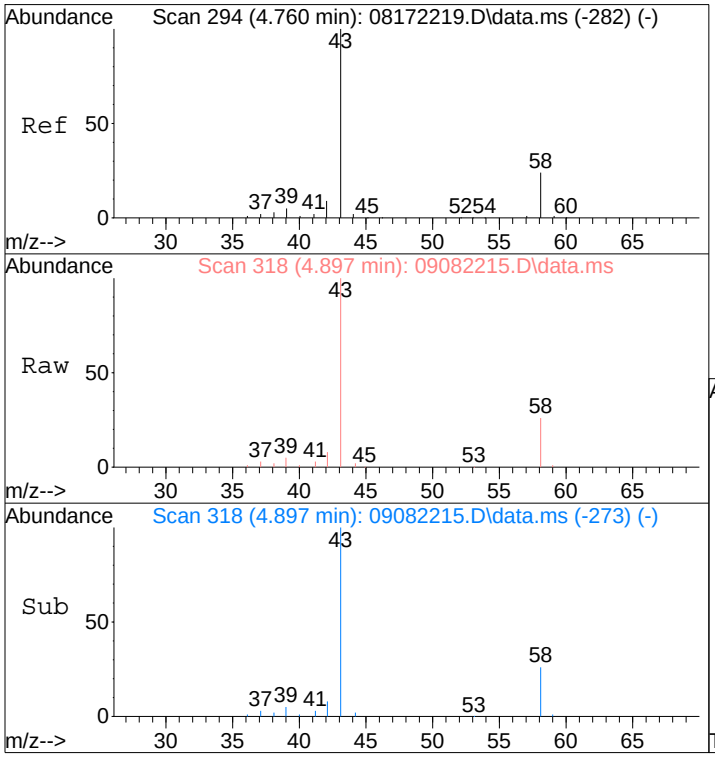


#10
Ethanol
Concen: 3.00 ng
RT: 4.53 min Scan# 253
Delta R.T. -0.028 min
Lab File: 09082215.D
Acq: 8 Sep 2022 23:36

Tgt Ion: 45 Resp: 31288

Ion	Ratio	Lower	Upper
45	100		
46	29.8	11.5	51.5

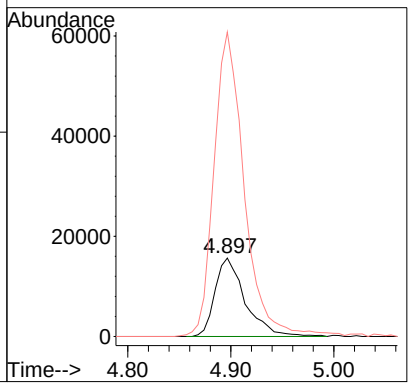


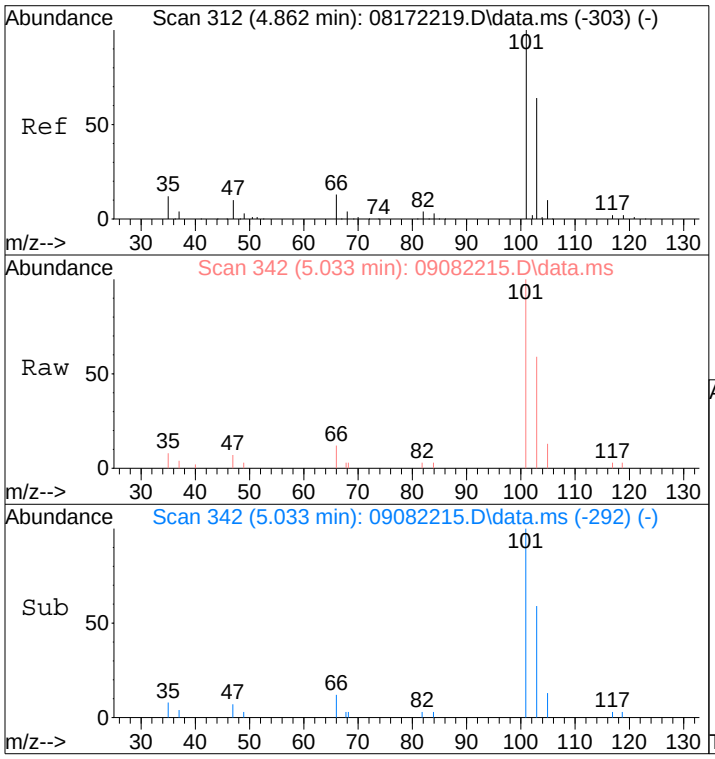


#13
Acetone
Concen: 3.58 ng
RT: 4.90 min Scan# 318
Delta R.T. 0.006 min
Lab File: 09082215.D
Acq: 8 Sep 2022 23:36

Tgt Ion: 58 Resp: 32046

Ion	Ratio	Lower	Upper
58	100		
43	387.6	379.3	439.3

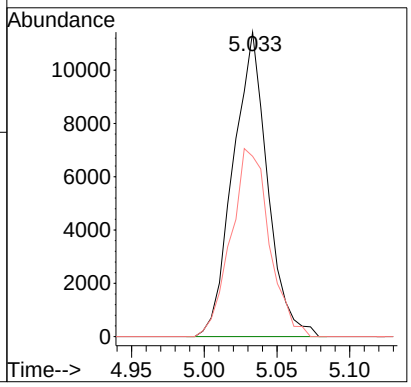


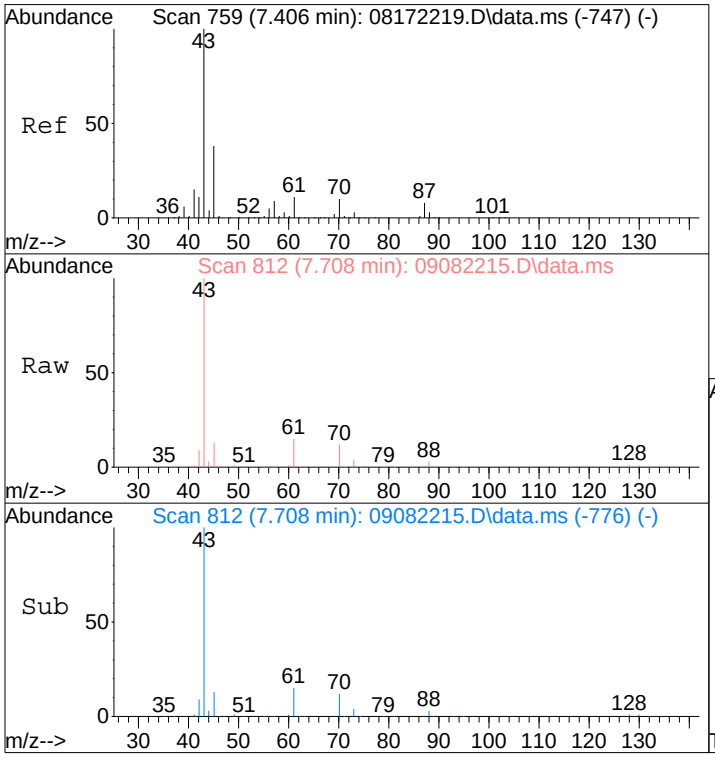


#14
Trichlorofluoromethane
Concen: 0.62 ng
RT: 5.03 min Scan# 342
Delta R.T. 0.034 min
Lab File: 09082215.D
Acq: 8 Sep 2022 23:36

Tgt Ion:101 Resp: 18801

Ion	Ratio	Lower	Upper
101	100		
103	68.9	44.0	84.0

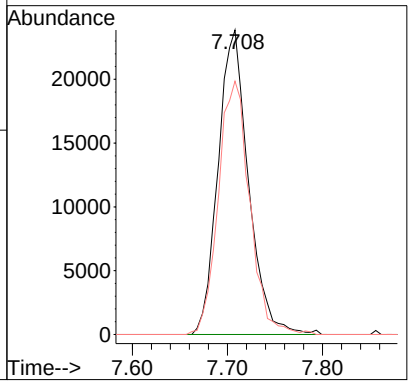




#30
Ethyl Acetate
Concen: 10.16 ng
RT: 7.71 min Scan# 812
Delta R.T. 0.006 min
Lab File: 09082215.D
Acq: 8 Sep 2022 23:36

Tgt Ion: 61 Resp: 53047

Ion	Ratio	Lower	Upper
61	100		
70	85.6	67.4	107.4



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082216.D Vial: 13
Acq On : 9 Sep 2022 00:16 Operator: TZ
Sample : P2203912-004 (1000mL) Inst : MS13
Misc : S35-08172209

TZ 9/9/22

Quant Time: Sep 09 07:43:50 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.65	130	147077	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.87	114	676828	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	15.81	54	161547	12.500	ng		0.03
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.47	65	288593	12.277	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
57) Toluene-d8 (SS2)	13.19	98	824492	11.162	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%				
73) Bromofluorobenzene (SS3)	18.02	174	304121	13.793	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.32%				
Target Compounds							Qvalue
2) Propene	3.49	42	3043	N.D.			
3) Dichlorodifluoromethan...	3.56	85	46897	1.373	ng		99
4) Chloromethane	3.71	50	3371	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.82	135	1048	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.25	94	661	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.52	45	38252	3.668	ng		93
11) Acetonitrile	4.69	41	4720	N.D.			
12) Acrolein	4.78	56	2986	N.D.			
13) Acetone	4.89	58	47255	5.284	ng	#	83
14) Trichlorofluoromethane	5.02	101	21448	0.704	ng		99
15) 2-Propanol (Isopropanol)	5.12	45	3154	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.63	59	951	N.D.			
19) Methylene Chloride	5.64	84	1653	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.90	151	3653	N.D.			
22) Carbon Disulfide	5.92	76	5667	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.64	73	1022	N.D.			
26) Vinyl Acetate	6.79	86	955	N.D.			
27) 2-Butanone (MEK)	7.06	72	4953	0.607	ng		99
28) cis-1,2-Dichloroethene	7.47	61	363	N.D.			
29) Diisopropyl Ether	7.70	87	981	N.D.			
30) Ethyl Acetate	7.71	61	37032	7.094	ng		100
31) n-Hexane	7.72	57	751	N.D.			
32) Chloroform	7.78	83	422	N.D.			
34) Tetrahydrofuran (THF)	8.22	72	692	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.48	62	135	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	9.34	56	12786	No Calib		#	
41) Benzene	9.44	78	6970	N.D.			
42) Carbon Tetrachloride	9.61	117	5495	N.D.			
43) Cyclohexane	9.86	84	328	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	10.81	88	137	N.D.			
49) 2,2,4-Trimethylpentane...	10.86	57	722	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082216.D Vial: 13
Acq On : 9 Sep 2022 00:16 Operator: TZ
Sample : P2203912-004 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:50 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

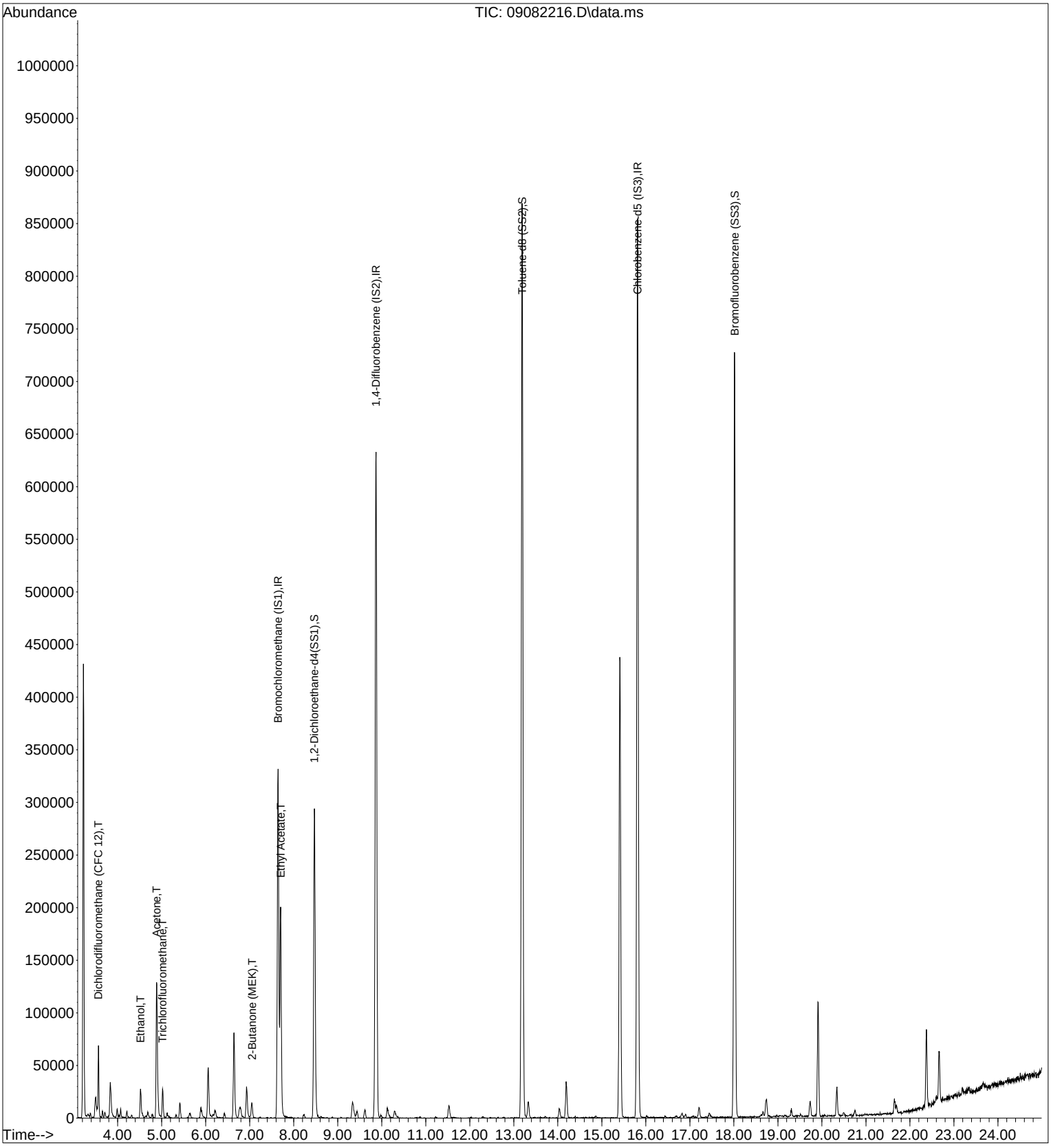
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.34	91	15893	N.D.		
59) 2-Hexanone	13.71	43	1818	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.63	43	791	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	16.43	91	1082	N.D.		
67) m- & p-Xylenes	16.69	91	1671	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	17.35	91	582	N.D.		
71) n-Nonane	17.75	43	212	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	18.80	93	595	N.D.		
76) n-Propylbenzene	18.97	91	309	N.D.		
77) 3-Ethyltoluene	18.00	105	181	No Calib		#
78) 4-Ethyltoluene	19.19	105	151	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	18.04	118	176	No Calib		#
81) 2-Ethyltoluene	18.00	105	181	No Calib		#
82) 1,2,4-Trimethylbenzene	19.90	105	1495	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	20.06	91	350	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	20.49	119	1483	N.D.		
89) 1,2,3-Trimethylbenzene	18.00	105	181	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.70	68	146	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	23.11	180	650	N.D.		
95) Naphthalene	23.27	128	2118	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	19.91	119	3423	N.D.		
100) n-Butylbenzene	21.10	91	577	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082216.D Vial: 13
Acq On : 9 Sep 2022 00:16 Operator: TZ
Sample : P2203912-004 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:50 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082216.D Vial: 13
Acq On : 9 Sep 2022 00:16 Operator: TZ
Sample : P2203912-004 (1000mL) Inst : MS13
Misc : S35-08172209

TZ 9/9/22

Quant Time: Sep 09 07:43:50 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

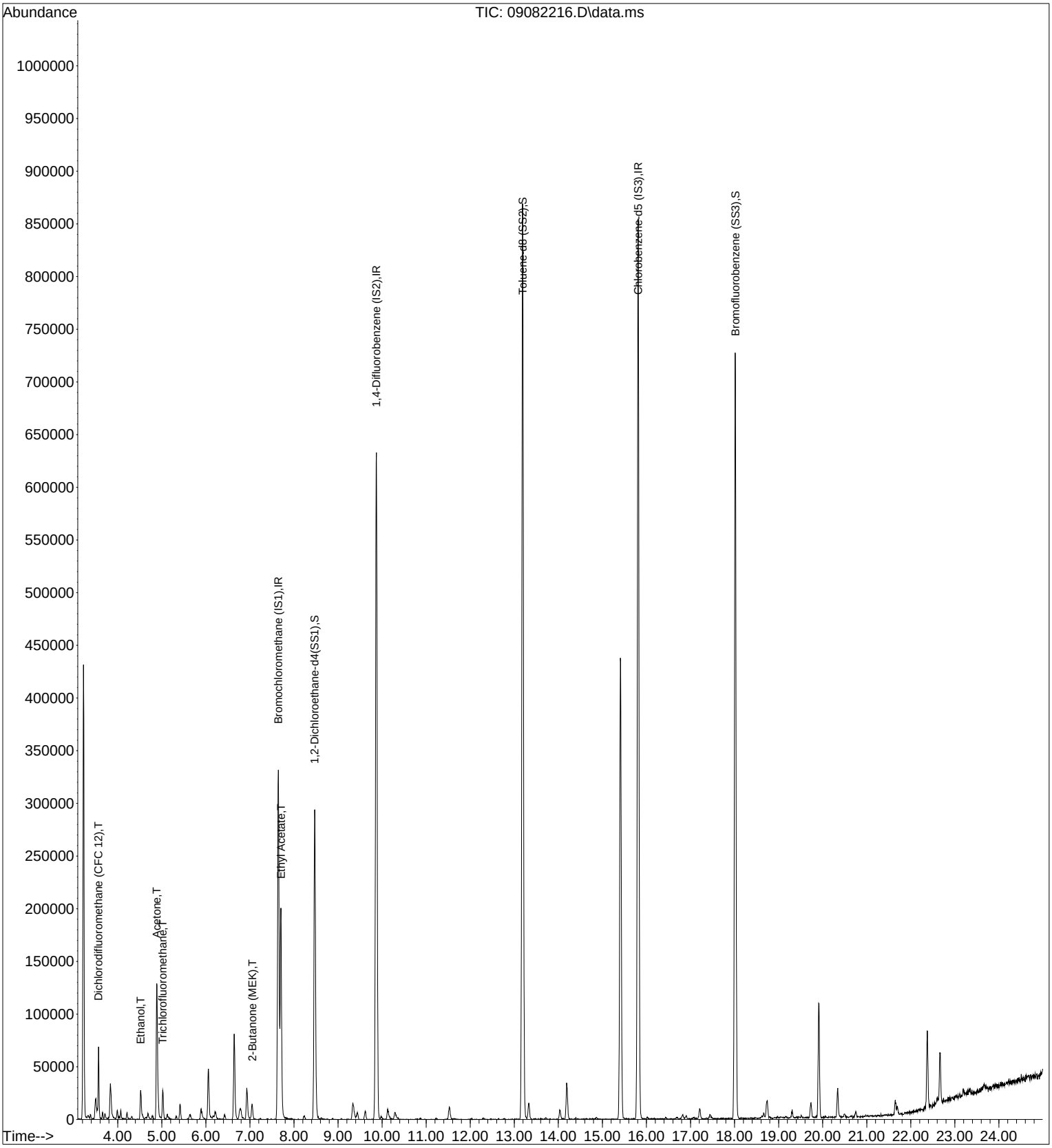
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.65	130	147077	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.87	114	676828	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	15.81	54	161547	12.500	ng		0.03
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.47	65	288593	12.277	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
57) Toluene-d8 (SS2)	13.19	98	824492	11.162	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%				
73) Bromofluorobenzene (SS3)	18.02	174	304121	13.793	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.32%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.56	85	46897	1.373	ng		99
10) Ethanol	4.52	45	38252	3.668	ng		93
13) Acetone	4.89	58	47255	5.284	ng	#	83
14) Trichlorofluoromethane	5.02	101	21448	0.704	ng		99
27) 2-Butanone (MEK)	7.06	72	4953	0.607	ng		99
30) Ethyl Acetate	7.71	61	37032	7.094	ng		100

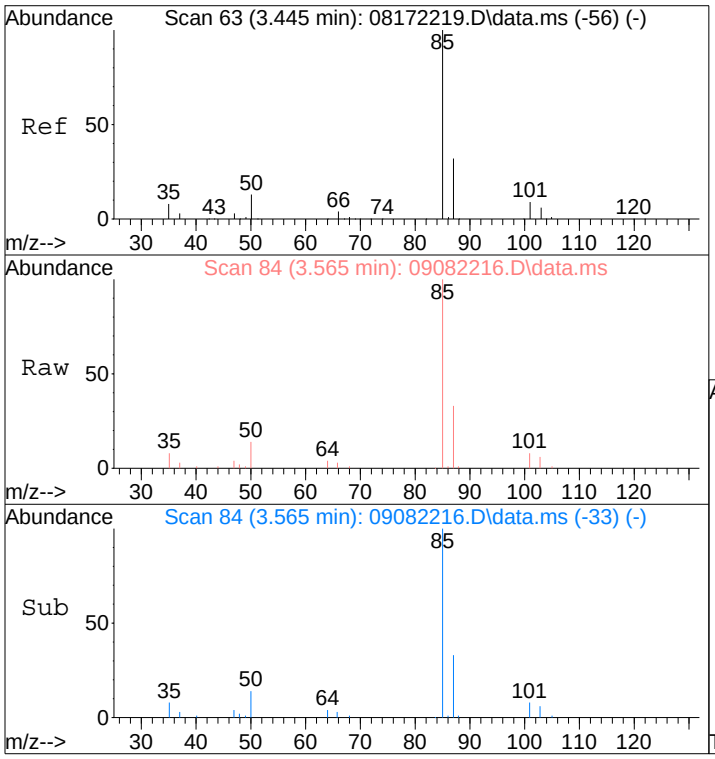
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082216.D Vial: 13
Acq On : 9 Sep 2022 00:16 Operator: TZ
Sample : P2203912-004 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:50 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

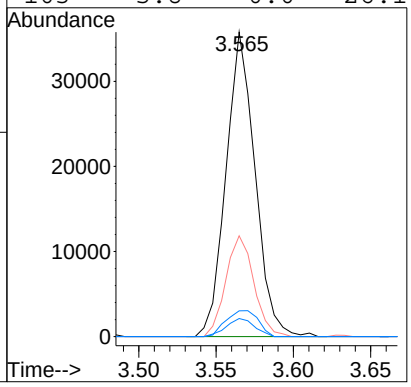


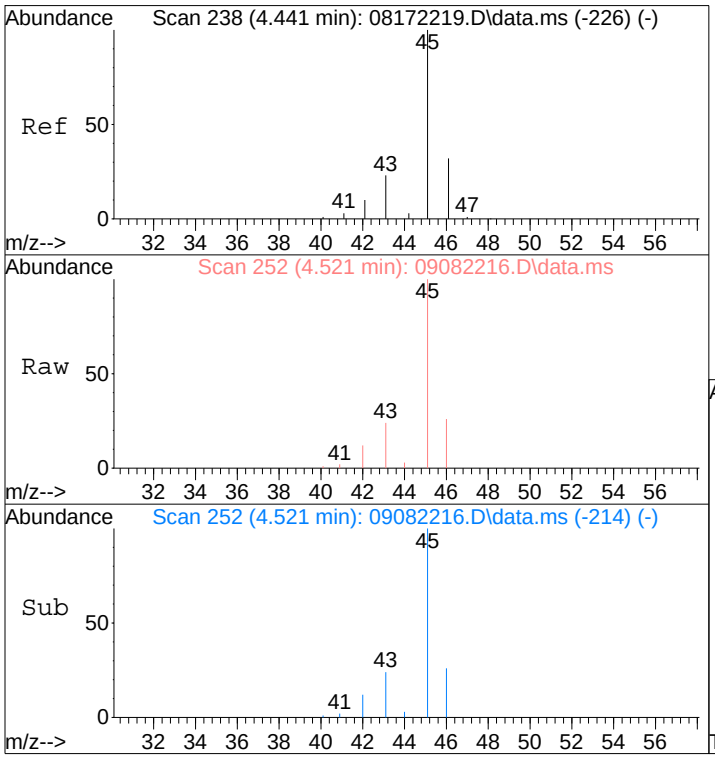


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.37 ng
RT: 3.56 min Scan# 84
Delta R.T. 0.040 min
Lab File: 09082216.D
Acq: 9 Sep 2022 00:16

Tgt Ion: 85 Resp: 46897

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.3	52.3
101	9.5	0.0	29.3
103	5.8	0.0	26.1

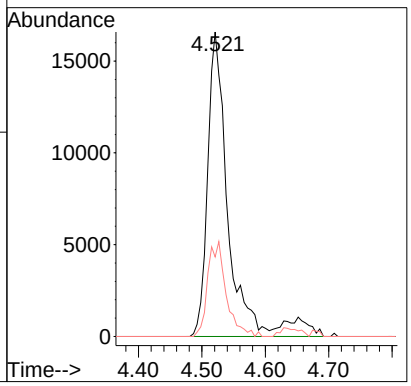


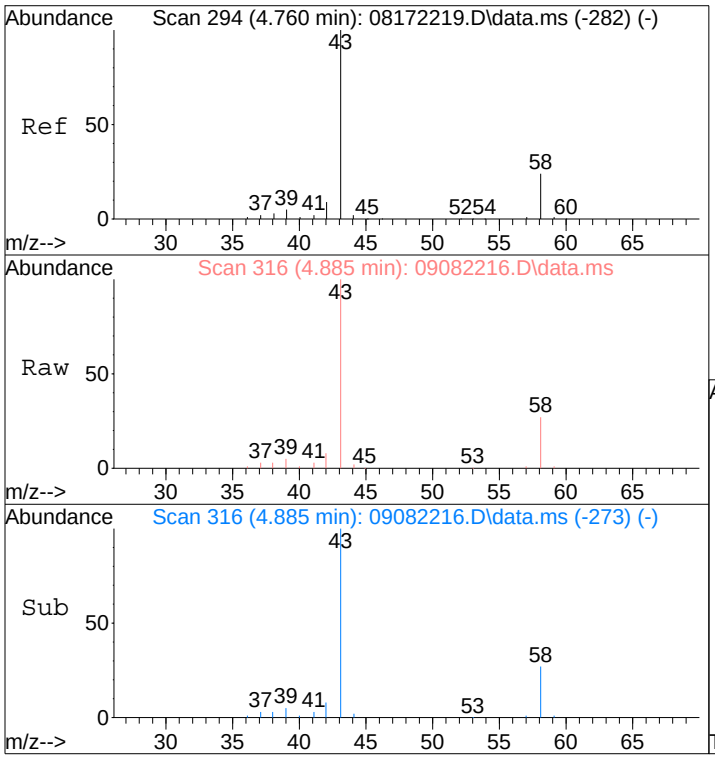


#10
Ethanol
Concen: 3.67 ng
RT: 4.52 min Scan# 252
Delta R.T. -0.034 min
Lab File: 09082216.D
Acq: 9 Sep 2022 00:16

Tgt Ion: 45 Resp: 38252

Ion	Ratio	Lower	Upper
45	100		
46	27.4	11.5	51.5

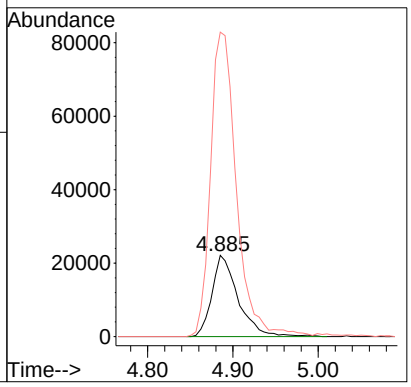


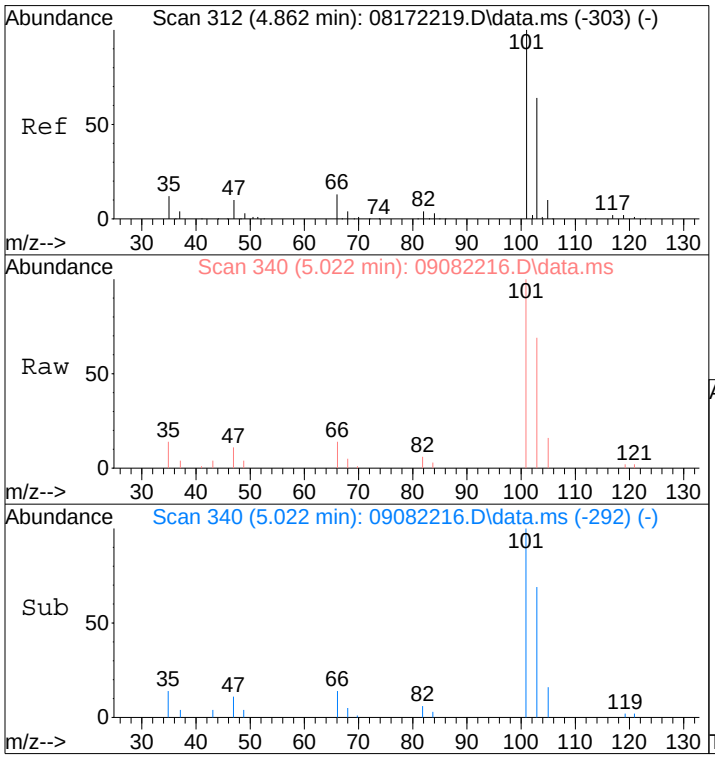


#13
Acetone
Concen: 5.28 ng
RT: 4.89 min Scan# 316
Delta R.T. -0.006 min
Lab File: 09082216.D
Acq: 9 Sep 2022 00:16

Tgt Ion: 58 Resp: 47255

Ion	Ratio	Lower	Upper
58	100		
43	369.5	379.3	439.3#

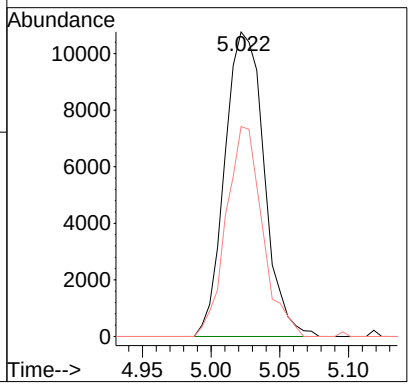


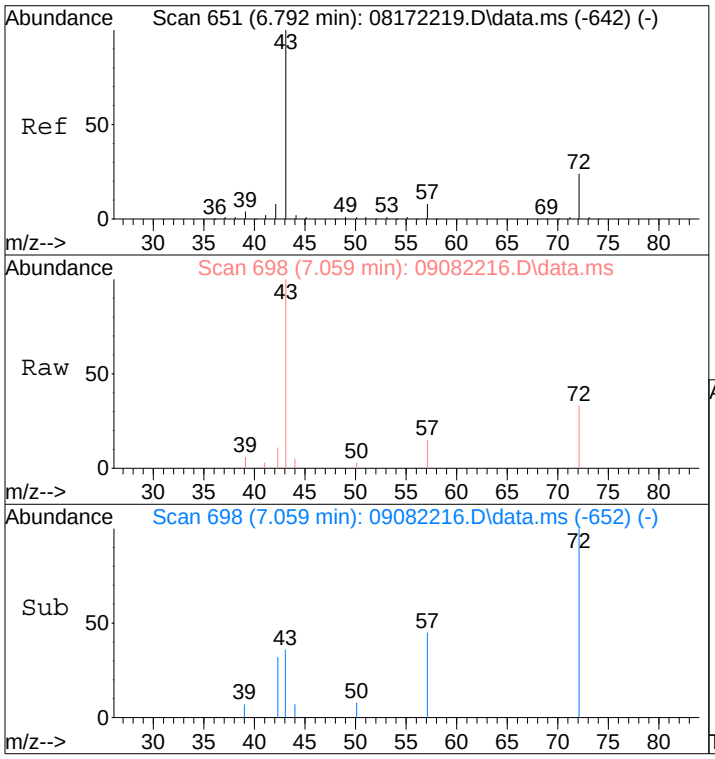


#14
Trichlorofluoromethane
Concen: 0.70 ng
RT: 5.02 min Scan# 340
Delta R.T. 0.023 min
Lab File: 09082216.D
Acq: 9 Sep 2022 00:16

Tgt Ion:101 Resp: 21448

Ion	Ratio	Lower	Upper
101	100		
103	63.4	44.0	84.0

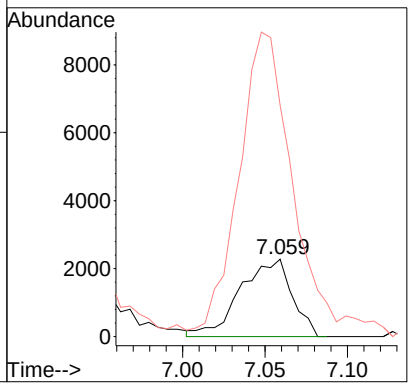


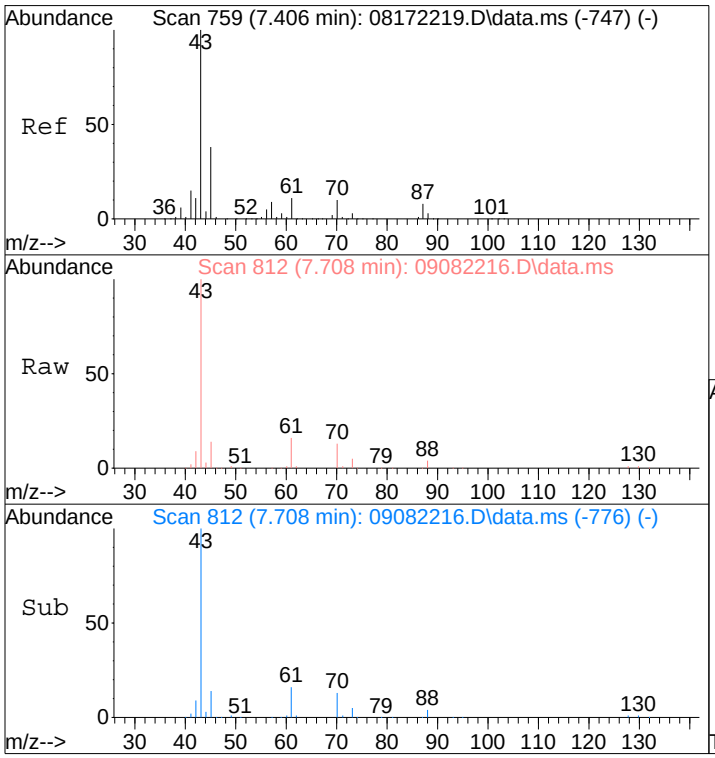


#27
2-Butanone (MEK)
Concen: 0.61 ng
RT: 7.06 min Scan# 698
Delta R.T. 0.011 min
Lab File: 09082216.D
Acq: 9 Sep 2022 00:16

Tgt Ion: 72 Resp: 4953

Ion	Ratio	Lower	Upper
72	100		
43	421.9	405.4	445.4

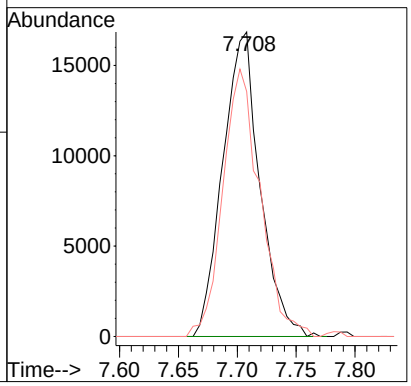




#30
Ethyl Acetate
Concen: 7.09 ng
RT: 7.71 min Scan# 812
Delta R.T. 0.006 min
Lab File: 09082216.D
Acq: 9 Sep 2022 00:16

Tgt Ion: 61 Resp: 37032

Ion	Ratio	Lower	Upper
61	100		
70	87.7	67.4	107.4



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082217.D Vial: 14
Acq On : 9 Sep 2022 00:55 Operator: TZ
Sample : P2203912-005 (1000mL) Inst : MS13
Misc : S35-08172209

TZ 9/9/22

Quant Time: Sep 09 07:43:52 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.65	130	146388	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.88	114	676089	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	15.81	54	162787	12.500	ng		0.03
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.48	65	289993	12.394	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
57) Toluene-d8 (SS2)	13.19	98	833178	11.194	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.52%				
73) Bromofluorobenzene (SS3)	18.02	174	308072	13.866	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.96%				
Target Compounds							Qvalue
2) Propene	3.51	42	3077	N.D.			
3) Dichlorodifluoromethan...	3.50	85	138	N.D.			
4) Chloromethane	3.72	50	2881	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.82	135	1202	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.04	54	130	N.D.			
8) Bromomethane	4.25	94	104	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.53	45	32545	3.135	ng		94
11) Acetonitrile	4.69	41	4978	N.D.			
12) Acrolein	4.79	56	1973	N.D.			
13) Acetone	4.90	58	37854	4.253	ng	#	81
14) Trichlorofluoromethane	5.03	101	20913	0.690	ng		97
15) 2-Propanol (Isopropanol)	5.12	45	7425	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.65	59	865	N.D.			
19) Methylene Chloride	5.66	84	1683	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.90	151	3877	N.D.			
22) Carbon Disulfide	5.94	76	6014	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.81	86	1626	0.693	ng	#	76
27) 2-Butanone (MEK)	7.06	72	4325	0.533	ng		92
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.72	87	550	N.D.			
30) Ethyl Acetate	7.70	61	44943	8.650	ng		100
31) n-Hexane	7.71	57	469	N.D.			
32) Chloroform	7.79	83	839	N.D.			
34) Tetrahydrofuran (THF)	8.24	72	387	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	9.36	56	2428	No Calib		#	
41) Benzene	9.44	78	7556	N.D.			
42) Carbon Tetrachloride	9.63	117	7028	N.D.			
43) Cyclohexane	9.85	84	150	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.88	57	1599	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082217.D Vial: 14
Acq On : 9 Sep 2022 00:55 Operator: TZ
Sample : P2203912-005 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:52 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

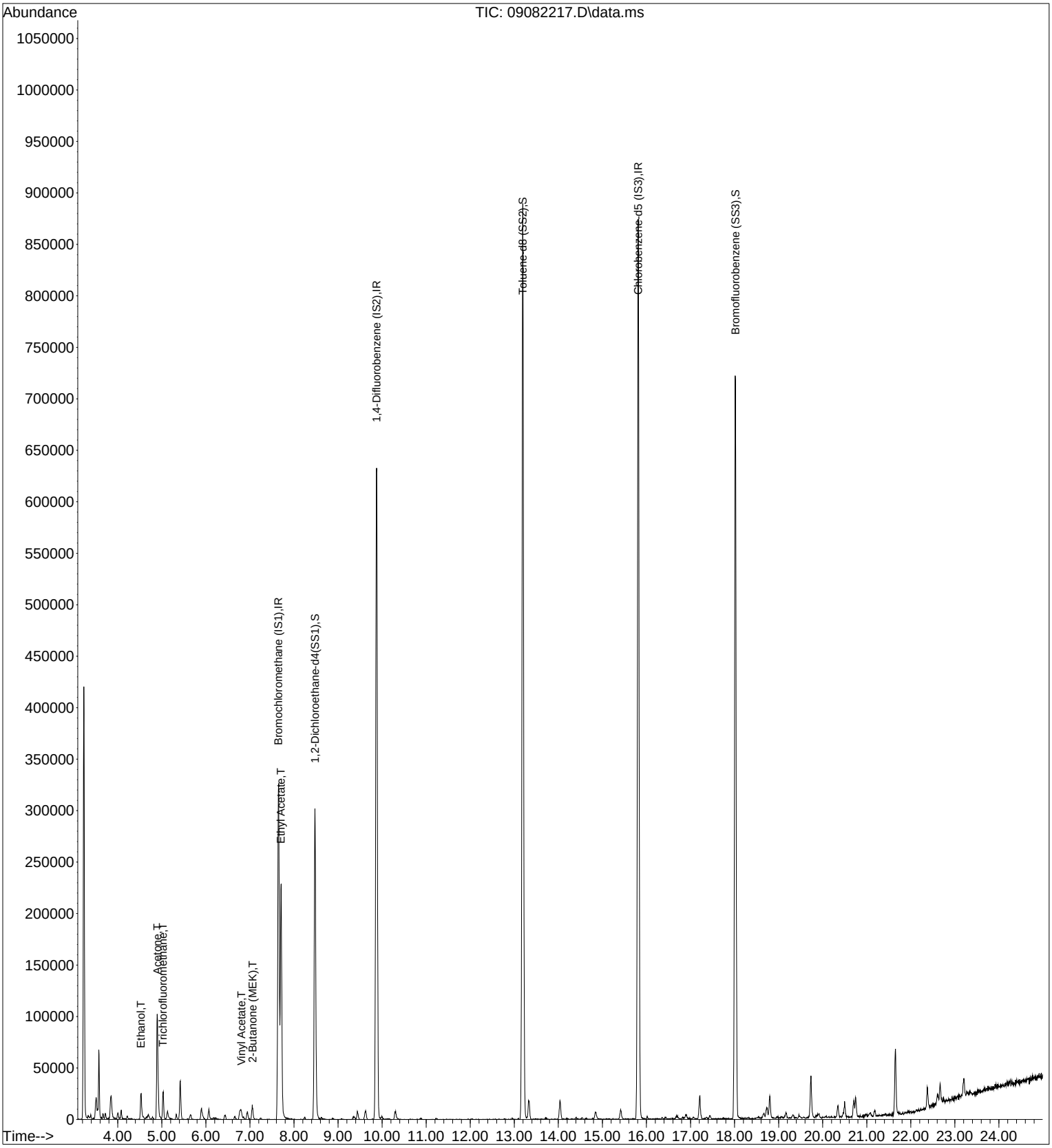
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	11.21	71	360	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.34	91	18659	N.D.	
59) 2-Hexanone	13.72	43	1715	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.61	43	1209	N.D.	
63) n-Octane	14.78	57	115	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	16.43	91	1743	N.D.	
67) m- & p-Xylenes	16.68	91	4122	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	17.21	104	921	N.D.	
70) o-Xylene	17.37	91	1620	N.D.	
71) n-Nonane	17.75	43	608	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	18.79	93	11167	N.D.	
76) n-Propylbenzene	18.96	91	856	N.D.	
77) 3-Ethyltoluene	18.02	105	289	No Calib	#
78) 4-Ethyltoluene	19.19	105	647	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	18.03	118	726	No Calib	#
81) 2-Ethyltoluene	18.02	105	289	No Calib	#
82) 1,2,4-Trimethylbenzene	19.88	105	2775	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.50	119	11435	N.D.	
89) 1,2,3-Trimethylbenzene	18.02	105	289	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.70	68	4675	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	23.10	180	324	N.D.	
95) Naphthalene	23.26	128	1856	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	19.88	119	282	N.D.	
100) n-Butylbenzene	21.09	91	893	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082217.D Vial: 14
Acq On : 9 Sep 2022 00:55 Operator: TZ
Sample : P2203912-005 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:52 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082217.D Vial: 14
Acq On : 9 Sep 2022 00:55 Operator: TZ
Sample : P2203912-005 (1000mL) Inst : MS13
Misc : S35-08172209

TZ 9/9/22

Quant Time: Sep 09 07:43:52 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

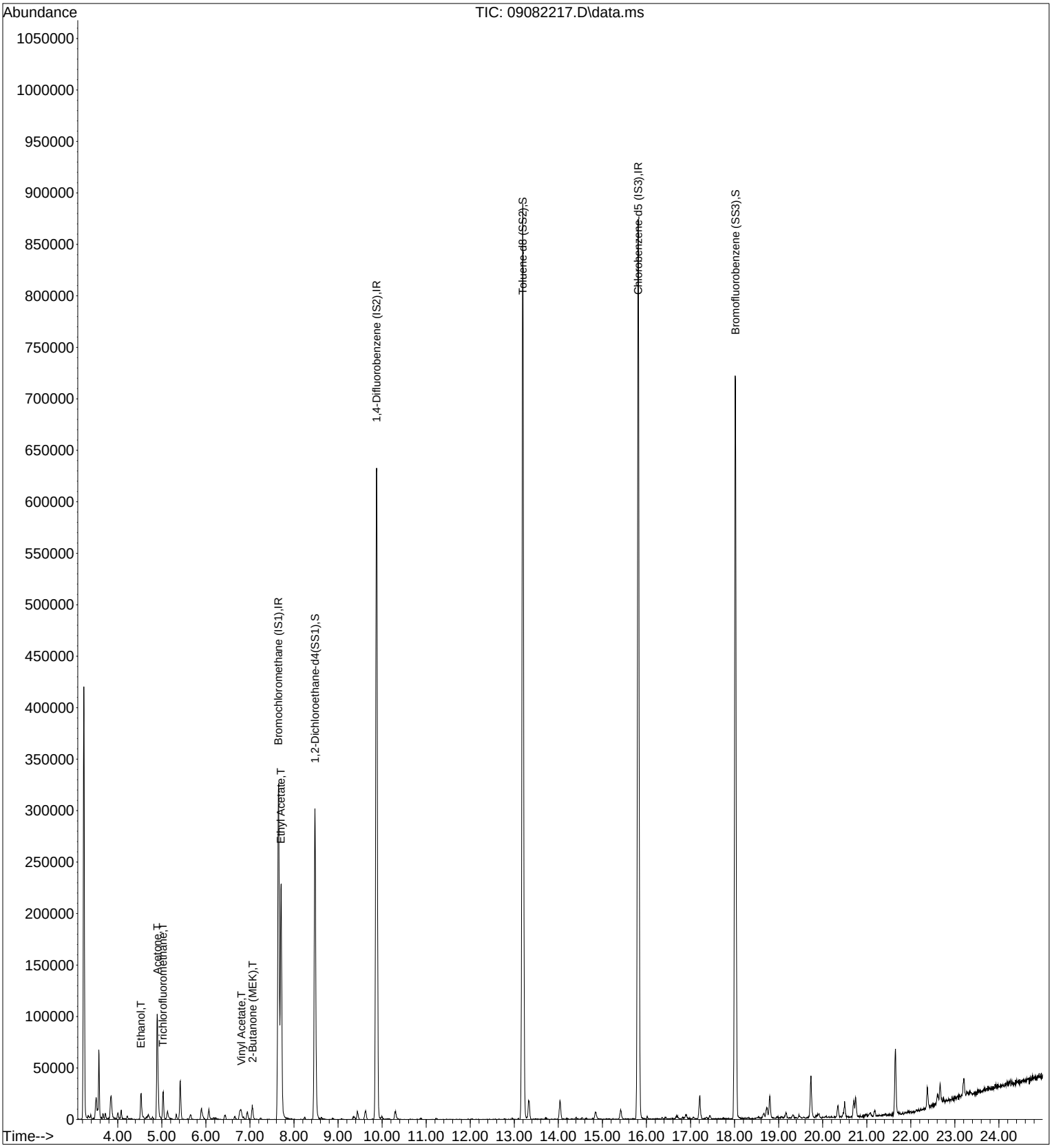
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.65	130	146388	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.88	114	676089	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	15.81	54	162787	12.500	ng		0.03
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.48	65	289993	12.394	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
57) Toluene-d8 (SS2)	13.19	98	833178	11.194	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.52%				
73) Bromofluorobenzene (SS3)	18.02	174	308072	13.866	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.96%				
Target Compounds							Qvalue
10) Ethanol	4.53	45	32545	3.135	ng		94
13) Acetone	4.90	58	37854	4.253	ng	#	81
14) Trichlorofluoromethane	5.03	101	20913	0.690	ng		97
26) Vinyl Acetate	6.81	86	1626	0.693	ng	#	76
27) 2-Butanone (MEK)	7.06	72	4325	0.533	ng		92
30) Ethyl Acetate	7.70	61	44943	8.650	ng		100

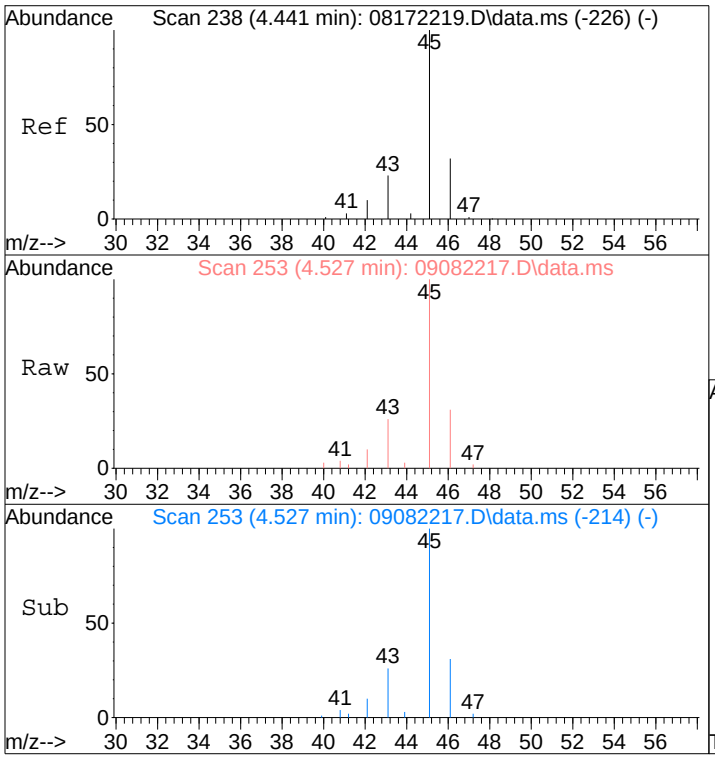
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082217.D Vial: 14
Acq On : 9 Sep 2022 00:55 Operator: TZ
Sample : P2203912-005 (1000mL) Inst : MS13
Misc : S35-08172209

Quant Time: Sep 09 07:43:52 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

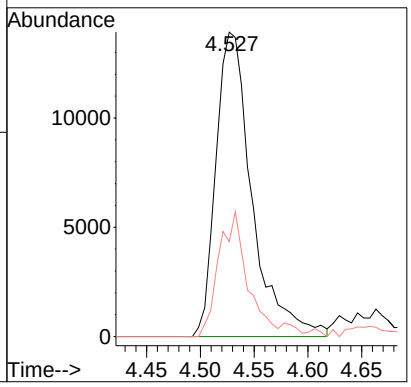


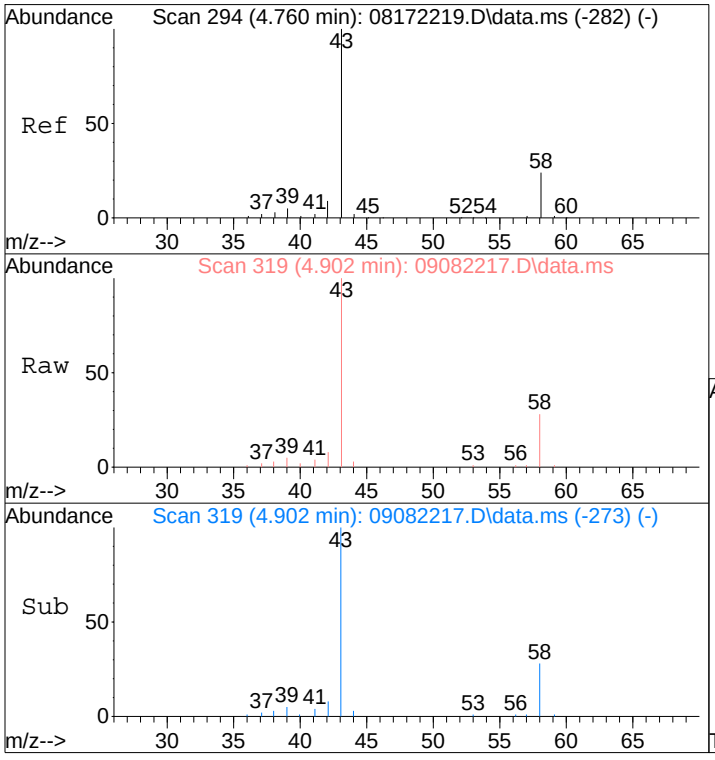


#10
Ethanol
Concen: 3.14 ng
RT: 4.53 min Scan# 253
Delta R.T. -0.028 min
Lab File: 09082217.D
Acq: 9 Sep 2022 00:55

Tgt Ion: 45 Resp: 32545

Ion	Ratio	Lower	Upper
45	100		
46	35.0	11.5	51.5

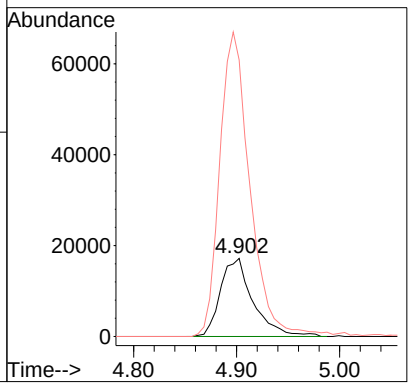


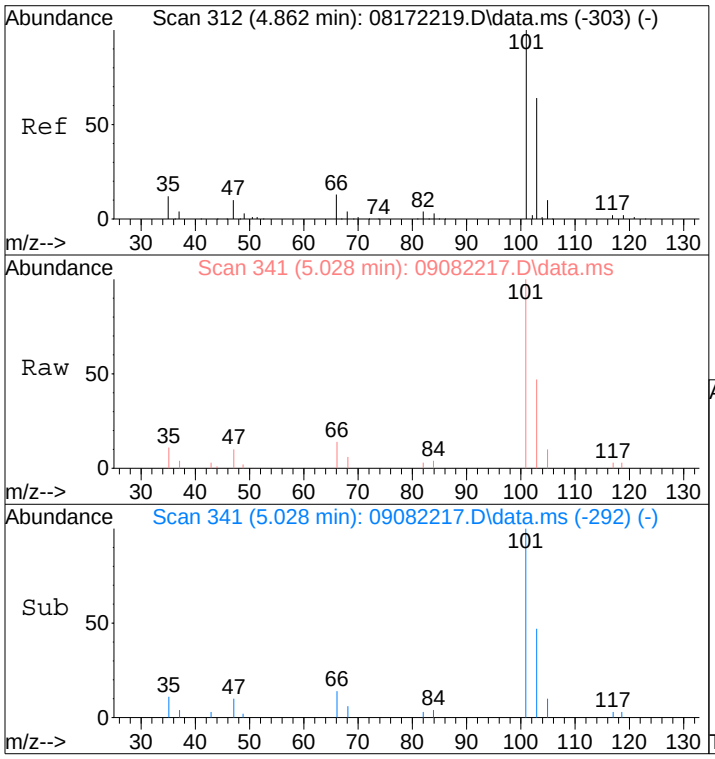


#13
Acetone
Concen: 4.25 ng
RT: 4.90 min Scan# 319
Delta R.T. 0.011 min
Lab File: 09082217.D
Acq: 9 Sep 2022 00:55

Tgt Ion: 58 Resp: 37854

Ion	Ratio	Lower	Upper
58	100		
43	362.6	379.3	439.3#

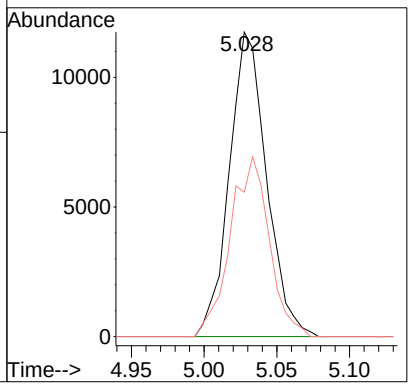


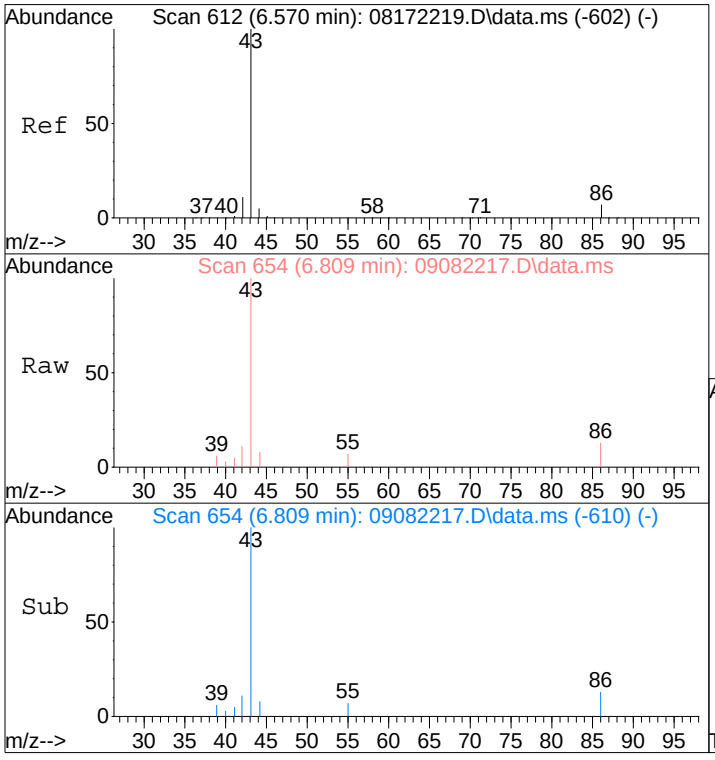


#14
Trichlorofluoromethane
Concen: 0.69 ng
RT: 5.03 min Scan# 341
Delta R.T. 0.029 min
Lab File: 09082217.D
Acq: 9 Sep 2022 00:55

Tgt Ion:101 Resp: 20913

Ion	Ratio	Lower	Upper
101	100		
103	61.8	44.0	84.0

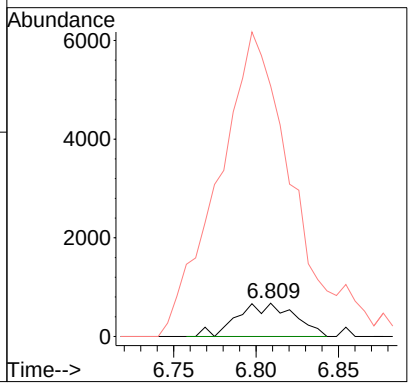


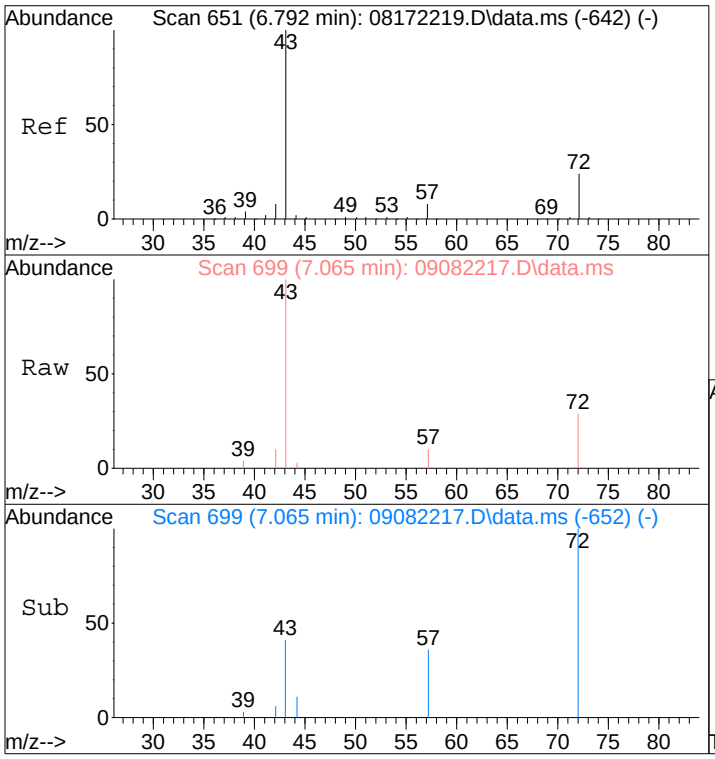


#26
Vinyl Acetate
Concen: 0.69 ng
RT: 6.81 min Scan# 654
Delta R.T. 0.000 min
Lab File: 09082217.D
Acq: 9 Sep 2022 00:55

Tgt Ion: 86 Resp: 1626

Ion	Ratio	Lower	Upper
86	100		
43	1219.1	1333.2	1373.2#

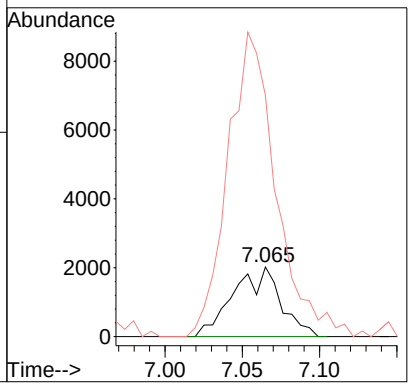


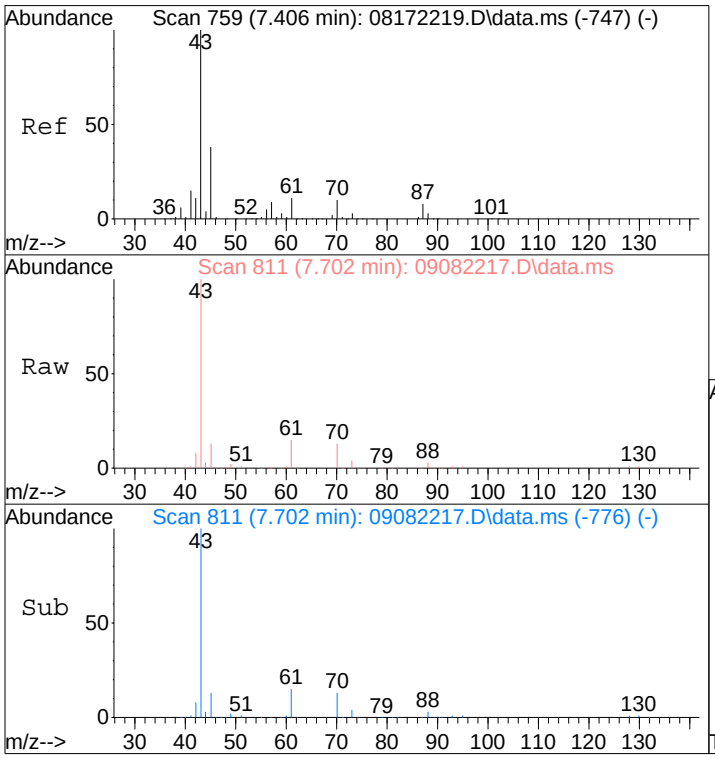


#27
2-Butanone (MEK)
Concen: 0.53 ng
RT: 7.06 min Scan# 699
Delta R.T. 0.017 min
Lab File: 09082217.D
Acq: 9 Sep 2022 00:55

Tgt Ion: 72 Resp: 4325

Ion	Ratio	Lower	Upper
72	100		
43	444.9	405.4	445.4

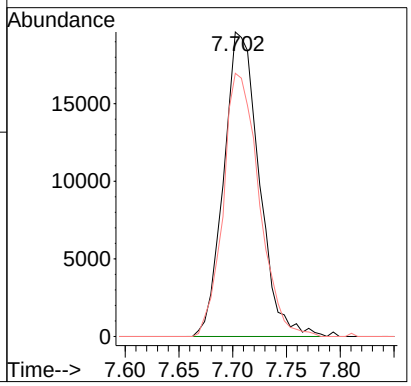




#30
Ethyl Acetate
Concen: 8.65 ng
RT: 7.70 min Scan# 811
Delta R.T. 0.000 min
Lab File: 09082217.D
Acq: 9 Sep 2022 00:55

Tgt Ion: 61 Resp: 44943

Ion	Ratio	Lower	Upper
61	100		
70	87.6	67.4	107.4



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082203.D Vial: 1
Acq On : 8 Sep 2022 15:42 Operator: TZ
Sample : MB R13090822 1000mL Inst : MS13
Misc : S35-08172209_AC01387

TZ 9/8/22

Quant Time: Sep 08 16:11:34 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.63	130	156735	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.85	114	714503	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.79	54	159005	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.46	65	295608	11.800	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%				
57) Toluene-d8 (SS2)	13.17	98	874876	12.034	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
73) Bromofluorobenzene (SS3)	18.00	174	301128	13.876	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.04%				
Target Compounds							Qvalue
2) Propene	3.53	42	274	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.53	45	1157	0.104	ng	#	51
11) Acetonitrile	4.71	41	248	N.D.			
12) Acrolein	4.81	56	141	N.D.			
13) Acetone	4.92	58	1876	0.197	ng	#	68
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	5.13	45	708	N.D.			
16) Acrylonitrile	5.29	53	228	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.93	76	3449	0.060	ng		95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	8.25	72	281	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.46	62	255	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	9.37	56	260	No Calib		#	
41) Benzene	0.00	78	0	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.85	84	643	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082203.D Vial: 1
Acq On : 8 Sep 2022 15:42 Operator: TZ
Sample : MB R13090822 1000mL Inst : MS13
Misc : S35-08172209_AC01387

Quant Time: Sep 08 16:11:34 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

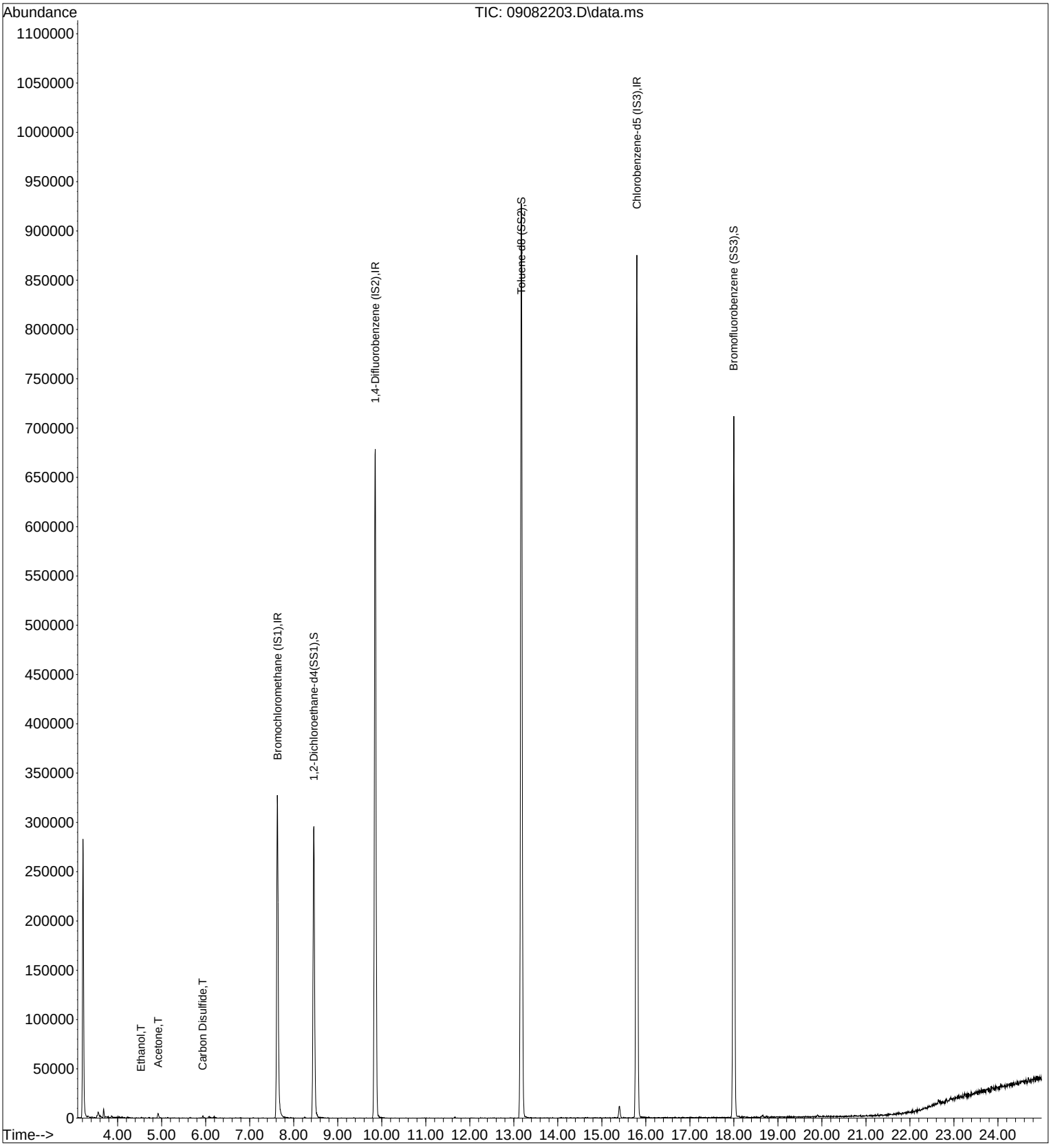
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.31	91	128	N.D.	
59) 2-Hexanone	13.72	43	296	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.62	43	223	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	0.00	91	0	N.D.	
67) m- & p-Xylenes	0.00	91	0	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	0.00	91	0	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	18.01	105	187	No Calib	#
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	18.00	118	675	No Calib	#
81) 2-Ethyltoluene	18.01	105	187	No Calib	#
82) 1,2,4-Trimethylbenzene	19.86	105	215	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.03	91	263	N.D.	
85) 1,3-Dichlorobenzene	20.16	146	277	N.D.	
86) 1,4-Dichlorobenzene	20.16	146	277	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	18.01	105	187	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	23.11	180	1105	N.D.	
95) Naphthalene	23.24	128	519	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082203.D Vial: 1
Acq On : 8 Sep 2022 15:42 Operator: TZ
Sample : MB R13090822 1000mL Inst : MS13
Misc : S35-08172209_AC01387

Quant Time: Sep 08 16:11:34 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082210.D Vial: 1
Acq On : 8 Sep 2022 20:20 Operator: TZ
Sample : LCS R13090822 25ng Inst : MS13
Misc : S35-08172209/S35-08242208 (9/23)

TZ 9/9/22

Quant Time: Sep 09 07:43:42 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.69	130	156147	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.89	114	718720	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	15.81	54	170158	12.500	ng		0.02
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.50	65	327141	13.108	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.88%				
57) Toluene-d8 (SS2)	13.19	98	887618	11.409	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
73) Bromofluorobenzene (SS3)	18.01	174	322339	13.880	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.04%				
Target Compounds							Qvalue
2) Propene	3.46	42	400434	23.168	ng		99
3) Dichlorodifluoromethan...	3.54	85	851967	23.489	ng		100
4) Chloromethane	3.68	50	460741	24.418	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.80	135	374457	22.402	ng		98
6) Vinyl Chloride	3.88	62	504680	22.541	ng		99
7) 1,3-Butadiene	4.01	54	412756	25.967	ng		98
8) Bromomethane	4.24	94	312009	22.320	ng		98
9) Chloroethane	4.38	64	223107	24.963	ng		99
10) Ethanol	4.57	45	1045181	94.389	ng		97
11) Acetonitrile	4.72	41	555689	21.996	ng		100
12) Acrolein	4.79	56	420359	46.225	ng		100
13) Acetone	4.91	58	1154349	121.590	ng		96
14) Trichlorofluoromethane	5.02	101	741731	22.928	ng		99
15) 2-Propanol (Isopropanol)	5.15	45	1760028	50.605	ng		98
16) Acrylonitrile	5.31	53	844314	49.578	ng		98
17) 1,1-Dichloroethene	5.55	96	339476	24.813	ng		96
18) 2-Methyl-2-Propanol (t...	5.65	59	1892854	52.295	ng		99
19) Methylene Chloride	5.68	84	339319	23.219	ng		95
20) 3-Chloro-1-propene (Al...	5.76	41	497895	23.475	ng		100
21) Trichlorotrifluoroethane	5.89	151	331270	23.894	ng		98
22) Carbon Disulfide	5.93	76	2460351	43.282	ng		99
23) trans-1,2-Dichloroethene	6.51	61	553145	24.735	ng		99
24) 1,1-Dichloroethane	6.71	63	627223	24.795	ng		100
25) Methyl tert-Butyl Ether	6.74	73	1183184	25.019	ng		98
26) Vinyl Acetate	6.83	86	301191	120.388	ng	#	89
27) 2-Butanone (MEK)	7.07	72	430392	49.707	ng		95
28) cis-1,2-Dichloroethene	7.51	61	524402	25.422	ng		98
29) Diisopropyl Ether	7.71	87	550477	50.091	ng	#	82
30) Ethyl Acetate	7.72	61	379638	68.502	ng		96
31) n-Hexane	7.72	57	534706	25.798	ng		97
32) Chloroform	7.82	83	678620	24.226	ng		98
34) Tetrahydrofuran (THF)	8.23	72	428921	51.534	ng		95
35) Ethyl tert-Butyl Ether	8.29	87	898880	51.961	ng		96
36) 1,2-Dichloroethane	8.62	62	621397	25.570	ng		100
38) 1,1,1-Trichloroethane	8.92	97	680583	24.169	ng		99
39) Isopropyl Acetate	9.80	61	2499	No Calib		#	
40) 1-Butanol	9.34	56	8858	No Calib		#	
41) Benzene	9.46	78	1393572	24.353	ng		99
42) Carbon Tetrachloride	9.64	117	582299	23.274	ng		99
43) Cyclohexane	9.80	84	1032856	50.446	ng		97
44) tert-Amyl Methyl Ether	10.20	73	2251962	50.294	ng		99
45) 1,2-Dichloropropane	10.49	63	327520	24.380	ng		96
46) Bromodichloromethane	10.72	83	580561	25.370	ng		99
47) Trichloroethene	10.80	130	411871	24.815	ng		96
48) 1,4-Dioxane	10.77	88	296139	26.869	ng		93
49) 2,2,4-Trimethylpentane...	10.88	57	1410020	24.571	ng		100
50) Methyl Methacrylate	11.07	100	315481	55.415	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082210.D Vial: 1
Acq On : 8 Sep 2022 20:20 Operator: TZ
Sample : LCS R13090822 25ng Inst : MS13
Misc : S35-08172209/S35-08242208 (9/23)

Quant Time: Sep 09 07:43:42 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

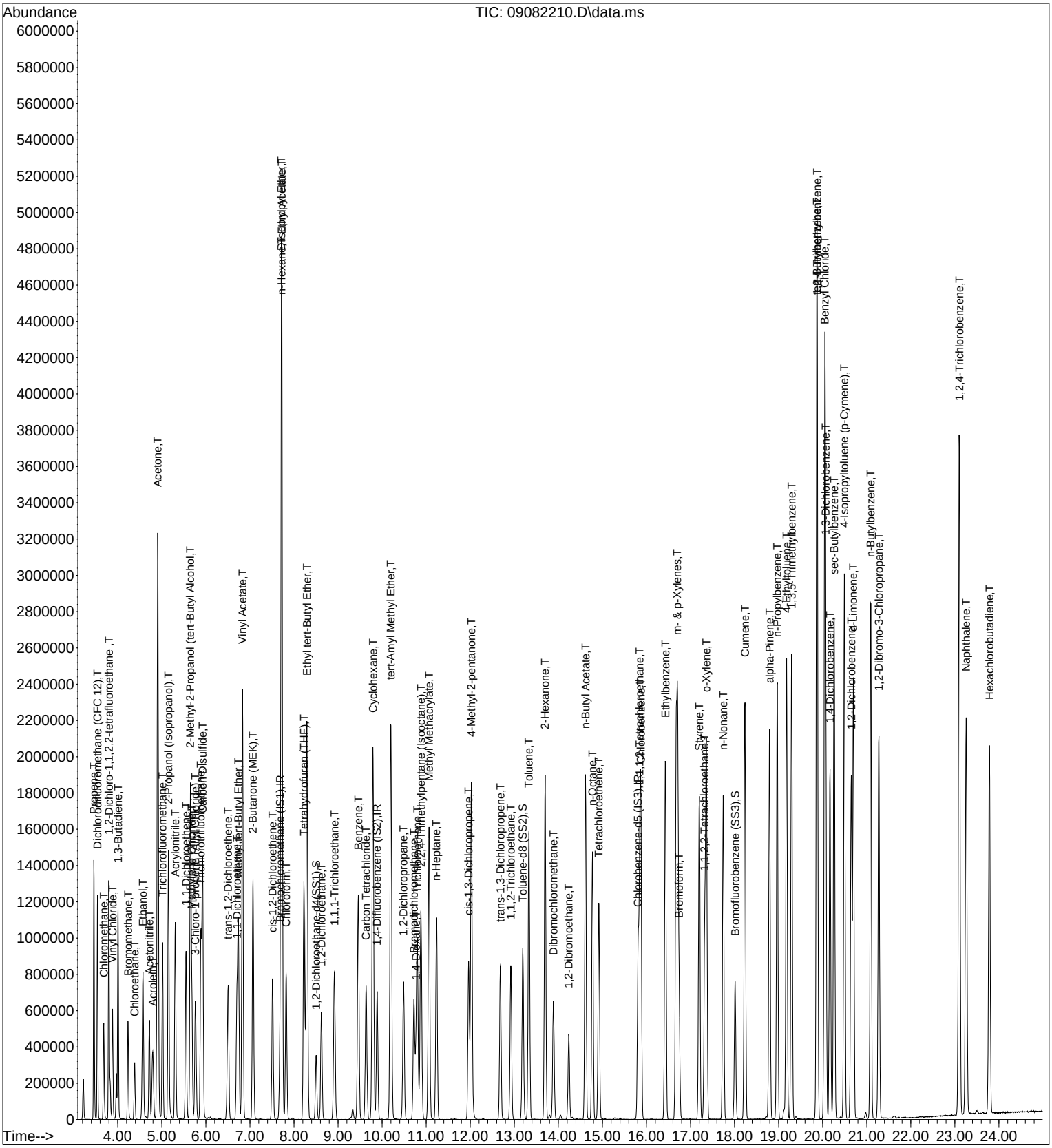
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	11.23	71	349490	27.548	ng		95
52) cis-1,3-Dichloropropene	11.96	75	624785	26.040	ng		98
53) 4-Methyl-2-pentanone	12.03	58	632411	52.285	ng		96
54) trans-1,3-Dichloropropene	12.69	75	615426	25.622	ng		100
55) 1,1,2-Trichloroethane	12.92	97	370435	25.829	ng		97
58) Toluene	13.33	91	1601401	22.060	ng		100
59) 2-Hexanone	13.70	43	1627015	45.493	ng		98
60) Dibromochloromethane	13.89	129	504659	21.860	ng		98
61) 1,2-Dibromoethane	14.24	107	446786	21.162	ng		98
62) n-Butyl Acetate	14.62	43	1808071	45.338	ng		96
63) n-Octane	14.78	57	329230	23.268	ng		93
64) Tetrachloroethene	14.92	166	489535	22.405	ng		99
65) Chlorobenzene	15.87	112	1143130	23.813	ng		99
66) Ethylbenzene	16.43	91	2061465	24.129	ng		98
67) m- & p-Xylenes	16.70	91	3467399	48.763	ng		99
68) Bromoform	16.74	173	464820	22.958	ng		99
69) Styrene	17.20	104	1263401	25.737	ng		98
70) o-Xylene	17.36	91	1750438	24.738	ng		97
71) n-Nonane	17.74	43	784084	23.643	ng		93
72) 1,1,2,2-Tetrachloroethane	17.32	83	691927	23.075	ng		99
74) Cumene	18.24	105	2211319	26.539	ng		97
75) alpha-Pinene	18.79	93	1168303	26.546	ng		97
76) n-Propylbenzene	18.97	91	2623104	25.725	ng		98
77) 3-Ethyltoluene	18.07	105	153	No Calib		#	
78) 4-Ethyltoluene	19.18	105	2273774	27.588	ng		98
79) 1,3,5-Trimethylbenzene	19.29	105	2007419	27.451	ng		99
80) alpha-Methylstyrene	18.00	118	1254	No Calib		#	
81) 2-Ethyltoluene	18.07	105	153	No Calib		#	
82) 1,2,4-Trimethylbenzene	19.88	105	2071200	28.539	ng		96
83) n-Decane	0.00	58	0	N.D.			
84) Benzyl Chloride	20.05	91	3420508	56.802	ng		95
85) 1,3-Dichlorobenzene	20.07	146	1100346	26.741	ng		100
86) 1,4-Dichlorobenzene	20.17	146	1108640	26.664	ng		99
87) sec-Butylbenzene	20.26	105	2618421	27.627	ng		96
88) 4-Isopropyltoluene (p-...	20.49	119	2390723	28.676	ng		97
89) 1,2,3-Trimethylbenzene	18.07	105	153	No Calib		#	
90) 1,2-Dichlorobenzene	20.65	146	1087359	26.671	ng		99
91) d-Limonene	20.69	68	699480	28.993	ng		100
92) 1,2-Dibromo-3-Chloropr...	21.28	157	863736	56.282	ng		93
93) n-Undecane	19.18	58	26722	No Calib		#	
94) 1,2,4-Trichlorobenzene	23.10	180	1884888	64.318	ng		99
95) Naphthalene	23.26	128	2733469	33.869	ng		100
96) n-Dodecane	20.07	58	359	No Calib		#	
97) Hexachlorobutadiene	23.79	225	674531	28.992	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	19.87	119	1975545	28.792	ng		95
100) n-Butylbenzene	21.09	91	2155331	27.915	ng		96
101) 1,1,1,2-Tetrachloroethane	15.85	131	446117	23.235	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082210.D Vial: 1
Acq On : 8 Sep 2022 20:20 Operator: TZ
Sample : LCS R13090822 25ng Inst : MS13
Misc : S35-08172209/S35-08242208 (9/23)

Quant Time: Sep 09 07:43:42 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082211.D Vial: 1
Acq On : 8 Sep 2022 20:59 Operator: TZ
Sample : LCSD R13090822 25ng Inst : MS13
Misc : S35-08172209/S35-08242208 (9/23)

TZ 9/9/22

Quant Time: Sep 09 07:43:43 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.69	130	161132	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.89	114	735341	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	15.81	54	175752	12.500	ng		0.02
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.50	65	336155	13.053	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.40%				
57) Toluene-d8 (SS2)	13.19	98	905480	11.268	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.16%				
73) Bromofluorobenzene (SS3)	18.01	174	334812	13.958	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.68%				
Target Compounds							Qvalue
2) Propene	3.46	42	420365	23.568	ng		99
3) Dichlorodifluoromethan...	3.54	85	864281	23.091	ng		100
4) Chloromethane	3.68	50	475547	24.422	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.80	135	378886	21.966	ng		99
6) Vinyl Chloride	3.88	62	544803	23.580	ng		100
7) 1,3-Butadiene	4.01	54	426159	25.981	ng		97
8) Bromomethane	4.24	94	320467	22.216	ng		100
9) Chloroethane	4.38	64	230979	25.044	ng		99
10) Ethanol	4.58	45	1087874	95.205	ng		97
11) Acetonitrile	4.72	41	578565	22.193	ng		99
12) Acrolein	4.79	56	433445	46.190	ng		100
13) Acetone	4.91	58	1179644	120.410	ng		97
14) Trichlorofluoromethane	5.02	101	753491	22.571	ng		100
15) 2-Propanol (Isopropanol)	5.15	45	1791159	49.907	ng		98
16) Acrylonitrile	5.31	53	855323	48.671	ng		99
17) 1,1-Dichloroethene	5.55	96	346385	24.534	ng		96
18) 2-Methyl-2-Propanol (t...	5.65	59	1926139	51.568	ng		99
19) Methylene Chloride	5.68	84	345969	22.941	ng		96
20) 3-Chloro-1-propene (Al...	5.77	41	509767	23.291	ng		99
21) Trichlorotrifluoroethane	5.89	151	334885	23.407	ng		98
22) Carbon Disulfide	5.93	76	2533903	43.197	ng		99
23) trans-1,2-Dichloroethene	6.51	61	568854	24.651	ng		98
24) 1,1-Dichloroethane	6.71	63	640252	24.527	ng		99
25) Methyl tert-Butyl Ether	6.74	73	1215397	24.905	ng		99
26) Vinyl Acetate	6.83	86	306893	118.872	ng	#	91
27) 2-Butanone (MEK)	7.07	72	443631	49.651	ng		96
28) cis-1,2-Dichloroethene	7.51	61	536378	25.198	ng		98
29) Diisopropyl Ether	7.72	87	564697	49.795	ng	#	82
30) Ethyl Acetate	7.73	61	389572	68.120	ng		95
31) n-Hexane	7.72	57	546085	25.532	ng		97
32) Chloroform	7.83	83	689675	23.859	ng		99
34) Tetrahydrofuran (THF)	8.23	72	441559	51.411	ng		96
35) Ethyl tert-Butyl Ether	8.29	87	915820	51.303	ng		97
36) 1,2-Dichloroethane	8.62	62	628619	25.066	ng		100
38) 1,1,1-Trichloroethane	8.92	97	683510	23.724	ng		98
39) Isopropyl Acetate	9.79	61	3169	No Calib		#	
40) 1-Butanol	9.34	56	8535	No Calib		#	
41) Benzene	9.47	78	1421035	24.271	ng		99
42) Carbon Tetrachloride	9.64	117	584884	22.849	ng		97
43) Cyclohexane	9.79	84	1044804	49.876	ng		98
44) tert-Amyl Methyl Ether	10.20	73	2303697	50.286	ng		99
45) 1,2-Dichloropropane	10.49	63	339426	24.696	ng		97
46) Bromodichloromethane	10.72	83	584988	24.985	ng		100
47) Trichloroethene	10.80	130	417839	24.605	ng		98
48) 1,4-Dioxane	10.77	88	300947	26.688	ng		93
49) 2,2,4-Trimethylpentane...	10.88	57	1445576	24.621	ng		99
50) Methyl Methacrylate	11.07	100	320345	54.997	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082211.D Vial: 1
Acq On : 8 Sep 2022 20:59 Operator: TZ
Sample : LCSD R13090822 25ng Inst : MS13
Misc : S35-08172209/S35-08242208 (9/23)

Quant Time: Sep 09 07:43:43 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

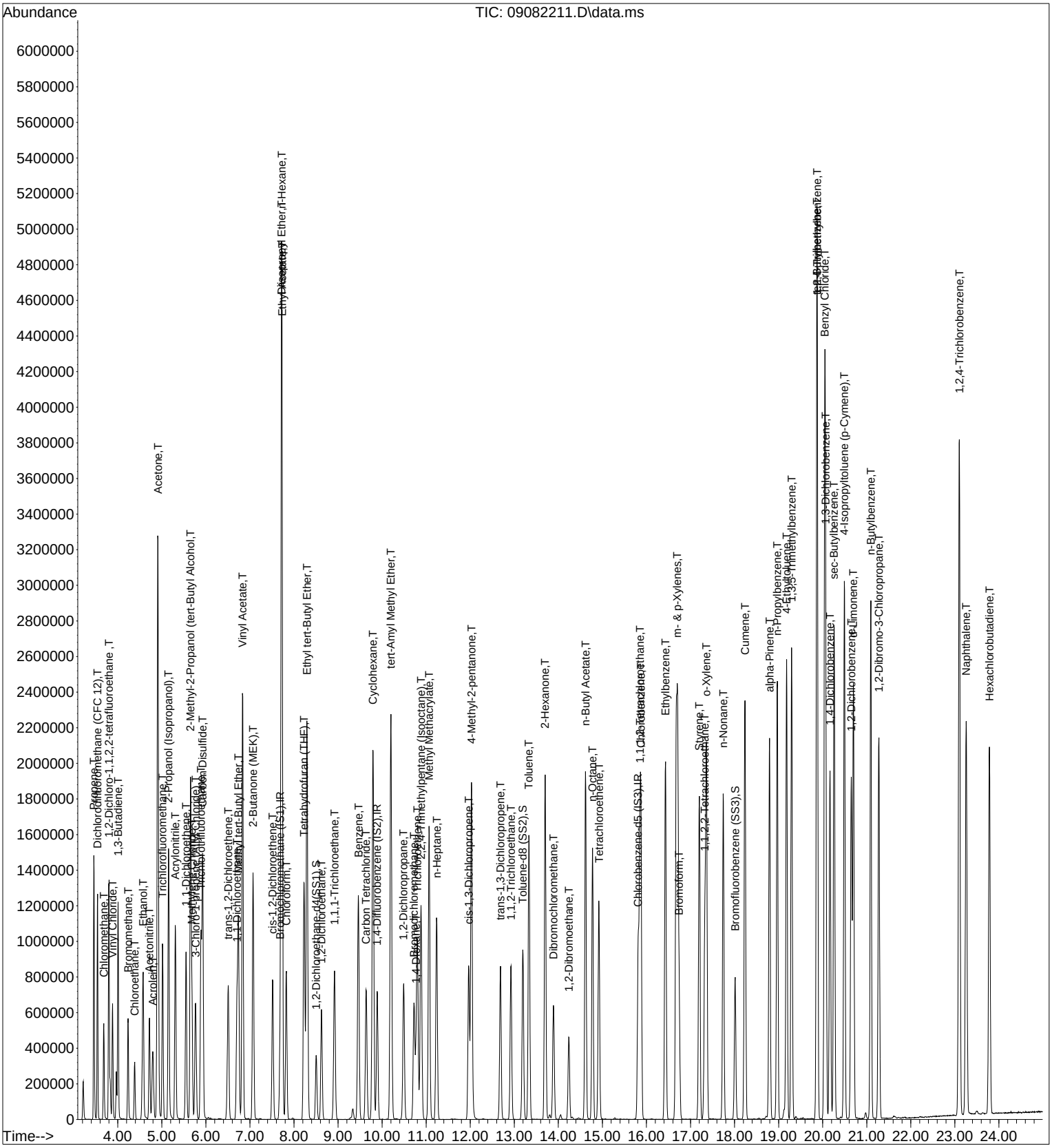
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	11.24	71	358305	27.605 ng		95
52) cis-1,3-Dichloropropene	11.97	75	637625	25.975 ng		99
53) 4-Methyl-2-pentanone	12.03	58	657640	53.141 ng		97
54) trans-1,3-Dichloropropene	12.69	75	624223	25.401 ng		100
55) 1,1,2-Trichloroethane	12.93	97	379547	25.867 ng		96
58) Toluene	13.33	91	1642830	21.910 ng		100
59) 2-Hexanone	13.70	43	1661458	44.977 ng		98
60) Dibromochloromethane	13.89	129	513242	21.524 ng		99
61) 1,2-Dibromoethane	14.24	107	459828	21.086 ng		99
62) n-Butyl Acetate	14.62	43	1856533	45.072 ng		96
63) n-Octane	14.78	57	333304	22.806 ng		93
64) Tetrachloroethene	14.92	166	498250	22.078 ng		98
65) Chlorobenzene	15.87	112	1151984	23.233 ng		99
66) Ethylbenzene	16.43	91	2103590	23.839 ng		98
67) m- & p-Xylenes	16.70	91	3511872	47.816 ng		99
68) Bromoform	16.74	173	473157	22.626 ng		100
69) Styrene	17.20	104	1275105	25.148 ng		98
70) o-Xylene	17.36	91	1781382	24.374 ng		98
71) n-Nonane	17.74	43	802623	23.432 ng		94
72) 1,1,2,2-Tetrachloroethane	17.33	83	706904	22.824 ng		100
74) Cumene	18.24	105	2242324	26.055 ng		97
75) alpha-Pinene	18.79	93	1164185	25.611 ng		96
76) n-Propylbenzene	18.97	91	2677240	25.420 ng		98
77) 3-Ethyltoluene	18.01	105	1196	No Calib	#	
78) 4-Ethyltoluene	19.18	105	2316392	27.211 ng		99
79) 1,3,5-Trimethylbenzene	19.29	105	2019972	26.744 ng		99
80) alpha-Methylstyrene	18.01	118	440	No Calib	#	
81) 2-Ethyltoluene	18.01	105	1196	No Calib	#	
82) 1,2,4-Trimethylbenzene	19.88	105	2095352	27.953 ng		96
83) n-Decane	18.07	58	119	No Calib	#	
84) Benzyl Chloride	20.05	91	3487506	56.071 ng		95
85) 1,3-Dichlorobenzene	20.07	146	1111236	26.146 ng		100
86) 1,4-Dichlorobenzene	20.17	146	1113644	25.932 ng		100
87) sec-Butylbenzene	20.26	105	2639346	26.961 ng		96
88) 4-Isopropyltoluene (p-...	20.49	119	2418920	28.091 ng		97
89) 1,2,3-Trimethylbenzene	18.01	105	1196	No Calib	#	
90) 1,2-Dichlorobenzene	20.65	146	1102522	26.182 ng		100
91) d-Limonene	20.69	68	711722	28.561 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.28	157	883902	55.763 ng		92
93) n-Undecane	19.18	58	25799	No Calib	#	
94) 1,2,4-Trichlorobenzene	23.10	180	1930751	63.786 ng		98
95) Naphthalene	23.26	128	2790831	33.480 ng		99
96) n-Dodecane	20.06	58	255	No Calib	#	
97) Hexachlorobutadiene	23.79	225	677163	28.179 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	19.87	119	1989668	28.075 ng		95
100) n-Butylbenzene	21.09	91	2177014	27.298 ng		96
101) 1,1,1,2-Tetrachloroethane	15.85	131	456931	23.041 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082211.D Vial: 1
Acq On : 8 Sep 2022 20:59 Operator: TZ
Sample : LCSD R13090822 25ng Inst : MS13
Misc : S35-08172209/S35-08242208 (9/23)

Quant Time: Sep 09 07:43:43 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M



Response Factor Report GCMS13

Method Path : I:\MS13\METHODS\
Method File : R13081722.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Aug 18 11:43:21 2022
Response Via : Initial Calibration

TR 8/18/22

Calibration Files
0.1 =08172214.D 0.2 =08172215.D 0.5 =08172216.D 1.0 =08172217.D 5.0 =08172218.D 25 =08172219.D 50 =08172220.D
100 =08172221.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene	1.514	1.225	1.209	1.233	1.453	1.327	1.494	1.615	1.384	11.23
3)	T	Dichlorodifluo...	3.075	2.740	3.139	3.019	2.888	2.828	2.784	2.756	2.904	5.32
4)	T	Chloromethane	1.662	1.767	1.806	1.703	1.305	1.564	1.382	0.895	1.511	20.23
5)	T	1,2-Dichloro-1...	1.345	1.352	1.436	1.375	1.364	1.328	1.257	1.247	1.338	4.61
6)	T	Vinyl Chloride	1.819	1.808	1.863	1.798	1.786	1.731	1.814	1.720	1.792	2.64
7)	T	1,3-Butadiene	1.045	1.137	1.245	1.331	1.315	1.332	1.372	1.403	1.272	9.69
8)	T	Bromomethane	1.302	0.982	1.282	1.030	1.088	1.102	1.082	1.084	1.119	10.17
9)	T	Chloroethane	0.670	0.670	0.718	0.748	0.750	0.710	0.719	0.740	0.715	4.42
10)	T	Ethanol	0.960	0.881	0.929	0.866	0.836	0.835	0.874	0.910	0.886	4.97
11)	T	Acetonitrile	1.948	1.659	1.997	2.102	2.022	2.061	2.130	2.260	2.022	8.65
12)	T	Acrolein	0.695	0.746	0.726	0.691	0.721	0.732	0.742	0.770	0.728	3.60
13)	T	Acetone	0.773	0.778	0.820	0.749	0.725	0.732	0.741	0.761	0.760	4.03
14)	T	Trichlorofluor...	2.691	2.669	2.844	2.649	2.517	2.453	2.439	2.456	2.590	5.64
15)	T	2-Propanol (Is...	2.715	2.859	3.150	3.054	2.526	2.810	2.607	2.553	2.784	8.25
16)	T	Acrylonitrile	1.157	1.258	1.366	1.372	1.363	1.414	1.461	1.515	1.363	8.26
17)	T	1,1-Dichloroet...	1.037	1.021	1.129	1.147	1.116	1.103	1.094	1.115	1.095	4.02
18)	T	2-Methyl-2-Pro...	2.984	3.084	3.627	3.238	3.009	3.206	2.623	1.409	2.898	22.92
19)	T	Methylene Chlo...	1.187	1.312	1.189	1.158	1.127	1.118	1.122	1.146	1.170	5.44
20)	T	3-Chloro-1-pro...	1.525	1.692	1.728	1.660	1.671	1.695	1.760	1.852	1.698	5.48
21)	T	Trichlorotrifl...	1.119	1.059	1.276	1.183	1.110	1.064	1.039	1.029	1.110	7.57
22)	T	Carbon Disulfide	5.469	4.994	4.653	4.334	4.182	4.195	4.232	4.346	4.551	10.18
23)	T	trans-1,2-Dich...	1.765	1.612	1.965	1.753	1.782	1.776	1.810	1.858	1.790	5.58
24)	T	1,1-Dichloroet...	2.108	1.878	2.290	1.940	1.974	1.966	2.001	2.044	2.025	6.27
25)	T	Methyl tert-Bu...	3.737	3.706	3.960	3.819	3.814	3.802	3.803	3.645	3.786	2.47
26)	T	Vinyl Acetate	0.164	0.161	0.197	0.202	0.211	0.221	0.222	0.224	0.200	12.69
27)	T	2-Butanone (MEK)	0.615	0.639	0.765	0.737	0.678	0.700	0.704	0.707	0.693	7.06
28)	T	cis-1,2-Dichlo...	1.463	1.677	1.727	1.598	1.637	1.672	1.694	1.743	1.651	5.39
29)	T	Diisopropyl Ether	0.955	0.860	0.916	0.901	0.866	0.861	0.848	0.832	0.880	4.65
30)	T	Ethyl Acetate	0.505	0.399	0.444	0.430	0.437	0.437	0.444	0.452	0.444	6.66
31)	T	n-Hexane	1.392	1.580	1.773	1.702	1.731	1.659	1.704	1.733	1.659	7.38
32)	T	Chloroform	2.249	2.237	2.351	2.226	2.207	2.198	2.219	2.253	2.242	2.13
33)	S	1,2-Dichloroet...	1.958	1.988	1.969	1.970	1.991	1.977	2.055	2.073	1.998	2.14
34)	T	Tetrahydrofura...	0.596	0.669	0.756	0.650	0.655	0.661	0.669	0.675	0.666	6.56
35)	T	Ethyl tert-But...	1.344	1.365	1.460	1.385	1.384	1.373	1.382	1.386	1.385	2.42
36)	T	1,2-Dichloroet...	1.861	1.852	2.147	1.973	1.926	1.910	1.934	1.961	1.945	4.73
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.504	0.453	0.528	0.505	0.486	0.499	0.483	0.462	0.490	4.97

39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.085	0.984	1.054	0.983	0.963	0.982	0.964	0.948	0.995	4.83
42)	T	Carbon Tetrach...	0.419	0.442	0.427	0.464	0.441	0.445	0.431	0.412	0.435	3.75
43)	T	Cyclohexane	0.403	0.354	0.364	0.353	0.342	0.356	0.344	0.333	0.356	5.98
44)	T	tert-Amyl Meth...	0.798	0.739	0.795	0.801	0.766	0.788	0.778	0.765	0.779	2.74
45)	T	1,2-Dichloropr...	0.198	0.259	0.251	0.232	0.229	0.235	0.234	0.231	0.234	7.60
46)	T	Bromodichlorom...	0.355	0.397	0.403	0.411	0.408	0.410	0.405	0.395	0.398	4.56
47)	T	Trichloroethene	0.318	0.267	0.310	0.305	0.281	0.286	0.277	0.266	0.289	6.89
48)	T	1,4-Dioxane	0.144	0.196	0.199	0.207	0.194	0.201	0.198	0.194	0.192	10.19
49)	T	2,2,4-Trimethy...	1.034	0.992	1.049	0.999	0.959	0.990	0.981	0.981	0.998	2.95
50)	T	Methyl Methacr...	0.094	0.087	0.102	0.102	0.101	0.106	0.101	0.099	0.099	5.91
51)	T	n-Heptane	0.187	0.197	0.243	0.225	0.223	0.232	0.230	0.227	0.221	8.48
52)	T	cis-1,3-Dichlo...	0.426	0.394	0.409	0.425	0.414	0.427	0.423	0.419	0.417	2.73
53)	T	4-Methyl-2-pen...	0.196	0.208	0.209	0.208	0.209	0.220	0.216	0.216	0.210	3.46
54)	T	trans-1,3-Dich...	0.347	0.393	0.414	0.440	0.418	0.450	0.442	0.437	0.418	8.17
55)	T	1,1,2-Trichlor...	0.273	0.205	0.262	0.254	0.248	0.258	0.250	0.246	0.249	8.01
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	5.803	5.861	5.938	5.791	5.645	5.722	5.492	5.470	5.715	2.95
58)	T	Toluene	5.367	5.655	5.488	5.535	5.211	5.360	5.089	4.956	5.333	4.41
59)	T	2-Hexanone	2.349	2.451	2.782	2.599	2.625	2.765	2.709	2.738	2.627	5.95
60)	T	Dibromochlorom...	1.547	1.602	1.827	1.807	1.723	1.772	1.665	1.625	1.696	6.02
61)	T	1,2-Dibromoethane	1.502	1.570	1.655	1.591	1.544	1.573	1.516	1.459	1.551	3.88
62)	T	n-Butyl Acetate	2.591	2.785	3.001	2.886	2.985	3.090	3.037	3.062	2.930	5.78
63)	T	n-Octane	1.043	1.097	1.058	1.065	1.030	1.040	0.994	0.989	1.039	3.45
64)	T	Tetrachloroethene	1.801	1.690	1.740	1.664	1.538	1.550	1.463	1.394	1.605	8.80
65)	T	Chlorobenzene	3.740	3.568	3.889	3.615	3.442	3.500	3.305	3.152	3.527	6.64
66)	T	Ethylbenzene	6.521	6.128	6.854	6.430	6.077	6.335	6.018	5.845	6.276	5.16
67)	T	m- & p-Xylenes	5.464	4.986	5.589	5.446	5.171	5.268	5.020	4.845	5.224	5.05
68)	T	Bromoform	1.540	1.584	1.530	1.506	1.456	1.504	1.425	1.353	1.487	4.93
69)	T	Styrene	3.301	3.511	3.921	3.514	3.604	3.819	3.650	3.530	3.606	5.38
70)	T	o-Xylene	5.337	5.521	5.413	5.363	5.043	5.190	4.941	4.777	5.198	4.96
71)	T	n-Nonane	2.538	2.453	2.589	2.434	2.294	2.431	2.367	2.382	2.436	3.86
72)	T	1,1,2,2-Tetrac...	2.255	2.235	2.324	2.214	2.185	2.215	2.124	2.072	2.203	3.52
73)	S	Bromofluoroben...	1.732	1.749	1.748	1.742	1.696	1.694	1.678	1.608	1.706	2.82
74)	T	Cumene	5.787	5.806	6.872	6.377	6.122	6.289	5.977	5.738	6.121	6.28
75)	T	alpha-Pinene	3.653	3.273	3.373	3.209	3.071	3.199	3.095	2.990	3.233	6.44
76)	T	n-Propylbenzene	7.224	7.298	8.262	7.656	7.420	7.653	7.296	7.115	7.491	4.90
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	6.175	6.002	6.481	6.130	6.003	6.142	5.848	5.656	6.055	4.03
79)	T	1,3,5-Trimethy...	5.294	5.044	5.908	5.696	5.346	5.441	5.222	5.026	5.372	5.69
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	4.800	5.399	5.603	5.557	5.479	5.588	5.232	4.993	5.331	5.60
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	3.796	3.902	4.298	4.398	4.519	4.981	4.819	4.676	4.424	9.45
85)	T	1,3-Dichlorobe...	3.209	3.067	3.410	3.036	2.969	3.013	2.832	2.647	3.023	7.57
86)	T	1,4-Dichlorobe...	3.044	3.087	3.219	3.187	3.006	3.090	2.959	2.842	3.054	3.99
87)	T	sec-Butylbenzene	7.147	6.900	7.209	7.251	6.893	7.051	6.735	6.514	6.962	3.63
88)	T	4-Isopropyltol...	6.290	5.807	6.566	6.444	6.093	6.250	5.916	5.630	6.124	5.27
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	3.325	3.104	3.077	3.077	2.889	2.976	2.811	2.699	2.995	6.53
91)	T	d-Limonene	1.617	1.648	1.732	1.785	1.776	1.921	1.859	1.840	1.772	5.87

92)	T	1,2-Dibromo-3-...	1.197	1.076	1.199	1.085	1.144	1.159	1.103	1.056	1.127	4.91
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	1.966	1.978	2.133	2.193	2.183	2.385	2.266	2.119	2.153	6.47
95)	T	Naphthalene	4.410	4.843	5.735	5.754	6.039	7.003	6.908	6.738	5.929	16.04
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.880	1.872	1.854	1.726	1.645	1.657	1.569	1.470	1.709	8.86
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	5.403	4.933	5.562	5.110	4.979	5.076	4.769	4.493	5.041	6.70
100)	T	n-Butylbenzene	5.541	5.547	5.969	5.803	5.684	5.842	5.586	5.405	5.672	3.30
101)	T	1,1,1,2-Tetrac...	1.519	1.283	1.640	1.449	1.379	1.420	1.326	1.269	1.410	8.90

(#) = Out of Range

R13081722.M Thu Aug 18 12:47:56 2022

TZ 8/23/22

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S35-08172208
20ng/L Std. ID: S35-08172207
40ng/L Std. ID:
200ng/L Std. ID: S35-08172203
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Freon-114	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Vinyl Chloride	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Ethanol	3.45	3450	690	138.0	69.0	13.80	3.45		0.345	0.690	1.725	3.45	17.25	86.25	172.5	345
Acetonitrile	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Acrolein	1.93	1930	386	77.2	38.6	7.72	1.93		0.193	0.386	0.965	1.93	9.65	48.25	96.5	193
Acetone	5.27	5270	1054	210.8	105.4	21.08	5.27		0.527	1.054	2.635	5.27	26.35	131.75	263.5	527
Trichlorofluoromethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isopropanol	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Acrylonitrile	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.13	2130	426	85.2	42.6	8.52	2.13		0.213	0.426	1.065	2.13	10.65	53.25	106.5	213
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl tert-Butyl Ether	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Vinyl Acetate	2.80	2800	560	112.0	56.0	11.20	2.80		0.280	0.560	1.400	2.80	14.00	70.00	140.0	280
2-Butanone	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.22	4220	844	168.8	84.4	16.88	4.22		0.422	0.844	2.110	4.22	21.10	105.50	211.0	422
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrahydrofuran	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Ethyl tert-Butyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Carbon Tetrachloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cyclohexane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
tert-Amyl Methyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Bromodichloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Trichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,4-Dioxane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isooctane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Methyl Methacrylate	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
n-Heptane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

8/10/22 TO15

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		40ng/L Std. ID:	
4ng/L Std. ID:	S35-08172208	200ng/L Std. ID:	S35-08172203
20ng/L Std. ID:	S35-08172207	1000ng/L Std. ID:	

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.			Primary Working Standards				Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
4-Methyl-2-pentanone	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
trans-1,3-Dichloropropene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,1,2-Trichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Toluene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
2-Hexanone	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Dibromochloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
n-Octane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrachloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Ethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
m-&p-Xylene	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Nonane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cumene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
alpha-Pinene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Propylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
4-Ethyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2,4-Trimethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzyl Chloride	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,3-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,4-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
sec-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
p-Isopropyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromo-3-chloropropane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2,4-Trichlorobenzene	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Naphthalene	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
tert-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,1,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

83-0150

Calibration Status Report GCMS13

Method : I:\MS13\METHODS\R13081722.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Aug 18 11:43:21 2022
Response via : Initial Calibration

TE 8/18/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS13\DATA\2022_08\17\08172214.D
2	0.2	0	13	I:\MS13\DATA\2022_08\17\08172215.D
3	0.5	1	13	I:\MS13\DATA\2022_08\17\08172216.D
4	1.0	1	13	I:\MS13\DATA\2022_08\17\08172217.D
5	5.0	5	13	I:\MS13\DATA\2022_08\17\08172218.D
6	25	26	13	I:\MS13\DATA\2022_08\17\08172219.D
7	50	53	13	I:\MS13\DATA\2022_08\17\08172220.D
8	100	105	13	I:\MS13\DATA\2022_08\17\08172221.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Aug 18 11:37 2022	Aug 18 11:36 2022	17 Aug 2022 15:20
2	0.2	Aug 18 11:39 2022	Aug 18 11:38 2022	17 Aug 2022 15:56
3	0.5	Aug 18 11:31 2022	Aug 18 11:30 2022	17 Aug 2022 16:33
4	1.0	Aug 18 11:31 2022	Aug 18 11:30 2022	17 Aug 2022 17:09
5	5.0	Aug 18 11:31 2022	Aug 18 11:30 2022	17 Aug 2022 17:46
6	25	Aug 18 11:43 2022	Aug 18 11:30 2022	17 Aug 2022 18:23
7	50	Aug 18 11:32 2022	Aug 18 11:30 2022	17 Aug 2022 19:00
8	100	Aug 18 11:32 2022	Aug 18 11:30 2022	17 Aug 2022 19:36

8 of 120

R13081722.M Thu Aug 18 12:50:11 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172216.D Vial: 14
Acq On : 17 Aug 2022 16:33 Operator: TZ
Sample : 0.5ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172207 (9/16)

TZ 8/18/22

Quant Time: Aug 18 11:30:45 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	113873	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.39	114	499501	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.89	54	94764	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.09	65	224268	12.322	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
57) Toluene-d8 (SS2)	12.49	98	562673	12.986	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
73) Bromofluorobenzene (SS3)	16.86	174	165687	12.810	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
Target Compounds							Qvalue
2) Propene	3.41	42	5781	0.459	ng		91
3) Dichlorodifluoromethan...	3.48	85	15155	0.573	ng		98
4) Chloromethane	3.62	50	8473	0.616	ng		89
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	6801	0.558	ng		98
6) Vinyl Chloride	3.80	62	8572	0.525	ng		93
7) 1,3-Butadiene	3.92	54	6009	0.518	ng		90
8) Bromomethane	4.13	94	5958	0.584	ng		88
9) Chloroethane	4.28	64	3368	0.517	ng		98
10) Ethanol	4.39	45	14598	1.808	ng		98
11) Acetonitrile	4.55	41	8277	0.449	ng		92
12) Acrolein	4.65	56	6379	0.962	ng		99
13) Acetone	4.75	58	19678	2.842	ng		95
14) Trichlorofluoromethane	4.87	101	13470	0.571	ng		97
15) 2-Propanol (Isopropanol)	4.95	45	29414	1.160	ng		95
16) Acrylonitrile	5.10	53	12756	1.027	ng		99
17) 1,1-Dichloroethene	5.37	96	5552	0.556	ng		89
18) 2-Methyl-2-Propanol (t...	5.44	59	34859	1.321	ng		99
19) Methylene Chloride	5.45	84	5743	0.539	ng		94
20) 3-Chloro-1-propene (Al...	5.56	41	8343	0.539	ng		93
21) Trichlorotrifluoroethane	5.69	151	6277	0.621	ng		92
22) Carbon Disulfide	5.72	76	45139	1.089	ng		99
23) trans-1,2-Dichloroethene	6.23	61	9668	0.593	ng		91
24) 1,1-Dichloroethane	6.42	63	11160	0.605	ng		93
25) Methyl tert-Butyl Ether	6.48	73	19301	0.560	ng		99
26) Vinyl Acetate	6.54	86	2513	1.377	ng	#	84
27) 2-Butanone (MEK)	6.77	72	7282	1.153	ng		94
28) cis-1,2-Dichloroethene	7.17	61	8336	0.554	ng		94
29) Diisopropyl Ether	7.38	87	8849	1.104	ng	#	89
30) Ethyl Acetate	7.39	61	8530	2.111	ng		94
31) n-Hexane	7.40	57	8481	0.561	ng		96
32) Chloroform	7.46	83	11351	0.556	ng		98
34) Tetrahydrofuran (THF)	7.86	72	7021	1.157	ng		94
35) Ethyl tert-Butyl Ether	7.92	87	14096	1.117	ng		95
36) 1,2-Dichloroethane	8.21	62	10562	0.596	ng		95
38) 1,1,1-Trichloroethane	8.48	97	11072	0.590	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.99	78	22528	0.566	ng		97
42) Carbon Tetrachloride	9.15	117	8883	0.511	ng		98
43) Cyclohexane	9.31	84	15264	1.073	ng		98
44) tert-Amyl Methyl Ether	9.69	73	33693	1.083	ng		98
45) 1,2-Dichloropropane	9.93	63	5258	0.563	ng		92
46) Bromodichloromethane	10.15	83	8614	0.542	ng		95
47) Trichloroethene	10.23	130	6503	0.564	ng		99
48) 1,4-Dioxane	10.22	88	4208	0.549	ng		98
49) 2,2,4-Trimethylpentane...	10.32	57	22638	0.568	ng		98
50) Methyl Methacrylate	10.49	100	4300	1.087	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172216.D Vial: 14
Acq On : 17 Aug 2022 16:33 Operator: TZ
Sample : 0.5ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172207 (9/16)

Quant Time: Aug 18 11:30:45 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

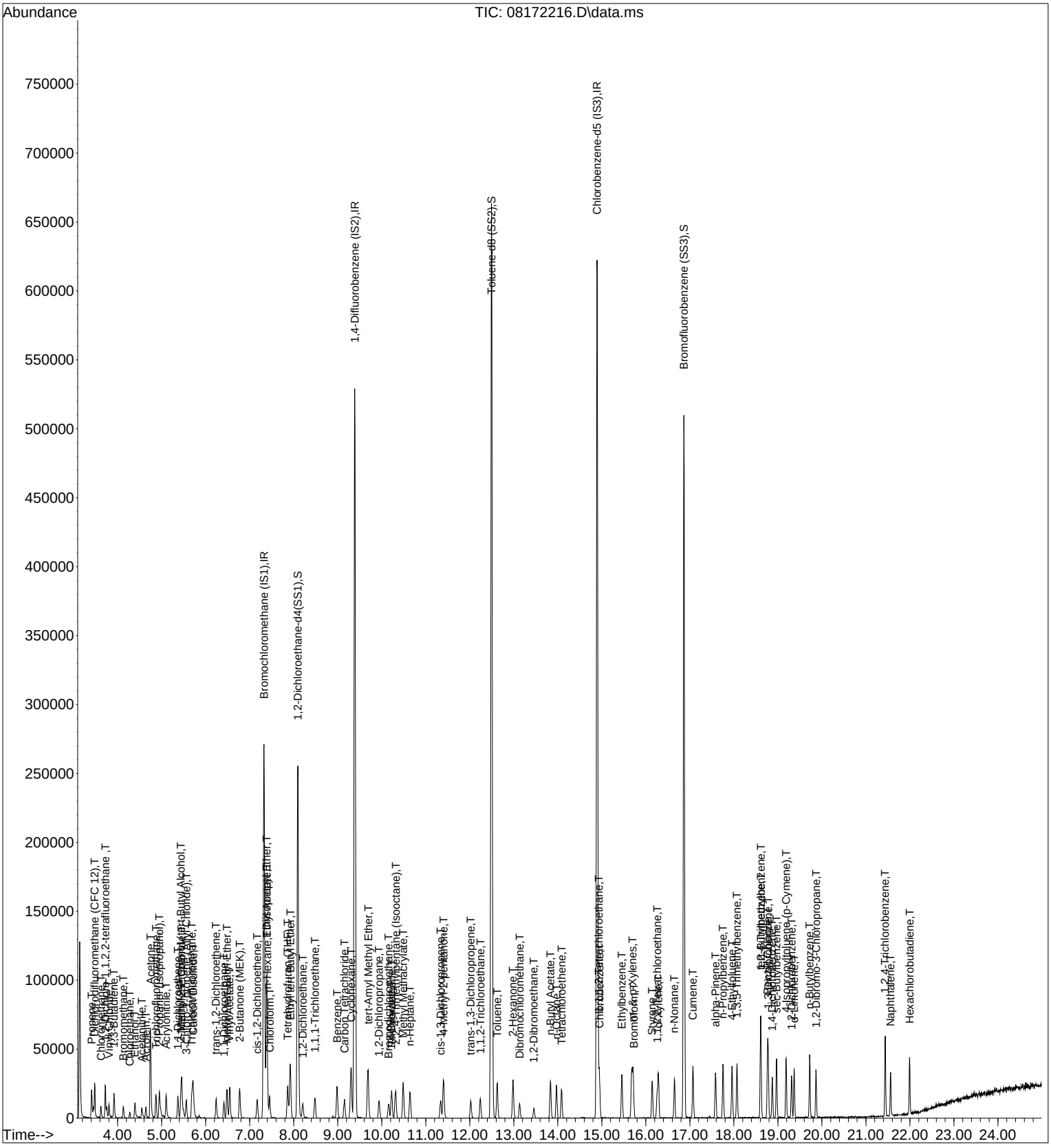
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.64	71	5154	0.585 ng	99
52) cis-1,3-Dichloropropene	11.34	75	8828	0.529 ng	98
53) 4-Methyl-2-pentanone	11.41	58	8974	1.068 ng	95
54) trans-1,3-Dichloropropene	12.02	75	8430	0.505 ng	99
55) 1,1,2-Trichloroethane	12.24	97	5544	0.612 ng	96
58) Toluene	12.62	91	21844	0.540 ng	95
59) 2-Hexanone	12.98	43	22356	1.122 ng	96
60) Dibromochloromethane	13.14	129	7479	0.582 ng	98
61) 1,2-Dibromoethane	13.46	107	6523	0.555 ng	91
62) n-Butyl Acetate	13.83	43	23320	1.050 ng	97
63) n-Octane	13.97	57	4290	0.544 ng	95
64) Tetrachloroethene	14.09	166	6990	0.574 ng	99
65) Chlorobenzene	14.95	112	15627	0.585 ng	99
66) Ethylbenzene	15.45	91	27279	0.573 ng	98
67) m- & p-Xylenes	15.70	91	44487	1.191 ng	98
68) Bromoform	15.73	173	6207	0.550 ng	98
69) Styrene	16.14	104	15755	0.576 ng	93
70) o-Xylene	16.28	91	21749	0.552 ng	97
71) n-Nonane	16.65	43	10403	0.563 ng	100
72) 1,1,2,2-Tetrachloroethane	16.26	83	9337	0.559 ng	95
74) Cumene	17.07	105	27871	0.601 ng	96
75) alpha-Pinene	17.58	93	13936	0.569 ng	94
76) n-Propylbenzene	17.75	91	33511	0.590 ng	99
77) 3-Ethyltoluene	17.07	105	27871	No Calib	
78) 4-Ethyltoluene	17.96	105	26777	0.583 ng	99
79) 1,3,5-Trimethylbenzene	18.07	105	23737	0.583 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.07	105	27871	No Calib	
82) 1,2,4-Trimethylbenzene	18.61	105	22301	0.552 ng	93
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.77	91	34538	1.030 ng	98
85) 1,3-Dichlorobenzene	18.78	146	13700	0.598 ng	96
86) 1,4-Dichlorobenzene	18.87	146	12935	0.559 ng	100
87) sec-Butylbenzene	18.97	105	28965	0.549 ng	93
88) 4-Isopropyltoluene (p-...	19.19	119	26382	0.568 ng	96
89) 1,2,3-Trimethylbenzene	17.07	105	27871	No Calib	
90) 1,2-Dichlorobenzene	19.31	146	12482	0.550 ng	94
91) d-Limonene	19.37	68	7026	0.523 ng	100
92) 1,2-Dibromo-3-Chloropr...	19.87	157	9546	1.117 ng	95
93) n-Undecane	18.08	58	377	No Calib #	
94) 1,2,4-Trichlorobenzene	21.43	180	16897	1.035 ng	96
95) Naphthalene	21.56	128	23914	0.532 ng	100
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.00	225	7451	0.575 ng	99
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.61	119	22348	0.585 ng	98
100) n-Butylbenzene	19.72	91	24209	0.563 ng	99
101) 1,1,1,2-Tetrachloroethane	14.93	131	6588	0.616 ng	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172216.D Vial: 14
Acq On : 17 Aug 2022 16:33 Operator: TZ
Sample : 0.5ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172207 (9/16)

Quant Time: Aug 18 11:30:45 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172217.D Vial: 14
Acq On : 17 Aug 2022 17:09 Operator: TZ
Sample : 1.0ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172207 (9/16)

TZ 8/18/22

Quant Time: Aug 18 11:30:47 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	113785	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.39	114	494600	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.89	54	97566	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.09	65	224168	12.326	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
57) Toluene-d8 (SS2)	12.49	98	564990	12.665	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
73) Bromofluorobenzene (SS3)	16.86	174	169962	12.764	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
2) Propene	3.40	42	11787	0.936	ng		96
3) Dichlorodifluoromethan...	3.47	85	29132	1.102	ng		99
4) Chloromethane	3.62	50	15966	1.161	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	13018	1.069	ng		99
6) Vinyl Chloride	3.80	62	16529	1.013	ng		94
7) 1,3-Butadiene	3.91	54	12840	1.109	ng		95
8) Bromomethane	4.12	94	9565	0.939	ng		88
9) Chloroethane	4.26	64	7011	1.076	ng		100
10) Ethanol	4.40	45	27207	3.372	ng		94
11) Acetonitrile	4.55	41	17415	0.946	ng		100
12) Acrolein	4.63	56	12145	1.833	ng		97
13) Acetone	4.74	58	35910	5.191	ng		98
14) Trichlorofluoromethane	4.87	101	25081	1.064	ng		99
15) 2-Propanol (Isopropanol)	4.95	45	56986	2.248	ng		94
16) Acrylonitrile	5.10	53	25598	2.063	ng		99
17) 1,1-Dichloroethene	5.37	96	11274	1.131	ng		97
18) 2-Methyl-2-Propanol (t...	5.44	59	62196	2.358	ng		96
19) Methylene Chloride	5.45	84	11175	1.049	ng		99
20) 3-Chloro-1-propene (Al...	5.56	41	16015	1.036	ng		99
21) Trichlorotrifluoroethane	5.69	151	11634	1.152	ng		91
22) Carbon Disulfide	5.71	76	84028	2.029	ng		100
23) trans-1,2-Dichloroethene	6.23	61	17238	1.058	ng		96
24) 1,1-Dichloroethane	6.42	63	18894	1.025	ng		97
25) Methyl tert-Butyl Ether	6.48	73	37201	1.079	ng		100
26) Vinyl Acetate	6.55	86	5137	2.818	ng	#	95
27) 2-Butanone (MEK)	6.77	72	14019	2.222	ng	#	88
28) cis-1,2-Dichloroethene	7.18	61	15417	1.026	ng		98
29) Diisopropyl Ether	7.38	87	17378	2.170	ng	#	93
30) Ethyl Acetate	7.38	61	16536	4.095	ng		91
31) n-Hexane	7.40	57	16265	1.077	ng		99
32) Chloroform	7.46	83	21478	1.052	ng		99
34) Tetrahydrofuran (THF)	7.86	72	12068	1.990	ng	#	91
35) Ethyl tert-Butyl Ether	7.92	87	26728	2.120	ng		95
36) 1,2-Dichloroethane	8.21	62	19393	1.095	ng		93
38) 1,1,1-Trichloroethane	8.49	97	20973	1.129	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.92	56	252	No Calib		#	
41) Benzene	8.99	78	41610	1.057	ng		98
42) Carbon Tetrachloride	9.15	117	19089	1.109	ng		95
43) Cyclohexane	9.31	84	29303	2.080	ng		99
44) tert-Amyl Methyl Ether	9.68	73	67219	2.181	ng		99
45) 1,2-Dichloropropane	9.94	63	9632	1.042	ng		99
46) Bromodichloromethane	10.16	83	17382	1.104	ng		99
47) Trichloroethene	10.23	130	12653	1.108	ng		95
48) 1,4-Dioxane	10.22	88	8671	1.143	ng		98
49) 2,2,4-Trimethylpentane...	10.32	57	42691	1.081	ng		99
50) Methyl Methacrylate	10.49	100	8545	2.181	ng		99

Data File : I:\MS13\DATA\2022 08\17\08172217.D Vial: 14
Acq On : 17 Aug 2022 17:09 Operator: TZ
Sample : 1.0ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172207 (9/16)

Quant Time: Aug 18 11:30:47 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

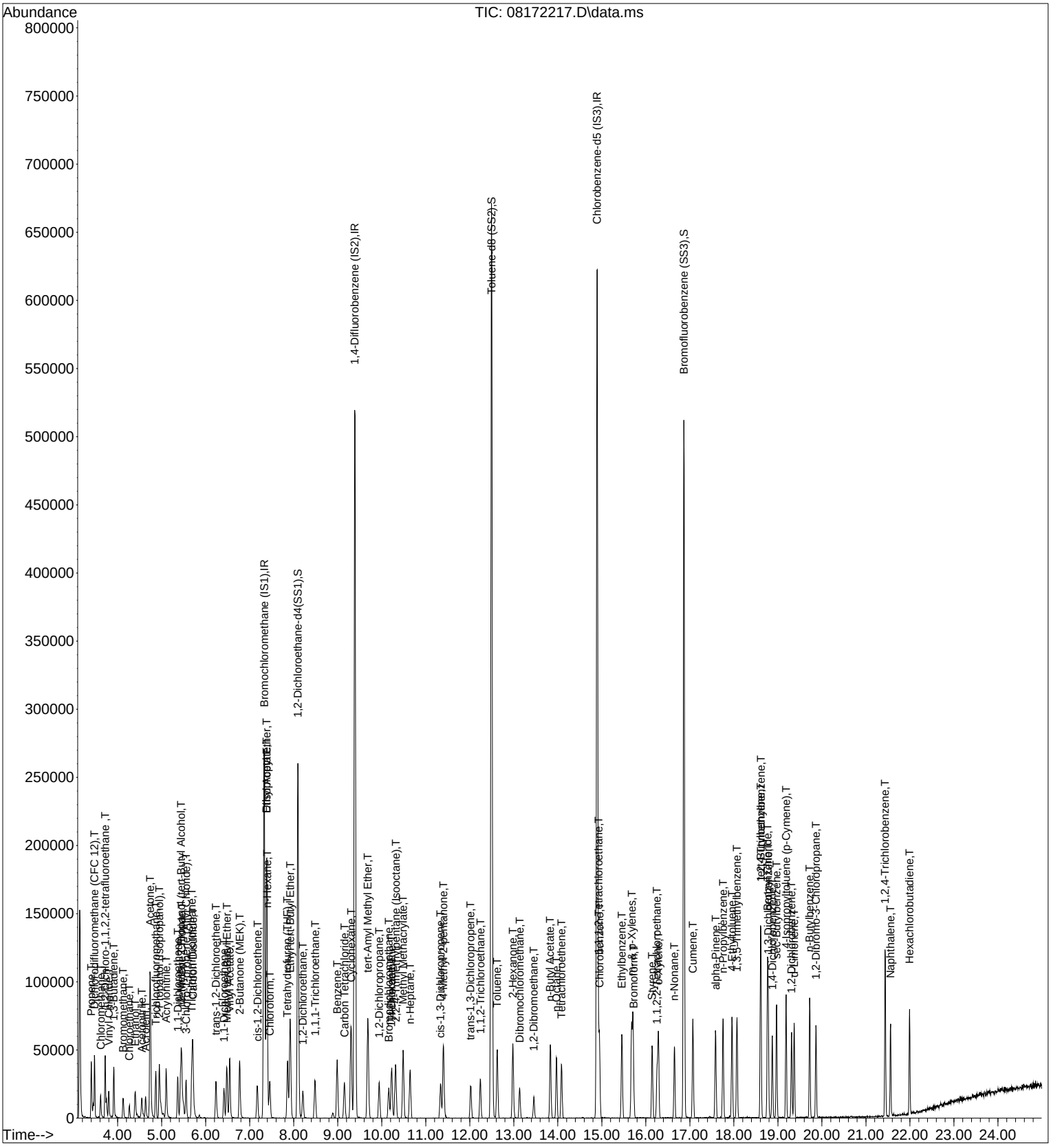
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.64	71	9423	1.079 ng		96
52) cis-1,3-Dichloropropene	11.33	75	18175	1.101 ng		95
53) 4-Methyl-2-pentanone	11.40	58	17666	2.122 ng		99
54) trans-1,3-Dichloropropene	12.02	75	17768	1.075 ng		94
55) 1,1,2-Trichloroethane	12.24	97	10667	1.189 ng		92
58) Toluene	12.62	91	45364	1.090 ng		100
59) 2-Hexanone	12.98	43	43003	2.097 ng		99
60) Dibromochloromethane	13.13	129	15231	1.151 ng		98
61) 1,2-Dibromoethane	13.46	107	12914	1.067 ng		95
62) n-Butyl Acetate	13.83	43	46174	2.019 ng		96
63) n-Octane	13.97	57	8898	1.097 ng		97
64) Tetrachloroethene	14.08	166	13770	1.099 ng		100
65) Chlorobenzene	14.95	112	29912	1.087 ng		97
66) Ethylbenzene	15.45	91	52700	1.076 ng		98
67) m- & p-Xylenes	15.68	91	89272	2.322 ng		100
68) Bromoform	15.72	173	12578	1.083 ng		99
69) Styrene	16.14	104	29072	1.033 ng		98
70) o-Xylene	16.28	91	44369	1.094 ng		98
71) n-Nonane	16.65	43	20139	1.059 ng		98
72) 1,1,2,2-Tetrachloroethane	16.25	83	18318	1.065 ng		98
74) Cumene	17.07	105	53256	1.115 ng		97
75) alpha-Pinene	17.59	93	27304	1.082 ng		100
76) n-Propylbenzene	17.75	91	63943	1.094 ng		98
77) 3-Ethyltoluene	17.07	105	53256	No Calib		
78) 4-Ethyltoluene	17.96	105	52151	1.104 ng		99
79) 1,3,5-Trimethylbenzene	18.07	105	47123	1.124 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.07	105	53256	No Calib		
82) 1,2,4-Trimethylbenzene	18.61	105	45540	1.094 ng		98
83) n-Decane	17.07	58	327	No Calib	#	
84) Benzyl Chloride	18.77	91	72782	2.108 ng		99
85) 1,3-Dichlorobenzene	18.78	146	25116	1.065 ng		98
86) 1,4-Dichlorobenzene	18.87	146	26372	1.106 ng		100
87) sec-Butylbenzene	18.97	105	59990	1.104 ng		99
88) 4-Isopropyltoluene (p-...	19.19	119	53312	1.115 ng		100
89) 1,2,3-Trimethylbenzene	17.07	105	53256	No Calib		
90) 1,2-Dichlorobenzene	19.31	146	25699	1.099 ng		99
91) d-Limonene	19.37	68	14905	1.077 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.86	157	17785	2.021 ng		96
93) n-Undecane	18.07	58	591	No Calib	#	
94) 1,2,4-Trichlorobenzene	21.43	180	35770	2.129 ng		99
95) Naphthalene	21.56	128	49402	1.068 ng		99
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.99	225	14277	1.070 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.61	119	42274	1.075 ng		100
100) n-Butylbenzene	19.72	91	48467	1.095 ng		97
101) 1,1,1,2-Tetrachloroethane	14.92	131	11990	1.089 ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172217.D Vial: 14
Acq On : 17 Aug 2022 17:09 Operator: TZ
Sample : 1.0ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172207 (9/16)

Quant Time: Aug 18 11:30:47 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172218.D Vial: 14
Acq On : 17 Aug 2022 17:46 Operator: TZ
Sample : 5.0ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172207 (9/16)

TZ 8/18/22

Quant Time: Aug 18 11:30:50 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.34	130	113460	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.40	114	503752	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.90	54	100924	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.11	65	225923	12.458	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
57) Toluene-d8 (SS2)	12.50	98	569676	12.345	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	16.87	174	171134	12.424	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
Target Compounds							Qvalue
2) Propene	3.38	42	69249	5.514	ng		98
3) Dichlorodifluoromethan...	3.46	85	138947	5.272	ng		100
4) Chloromethane	3.59	50	61004	4.449	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	64398	5.302	ng		100
6) Vinyl Chloride	3.78	62	81846	5.031	ng		99
7) 1,3-Butadiene	3.90	54	63253	5.476	ng		98
8) Bromomethane	4.11	94	50361	4.958	ng		100
9) Chloroethane	4.25	64	35055	5.398	ng		99
10) Ethanol	4.41	45	130885	16.267	ng		98
11) Acetonitrile	4.56	41	83490	4.548	ng		98
12) Acrolein	4.63	56	63122	9.553	ng		99
13) Acetone	4.74	58	173508	25.152	ng		99
14) Trichlorofluoromethane	4.86	101	118806	5.054	ng		99
15) 2-Propanol (Isopropanol)	4.96	45	235052	9.301	ng		97
16) Acrylonitrile	5.11	53	126819	10.249	ng		99
17) 1,1-Dichloroethene	5.36	96	54700	5.502	ng		99
18) 2-Methyl-2-Propanol (t...	5.44	59	288141	10.956	ng		100
19) Methylene Chloride	5.47	84	54215	5.106	ng		99
20) 3-Chloro-1-propene (Al...	5.56	41	80378	5.215	ng		100
21) Trichlorotrifluoroethane	5.68	151	54423	5.402	ng		98
22) Carbon Disulfide	5.70	76	404291	9.788	ng		99
23) trans-1,2-Dichloroethene	6.25	61	87348	5.376	ng		98
24) 1,1-Dichloroethane	6.43	63	95874	5.216	ng		99
25) Methyl tert-Butyl Ether	6.47	73	185223	5.390	ng		99
26) Vinyl Acetate	6.55	86	26849	14.769	ng	#	96
27) 2-Butanone (MEK)	6.77	72	64293	10.219	ng		97
28) cis-1,2-Dichloroethene	7.18	61	78748	5.254	ng		99
29) Diisopropyl Ether	7.38	87	83334	10.436	ng	#	95
30) Ethyl Acetate	7.39	61	83734	20.794	ng		98
31) n-Hexane	7.39	57	82487	5.477	ng		98
32) Chloroform	7.47	83	106152	5.215	ng		99
34) Tetrahydrofuran (THF)	7.86	72	60619	10.023	ng		97
35) Ethyl tert-Butyl Ether	7.92	87	133169	10.594	ng		97
36) 1,2-Dichloroethane	8.22	62	94386	5.345	ng		99
38) 1,1,1-Trichloroethane	8.49	97	102766	5.432	ng		98
39) Isopropyl Acetate	9.32	61	144	No Calib		#	
40) 1-Butanol	8.90	56	2664	No Calib		#	
41) Benzene	8.99	78	207529	5.174	ng		100
42) Carbon Tetrachloride	9.16	117	92426	5.271	ng		100
43) Cyclohexane	9.31	84	144916	10.098	ng		99
44) tert-Amyl Methyl Ether	9.69	73	327069	10.422	ng		99
45) 1,2-Dichloropropane	9.95	63	48462	5.147	ng		99
46) Bromodichloromethane	10.17	83	87995	5.486	ng		98
47) Trichloroethene	10.24	130	59394	5.105	ng		99
48) 1,4-Dioxane	10.21	88	41432	5.363	ng		99
49) 2,2,4-Trimethylpentane...	10.32	57	208786	5.191	ng		99
50) Methyl Methacrylate	10.49	100	43045	10.787	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172218.D Vial: 14
Acq On : 17 Aug 2022 17:46 Operator: TZ
Sample : 5.0ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172207 (9/16)

Quant Time: Aug 18 11:30:50 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

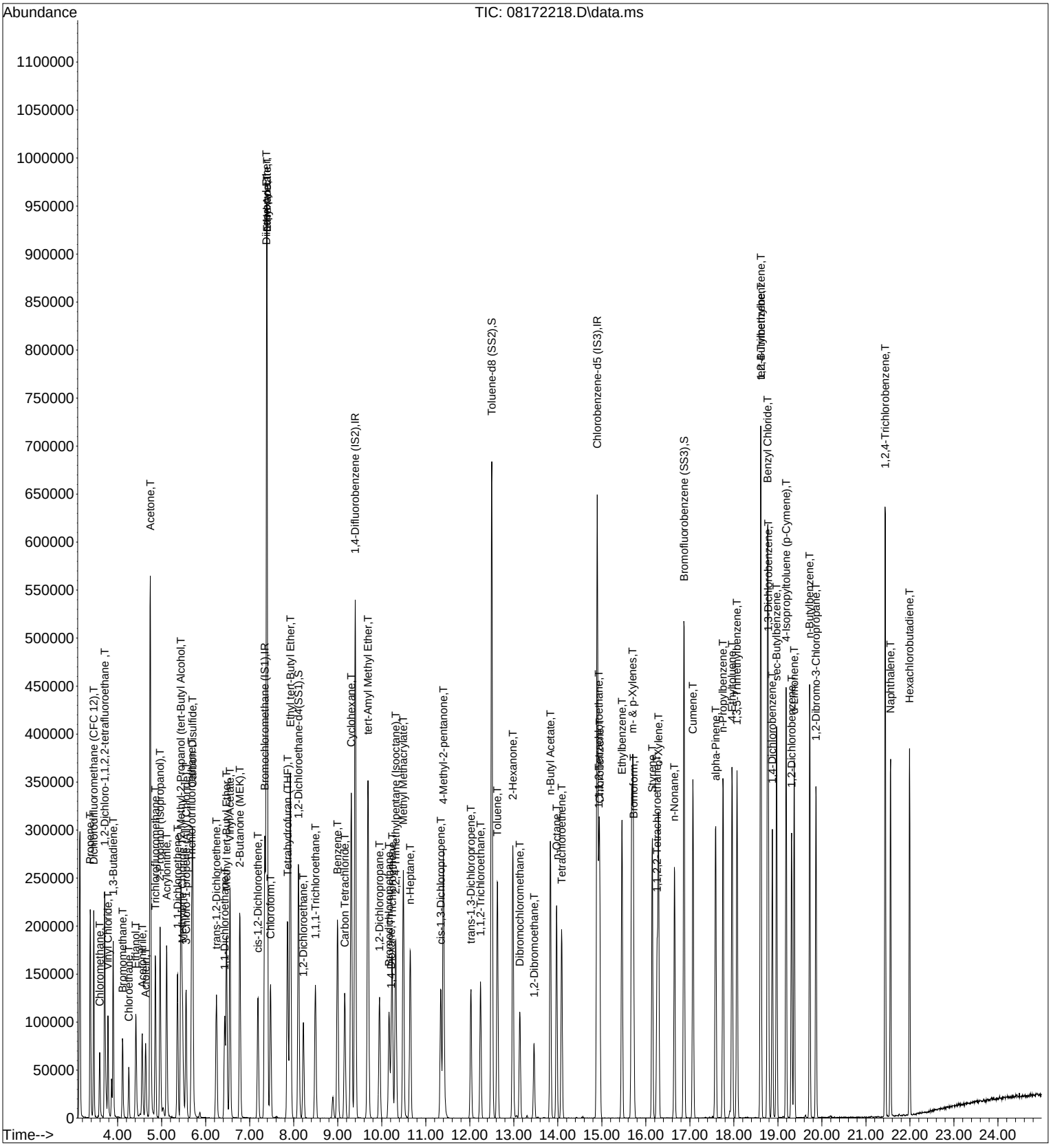
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.64	71	47645	5.358 ng		98
52) cis-1,3-Dichloropropene	11.34	75	90131	5.360 ng		99
53) 4-Methyl-2-pentanone	11.40	58	90679	10.696 ng		98
54) trans-1,3-Dichloropropene	12.03	75	85853	5.100 ng		99
55) 1,1,2-Trichloroethane	12.24	97	52988	5.800 ng		99
58) Toluene	12.62	91	220893	5.130 ng		100
59) 2-Hexanone	12.98	43	224688	10.592 ng		99
60) Dibromochloromethane	13.14	129	75120	5.486 ng		98
61) 1,2-Dibromoethane	13.46	107	64814	5.176 ng		99
62) n-Butyl Acetate	13.83	43	247028	10.444 ng		100
63) n-Octane	13.97	57	44473	5.299 ng		97
64) Tetrachloroethene	14.09	166	65825	5.079 ng		100
65) Chlorobenzene	14.95	112	147307	5.174 ng		99
66) Ethylbenzene	15.46	91	257593	5.083 ng		98
67) m- & p-Xylenes	15.70	91	438377	11.021 ng		99
68) Bromoform	15.72	173	62905	5.238 ng		98
69) Styrene	16.15	104	154204	5.296 ng		99
70) o-Xylene	16.28	91	215782	5.142 ng		99
71) n-Nonane	16.65	43	98172	4.991 ng		99
72) 1,1,2,2-Tetrachloroethane	16.26	83	93495	5.257 ng		99
74) Cumene	17.07	105	264452	5.351 ng		99
75) alpha-Pinene	17.59	93	135147	5.177 ng		99
76) n-Propylbenzene	17.75	91	320502	5.299 ng		99
77) 3-Ethyltoluene	17.07	105	264452	No Calib		
78) 4-Ethyltoluene	17.96	105	264151	5.404 ng		99
79) 1,3,5-Trimethylbenzene	18.07	105	228779	5.275 ng		100
80) alpha-Methylstyrene	17.07	118	737	No Calib	#	
81) 2-Ethyltoluene	17.07	105	264452	No Calib		
82) 1,2,4-Trimethylbenzene	18.61	105	232244	5.395 ng		99
83) n-Decane	17.07	58	2080	No Calib		
84) Benzyl Chloride	18.77	91	386722	10.828 ng		98
85) 1,3-Dichlorobenzene	18.78	146	127054	5.206 ng		99
86) 1,4-Dichlorobenzene	18.87	146	128628	5.216 ng		99
87) sec-Butylbenzene	18.97	105	294982	5.247 ng		99
88) 4-Isopropyltoluene (p-...	19.19	119	260726	5.273 ng		99
89) 1,2,3-Trimethylbenzene	17.07	105	264452	No Calib		
90) 1,2-Dichlorobenzene	19.31	146	124811	5.161 ng		97
91) d-Limonene	19.37	68	76710	5.361 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.86	157	96997	10.656 ng		95
93) n-Undecane	18.07	58	4045	No Calib		
94) 1,2,4-Trichlorobenzene	21.44	180	184213	10.598 ng		98
95) Naphthalene	21.56	128	268192	5.603 ng		100
96) n-Dodecane	18.96	58	1984	No Calib	#	
97) Hexachlorobutadiene	21.99	225	70401	5.102 ng		97
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.61	119	213043	5.235 ng		98
100) n-Butylbenzene	19.72	91	245520	5.361 ng		100
101) 1,1,1,2-Tetrachloroethane	14.93	131	59028	5.183 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172218.D Vial: 14
Acq On : 17 Aug 2022 17:46 Operator: TZ
Sample : 5.0ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172207 (9/16)

Quant Time: Aug 18 11:30:50 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172219.D Vial: 15
Acq On : 17 Aug 2022 18:23 Operator: TZ
Sample : 25ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172203 (9/16)

TZ 8/18/22

Quant Time: Aug 18 11:30:51 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.37	130	119786	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.41	114	517203	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.90	54	104422	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.12	65	236838	12.370	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
57) Toluene-d8 (SS2)	12.50	98	597538	12.515	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%			
73) Bromofluorobenzene (SS3)	16.87	174	176882	12.411	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%			
Target Compounds						Qvalue
2) Propene	3.37	42	333720	25.169	ng	100
3) Dichlorodifluoromethan...	3.45	85	718198	25.812	ng	100
4) Chloromethane	3.59	50	385965	26.664	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.70	135	330959	25.810	ng	100
6) Vinyl Chloride	3.78	62	418740	24.379	ng	100
7) 1,3-Butadiene	3.90	54	338134	27.730	ng	100
8) Bromomethane	4.12	94	269372	25.119	ng	100
9) Chloroethane	4.26	64	175248	25.560	ng	100
10) Ethanol	4.44	45	690080	81.238	ng	100
11) Acetonitrile	4.58	41	449395	23.188	ng	100
12) Acrolein	4.65	56	338647	48.544	ng	100
13) Acetone	4.76	58	924207	126.899	ng	100
14) Trichlorofluoromethane	4.86	101	611227	24.629	ng	100
15) 2-Propanol (Isopropanol)	4.99	45	1380012	51.723	ng	100
16) Acrylonitrile	5.14	53	694447	53.156	ng	100
17) 1,1-Dichloroethene	5.37	96	285495	27.201	ng	100
18) 2-Methyl-2-Propanol (t...	5.46	59	1620754	58.370	ng	100
19) Methylene Chloride	5.49	84	283858	25.320	ng	100
20) 3-Chloro-1-propene (Al...	5.57	41	430413	26.453	ng	100
21) Trichlorotrifluoroethane	5.68	151	275275	25.882	ng	100
22) Carbon Disulfide	5.72	76	2140879	49.094	ng	100
23) trans-1,2-Dichloroethene	6.27	61	459454	26.782	ng	100
24) 1,1-Dichloroethane	6.45	63	503878	25.965	ng	100
25) Methyl tert-Butyl Ether	6.48	73	974495	26.861	ng	100
26) Vinyl Acetate	6.57	86	148504	77.376	ng	100
27) 2-Butanone (MEK)	6.79	72	350612	52.785	ng	100
28) cis-1,2-Dichloroethene	7.21	61	424546	26.828	ng	100
29) Diisopropyl Ether	7.39	87	437076	51.845	ng	100
30) Ethyl Acetate	7.41	61	441862	103.932	ng	100
31) n-Hexane	7.40	57	417250	26.242	ng	100
32) Chloroform	7.50	83	558183	25.975	ng	100
34) Tetrahydrofuran (THF)	7.87	72	323056	50.596	ng	100
35) Ethyl tert-Butyl Ether	7.93	87	697312	52.545	ng	100
36) 1,2-Dichloroethane	8.24	62	494289	26.513	ng	100
38) 1,1,1-Trichloroethane	8.51	97	541978	27.901	ng	100
39) Isopropyl Acetate	9.31	61	1698	No Calib	#	
40) 1-Butanol	8.89	56	12297	No Calib		
41) Benzene	9.01	78	1087078	26.398	ng	100
42) Carbon Tetrachloride	9.17	117	478313	26.567	ng	100
43) Cyclohexane	9.32	84	774015	52.533	ng	100
44) tert-Amyl Methyl Ether	9.69	73	1727247	53.605	ng	100
45) 1,2-Dichloropropane	9.96	63	255353	26.414	ng	100
46) Bromodichloromethane	10.17	83	454261	27.585	ng	100
47) Trichloroethene	10.25	130	310556	26.001	ng	100
48) 1,4-Dioxane	10.22	88	220613	27.816	ng	100
49) 2,2,4-Trimethylpentane...	10.33	57	1105975	26.781	ng	100
50) Methyl Methacrylate	10.50	100	233064	56.889	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172219.D Vial: 15
Acq On : 17 Aug 2022 18:23 Operator: TZ
Sample : 25ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172203 (9/16)

Quant Time: Aug 18 11:30:51 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

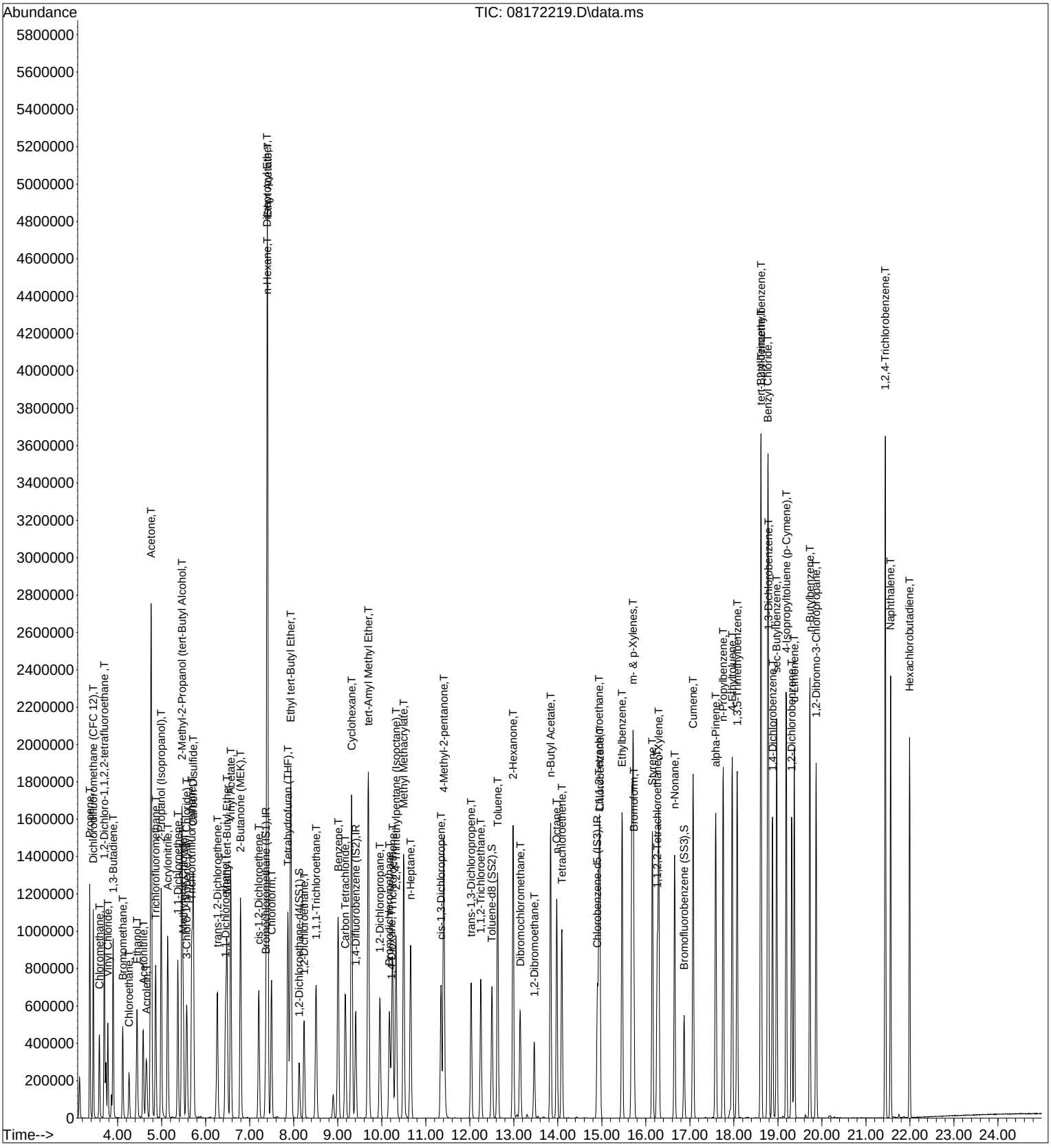
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.66	71	254437	27.870 ng		100
52) cis-1,3-Dichloropropene	11.34	75	477513	27.657 ng		100
53) 4-Methyl-2-pentanone	11.41	58	489476	56.235 ng		100
54) trans-1,3-Dichloropropene	12.03	75	475297	27.498 ng		100
55) 1,1,2-Trichloroethane	12.25	97	282526	30.122 ng		100
58) Toluene	12.63	91	1175447	26.386 ng		100
59) 2-Hexanone	12.98	43	1224201	55.778 ng		100
60) Dibromochloromethane	13.15	129	399687	28.212 ng		100
61) 1,2-Dibromoethane	13.47	107	341558	26.362 ng		100
62) n-Butyl Acetate	13.84	43	1323129	54.064 ng		100
63) n-Octane	13.97	57	232385	26.762 ng		100
64) Tetrachloroethene	14.09	166	343178	25.594 ng		100
65) Chlorobenzene	14.96	112	774889	26.303 ng		100
66) Ethylbenzene	15.46	91	1389219	26.497 ng		100
67) m- & p-Xylenes	15.71	91	2310420	56.138 ng		100
68) Bromoform	15.73	173	336150	27.055 ng		100
69) Styrene	16.15	104	845463	28.065 ng		100
70) o-Xylene	16.29	91	1148828	26.457 ng		100
71) n-Nonane	16.65	43	538218	26.446 ng		100
72) 1,1,2,2-Tetrachloroethane	16.26	83	490242	26.641 ng		100
74) Cumene	17.08	105	1405311	27.483 ng		100
75) alpha-Pinene	17.59	93	728310	26.967 ng		100
76) n-Propylbenzene	17.76	91	1710144	27.330 ng		100
77) 3-Ethyltoluene	17.08	105	1405311	No Calib		
78) 4-Ethyltoluene	17.96	105	1398244	27.645 ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	1204416	26.839 ng		100
80) alpha-Methylstyrene	17.08	118	2271	No Calib	#	
81) 2-Ethyltoluene	17.08	105	1405311	No Calib		
82) 1,2,4-Trimethylbenzene	18.62	105	1225295	27.512 ng		100
83) n-Decane	17.07	58	9234	No Calib		
84) Benzyl Chloride	18.77	91	2205448	59.680 ng		100
85) 1,3-Dichlorobenzene	18.79	146	667056	26.416 ng		100
86) 1,4-Dichlorobenzene	18.88	146	684064	26.810 ng		100
87) sec-Butylbenzene	18.97	105	1561002	26.838 ng		100
88) 4-Isopropyltoluene (p-...	19.19	119	1383670	27.045 ng		100
89) 1,2,3-Trimethylbenzene	17.08	105	1405311	No Calib		
90) 1,2-Dichlorobenzene	19.31	146	665026	26.580 ng		100
91) d-Limonene	19.37	68	429358	29.000 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.87	157	508262	53.968 ng		100
93) n-Undecane	18.07	58	19638	No Calib		
94) 1,2,4-Trichlorobenzene	21.44	180	1040842	57.875 ng		100
95) Naphthalene	21.56	128	1608856	32.484 ng		100
96) n-Dodecane	18.98	58	8735	No Calib	#	
97) Hexachlorobutadiene	21.99	225	366739	25.686 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.61	119	1123804	26.689 ng		100
100) n-Butylbenzene	19.73	91	1305392	27.550 ng		100
101) 1,1,1,2-Tetrachloroethane	14.94	131	314331	26.678 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172219.D Vial: 15
Acq On : 17 Aug 2022 18:23 Operator: TZ
Sample : 25ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172203 (9/16)

Quant Time: Aug 18 11:30:51 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172220.D Vial: 15
Acq On : 17 Aug 2022 19:00 Operator: TZ
Sample : 50ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172203 (9/16)

TZ 8/18/22

Quant Time: Aug 18 11:30:52 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.38	130	120698	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.42	114	539548	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.90	54	111632	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.14	65	248089	12.860	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%				
57) Toluene-d8 (SS2)	12.51	98	613117	12.012	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
73) Bromofluorobenzene (SS3)	16.87	174	187374	12.298	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
Target Compounds							Qvalue
2) Propene	3.37	42	757280	56.681	ng		98
3) Dichlorodifluoromethan...	3.45	85	1424543	50.810	ng		100
4) Chloromethane	3.59	50	687384	47.128	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.70	135	631319	48.861	ng		99
6) Vinyl Chloride	3.78	62	884761	51.122	ng		99
7) 1,3-Butadiene	3.91	54	702332	57.162	ng		98
8) Bromomethane	4.12	94	532921	49.320	ng		99
9) Chloroethane	4.27	64	357400	51.733	ng		99
10) Ethanol	4.46	45	1455532	170.054	ng		100
11) Acetonitrile	4.60	41	935908	47.927	ng		99
12) Acrolein	4.67	56	691701	98.404	ng		99
13) Acetone	4.78	58	1885447	256.927	ng		96
14) Trichlorofluoromethane	4.87	101	1224438	48.966	ng		100
15) 2-Propanol (Isopropanol)	5.01	45	2579792	95.961	ng		100
16) Acrylonitrile	5.15	53	1445606	109.817	ng		99
17) 1,1-Dichloroethene	5.37	96	570358	53.932	ng		97
18) 2-Methyl-2-Propanol (t...	5.48	59	2671573	95.487	ng		100
19) Methylene Chloride	5.50	84	574086	50.821	ng		98
20) 3-Chloro-1-propene (Al...	5.58	41	900676	54.936	ng		100
21) Trichlorotrifluoroethane	5.69	151	541852	50.561	ng		99
22) Carbon Disulfide	5.73	76	4351605	99.036	ng		100
23) trans-1,2-Dichloroethene	6.27	61	943983	54.611	ng		99
24) 1,1-Dichloroethane	6.46	63	1033810	52.871	ng		99
25) Methyl tert-Butyl Ether	6.49	73	1964602	53.743	ng		100
26) Vinyl Acetate	6.59	86	300633	155.458	ng	#	92
27) 2-Butanone (MEK)	6.81	72	710795	106.202	ng		95
28) cis-1,2-Dichloroethene	7.22	61	866994	54.374	ng		99
29) Diisopropyl Ether	7.41	87	867659	102.142	ng	#	90
30) Ethyl Acetate	7.42	61	904467	211.136	ng		100
31) n-Hexane	7.41	57	863736	53.912	ng		98
32) Chloroform	7.51	83	1135667	52.449	ng		99
34) Tetrahydrofuran (THF)	7.88	72	659207	102.463	ng		97
35) Ethyl tert-Butyl Ether	7.94	87	1414728	105.800	ng		98
36) 1,2-Dichloroethane	8.25	62	1008530	53.688	ng		100
38) 1,1,1-Trichloroethane	8.52	97	1093443	53.960	ng		100
39) Isopropyl Acetate	9.32	61	4421	No Calib		#	
40) 1-Butanol	8.91	56	26587	No Calib			
41) Benzene	9.02	78	2225591	51.807	ng		99
42) Carbon Tetrachloride	9.18	117	967414	51.507	ng		99
43) Cyclohexane	9.32	84	1558601	101.403	ng		98
44) tert-Amyl Methyl Ether	9.71	73	3558438	105.863	ng		100
45) 1,2-Dichloropropane	9.97	63	531352	52.688	ng		100
46) Bromodichloromethane	10.18	83	934400	54.391	ng		99
47) Trichloroethene	10.26	130	627656	50.373	ng		98
48) 1,4-Dioxane	10.23	88	452476	54.688	ng		99
49) 2,2,4-Trimethylpentane...	10.33	57	2285551	53.053	ng		100
50) Methyl Methacrylate	10.51	100	464129	108.597	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172220.D Vial: 15
Acq On : 17 Aug 2022 19:00 Operator: TZ
Sample : 50ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172203 (9/16)

Quant Time: Aug 18 11:30:52 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

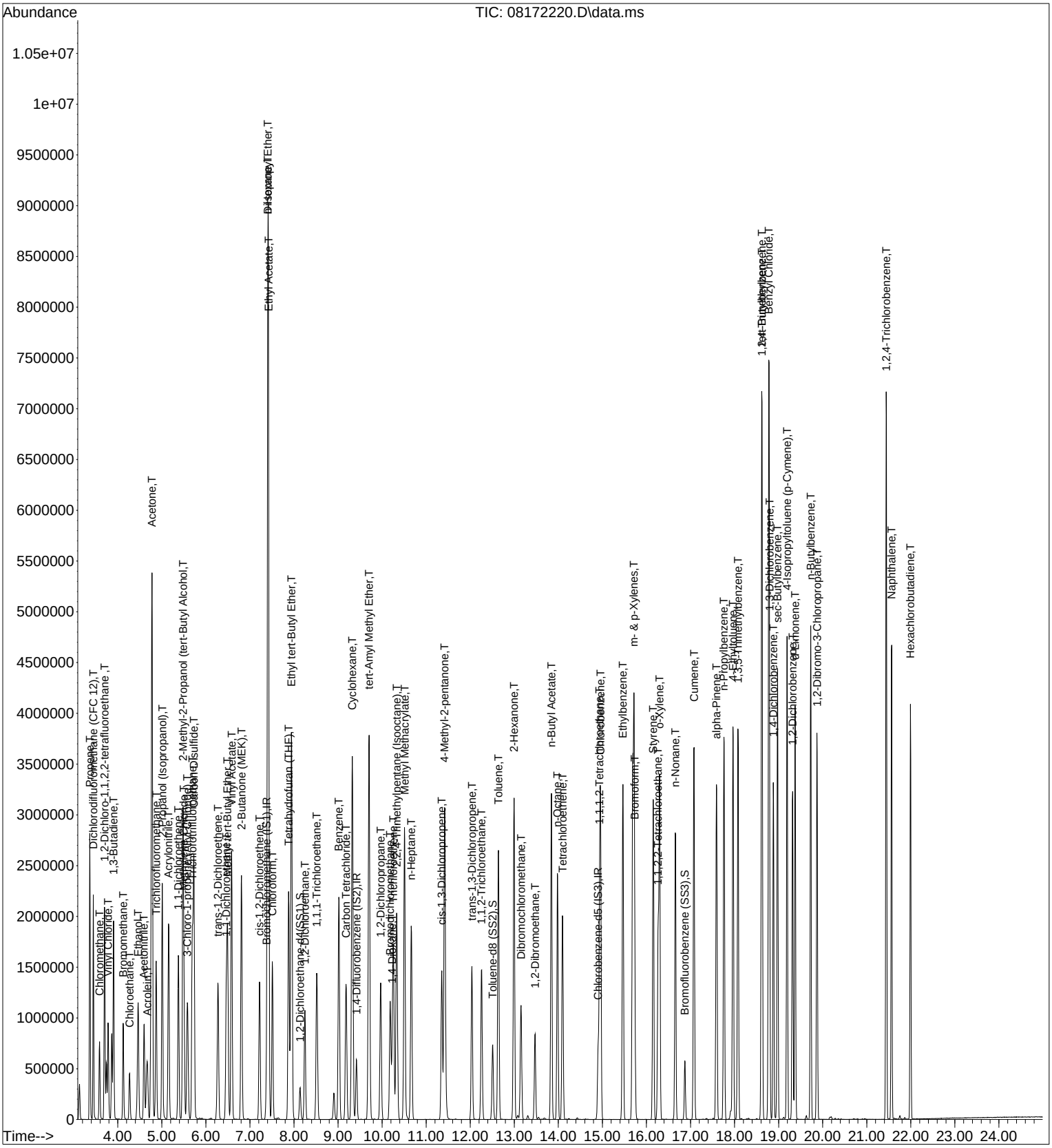
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.66	71	526004	55.231	ng		99
52) cis-1,3-Dichloropropene	11.36	75	986472	54.769	ng		100
53) 4-Methyl-2-pentanone	11.42	58	1004029	110.573	ng		96
54) trans-1,3-Dichloropropene	12.04	75	973747	54.003	ng		99
55) 1,1,2-Trichloroethane	12.26	97	572400	58.500	ng		99
58) Toluene	12.64	91	2385999	50.100	ng		100
59) 2-Hexanone	12.99	43	2564368	109.294	ng		100
60) Dibromochloromethane	13.15	129	802739	53.001	ng		99
61) 1,2-Dibromoethane	13.47	107	703806	50.813	ng		98
62) n-Butyl Acetate	13.84	43	2779814	106.249	ng		99
63) n-Octane	13.98	57	474792	51.148	ng		99
64) Tetrachloroethene	14.10	166	692661	48.322	ng		99
65) Chlorobenzene	14.96	112	1564288	49.670	ng		100
66) Ethylbenzene	15.46	91	2821533	50.340	ng		99
67) m- & p-Xylenes	15.72	91	4707731	106.999	ng		99
68) Bromoform	15.73	173	680869	51.260	ng		100
69) Styrene	16.15	104	1727434	53.639	ng		100
70) o-Xylene	16.30	91	2338838	50.383	ng		100
71) n-Nonane	16.65	43	1120386	51.496	ng		99
72) 1,1,2,2-Tetrachloroethane	16.26	83	1005191	51.096	ng		99
74) Cumene	17.08	105	2855914	52.245	ng		100
75) alpha-Pinene	17.59	93	1506349	52.172	ng		100
76) n-Propylbenzene	17.76	91	3486057	52.113	ng		100
77) 3-Ethyltoluene	17.08	105	2855914	No Calib			
78) 4-Ethyltoluene	17.96	105	2846320	52.641	ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	2471650	51.520	ng		99
80) alpha-Methylstyrene	17.08	118	4468	No Calib		#	
81) 2-Ethyltoluene	17.08	105	2855914	No Calib			
82) 1,2,4-Trimethylbenzene	18.62	105	2453055	51.522	ng		100
83) n-Decane	17.08	58	23033	No Calib			
84) Benzyl Chloride	18.78	91	4561920	115.474	ng		100
85) 1,3-Dichlorobenzene	18.79	146	1340233	49.647	ng		100
86) 1,4-Dichlorobenzene	18.88	146	1400643	51.348	ng		100
87) sec-Butylbenzene	18.98	105	3187635	51.266	ng		100
88) 4-Isopropyltoluene (p-...	19.19	119	2800046	51.194	ng		100
89) 1,2,3-Trimethylbenzene	17.08	105	2855914	No Calib			
90) 1,2-Dichlorobenzene	19.32	146	1343000	50.211	ng		100
91) d-Limonene	19.37	68	888391	56.128	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.88	157	1034533	102.754	ng		98
93) n-Undecane	18.08	58	42551	No Calib			
94) 1,2,4-Trichlorobenzene	21.45	180	2114547	109.984	ng		100
95) Naphthalene	21.57	128	3392951	64.082	ng		100
96) n-Dodecane	18.98	58	18170	No Calib		#	
97) Hexachlorobutadiene	21.99	225	742544	48.648	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.62	119	2257106	50.141	ng		99
100) n-Butylbenzene	19.73	91	2668857	52.688	ng		100
101) 1,1,1,2-Tetrachloroethane	14.94	131	627442	49.812	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172220.D Vial: 15
Acq On : 17 Aug 2022 19:00 Operator: TZ
Sample : 50ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172203 (9/16)

Quant Time: Aug 18 11:30:52 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172221.D Vial: 15
Acq On : 17 Aug 2022 19:36 Operator: TZ
Sample : 100ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172203 (9/16)

TZ 8/18/22

Quant Time: Aug 18 11:30:53 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.39	130	121447	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.43	114	565404	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.91	54	118005	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.15	65	251805	12.972	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
57) Toluene-d8 (SS2)	12.52	98	645534	11.964	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	16.88	174	189798	11.785	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
Target Compounds							Qvalue
2) Propene	3.38	42	1647107	122.524	ng		98
3) Dichlorodifluoromethan...	3.46	85	2838067	100.604	ng		100
4) Chloromethane	3.60	50	895516	61.019	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	1260394	96.947	ng		99
6) Vinyl Chloride	3.80	62	1687349	96.895	ng		99
7) 1,3-Butadiene	3.93	54	1445012	116.882	ng		93
8) Bromomethane	4.15	94	1073898	98.772	ng		97
9) Chloroethane	4.29	64	740111	106.469	ng		99
10) Ethanol	4.49	45	3050132	354.157	ng		99
11) Acetonitrile	4.62	41	1997855	101.678	ng		100
12) Acrolein	4.69	56	1443870	204.144	ng		98
13) Acetone	4.80	58	3898372	527.948	ng		94
14) Trichlorofluoromethane	4.89	101	2481376	98.620	ng		99
15) 2-Propanol (Isopropanol)	5.03	45	5085631	188.004	ng		98
16) Acrylonitrile	5.18	53	3018065	227.857	ng		99
17) 1,1-Dichloroethene	5.40	96	1170186	109.968	ng		96
18) 2-Methyl-2-Propanol (t...	5.51	59	2889336	102.633	ng		98
19) Methylene Chloride	5.52	84	1180190	103.831	ng		96
20) 3-Chloro-1-propene (Al...	5.60	41	1907454	115.627	ng		98
21) Trichlorotrifluoroethane	5.70	151	1079267	100.086	ng		98
22) Carbon Disulfide	5.74	76	8993730	203.422	ng		100
23) trans-1,2-Dichloroethene	6.29	61	1949694	112.097	ng		98
24) 1,1-Dichloroethane	6.48	63	2125083	108.011	ng		99
25) Methyl tert-Butyl Ether	6.51	73	3789412	103.022	ng		99
26) Vinyl Acetate	6.60	86	609364	313.160	ng	#	81
27) 2-Butanone (MEK)	6.83	72	1436033	213.239	ng	#	89
28) cis-1,2-Dichloroethene	7.24	61	1795017	111.881	ng		96
29) Diisopropyl Ether	7.42	87	1713525	200.475	ng	#	76
30) Ethyl Acetate	7.44	61	1853992	430.121	ng		98
31) n-Hexane	7.42	57	1767834	109.662	ng		98
32) Chloroform	7.53	83	2320545	106.509	ng		99
34) Tetrahydrofuran (THF)	7.90	72	1337161	206.559	ng		94
35) Ethyl tert-Butyl Ether	7.96	87	2855104	212.201	ng		94
36) 1,2-Dichloroethane	8.26	62	2057514	108.854	ng		100
38) 1,1,1-Trichloroethane	8.53	97	2191944	103.223	ng		100
39) Isopropyl Acetate	9.34	61	7999	No Calib		#	
40) 1-Butanol	8.93	56	56360	No Calib			
41) Benzene	9.03	78	4587313	101.900	ng		99
42) Carbon Tetrachloride	9.19	117	1938093	98.470	ng		100
43) Cyclohexane	9.34	84	3160718	196.234	ng		96
44) tert-Amyl Methyl Ether	9.72	73	7337523	208.308	ng		99
45) 1,2-Dichloropropane	9.98	63	1097156	103.818	ng		98
46) Bromodichloromethane	10.19	83	1912147	106.215	ng		99
47) Trichloroethene	10.27	130	1262359	96.679	ng		99
48) 1,4-Dioxane	10.24	88	931890	107.480	ng		98
49) 2,2,4-Trimethylpentane...	10.34	57	4792928	106.168	ng		100
50) Methyl Methacrylate	10.52	100	949387	211.980	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172221.D Vial: 15
Acq On : 17 Aug 2022 19:36 Operator: TZ
Sample : 100ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172203 (9/16)

Quant Time: Aug 18 11:30:53 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

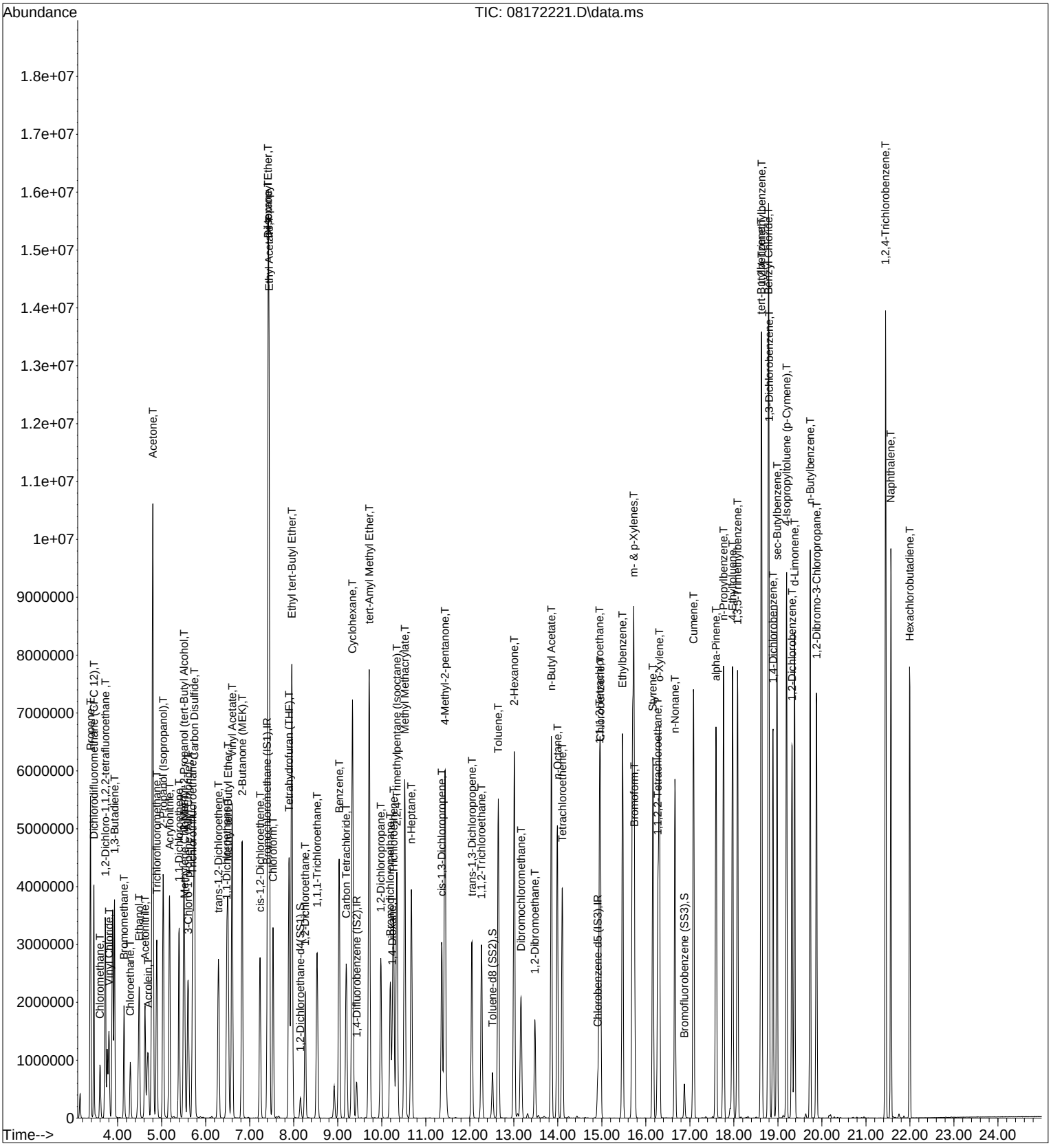
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.67	71	1089886	109.205 ng		99
52) cis-1,3-Dichloropropene	11.36	75	2047769	108.492 ng		100
53) 4-Methyl-2-pentanone	11.44	58	2099827	220.678 ng		94
54) trans-1,3-Dichloropropene	12.05	75	2016341	106.711 ng		99
55) 1,1,2-Trichloroethane	12.27	97	1180163	115.097 ng		99
58) Toluene	12.65	91	4912329	97.576 ng		100
59) 2-Hexanone	13.01	43	5479839	220.938 ng		99
60) Dibromochloromethane	13.17	129	1656943	103.492 ng		100
61) 1,2-Dibromoethane	13.48	107	1432590	97.843 ng		99
62) n-Butyl Acetate	13.85	43	5926196	214.277 ng		98
63) n-Octane	13.99	57	999159	101.823 ng		95
64) Tetrachloroethene	14.10	166	1394543	92.034 ng		99
65) Chlorobenzene	14.97	112	3153857	94.734 ng		100
66) Ethylbenzene	15.47	91	5794154	97.793 ng		98
67) m- & p-Xylenes	15.72	91	9604690	206.510 ng		99
68) Bromoform	15.74	173	1366365	97.314 ng		100
69) Styrene	16.16	104	3532348	103.760 ng		99
70) o-Xylene	16.31	91	4780245	97.414 ng		99
71) n-Nonane	16.66	43	2383981	103.657 ng		97
72) 1,1,2,2-Tetrachloroethane	16.27	83	2073873	99.726 ng		100
74) Cumene	17.08	105	5796087	100.305 ng		100
75) alpha-Pinene	17.59	93	3076821	100.810 ng		100
76) n-Propylbenzene	17.76	91	7186878	101.633 ng		99
77) 3-Ethyltoluene	17.08	105	5796087	No Calib		
78) 4-Ethyltoluene	17.97	105	5819590	101.816 ng		99
79) 1,3,5-Trimethylbenzene	18.08	105	5028996	99.165 ng		99
80) alpha-Methylstyrene	17.09	118	9012	No Calib	#	
81) 2-Ethyltoluene	17.08	105	5796087	No Calib		
82) 1,2,4-Trimethylbenzene	18.63	105	4949692	98.345 ng		99
83) n-Decane	17.08	58	39510	No Calib		
84) Benzyl Chloride	18.79	91	9359322	224.114 ng		98
85) 1,3-Dichlorobenzene	18.80	146	2649220	92.837 ng		99
86) 1,4-Dichlorobenzene	18.89	146	2843764	98.623 ng		99
87) sec-Butylbenzene	18.98	105	6518196	99.168 ng		99
88) 4-Isopropyltoluene (p-...	19.20	119	5634260	97.449 ng		99
89) 1,2,3-Trimethylbenzene	17.08	105	5796087	No Calib		
90) 1,2-Dichlorobenzene	19.32	146	2726671	96.438 ng		99
91) d-Limonene	19.38	68	1858713	111.090 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.88	157	2092711	196.630 ng		96
93) n-Undecane	18.08	58	89543	No Calib		
94) 1,2,4-Trichlorobenzene	21.45	180	4180509	205.697 ng		100
95) Naphthalene	21.57	128	6996525	125.005 ng		99
96) n-Dodecane	18.98	58	37550	No Calib	#	
97) Hexachlorobutadiene	22.00	225	1471463	91.197 ng		100
98) Cyclohexanone	15.29	55	331	No Calib	#	
99) tert-Butylbenzene	18.62	119	4496159	94.487 ng		99
100) n-Butylbenzene	19.73	91	5459236	101.954 ng		99
101) 1,1,1,2-Tetrachloroethane	14.95	131	1269623	95.351 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172221.D Vial: 15
Acq On : 17 Aug 2022 19:36 Operator: TZ
Sample : 100ng R13081722 ICAL Std. Inst : GCMS13
Misc : S35-08172209/S35-08172203 (9/16)

Quant Time: Aug 18 11:30:53 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:30:15 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172223.D Vial: 16
Acq On : 17 Aug 2022 20:53 Operator: TZ
Sample : 25ng R13081722 ICV Std. Inst : GCMS13
Misc : S35-08172209/S35-08172206 (9/16)

TZ 8/18/22

Quant Time: Aug 18 12:46:53 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:43:21 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.37	130	121314	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.41	114	537688	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.90	54	115479	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.12	65	245957	12.685	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
57) Toluene-d8 (SS2)	12.51	98	616430	11.675	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
73) Bromofluorobenzene (SS3)	16.88	174	188869	11.983	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
Target Compounds							Qvalue
2) Propene	3.37	42	365142	27.192	ng		98
3) Dichlorodifluoromethan...	3.45	85	719077	25.518	ng		100
4) Chloromethane	3.59	50	417215	28.459	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.70	135	322878	24.862	ng		99
6) Vinyl Chloride	3.78	62	438353	25.200	ng		100
7) 1,3-Butadiene	3.90	54	354611	28.715	ng		100
8) Bromomethane	4.12	94	280206	25.800	ng		98
9) Chloroethane	4.26	64	194458	28.004	ng		97
10) Ethanol	4.45	45	945068	109.854	ng		99
11) Acetonitrile	4.58	41	496633	25.303	ng		100
12) Acrolein	4.66	56	378893	53.629	ng		99
13) Acetone	4.77	58	984663	133.497	ng		100
14) Trichlorofluoromethane	4.86	101	606150	24.117	ng		100
15) 2-Propanol (Isopropanol)	4.99	45	1546494	57.233	ng		100
16) Acrylonitrile	5.14	53	734414	55.507	ng		99
17) 1,1-Dichloroethene	5.37	96	294660	27.721	ng		97
18) 2-Methyl-2-Propanol (t...	5.47	59	1680319	59.753	ng		99
19) Methylene Chloride	5.49	84	293601	25.859	ng		95
20) 3-Chloro-1-propene (Al...	5.57	41	435370	26.421	ng		98
21) Trichlorotrifluoroethane	5.69	151	275212	25.550	ng		98
22) Carbon Disulfide	5.72	76	2164705	49.015	ng		100
23) trans-1,2-Dichloroethene	6.27	61	480792	27.673	ng		98
24) 1,1-Dichloroethane	6.45	63	546033	27.783	ng		99
25) Methyl tert-Butyl Ether	6.48	73	996007	27.108	ng		100
26) Vinyl Acetate	6.58	86	238175	122.535	ng	#	86
27) 2-Butanone (MEK)	6.80	72	364050	54.118	ng		93
28) cis-1,2-Dichloroethene	7.21	61	445884	27.822	ng		97
29) Diisopropyl Ether	7.39	87	445481	52.176	ng	#	74
30) Ethyl Acetate	7.41	61	330358	76.726	ng		100
31) n-Hexane	7.40	57	450241	27.960	ng		98
32) Chloroform	7.50	83	576365	26.483	ng		99
34) Tetrahydrofuran (THF)	7.87	72	355897	55.038	ng		95
35) Ethyl tert-Butyl Ether	7.94	87	710819	52.888	ng		96
36) 1,2-Dichloroethane	8.24	62	509838	27.003	ng		100
38) 1,1,1-Trichloroethane	8.51	97	555589	26.373	ng		99
39) Isopropyl Acetate	9.32	61	2001	No Calib		#	
40) 1-Butanol	8.90	56	7757	No Calib		#	
41) Benzene	9.01	78	1151975	26.908	ng		99
42) Carbon Tetrachloride	9.18	117	460019	24.577	ng		99
43) Cyclohexane	9.32	84	796239	51.983	ng		97
44) tert-Amyl Methyl Ether	9.69	73	1785548	53.303	ng		99
45) 1,2-Dichloropropane	9.96	63	273234	27.187	ng		99
46) Bromodichloromethane	10.18	83	474733	27.730	ng		98
47) Trichloroethene	10.25	130	322733	25.991	ng		99
48) 1,4-Dioxane	10.22	88	230843	27.997	ng		97
49) 2,2,4-Trimethylpentane...	10.33	57	1153172	26.861	ng		100
50) Methyl Methacrylate	10.50	100	232820	54.664	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172223.D Vial: 16
Acq On : 17 Aug 2022 20:53 Operator: TZ
Sample : 25ng R13081722 ICV Std. Inst : GCMS13
Misc : S35-08172209/S35-08172206 (9/16)

Quant Time: Aug 18 12:46:53 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:43:21 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

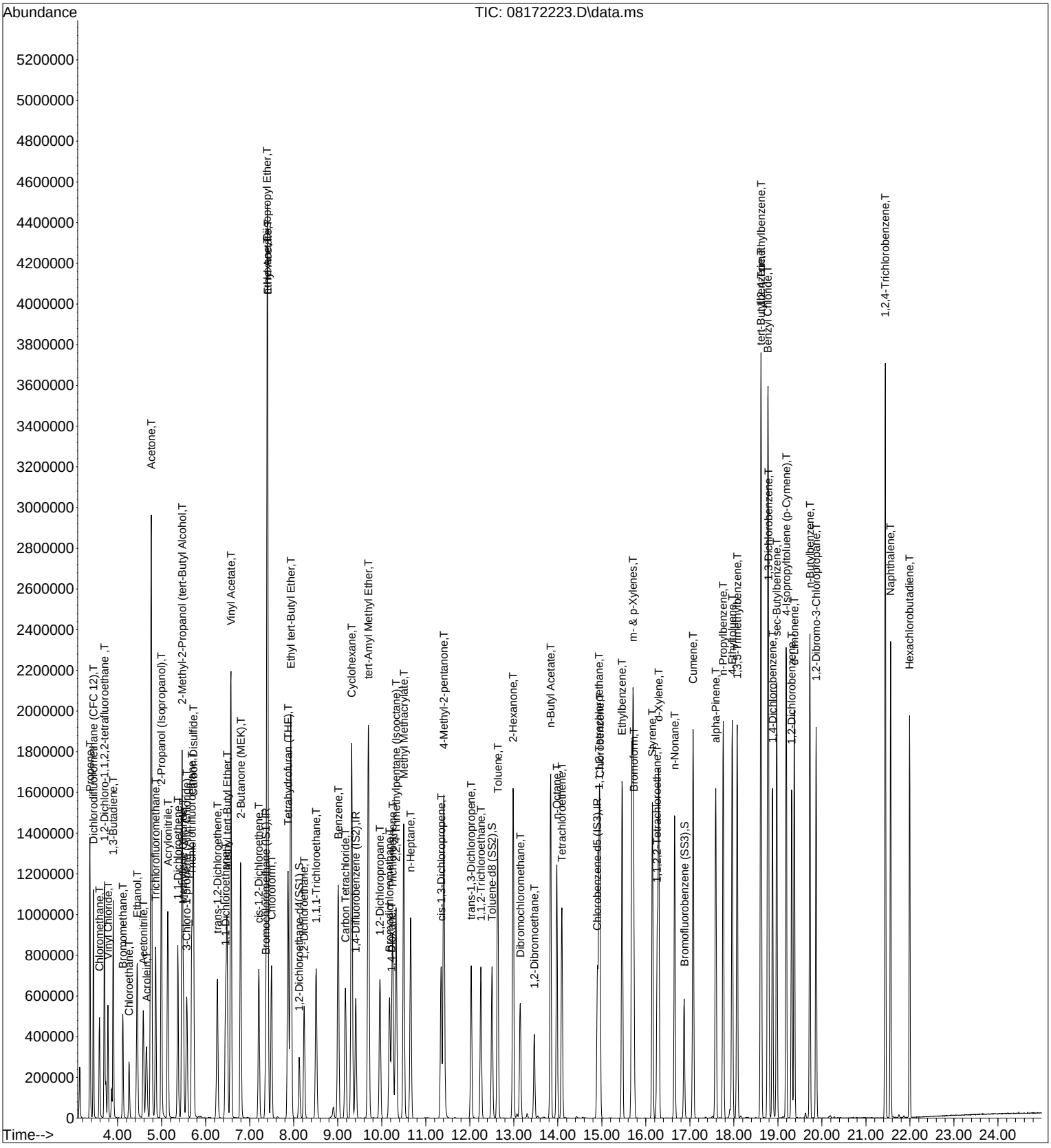
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.66	71	262620	27.671 ng		98
52) cis-1,3-Dichloropropene	11.35	75	505095	28.140 ng		98
53) 4-Methyl-2-pentanone	11.41	58	511365	56.511 ng		96
54) trans-1,3-Dichloropropene	12.03	75	486778	27.090 ng		99
55) 1,1,2-Trichloroethane	12.26	97	292987	27.307 ng		100
58) Toluene	12.64	91	1217465	24.712 ng		100
59) 2-Hexanone	12.98	43	1300955	53.600 ng		100
60) Dibromochloromethane	13.15	129	391117	24.963 ng		99
61) 1,2-Dibromoethane	13.47	107	345419	24.107 ng		98
62) n-Butyl Acetate	13.84	43	1441099	53.246 ng		99
63) n-Octane	13.98	57	239898	24.982 ng		98
64) Tetrachloroethene	14.09	166	353308	23.827 ng		99
65) Chlorobenzene	14.96	112	785034	24.096 ng		100
66) Ethylbenzene	15.46	91	1426592	24.605 ng		100
67) m- & p-Xylenes	15.71	91	2383249	49.386 ng		100
68) Bromoform	15.73	173	333821	24.295 ng		99
69) Styrene	16.15	104	853991	25.634 ng		99
70) o-Xylene	16.29	91	1169737	24.359 ng		100
71) n-Nonane	16.65	43	575183	25.556 ng		98
72) 1,1,2,2-Tetrachloroethane	16.26	83	510377	25.079 ng		99
74) Cumene	17.08	105	1416666	25.053 ng		99
75) alpha-Pinene	17.59	93	716391	23.986 ng		100
76) n-Propylbenzene	17.76	91	1728419	24.977 ng		100
77) 3-Ethyltoluene	17.08	105	1416666	No Calib		
78) 4-Ethyltoluene	17.96	105	1395876	24.956 ng		100
79) 1,3,5-Trimethylbenzene	18.08	105	1244051	25.067 ng		99
80) alpha-Methylstyrene	17.07	118	2868	No Calib	#	
81) 2-Ethyltoluene	17.08	105	1416666	No Calib		
82) 1,2,4-Trimethylbenzene	18.62	105	1252570	25.431 ng		99
83) n-Decane	17.08	58	9735	No Calib		
84) Benzyl Chloride	18.77	91	2227071	54.495 ng		100
85) 1,3-Dichlorobenzene	18.79	146	672937	24.098 ng		100
86) 1,4-Dichlorobenzene	18.88	146	690002	24.453 ng		100
87) sec-Butylbenzene	18.98	105	1560941	24.268 ng		99
88) 4-Isopropyltoluene (p-...	19.19	119	1353994	23.931 ng		99
89) 1,2,3-Trimethylbenzene	17.08	105	1416666	No Calib		
90) 1,2-Dichlorobenzene	19.31	146	663365	23.975 ng		99
91) d-Limonene	19.37	68	445150	27.187 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.87	157	507470	48.725 ng		98
93) n-Undecane	18.08	58	22991	No Calib		
94) 1,2,4-Trichlorobenzene	21.44	180	1051716	52.881 ng		100
95) Naphthalene	21.56	128	1607564	29.350 ng		100
96) n-Dodecane	18.97	58	9283	No Calib	#	
97) Hexachlorobutadiene	21.99	225	355999	22.546 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.61	119	1124211	24.142 ng		100
100) n-Butylbenzene	19.73	91	1311913	25.036 ng		99
101) 1,1,1,2-Tetrachloroethane	14.94	131	311322	23.892 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 08\17\08172223.D Vial: 16
Acq On : 17 Aug 2022 20:53 Operator: TZ
Sample : 25ng R13081722 ICV Std. Inst : GCMS13
Misc : S35-08172209/S35-08172206 (9/16)

Quant Time: Aug 18 12:46:53 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Aug 18 11:43:21 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2022 09\08\09082201.D Vial: 1
Acq On : 8 Sep 2022 14:19 Operator: TZ
Sample : CCV R13090822 25ng Inst : MS13
Misc : S35-08172209/S35-08242204 (9/23)

TZ 9/8/22

Quant Time: Sep 08 14:44:18 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	136	0.02
2	T	Propene	1.384	1.147	17.1	118	0.01
3	T	Dichlorodifluoromethane (CF	2.904	2.513	13.5	121	0.02
4	T	Chloromethane	1.511	1.291	14.6	112	0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.338	1.148	14.2	118	0.02
6	T	Vinyl Chloride	1.792	1.528	14.7	120	0.02
7	T	1,3-Butadiene	1.272	1.188	6.6	121	0.02
8	T	Bromomethane	1.119	0.951	15.0	117	0.02
9	T	Chloroethane	0.715	0.655	8.4	125	0.02
10	T	Ethanol	0.886	0.743	16.1	121	0.02
11	T	Acetonitrile	2.022	1.850	8.5	122	0.02
12	T	Acrolein	0.728	0.657	9.8	122	0.02
13	T	Acetone	0.760	0.669	12.0	124	0.02
14	T	Trichlorofluoromethane	2.590	2.251	13.1	125	0.02
15	T	2-Propanol (Isopropanol)	2.784	2.471	11.2	120	0.02
16	T	Acrylonitrile	1.363	1.274	6.5	123	0.02
17	T	1,1-Dichloroethene	1.095	0.996	9.0	123	0.01
18	T	2-Methyl-2-Propanol (tert-B	2.898	2.744	5.3	116	0.02
19	T	Methylene Chloride	1.170	1.011	13.6	123	0.02
20	T	3-Chloro-1-propene (Allyl C	1.698	1.540	9.3	124	0.02
21	T	Trichlorotrifluoroethane	1.110	0.976	12.1	125	0.02
22	T	Carbon Disulfide	4.551	3.709	18.5	120	0.02
23	T	trans-1,2-Dichloroethene	1.790	1.594	10.9	122	0.02
24	T	1,1-Dichloroethane	2.025	1.799	11.2	124	0.02
25	T	Methyl tert-Butyl Ether	3.786	3.527	6.8	126	0.02
26	T	Vinyl Acetate	0.200	0.211	-5.5	129	0.02
27	T	2-Butanone (MEK)	0.693	0.650	6.2	126	0.02
28	T	cis-1,2-Dichloroethene	1.651	1.534	7.1	125	0.02
29	T	Diisopropyl Ether	0.880	0.826	6.1	131	0.02
30	T	Ethyl Acetate	0.444	0.398	10.4	124	0.02
31	T	n-Hexane	1.659	1.581	4.7	130	0.02
32	T	Chloroform	2.242	2.008	10.4	124	0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.998	2.020	-1.1	139	0.02
34	T	Tetrahydrofuran (THF)	0.666	0.633	5.0	130	0.01
35	T	Ethyl tert-Butyl Ether	1.385	1.345	2.9	133	0.02
36	T	1,2-Dichloroethane	1.945	1.780	8.5	127	0.02
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	147	0.02
38	T	1,1,1-Trichloroethane	0.490	0.440	10.2	129	0.02
39	T	Isopropyl Acetate	0.000	0.000	0.0	171	0.03
40	T	1-Butanol	0.000	0.000	0.0	136	0.02
41	T	Benzene	0.995	0.853	14.3	127	0.02
42	T	Carbon Tetrachloride	0.435	0.403	7.4	133	0.02
43	T	Cyclohexane	0.356	0.331	7.0	136	0.02
44	T	tert-Amyl Methyl Ether	0.779	0.718	7.8	134	0.02
45	T	1,2-Dichloropropane	0.234	0.207	11.5	129	0.02
46	T	Bromodichloromethane	0.398	0.359	9.8	128	0.02
47	T	Trichloroethene	0.289	0.265	8.3	136	0.02
48	T	1,4-Dioxane	0.192	0.185	3.6	135	0.02
49	T	2,2,4-Trimethylpentane (Iso	0.998	0.895	10.3	132	0.02
50	T	Methyl Methacrylate	0.099	0.103	-4.0	142	0.02
51	T	n-Heptane	0.221	0.224	-1.4	141	0.02
52	T	cis-1,3-Dichloropropene	0.417	0.391	6.2	134	0.02
53	T	4-Methyl-2-pentanone	0.210	0.198	5.7	132	0.02
54	T	trans-1,3-Dichloropropene	0.418	0.412	1.4	134	0.02
55	T	1,1,2-Trichloroethane	0.249	0.238	4.4	135	0.02

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2022 09\08\09082201.D Vial: 1
Acq On : 8 Sep 2022 14:19 Operator: TZ
Sample : CCV R13090822 25ng Inst : MS13
Misc : S35-08172209/S35-08242204 (9/23)

Quant Time: Sep 08 14:44:18 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	161	0.01
57	S	Toluene-d8 (SS2)	5.715	5.470	4.3	154	0.02
58	T	Toluene	5.333	4.696	11.9	141	0.02
59	T	2-Hexanone	2.627	2.244	14.6	131	0.01
60	T	Dibromochloromethane	1.696	1.509	11.0	137	0.01
61	T	1,2-Dibromoethane	1.551	1.339	13.7	137	0.02
62	T	n-Butyl Acetate	2.930	2.556	12.8	133	0.01
63	T	n-Octane	1.039	0.930	10.5	144	0.01
64	T	Tetrachloroethene	1.605	1.451	9.6	151	0.01
65	T	Chlorobenzene	3.527	3.325	5.7	153	0.02
66	T	Ethylbenzene	6.276	6.040	3.8	154	0.01
67	T	m- & p-Xylenes	5.224	5.066	3.0	155	0.01
68	T	Bromoform	1.487	1.382	7.1	148	0.01
69	T	Styrene	3.606	3.766	-4.4	159	0.01
70	T	o-Xylene	5.198	5.075	2.4	158	0.02
71	T	n-Nonane	2.436	2.203	9.6	146	0.01
72	T	1,1,2,2-Tetrachloroethane	2.203	2.004	9.0	146	0.01
73	S	Bromofluorobenzene (SS3)	1.706	1.953	-14.5	186	0.01
74	T	Cumene	6.121	6.439	-5.2	165	0.01
75	T	alpha-Pinene	3.233	3.386	-4.7	171	0.01
76	T	n-Propylbenzene	7.491	7.719	-3.0	163	0.01
77	T	3-Ethyltoluene	0.000	0.000	0.0	0#	0.01
78	T	4-Ethyltoluene	6.055	6.605	-9.1	173	0.01
79	T	1,3,5-Trimethylbenzene	5.372	5.810	-8.2	172	0.02
80	T	alpha-Methylstyrene	0.000	0.000	0.0	55	0.01
81	T	2-Ethyltoluene	0.000	0.000	0.0	0#	0.01
82	T	1,2,4-Trimethylbenzene	5.331	6.109	-14.6	176	0.01
83	T	n-Decane	0.000	0.000	0.0	0#	-18.09#
84	T	Benzyl Chloride	4.424	5.119	-15.7	166	0.01
85	T	1,3-Dichlorobenzene	3.023	3.239	-7.1	173	0.01
86	T	1,4-Dichlorobenzene	3.054	3.308	-8.3	173	0.01
87	T	sec-Butylbenzene	6.962	7.797	-12.0	178	0.01
88	T	4-Isopropyltoluene (p-Cymen	6.124	7.101	-16.0	183	0.01
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	0#	0.01
90	T	1,2-Dichlorobenzene	2.995	3.230	-7.8	175	0.01
91	T	d-Limonene	1.772	2.053	-15.9	172	0.01
92	T	1,2-Dibromo-3-Chloropropane	1.127	1.326	-17.7	185	0.01
93	T	n-Undecane	0.000	0.000	0.0	127	0.01
94	T	1,2,4-Trichlorobenzene	2.153	2.856	-32.7#	193	0.01
95	T	Naphthalene	5.929	8.120	-37.0#	187	0.02
96	T	n-Dodecane	0.000	0.000	0.0	3#	0.03
97	T	Hexachlorobutadiene	1.709	2.008	-17.5	196	0.02
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-0.04
99	T	tert-Butylbenzene	5.041	5.831	-15.7	185	0.01
100	T	n-Butylbenzene	5.672	6.234	-9.9	172	0.01
101	T	1,1,1,2-Tetrachloroethane	1.410	1.330	5.7	151	0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082201.D Vial: 1
Acq On : 8 Sep 2022 14:19 Operator: TZ
Sample : CCV R13090822 25ng Inst : MS13
Misc : S35-08172209/S35-08242204 (9/23)

TZ 9/8/22

Quant Time: Sep 08 14:44:18 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.67	130	162916	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.88	114	757802	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	15.79	54	168407	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.49	65	329029	12.636	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
57) Toluene-d8 (SS2)	13.18	98	921263	11.965	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	18.00	174	328883	14.309	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.48%				
Target Compounds							Qvalue
2) Propene	3.46	42	392473	21.764	ng		98
3) Dichlorodifluoromethan...	3.54	85	868051	22.938	ng		99
4) Chloromethane	3.68	50	433309	22.010	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.80	135	389100	22.311	ng		98
6) Vinyl Chloride	3.88	62	502900	21.528	ng		99
7) 1,3-Butadiene	4.01	54	410438	24.748	ng		98
8) Bromomethane	4.23	94	316089	21.672	ng		99
9) Chloroethane	4.38	64	219919	23.584	ng		100
10) Ethanol	4.57	45	835205	72.293	ng		98
11) Acetonitrile	4.72	41	548625	20.814	ng		100
12) Acrolein	4.79	56	412861	43.515	ng		99
13) Acetone	4.91	58	1148467	115.944	ng		94
14) Trichlorofluoromethane	5.02	101	762697	22.597	ng		100
15) 2-Propanol (Isopropanol)	5.15	45	1650501	45.484	ng		98
16) Acrylonitrile	5.31	53	850714	47.879	ng		98
17) 1,1-Dichloroethene	5.55	96	350589	24.560	ng		99
18) 2-Methyl-2-Propanol (t...	5.65	59	1886363	49.950	ng		99
19) Methylene Chloride	5.68	84	349244	22.905	ng		100
20) 3-Chloro-1-propene (Al...	5.76	41	531950	24.039	ng		98
21) Trichlorotrifluoroethane	5.88	151	343564	23.751	ng		96
22) Carbon Disulfide	5.92	76	2574269	43.405	ng		99
23) trans-1,2-Dichloroethene	6.50	61	561050	24.046	ng		99
24) 1,1-Dichloroethane	6.70	63	627323	23.769	ng		100
25) Methyl tert-Butyl Ether	6.73	73	1229708	24.922	ng		100
26) Vinyl Acetate	6.83	86	192059	73.578	ng	#	81
27) 2-Butanone (MEK)	7.06	72	442949	49.032	ng	#	89
28) cis-1,2-Dichloroethene	7.51	61	529873	24.620	ng		100
29) Diisopropyl Ether	7.71	87	570895	49.791	ng	#	84
30) Ethyl Acetate	7.72	61	547534	94.693	ng		95
31) n-Hexane	7.71	57	540934	25.014	ng		97
32) Chloroform	7.82	83	693498	23.728	ng		99
34) Tetrahydrofuran (THF)	8.21	72	420613	48.436	ng		91
35) Ethyl tert-Butyl Ether	8.28	87	929099	51.477	ng		95
36) 1,2-Dichloroethane	8.61	62	626459	24.707	ng		100
38) 1,1,1-Trichloroethane	8.91	97	700965	23.609	ng		98
39) Isopropyl Acetate	9.78	61	2908	No Calib		#	
40) 1-Butanol	9.32	56	16704	No Calib		#	
41) Benzene	9.45	78	1383985	22.938	ng		98
42) Carbon Tetrachloride	9.63	117	635892	24.105	ng		97
43) Cyclohexane	9.78	84	1052040	48.733	ng		98
44) tert-Amyl Methyl Ether	10.19	73	2308028	48.888	ng		98
45) 1,2-Dichloropropane	10.48	63	329144	23.238	ng		95
46) Bromodichloromethane	10.71	83	582920	24.159	ng		100
47) Trichloroethene	10.79	130	422331	24.133	ng		96
48) 1,4-Dioxane	10.76	88	296949	25.553	ng		95
49) 2,2,4-Trimethylpentane...	10.87	57	1464181	24.199	ng		99
50) Methyl Methacrylate	11.05	100	330922	55.129	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082201.D Vial: 1
Acq On : 8 Sep 2022 14:19 Operator: TZ
Sample : CCV R13090822 25ng Inst : MS13
Misc : S35-08172209/S35-08242204 (9/23)

Quant Time: Sep 08 14:44:18 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M

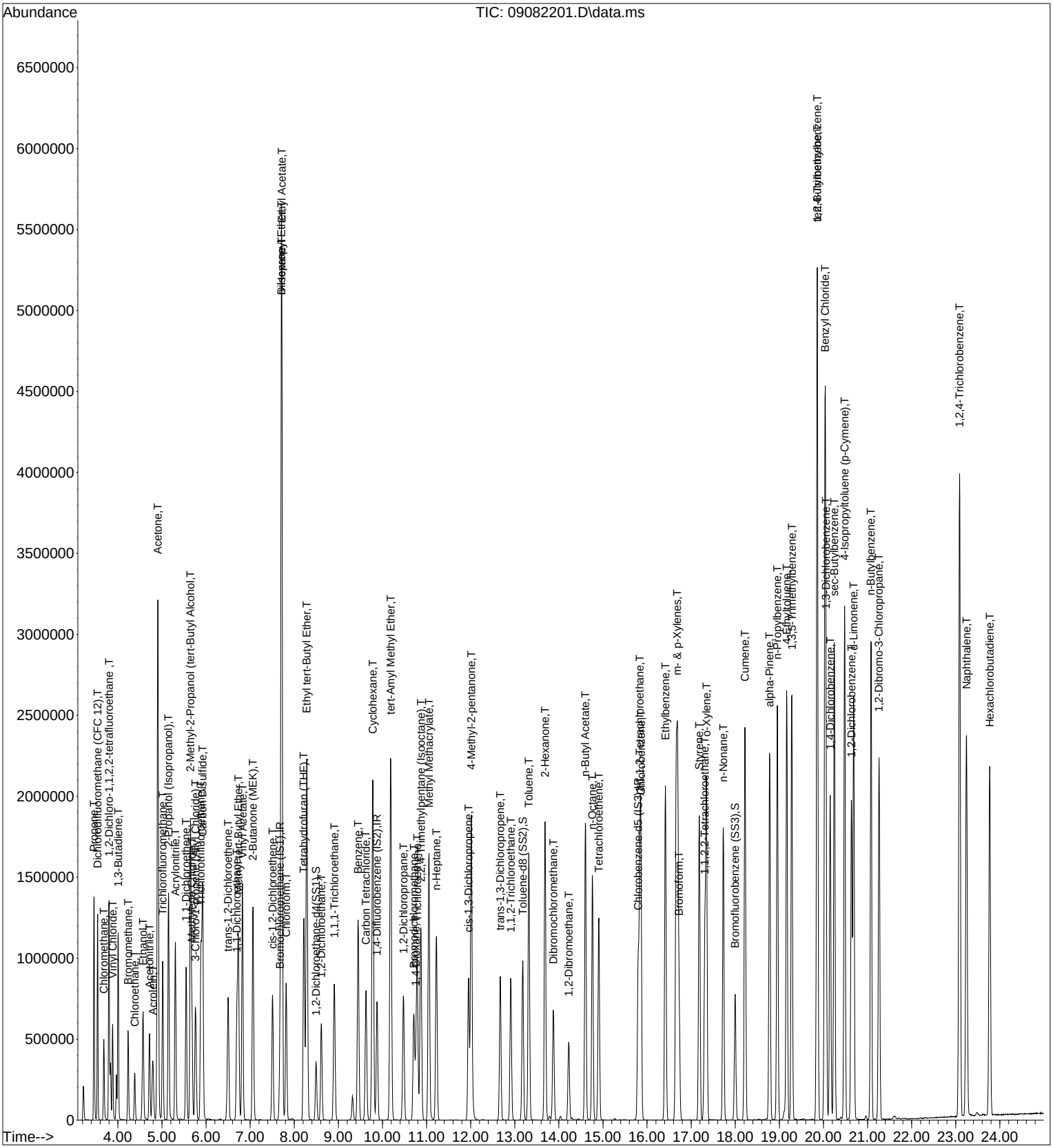
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	11.22	71	359906	26.906	ng		96
52) cis-1,3-Dichloropropene	11.95	75	640364	25.313	ng		97
53) 4-Methyl-2-pentanone	12.02	58	646725	50.710	ng		98
54) trans-1,3-Dichloropropene	12.67	75	637500	25.173	ng		100
55) 1,1,2-Trichloroethane	12.91	97	381563	25.233	ng		96
58) Toluene	13.32	91	1660616	23.114	ng		99
59) 2-Hexanone	13.68	43	1602525	45.274	ng		97
60) Dibromochloromethane	13.87	129	548757	24.017	ng		99
61) 1,2-Dibromoethane	14.22	107	468994	22.445	ng		100
62) n-Butyl Acetate	14.60	43	1764843	44.714	ng		95
63) n-Octane	14.76	57	335077	23.927	ng		91
64) Tetrachloroethene	14.91	166	518093	23.959	ng		96
65) Chlorobenzene	15.86	112	1187071	24.985	ng		100
66) Ethylbenzene	16.42	91	2136005	25.262	ng		99
67) m- & p-Xylenes	16.68	91	3583461	50.919	ng		98
68) Bromoform	16.72	173	498108	24.858	ng		99
69) Styrene	17.18	104	1344530	27.674	ng		98
70) o-Xylene	17.35	91	1811978	25.874	ng		97
71) n-Nonane	17.73	43	786583	23.965	ng		92
72) 1,1,2,2-Tetrachloroethane	17.31	83	715494	24.109	ng		99
74) Cumene	18.22	105	2320648	28.141	ng		96
75) alpha-Pinene	18.78	93	1243217	28.542	ng		96
76) n-Propylbenzene	18.95	91	2781927	27.567	ng		97
77) 3-Ethyltoluene	18.05	105	203	No Calib		#	
78) 4-Ethyltoluene	19.16	105	2424924	29.728	ng		99
79) 1,3,5-Trimethylbenzene	19.28	105	2074403	28.662	ng		98
80) alpha-Methylstyrene	18.01	118	1246	No Calib		#	
81) 2-Ethyltoluene	18.05	105	203	No Calib		#	
82) 1,2,4-Trimethylbenzene	19.86	105	2160471	30.079	ng		96
83) n-Decane	0.00	58	0	N.D.			
84) Benzyl Chloride	20.03	91	3654896	61.325	ng		95
85) 1,3-Dichlorobenzene	20.06	146	1156262	28.392	ng		100
86) 1,4-Dichlorobenzene	20.15	146	1180895	28.697	ng		99
87) sec-Butylbenzene	20.25	105	2783840	29.678	ng		95
88) 4-Isopropyltoluene (p-...	20.48	119	2535342	30.727	ng		97
89) 1,2,3-Trimethylbenzene	18.05	105	203	No Calib		#	
90) 1,2-Dichlorobenzene	20.64	146	1164092	28.850	ng		100
91) d-Limonene	20.68	68	739999	30.991	ng		98
92) 1,2-Dibromo-3-Chloropr...	21.26	157	938062	61.761	ng		90
93) n-Undecane	19.16	58	24966	No Calib		#	
94) 1,2,4-Trichlorobenzene	23.09	180	2010349	69.312	ng		99
95) Naphthalene	23.24	128	3008588	37.666	ng		100
96) n-Dodecane	20.05	58	295	No Calib		#	
97) Hexachlorobutadiene	23.77	225	717036	31.140	ng		100
98) Cyclohexanone	16.18	55	191	No Calib		#	
99) tert-Butylbenzene	19.86	119	2081672	30.654	ng		95
100) n-Butylbenzene	21.08	91	2246643	29.400	ng		96
101) 1,1,1,2-Tetrachloroethane	15.83	131	474931	24.993	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 09\08\09082201.D Vial: 1
Acq On : 8 Sep 2022 14:19 Operator: TZ
Sample : CCV R13090822 25ng Inst : MS13
Misc : S35-08172209/S35-08242204 (9/23)

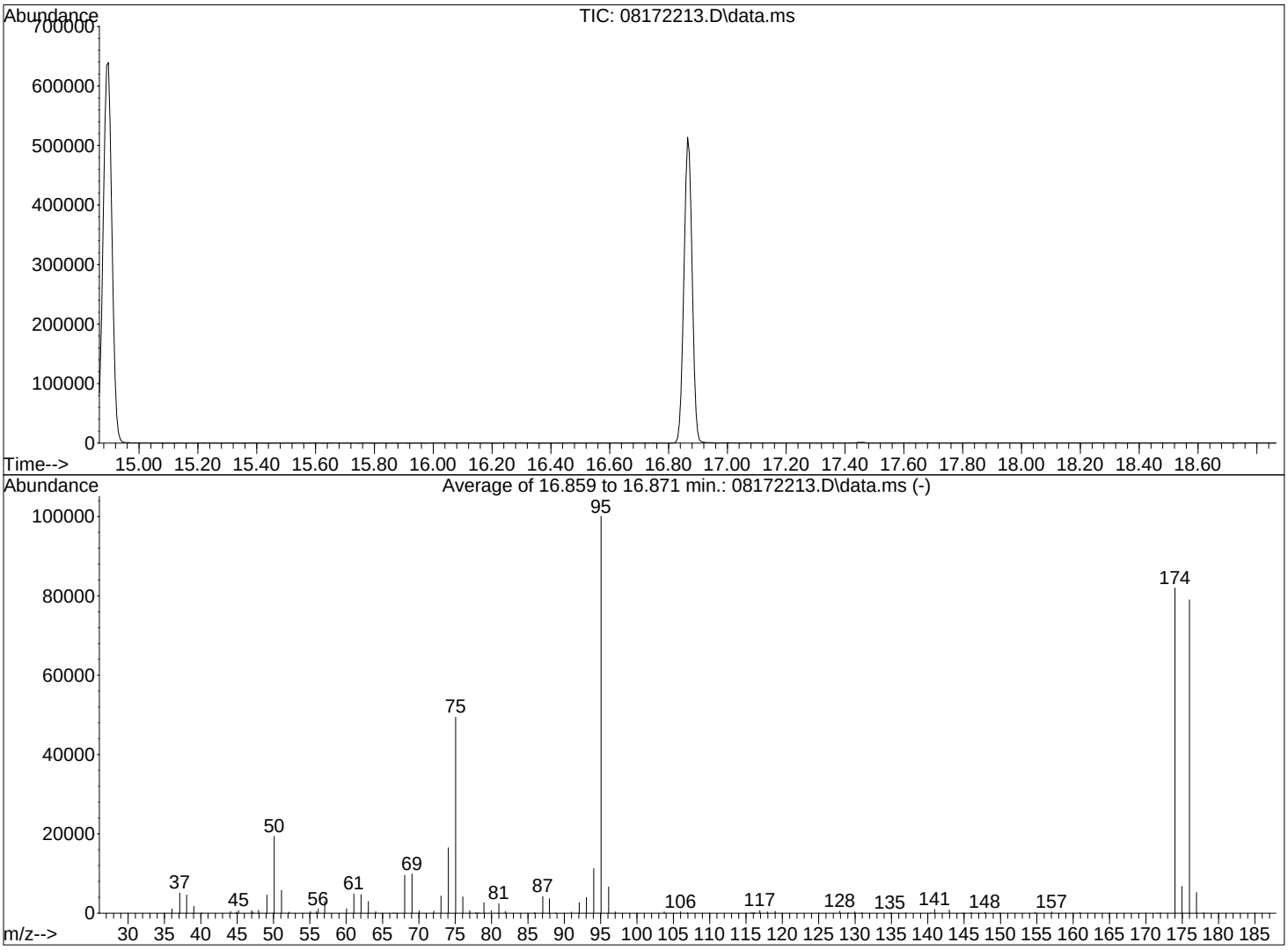
Quant Time: Sep 08 14:44:18 2022
Quant Method : I:\MS13\METHODS\R13081722.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 07 07:54:33 2022
Response via : Initial Calibration
DataAcq Meth:TO15B.M



Data Path : I:\MS13\DATA\2022 08\17\
Data File : 08172213.D
Acq On : 17 Aug 2022 14:44
Operator : TZ
Sample : TO-15 BFB Std.
Misc : S35-08172209
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13081722.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Aug 18 11:39:09 2022



AutoFind: Scans 2420, 2421, 2422; Background Corrected with Scan 2412

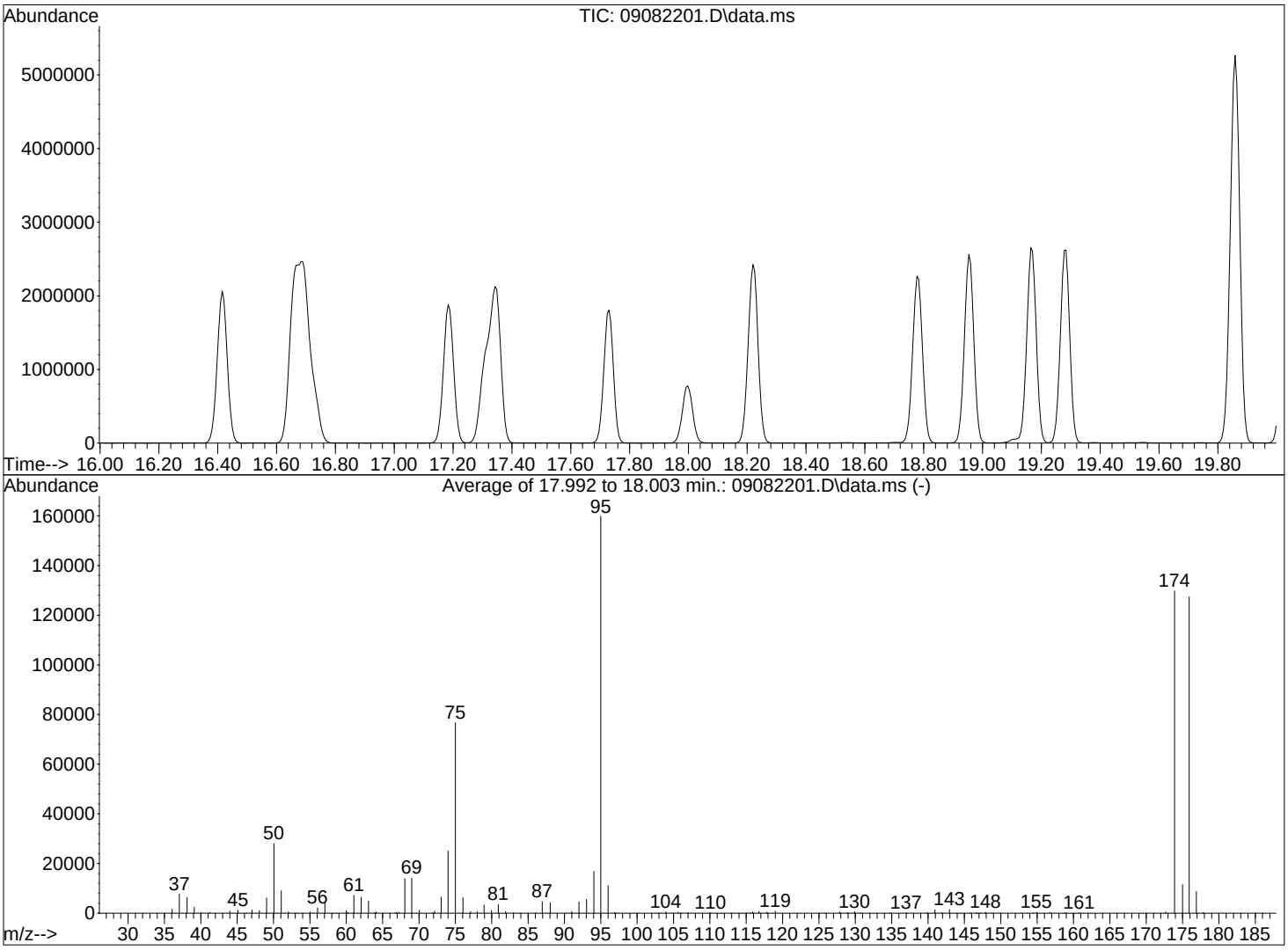
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.4	19376	PASS
75	95	30	66	49.4	49424	PASS
95	95	100	100	100.0	100096	PASS
96	95	5	9	6.6	6639	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	81.9	81995	PASS
175	174	4	9	8.3	6771	PASS
176	174	93	101	96.4	79013	PASS
177	176	5	9	6.6	5219	PASS

TZ 8/18/22

Data Path : I:\MS13\DATA\2022 09\08\
Data File : 09082201.D
Acq On : 8 Sep 2022 14:19
Operator : TZ
Sample : CCV R13090822 25ng
Misc : S35-08172209/S35-08242204 (9/23)
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13081722.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Sep 07 07:54:33 2022



AutoFind: Scans 2619, 2620, 2621; Background Corrected with Scan 2608

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.5	28035	PASS
75	95	30	66	48.0	76676	PASS
95	95	100	100	100.0	159872	PASS
96	95	5	9	7.0	11130	PASS
173	174	0.00	2	0.4	513	PASS
174	95	50	120	81.2	129803	PASS
175	174	4	9	8.9	11493	PASS
176	174	93	101	98.1	127368	PASS
177	176	5	9	6.8	8708	PASS

TZ 9/8/22

TZ 8/18/22

Injection Log

Directory: J:\MS13\DATA\2022_08\17\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	8/17/22 14:44	08172213.D	TO-15 BFB Std.	S35-08172209	TZ	1	passed
2	8/17/22 15:20	08172214.D	0.1ng R13081722 ICAL Std.	S35-08172209/S35-08172208 (9/16)	TZ	13	R13081722.M
3	8/17/22 15:56	08172215.D	0.2ng R13081722 ICAL Std.	S35-08172209/S35-08172208 (9/16)	TZ	13	
4	8/17/22 16:33	08172216.D	0.5ng R13081722 ICAL Std.	S35-08172209/S35-08172207 (9/16)	TZ	14	
5	8/17/22 17:09	08172217.D	1.0ng R13081722 ICAL Std.	S35-08172209/S35-08172207 (9/16)	TZ	14	
6	8/17/22 17:46	08172218.D	5.0ng R13081722 ICAL Std.	S35-08172209/S35-08172207 (9/16)	TZ	14	
7	8/17/22 18:23	08172219.D	25ng R13081722 ICAL Std.	S35-08172209/S35-08172203 (9/16)	TZ	15	
8	8/17/22 19:00	08172220.D	50ng R13081722 ICAL Std.	S35-08172209/S35-08172203 (9/16)	TZ	15	
9	8/17/22 19:36	08172221.D	100ng R13081722 ICAL Std.	S35-08172209/S35-08172203 (9/16)	TZ	15	
10	8/17/22 20:14	08172222.D	Blank	S35-08172209	TZ	1	
11	8/17/22 20:53	08172223.D	25ng R13081722 ICV Std.	S35-08172209/S35-08172206 (9/16)	TZ	16	passed
12	8/17/22 21:32	08172224.D	25ng R13081722 ICV Std.	S35-08172209/S35-08172206 (9/16)	TZ	16	not used
13	8/17/22 22:10	08172225.D	Blank	S35-08172209	TZ	1	
R13081722.M ranges from 0.1ng->100ng							

Injection Log

TZ 9/9/22

Directory: I:\MS13\DATA\2022_09\08\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	9/8/22 14:19	09082201.D	CCV R13090822 25ng	S35-08172209/S35-08242204 (9/23)	TZ	1	passed
2	9/8/22 15:05	09082202.D	Blank	S35-08172209	TZ	1	
3	9/8/22 15:42	09082203.D	MB R13090822 1000mL	S35-08172209_AC01387	TZ	1	passed
4	9/8/22 16:33	09082204.D	P2203949-001 (1000mL)	S35-08172209	TZ	5	
5	9/8/22 17:10	09082205.D	P2203949-002 (1000mL)	S35-08172209	TZ	6	
6	9/8/22 17:48	09082206.D	P2203949-003 (1000mL)	S35-08172209	TZ	7	
7	9/8/22 18:25	09082207.D	P2203949-004 (1000mL)	S35-08172209	TZ	8	
8	9/8/22 19:03	09082208.D	P2203949-005 (1000mL)	S35-08172209	TZ	9	
9	9/8/22 19:40	09082209.D	P2203949-005dup (1000mL)	S35-08172209	TZ	9	passed
10	9/8/22 20:20	09082210.D	LCS R13090822 25ng	S35-08172209/S35-08242208 (9/23)	TZ	1	passed
11	9/8/22 20:59	09082211.D	LCSD R13090822 25ng	S35-08172209/S35-08242208 (9/23)	TZ	1	passed
12	9/8/22 21:38	09082212.D	RL R13090822 0.5ng	S35-08172209/S35-08182201 (9/15)	TZ	15	not needed
13	9/8/22 22:17	09082213.D	P2203912-001 (1000mL)	S35-08172209	TZ	10	
14	9/8/22 22:56	09082214.D	P2203912-002 (1000mL)	S35-08172209	TZ	11	
15	9/8/22 23:36	09082215.D	P2203912-003 (1000mL)	S35-08172209	TZ	12	
16	9/9/22 0:16	09082216.D	P2203912-004 (1000mL)	S35-08172209	TZ	13	
17	9/9/22 0:55	09082217.D	P2203912-005 (1000mL)	S35-08172209	TZ	14	
18	9/9/22 1:35	09082218.D	System	S35-08172209	TZ	1	
19	9/9/22 2:14	09082219.D	P2203903-004 (1000mL)	S35-08172209	TZ	2	
20	9/9/22 2:53	09082220.D	P2203903-005 (1000mL)	S35-08172209	TZ	3	
21	9/9/22 3:33	09082221.D	P2203903-006 (1000mL)	S35-08172209	TZ	4	

CCV: 1,2,4-Trichlorobenzene and Naphthalene out high

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-07
Cycles: 30
Batch: 29858

Batch Started By: ANAKLOWYCZ on 8/29/22 0916
Finished Cleaning By: ALESAICHERRE on 8/30/22 0459

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS00356	8/29/22		Pass w/ Conditions	-14.3	8/30/22 0459	ALESAICHERRE	-14.0	8/30/22 0121		
AC02283	8/29/22		Pass w/ Conditions	-14.3	8/30/22 0459	ALESAICHERRE	-14.0	8/30/22 0121		
AC02345	8/29/22		Pass w/ Conditions	-14.3	8/30/22 0459	ALESAICHERRE	-14.0	8/30/22 0121		
AS01081	8/29/22	8/29/22	Pass w/ Conditions	-14.3	8/30/22 0459	ALESAICHERRE				ms21-08/29/22
AC02157	8/29/22		Pass w/ Conditions	-14.3	8/30/22 0459	ALESAICHERRE	-14.0	9/1/22 0206		
AC01851	8/29/22		Pass w/ Conditions	-14.3	8/30/22 0459	ALESAICHERRE	-14.0	9/1/22 0206		
AC02228	8/29/22		Pass w/ Conditions	-14.3	8/30/22 0459	ALESAICHERRE	-14.0	8/30/22 0121		
AC01872	8/29/22		Pass w/ Conditions	-14.3	8/30/22 0459	ALESAICHERRE	-14.0	9/2/22 0722		
AC02250	8/29/22		Pass w/ Conditions	-14.3	8/30/22 0459	ALESAICHERRE	-14.0	9/1/22 0206		
AC02516	8/29/22		Pass w/ Conditions	-14.3	8/30/22 0459	ALESAICHERRE	-14.0	8/30/22 0121		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 08\29\
Data File : 08292212.D
Acq On : 29 Aug 2022 15:59
Operator : KM/rvt
Sample : 082922 AS01081 29858
Misc : SIM + TICS (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

8/30/22

Quant Time: Aug 30 04:44:40 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.741	130	58826	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.912	114	161371	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.793	54	31406	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.555	65	92942	1028.74	pg		0.00
Spiked Amount 1000.000			Recovery = 102.87%				
57) Toluene-d8 (SS2)	12.708	98	174094	932.19	pg		0.00
Spiked Amount 1000.000			Recovery = 93.22%				
74) Bromofluorobenzene (SS3)	16.234	174	58627	777.87	pg		0.00
Spiked Amount 1000.000			Recovery = 77.79%				
Target Compounds							Qvalue
2] * Propene	3.682	42	705	14.315	pg	#	20
3] * Dichlorodifluoromethane	3.729	85	98	0.969	pg	#	65
4) * Chloromethane	0.000		0	N.D.			
5) * 1,2-Dichloro-1,1,2,2...	0.000		0	N.D.			
6) * Vinyl Chloride	0.000		0	N.D.			
7] * 1,3-Butadiene	4.142	54	2	0.085	pg	#	8
8) * Bromomethane	0.000		0	N.D.			
9] * Chloroethane	4.513	64	81	1.956	pg	#	43
10] * Ethanol	4.606	45	24721	725.780	pg		99
11] * Acetonitrile	4.778	41	3428	30.264	pg		97
12] * Acrolein	4.890	56	208	6.895	pg		95
13] * Acetone	5.008	58	41094	879.399	pg		96
14] * Trichlorofluoromethane	5.139	101	65	0.470	pg	#	17
15] * 2-Propanol (Isopropa...	5.213	45	9831	88.133	pg	#	87
16] * Acrylonitrile	5.368	53	83	1.296	pg		100
17) * 1,1-Dichloroethene	0.000		0	N.D.			
18] tert-Butanol	5.744	59	901	9.535	pg	#	69
19] * Methylene Chloride	5.744	84	128	1.824	pg		98
20) * 3-Chloro-1-propene (...	0.000		0	N.D.			
21) * Trichlorotrifluoroet...	0.000		0	N.D.			
22] * Carbon Disulfide	6.026	76	10120	37.844	pg		98
23) * trans-1,2-Dichloroet...	0.000		0	N.D.			
24) * 1,1-Dichloroethane	0.000		0	N.D.			
25) * Methyl tert-Butyl Ether	0.000		0	N.D.			
26] * Vinyl Acetate	6.903	86	115	12.289	pg	#	7
27] * 2-Butanone (MEK)	7.179	72	13440	391.068	pg		97
28) * cis-1,2-Dichloroethene	0.000		0	N.D.			
29] DIPE	7.844	45	382	2.587	pg	#	46
30] * Ethyl Acetate	7.844	61	412	21.812	pg		99
31) * n-Hexane	0.000		0	N.D.			
32) * Chloroform	0.000		0	N.D.			
34] * Tetrahydrofuran	8.364	71	264	11.221	pg		88
35) ETBE	0.000		0	N.D.			
36) * 1,2-Dichloroethane	0.000		0	N.D.			
38) * 1,1,1-Trichloroethane	0.000		0	N.D.			
39] * Benzene	9.495	78	655	4.127	pg		95
40) Isopropyl Acetate	0.000		0	N.D.			
41) 1-Butanol	9.479	56	2557	No Calib			
42) * Carbon Tetrachloride	0.000		0	N.D.			
43) * Cyclohexane	0.000		0	N.D.			
44) TAME	0.000		0	N.D.			
45) * 1,2-Dichloropropane	0.000		0	N.D.			
46) * Bromodichloromethane	0.000		0	N.D.			
47) * Trichloroethene	0.000		0	N.D.			

Data Path : I:\MS21\DATA\2022 08\29\
Data File : 08292212.D
Acq On : 29 Aug 2022 15:59
Operator : KM/rvt
Sample : 082922 AS01081 29858
Misc : SIM + TICS (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

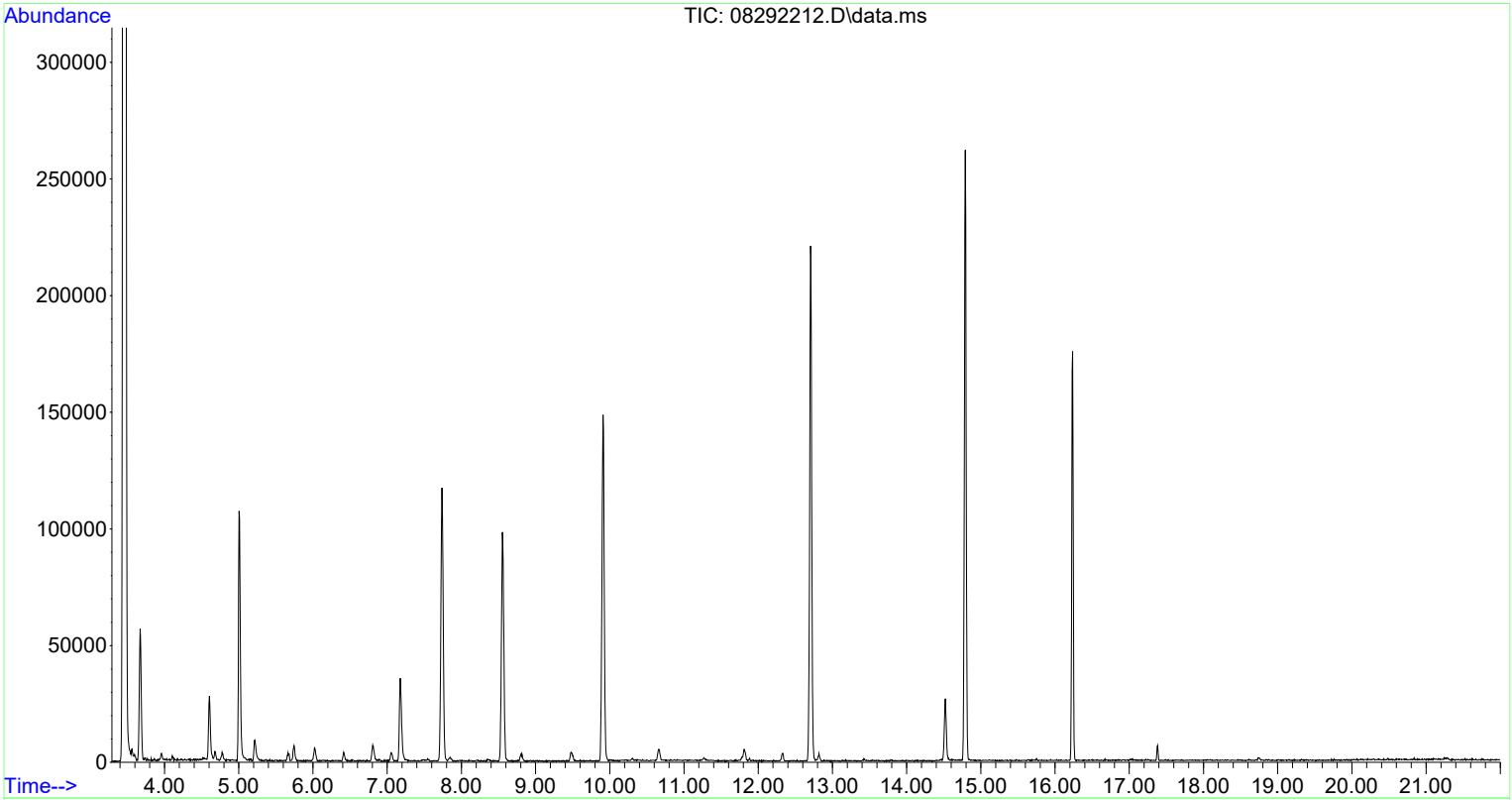
Quant Time: Aug 30 04:44:40 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

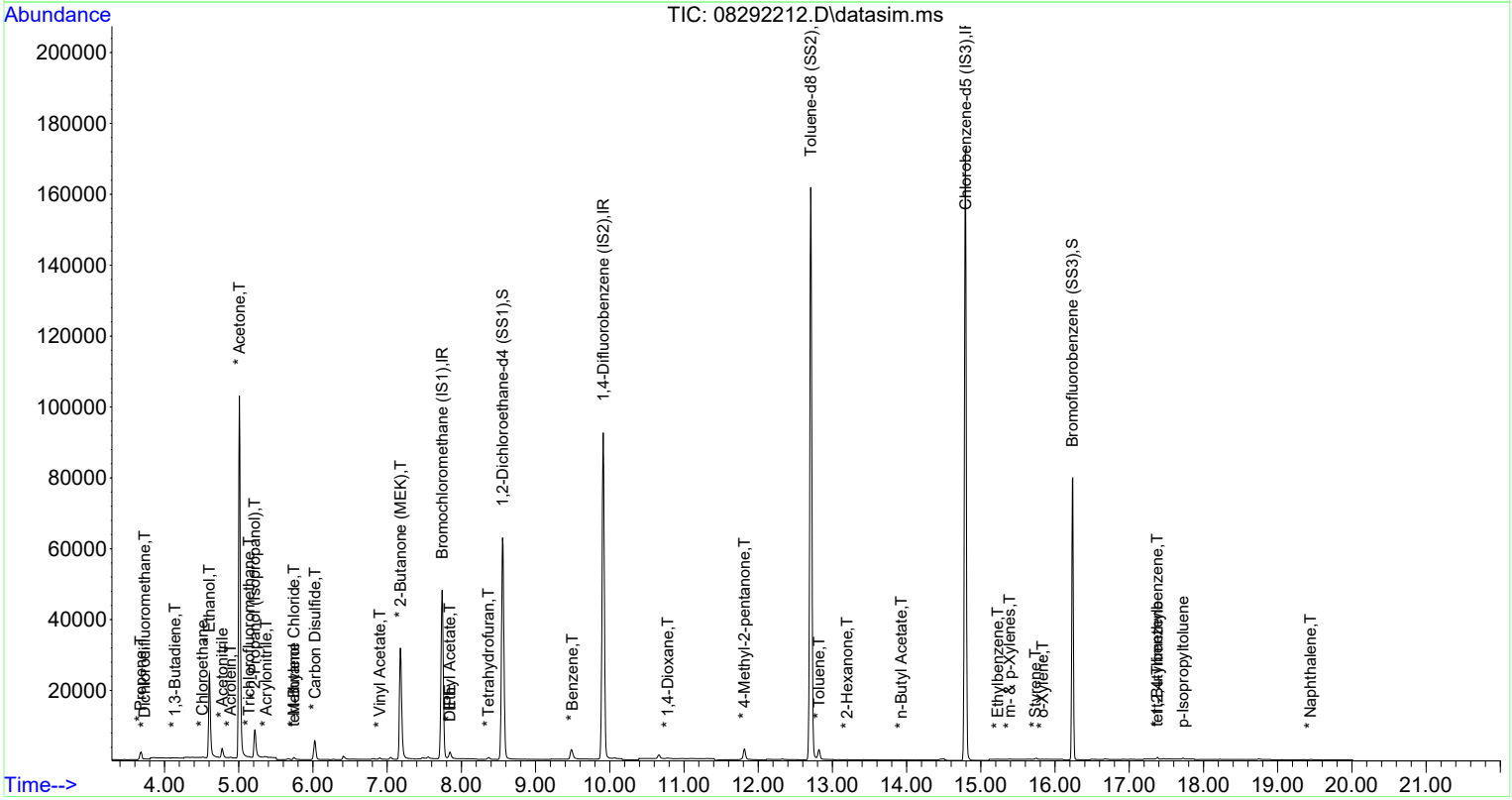
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
48] * 1,4-Dioxane	10.779	88	160	3.668	pg	#	78
49) Isooctane	0.000		0	N.D.			
50) * Methyl Methacrylate	0.000		0	N.D.			
51) * n-Heptane	0.000		0	N.D.			
52) * cis-1,3-Dichloropropene	0.000		0	N.D.			
53] * 4-Methyl-2-pentanone	11.815	58	1640	47.617	pg		97
54) * trans-1,3-Dichloropr...	0.000		0	N.D.			
55) * 1,1,2-Trichloroethane	0.000		0	N.D.			
58] * Toluene	12.821	91	3100	13.894	pg		99
59] * 2-Hexanone	13.201	58	86	2.024	pg	#	53
60) * Dibromochloromethane	0.000		0	N.D.			
61) * 1,2-Dibromoethane	0.000		0	N.D.			
62] * n-Butyl Acetate	13.928	56	67	2.117	pg	#	31
63) * n-Octane	0.000		0	N.D.			
64) * Tetrachloroethene	0.000		0	N.D.			
65) * Chlorobenzene	0.000		0	N.D.			
66] * Ethylbenzene	15.226	91	52	0.312	pg	#	43
67] * m- & p-Xylenes	15.387	91	131	0.996	pg		98
68) * Bromoform	0.000		0	N.D.			
69) Cyclohexanone	0.000		0	N.D.			
70] * Styrene	15.733	104	81	0.909	pg	#	58
71] * o-Xylene	15.834	91	65	0.500	pg	#	29
72) * n-Nonane	0.000		0	N.D.			
73) * 1,1,2,2-Tetrachloroe...	0.000		0	N.D.			
75) * Cumene	0.000		0	N.D.			
76) * alpha-Pinene	0.000		0	N.D.			
77) * n-Propylbenzene	0.000		0	N.D.			
78) 3-Ethyltoluene	0.000		0	N.D.			
79) * 4-Ethyltoluene	0.000		0	N.D.			
80) * 1,3,5-Trimethylbenzene	0.000		0	N.D.			
81) alpha-Methylstyrene	0.000		0	N.D.			
82) 2-Ethyltoluene	0.000		0	N.D.			
83] tert-Butylbenzene	17.378	134	204	7.133	pg	#	1
84] * 1,2,4-Trimethylbenzene	17.378	105	50	0.404	pg	#	24
85) * Benzyl Chloride	0.000		0	N.D.			
86) * 1,3-Dichlorobenzene	0.000		0	N.D.			
87) * 1,4-Dichlorobenzene	0.000		0	N.D.			
88) n-Decane	0.000		0	N.D.			
89) sec-Butylbenzene	0.000		0	N.D.			
90) 1,2,3-Trimethylbenzene	0.000		0	N.D.			
91] p-Isopropyltoluene	17.724	119	148	1.039	pg	#	49
92) * 1,2-Dichlorobenzene	0.000		0	N.D.			
93) * D-Limonene	0.000		0	N.D.			
94) n-Butylbenzene	0.000		0	N.D.			
95) * 1,2-Dibromo-3-chloro...	0.000		0	N.D.			
96) n-Undecane	0.000		0	N.D.			
97) * 1,2,4-Trichlorobenzene	0.000		0	N.D.			
98] * Naphthalene	19.444	128	100	0.700	pg	#	68
99) n-Dodecane	0.000		0	N.D.			
100) * Hexachlorobutadiene	0.000		0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS21\DATA\2022 08\29\
Data File : 08292212.D
Acq On : 29 Aug 2022 15:59
Operator : KM/rvt
Sample : 082922 AS01081 29858
Misc : SIM + TICS (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 30 04:44:40 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

September 28, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on September 16, 2022. For your reference, these analyses have been assigned our service request number P2204118.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2204118
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on September 16, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The analyte Vinyl Acetate could not be reported for this data set, due to a vendor anomaly found in the new standard being used. Once the issue has been resolved subsequent reports will include the compound in question.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2204118
Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 9/16/2022
Time Received: 13:40

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_091622_S	P2204118-001	Air	9/16/2022	11:00	AS01740	-1.59	3.79	X
DOE-2_091622_S	P2204118-002	Air	9/16/2022	11:15	AC02348	-7.09	3.76	X
DOE-3_091622_S	P2204118-003	Air	9/16/2022	11:30	AS01555	-1.72	3.80	X
DOE-4_091622_S	P2204118-004	Air	9/16/2022	11:45	AC02257	-2.62	3.79	X
DOE-3_091622_D	P2204118-005	Air	9/16/2022	11:31	AC02289	-2.15	3.68	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

PZ204118

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No.

Company Name & Address (Reporting Information) North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304	Project Name: DOE Perimeter Air Project Number: 080153.015.15
Project Manager: Trina Cesnik Phone: 805-587-0691 Fax:	P.O. # / Billing Information: PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg	Sampler (Print & Sign): T. Stewart Williford

ALS Contact: Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_091622_S	1	9/16/2022	1100	AS01740	FCR00469	-29.5	-3.0		X		
DOE-2_091622_S	2	9/16/2022	1115	AC02348	FCR00327	-28.5	-3.0		X		
DOE-3_091622_S	3	9/16/2022	1130	AS01555	FCR00117	-28.5	-1.5		X		
DOE-4_091622_S	4	9/16/2022	1145	AC02257	FCR00326	-28.5	-3.5		X		
DOE-3_091622_D	5	9/16/2022	1131	AC02289	FCR00395	-29.0	-3.5		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) 10% Surcharge ____

EDD required Yes / No
Type: EQuIS Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
T. Stewart Williford	9/16/22	1340		9-16-22	1548
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2204118

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 9/16/22 Date opened: 9/16/22 by: KYLE.WOODIN

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2204118-001.01	6.0 L Silonite Can					
P2204118-002.01	6.0 L Ambient Can					
P2204118-003.01	6.0 L Silonite Can					
P2204118-004.01	6.0 L Ambient Can					
P2204118-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-001

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01740

Initial Pressure (psig): -1.59 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.75	**0.48**	0.15	
74-87-3	Chloromethane	ND	0.72	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.76	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.72	ND	0.19	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.73	**0.21**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.75	ND	0.21	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.19	
141-78-6	Ethyl Acetate	**4.7**	3.0	**1.3**	0.82	
110-54-3	n-Hexane	ND	0.75	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-001

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01740

Initial Pressure (psig): -1.59 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.76	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.48	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	ND	0.71	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.71	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.71	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.73	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	
142-82-5	n-Heptane	ND	0.75	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	ND	0.73	ND	0.19	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.75	ND	0.088	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.095	
111-65-9	n-Octane	ND	0.75	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.73	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-001

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01740

Initial Pressure (psig): -1.59 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.73	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.73	ND	0.071	
100-42-5	Styrene	ND	0.71	ND	0.17	
95-47-6	o-Xylene	ND	0.73	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.73	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.73	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.75	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.069	
104-51-8	n-Butylbenzene	ND	0.73	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.75	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-002

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02348

Initial Pressure (psig): -7.09 Final Pressure (psig): 3.76

Canister Dilution Factor: 2.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	1.3	**0.47**	0.26	
74-87-3	Chloromethane	ND	1.2	ND	0.60	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.3	ND	0.19	
75-01-4	Vinyl Chloride	ND	1.3	ND	0.49	
106-99-0	1,3-Butadiene	ND	1.3	ND	0.57	
74-83-9	Bromomethane	ND	1.2	ND	0.32	
75-00-3	Chloroethane	ND	1.2	ND	0.47	
107-02-8	Acrolein	ND	2.4	ND	1.1	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	1.3	ND	0.22	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.4	ND	0.99	
107-13-1	Acrylonitrile	ND	2.4	ND	1.1	
75-35-4	1,1-Dichloroethene	ND	1.3	ND	0.33	
75-09-2	Methylene Chloride	ND	1.3	ND	0.36	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	1.3	ND	0.17	
75-15-0	Carbon Disulfide	ND	2.7	ND	0.86	
156-60-5	trans-1,2-Dichloroethene	ND	1.3	ND	0.32	
75-34-3	1,1-Dichloroethane	ND	1.3	ND	0.32	
1634-04-4	Methyl tert-Butyl Ether	ND	1.3	ND	0.36	
78-93-3	2-Butanone (MEK)	ND	2.4	ND	0.82	
156-59-2	cis-1,2-Dichloroethene	ND	1.3	ND	0.32	
141-78-6	Ethyl Acetate	**19**	5.1	**5.3**	1.4	
110-54-3	n-Hexane	ND	1.3	ND	0.37	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-002

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02348

Initial Pressure (psig): -7.09 Final Pressure (psig): 3.76

Canister Dilution Factor: 2.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	1.3	ND	0.27	
109-99-9	Tetrahydrofuran (THF)	ND	2.4	ND	0.82	
107-06-2	1,2-Dichloroethane	ND	1.3	ND	0.32	
71-55-6	1,1,1-Trichloroethane	ND	1.3	ND	0.23	
71-43-2	Benzene	ND	1.2	ND	0.38	
56-23-5	Carbon Tetrachloride	ND	1.2	ND	0.19	
110-82-7	Cyclohexane	ND	2.7	ND	0.78	
78-87-5	1,2-Dichloropropane	ND	1.2	ND	0.26	
75-27-4	Bromodichloromethane	ND	1.3	ND	0.19	
79-01-6	Trichloroethene	ND	1.3	ND	0.24	
123-91-1	1,4-Dioxane	ND	1.3	ND	0.35	
142-82-5	n-Heptane	ND	1.3	ND	0.31	
10061-01-5	cis-1,3-Dichloropropene	ND	1.2	ND	0.27	
108-10-1	4-Methyl-2-pentanone	ND	2.7	ND	0.65	
10061-02-6	trans-1,3-Dichloropropene	ND	1.2	ND	0.27	
79-00-5	1,1,2-Trichloroethane	ND	1.3	ND	0.23	
108-88-3	Toluene	ND	1.3	ND	0.34	
591-78-6	2-Hexanone	ND	2.7	ND	0.65	
124-48-1	Dibromochloromethane	ND	1.3	ND	0.15	
106-93-4	1,2-Dibromoethane	ND	1.3	ND	0.16	
111-65-9	n-Octane	ND	1.3	ND	0.28	
127-18-4	Tetrachloroethene	ND	1.3	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-002

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02348

Initial Pressure (psig): -7.09 Final Pressure (psig): 3.76

Canister Dilution Factor: 2.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	1.3	ND	0.29	
179601-23-1	m,p-Xylenes	ND	2.7	ND	0.62	
75-25-2	Bromoform	ND	1.3	ND	0.12	
100-42-5	Styrene	ND	1.2	ND	0.29	
95-47-6	o-Xylene	ND	1.3	ND	0.29	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.3	ND	0.18	
98-82-8	Cumene	ND	1.3	ND	0.26	
103-65-1	n-Propylbenzene	ND	1.3	ND	0.26	
622-96-8	4-Ethyltoluene	ND	1.3	ND	0.26	
108-67-8	1,3,5-Trimethylbenzene	ND	1.3	ND	0.26	
95-63-6	1,2,4-Trimethylbenzene	ND	1.3	ND	0.26	
100-44-7	Benzyl Chloride	ND	2.7	ND	0.52	
541-73-1	1,3-Dichlorobenzene	ND	1.3	ND	0.21	
106-46-7	1,4-Dichlorobenzene	ND	1.3	ND	0.21	
135-98-8	sec-Butylbenzene	ND	1.3	ND	0.23	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	1.3	ND	0.23	
95-50-1	1,2-Dichlorobenzene	ND	1.3	ND	0.21	
120-82-1	1,2,4-Trichlorobenzene	ND	2.7	ND	0.36	
91-20-3	Naphthalene	ND	1.3	ND	0.24	
87-68-3	Hexachlorobutadiene	ND	1.3	ND	0.12	
104-51-8	n-Butylbenzene	ND	1.3	ND	0.23	
1330-20-7	Xylenes, Total	ND	1.3	ND	0.30	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-003

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01555

Initial Pressure (psig): -1.72 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.76	**0.47**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.74	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**9.0**	3.0	**2.5**	0.83	
110-54-3	n-Hexane	ND	0.76	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-003

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01555

Initial Pressure (psig): -1.72 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	ND	0.74	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.089	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-003

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01555

Initial Pressure (psig): -1.72 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.76	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-004

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02257

Initial Pressure (psig): -2.62 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.81	**0.48**	0.16	
74-87-3	Chloromethane	ND	0.78	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.83	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.78	ND	0.20	
75-00-3	Chloroethane	ND	0.78	ND	0.30	
107-02-8	Acrolein	ND	1.5	ND	0.67	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.80	**0.20**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.62	
107-13-1	Acrylonitrile	ND	1.5	ND	0.71	
75-35-4	1,1-Dichloroethene	ND	0.83	ND	0.21	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.83	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.81	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.81	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.81	ND	0.23	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
141-78-6	Ethyl Acetate	**10**	3.2	**2.8**	0.89	
110-54-3	n-Hexane	ND	0.81	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-004

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02257

Initial Pressure (psig): -2.62 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.83	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.52	
107-06-2	1,2-Dichloroethane	ND	0.81	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.81	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
142-82-5	n-Heptane	ND	0.81	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.77	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.78	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	ND	0.80	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.81	ND	0.095	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
111-65-9	n-Octane	ND	0.81	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-004

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02257

Initial Pressure (psig): -2.62 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.81	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.81	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.80	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.80	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.81	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	
104-51-8	n-Butylbenzene	ND	0.80	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.81	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_091622_D** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-005

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02289

Initial Pressure (psig): -2.15 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.77	**0.47**	0.16	
74-87-3	Chloromethane	ND	0.74	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.76	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.76	ND	0.34	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
107-02-8	Acrolein	ND	1.5	ND	0.64	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.76	**0.20**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.59	
107-13-1	Acrylonitrile	ND	1.5	ND	0.67	
75-35-4	1,1-Dichloroethene	ND	0.79	ND	0.20	
75-09-2	Methylene Chloride	ND	0.76	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.79	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.77	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	ND	0.21	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	
156-59-2	cis-1,2-Dichloroethene	ND	0.76	ND	0.19	
141-78-6	Ethyl Acetate	**7.7**	3.1	**2.1**	0.85	
110-54-3	n-Hexane	ND	0.77	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_091622_D** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-005

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02289

Initial Pressure (psig): -2.15 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.79	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.50	
107-06-2	1,2-Dichloroethane	ND	0.77	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.76	ND	0.14	
71-43-2	Benzene	ND	0.73	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.73	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.73	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.77	ND	0.12	
79-01-6	Trichloroethene	ND	0.76	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.76	ND	0.21	
142-82-5	n-Heptane	ND	0.77	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.73	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.74	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.76	ND	0.14	
108-88-3	Toluene	ND	0.76	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.77	ND	0.091	
106-93-4	1,2-Dibromoethane	ND	0.76	ND	0.099	
111-65-9	n-Octane	ND	0.77	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.76	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_091622_D** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-005

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02289

Initial Pressure (psig): -2.15 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.76	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.76	ND	0.073	
100-42-5	Styrene	ND	0.73	ND	0.17	
95-47-6	o-Xylene	ND	0.76	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.76	ND	0.11	
98-82-8	Cumene	ND	0.76	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.77	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.77	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.76	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.76	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.76	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.76	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.76	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.76	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.77	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.76	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.76	ND	0.071	
104-51-8	n-Butylbenzene	ND	0.76	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.77	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220922-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P2204118

Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220922-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22

Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220922-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2204118

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 9/16/22
Analyst: Wida Ang/Chase Griffin Date(s) Received: 9/16/22
Sample Type: 6.0 L Silonite Canister(s) / 6.0 L Summa Canister(s) Date(s) Analyzed: 9/22/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P220922-MB	**103**	**99**	**91**	70-130	
Lab Control Sample	P220922-LCS	**103**	**93**	**90**	70-130	
DOE-1_091622_S	P2204118-001	**103**	**99**	**92**	70-130	
DOE-2_091622_S	P2204118-002	**103**	**97**	**92**	70-130	
DOE-2_091622_S	P2204118-002DUP	**103**	**96**	**92**	70-130	
DOE-3_091622_S	P2204118-003	**103**	**96**	**91**	70-130	
DOE-4_091622_S	P2204118-004	**104**	**96**	**93**	70-130	
DOE-3_091622_D	P2204118-005	**102**	**96**	**91**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220922-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	212	**196**	**92**	71-112	
74-87-3	Chloromethane	206	**211**	**102**	53-126	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	**186**	**90**	62-121	
75-01-4	Vinyl Chloride	204	**199**	**98**	63-123	
106-99-0	1,3-Butadiene	212	**219**	**103**	63-135	
74-83-9	Bromomethane	206	**189**	**92**	71-112	
75-00-3	Chloroethane	208	**209**	**100**	66-117	
107-02-8	Acrolein	388	**385**	**99**	71-123	
75-69-4	Trichlorofluoromethane (CFC 11)	210	**192**	**91**	71-114	
67-63-0	2-Propanol (Isopropyl Alcohol)	412	**417**	**101**	61-124	
107-13-1	Acrylonitrile	412	**417**	**101**	65-130	
75-35-4	1,1-Dichloroethene	216	**205**	**95**	74-114	
75-09-2	Methylene Chloride	212	**195**	**92**	75-112	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**193**	**89**	73-114	
75-15-0	Carbon Disulfide	426	**399**	**94**	70-113	
156-60-5	trans-1,2-Dichloroethene	216	**220**	**102**	76-119	
75-34-3	1,1-Dichloroethane	216	**213**	**99**	70-114	
1634-04-4	Methyl tert-Butyl Ether	214	**207**	**97**	72-118	
78-93-3	2-Butanone (MEK)	418	**425**	**102**	74-121	
156-59-2	cis-1,2-Dichloroethene	214	**201**	**94**	73-117	
141-78-6	Ethyl Acetate	856	**651**	**76**	59-161	
110-54-3	n-Hexane	212	**244**	**115**	55-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220922-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
67-66-3	Chloroform	212	**204**	**96**	71-114	
109-99-9	Tetrahydrofuran (THF)	412	**411**	**100**	73-114	
107-06-2	1,2-Dichloroethane	216	**210**	**97**	71-119	
71-55-6	1,1,1-Trichloroethane	210	**196**	**93**	73-119	
71-43-2	Benzene	216	**208**	**96**	72-113	
56-23-5	Carbon Tetrachloride	206	**184**	**89**	67-123	
110-82-7	Cyclohexane	422	**415**	**98**	70-119	
78-87-5	1,2-Dichloropropane	212	**208**	**98**	70-118	
75-27-4	Bromodichloromethane	216	**206**	**95**	74-119	
79-01-6	Trichloroethene	212	**177**	**83**	74-115	
123-91-1	1,4-Dioxane	212	**215**	**101**	77-124	
142-82-5	n-Heptane	212	**208**	**98**	70-119	
10061-01-5	cis-1,3-Dichloropropene	216	**221**	**102**	81-126	
108-10-1	4-Methyl-2-pentanone	432	**462**	**107**	73-129	
10061-02-6	trans-1,3-Dichloropropene	206	**188**	**91**	80-127	
79-00-5	1,1,2-Trichloroethane	212	**203**	**96**	78-117	
108-88-3	Toluene	212	**190**	**90**	70-118	
591-78-6	2-Hexanone	426	**449**	**105**	74-132	
124-48-1	Dibromochloromethane	216	**188**	**87**	69-137	
106-93-4	1,2-Dibromoethane	208	**188**	**90**	76-128	
111-65-9	n-Octane	214	**208**	**97**	68-120	
127-18-4	Tetrachloroethene	212	**185**	**87**	63-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P220922-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
100-41-4	Ethylbenzene	210	**199**	**95**	71-123	
179601-23-1	m,p-Xylenes	420	**402**	**96**	67-127	
75-25-2	Bromoform	214	**190**	**89**	65-149	
100-42-5	Styrene	212	**195**	**92**	76-132	
95-47-6	o-Xylene	212	**203**	**96**	69-124	
79-34-5	1,1,2,2-Tetrachloroethane	212	**204**	**96**	69-128	
98-82-8	Cumene	212	**199**	**94**	69-125	
103-65-1	n-Propylbenzene	214	**205**	**96**	70-127	
622-96-8	4-Ethyltoluene	216	**204**	**94**	69-127	
108-67-8	1,3,5-Trimethylbenzene	210	**200**	**95**	66-129	
95-63-6	1,2,4-Trimethylbenzene	208	**221**	**106**	63-142	
100-44-7	Benzyl Chloride	420	**379**	**90**	73-145	
541-73-1	1,3-Dichlorobenzene	210	**186**	**89**	67-136	
106-46-7	1,4-Dichlorobenzene	212	**169**	**80**	63-134	
135-98-8	sec-Butylbenzene	210	**205**	**98**	68-130	
99-87-6	4-Isopropyltoluene (p-Cymene)	210	**203**	**97**	60-139	
95-50-1	1,2-Dichlorobenzene	212	**197**	**93**	64-139	
120-82-1	1,2,4-Trichlorobenzene	412	**343**	**83**	62-154	
91-20-3	Naphthalene	216	**143**	**66**	62-156	
87-68-3	Hexachlorobutadiene	210	**180**	**86**	55-142	
104-51-8	n-Butylbenzene	210	**208**	**99**	70-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-002DUP

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02348

Initial Pressure (psig): -7.09 Final Pressure (psig): 3.76

Canister Dilution Factor: 2.43

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Dichlorodifluoromethane (CFC 12)	2.31	0.468	2.27	0.459	2.29	**2**	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	ND	ND	-	-	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Ethyl Acetate	19.2	5.32	19.1	5.29	19.15	**0.5**	25	
n-Hexane	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-002DUP

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02348

Initial Pressure (psig): -7.09 Final Pressure (psig): 3.76

Canister Dilution Factor: 2.43

Compound	Sample Result µg/m³	Sample Result ppbV	**Duplicate Sample Result µg/m³**	**Duplicate Sample Result ppbV**	Average µg/m³	**% RPD**	RPD Limit	**Data Qualifier**
Chloroform	ND	ND	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Trichloroethene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	ND	ND	ND	ND	-	-	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Octane	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_091622_S** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204118-002DUP

Test Code: EPA TO-15 Date Collected: 9/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/16/22
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02348

Initial Pressure (psig): -7.09 Final Pressure (psig): 3.76

Canister Dilution Factor: 2.43

Compound	Sample Result µg/m³	Sample Result ppbV	**Duplicate Sample Result µg/m³**	**Duplicate Sample Result ppbV**	Average µg/m³	**% RPD**	RPD Limit	**Data Qualifier**
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
sec-Butylbenzene	ND	ND	ND	ND	-	-	25	
4-Isopropyltoluene (p-Cymene)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	
n-Butylbenzene	ND	ND	ND	ND	-	-	25	
Xylenes, Total	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.** ALS Project ID: P2204118
Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 09222233.D
Analyst: Wida Ang/Chase Griffin Date Analyzed: 9/22/22
Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 18:16
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	162375	11.31	735079	13.43	178464	17.73
	Upper Limit	227325	11.64	1029111	13.76	249850	18.06
	Lower Limit	97425	10.98	441047	13.10	107078	17.40
	Client Sample ID						
01	Method Blank	146677	11.30	656150	13.42	149272	17.73
02	Lab Control Sample	158286	11.31	705838	13.43	172781	17.73
03	DOE-1_091622_S	152820	11.30	687772	13.42	156226	17.73
04	DOE-2_091622_S	147621	11.29	665086	13.42	155461	17.73
05	DOE-2_091622_S (Lab Duplicate)	146621	11.29	656923	13.42	155030	17.73
06	DOE-3_091622_S	144069	11.29	645795	13.42	154795	17.73
07	DOE-4_091622_S	141769	11.30	630851	13.42	150019	17.73
08	DOE-3_091622_D	142487	11.29	632262	13.42	151628	17.73
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222237.D Vial: 3
Acq On : 22 Sep 2022 20:32 Operator: WA/CG
Sample : P2204118-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:44 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 9/23/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	152820	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	687772	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	156226	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	261231	12.834	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
57) Toluene-d8 (SS2)	15.87	98	742013	12.320	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	19.11	174	257740	11.452	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%				
Target Compounds							Qvalue
2) Propene	4.20	42	8188	N.D.			
3) Dichlorodifluoromethan...	4.34	85	43235	1.695	ng		100
4) Chloromethane	4.64	50	4906	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	1163	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.78	94	167	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.45	45	61079	4.911	ng		99
11) Acetonitrile	6.73	41	9685	N.D.			
12) Acrolein	6.93	56	1888	N.D.			
13) Acetone	7.14	58	58403	4.944	ng		87
14) Trichlorofluoromethane	7.39	101	19432	0.823	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	13873	N.D.			
16) Acrylonitrile	7.91	53	3283	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.58	84	2130	N.D.			
20) 3-Chloro-1-propene (Al...	8.67	41	106	N.D.			
21) Trichlorotrifluoroethane	9.00	151	4443	N.D.			
22) Carbon Disulfide	8.85	76	2351	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.34	86	1596	0.520	ng	#	94
27) 2-Butanone (MEK)	10.64	72	3658	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.44	87	395	N.D.			
30) Ethyl Acetate	11.43	61	21865	3.321	ng		96
31) n-Hexane	11.41	57	2105	N.D.			
32) Chloroform	11.46	83	1404	N.D.			
34) Tetrahydrofuran (THF)	11.94	72	215	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	363	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	7962	N.D.			
42) Carbon Tetrachloride	13.19	117	5651	N.D.			
43) Cyclohexane	13.32	84	377	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.12	130	1267	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	7610	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222237.D Vial: 3
Acq On : 22 Sep 2022 20:32 Operator: WA/CG
Sample : P2204118-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:44 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

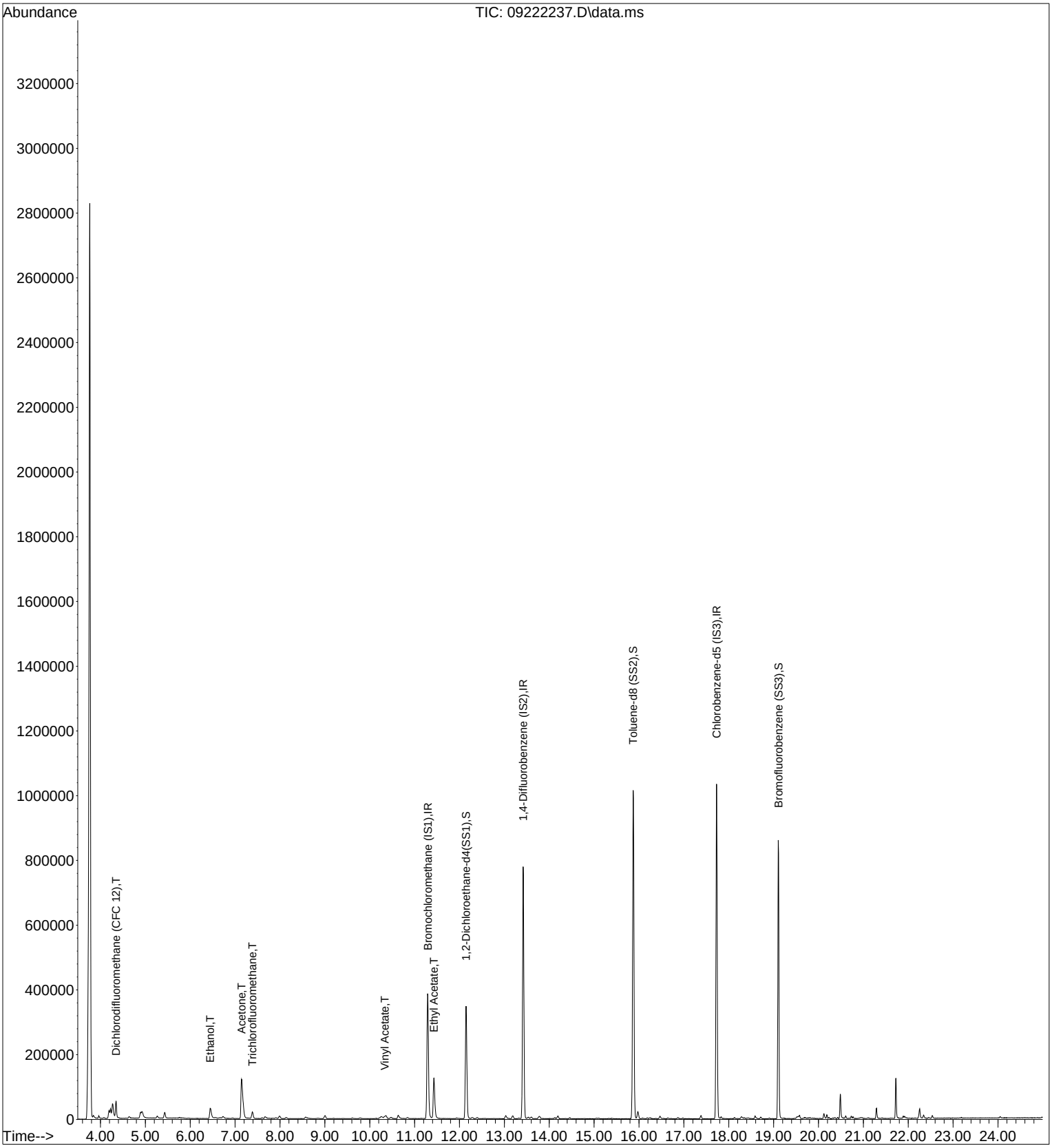
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	486	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.05	58	376	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	16799	N.D.	
59) 2-Hexanone	16.24	43	4459	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.87	43	5006	N.D.	
63) n-Octane	16.98	57	531	N.D.	
64) Tetrachloroethene	17.12	166	443	N.D.	
65) Chlorobenzene	17.77	112	447	N.D.	
66) Ethylbenzene	18.13	91	3782	N.D.	
67) m- & p-Xylenes	18.28	91	6340	N.D.	
68) Bromoform	18.35	173	106	N.D.	
69) Styrene	18.62	104	782	N.D.	
70) o-Xylene	18.71	91	2581	N.D.	
71) n-Nonane	18.91	43	1273	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.24	105	1052	N.D.	
75) alpha-Pinene	19.58	93	3071	N.D.	
76) n-Propylbenzene	19.68	91	1986	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.80	105	1879	N.D.	
79) 1,3,5-Trimethylbenzene	19.88	105	1057	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	2223	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.35	91	1805	N.D.	
85) 1,3-Dichlorobenzene	20.37	146	1112	N.D.	
86) 1,4-Dichlorobenzene	20.43	146	1805	N.D.	
87) sec-Butylbenzene	20.47	105	401	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	3880	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	20.73	146	1041	N.D.	
91) d-Limonene	20.73	68	1512	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.11	157	480	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.24	180	3237	N.D.	
95) Naphthalene	22.34	128	7569	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.66	225	266	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	20.23	119	553	N.D.	
100) n-Butylbenzene	20.97	91	1619	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222237.D Vial: 3
Acq On : 22 Sep 2022 20:32 Operator: WA/CG
Sample : P2204118-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:44 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222237.D Vial: 3
Acq On : 22 Sep 2022 20:32 Operator: WA/CG
Sample : P2204118-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:44 2022 9/23/22
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

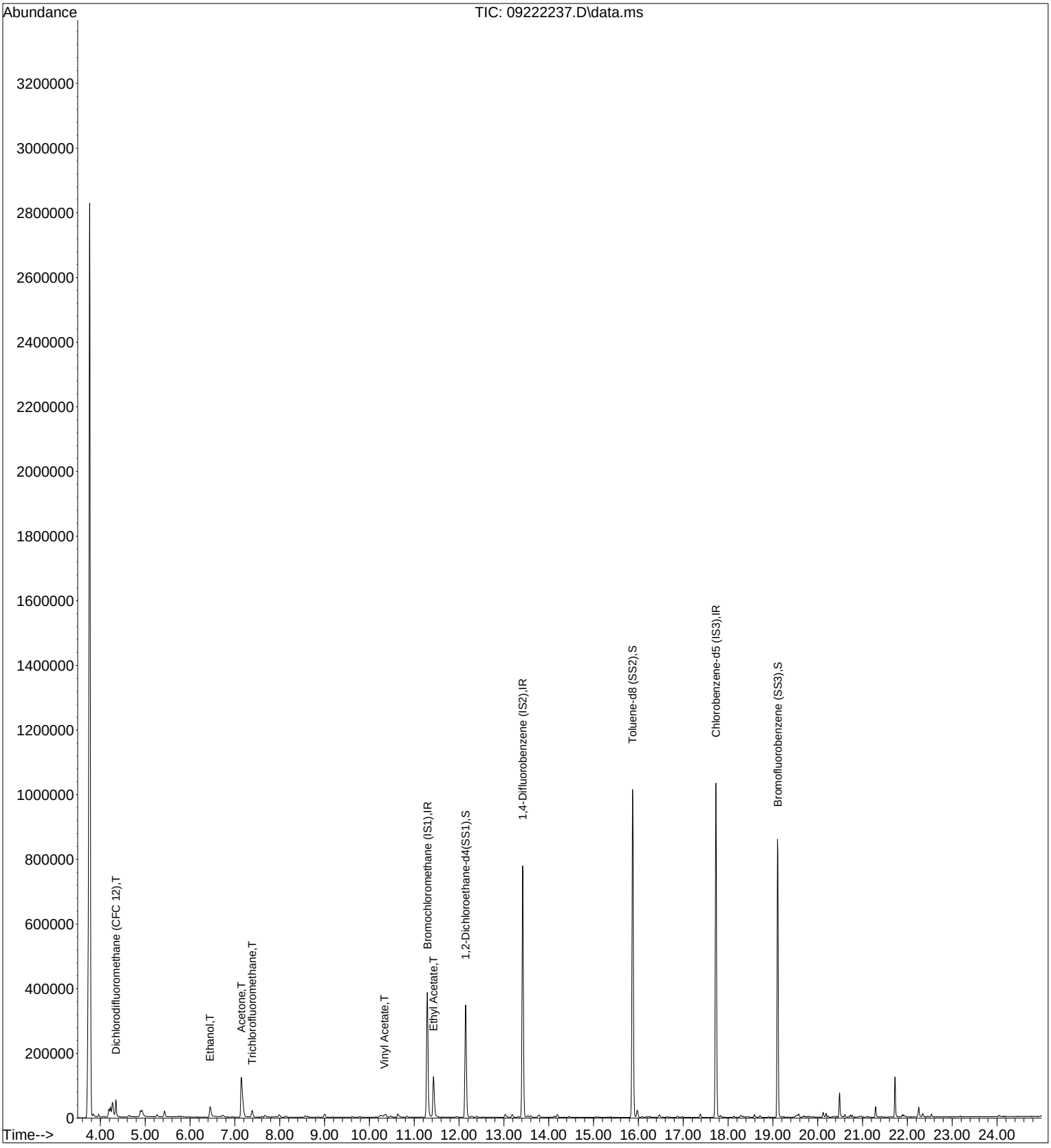
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	152820	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	687772	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	156226	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	261231	12.834	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
57) Toluene-d8 (SS2)	15.87	98	742013	12.320	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	19.11	174	257740	11.452	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.34	85	43235	1.695	ng		100
10) Ethanol	6.45	45	61079	4.911	ng		99
13) Acetone	7.14	58	58403	4.944	ng		87
14) Trichlorofluoromethane	7.39	101	19432	0.823	ng		100
26) Vinyl Acetate	10.34	86	1596	0.520	ng	#	94
30) Ethyl Acetate	11.43	61	21865	3.321	ng		96

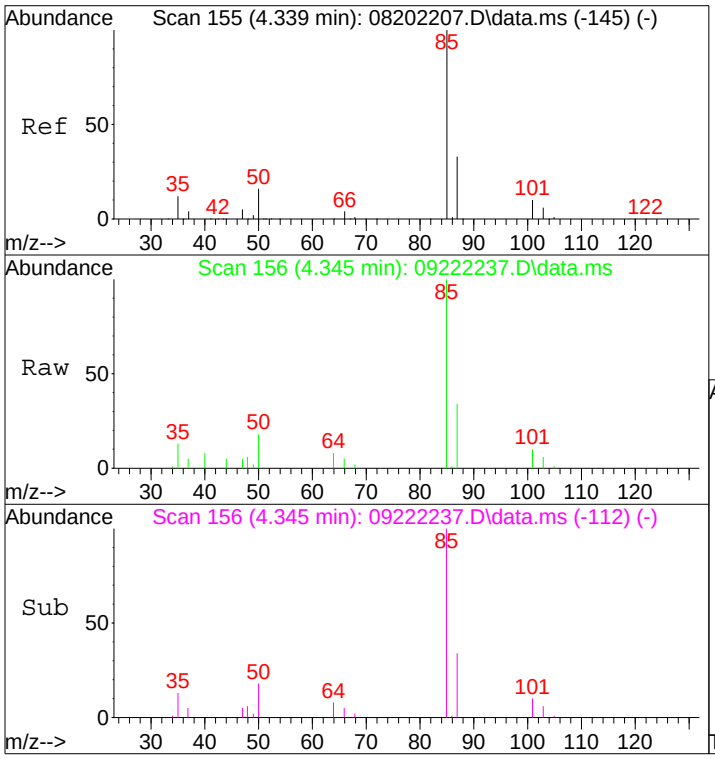
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222237.D Vial: 3
Acq On : 22 Sep 2022 20:32 Operator: WA/CG
Sample : P2204118-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:44 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

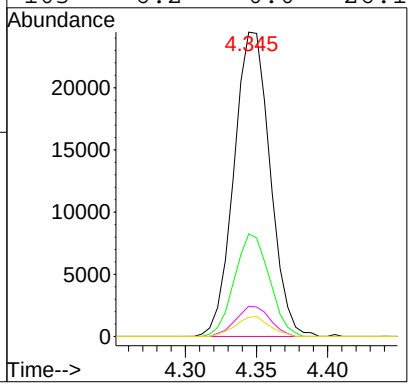


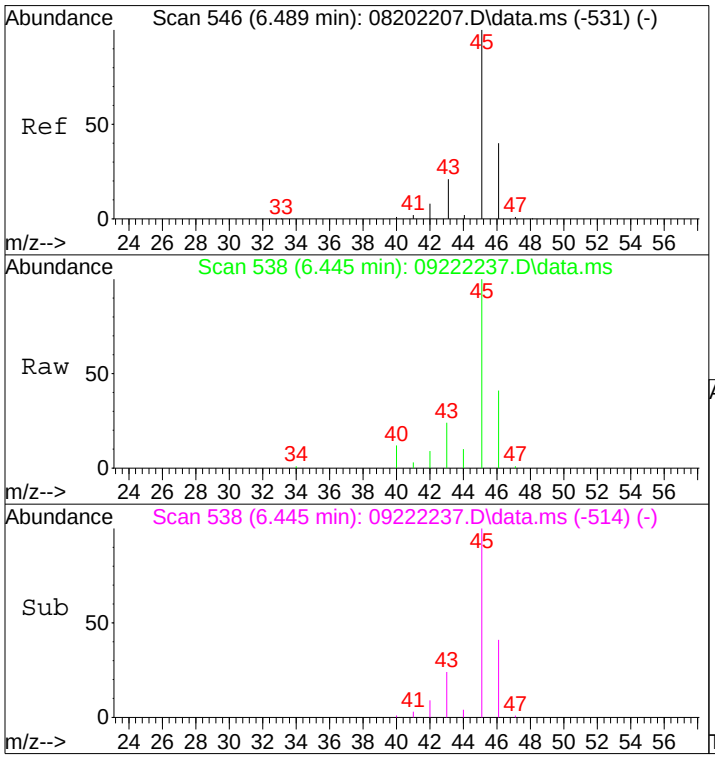


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.69 ng
RT: 4.34 min Scan# 156
Delta R.T. -0.006 min
Lab File: 09222237.D
Acq: 22 Sep 2022 20:32

Tgt Ion: 85 Resp: 43235

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.9	52.9
101	9.5	0.0	29.6
103	6.2	0.0	26.1

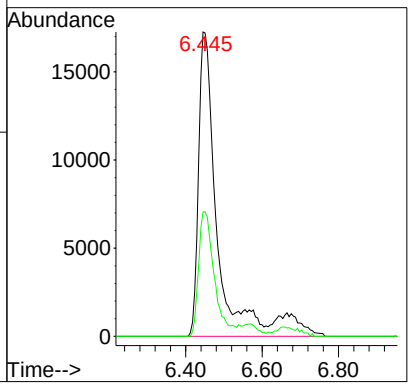


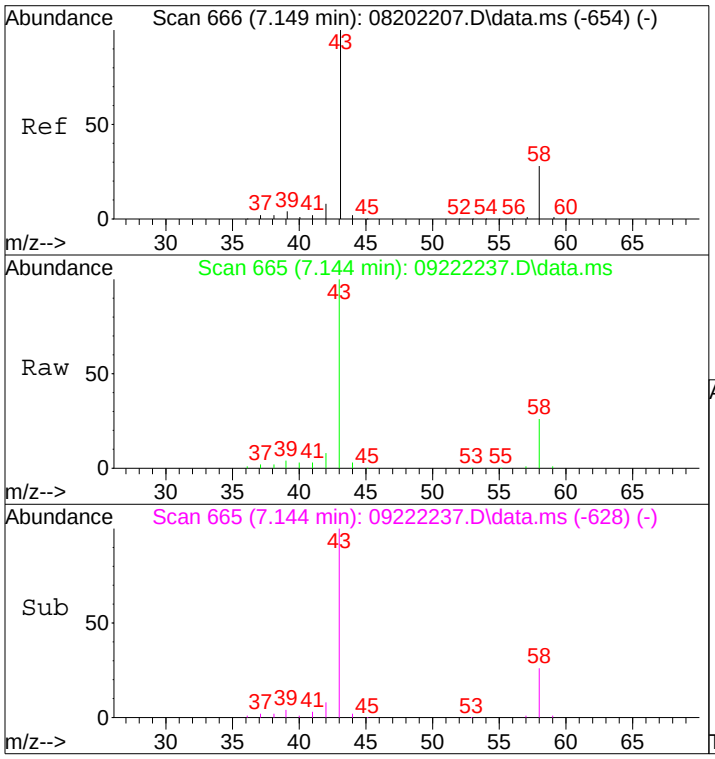


#10
Ethanol
Concen: 4.91 ng
RT: 6.45 min Scan# 538
Delta R.T. -0.116 min
Lab File: 09222237.D
Acq: 22 Sep 2022 20:32

Tgt Ion: 45 Resp: 61079

Ion	Ratio	Lower	Upper
45	100		
46	40.9	20.5	60.5

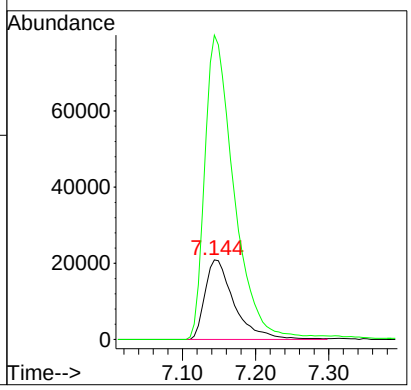


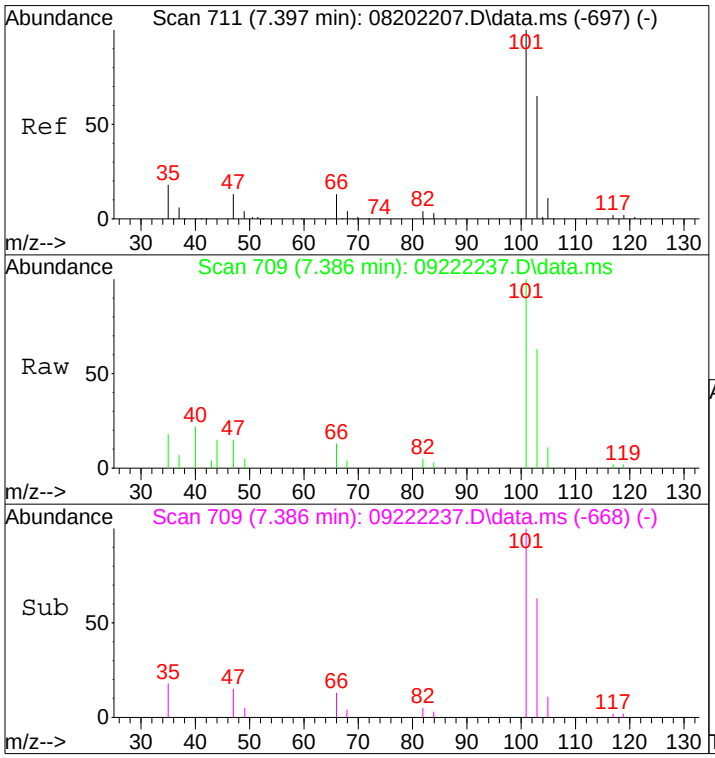


#13
Acetone
Concen: 4.94 ng
RT: 7.14 min Scan# 665
Delta R.T. -0.044 min
Lab File: 09222237.D
Acq: 22 Sep 2022 20:32

Tgt Ion: 58 Resp: 58403

Ion	Ratio	Lower	Upper
58	100		
43	387.4	328.5	388.5

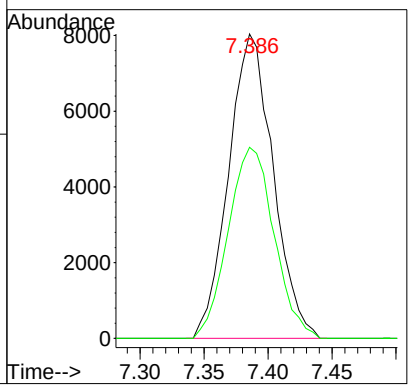


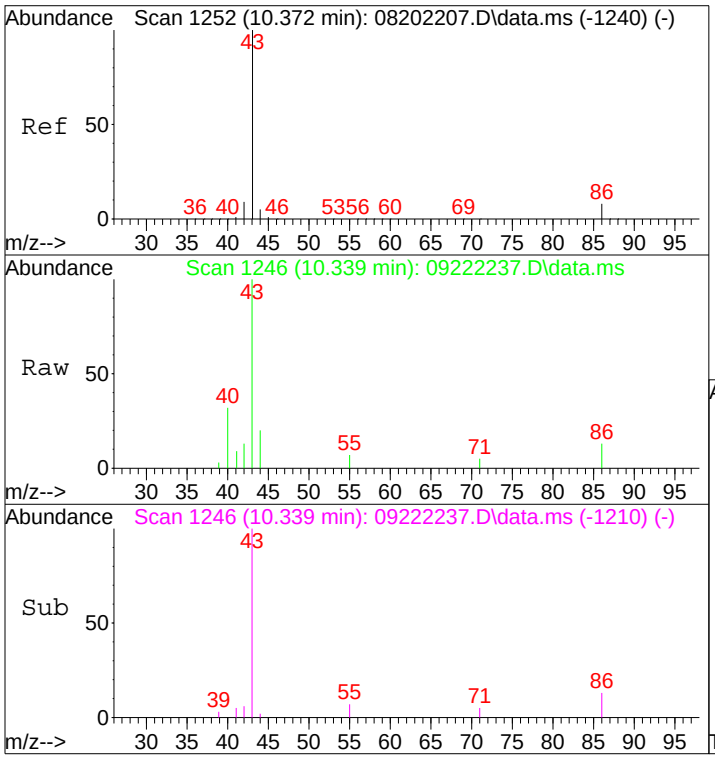


#14
Trichlorofluoromethane
Concen: 0.82 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.022 min
Lab File: 09222237.D
Acq: 22 Sep 2022 20:32

Tgt Ion:101 Resp: 19432

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.6	84.6

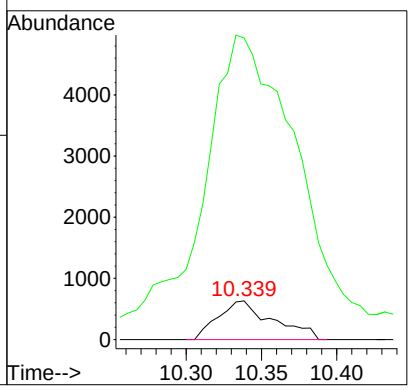


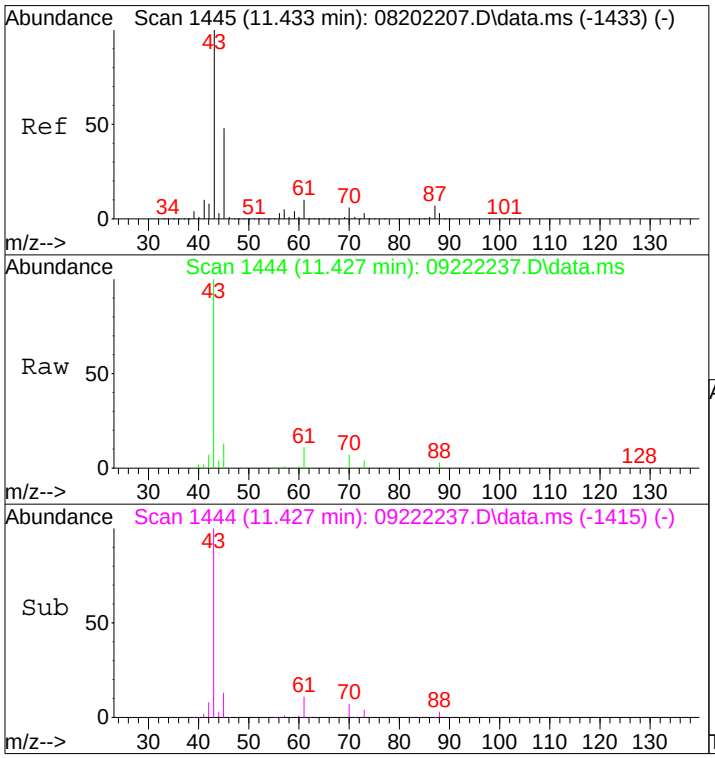


#26
Vinyl Acetate
Concen: 0.52 ng
RT: 10.34 min Scan# 1246
Delta R.T. -0.049 min
Lab File: 09222237.D
Acq: 22 Sep 2022 20:32

Tgt Ion: 86 Resp: 1596

Ion	Ratio	Lower	Upper
86	100		
43	1368.2	1314.6	1354.6#

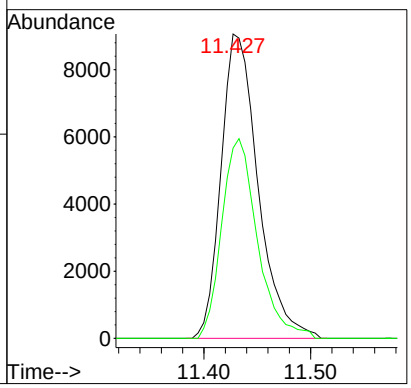




#30
Ethyl Acetate
Concen: 3.32 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.039 min
Lab File: 09222237.D
Acq: 22 Sep 2022 20:32

Tgt Ion: 61 Resp: 21865

Ion	Ratio	Lower	Upper
61	100		
70	63.3	46.5	86.5



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222238.D Vial: 4
Acq On : 22 Sep 2022 21:06 Operator: WA/CG
Sample : P2204118-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:46 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) WA 9/23/22
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	147621	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	665086	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	155461	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	253883	12.912	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%				
57) Toluene-d8 (SS2)	15.87	98	723944	12.079	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	19.10	174	256643	11.459	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.68%				
Target Compounds							Qvalue
2) Propene	4.21	42	4877	N.D.			
3) Dichlorodifluoromethan...	4.36	85	23466	0.952	ng		99
4) Chloromethane	4.64	50	2863	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	617	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.45	45	31832	2.650	ng		93
11) Acetonitrile	6.74	41	3088	N.D.			
12) Acrolein	6.95	56	722	N.D.			
13) Acetone	7.15	58	30838	2.702	ng	#	85
14) Trichlorofluoromethane	7.39	101	10426	0.457	ng		100
15) 2-Propanol (Isopropanol)	7.68	45	9142	N.D.			
16) Acrylonitrile	7.92	53	109	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.57	84	1359	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.01	151	2285	N.D.			
22) Carbon Disulfide	8.86	76	1668	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.34	86	325	N.D.			
27) 2-Butanone (MEK)	10.64	72	1900	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.42	87	998	N.D.			
30) Ethyl Acetate	11.43	61	50165	7.888	ng		96
31) n-Hexane	11.42	57	1182	N.D.			
32) Chloroform	11.47	83	717	N.D.			
34) Tetrahydrofuran (THF)	11.94	72	108	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	5787	N.D.			
42) Carbon Tetrachloride	13.19	117	2940	N.D.			
43) Cyclohexane	13.31	84	157	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.13	130	439	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	4391	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222238.D Vial: 4
Acq On : 22 Sep 2022 21:06 Operator: WA/CG
Sample : P2204118-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:46 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

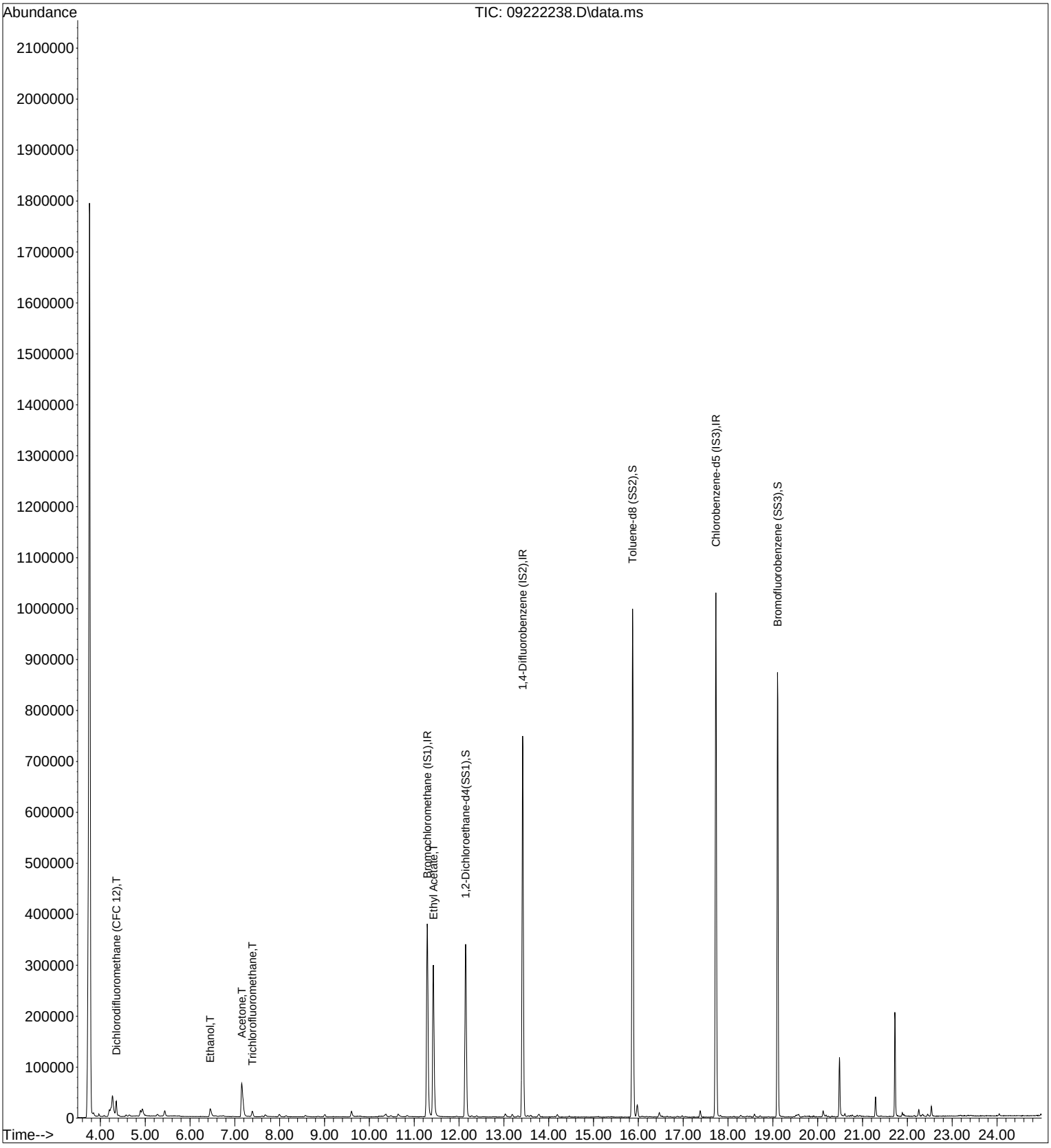
Internal Standards	R.T.	QIon	Response	Conc Units Dev(Min)
51) n-Heptane	14.46	71	264	N.D.
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.
58) Toluene	15.98	91	18222	N.D.
59) 2-Hexanone	16.26	43	2593	N.D.
60) Dibromochloromethane	0.00	129	0	N.D.
61) 1,2-Dibromoethane	0.00	107	0	N.D.
62) n-Butyl Acetate	16.87	43	2226	N.D.
63) n-Octane	16.98	57	472	N.D.
64) Tetrachloroethene	0.00	166	0	N.D.
65) Chlorobenzene	0.00	112	0	N.D.
66) Ethylbenzene	18.13	91	1615	N.D.
67) m- & p-Xylenes	18.28	91	3282	N.D.
68) Bromoform	0.00	173	0	N.D.
69) Styrene	18.63	104	244	N.D.
70) o-Xylene	18.71	91	1244	N.D.
71) n-Nonane	18.91	43	944	N.D.
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.
74) Cumene	19.23	105	102	N.D.
75) alpha-Pinene	19.58	93	1536	N.D.
76) n-Propylbenzene	19.68	91	523	N.D.
77) 3-Ethyltoluene	0.00	105	0	N.D.
78) 4-Ethyltoluene	19.81	105	707	N.D.
79) 1,3,5-Trimethylbenzene	19.87	105	307	N.D.
80) alpha-Methylstyrene	0.00	118	0	N.D.
81) 2-Ethyltoluene	0.00	105	0	N.D.
82) 1,2,4-Trimethylbenzene	20.23	105	1049	N.D.
83) n-Decane	0.00	58	0	N.D.
84) Benzyl Chloride	20.35	91	444	N.D.
85) 1,3-Dichlorobenzene	20.37	146	239	N.D.
86) 1,4-Dichlorobenzene	20.43	146	554	N.D.
87) sec-Butylbenzene	0.00	105	0	N.D.
88) 4-Isopropyltoluene (p-...	20.61	119	2635	N.D.
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.
91) d-Limonene	20.73	68	704	N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.
93) n-Undecane	0.00	58	0	N.D.
94) 1,2,4-Trichlorobenzene	22.24	180	936	N.D.
95) Naphthalene	22.35	128	2789	N.D.
96) n-Dodecane	22.53	58	336	No Calib #
97) Hexachlorobutadiene	0.00	225	0	N.D.
98) Cyclohexanone	0.00	55	0	N.D.
99) tert-Butylbenzene	20.24	119	125	N.D.
100) n-Butylbenzene	20.98	91	602	N.D.
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222238.D Vial: 4
Acq On : 22 Sep 2022 21:06 Operator: WA/CG
Sample : P2204118-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:46 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222238.D Vial: 4
Acq On : 22 Sep 2022 21:06 Operator: WA/CG
Sample : P2204118-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:46 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 9/23/22

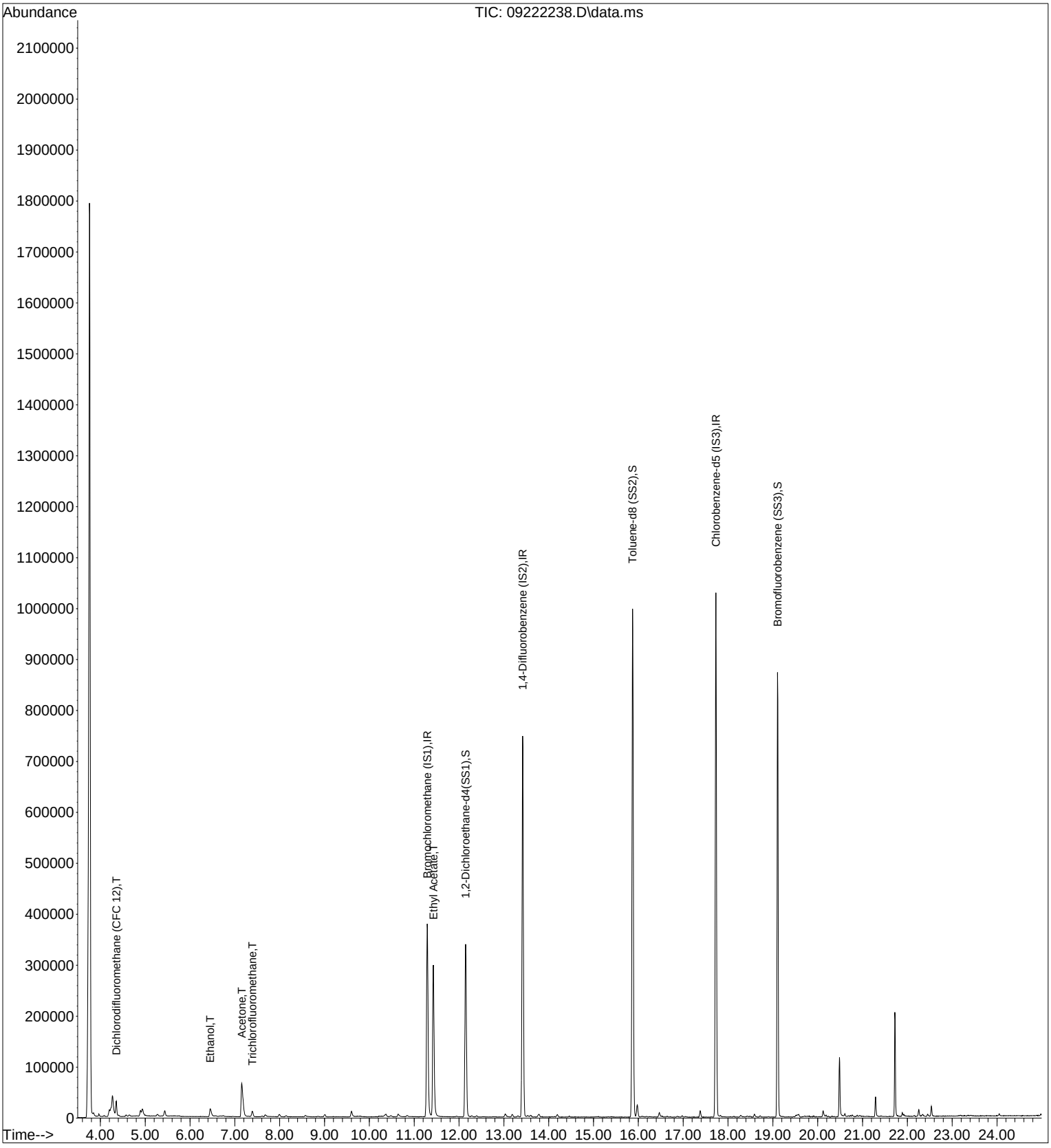
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	147621	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	665086	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	155461	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	253883	12.912	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%				
57) Toluene-d8 (SS2)	15.87	98	723944	12.079	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	19.10	174	256643	11.459	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.68%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.36	85	23466	0.952	ng		99
10) Ethanol	6.45	45	31832	2.650	ng		93
13) Acetone	7.15	58	30838	2.702	ng	#	85
14) Trichlorofluoromethane	7.39	101	10426	0.457	ng		100
30) Ethyl Acetate	11.43	61	50165	7.888	ng		96

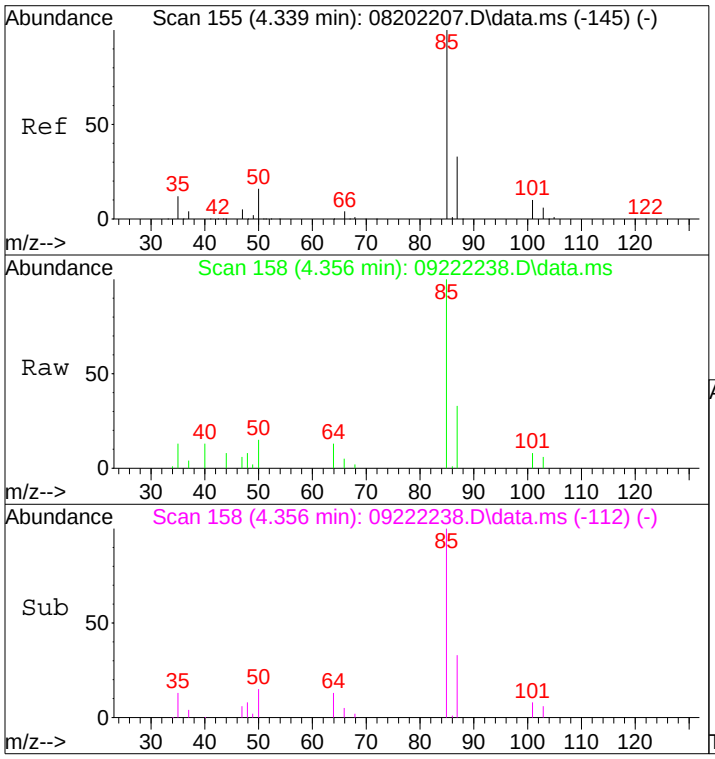
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222238.D Vial: 4
Acq On : 22 Sep 2022 21:06 Operator: WA/CG
Sample : P2204118-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:46 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

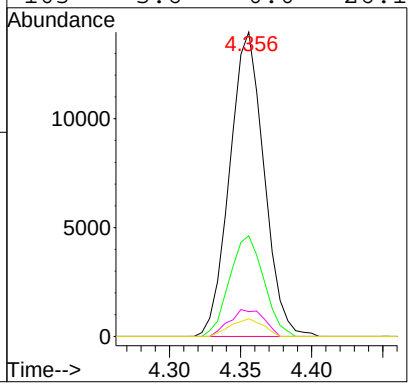


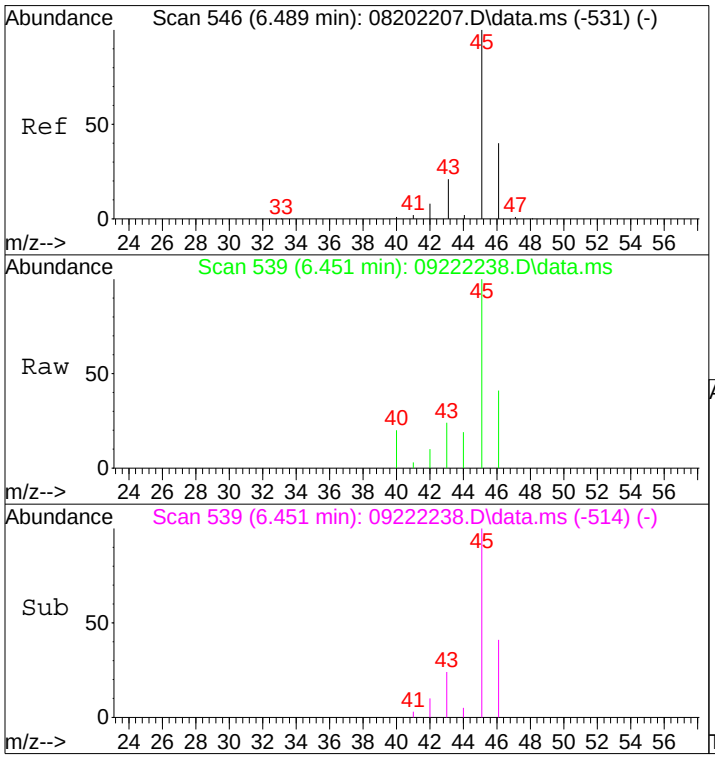


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.95 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.005 min
Lab File: 09222238.D
Acq: 22 Sep 2022 21:06

Tgt Ion: 85 Resp: 23466

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.9	52.9
101	8.9	0.0	29.6
103	5.6	0.0	26.1

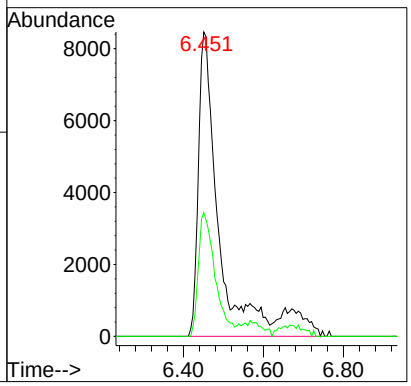


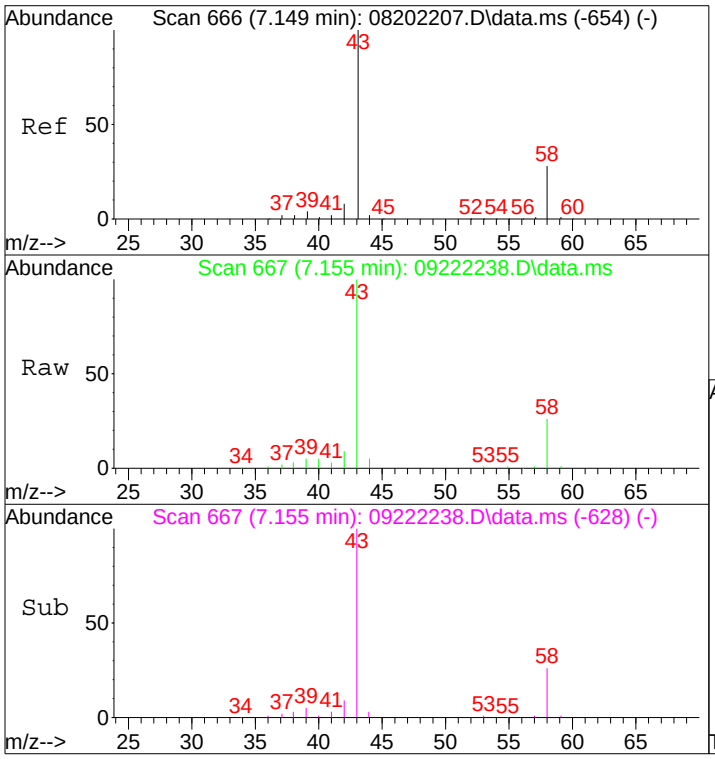


#10
Ethanol
Concen: 2.65 ng
RT: 6.45 min Scan# 539
Delta R.T. -0.110 min
Lab File: 09222238.D
Acq: 22 Sep 2022 21:06

Tgt Ion: 45 Resp: 31832

Ion	Ratio	Lower	Upper
45	100		
46	36.4	20.5	60.5

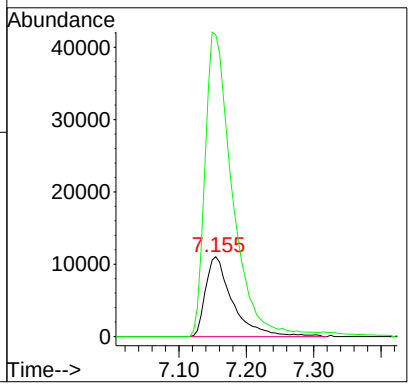


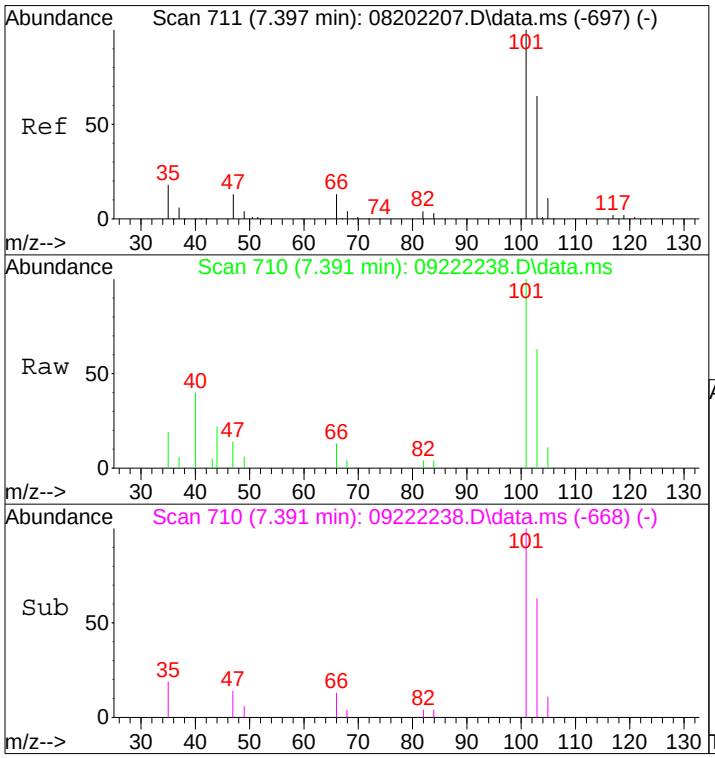


#13
Acetone
Concen: 2.70 ng
RT: 7.15 min Scan# 667
Delta R.T. -0.033 min
Lab File: 09222238.D
Acq: 22 Sep 2022 21:06

Tgt Ion: 58 Resp: 30838

Ion	Ratio	Lower	Upper
58	100		
43	390.5	328.5	388.5#

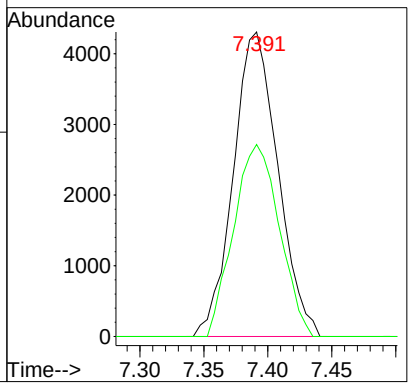


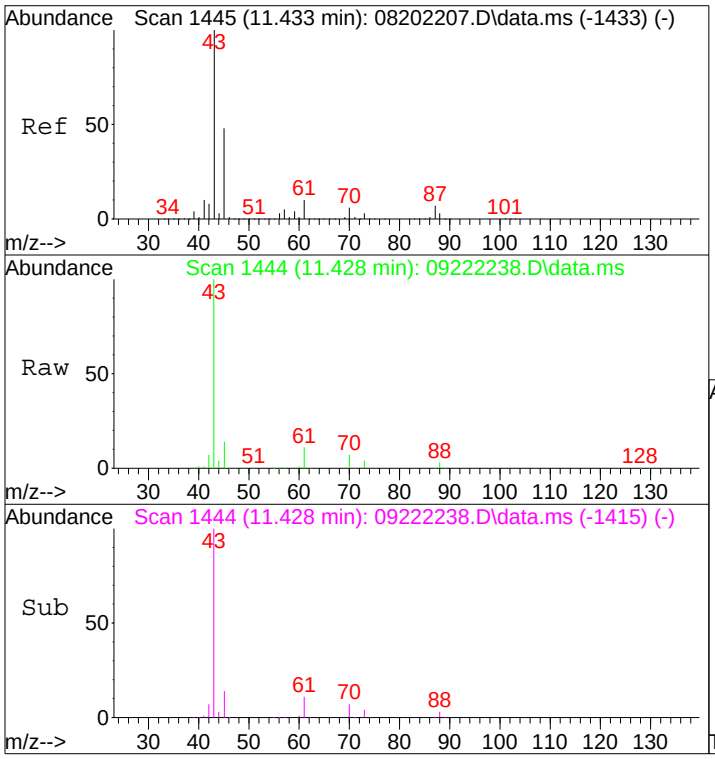


#14
Trichlorofluoromethane
Concen: 0.46 ng
RT: 7.39 min Scan# 710
Delta R.T. -0.017 min
Lab File: 09222238.D
Acq: 22 Sep 2022 21:06

Tgt Ion:101 Resp: 10426

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.6	84.6

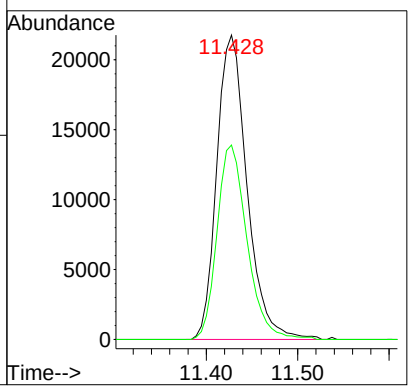




#30
Ethyl Acetate
Concen: 7.89 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.038 min
Lab File: 09222238.D
Acq: 22 Sep 2022 21:06

Tgt Ion: 61 Resp: 50165

Ion	Ratio	Lower	Upper
61	100		
70	63.3	46.5	86.5



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222240.D Vial: 5
Acq On : 22 Sep 2022 22:15 Operator: WA/CG
Sample : P2204118-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:50 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 9/23/22
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	144069	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	645795	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	154795	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	247064	12.875	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
57) Toluene-d8 (SS2)	15.87	98	712699	11.942	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
73) Bromofluorobenzene (SS3)	19.10	174	254197	11.399	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%				
Target Compounds							Qvalue
2) Propene	4.20	42	8055	N.D.			
3) Dichlorodifluoromethan...	4.35	85	39437	1.640	ng		100
4) Chloromethane	4.64	50	4701	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	962	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.45	45	46322	3.951	ng		99
11) Acetonitrile	6.74	41	3823	N.D.			
12) Acrolein	6.94	56	1297	N.D.			
13) Acetone	7.15	58	47609	4.275	ng	#	85
14) Trichlorofluoromethane	7.39	101	17494	0.786	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	13705	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.62	59	61	N.D.			
19) Methylene Chloride	8.58	84	1950	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.01	151	3529	N.D.			
22) Carbon Disulfide	8.85	76	8591	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.33	86	1286	N.D.			
27) 2-Butanone (MEK)	10.64	72	3132	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	856	N.D.			
30) Ethyl Acetate	11.43	61	38901	6.268	ng		95
31) n-Hexane	11.42	57	2166	N.D.			
32) Chloroform	11.46	83	1212	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	184	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	7884	N.D.			
42) Carbon Tetrachloride	13.19	117	5122	N.D.			
43) Cyclohexane	13.32	84	400	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	7471	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS16\DATA\2022 09\22\09222240.D Vial: 5
Acq On : 22 Sep 2022 22:15 Operator: WA/CG
Sample : P2204118-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:50 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

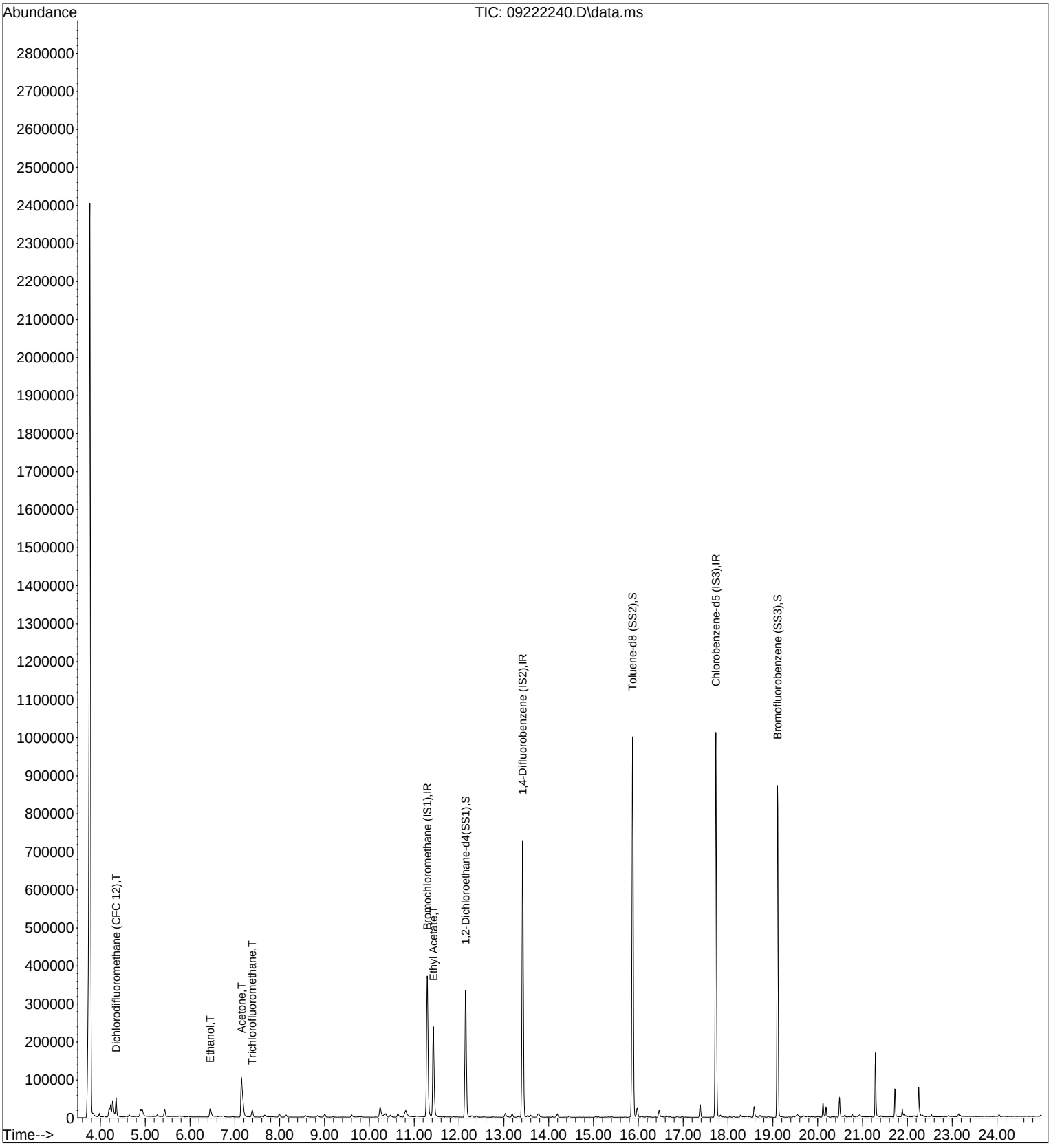
Internal Standards	R.T.	QIon	Response	Conc Units Dev(Min)
51) n-Heptane	14.46	71	627	N.D.
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.
53) 4-Methyl-2-pentanone	15.04	58	227	N.D.
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.
58) Toluene	15.98	91	17930	N.D.
59) 2-Hexanone	16.25	43	2486	N.D.
60) Dibromochloromethane	0.00	129	0	N.D.
61) 1,2-Dibromoethane	0.00	107	0	N.D.
62) n-Butyl Acetate	16.87	43	3547	N.D.
63) n-Octane	16.98	57	414	N.D.
64) Tetrachloroethene	0.00	166	0	N.D.
65) Chlorobenzene	0.00	112	0	N.D.
66) Ethylbenzene	18.13	91	2320	N.D.
67) m- & p-Xylenes	18.28	91	5019	N.D.
68) Bromoform	0.00	173	0	N.D.
69) Styrene	0.00	104	0	N.D.
70) o-Xylene	18.71	91	2112	N.D.
71) n-Nonane	18.90	43	1046	N.D.
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.
74) Cumene	19.23	105	117	N.D.
75) alpha-Pinene	19.57	93	1101	N.D.
76) n-Propylbenzene	19.69	91	731	N.D.
77) 3-Ethyltoluene	0.00	105	0	N.D.
78) 4-Ethyltoluene	19.80	105	768	N.D.
79) 1,3,5-Trimethylbenzene	19.87	105	457	N.D.
80) alpha-Methylstyrene	0.00	118	0	N.D.
81) 2-Ethyltoluene	0.00	105	0	N.D.
82) 1,2,4-Trimethylbenzene	20.24	105	1838	N.D.
83) n-Decane	20.12	58	375	No Calib #
84) Benzyl Chloride	20.35	91	111	N.D.
85) 1,3-Dichlorobenzene	20.43	146	506	N.D.
86) 1,4-Dichlorobenzene	20.43	146	506	N.D.
87) sec-Butylbenzene	0.00	105	0	N.D.
88) 4-Isopropyltoluene (p-...	20.61	119	2708	N.D.
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.
91) d-Limonene	20.74	68	387	N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.
93) n-Undecane	0.00	58	0	N.D.
94) 1,2,4-Trichlorobenzene	22.23	180	372	N.D.
95) Naphthalene	22.35	128	2167	N.D.
96) n-Dodecane	0.00	58	0	N.D.
97) Hexachlorobutadiene	0.00	225	0	N.D.
98) Cyclohexanone	0.00	55	0	N.D.
99) tert-Butylbenzene	20.23	119	175	N.D.
100) n-Butylbenzene	20.96	91	937	N.D.
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222240.D Vial: 5
Acq On : 22 Sep 2022 22:15 Operator: WA/CG
Sample : P2204118-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:50 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222240.D Vial: 5
Acq On : 22 Sep 2022 22:15 Operator: WA/CG
Sample : P2204118-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:50 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 9/23/22

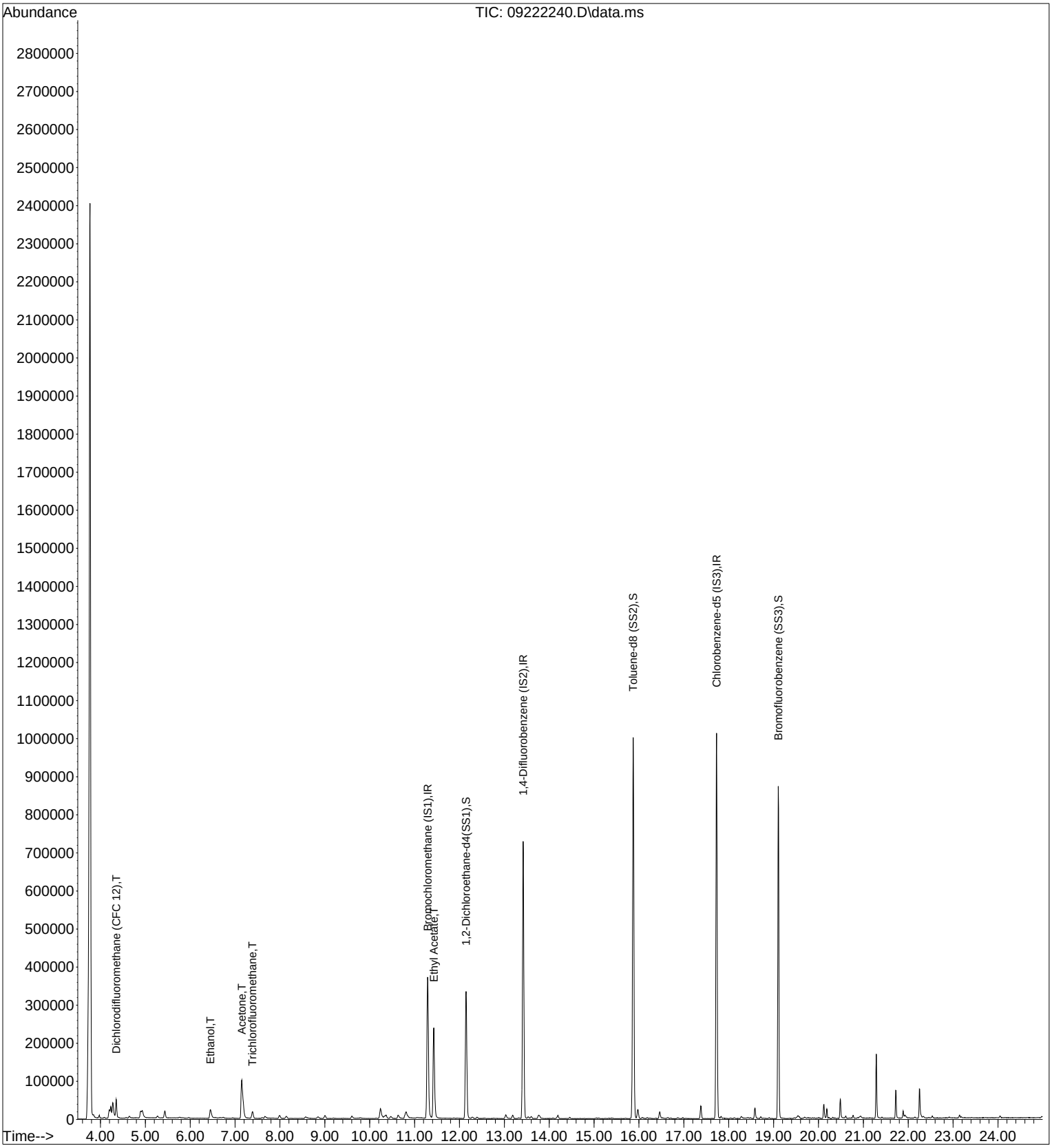
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	144069	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	645795	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	154795	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	247064	12.875	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
57) Toluene-d8 (SS2)	15.87	98	712699	11.942	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
73) Bromofluorobenzene (SS3)	19.10	174	254197	11.399	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.35	85	39437	1.640	ng		100
10) Ethanol	6.45	45	46322	3.951	ng		99
13) Acetone	7.15	58	47609	4.275	ng	#	85
14) Trichlorofluoromethane	7.39	101	17494	0.786	ng		100
30) Ethyl Acetate	11.43	61	38901	6.268	ng		95

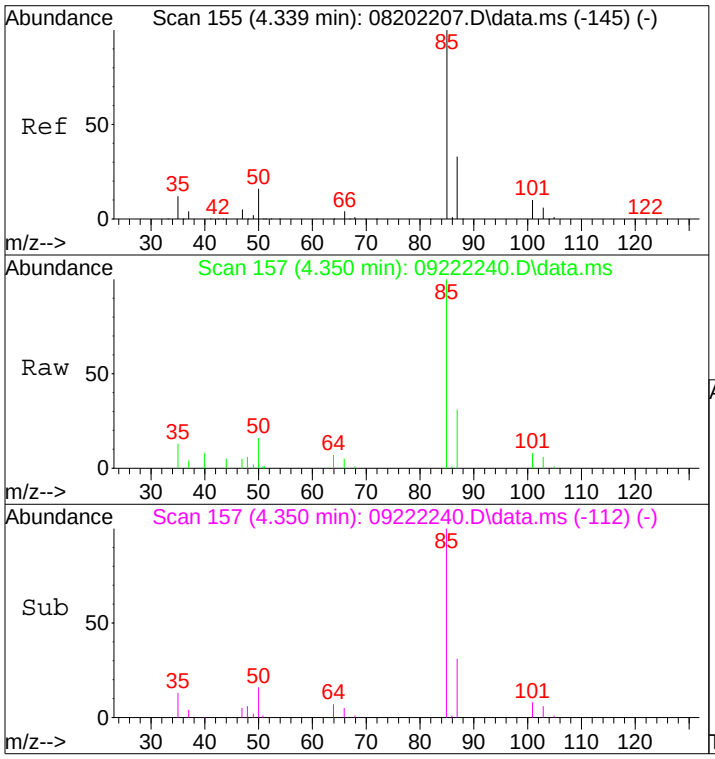
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222240.D Vial: 5
Acq On : 22 Sep 2022 22:15 Operator: WA/CG
Sample : P2204118-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:50 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

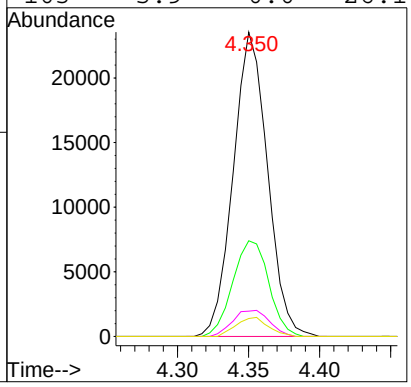


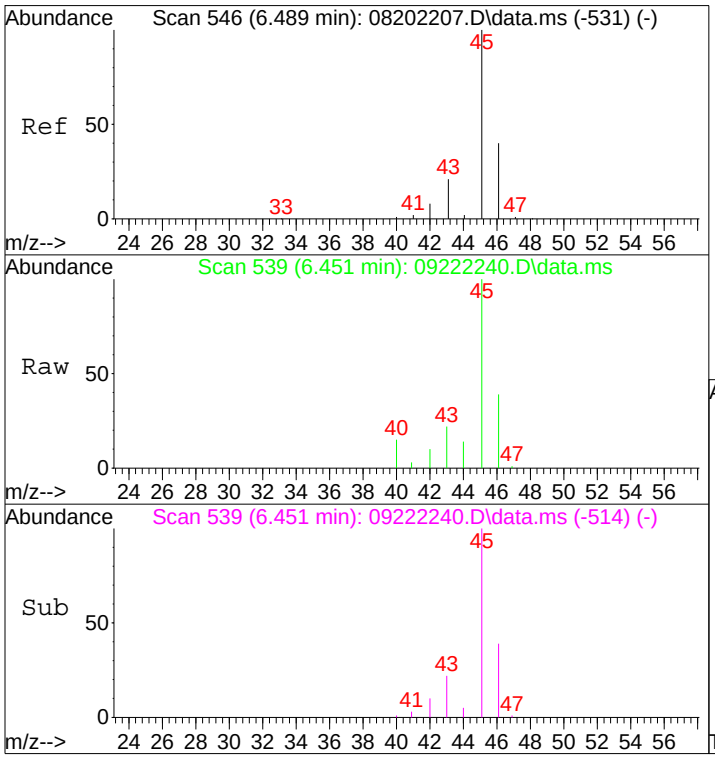


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.64 ng
RT: 4.35 min Scan# 157
Delta R.T. -0.000 min
Lab File: 09222240.D
Acq: 22 Sep 2022 22:15

Tgt Ion: 85 Resp: 39437

Ion	Ratio	Lower	Upper
85	100		
87	33.1	12.9	52.9
101	9.3	0.0	29.6
103	5.9	0.0	26.1

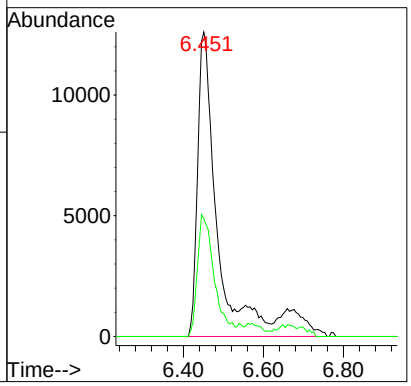


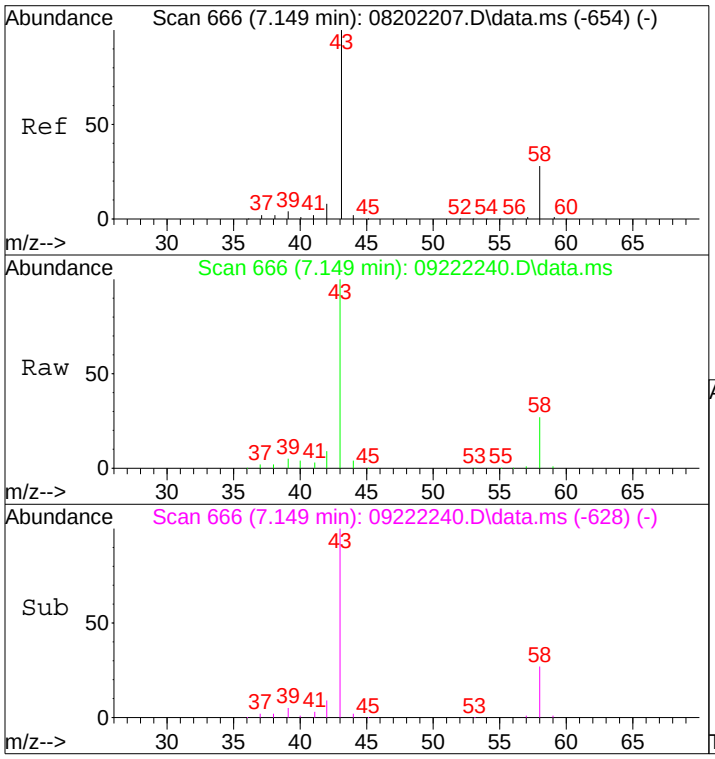


#10
Ethanol
Concen: 3.95 ng
RT: 6.45 min Scan# 539
Delta R.T. -0.110 min
Lab File: 09222240.D
Acq: 22 Sep 2022 22:15

Tgt Ion: 45 Resp: 46322

Ion	Ratio	Lower	Upper
45	100		
46	41.2	20.5	60.5

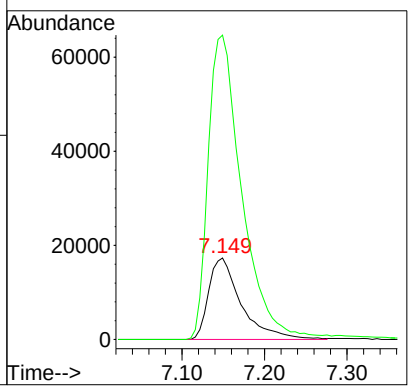


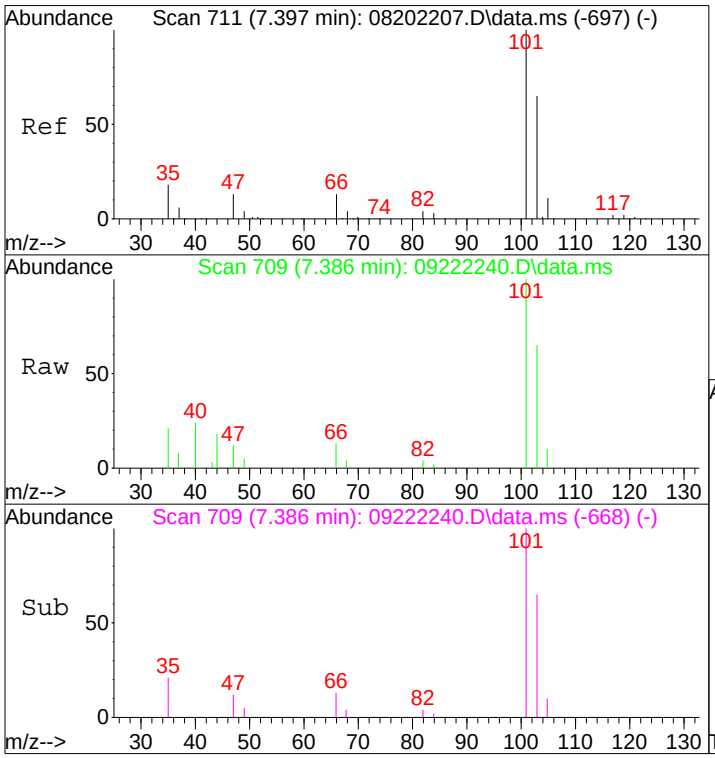


#13
Acetone
Concen: 4.27 ng
RT: 7.15 min Scan# 666
Delta R.T. -0.039 min
Lab File: 09222240.D
Acq: 22 Sep 2022 22:15

Tgt Ion: 58 Resp: 47609

Ion	Ratio	Lower	Upper
58	100		
43	392.6	328.5	388.5#

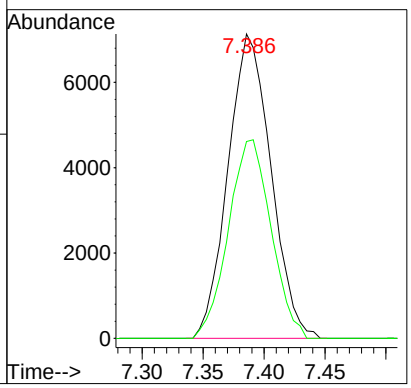


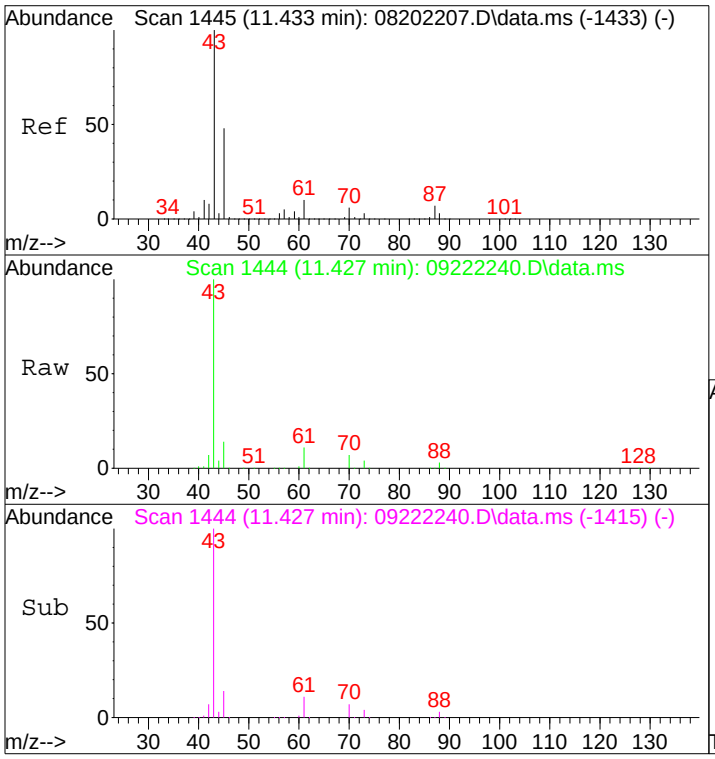


#14
Trichlorofluoromethane
Concen: 0.79 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.022 min
Lab File: 09222240.D
Acq: 22 Sep 2022 22:15

Tgt Ion:101 Resp: 17494

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.6	84.6

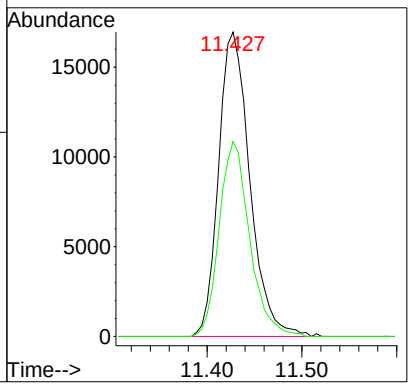




#30
Ethyl Acetate
Concen: 6.27 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.039 min
Lab File: 09222240.D
Acq: 22 Sep 2022 22:15

Tgt Ion: 61 Resp: 38901

Ion	Ratio	Lower	Upper
61	100		
70	62.3	46.5	86.5



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222241.D Vial: 6
Acq On : 22 Sep 2022 22:49 Operator: WA/CG
Sample : P2204118-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:52 2022 9/23/22
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	141769	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	630851	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	150019	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	244423	12.944	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
57) Toluene-d8 (SS2)	15.87	98	692199	11.968	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	19.11	174	250221	11.578	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
Target Compounds							Qvalue
2) Propene	4.20	42	7253	N.D.			
3) Dichlorodifluoromethan...	4.36	85	36377	1.537	ng		99
4) Chloromethane	4.64	50	4332	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1037	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.46	45	43572	3.776	ng		100
11) Acetonitrile	6.74	41	3941	N.D.			
12) Acrolein	6.95	56	1095	N.D.			
13) Acetone	7.15	58	46863	4.276	ng	#	85
14) Trichlorofluoromethane	7.39	101	16245	0.741	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	12656	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.61	59	213	N.D.			
19) Methylene Chloride	8.57	84	1939	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.01	151	3220	N.D.			
22) Carbon Disulfide	8.85	76	1560	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.34	86	910	N.D.			
27) 2-Butanone (MEK)	10.64	72	3226	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	835	N.D.			
30) Ethyl Acetate	11.43	61	39968	6.544	ng		95
31) n-Hexane	11.42	57	2032	N.D.			
32) Chloroform	11.46	83	1117	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	296	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	8062	N.D.			
42) Carbon Tetrachloride	13.18	117	4718	N.D.			
43) Cyclohexane	13.31	84	474	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	7034	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS16\DATA\2022 09\22\09222241.D Vial: 6
Acq On : 22 Sep 2022 22:49 Operator: WA/CG
Sample : P2204118-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:52 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

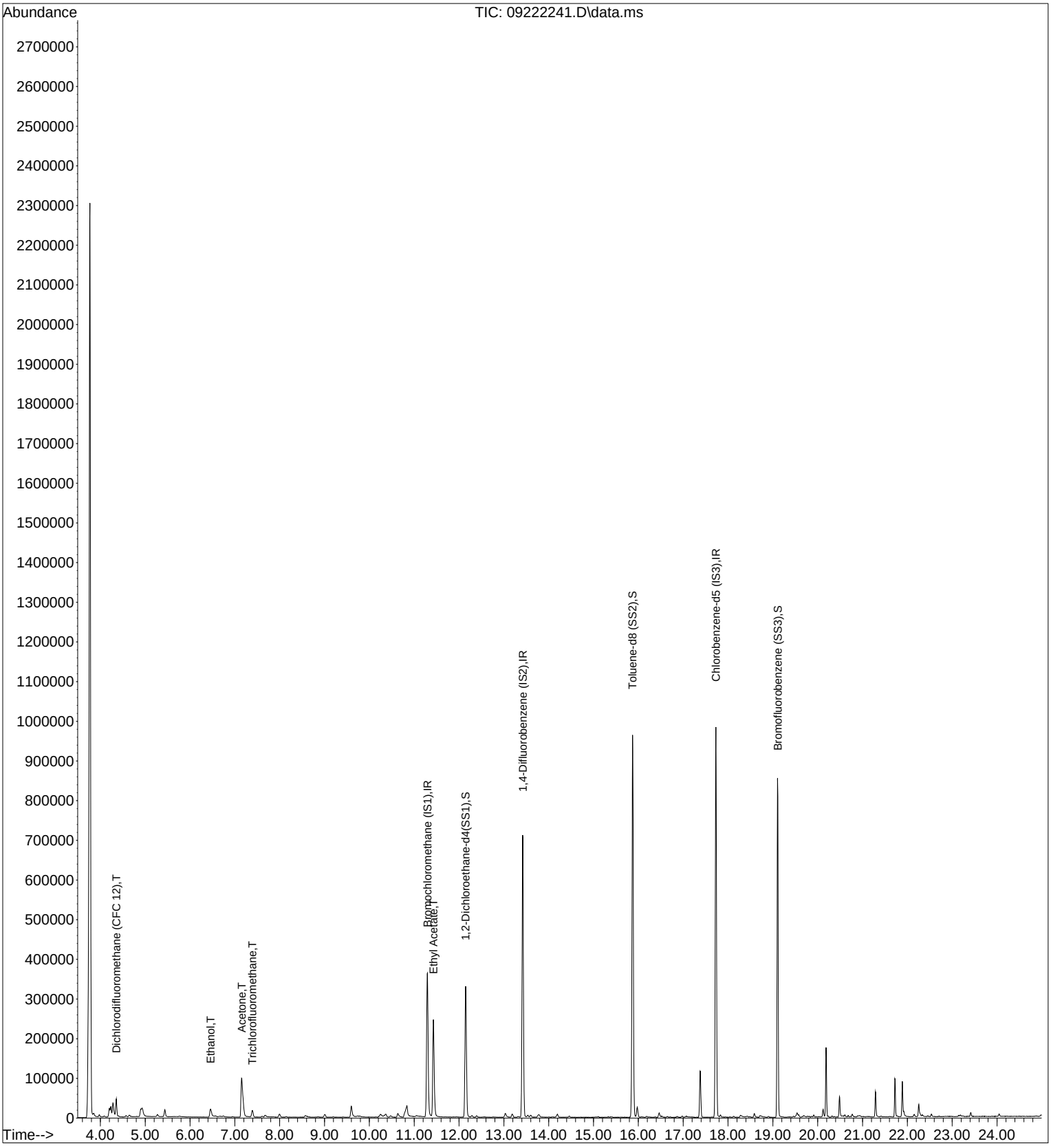
Internal Standards	R.T.	QIon	Response	Conc Units Dev(Min)
51) n-Heptane	14.46	71	406	N.D.
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.
58) Toluene	15.98	91	18010	N.D.
59) 2-Hexanone	16.24	43	1449	N.D.
60) Dibromochloromethane	0.00	129	0	N.D.
61) 1,2-Dibromoethane	0.00	107	0	N.D.
62) n-Butyl Acetate	16.87	43	2857	N.D.
63) n-Octane	16.98	57	467	N.D.
64) Tetrachloroethene	0.00	166	0	N.D.
65) Chlorobenzene	0.00	112	0	N.D.
66) Ethylbenzene	18.13	91	2230	N.D.
67) m- & p-Xylenes	18.28	91	4663	N.D.
68) Bromoform	0.00	173	0	N.D.
69) Styrene	18.63	104	178	N.D.
70) o-Xylene	18.71	91	1881	N.D.
71) n-Nonane	18.91	43	1699	N.D.
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.
74) Cumene	0.00	105	0	N.D.
75) alpha-Pinene	19.57	93	1724	N.D.
76) n-Propylbenzene	19.68	91	716	N.D.
77) 3-Ethyltoluene	0.00	105	0	N.D.
78) 4-Ethyltoluene	19.81	105	612	N.D.
79) 1,3,5-Trimethylbenzene	19.87	105	390	N.D.
80) alpha-Methylstyrene	0.00	118	0	N.D.
81) 2-Ethyltoluene	0.00	105	0	N.D.
82) 1,2,4-Trimethylbenzene	20.23	105	1789	N.D.
83) n-Decane	20.19	58	120	No Calib #
84) Benzyl Chloride	0.00	91	0	N.D.
85) 1,3-Dichlorobenzene	20.43	146	307	N.D.
86) 1,4-Dichlorobenzene	20.43	146	307	N.D.
87) sec-Butylbenzene	0.00	105	0	N.D.
88) 4-Isopropyltoluene (p-...	20.61	119	2400	N.D.
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.
91) d-Limonene	20.73	68	593	N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.
93) n-Undecane	0.00	58	0	N.D.
94) 1,2,4-Trichlorobenzene	22.24	180	263	N.D.
95) Naphthalene	22.34	128	2045	N.D.
96) n-Dodecane	0.00	58	0	N.D.
97) Hexachlorobutadiene	0.00	225	0	N.D.
98) Cyclohexanone	0.00	55	0	N.D.
99) tert-Butylbenzene	20.23	119	246	N.D.
100) n-Butylbenzene	20.98	91	547	N.D.
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222241.D Vial: 6
Acq On : 22 Sep 2022 22:49 Operator: WA/CG
Sample : P2204118-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:52 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222241.D Vial: 6
Acq On : 22 Sep 2022 22:49 Operator: WA/CG
Sample : P2204118-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:52 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/23/22

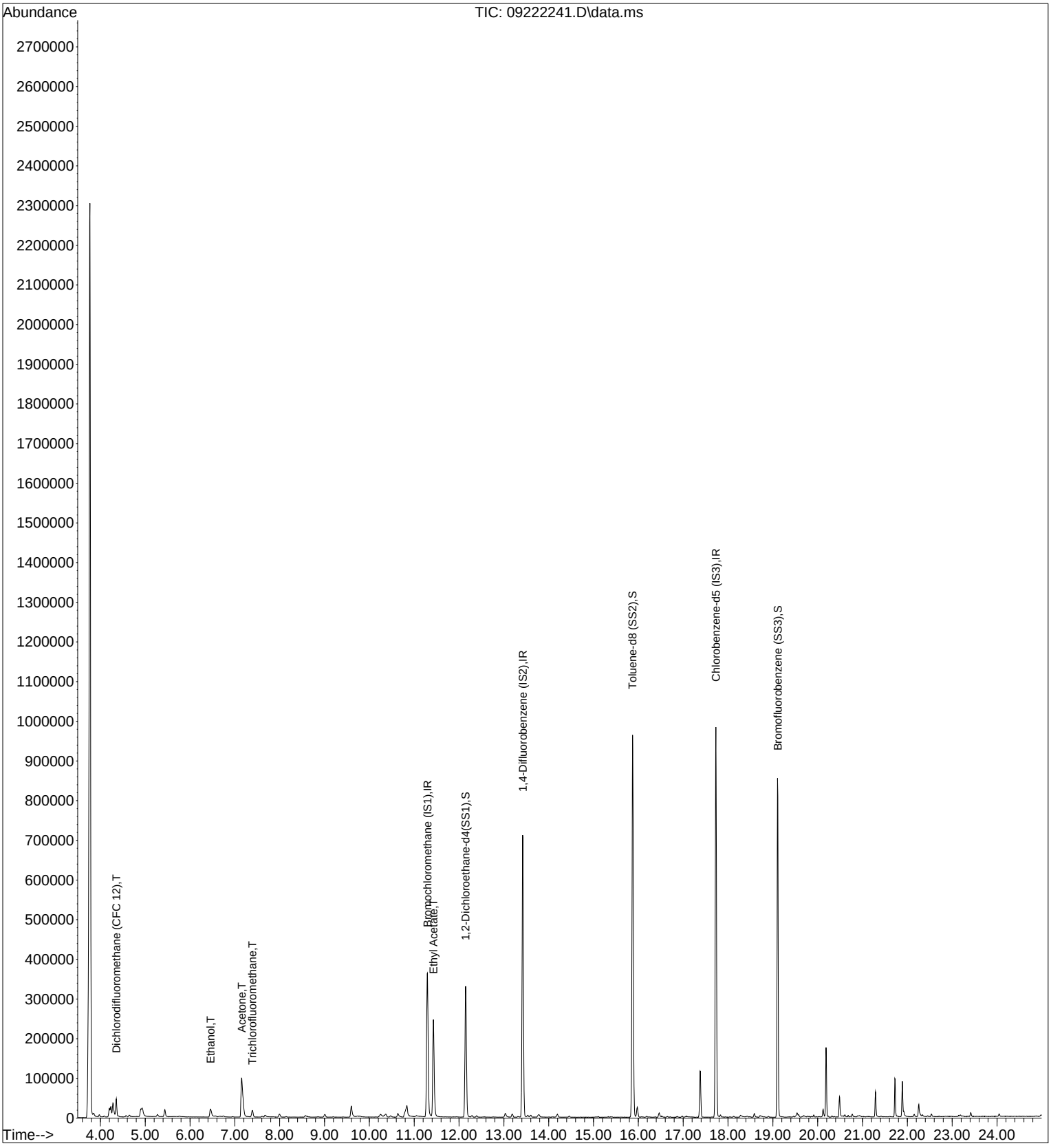
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	141769	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	630851	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	150019	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	244423	12.944	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
57) Toluene-d8 (SS2)	15.87	98	692199	11.968	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	19.11	174	250221	11.578	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.36	85	36377	1.537	ng		99
10) Ethanol	6.46	45	43572	3.776	ng		100
13) Acetone	7.15	58	46863	4.276	ng	#	85
14) Trichlorofluoromethane	7.39	101	16245	0.741	ng		100
30) Ethyl Acetate	11.43	61	39968	6.544	ng		95

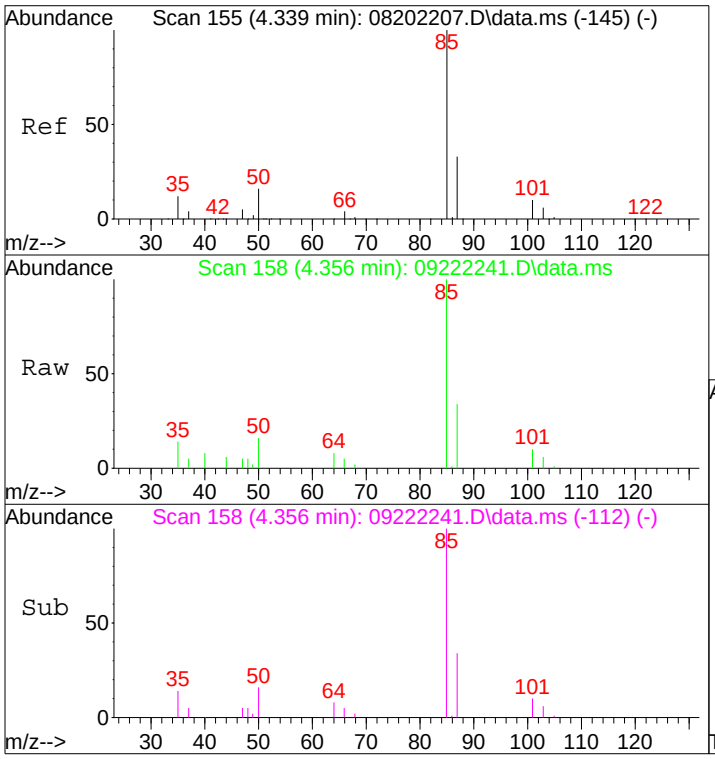
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222241.D Vial: 6
Acq On : 22 Sep 2022 22:49 Operator: WA/CG
Sample : P2204118-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:52 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

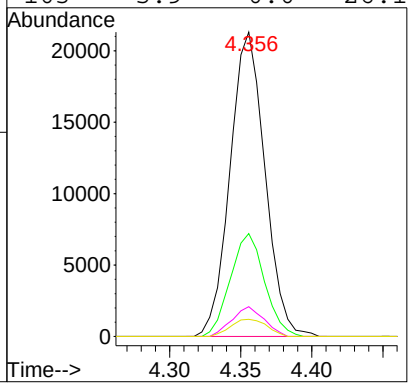


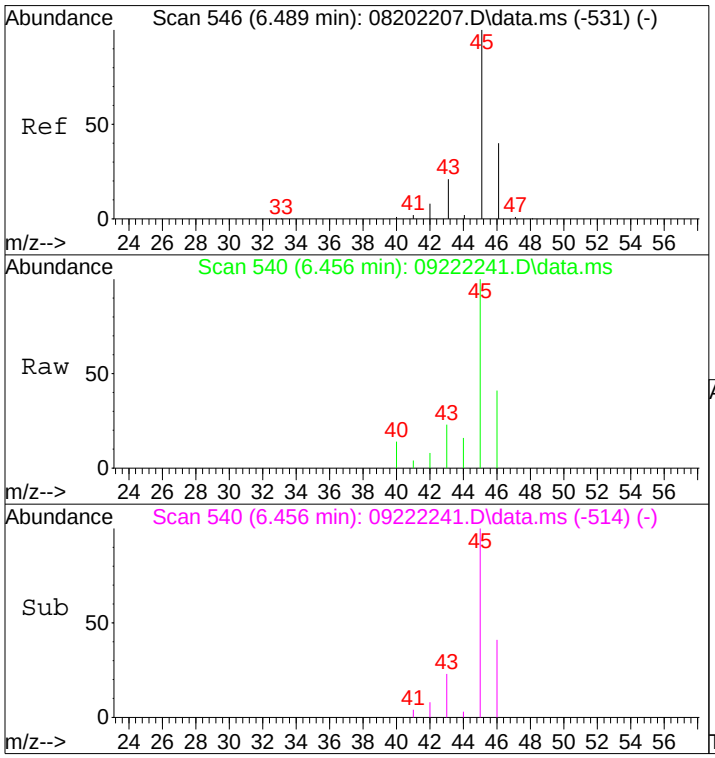


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.54 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.005 min
Lab File: 09222241.D
Acq: 22 Sep 2022 22:49

Tgt Ion: 85 Resp: 36377

Ion	Ratio	Lower	Upper
85	100		
87	33.1	12.9	52.9
101	9.0	0.0	29.6
103	5.9	0.0	26.1

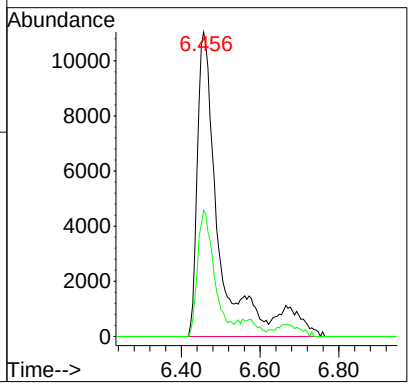


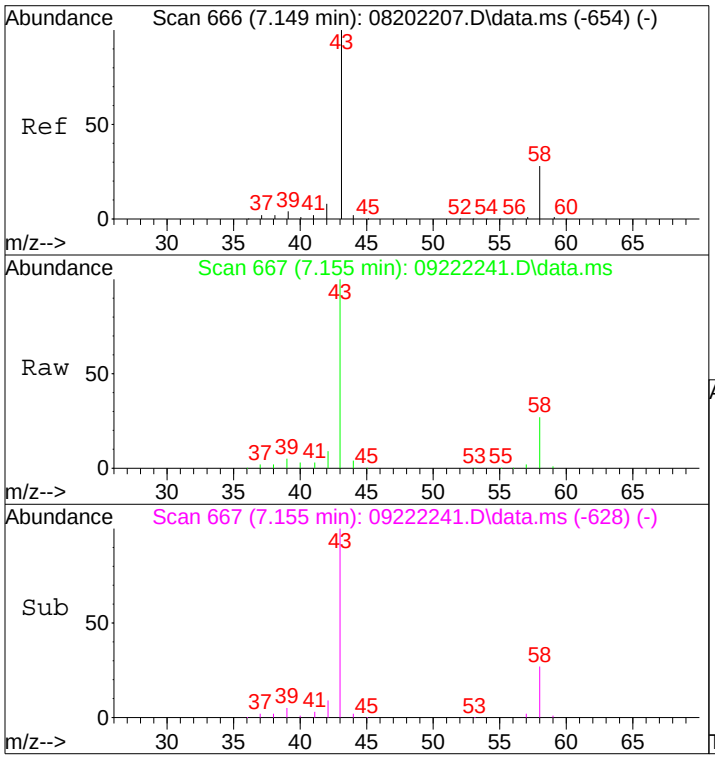


#10
Ethanol
Concen: 3.78 ng
RT: 6.46 min Scan# 540
Delta R.T. -0.105 min
Lab File: 09222241.D
Acq: 22 Sep 2022 22:49

Tgt Ion: 45 Resp: 43572

Ion	Ratio	Lower	Upper
45	100		
46	40.7	20.5	60.5

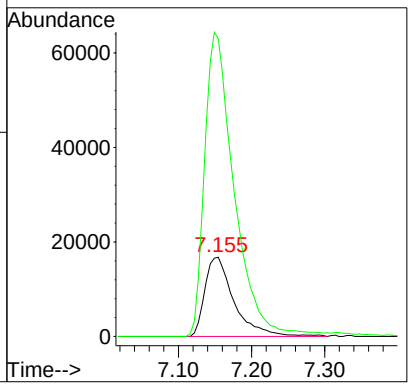


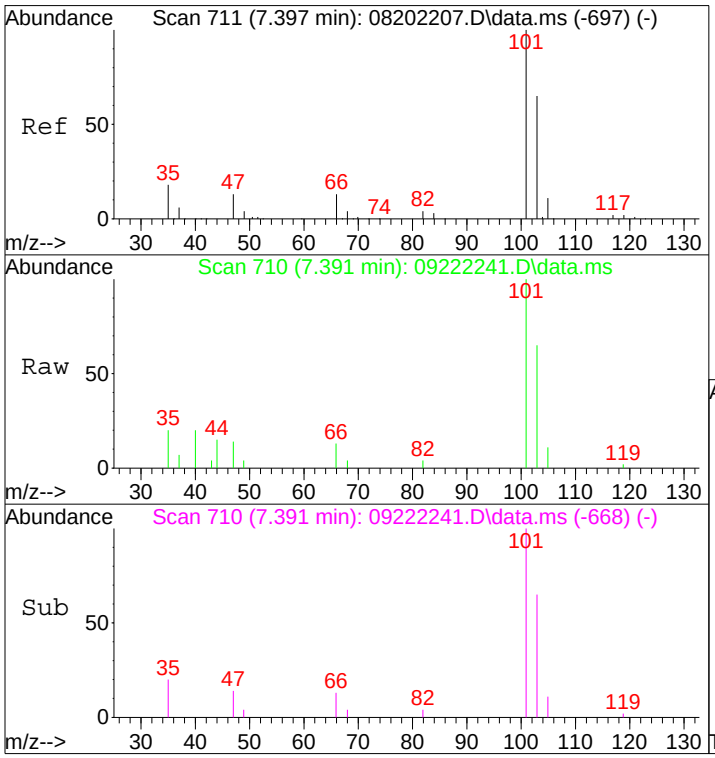


#13
Acetone
Concen: 4.28 ng
RT: 7.15 min Scan# 667
Delta R.T. -0.033 min
Lab File: 09222241.D
Acq: 22 Sep 2022 22:49

Tgt Ion: 58 Resp: 46863

Ion	Ratio	Lower	Upper
58	100		
43	392.6	328.5	388.5#

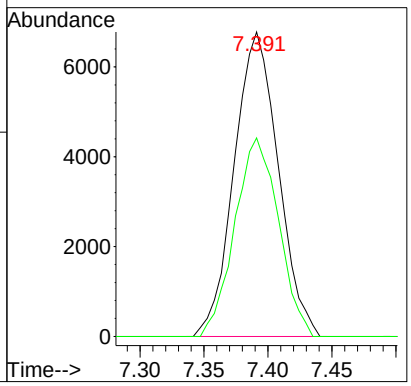


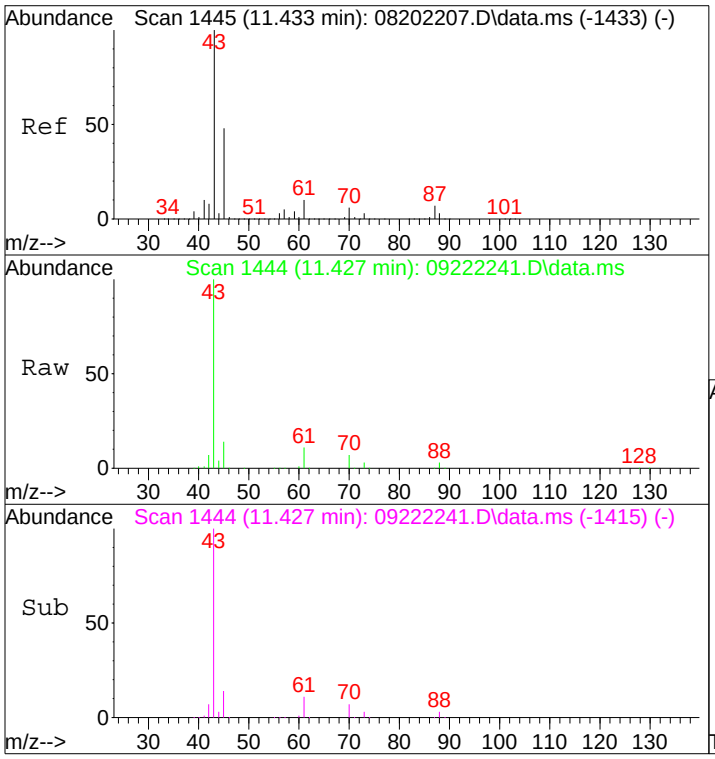


#14
Trichlorofluoromethane
Concen: 0.74 ng
RT: 7.39 min Scan# 710
Delta R.T. -0.017 min
Lab File: 09222241.D
Acq: 22 Sep 2022 22:49

Tgt Ion:101 Resp: 16245

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.6	84.6

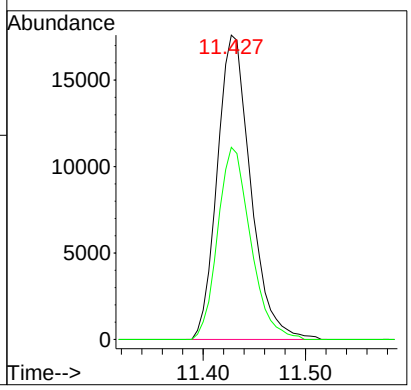




#30
Ethyl Acetate
Concen: 6.54 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.039 min
Lab File: 09222241.D
Acq: 22 Sep 2022 22:49

Tgt Ion: 61 Resp: 39968

Ion	Ratio	Lower	Upper
61	100		
70	62.1	46.5	86.5



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222242.D Vial: 7
Acq On : 22 Sep 2022 23:23 Operator: WA/CG
Sample : P2204118-005 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:54 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 9/23/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	142487	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	632262	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	151628	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	242173	12.760	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%			
57) Toluene-d8 (SS2)	15.87	98	697843	11.938	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%			
73) Bromofluorobenzene (SS3)	19.10	174	247439	11.328	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%			
Target Compounds						Qvalue
2) Propene	4.20	42	7502	N.D.		
3) Dichlorodifluoromethan...	4.34	85	37550	1.579	ng	100
4) Chloromethane	4.64	50	4268	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	946	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.46	45	44516	3.839	ng	100
11) Acetonitrile	6.74	41	4076	N.D.		
12) Acrolein	6.94	56	1048	N.D.		
13) Acetone	7.14	58	45489	4.130	ng	88
14) Trichlorofluoromethane	7.39	101	16980	0.771	ng	99
15) 2-Propanol (Isopropanol)	7.67	45	11519	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.62	59	103	N.D.		
19) Methylene Chloride	8.57	84	1959	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.01	151	3512	N.D.		
22) Carbon Disulfide	8.84	76	1418	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.33	86	1121	N.D.		
27) 2-Butanone (MEK)	10.64	72	2674	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.43	87	528	N.D.		
30) Ethyl Acetate	11.43	61	32483	5.292	ng	93
31) n-Hexane	11.42	57	1948	N.D.		
32) Chloroform	11.46	83	1166	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.27	62	315	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.03	78	7526	N.D.		
42) Carbon Tetrachloride	13.19	117	4731	N.D.		
43) Cyclohexane	13.32	84	396	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.19	57	7136	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Data File : I:\MS16\DATA\2022 09\22\09222242.D Vial: 7
Acq On : 22 Sep 2022 23:23 Operator: WA/CG
Sample : P2204118-005 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:54 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

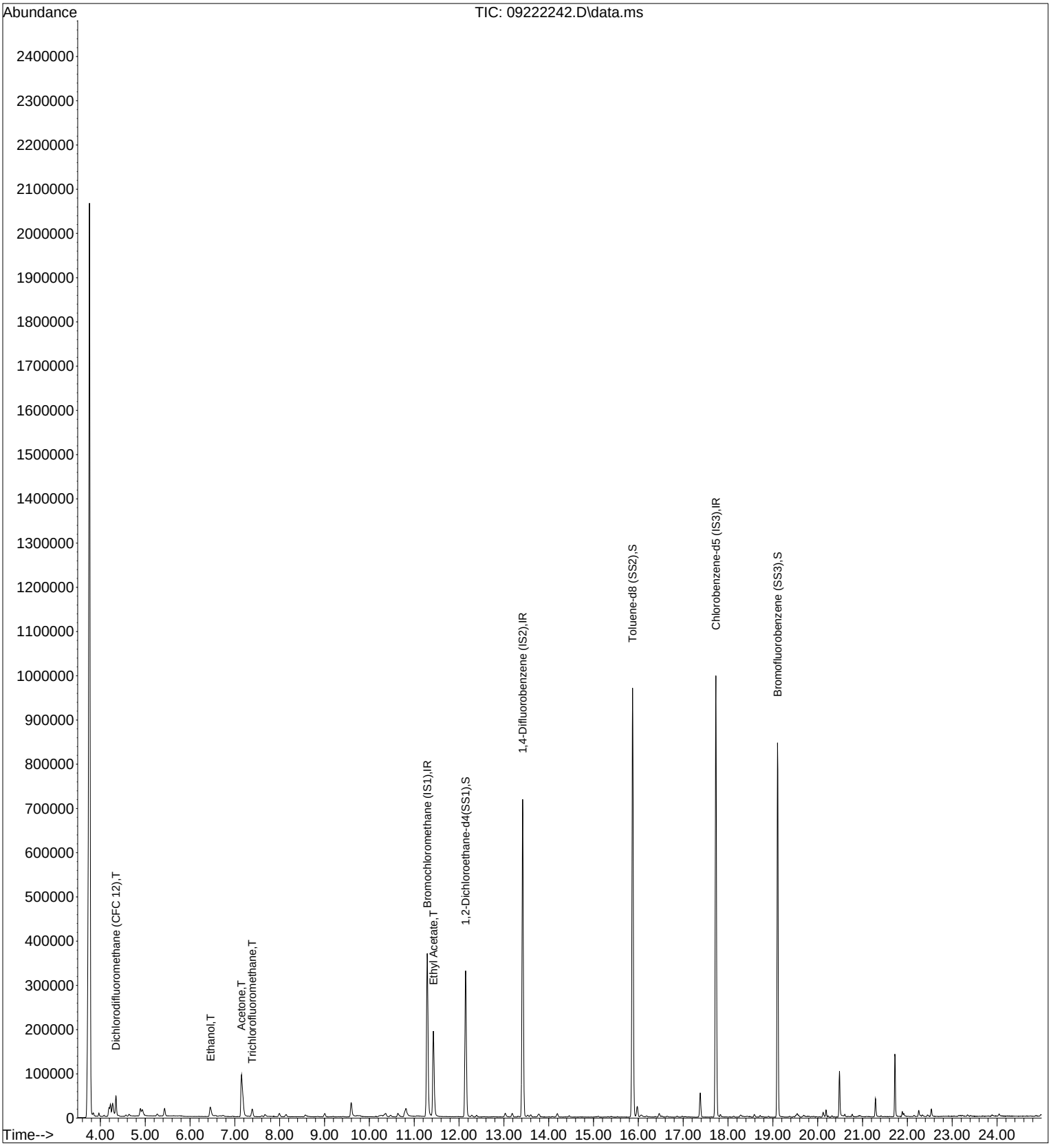
Internal Standards	R.T.	QIon	Response	Conc Units Dev(Min)
51) n-Heptane	14.46	71	543	N.D.
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.
58) Toluene	15.98	91	17428	N.D.
59) 2-Hexanone	16.24	43	924	N.D.
60) Dibromochloromethane	0.00	129	0	N.D.
61) 1,2-Dibromoethane	0.00	107	0	N.D.
62) n-Butyl Acetate	16.86	43	3484	N.D.
63) n-Octane	16.98	57	306	N.D.
64) Tetrachloroethene	0.00	166	0	N.D.
65) Chlorobenzene	0.00	112	0	N.D.
66) Ethylbenzene	18.13	91	2188	N.D.
67) m- & p-Xylenes	18.28	91	4524	N.D.
68) Bromoform	0.00	173	0	N.D.
69) Styrene	0.00	104	0	N.D.
70) o-Xylene	18.71	91	1830	N.D.
71) n-Nonane	18.90	43	1552	N.D.
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.
74) Cumene	0.00	105	0	N.D.
75) alpha-Pinene	19.58	93	970	N.D.
76) n-Propylbenzene	19.68	91	532	N.D.
77) 3-Ethyltoluene	0.00	105	0	N.D.
78) 4-Ethyltoluene	19.80	105	749	N.D.
79) 1,3,5-Trimethylbenzene	19.87	105	333	N.D.
80) alpha-Methylstyrene	0.00	118	0	N.D.
81) 2-Ethyltoluene	0.00	105	0	N.D.
82) 1,2,4-Trimethylbenzene	20.23	105	1542	N.D.
83) n-Decane	0.00	58	0	N.D.
84) Benzyl Chloride	0.00	91	0	N.D.
85) 1,3-Dichlorobenzene	20.43	146	371	N.D.
86) 1,4-Dichlorobenzene	20.43	146	371	N.D.
87) sec-Butylbenzene	0.00	105	0	N.D.
88) 4-Isopropyltoluene (p-...	20.61	119	2302	N.D.
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.
91) d-Limonene	20.73	68	315	N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.
93) n-Undecane	0.00	58	0	N.D.
94) 1,2,4-Trichlorobenzene	22.24	180	227	N.D.
95) Naphthalene	22.35	128	1442	N.D.
96) n-Dodecane	22.54	58	180	No Calib #
97) Hexachlorobutadiene	0.00	225	0	N.D.
98) Cyclohexanone	0.00	55	0	N.D.
99) tert-Butylbenzene	20.19	119	199	N.D.
100) n-Butylbenzene	20.97	91	438	N.D.
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222242.D Vial: 7
Acq On : 22 Sep 2022 23:23 Operator: WA/CG
Sample : P2204118-005 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:54 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222242.D Vial: 7
Acq On : 22 Sep 2022 23:23 Operator: WA/CG
Sample : P2204118-005 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:54 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 9/23/22

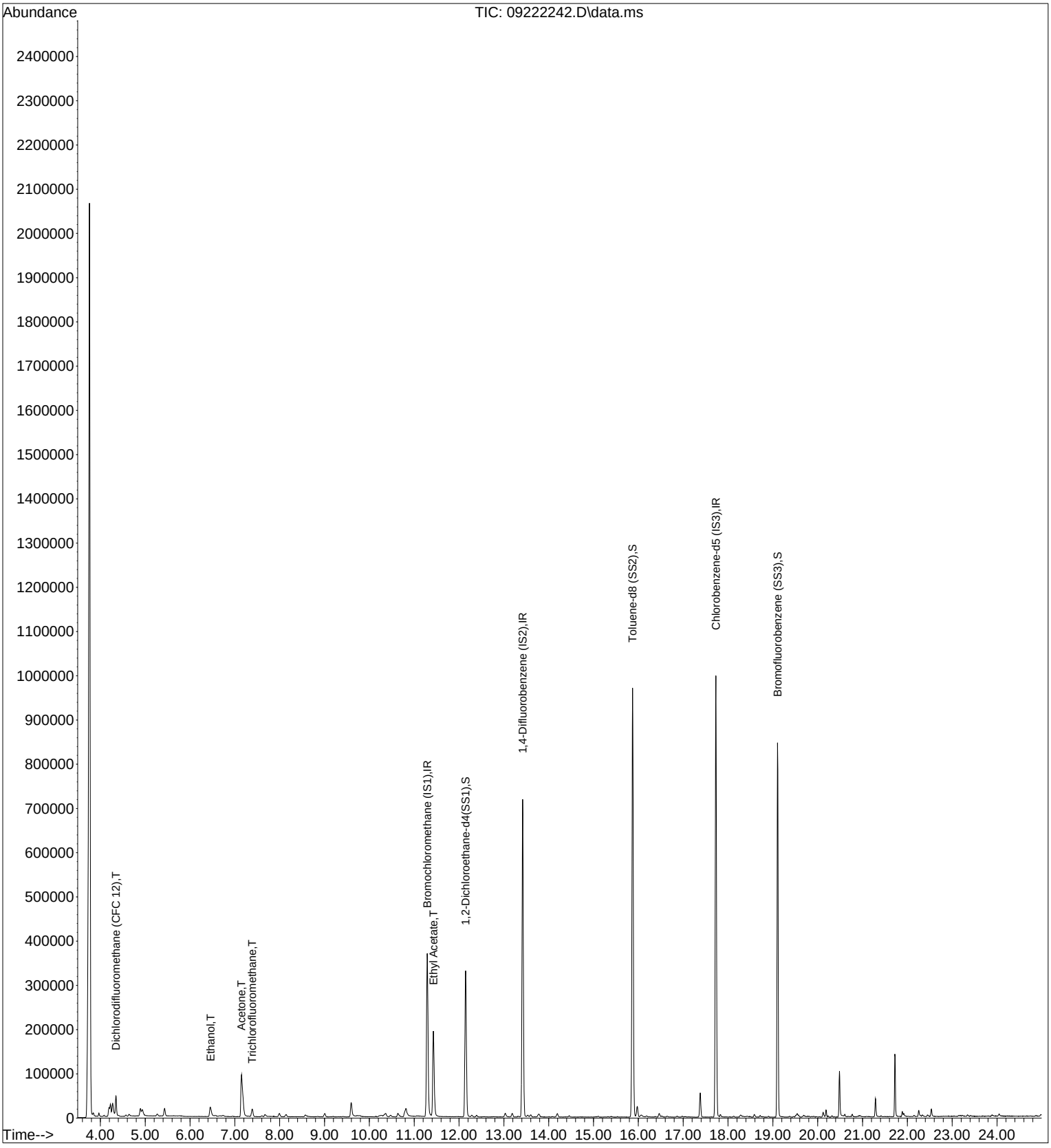
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	142487	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	632262	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	151628	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	242173	12.760	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%			
57) Toluene-d8 (SS2)	15.87	98	697843	11.938	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%			
73) Bromofluorobenzene (SS3)	19.10	174	247439	11.328	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.34	85	37550	1.579	ng	100
10) Ethanol	6.46	45	44516	3.839	ng	100
13) Acetone	7.14	58	45489	4.130	ng	88
14) Trichlorofluoromethane	7.39	101	16980	0.771	ng	99
30) Ethyl Acetate	11.43	61	32483	5.292	ng	93

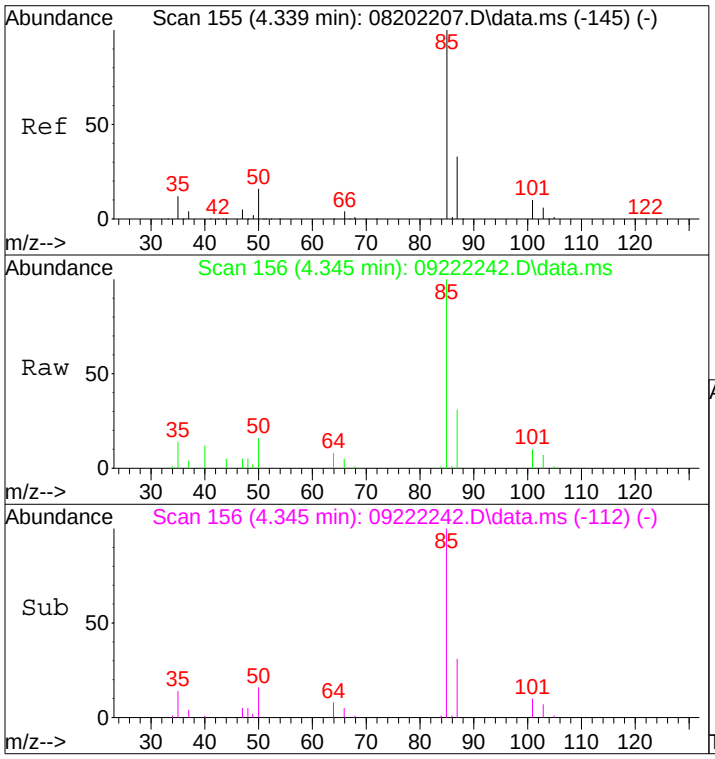
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222242.D Vial: 7
Acq On : 22 Sep 2022 23:23 Operator: WA/CG
Sample : P2204118-005 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:54 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

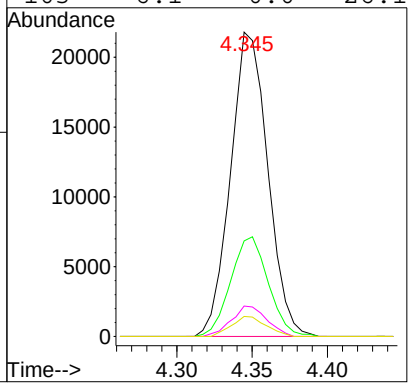


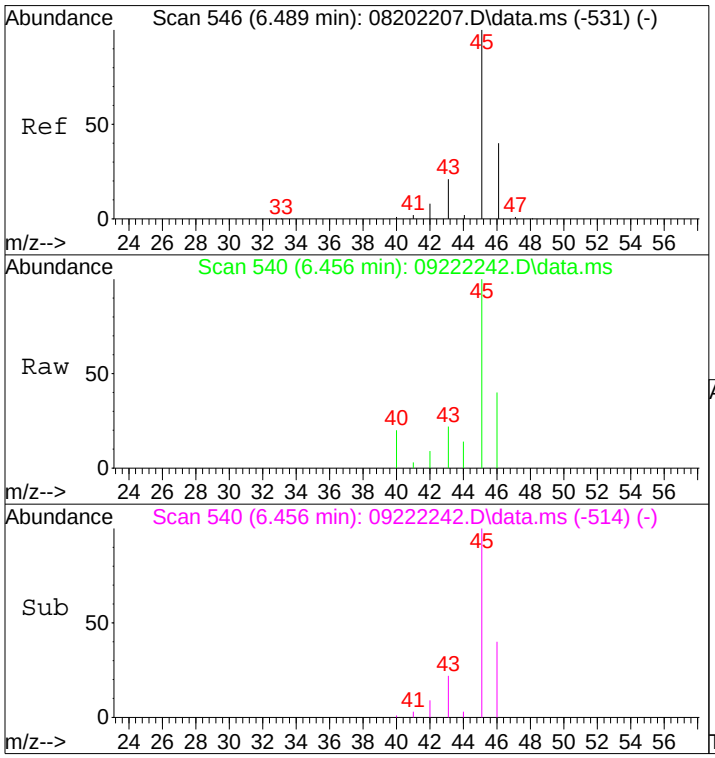


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.58 ng
RT: 4.34 min Scan# 156
Delta R.T. -0.006 min
Lab File: 09222242.D
Acq: 22 Sep 2022 23:23

Tgt Ion: 85 Resp: 37550

Ion	Ratio	Lower	Upper
85	100		
87	33.1	12.9	52.9
101	9.5	0.0	29.6
103	6.1	0.0	26.1

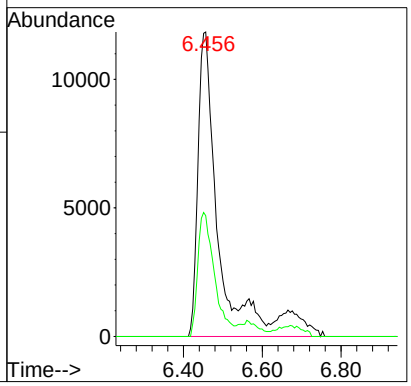


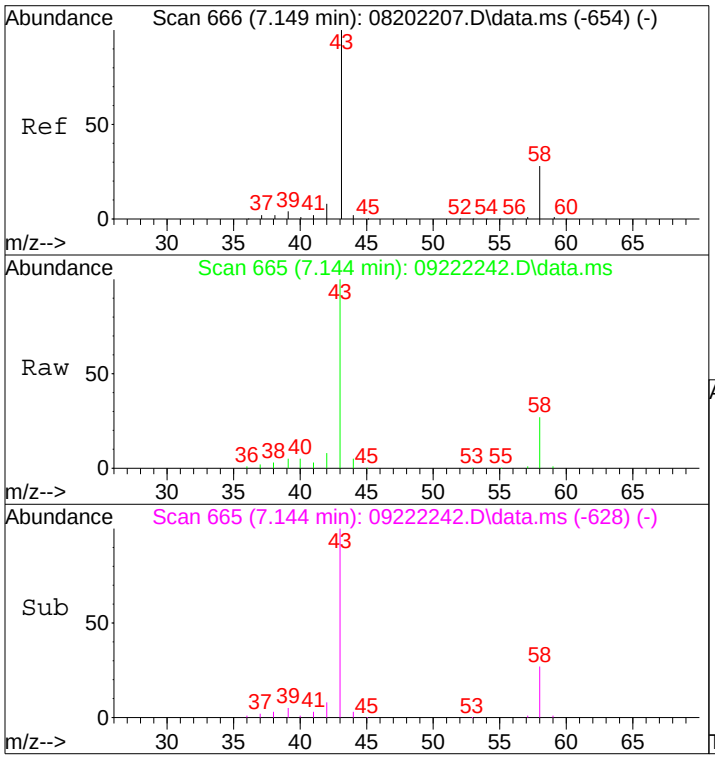


#10
Ethanol
Concen: 3.84 ng
RT: 6.46 min Scan# 540
Delta R.T. -0.105 min
Lab File: 09222242.D
Acq: 22 Sep 2022 23:23

Tgt Ion: 45 Resp: 44516

Ion	Ratio	Lower	Upper
45	100		
46	40.7	20.5	60.5

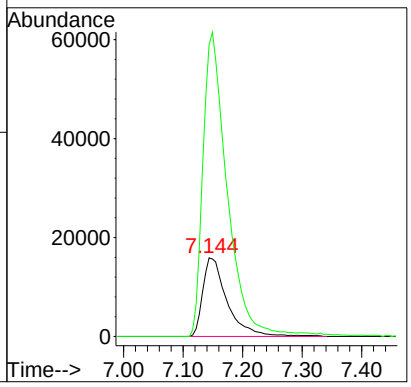


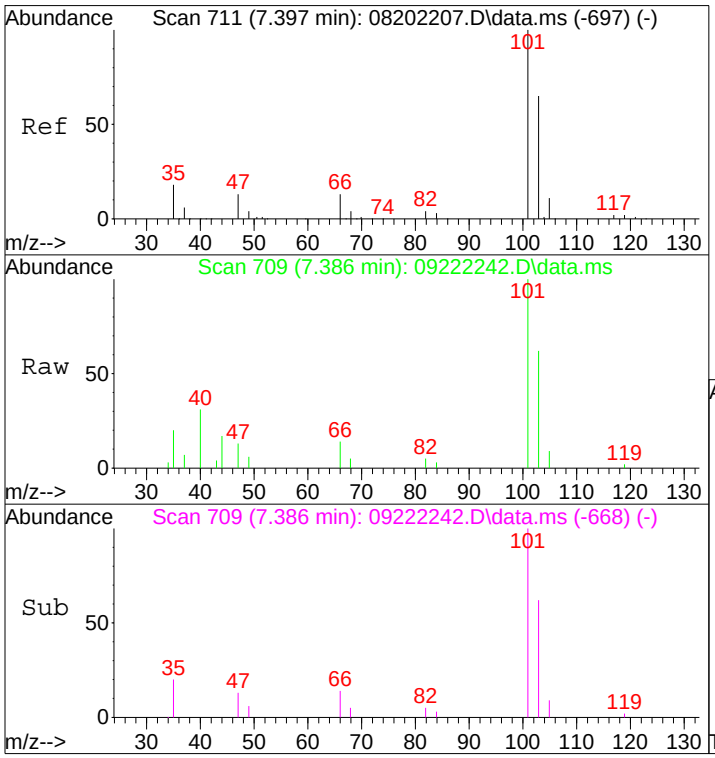


#13
Acetone
Concen: 4.13 ng
RT: 7.14 min Scan# 665
Delta R.T. -0.044 min
Lab File: 09222242.D
Acq: 22 Sep 2022 23:23

Tgt Ion: 58 Resp: 45489

Ion	Ratio	Lower	Upper
58	100		
43	385.5	328.5	388.5

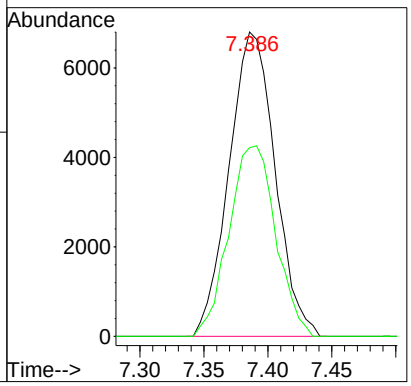


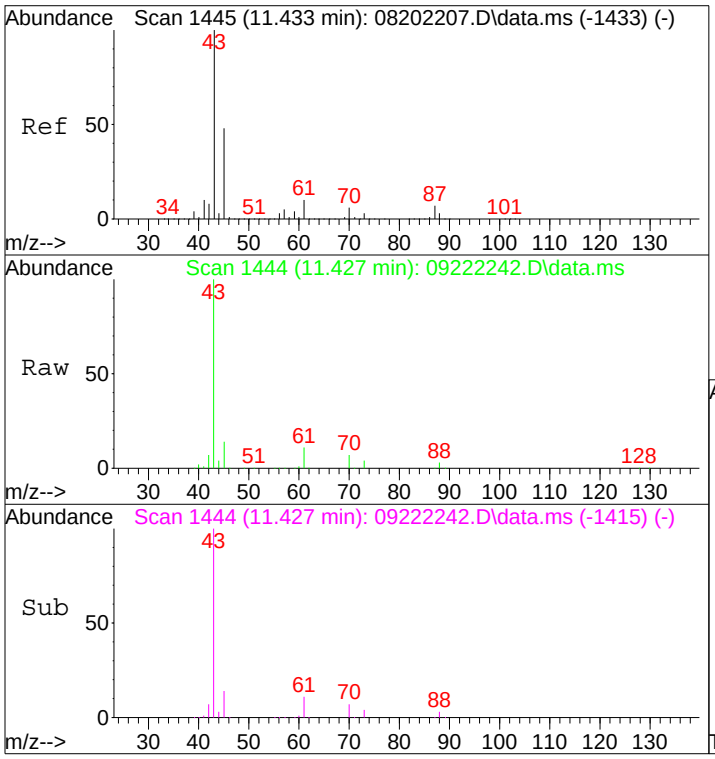


#14
Trichlorofluoromethane
Concen: 0.77 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.022 min
Lab File: 09222242.D
Acq: 22 Sep 2022 23:23

Tgt Ion:101 Resp: 16980

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.6	84.6

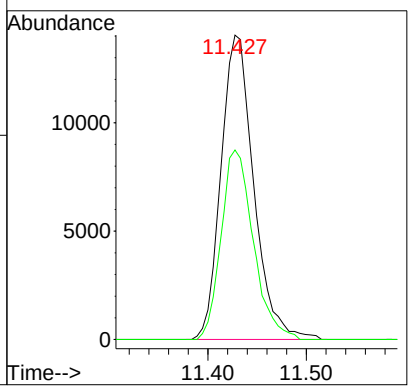




#30
Ethyl Acetate
Concen: 5.29 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.039 min
Lab File: 09222242.D
Acq: 22 Sep 2022 23:23

Tgt Ion: 61 Resp: 32483

Ion	Ratio	Lower	Upper
61	100		
70	61.2	46.5	86.5



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222235.D Vial: 2
Acq On : 22 Sep 2022 19:24 Operator: WA/CG
Sample : MB2 R16092222_1000mL Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 22 20:10:47 2022 9/22/22
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	146677	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	656150	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	149272	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	251390	12.867	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%			
57) Toluene-d8 (SS2)	15.87	98	713371	12.396	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%			
73) Bromofluorobenzene (SS3)	19.11	174	243775	11.336	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.72%			
Target Compounds						Qvalue
2) Propene	4.23	42	239	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.52	45	1245	0.104	ng #	67
11) Acetonitrile	6.79	41	924	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	7.23	58	1474	0.130	ng	91
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	7.96	53	101	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.86	76	1933	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.03	78	507	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.41	84	881	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222235.D Vial: 2
Acq On : 22 Sep 2022 19:24 Operator: WA/CG
Sample : MB2 R16092222_1000mL Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 22 20:10:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

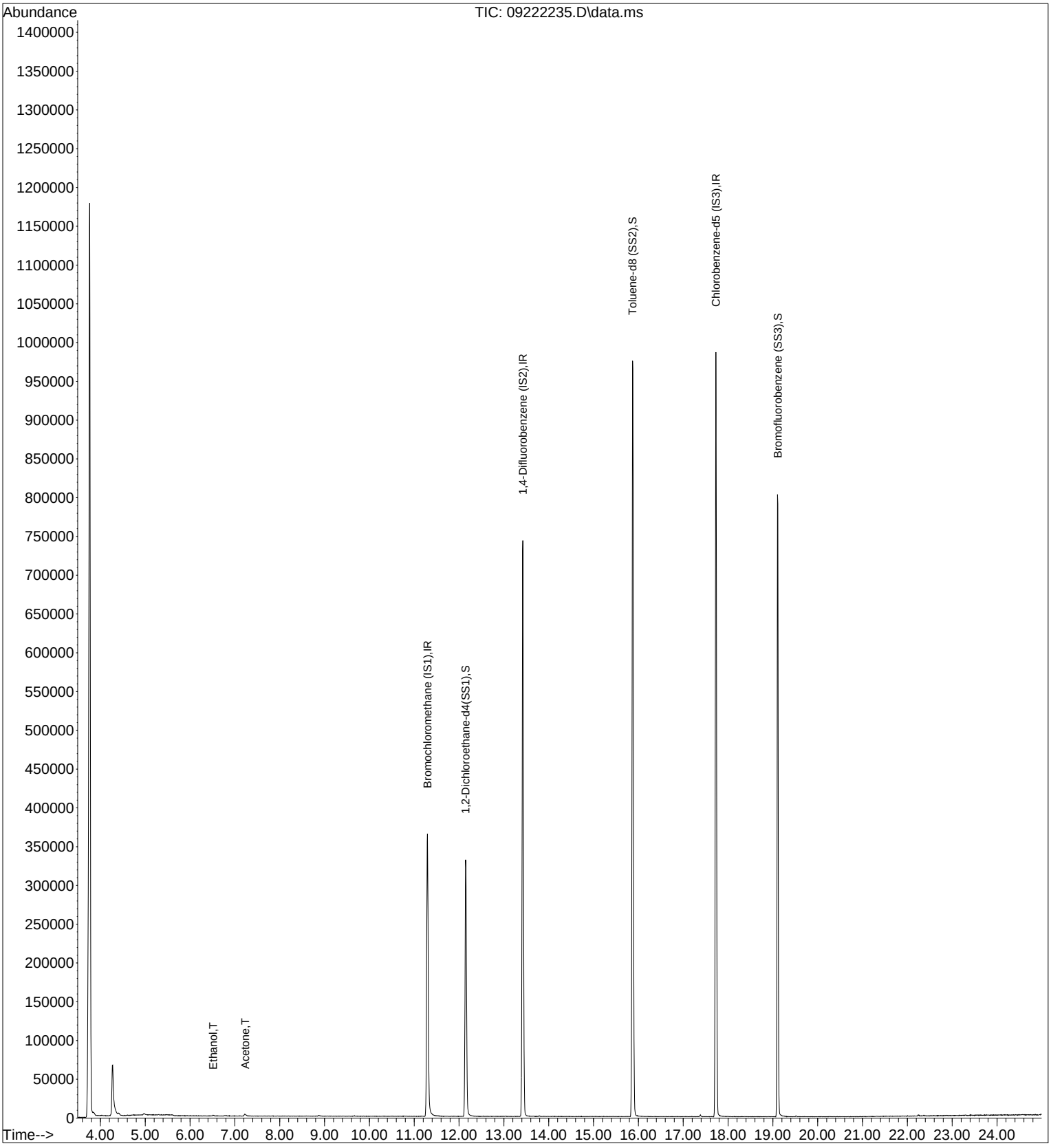
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.98	91	190	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	18.31	91	128	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.71	91	158	N.D.		
77) 3-Ethyltoluene	20.25	105	110	No Calib		#
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.25	105	110	No Calib		#
82) 1,2,4-Trimethylbenzene	20.25	105	110	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	20.44	146	200	N.D.		
86) 1,4-Dichlorobenzene	20.44	146	200	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	20.25	105	110	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	901	N.D.		
95) Naphthalene	22.35	128	1581	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222235.D Vial: 2
Acq On : 22 Sep 2022 19:24 Operator: WA/CG
Sample : MB2 R16092222_1000mL Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 22 20:10:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222236.D Vial: 2
Acq On : 22 Sep 2022 19:58 Operator: WA/CG
Sample : LCS2 R16092222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-08242205 (9/23)

Quant Time: Sep 23 02:38:41 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 9/23/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	158286	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	705838	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	172781	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	271240	12.865	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
57) Toluene-d8 (SS2)	15.88	98	773398	11.610	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
73) Bromofluorobenzene (SS3)	19.11	174	278659	11.195	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.60%				
Target Compounds							Qvalue
2) Propene	4.17	42	628963	28.609	ng		100
3) Dichlorodifluoromethan...	4.34	85	645926	24.447	ng		100
4) Chloromethane	4.63	50	615731	26.420	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	390349	23.306	ng		100
6) Vinyl Chloride	5.06	62	611030	24.813	ng		100
7) 1,3-Butadiene	5.33	54	558174	27.400	ng		98
8) Bromomethane	5.78	94	257423	23.584	ng		100
9) Chloroethane	6.12	64	252385	26.182	ng		100
10) Ethanol	6.50	45	1446626	112.298	ng		100
11) Acetonitrile	6.75	41	771841	23.210	ng		99
12) Acrolein	6.94	56	485112	48.119	ng		100
13) Acetone	7.15	58	1580501	129.170	ng		96
14) Trichlorofluoromethane	7.40	101	586139	23.958	ng		100
15) 2-Propanol (Isopropanol)	7.65	45	1965838	52.171	ng		100
16) Acrylonitrile	7.92	53	1078968	52.159	ng		100
17) 1,1-Dichloroethene	8.37	96	318657	25.663	ng		97
18) 2-Methyl-2-Propanol (t...	8.52	59	1721160	53.245	ng		99
19) Methylene Chloride	8.59	84	317118	24.397	ng		93
20) 3-Chloro-1-propene (Al...	8.75	41	594445	26.231	ng		99
21) Trichlorotrifluoroethane	9.01	151	305142	24.076	ng		98
22) Carbon Disulfide	8.85	76	2303128	49.813	ng		100
23) trans-1,2-Dichloroethene	9.87	61	509124	27.454	ng		99
24) 1,1-Dichloroethane	10.12	63	623600	26.581	ng		99
25) Methyl tert-Butyl Ether	10.21	73	1009467	25.883	ng		98
26) Vinyl Acetate	10.37	86	341961	107.496	ng	#	87
27) 2-Butanone (MEK)	10.61	72	470959	53.170	ng	#	91
28) cis-1,2-Dichloroethene	11.14	61	494618	25.144	ng		99
29) Diisopropyl Ether	11.43	87	766547	57.105	ng	#	75
30) Ethyl Acetate	11.43	61	555175	81.418	ng		98
31) n-Hexane	11.42	57	875657	30.447	ng		99
32) Chloroform	11.48	83	587462	25.545	ng		100
34) Tetrahydrofuran (THF)	11.88	72	441412	51.373	ng		94
35) Ethyl tert-Butyl Ether	12.02	87	921711	53.435	ng		97
36) 1,2-Dichloroethane	12.28	62	504209	26.240	ng		100
38) 1,1,1-Trichloroethane	12.55	97	540558	24.520	ng		99
39) Isopropyl Acetate	13.67	61	1039	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.04	78	1339125	25.968	ng		99
42) Carbon Tetrachloride	13.20	117	442474	22.992	ng		100
43) Cyclohexane	13.32	84	1151837	51.886	ng		96
44) tert-Amyl Methyl Ether	13.67	73	2117829	53.722	ng		98
45) 1,2-Dichloropropane	13.89	63	364014	26.025	ng		100
46) Bromodichloromethane	14.07	83	482406	25.759	ng		100
47) Trichloroethene	14.13	130	395295	22.078	ng		100
48) 1,4-Dioxane	14.10	88	285558	26.875	ng		99
49) 2,2,4-Trimethylpentane...	14.20	57	1774153	26.726	ng		99
50) Methyl Methacrylate	14.34	100	315440	49.187	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222236.D Vial: 2
Acq On : 22 Sep 2022 19:58 Operator: WA/CG
Sample : LCS2 R16092222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-08242205 (9/23)

Quant Time: Sep 23 02:38:41 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

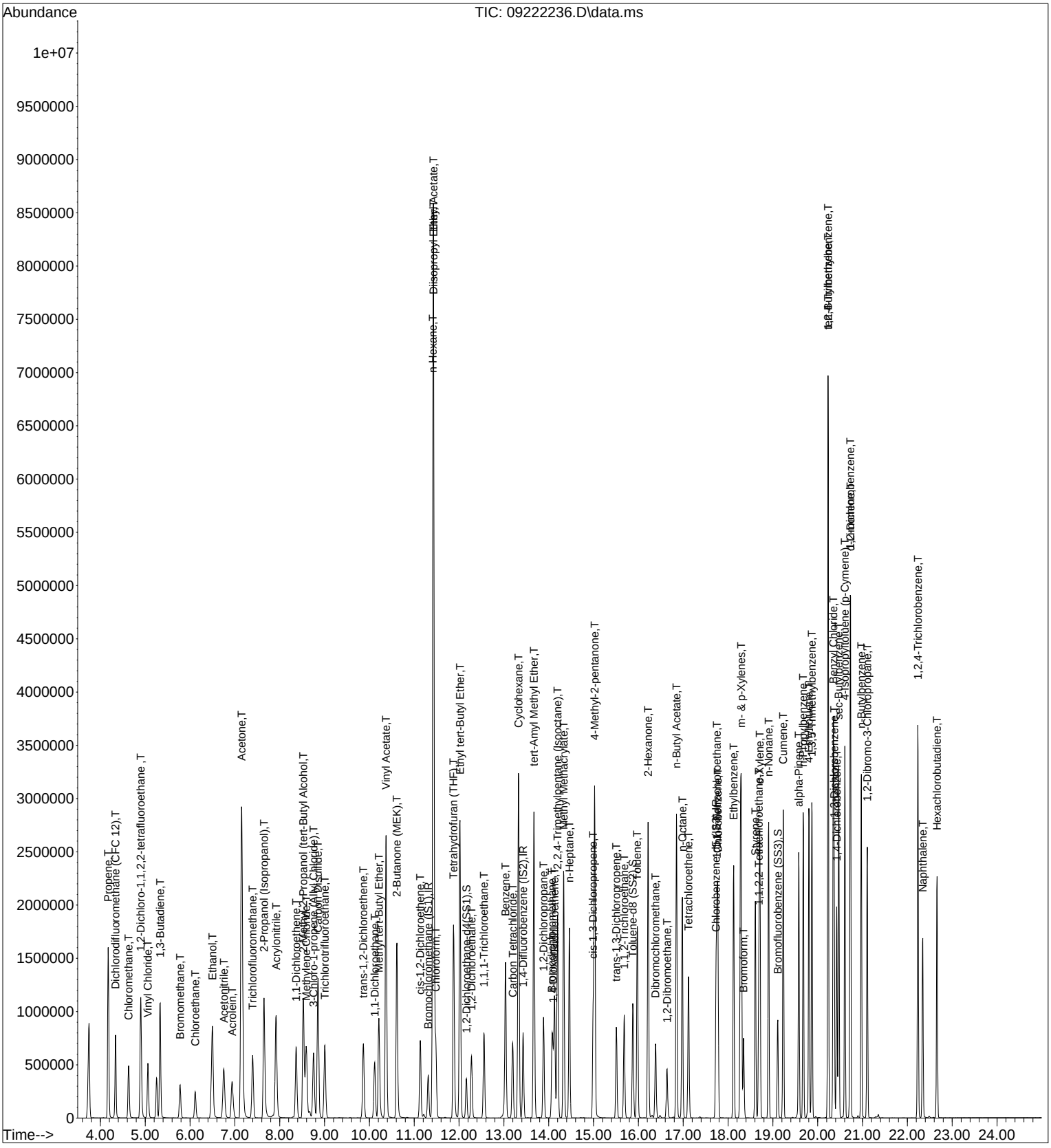
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	378966	26.039	ng		98
52) cis-1,3-Dichloropropene	14.99	75	550769	27.679	ng		99
53) 4-Methyl-2-pentanone	15.02	58	818660	57.716	ng		95
54) trans-1,3-Dichloropropene	15.51	75	472219	23.485	ng		100
55) 1,1,2-Trichloroethane	15.68	97	329449	25.406	ng		100
58) Toluene	15.98	91	1428495	23.689	ng		100
59) 2-Hexanone	16.22	43	2202980	56.071	ng		98
60) Dibromochloromethane	16.38	129	408384	23.519	ng		100
61) 1,2-Dibromoethane	16.64	107	365148	23.438	ng		100
62) n-Butyl Acetate	16.85	43	2400352	55.528	ng		98
63) n-Octane	16.98	57	383601	25.991	ng		98
64) Tetrachloroethene	17.12	166	426780	23.068	ng		100
65) Chlorobenzene	17.77	112	978109	23.281	ng		100
66) Ethylbenzene	18.13	91	1699504	24.837	ng		99
67) m- & p-Xylenes	18.29	91	2737618	50.278	ng		99
68) Bromoform	18.35	173	371507	23.760	ng		100
69) Styrene	18.61	104	970531	24.406	ng		100
70) o-Xylene	18.71	91	1381412	25.423	ng		99
71) n-Nonane	18.91	43	1060148	27.582	ng		97
72) 1,1,2,2-Tetrachloroethane	18.69	83	622027	25.479	ng		99
74) Cumene	19.23	105	1805380	24.872	ng		99
75) alpha-Pinene	19.58	93	875733	25.961	ng		98
76) n-Propylbenzene	19.68	91	2115698	25.635	ng		99
77) 3-Ethyltoluene	20.35	105	691	No Calib		#	
78) 4-Ethyltoluene	19.80	105	1772396	25.522	ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	1494882	24.961	ng		99
80) alpha-Methylstyrene	20.47	118	6645	No Calib		#	
81) 2-Ethyltoluene	20.35	105	707	No Calib		#	
82) 1,2,4-Trimethylbenzene	20.23	105	1711942	27.585	ng		98
83) n-Decane	20.23	58	89791	No Calib			
84) Benzyl Chloride	20.35	91	2078035	47.338	ng		98
85) 1,3-Dichlorobenzene	20.37	146	843134	23.201	ng		100
86) 1,4-Dichlorobenzene	20.42	146	760103	21.175	ng		100
87) sec-Butylbenzene	20.47	105	2055061	25.680	ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	1789418	25.349	ng		99
89) 1,2,3-Trimethylbenzene	20.35	105	707	No Calib		#	
90) 1,2-Dichlorobenzene	20.73	146	861582	24.596	ng		100
91) d-Limonene	20.73	68	645875	27.290	ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	643794	47.979	ng		92
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.23	180	1119762	42.831	ng		100
95) Naphthalene	22.34	128	1301758	17.927	ng		100
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	422734	22.542	ng		99
98) Cyclohexanone	18.13	55	564	No Calib		#	
99) tert-Butylbenzene	20.23	119	1702119	27.352	ng		100
100) n-Butylbenzene	20.97	91	1572406	26.038	ng		99
101) 1,1,1,2-Tetrachloroethane	17.75	131	385773	23.711	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222236.D Vial: 2
Acq On : 22 Sep 2022 19:58 Operator: WA/CG
Sample : LCS2 R16092222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-08242205 (9/23)

Quant Time: Sep 23 02:38:41 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222243.D Vial: 2
Acq On : 22 Sep 2022 23:57 Operator: WA/CG
Sample : LCSD2 R16092222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-08242205 (9/23)

Quant Time: Sep 23 02:38:56 2022 9/23/22
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	150064	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	668944	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	169933	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	257346	12.875	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.04%				
57) Toluene-d8 (SS2)	15.88	98	743983	11.356	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%				
73) Bromofluorobenzene (SS3)	19.11	174	275696	11.262	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.08%				
Target Compounds							Qvalue
2) Propene	4.17	42	634253	30.430	ng		100
3) Dichlorodifluoromethan...	4.34	85	628369	25.086	ng		100
4) Chloromethane	4.63	50	580608	26.278	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	364854	22.978	ng		100
6) Vinyl Chloride	5.06	62	579448	24.820	ng		99
7) 1,3-Butadiene	5.33	54	540794	28.002	ng		98
8) Bromomethane	5.77	94	247589	23.926	ng		100
9) Chloroethane	6.12	64	246477	26.970	ng		99
10) Ethanol	6.50	45	1420199	116.287	ng		100
11) Acetonitrile	6.75	41	766674	24.318	ng		98
12) Acrolein	6.94	56	477243	49.932	ng		99
13) Acetone	7.15	58	1542726	132.991	ng		96
14) Trichlorofluoromethane	7.40	101	558579	24.082	ng		100
15) 2-Propanol (Isopropanol)	7.65	45	1915560	53.622	ng		100
16) Acrylonitrile	7.92	53	1057184	53.906	ng		100
17) 1,1-Dichloroethene	8.36	96	304894	25.900	ng		96
18) 2-Methyl-2-Propanol (t...	8.52	59	1503696	49.066	ng		98
19) Methylene Chloride	8.59	84	307542	24.957	ng		92
20) 3-Chloro-1-propene (Al...	8.75	41	586379	27.293	ng		97
21) Trichlorotrifluoroethane	9.01	151	287492	23.926	ng		98
22) Carbon Disulfide	8.85	76	2239274	51.086	ng		100
23) trans-1,2-Dichloroethene	9.87	61	491701	27.967	ng		98
24) 1,1-Dichloroethane	10.12	63	604296	27.169	ng		100
25) Methyl tert-Butyl Ether	10.21	73	974189	26.348	ng		98
26) Vinyl Acetate	10.37	86	329695	109.319	ng	#	82
27) 2-Butanone (MEK)	10.61	72	450246	53.616	ng	#	87
28) cis-1,2-Dichloroethene	11.14	61	478699	25.668	ng		98
29) Diisopropyl Ether	11.43	87	730730	57.420	ng	#	77
30) Ethyl Acetate	11.43	61	530400	82.046	ng		98
31) n-Hexane	11.42	57	841973	30.880	ng		100
32) Chloroform	11.48	83	563617	25.851	ng		100
34) Tetrahydrofuran (THF)	11.88	72	421764	51.776	ng	#	91
35) Ethyl tert-Butyl Ether	12.02	87	878311	53.709	ng		96
36) 1,2-Dichloroethane	12.27	62	483843	26.560	ng		100
38) 1,1,1-Trichloroethane	12.55	97	520146	24.896	ng		99
39) Isopropyl Acetate	13.67	61	1053	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	1291822	26.433	ng		99
42) Carbon Tetrachloride	13.19	117	420402	23.050	ng		100
43) Cyclohexane	13.32	84	1106545	52.595	ng		96
44) tert-Amyl Methyl Ether	13.67	73	2034193	54.447	ng		98
45) 1,2-Dichloropropane	13.89	63	354181	26.718	ng		99
46) Bromodichloromethane	14.07	83	464694	26.182	ng		100
47) Trichloroethene	14.13	130	373749	22.026	ng		100
48) 1,4-Dioxane	14.10	88	274910	27.300	ng		99
49) 2,2,4-Trimethylpentane...	14.20	57	1717053	27.292	ng		99
50) Methyl Methacrylate	14.33	100	300347	49.417	ng		97

Data File : I:\MS16\DATA\2022 09\22\09222243.D Vial: 2
Acq On : 22 Sep 2022 23:57 Operator: WA/CG
Sample : LCSD2 R16092222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-08242205 (9/23)

Quant Time: Sep 23 02:38:56 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

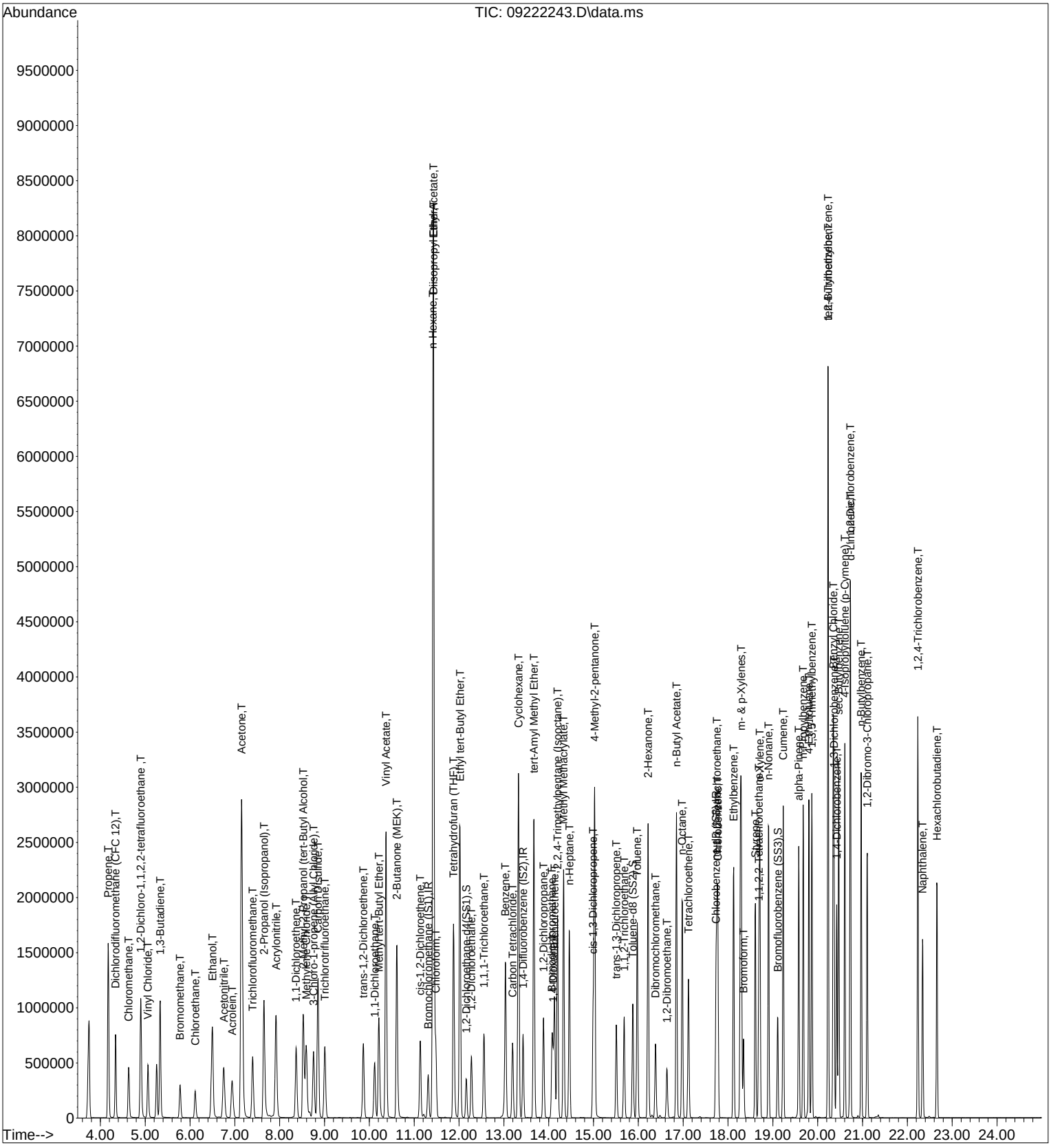
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	363210	26.333	ng		97
52) cis-1,3-Dichloropropene	14.99	75	530279	28.120	ng		100
53) 4-Methyl-2-pentanone	15.02	58	799965	59.509	ng		95
54) trans-1,3-Dichloropropene	15.51	75	456034	23.931	ng		100
55) 1,1,2-Trichloroethane	15.68	97	315882	25.703	ng		99
58) Toluene	15.98	91	1374188	23.170	ng		99
59) 2-Hexanone	16.22	43	2159874	55.895	ng		97
60) Dibromochloromethane	16.38	129	389836	22.827	ng		100
61) 1,2-Dibromoethane	16.64	107	350873	22.899	ng		100
62) n-Butyl Acetate	16.85	43	2351954	55.321	ng		97
63) n-Octane	16.98	57	372880	25.688	ng		97
64) Tetrachloroethene	17.12	166	407156	22.377	ng		99
65) Chlorobenzene	17.77	112	932484	22.567	ng		100
66) Ethylbenzene	18.13	91	1633873	24.278	ng		99
67) m- & p-Xylenes	18.29	91	2640056	49.298	ng		99
68) Bromoform	18.35	173	351836	22.879	ng		100
69) Styrene	18.61	104	935367	23.916	ng		100
70) o-Xylene	18.71	91	1330709	24.900	ng		99
71) n-Nonane	18.90	43	1040894	27.535	ng		96
72) 1,1,2,2-Tetrachloroethane	18.69	83	603727	25.144	ng		99
74) Cumene	19.23	105	1741413	24.393	ng		99
75) alpha-Pinene	19.58	93	857774	25.855	ng		99
76) n-Propylbenzene	19.68	91	2052405	25.285	ng		99
77) 3-Ethyltoluene	20.35	105	807	No Calib		#	
78) 4-Ethyltoluene	19.80	105	1709869	25.034	ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	1446352	24.555	ng		99
80) alpha-Methylstyrene	20.47	118	6497	No Calib		#	
81) 2-Ethyltoluene	20.35	105	840	No Calib		#	
82) 1,2,4-Trimethylbenzene	20.23	105	1653308	27.087	ng		98
83) n-Decane	20.23	58	88418	No Calib			
84) Benzyl Chloride	20.35	91	2046360	47.397	ng		98
85) 1,3-Dichlorobenzene	20.36	146	814724	22.795	ng		100
86) 1,4-Dichlorobenzene	20.42	146	733226	20.769	ng		100
87) sec-Butylbenzene	20.47	105	1988489	25.265	ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	1720404	24.780	ng		99
89) 1,2,3-Trimethylbenzene	20.35	105	840	No Calib		#	
90) 1,2-Dichlorobenzene	20.73	146	829953	24.090	ng		100
91) d-Limonene	20.73	68	625651	26.879	ng		98
92) 1,2-Dibromo-3-Chloropr...	21.11	157	613688	46.501	ng		91
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.23	180	1080912	42.038	ng		100
95) Naphthalene	22.34	128	1258450	17.621	ng		100
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	402951	21.847	ng		99
98) Cyclohexanone	18.13	55	604	No Calib		#	
99) tert-Butylbenzene	20.23	119	1634559	26.707	ng		100
100) n-Butylbenzene	20.97	91	1528792	25.740	ng		98
101) 1,1,1,2-Tetrachloroethane	17.75	131	367534	22.968	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222243.D Vial: 2
Acq On : 22 Sep 2022 23:57 Operator: WA/CG
Sample : LCSD2 R16092222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-08242205 (9/23)

Quant Time: Sep 23 02:38:56 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222239.D Vial: 4
Acq On : 22 Sep 2022 21:40 Operator: WA/CG
Sample : P2204118-002dup (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:48 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/23/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	146621	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	656923	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	155030	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	251067	12.856	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%			
57) Toluene-d8 (SS2)	15.87	98	717330	12.002	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%			
73) Bromofluorobenzene (SS3)	19.10	174	257937	11.549	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%			
Target Compounds						Qvalue
2) Propene	4.21	42	4754	N.D.		
3) Dichlorodifluoromethan...	4.36	85	22868	0.934	ng	99
4) Chloromethane	4.64	50	2460	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	636	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.45	45	30884	2.588	ng	91
11) Acetonitrile	6.74	41	2516	N.D.		
12) Acrolein	6.94	56	578	N.D.		
13) Acetone	7.15	58	30212	2.666	ng	87
14) Trichlorofluoromethane	7.39	101	10065	N.D.		
15) 2-Propanol (Isopropanol)	7.68	45	9024	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	8.57	84	1185	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	9.01	151	2104	N.D.		
22) Carbon Disulfide	8.85	76	1525	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.35	86	134	N.D.		
27) 2-Butanone (MEK)	10.64	72	1826	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.43	87	900	N.D.		
30) Ethyl Acetate	11.43	61	49543	7.844	ng	94
31) n-Hexane	11.42	57	1176	N.D.		
32) Chloroform	11.45	83	602	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.03	78	5564	N.D.		
42) Carbon Tetrachloride	13.19	117	2855	N.D.		
43) Cyclohexane	13.33	84	263	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.13	130	729	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.19	57	4190	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222239.D Vial: 4
Acq On : 22 Sep 2022 21:40 Operator: WA/CG
Sample : P2204118-002dup (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:48 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

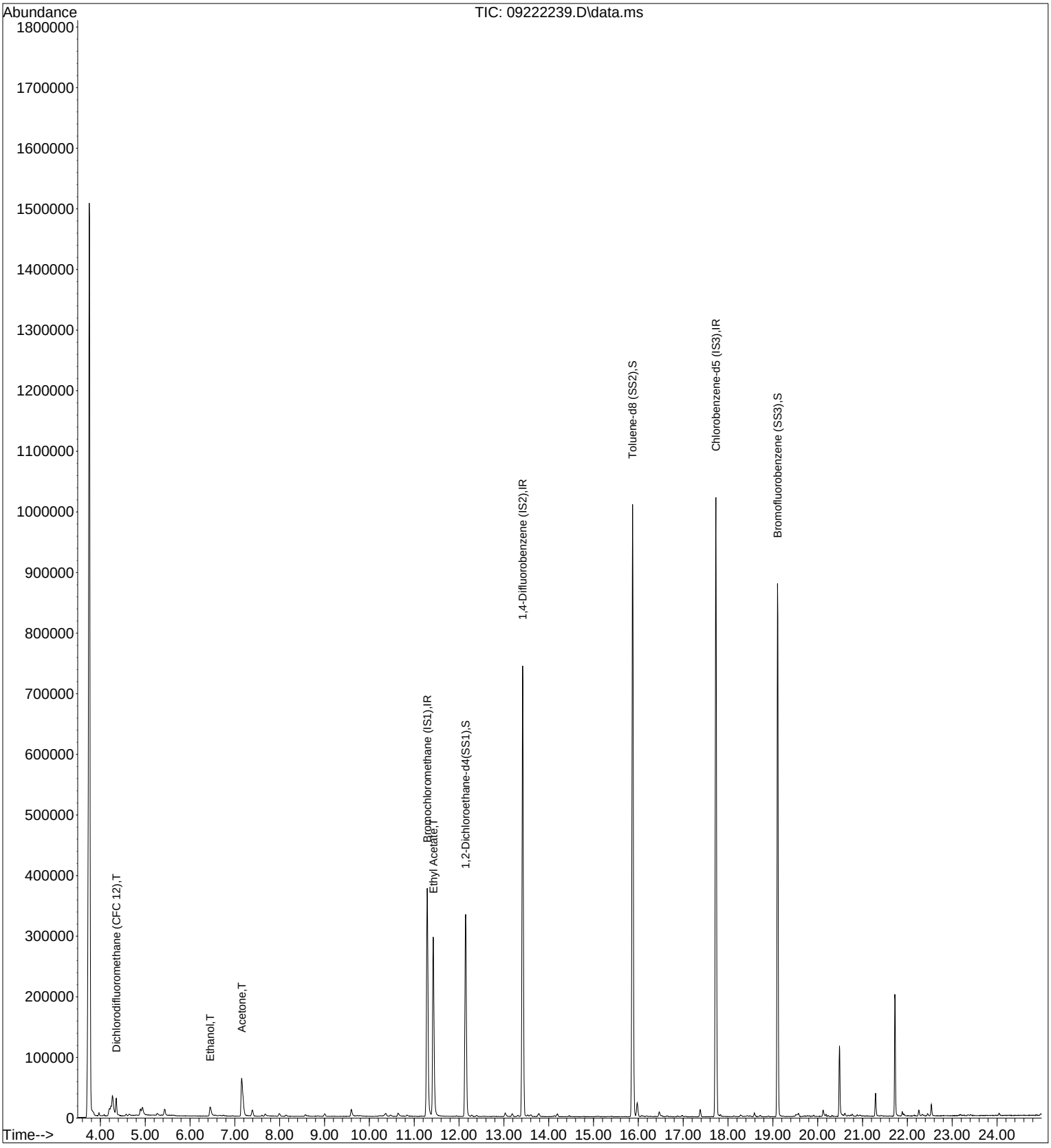
Internal Standards	R.T.	QIon	Response	Conc Units Dev(Min)
51) n-Heptane	14.46	71	362	N.D.
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.
58) Toluene	15.98	91	18010	N.D.
59) 2-Hexanone	16.27	43	1807	N.D.
60) Dibromochloromethane	0.00	129	0	N.D.
61) 1,2-Dibromoethane	0.00	107	0	N.D.
62) n-Butyl Acetate	16.88	43	2436	N.D.
63) n-Octane	16.97	57	435	N.D.
64) Tetrachloroethene	0.00	166	0	N.D.
65) Chlorobenzene	0.00	112	0	N.D.
66) Ethylbenzene	18.13	91	1477	N.D.
67) m- & p-Xylenes	18.28	91	3016	N.D.
68) Bromoform	0.00	173	0	N.D.
69) Styrene	0.00	104	0	N.D.
70) o-Xylene	18.71	91	1234	N.D.
71) n-Nonane	18.91	43	915	N.D.
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.
74) Cumene	0.00	105	0	N.D.
75) alpha-Pinene	19.57	93	1451	N.D.
76) n-Propylbenzene	19.68	91	413	N.D.
77) 3-Ethyltoluene	0.00	105	0	N.D.
78) 4-Ethyltoluene	19.80	105	397	N.D.
79) 1,3,5-Trimethylbenzene	19.87	105	306	N.D.
80) alpha-Methylstyrene	0.00	118	0	N.D.
81) 2-Ethyltoluene	0.00	105	0	N.D.
82) 1,2,4-Trimethylbenzene	20.24	105	1164	N.D.
83) n-Decane	0.00	58	0	N.D.
84) Benzyl Chloride	20.35	91	102	N.D.
85) 1,3-Dichlorobenzene	20.43	146	278	N.D.
86) 1,4-Dichlorobenzene	20.43	146	278	N.D.
87) sec-Butylbenzene	0.00	105	0	N.D.
88) 4-Isopropyltoluene (p-...	20.61	119	2406	N.D.
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.
91) d-Limonene	20.73	68	597	N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.
93) n-Undecane	0.00	58	0	N.D.
94) 1,2,4-Trichlorobenzene	22.23	180	414	N.D.
95) Naphthalene	22.35	128	1877	N.D.
96) n-Dodecane	22.54	58	131	No Calib #
97) Hexachlorobutadiene	0.00	225	0	N.D.
98) Cyclohexanone	0.00	55	0	N.D.
99) tert-Butylbenzene	0.00	119	0	N.D.
100) n-Butylbenzene	20.98	91	196	N.D.
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222239.D Vial: 4
Acq On : 22 Sep 2022 21:40 Operator: WA/CG
Sample : P2204118-002dup (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:48 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222239.D Vial: 4
Acq On : 22 Sep 2022 21:40 Operator: WA/CG
Sample : P2204118-002dup (1000mL) Inst : GCMS-16
Misc : S35-08012201

9/23/22

Quant Time: Sep 23 02:38:48 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

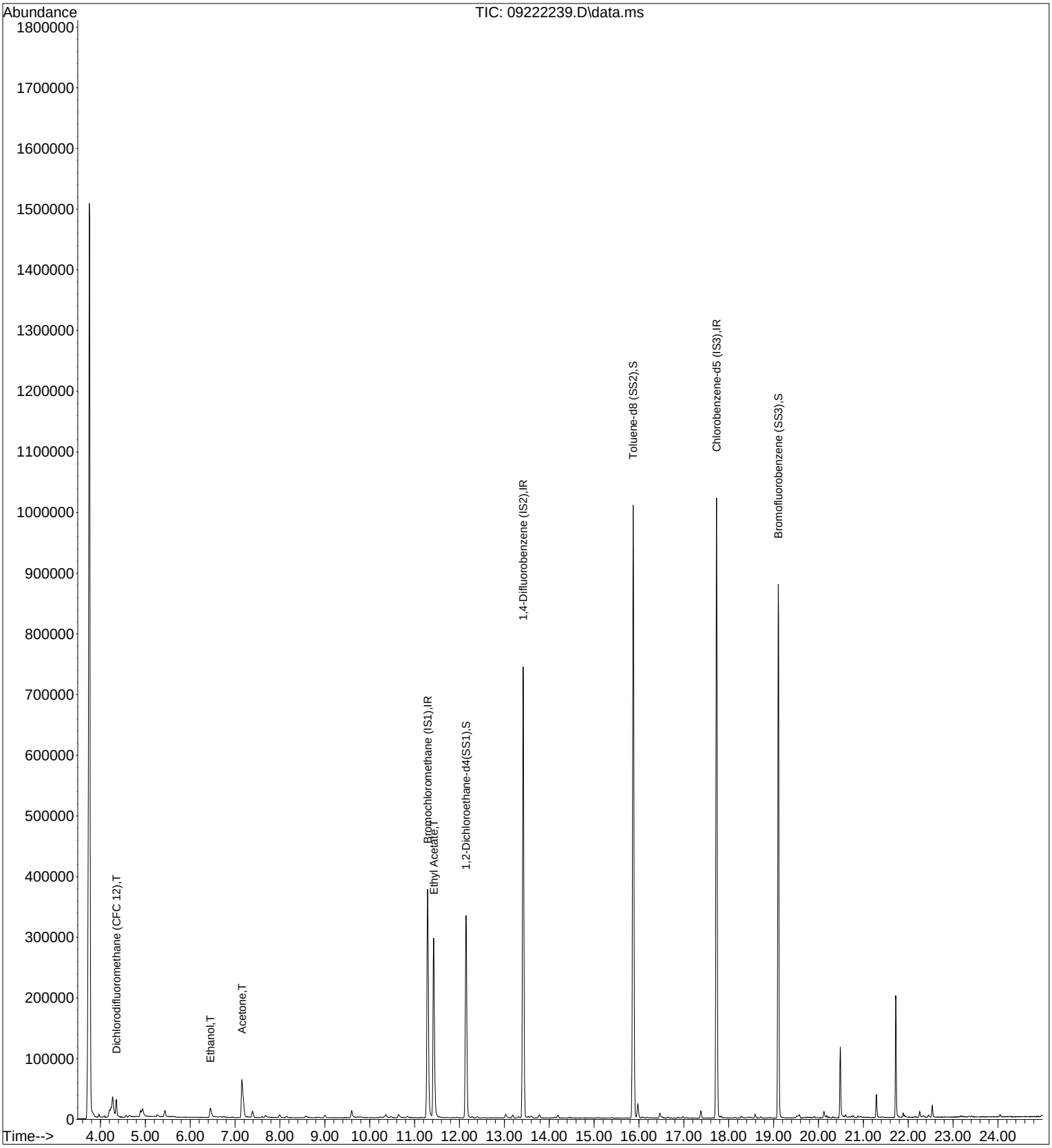
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	146621	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	656923	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	155030	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	251067	12.856	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%			
57) Toluene-d8 (SS2)	15.87	98	717330	12.002	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%			
73) Bromofluorobenzene (SS3)	19.10	174	257937	11.549	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.36	85	22868	0.934	ng	99
10) Ethanol	6.45	45	30884	2.588	ng	91
13) Acetone	7.15	58	30212	2.666	ng	87
30) Ethyl Acetate	11.43	61	49543	7.844	ng	94

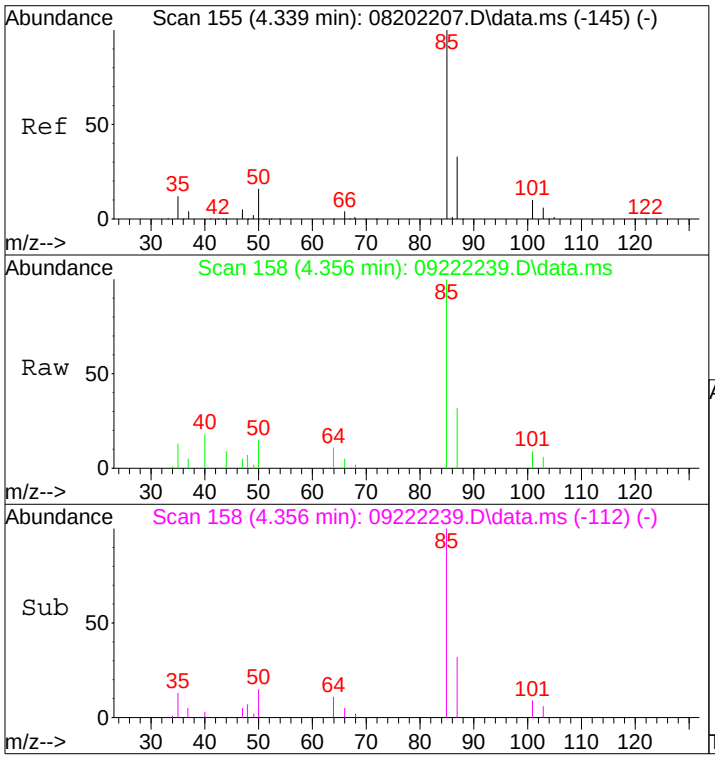
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222239.D Vial: 4
Acq On : 22 Sep 2022 21:40 Operator: WA/CG
Sample : P2204118-002dup (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Sep 23 02:38:48 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

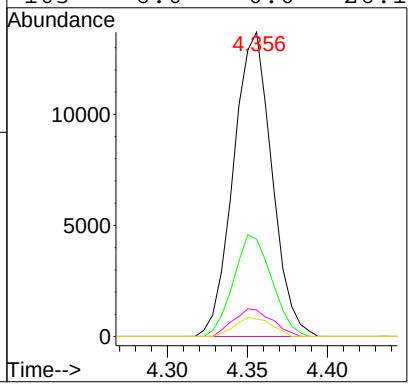


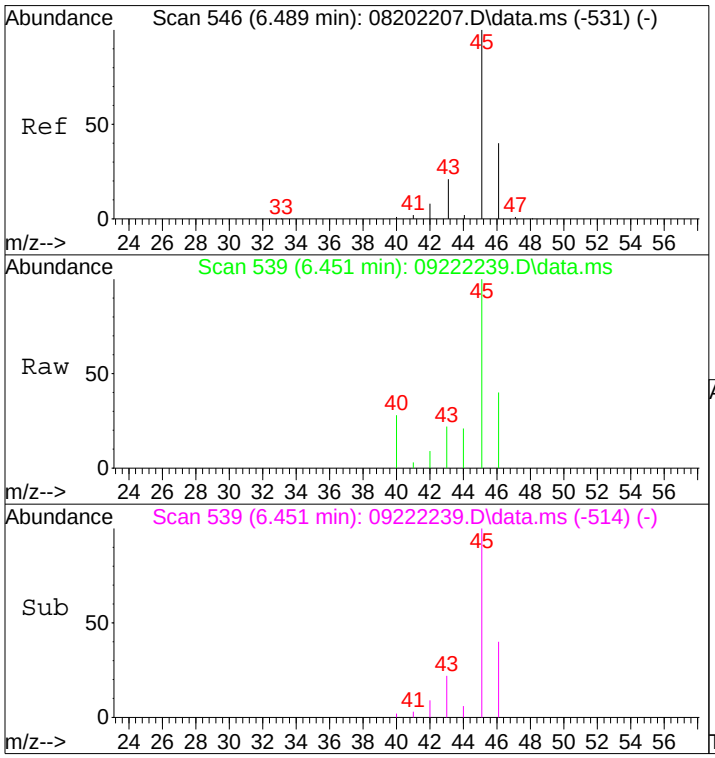


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.93 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.005 min
Lab File: 09222239.D
Acq: 22 Sep 2022 21:40

Tgt Ion: 85 Resp: 22868

Ion	Ratio	Lower	Upper
85	100		
87	33.3	12.9	52.9
101	9.2	0.0	29.6
103	6.0	0.0	26.1

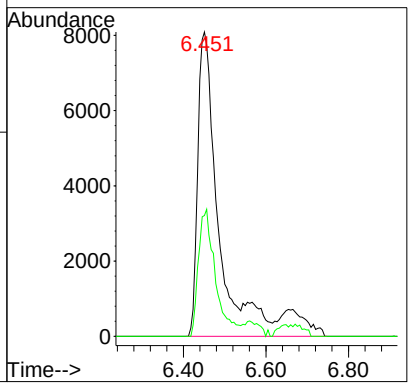


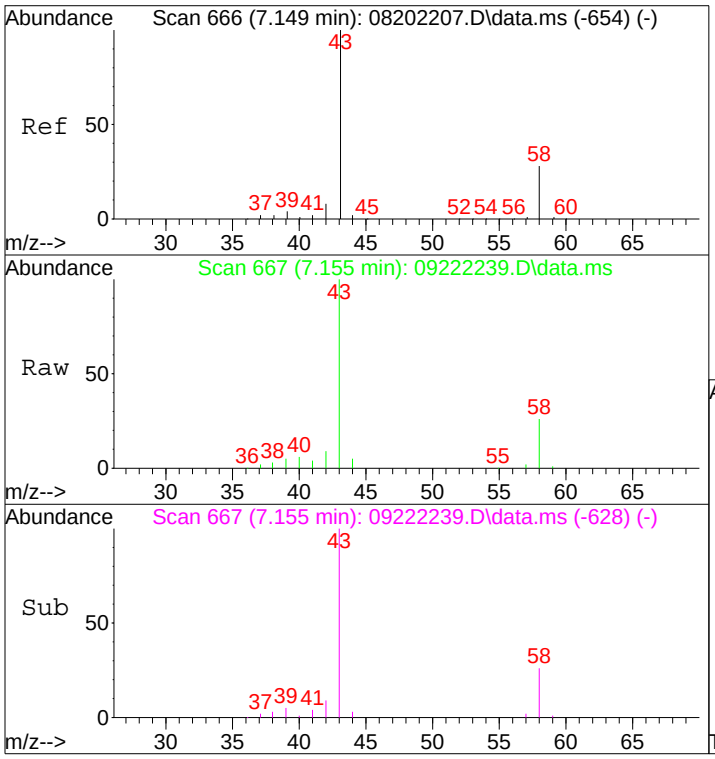


#10
Ethanol
Concen: 2.59 ng
RT: 6.45 min Scan# 539
Delta R.T. -0.110 min
Lab File: 09222239.D
Acq: 22 Sep 2022 21:40

Tgt Ion: 45 Resp: 30884

Ion	Ratio	Lower	Upper
45	100		
46	35.2	20.5	60.5

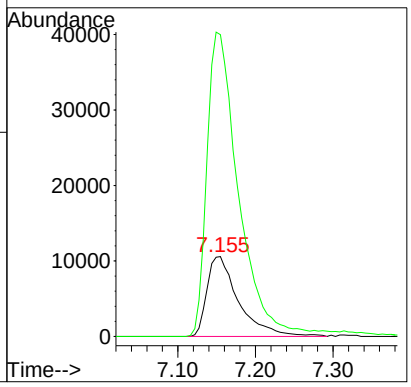


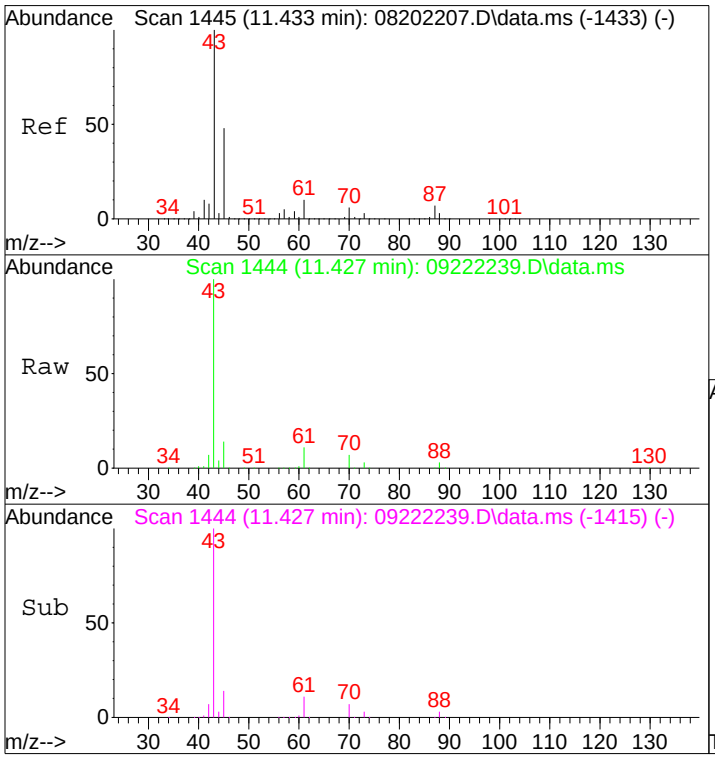


#13
Acetone
Concen: 2.67 ng
RT: 7.15 min Scan# 667
Delta R.T. -0.033 min
Lab File: 09222239.D
Acq: 22 Sep 2022 21:40

Tgt Ion: 58 Resp: 30212

Ion	Ratio	Lower	Upper
58	100		
43	387.1	328.5	388.5

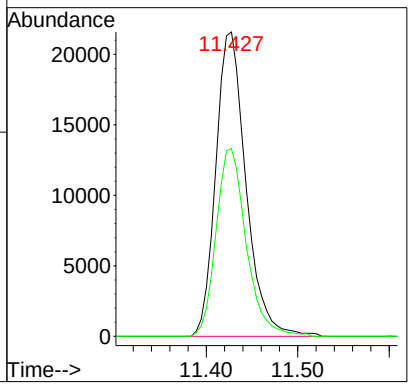




#30
Ethyl Acetate
Concen: 7.84 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.039 min
Lab File: 09222239.D
Acq: 22 Sep 2022 21:40

Tgt Ion: 61 Resp: 49543

Ion	Ratio	Lower	Upper
61	100		
70	61.6	46.5	86.5



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16082022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Sat Aug 20 09:01:46 2022
Response Via : Initial Calibration

Calibration Files
0.1 =08202202.D 0.2 =08202203.D 0.5 =08202214.D 1.0 =08202205.D 5.0 =08202206.D 25 =08202207.D 50 =08202208.D
100 =08202209.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	----------	----------	ISTD	----------	----------	----------	----------		
2)	T	Propene	1.666	1.488	1.387	1.494	1.757	1.729	2.045	2.323	1.736	18.05
3)	T	Dichlorodifluo...	2.164	2.088	2.163	2.043	1.991	2.051	2.056	2.135	2.087	2.99
4)	T	Chloromethane	2.082	1.966	1.981	2.066	1.733	1.979	1.768	1.149	1.840	16.66
5)	T	1,2-Dichloro-1...	1.277	1.255	1.449	1.337	1.279	1.306	1.324	1.353	1.323	4.61
6)	T	Vinyl Chloride	1.980	1.877	1.994	1.944	1.924	1.954	1.945	1.938	1.945	1.83
7)	T	1,3-Butadiene	1.394	1.421	1.501	1.560	1.582	1.757	1.820	1.835	1.609	10.86
8)	T	Bromomethane	0.809	0.809	0.870	0.825	0.918	0.839	0.860	0.965	0.862	6.39
9)	T	Chloroethane	0.739	0.705	0.780	0.779	0.757	0.785	0.774	0.771	0.761	3.56
10)	T	Ethanol	0.904	0.869	1.000	0.965	0.962	1.082	1.156	1.199	1.017	11.58
11)	T	Acetonitrile	2.821	2.651	2.427	2.568	2.521	2.646	2.682	2.693	2.626	4.57
12)	T	Acrolein	0.704	0.684	0.753	0.786	0.760	0.848	0.910	0.925	0.796	11.27
13)	T	Acetone	0.982	0.921	0.877	0.877	0.862	1.013	1.085	1.113	0.966	10.14
14)	T	Trichlorofluor...	1.978	1.864	2.014	1.951	1.838	1.903	1.917	1.992	1.932	3.23
15)	T	2-Propanol (Is...	2.979	2.906	3.090	3.059	2.580	3.276	3.083	2.832	2.976	7.00
16)	T	Acrylonitrile	1.343	1.385	1.491	1.546	1.577	1.809	1.945	1.974	1.634	15.01
17)	T	1,1-Dichloroet...	0.960	0.887	0.984	0.970	0.938	1.008	1.025	1.071	0.981	5.72
18)	T	2-Methyl-2-Pro...	2.466	2.540	2.709	2.714	2.419	3.253	2.770	1.552	2.553	18.82
19)	T	Methylene Chlo...	1.084	0.976	1.006	1.011	0.954	1.028	1.050	1.103	1.026	4.95
20)	T	3-Chloro-1-pro...	1.597	1.506	1.545	1.670	1.690	2.004	2.130	2.176	1.790	15.12
21)	T	Trichlorotrifl...	1.015	0.935	1.047	1.029	0.952	0.995	1.004	1.030	1.001	3.91
22)	T	Carbon Disulfide	3.561	3.332	3.476	3.407	3.344	3.828	4.060	4.202	3.651	9.24
23)	T	trans-1,2-Dich...	1.182	1.260	1.429	1.464	1.459	1.587	1.621	1.713	1.465	12.22
24)	T	1,1-Dichloroet...	1.824	1.789	1.813	1.843	1.795	1.900	1.912	1.947	1.853	3.20
25)	T	Methyl tert-Bu...	2.874	2.592	2.961	2.921	2.991	3.330	3.435	3.535	3.080	10.44
26)	T	Vinyl Acetate			0.172	0.183	0.217	0.291	0.312	0.331	0.251	27.42
27)	T	2-Butanone (MEK)	0.466	0.595	0.640	0.661	0.689	0.811	0.857	0.877	0.699	20.17
28)	T	cis-1,2-Dichlo...	1.710	1.466	1.456	1.455	1.433	1.575	1.622	1.710	1.553	7.52
29)	T	Diisopropyl Ether	0.873	0.866	0.999	0.982	1.032	1.315	1.319	1.094	1.060	16.60
30)	T	Ethyl Acetate			0.416	0.443	0.483	0.680	0.670	0.538	0.538	21.05
31)	T	n-Hexane	1.846	1.801	1.997	2.041	2.164	2.885	2.894	2.541	2.271	19.54
32)	T	Chloroform	1.694	1.690	1.812	1.757	1.741	1.910	1.961	1.964	1.816	6.30
33)	S	1,2-Dichloroet...	1.642	1.655	1.628	1.653	1.665	1.697	1.703	1.676	1.665	1.56
34)	T	Tetrahydrofura...	0.705	0.578	0.626	0.611	0.627	0.716	0.765	0.801	0.679	11.77
35)	T	Ethyl tert-But...	1.109	1.104	1.230	1.219	1.253	1.544	1.684	1.754	1.362	19.05
36)	T	1,2-Dichloroet...	1.406	1.372	1.540	1.475	1.465	1.597	1.631	1.653	1.517	6.87
37)	IR	1,4-Difluorobenzen...	----------	----------	----------	ISTD	----------	----------	----------	----------		
38)	T	1,1,1-Trichlor...	0.379	0.363	0.395	0.389	0.368	0.392	0.406	0.431	0.390	5.58
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	0.853	0.817	0.881	0.862	0.852	0.954	1.019	1.067	0.913	9.87
42)	T	Carbon Tetrach...	0.316	0.312	0.346	0.334	0.325	0.350	0.359	0.384	0.341	7.08

WDA 8/21/22

Method Path : I:\MS16\METHODS\
Method File : R16082022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

43)	T	Cyclohexane	0.331	0.337	0.370	0.359	0.368	0.425	0.465	0.490	0.393	15.17
44)	T	tert-Amyl Meth...	0.601	0.578	0.604	0.599	0.627	0.810	0.888	0.877	0.698	19.39
45)	T	1,2-Dichloropr...	0.227	0.216	0.243	0.240	0.237	0.261	0.272	0.286	0.248	9.43
46)	T	Bromodichlorom...	0.322	0.297	0.313	0.321	0.312	0.346	0.360	0.382	0.332	8.59
47)	T	Trichloroethene	0.442	0.348	0.279	0.271	0.268	0.290	0.305	0.333	0.317	18.37
48)	T	1,4-Dioxane	0.139	0.142	0.181	0.177	0.185	0.209	0.223	0.250	0.188	20.26
49)	T	2,2,4-Trimethy...	1.068	1.046	1.079	1.089	1.115	1.254	1.340	1.413	1.176	11.95
50)	T	Methyl Methacr...			0.092	0.095	0.101	0.123	0.133	0.138	0.114	17.87
51)	T	n-Heptane	0.206	0.206	0.246	0.241	0.246	0.286	0.308	0.322	0.258	16.92
52)	T	cis-1,3-Dichlo...	0.242	0.280	0.317	0.322	0.348	0.412	0.438	0.460	0.352	22.02
53)	T	4-Methyl-2-pen...	0.168	0.184	0.216	0.224	0.241	0.305	0.333	0.338	0.251	26.32
54)	T	trans-1,3-Dich...			0.276	0.285	0.325	0.394	0.416	0.441	0.356	19.63
55)	T	1,1,2-Trichlor...	0.208	0.205	0.222	0.216	0.219	0.241	0.253	0.274	0.230	10.42
56)	IR	Chlorobenzene-d5 (...	----------	----------	ISTD	----------	----------	----------	----------	----------	----------	
57)	S	Toluene-d8 (SS2)	4.939	4.963	5.171	4.963	4.869	4.612	4.549	4.487	4.819	5.01
58)	T	Toluene	4.284	4.149	4.628	4.224	4.089	4.411	4.531	4.585	4.363	4.72
59)	T	2-Hexanone	2.075	2.265	2.769	2.743	2.909	3.437	3.411	3.130	2.842	17.35
60)	T	Dibromochlorom...	1.138	1.163	1.336	1.244	1.217	1.268	1.310	1.373	1.256	6.55
61)	T	1,2-Dibromoethane	0.930	0.956	1.248	1.140	1.122	1.175	1.203	1.241	1.127	10.82
62)	T	n-Butyl Acetate	2.266	2.330	2.906	2.940	3.249	3.845	3.931	3.551	3.127	20.29
63)	T	n-Octane	0.918	0.908	1.082	0.995	1.024	1.170	1.219	1.226	1.068	11.93
64)	T	Tetrachloroethene	1.366	1.297	1.472	1.314	1.237	1.272	1.326	1.423	1.338	5.85
65)	T	Chlorobenzene	2.960	2.761	3.224	2.910	2.824	3.031	3.233	3.373	3.040	7.15
66)	T	Ethylbenzene	4.670	4.344	5.138	4.655	4.716	5.217	5.437	5.426	4.950	8.21
67)	T	m- & p-Xylenes	3.646	3.364	4.109	3.755	3.685	4.269	4.424	4.261	3.939	9.56
68)	T	Bromoform	1.057	0.996	1.143	1.071	1.082	1.184	1.240	1.277	1.131	8.59
69)	T	Styrene	2.258	2.230	2.788	2.676	2.809	3.316	3.436	3.502	2.877	17.38
70)	T	o-Xylene	3.556	3.353	4.027	3.686	3.737	4.264	4.430	4.397	3.931	10.35
71)	T	n-Nonane	2.633	2.395	2.537	2.599	2.728	3.187	3.198	2.969	2.781	10.89
72)	T	1,1,2,2-Tetrac...	1.527	1.543	1.729	1.718	1.704	1.940	1.979	1.989	1.766	10.49
73)	S	Bromofluoroben...	1.842	1.829	1.874	1.854	1.808	1.732	1.718	1.749	1.801	3.32
74)	T	Cumene	4.769	4.542	5.452	4.981	5.014	5.685	5.911	5.655	5.251	9.36
75)	T	alpha-Pinene	2.095	2.050	2.192	2.145	2.243	2.850	2.981	2.967	2.440	16.94
76)	T	n-Propylbenzene	5.004	4.944	6.202	5.757	5.866	6.796	6.900	6.297	5.971	12.26
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	4.321	4.150	5.044	4.698	4.846	5.702	5.898	5.535	5.024	12.77
79)	T	1,3,5-Trimethy...	3.866	3.795	4.442	4.027	4.100	4.766	4.924	4.741	4.333	10.21
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...		3.499	4.272	4.001	4.318	5.351	5.504	4.483	4.490	15.93
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride			2.200	2.171	2.741	4.055	4.393	3.496	3.176	29.90
85)	T	1,3-Dichlorobe...	2.397	2.208	2.703	2.453	2.464	2.977	3.123	2.708	2.629	11.74
86)	T	1,4-Dichlorobe...	2.261	2.244	2.733	2.365	2.384	2.848	2.963	2.976	2.597	12.14
87)	T	sec-Butylbenzene	4.892	4.772	5.829	5.498	5.745	6.656	6.847	6.076	5.789	12.86
88)	T	4-Isopropyltol...	4.173	4.064	5.258	4.784	5.057	5.924	6.127	5.469	5.107	14.67
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.275	2.143	2.661	2.340	2.392	2.907	2.996	2.560	2.534	12.00
91)	T	d-Limonene			1.375	1.380	1.619	2.041	2.119	1.740	1.712	18.60
92)	T	1,2-Dibromo-3-...	0.783	0.748	0.946	0.879	0.941	1.143	1.200	1.127	0.971	17.47
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	1.443	1.344	1.946	1.630	1.706	2.334	2.549	2.179	1.891	22.93

Method Path : I:\MS16\METHODS\
Method File : R16082022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95)	T	Naphthalene			4.943	3.825	4.228	5.976	6.486	6.063	5.253	20.65
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.240	1.200	1.394	1.256	1.252	1.381	1.544	1.584	1.357	10.72
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	3.835	3.826	4.550	4.269	4.422	5.353	5.423	4.339	4.502	13.44
100)	T	n-Butylbenzene	3.457	3.416	4.358	4.060	4.406	5.143	5.280	4.832	4.369	16.14
101)	T	1,1,1,2-Tetrac...	1.083	1.061	1.272	1.146	1.128	1.171	1.251	1.304	1.177	7.63

(#) = Out of Range

Primary Source Standards Concentrations (Working & Initial Calibration)

8/29/22

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-08182202 | 200ng/L Std. ID: S35-08162213
20ng/L Std. ID: S35-08182201 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Freon-114	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Vinyl Chloride	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Ethanol	3.45	3450	690	138.0	69.0	13.80	3.45		0.345	0.690	1.725	3.45	17.25	86.25	172.5	345
Acetonitrile	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Acrolein	1.93	1930	386	77.2	38.6	7.72	1.93		0.193	0.386	0.965	1.93	9.65	48.25	96.5	193
Acetone	5.27	5270	1054	210.8	105.4	21.08	5.27		0.527	1.054	2.635	5.27	26.35	131.75	263.5	527
Trichlorofluoromethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isopropanol	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Acrylonitrile	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.13	2130	426	85.2	42.6	8.52	2.13		0.213	0.426	1.065	2.13	10.65	53.25	106.5	213
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl tert-Butyl Ether	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Vinyl Acetate	2.80	2800	560	112.0	56.0	11.20	2.80		0.280	0.560	1.400	2.80	14.00	70.00	140.0	280
2-Butanone	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.22	4220	844	168.8	84.4	16.88	4.22		0.422	0.844	2.110	4.22	21.10	105.50	211.0	422
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrahydrofuran	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Ethyl tert-Butyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Carbon Tetrachloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cyclohexane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
tert-Amyl Methyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Bromodichloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Trichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,4-Dioxane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isooctane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Methyl Methacrylate	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
n-Heptane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2022\R16082022.M\ICAL Conc. (Primary Source)

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		40ng/L Std. ID:	
4ng/L Std. ID:	S35-08182202	200ng/L Std. ID:	S35-08162213
20ng/L Std. ID:	S35-08182201	1000ng/L Std. ID:	

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
4-Methyl-2-pentanone	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
trans-1,3-Dichloropropene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,1,2-Trichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Toluene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
2-Hexanone	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Dibromochloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
n-Octane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrachloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Ethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
m-&p-Xylene	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Nonane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cumene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
alpha-Pinene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Propylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
4-Ethyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2,4-Trimethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzyl Chloride	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,3-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,4-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
sec-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
p-Isopropyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromo-3-chloropropane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2,4-Trichlorobenzene	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Naphthalene	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
tert-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,1,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16082022.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2022_08\19\08202202.D
2	0.2	0	13	I:\MS16\DATA\2022_08\19\08202203.D
3	0.5	1	13	I:\MS16\DATA\2022_08\20\08202214.D
4	1.0	1	13	I:\MS16\DATA\2022_08\19\08202205.D
5	5.0	5	13	I:\MS16\DATA\2022_08\19\08202206.D
6	25	26	13	I:\MS16\DATA\2022_08\19\08202207.D
7	50	53	13	I:\MS16\DATA\2022_08\19\08202208.D
8	100	105	13	I:\MS16\DATA\2022_08\19\08202209.D

8/21/22

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Aug 20 07:18 2022	Aug 20 07:08 2022	20 Aug 2022 1:28
2	0.2	Aug 20 07:18 2022	Aug 20 07:08 2022	20 Aug 2022 2:02
3	0.5	Aug 20 09:01 2022	Aug 20 09:01 2022	20 Aug 2022 8:20
4	1.0	Aug 20 07:18 2022	Aug 20 07:08 2022	20 Aug 2022 3:11
5	5.0	Aug 20 07:18 2022	Aug 20 07:14 2022	20 Aug 2022 3:45
6	25	Aug 20 07:19 2022	Aug 20 07:15 2022	20 Aug 2022 4:20
7	50	Aug 20 07:19 2022	Aug 20 07:16 2022	20 Aug 2022 4:54
8	100	Aug 20 07:19 2022	Aug 20 07:17 2022	20 Aug 2022 5:28

R16082022.M Sun Aug 21 09:45:45 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202202.D Vial: 14
Acq On : 20 Aug 2022 1:28 Operator: WA
Sample : 0.1ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182202 (9/15)

Quant Time: Aug 20 07:08:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	178988	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	781844	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	175217	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	293948	10.275	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.24%				
57) Toluene-d8 (SS2)	15.87	98	865447	10.803	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.40%				
73) Bromofluorobenzene (SS3)	19.11	174	322764	13.497	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.00%				
Target Compounds							Qvalue
2) Propene	4.22	42	2505	0.126	ng	#	90
3) Dichlorodifluoromethan...	4.37	85	3284	0.079	ng	#	92
4) Chloromethane	4.66	50	3070	0.142	ng		90
5) 1,2-Dichloro-1,1,2,2-t...	4.93	135	1902	0.099	ng		83
6) Vinyl Chloride	5.09	62	2864	0.112	ng		98
7) 1,3-Butadiene	5.36	54	2116	0.116	ng	#	80
8) Bromomethane	5.79	94	1182	0.074	ng		95
9) Chloroethane	6.13	64	1090	0.106	ng		72
10) Ethanol	6.47	45	4466	0.352	ng		89
11) Acetonitrile	6.75	41	3676	0.127	ng	#	1
12) Acrolein	6.96	56	1945	0.187	ng		97
13) Acetone	7.18	58	7412	0.681	ng		93
14) Trichlorofluoromethane	7.40	101	2945	0.079	ng		97
15) 2-Propanol (Isopropanol)	7.69	45	8746	0.219	ng		89
16) Acrylonitrile	7.91	53	3942	0.202	ng		100
17) 1,1-Dichloroethene	8.36	96	1485	0.095	ng		98
18) 2-Methyl-2-Propanol (t...	8.60	59	7450	0.180	ng		87
19) Methylene Chloride	8.57	84	1645	0.098	ng		93
20) 3-Chloro-1-propene (Al...	8.75	41	2424	0.100	ng		82
21) Trichlorotrifluoroethane	9.01	151	1570	0.099	ng		90
22) Carbon Disulfide	8.85	76	10860	0.167	ng		95
23) trans-1,2-Dichloroethene	9.86	61	1828	0.071	ng		98
24) 1,1-Dichloroethane	10.10	63	2795	0.096	ng		91
25) Methyl tert-Butyl Ether	10.25	73	4404	0.081	ng		98
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.65	72	1394	0.140	ng	#	55
28) cis-1,2-Dichloroethene	11.11	61	2595	0.110	ng		93
29) Diisopropyl Ether	11.44	87	2651	0.210	ng	#	86
30) Ethyl Acetate	11.45	61	1946	0.306	ng		95
31) n-Hexane	11.41	57	2775	0.117	ng		95
32) Chloroform	11.46	83	2571	0.080	ng		97
34) Tetrahydrofuran (THF)	11.92	72	2058	0.216	ng		94
35) Ethyl tert-Butyl Ether	12.03	87	3368	0.170	ng		98
36) 1,2-Dichloroethane	12.27	62	2175	0.078	ng		98
38) 1,1,1-Trichloroethane	12.54	97	2487	0.081	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	5709	0.092	ng		96
42) Carbon Tetrachloride	13.18	117	2056	0.076	ng		97
43) Cyclohexane	13.32	84	4346	0.195	ng		100
44) tert-Amyl Methyl Ether	13.68	73	7965	0.164	ng		94
45) 1,2-Dichloropropane	13.89	63	1492	0.102	ng		94
46) Bromodichloromethane	14.07	83	2157	0.087	ng		90
47) Trichloroethene	14.13	130	2904	0.161	ng		98
48) 1,4-Dioxane	14.14	88	921	0.077	ng		85
49) 2,2,4-Trimethylpentane...	14.19	57	7216	0.116	ng		95
50) Methyl Methacrylate	14.34	100	724	0.117	ng	#	76

Data File : I:\MS16\DATA\2022 08\20\08202202.D Vial: 14
Acq On : 20 Aug 2022 1:28 Operator: WA
Sample : 0.1ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182202 (9/15)

Quant Time: Aug 20 07:08:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

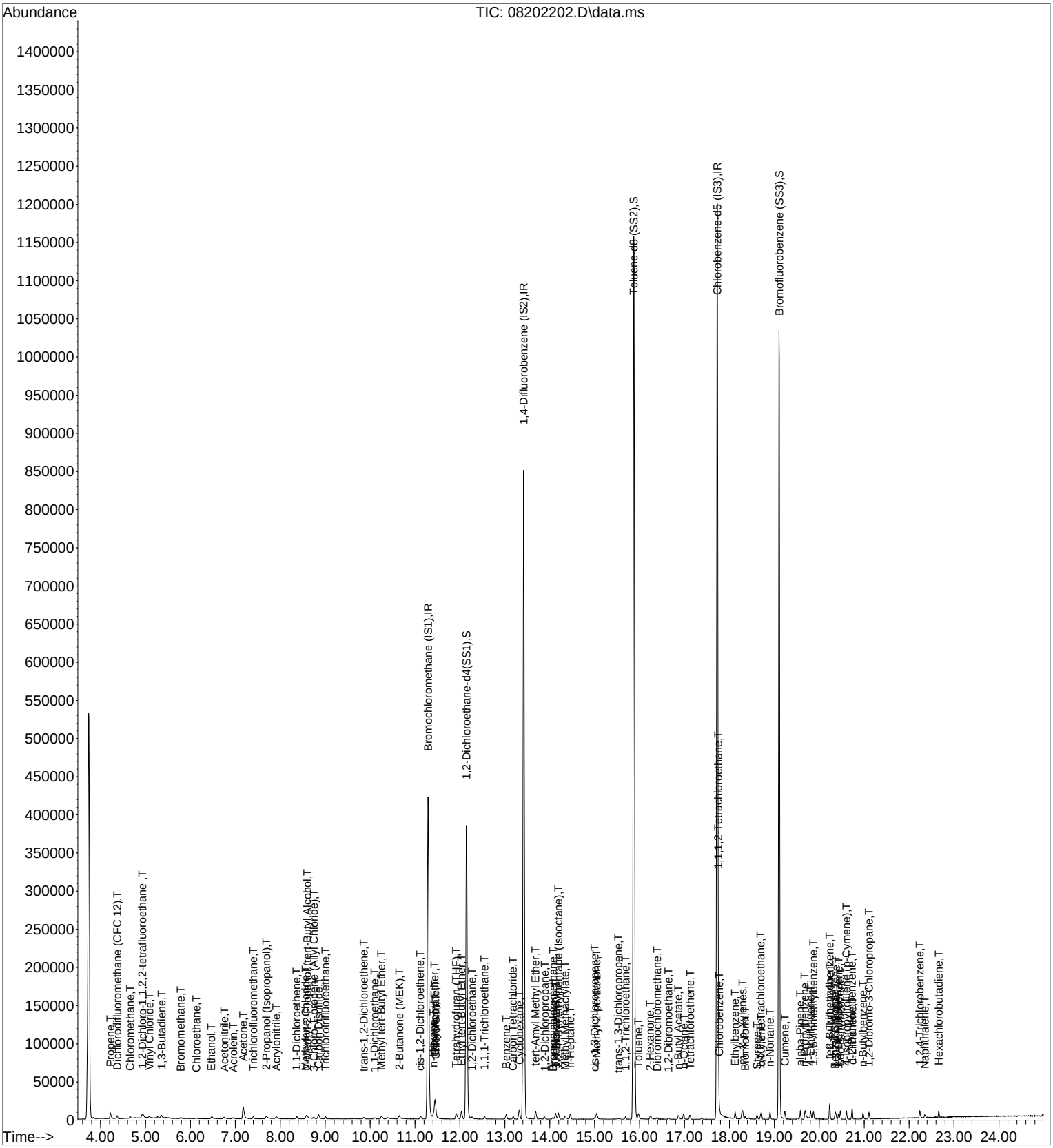
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	1368	0.099 ng		97
52) cis-1,3-Dichloropropene	15.00	75	1632	0.063 ng		74
53) 4-Methyl-2-pentanone	15.04	58	2259	0.172 ng	#	70
54) trans-1,3-Dichloropropene	15.52	75	1137	0.044 ng		71
55) 1,1,2-Trichloroethane	15.69	97	1381	0.089 ng		96
58) Toluene	15.98	91	6305	0.084 ng		96
59) 2-Hexanone	16.23	43	6165	0.167 ng		88
60) Dibromochloromethane	16.39	129	1723	0.072 ng		93
61) 1,2-Dibromoethane	16.64	107	1356	0.062 ng		93
62) n-Butyl Acetate	16.86	43	6511	0.159 ng		93
63) n-Octane	16.99	57	1377	0.095 ng		94
64) Tetrachloroethene	17.12	166	2030	0.090 ng		100
65) Chlorobenzene	17.77	112	4398	0.089 ng		96
66) Ethylbenzene	18.13	91	6874	0.078 ng		98
67) m- & p-Xylenes	18.29	91	10732	0.147 ng		94
68) Bromoform	18.35	173	1585	0.076 ng		92
69) Styrene	18.61	104	3355	0.066 ng		96
70) o-Xylene	18.71	91	5283	0.073 ng		96
71) n-Nonane	18.90	43	3912	0.115 ng		89
72) 1,1,2,2-Tetrachloroethane	18.69	83	2269	0.073 ng		98
74) Cumene	19.24	105	7153	0.083 ng		96
75) alpha-Pinene	19.58	93	3201	0.071 ng		83
76) n-Propylbenzene	19.68	91	7506	0.071 ng	#	71
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	19.81	105	6602	0.078 ng		97
79) 1,3,5-Trimethylbenzene	19.87	105	5745	0.076 ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	20.23	105	5075	0.068 ng		96
83) n-Decane	20.23	58	255	No Calib	#	
84) Benzyl Chloride	20.35	91	4600	0.074 ng		96
85) 1,3-Dichlorobenzene	20.37	146	3562	0.084 ng		91
86) 1,4-Dichlorobenzene	20.43	146	3359	0.078 ng		100
87) sec-Butylbenzene	20.47	105	7268	0.074 ng		98
88) 4-Isopropyltoluene (p-...	20.61	119	6200	0.072 ng		99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	20.73	146	3412	0.081 ng		91
91) d-Limonene	20.74	68	1621	0.065 ng		90
92) 1,2-Dibromo-3-Chloropr...	21.11	157	2304	0.146 ng	#	83
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	4226	0.140 ng		97
95) Naphthalene	22.35	128	4504	0.054 ng		92
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	1843	0.077 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.23	119	5698	0.081 ng		97
100) n-Butylbenzene	20.97	91	5185	0.065 ng		92
101) 1,1,1,2-Tetrachloroethane	17.75	131	1609	0.081 ng	#	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202202.D Vial: 14
Acq On : 20 Aug 2022 1:28 Operator: WA
Sample : 0.1ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182202 (9/15)

Quant Time: Aug 20 07:08:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202203.D Vial: 14
Acq On : 20 Aug 2022 2:02 Operator: WA
Sample : 0.2ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182202 (9/15)

Quant Time: Aug 20 07:08:49 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022 8/20/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	175623	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	769000	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	172830	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	290657	10.355	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.80%				
57) Toluene-d8 (SS2)	15.87	98	857684	10.854	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.80%				
73) Bromofluorobenzene (SS3)	19.11	174	316142	13.402	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.20%				
Target Compounds							Qvalue
2) Propene	4.21	42	4390	0.226	ng		92
3) Dichlorodifluoromethan...	4.36	85	6220	0.152	ng		96
4) Chloromethane	4.65	50	5690	0.268	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	3669	0.195	ng		98
6) Vinyl Chloride	5.07	62	5328	0.212	ng		100
7) 1,3-Butadiene	5.35	54	4233	0.237	ng		91
8) Bromomethane	5.78	94	2320	0.148	ng		97
9) Chloroethane	6.13	64	2041	0.203	ng		100
10) Ethanol	6.46	45	8429	0.677	ng		89
11) Acetonitrile	6.74	41	6778	0.239	ng		84
12) Acrolein	6.95	56	3712	0.363	ng		96
13) Acetone	7.16	58	13646	1.278	ng		94
14) Trichlorofluoromethane	7.40	101	5447	0.150	ng		95
15) 2-Propanol (Isopropanol)	7.67	45	16741	0.428	ng		97
16) Acrylonitrile	7.90	53	7977	0.416	ng		97
17) 1,1-Dichloroethene	8.36	96	2692	0.175	ng		97
18) 2-Methyl-2-Propanol (t...	8.59	59	15060	0.370	ng		91
19) Methylene Chloride	8.57	84	2908	0.177	ng		100
20) 3-Chloro-1-propene (Al...	8.74	41	4485	0.188	ng		91
21) Trichlorotrifluoroethane	9.00	151	2839	0.182	ng		99
22) Carbon Disulfide	8.85	76	19945	0.312	ng		96
23) trans-1,2-Dichloroethene	9.85	61	3823	0.152	ng		99
24) 1,1-Dichloroethane	10.10	63	5378	0.189	ng		95
25) Methyl tert-Butyl Ether	10.25	73	7793	0.147	ng		100
26) Vinyl Acetate	10.38	86	743	0.264	ng	#	1
27) 2-Butanone (MEK)	10.64	72	3493	0.359	ng	#	83
28) cis-1,2-Dichloroethene	11.12	61	4368	0.188	ng		92
29) Diisopropyl Ether	11.44	87	5157	0.417	ng	#	86
30) Ethyl Acetate	11.44	61	4374	0.702	ng		100
31) n-Hexane	11.42	57	5314	0.228	ng		97
32) Chloroform	11.45	83	5033	0.160	ng		96
34) Tetrahydrofuran (THF)	11.91	72	3314	0.354	ng		93
35) Ethyl tert-Butyl Ether	12.03	87	6575	0.338	ng		98
36) 1,2-Dichloroethane	12.27	62	4165	0.152	ng		97
38) 1,1,1-Trichloroethane	12.55	97	4694	0.156	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	10754	0.176	ng		99
42) Carbon Tetrachloride	13.19	117	3995	0.149	ng		98
43) Cyclohexane	13.32	84	8716	0.398	ng		96
44) tert-Amyl Methyl Ether	13.68	73	15069	0.315	ng		95
45) 1,2-Dichloropropane	13.89	63	2793	0.194	ng		99
46) Bromodichloromethane	14.07	83	3905	0.159	ng		97
47) Trichloroethene	14.13	130	4499	0.253	ng		96
48) 1,4-Dioxane	14.13	88	1850	0.157	ng		90
49) 2,2,4-Trimethylpentane...	14.19	57	13903	0.226	ng		96
50) Methyl Methacrylate	14.34	100	1663	0.273	ng	#	71

Data File : I:\MS16\DATA\2022 08\20\08202203.D Vial: 14
Acq On : 20 Aug 2022 2:02 Operator: WA
Sample : 0.2ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182202 (9/15)

Quant Time: Aug 20 07:08:49 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

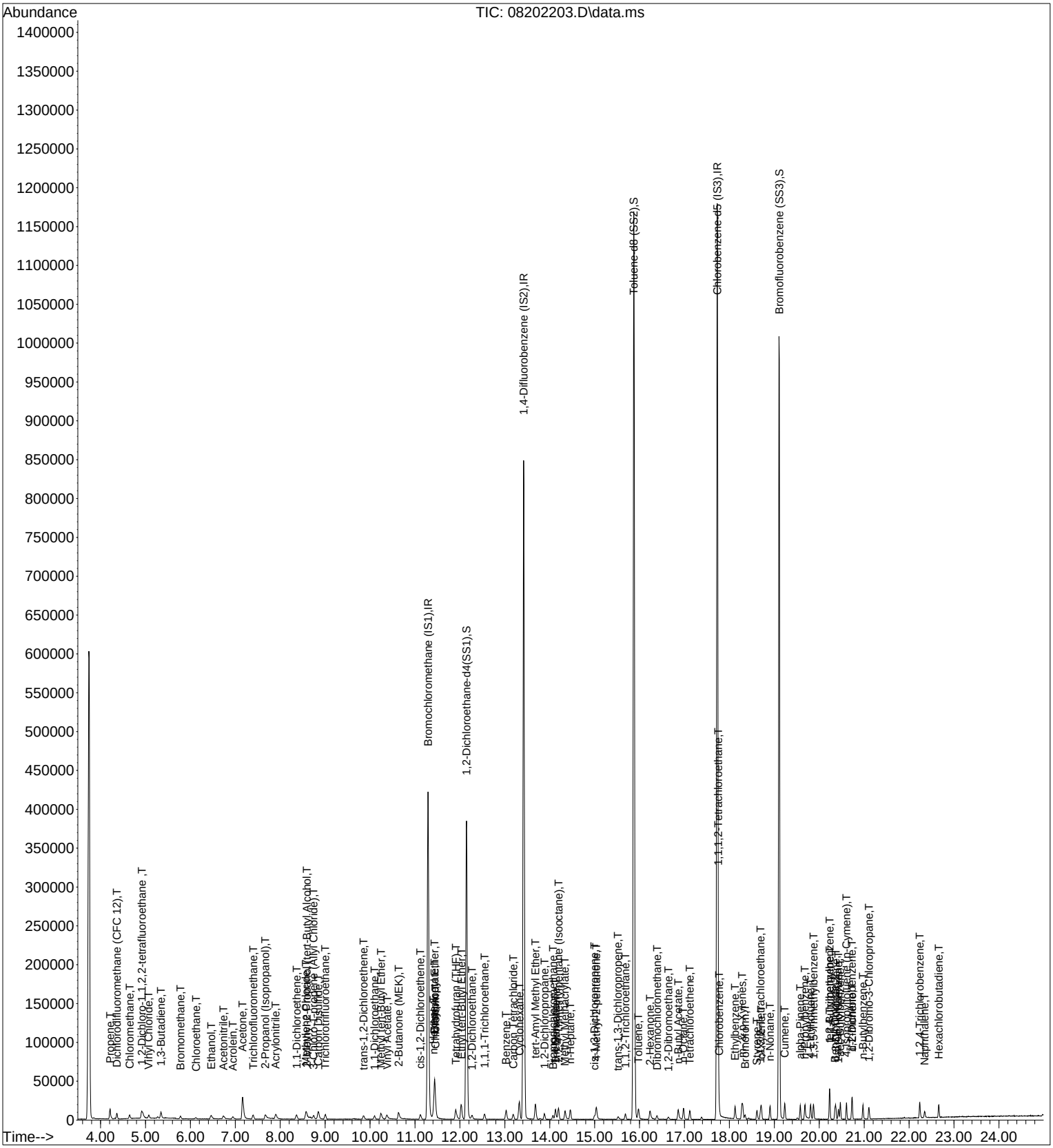
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	2690	0.198	ng		96
52) cis-1,3-Dichloropropene	15.00	75	3717	0.145	ng		98
53) 4-Methyl-2-pentanone	15.03	58	4864	0.376	ng		85
54) trans-1,3-Dichloropropene	15.52	75	2763	0.108	ng		91
55) 1,1,2-Trichloroethane	15.68	97	2677	0.174	ng		98
58) Toluene	15.98	91	12048	0.163	ng		95
59) 2-Hexanone	16.23	43	13277	0.365	ng		91
60) Dibromochloromethane	16.39	129	3474	0.148	ng		98
61) 1,2-Dibromoethane	16.64	107	2749	0.128	ng		96
62) n-Butyl Acetate	16.86	43	13208	0.326	ng		98
63) n-Octane	16.98	57	2688	0.187	ng		99
64) Tetrachloroethene	17.12	166	3801	0.171	ng		98
65) Chlorobenzene	17.77	112	8094	0.166	ng		95
66) Ethylbenzene	18.13	91	12614	0.145	ng		98
67) m- & p-Xylenes	18.28	91	19534	0.270	ng		97
68) Bromoform	18.35	173	2946	0.143	ng		98
69) Styrene	18.61	104	6538	0.131	ng		99
70) o-Xylene	18.71	91	9829	0.137	ng		99
71) n-Nonane	18.90	43	7019	0.208	ng		94
72) 1,1,2,2-Tetrachloroethane	18.69	83	4522	0.148	ng		95
74) Cumene	19.23	105	13440	0.159	ng		100
75) alpha-Pinene	19.58	93	6179	0.138	ng		84
76) n-Propylbenzene	19.68	91	14629	0.141	ng		92
77) 3-Ethyltoluene	0.00	105	0	N.D.			
78) 4-Ethyltoluene	19.81	105	12508	0.149	ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	11125	0.150	ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	0.00	105	0	N.D.			
82) 1,2,4-Trimethylbenzene	20.23	105	10160	0.138	ng		100
83) n-Decane	20.22	58	237	No Calib		#	
84) Benzyl Chloride	20.35	91	9440	0.154	ng		92
85) 1,3-Dichlorobenzene	20.37	146	6471	0.155	ng		97
86) 1,4-Dichlorobenzene	20.42	146	6579	0.156	ng		96
87) sec-Butylbenzene	20.47	105	13988	0.145	ng		98
88) 4-Isopropyltoluene (p-...	20.61	119	11911	0.141	ng		99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.			
90) 1,2-Dichlorobenzene	20.73	146	6341	0.153	ng		100
91) d-Limonene	20.73	68	3325	0.136	ng		97
92) 1,2-Dibromo-3-Chloropr...	21.11	157	4344	0.279	ng	#	84
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.24	180	7770	0.261	ng		98
95) Naphthalene	22.34	128	8937	0.109	ng		93
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	3518	0.149	ng		97
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	20.23	119	11214	0.161	ng		99
100) n-Butylbenzene	20.97	91	10107	0.129	ng		96
101) 1,1,1,2-Tetrachloroethane	17.75	131	3111	0.160	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202203.D Vial: 14
Acq On : 20 Aug 2022 2:02 Operator: WA
Sample : 0.2ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182202 (9/15)

Quant Time: Aug 20 07:08:49 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202214.D Vial: 15
Acq On : 20 Aug 2022 8:20 Operator: WA
Sample : 0.5ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 09:01:15 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:19:39 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	200072	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	881582	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	184652	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	325717	12.184	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
57) Toluene-d8 (SS2)	15.87	98	954915	13.476	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
73) Bromofluorobenzene (SS3)	19.11	174	345996	13.042	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
Target Compounds							Qvalue
2) Propene	4.21	42	11655	0.413	ng		98
3) Dichlorodifluoromethan...	4.37	85	18351	0.555	ng		100
4) Chloromethane	4.65	50	16330	0.559	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	12064	0.578	ng		97
6) Vinyl Chloride	5.08	62	16121	0.521	ng		100
7) 1,3-Butadiene	5.35	54	12733	0.497	ng		94
8) Bromomethane	5.78	94	7098	0.510	ng		98
9) Chloroethane	6.12	64	6427	0.532	ng		98
10) Ethanol	6.45	45	27614	1.709	ng		95
11) Acetonitrile	6.73	41	17675	0.419	ng		94
12) Acrolein	6.94	56	11631	0.919	ng		99
13) Acetone	7.15	58	36969	2.386	ng		99
14) Trichlorofluoromethane	7.40	101	16763	0.548	ng		100
15) 2-Propanol (Isopropanol)	7.64	45	50694	1.090	ng		90
16) Acrylonitrile	7.90	53	24461	0.939	ng		99
17) 1,1-Dichloroethene	8.36	96	8508	0.546	ng		98
18) 2-Methyl-2-Propanol (t...	8.56	59	45742	1.134	ng		95
19) Methylene Chloride	8.57	84	8536	0.523	ng		92
20) 3-Chloro-1-propene (Al...	8.74	41	13106	0.460	ng		98
21) Trichlorotrifluoroethane	9.00	151	9047	0.572	ng		97
22) Carbon Disulfide	8.85	76	59251	1.024	ng		99
23) trans-1,2-Dichloroethene	9.85	61	12355	0.533	ng		98
24) 1,1-Dichloroethane	10.10	63	15521	0.527	ng		99
25) Methyl tert-Butyl Ether	10.23	73	25352	0.520	ng		99
26) Vinyl Acetate	10.37	86	3860	0.903	ng	#	93
27) 2-Butanone (MEK)	10.62	72	10708	0.958	ng	#	88
28) cis-1,2-Dichloroethene	11.12	61	12349	0.499	ng		96
29) Diisopropyl Ether	11.43	87	16943	1.010	ng	#	67
30) Ethyl Acetate	11.43	61	14066	1.638	ng		95
31) n-Hexane	11.42	57	16779	0.464	ng		99
32) Chloroform	11.47	83	15369	0.534	ng		99
34) Tetrahydrofuran (THF)	11.89	72	10219	0.945	ng	#	90
35) Ethyl tert-Butyl Ether	12.02	87	20868	0.962	ng		94
36) 1,2-Dichloroethane	12.27	62	13313	0.554	ng		98
38) 1,1,1-Trichloroethane	12.55	97	14625	0.538	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	33250	0.521	ng		99
42) Carbon Tetrachloride	13.19	117	12694	0.536	ng		98
43) Cyclohexane	13.32	84	27391	1.001	ng		92
44) tert-Amyl Methyl Ether	13.68	73	45188	0.919	ng		99
45) 1,2-Dichloropropane	13.88	63	8995	0.520	ng		98
46) Bromodichloromethane	14.07	83	11825	0.509	ng		98
47) Trichloroethene	14.13	130	10332	0.462	ng		97
48) 1,4-Dioxane	14.12	88	6783	0.516	ng		96
49) 2,2,4-Trimethylpentane...	14.19	57	41100	0.499	ng		97
50) Methyl Methacrylate	14.34	100	6844	0.866	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202214.D Vial: 15
Acq On : 20 Aug 2022 8:20 Operator: WA
Sample : 0.5ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 09:01:15 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:19:39 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

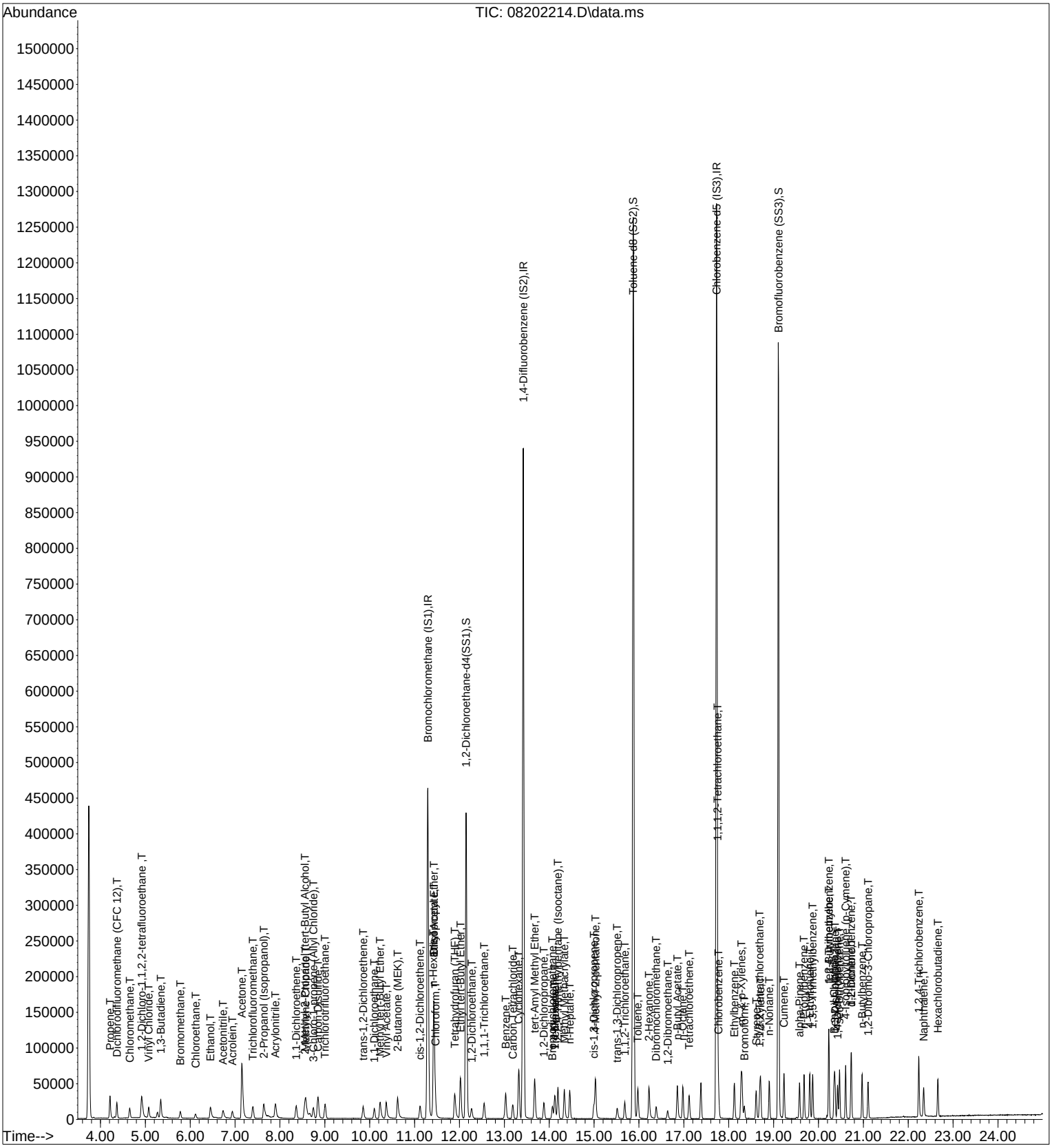
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	9210	0.515	ng		96
52) cis-1,3-Dichloropropene	15.00	75	12082	0.492	ng		100
53) 4-Methyl-2-pentanone	15.03	58	16404	0.934	ng		97
54) trans-1,3-Dichloropropene	15.51	75	9938	0.400	ng		99
55) 1,1,2-Trichloroethane	15.68	97	8298	0.516	ng		98
58) Toluene	15.98	91	35893	0.568	ng		99
59) 2-Hexanone	16.22	43	43355	1.047	ng		99
60) Dibromochloromethane	16.38	129	10661	0.584	ng		99
61) 1,2-Dibromoethane	16.64	107	9590	0.591	ng		98
62) n-Butyl Acetate	16.86	43	44001	0.963	ng		97
63) n-Octane	16.98	57	8549	0.551	ng		96
64) Tetrachloroethene	17.12	166	11524	0.595	ng		98
65) Chlorobenzene	17.77	112	25241	0.572	ng		99
66) Ethylbenzene	18.13	91	39851	0.556	ng		99
67) m- & p-Xylenes	18.28	91	63737	1.119	ng		97
68) Bromoform	18.35	173	9035	0.549	ng		98
69) Styrene	18.61	104	21827	0.524	ng		99
70) o-Xylene	18.71	91	31527	0.554	ng		99
71) n-Nonane	18.90	43	19859	0.488	ng		98
72) 1,1,2,2-Tetrachloroethane	18.69	83	13534	0.524	ng		100
74) Cumene	19.23	105	43084	0.568	ng		99
75) alpha-Pinene	19.58	93	17645	0.493	ng		84
76) n-Propylbenzene	19.68	91	49013	0.568	ng		99
77) 3-Ethyltoluene	0.00	105	0	N.D.			
78) 4-Ethyltoluene	19.81	105	40605	0.558	ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	34779	0.554	ng		99
80) alpha-Methylstyrene	20.47	118	158	No Calib		#	
81) 2-Ethyltoluene	0.00	105	0	N.D.			
82) 1,2,4-Trimethylbenzene	20.23	105	33134	0.510	ng		98
83) n-Decane	20.23	58	1607	No Calib		#	
84) Benzyl Chloride	20.35	91	34444	0.750	ng		100
85) 1,3-Dichlorobenzene	20.37	146	21159	0.558	ng		99
86) 1,4-Dichlorobenzene	20.42	146	21401	0.573	ng		99
87) sec-Butylbenzene	20.47	105	45636	0.543	ng		98
88) 4-Isopropyltoluene (p-...	20.61	119	41169	0.559	ng		98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.			
90) 1,2-Dichlorobenzene	20.73	146	21028	0.576	ng		100
91) d-Limonene	20.73	68	10865	0.437	ng		93
92) 1,2-Dibromo-3-Chloropr...	21.11	157	14666	1.043	ng		93
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.24	180	30046	1.115	ng		99
95) Naphthalene	22.34	128	40164	0.549	ng		98
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	10917	0.555	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	20.23	119	35626	0.547	ng		99
100) n-Butylbenzene	20.97	91	34443	0.545	ng		99
101) 1,1,1,2-Tetrachloroethane	17.75	131	9962	0.584	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202214.D Vial: 15
Acq On : 20 Aug 2022 8:20 Operator: WA
Sample : 0.5ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 09:01:15 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:19:39 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202205.D Vial: 15
Acq On : 20 Aug 2022 3:11 Operator: WA
Sample : 1.0ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 07:08:53 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 8/20/22
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	172674	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	758667	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	169287	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	285358	10.340	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.72%				
57) Toluene-d8 (SS2)	15.87	98	840176	10.855	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.80%				
73) Bromofluorobenzene (SS3)	19.11	174	313819	13.582	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.64%				
Target Compounds							Qvalue
2) Propene	4.20	42	21675	1.134	ng		99
3) Dichlorodifluoromethan...	4.35	85	29918	0.746	ng		99
4) Chloromethane	4.63	50	29397	1.409	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	19212	1.039	ng		99
6) Vinyl Chloride	5.06	62	27122	1.095	ng		100
7) 1,3-Butadiene	5.33	54	22847	1.300	ng		96
8) Bromomethane	5.76	94	11620	0.752	ng		100
9) Chloroethane	6.10	64	11083	1.121	ng		98
10) Ethanol	6.45	45	46009	3.757	ng		99
11) Acetonitrile	6.72	41	32278	1.155	ng		98
12) Acrolein	6.93	56	20949	2.083	ng		98
13) Acetone	7.14	58	63810	6.078	ng		96
14) Trichlorofluoromethane	7.39	101	28031	0.784	ng		100
15) 2-Propanol (Isopropanol)	7.62	45	86636	2.253	ng		92
16) Acrylonitrile	7.89	53	43779	2.325	ng		100
17) 1,1-Dichloroethene	8.35	96	14477	0.957	ng		98
18) 2-Methyl-2-Propanol (t...	8.52	59	79095	1.976	ng		94
19) Methylene Chloride	8.56	84	14801	0.916	ng		96
20) 3-Chloro-1-propene (Al...	8.74	41	24458	1.043	ng		100
21) Trichlorotrifluoroethane	9.00	151	15358	1.002	ng		95
22) Carbon Disulfide	8.84	76	100248	1.595	ng		99
23) trans-1,2-Dichloroethene	9.84	61	21839	0.883	ng		98
24) 1,1-Dichloroethane	10.10	63	27237	0.974	ng		99
25) Methyl tert-Butyl Ether	10.22	73	43176	0.826	ng		99
26) Vinyl Acetate	10.36	86	7096	2.565	ng	#	95
27) 2-Butanone (MEK)	10.61	72	19092	1.994	ng		95
28) cis-1,2-Dichloroethene	11.12	61	21310	0.934	ng		99
29) Diisopropyl Ether	11.42	87	28757	2.366	ng	#	81
30) Ethyl Acetate	11.43	61	25845	4.217	ng		100
31) n-Hexane	11.41	57	29606	1.292	ng		99
32) Chloroform	11.46	83	25729	0.831	ng		98
34) Tetrahydrofuran (THF)	11.88	72	17206	1.869	ng		98
35) Ethyl tert-Butyl Ether	12.02	87	35690	1.866	ng		96
36) 1,2-Dichloroethane	12.27	62	21999	0.819	ng		98
38) 1,1,1-Trichloroethane	12.55	97	24822	0.835	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	56001	0.927	ng		99
42) Carbon Tetrachloride	13.19	117	21062	0.798	ng		99
43) Cyclohexane	13.32	84	45755	2.117	ng		98
44) tert-Amyl Methyl Ether	13.67	73	77133	1.632	ng		98
45) 1,2-Dichloropropane	13.88	63	15311	1.080	ng		98
46) Bromodichloromethane	14.07	83	20851	0.863	ng		99
47) Trichloroethene	14.13	130	17287	0.987	ng		100
48) 1,4-Dioxane	14.11	88	11364	0.977	ng		98
49) 2,2,4-Trimethylpentane...	14.19	57	71406	1.179	ng		96
50) Methyl Methacrylate	14.34	100	12182	2.027	ng		95

Data File : I:\MS16\DATA\2022 08\20\08202205.D Vial: 15
Acq On : 20 Aug 2022 3:11 Operator: WA
Sample : 1.0ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 07:08:53 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

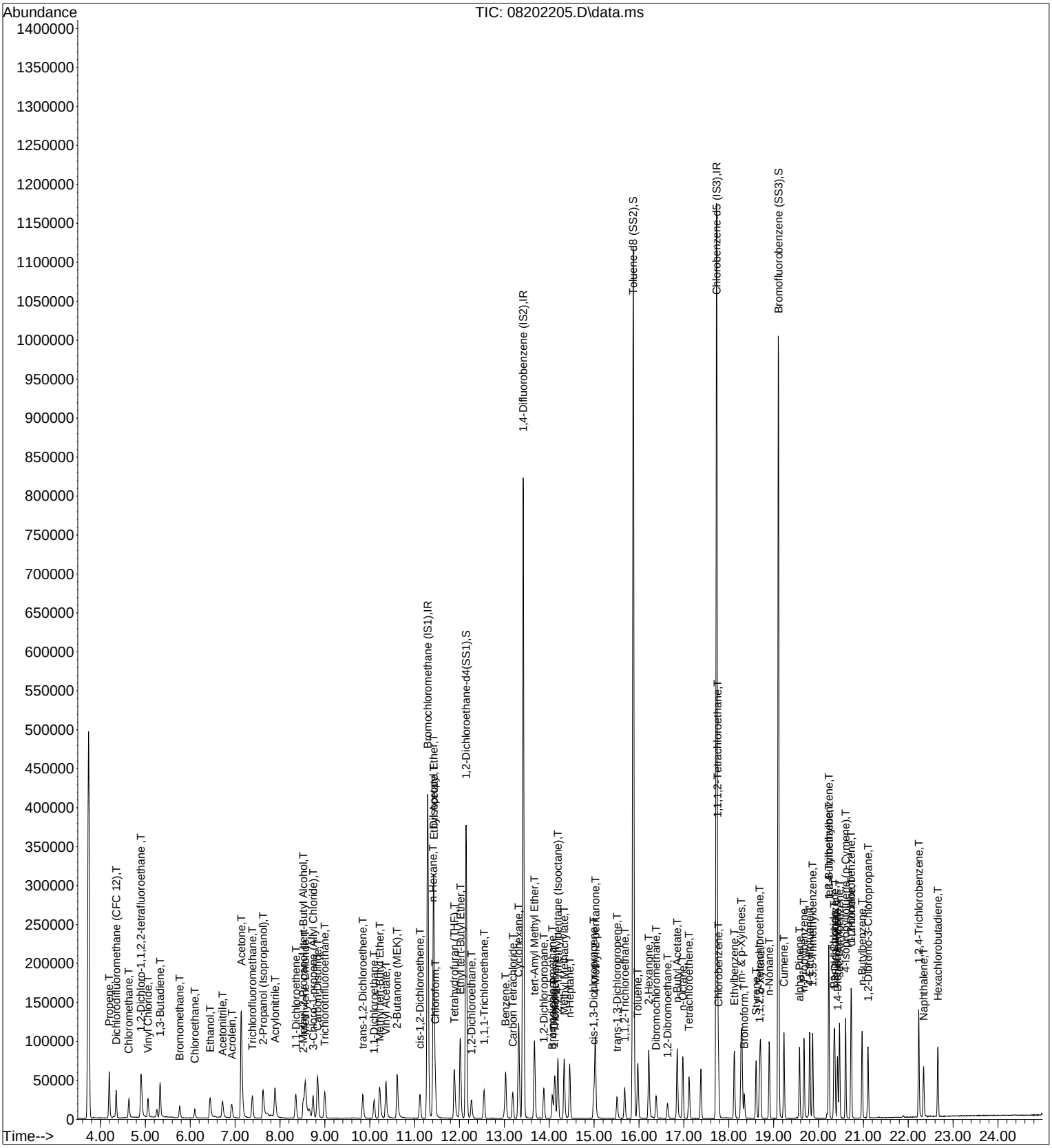
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	15529	1.160 ng	97
52) cis-1,3-Dichloropropene	14.99	75	21115	0.834 ng	99
53) 4-Methyl-2-pentanone	15.03	58	29254	2.291 ng	94
54) trans-1,3-Dichloropropene	15.51	75	17666	0.697 ng	100
55) 1,1,2-Trichloroethane	15.68	97	13879	0.917 ng	99
58) Toluene	15.98	91	60061	0.832 ng	98
59) 2-Hexanone	16.22	43	78763	2.214 ng	97
60) Dibromochloromethane	16.38	129	18196	0.792 ng	99
61) 1,2-Dibromoethane	16.63	107	16062	0.765 ng	99
62) n-Butyl Acetate	16.85	43	81629	2.057 ng	99
63) n-Octane	16.98	57	14419	1.024 ng	95
64) Tetrachloroethene	17.11	166	18864	0.868 ng	98
65) Chlorobenzene	17.77	112	41768	0.875 ng	99
66) Ethylbenzene	18.13	91	66194	0.779 ng	100
67) m- & p-Xylenes	18.28	91	106803	1.510 ng	98
68) Bromoform	18.35	173	15514	0.770 ng	98
69) Styrene	18.61	104	38417	0.787 ng	99
70) o-Xylene	18.71	91	52910	0.752 ng	99
71) n-Nonane	18.90	43	37307	1.131 ng	98
72) 1,1,2,2-Tetrachloroethane	18.69	83	24666	0.827 ng	99
74) Cumene	19.23	105	72186	0.871 ng	99
75) alpha-Pinene	19.58	93	31668	0.723 ng	91
76) n-Propylbenzene	19.68	91	83430	0.822 ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.80	105	69349	0.846 ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	57811	0.795 ng	100
80) alpha-Methylstyrene	20.47	118	229	No Calib #	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	56889	0.788 ng	99
83) n-Decane	20.23	58	3095	No Calib #	
84) Benzyl Chloride	20.35	91	62325	1.040 ng	99
85) 1,3-Dichlorobenzene	20.36	146	35211	0.860 ng	99
86) 1,4-Dichlorobenzene	20.42	146	33957	0.821 ng	100
87) sec-Butylbenzene	20.47	105	78922	0.837 ng	98
88) 4-Isopropyltoluene (p-...	20.61	119	68681	0.828 ng	98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	20.73	146	33902	0.836 ng	99
91) d-Limonene	20.73	68	19995	0.833 ng	94
92) 1,2-Dibromo-3-Chloropr...	21.11	157	25008	1.638 ng	92
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.23	180	46130	1.582 ng	99
95) Naphthalene	22.34	128	56975	0.710 ng	98
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.66	225	18033	0.779 ng	98
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	20.23	119	61287	0.898 ng	99
100) n-Butylbenzene	20.97	91	58829	0.766 ng	98
101) 1,1,1,2-Tetrachloroethane	17.75	131	16451	0.861 ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202205.D Vial: 15
Acq On : 20 Aug 2022 3:11 Operator: WA
Sample : 1.0ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 07:08:53 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202206.D Vial: 15
Acq On : 20 Aug 2022 3:45 Operator: WA
Sample : 5.0ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 07:14:57 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022 8/20/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	173347	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	764872	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	175939	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	288683	10.419	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.36%				
57) Toluene-d8 (SS2)	15.87	98	856579	10.648	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.20%				
73) Bromofluorobenzene (SS3)	19.11	174	318112	13.248	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%				
Target Compounds							Qvalue
2) Propene	4.17	42	127893	6.665	ng		99
3) Dichlorodifluoromethan...	4.34	85	146360	3.635	ng		100
4) Chloromethane	4.62	50	123768	5.908	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.89	135	92227	4.970	ng		100
6) Vinyl Chloride	5.05	62	134728	5.420	ng		99
7) 1,3-Butadiene	5.32	54	116259	6.588	ng		100
8) Bromomethane	5.76	94	64919	4.183	ng		98
9) Chloroethane	6.10	64	54072	5.450	ng		100
10) Ethanol	6.46	45	230229	18.729	ng		100
11) Acetonitrile	6.72	41	159098	5.673	ng		97
12) Acrolein	6.92	56	101707	10.075	ng		100
13) Acetone	7.13	58	314918	29.880	ng		98
14) Trichlorofluoromethane	7.39	101	132562	3.691	ng		99
15) 2-Propanol (Isopropanol)	7.62	45	366710	9.498	ng		96
16) Acrylonitrile	7.89	53	224115	11.854	ng		100
17) 1,1-Dichloroethene	8.35	96	70272	4.627	ng		100
18) 2-Methyl-2-Propanol (t...	8.50	59	353908	8.807	ng		97
19) Methylene Chloride	8.57	84	70141	4.323	ng		100
20) 3-Chloro-1-propene (Al...	8.74	41	124207	5.275	ng		99
21) Trichlorotrifluoroethane	9.00	151	71270	4.630	ng		98
22) Carbon Disulfide	8.84	76	493833	7.825	ng		100
23) trans-1,2-Dichloroethene	9.85	61	109286	4.402	ng		100
24) 1,1-Dichloroethane	10.10	63	133160	4.742	ng		100
25) Methyl tert-Butyl Ether	10.21	73	221930	4.227	ng		99
26) Vinyl Acetate	10.36	86	42131	15.169	ng	#	93
27) 2-Butanone (MEK)	10.60	72	99907	10.394	ng		95
28) cis-1,2-Dichloroethene	11.12	61	105325	4.599	ng		99
29) Diisopropyl Ether	11.42	87	151701	12.434	ng	#	86
30) Ethyl Acetate	11.42	61	141401	22.983	ng		99
31) n-Hexane	11.41	57	157587	6.849	ng		99
32) Chloroform	11.47	83	127993	4.116	ng		99
34) Tetrahydrofuran (THF)	11.87	72	88692	9.599	ng		97
35) Ethyl tert-Butyl Ether	12.02	87	184177	9.590	ng		96
36) 1,2-Dichloroethane	12.27	62	109706	4.066	ng		100
38) 1,1,1-Trichloroethane	12.55	97	118074	3.940	ng		100
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	279030	4.582	ng		100
42) Carbon Tetrachloride	13.19	117	103382	3.883	ng		100
43) Cyclohexane	13.32	84	236596	10.858	ng		98
44) tert-Amyl Methyl Ether	13.67	73	406793	8.537	ng		99
45) 1,2-Dichloropropane	13.88	63	76045	5.319	ng		100
46) Bromodichloromethane	14.07	83	102161	4.195	ng		100
47) Trichloroethene	14.13	130	85948	4.866	ng		100
48) 1,4-Dioxane	14.10	88	59953	5.111	ng		97
49) 2,2,4-Trimethylpentane...	14.19	57	368445	6.033	ng		99
50) Methyl Methacrylate	14.33	100	65591	10.826	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202206.D Vial: 15
Acq On : 20 Aug 2022 3:45 Operator: WA
Sample : 5.0ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 07:14:57 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

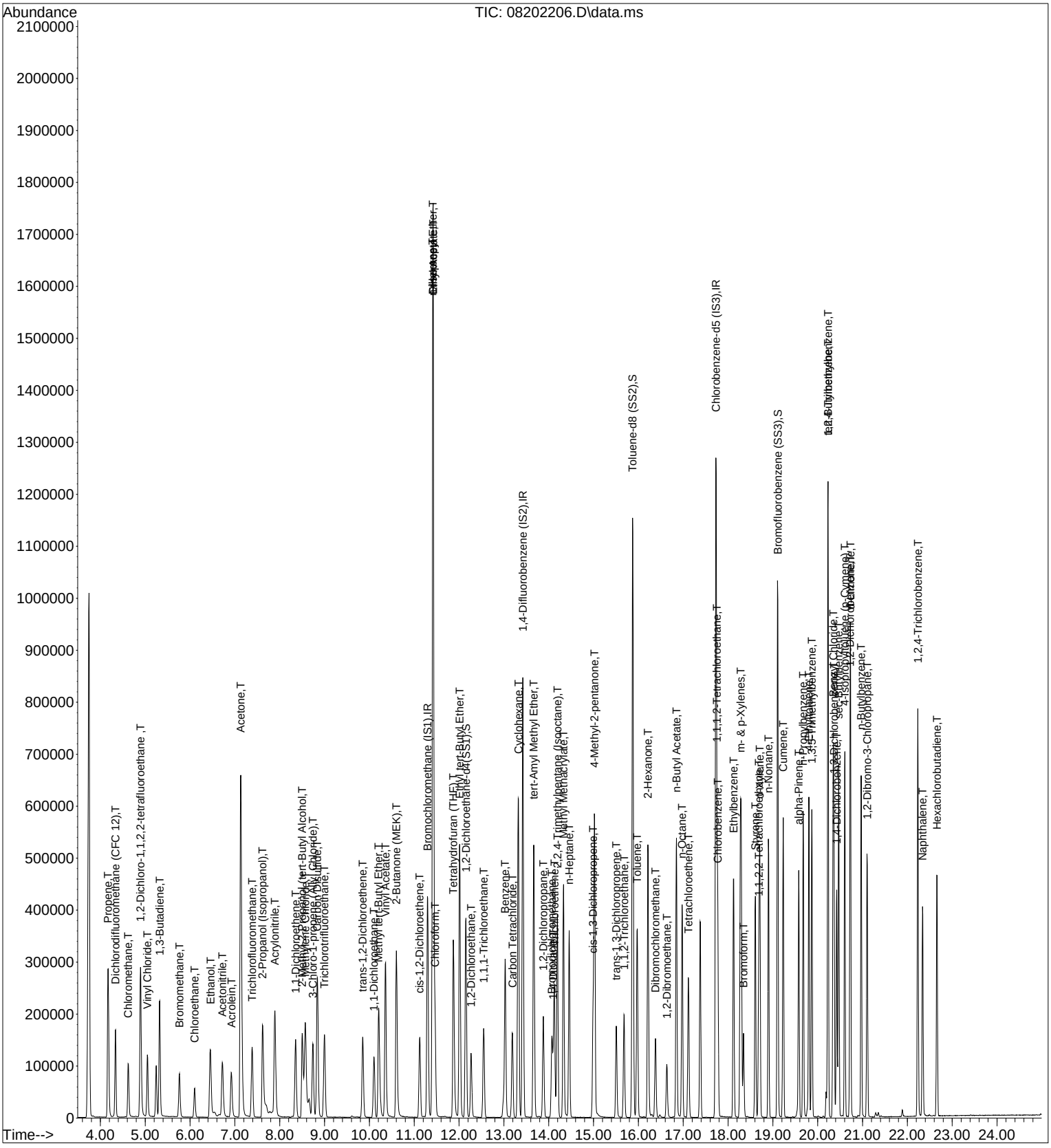
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	79648	5.899	ng	99
52) cis-1,3-Dichloropropene	14.99	75	115143	4.509	ng	100
53) 4-Methyl-2-pentanone	15.02	58	158700	12.329	ng	98
54) trans-1,3-Dichloropropene	15.51	75	101440	3.968	ng	100
55) 1,1,2-Trichloroethane	15.68	97	70954	4.649	ng	99
58) Toluene	15.98	91	302167	4.026	ng	99
59) 2-Hexanone	16.21	43	434078	11.738	ng	99
60) Dibromochloromethane	16.38	129	92490	3.875	ng	99
61) 1,2-Dibromoethane	16.63	107	82135	3.762	ng	99
62) n-Butyl Acetate	16.85	43	468770	11.368	ng	99
63) n-Octane	16.98	57	77090	5.269	ng	98
64) Tetrachloroethene	17.12	166	92275	4.085	ng	99
65) Chlorobenzene	17.77	112	210648	4.244	ng	100
66) Ethylbenzene	18.13	91	348482	3.945	ng	100
67) m- & p-Xylenes	18.28	91	544654	7.408	ng	100
68) Bromoform	18.35	173	81493	3.893	ng	99
69) Styrene	18.61	104	209576	4.129	ng	99
70) o-Xylene	18.71	91	278788	3.811	ng	99
71) n-Nonane	18.90	43	203518	5.935	ng	98
72) 1,1,2,2-Tetrachloroethane	18.69	83	127117	4.100	ng	99
74) Cumene	19.23	105	377601	4.383	ng	100
75) alpha-Pinene	19.58	93	172089	3.782	ng	94
76) n-Propylbenzene	19.68	91	441737	4.190	ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.80	105	371696	4.362	ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	305839	4.045	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.23	105	319084	4.252	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	408927	6.568	ng	99
85) 1,3-Dichlorobenzene	20.36	146	183804	4.320	ng	100
86) 1,4-Dichlorobenzene	20.42	146	177830	4.136	ng	100
87) sec-Butylbenzene	20.47	105	428602	4.374	ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	377230	4.376	ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.72	146	180126	4.273	ng	100
91) d-Limonene	20.73	68	121882	4.886	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	139041	8.762	ng	94
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.23	180	251000	8.283	ng	100
95) Naphthalene	22.34	128	327310	3.922	ng	100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	93422	3.883	ng	99
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.23	119	329910	4.650	ng	100
100) n-Butylbenzene	20.97	91	331794	4.156	ng	99
101) 1,1,1,2-Tetrachloroethane	17.75	131	84131	4.238	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202206.D Vial: 15
Acq On : 20 Aug 2022 3:45 Operator: WA
Sample : 5.0ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 07:14:57 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202207.D Vial: 16
Acq On : 20 Aug 2022 4:20 Operator: WA
Sample : 25ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:15:39 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	182748	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	809929	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	202504	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.16	65	310094	10.616	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.96%			
57) Toluene-d8 (SS2)	15.88	98	934032	10.088	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.72%			
73) Bromofluorobenzene (SS3)	19.11	174	350824	12.693	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%			
Target Compounds						Qvalue
2) Propene	4.17	42	663630	32.806	ng	100
3) Dichlorodifluoromethan...	4.34	85	794706	18.721	ng	100
4) Chloromethane	4.63	50	745026	33.736	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.89	135	496316	25.370	ng	100
6) Vinyl Chloride	5.06	62	721308	27.527	ng	100
7) 1,3-Butadiene	5.33	54	680647	36.587	ng	100
8) Bromomethane	5.77	94	312959	19.129	ng	100
9) Chloroethane	6.12	64	295573	28.257	ng	100
10) Ethanol	6.49	45	1364059	105.256	ng	100
11) Acetonitrile	6.75	41	880137	29.768	ng	100
12) Acrolein	6.93	56	597836	56.173	ng	100
13) Acetone	7.15	58	1951766	175.659	ng	100
14) Trichlorofluoromethane	7.40	101	723260	19.103	ng	100
15) 2-Propanol (Isopropanol)	7.64	45	2454465	60.299	ng	100
16) Acrylonitrile	7.91	53	1355198	67.994	ng	100
17) 1,1-Dichloroethene	8.36	96	397853	24.847	ng	100
18) 2-Methyl-2-Propanol (t...	8.52	59	2509017	59.228	ng	100
19) Methylene Chloride	8.59	84	398226	23.283	ng	100
20) 3-Chloro-1-propene (Al...	8.75	41	776215	31.271	ng	100
21) Trichlorotrifluoroethane	9.00	151	392744	24.204	ng	100
22) Carbon Disulfide	8.85	76	2980263	44.797	ng	100
23) trans-1,2-Dichloroethene	9.87	61	626569	23.940	ng	100
24) 1,1-Dichloroethane	10.11	63	743134	25.101	ng	100
25) Methyl tert-Butyl Ether	10.21	73	1302238	23.528	ng	100
26) Vinyl Acetate	10.37	86	297792	101.704	ng	100
27) 2-Butanone (MEK)	10.61	72	619227	61.106	ng	100
28) cis-1,2-Dichloroethene	11.13	61	610304	25.279	ng	100
29) Diisopropyl Ether	11.43	87	1019032	79.230	ng	100
30) Ethyl Acetate	11.43	61	1048847	161.707	ng	100
31) n-Hexane	11.42	57	1107177	45.642	ng	100
32) Chloroform	11.48	83	740008	22.572	ng	100
34) Tetrahydrofuran (THF)	11.88	72	533850	54.804	ng	100
35) Ethyl tert-Butyl Ether	12.02	87	1196667	59.106	ng	100
36) 1,2-Dichloroethane	12.27	62	630321	22.161	ng	100
38) 1,1,1-Trichloroethane	12.55	97	667166	21.024	ng	100
39) Isopropyl Acetate	0.00	61	0	N.D. d		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.03	78	1652808	25.630	ng	100
42) Carbon Tetrachloride	13.20	117	590091	20.930	ng	100
43) Cyclohexane	13.32	84	1444322	62.598	ng	100
44) tert-Amyl Methyl Ether	13.67	73	2782585	55.146	ng	100
45) 1,2-Dichloropropane	13.89	63	443498	29.296	ng	100
46) Bromodichloromethane	14.07	83	598942	23.225	ng	100
47) Trichloroethene	14.13	130	493792	26.400	ng	100
48) 1,4-Dioxane	14.10	88	359335	28.932	ng	100
49) 2,2,4-Trimethylpentane...	14.20	57	2194059	33.927	ng	100
50) Methyl Methacrylate	14.33	100	422622	65.874	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202207.D Vial: 16
Acq On : 20 Aug 2022 4:20 Operator: WA
Sample : 25ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:15:39 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

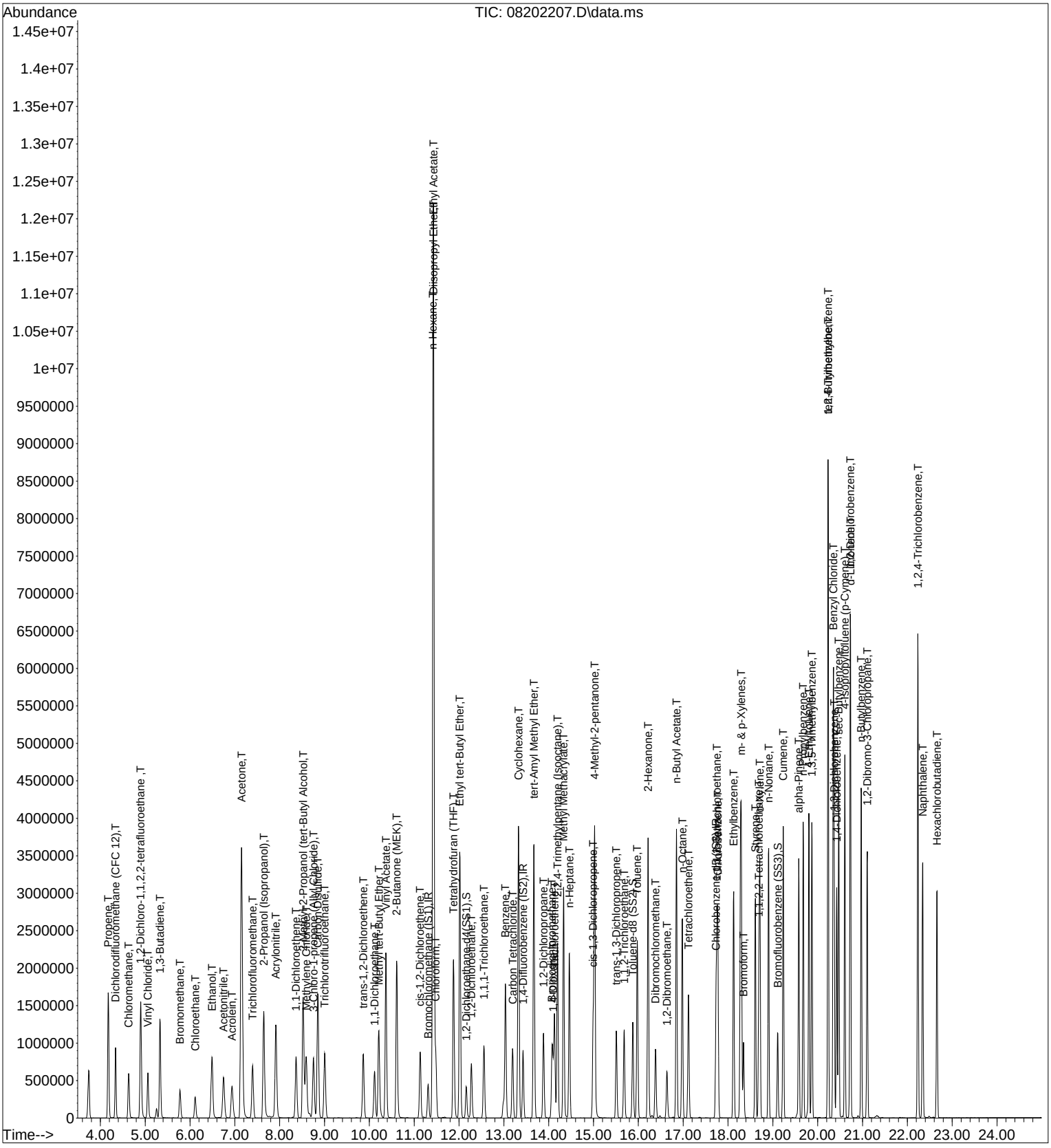
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	490278	34.294 ng	100
52) cis-1,3-Dichloropropene	14.99	75	720901	26.663 ng	100
53) 4-Methyl-2-pentanone	15.02	58	1063065	77.991 ng	100
54) trans-1,3-Dichloropropene	15.51	75	650253	24.024 ng	100
55) 1,1,2-Trichloroethane	15.68	97	413033	25.556 ng	100
58) Toluene	15.98	91	1875891	21.714 ng	100
59) 2-Hexanone	16.22	43	2950934	69.331 ng	100
60) Dibromochloromethane	16.38	129	554657	20.188 ng	100
61) 1,2-Dibromoethane	16.64	107	494988	19.700 ng	100
62) n-Butyl Acetate	16.85	43	3192515	67.267 ng	100
63) n-Octane	16.98	57	507027	30.110 ng	100
64) Tetrachloroethene	17.12	166	546097	21.002 ng	100
65) Chlorobenzene	17.77	112	1301232	22.776 ng	100
66) Ethylbenzene	18.13	91	2218457	21.819 ng	100
67) m- & p-Xylenes	18.29	91	3631255	42.910 ng	100
68) Bromoform	18.35	173	512880	21.286 ng	100
69) Styrene	18.61	104	1423500	24.366 ng	100
70) o-Xylene	18.71	91	1830410	21.736 ng	100
71) n-Nonane	18.91	43	1368408	34.672 ng	100
72) 1,1,2,2-Tetrachloroethane	18.69	83	832851	23.338 ng	100
74) Cumene	19.23	105	2463688	24.845 ng	100
75) alpha-Pinene	19.58	93	1258213	24.023 ng	100
76) n-Propylbenzene	19.68	91	2945201	24.270 ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.80	105	2517186	25.663 ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	2046246	23.513 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.23	105	2275504	26.346 ng	100
83) n-Decane	0.00	58	0	N.D. d	
84) Benzyl Chloride	20.35	91	3481634	48.582 ng	100
85) 1,3-Dichlorobenzene	20.37	146	1277900	26.095 ng	100
86) 1,4-Dichlorobenzene	20.42	146	1222757	24.711 ng	100
87) sec-Butylbenzene	20.47	105	2857628	25.335 ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	2543174	25.632 ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.73	146	1259734	25.963 ng	100
91) d-Limonene	20.73	68	884376	30.801 ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	972044	53.222 ng	100
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.23	180	1975446	56.641 ng	100
95) Naphthalene	22.34	128	2662319	27.719 ng	100
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.66	225	593089	21.420 ng	100
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.23	119	2297958	28.141 ng	100
100) n-Butylbenzene	20.97	91	2228812	24.256 ng	100
101) 1,1,1,2-Tetrachloroethane	17.75	131	502688	22.000 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202207.D Vial: 16
Acq On : 20 Aug 2022 4:20 Operator: WA
Sample : 25ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:15:39 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202215.D Vial: 2
Acq On : 20 Aug 2022 8:54 Operator: WA
Sample : 25ng R16082022 ICV Inst : GCMS-16
Misc : S35-08012201/S35-08172204 (9/16)

Quant Time: Aug 20 10:47:36 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	212523	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.43	114	931848	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	220965	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	349223	12.337	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.88	98	1046244	12.281	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
73) Bromofluorobenzene (SS3)	19.11	174	394161	12.382	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
Target Compounds							Qvalue
2) Propene	4.18	42	749622	25.395	ng		99
3) Dichlorodifluoromethan...	4.34	85	902325	25.436	ng		100
4) Chloromethane	4.64	50	763953	24.414	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	580334	25.807	ng		100
6) Vinyl Chloride	5.06	62	809427	24.481	ng		100
7) 1,3-Butadiene	5.34	54	734805	26.865	ng		99
8) Bromomethane	5.79	94	346791	23.664	ng		99
9) Chloroethane	6.12	64	314696	24.314	ng		100
10) Ethanol	6.51	45	1735920	100.365	ng		100
11) Acetonitrile	6.76	41	882046	19.755	ng		100
12) Acrolein	6.94	56	642360	47.456	ng		100
13) Acetone	7.15	58	2119932	129.040	ng		98
14) Trichlorofluoromethane	7.40	101	809685	24.649	ng		100
15) 2-Propanol (Isopropanol)	7.65	45	2355417	46.557	ng		99
16) Acrylonitrile	7.92	53	1386179	49.909	ng		100
17) 1,1-Dichloroethene	8.37	96	436943	26.209	ng		98
18) 2-Methyl-2-Propanol (t...	8.53	59	2408241	55.487	ng		99
19) Methylene Chloride	8.60	84	434967	24.924	ng		94
20) 3-Chloro-1-propene (Al...	8.76	41	728258	23.935	ng		96
21) Trichlorotrifluoroethane	9.01	151	449837	26.434	ng		96
22) Carbon Disulfide	8.86	76	3082411	49.654	ng		100
23) trans-1,2-Dichloroethene	9.87	61	677733	27.219	ng		99
24) 1,1-Dichloroethane	10.12	63	816304	25.915	ng		100
25) Methyl tert-Butyl Ether	10.21	73	1415289	27.028	ng		98
26) Vinyl Acetate	10.38	86	572728	134.092	ng	#	84
27) 2-Butanone (MEK)	10.61	72	674589	56.723	ng	#	89
28) cis-1,2-Dichloroethene	11.14	61	662234	25.073	ng		98
29) Diisopropyl Ether	11.43	87	1154813	64.075	ng	#	48
30) Ethyl Acetate	11.43	61	788011	86.071	ng		96
31) n-Hexane	11.42	57	1201863	31.125	ng		99
32) Chloroform	11.48	83	815463	26.410	ng		100
34) Tetrahydrofuran (THF)	11.88	72	608282	52.727	ng	#	91
35) Ethyl tert-Butyl Ether	12.02	87	1348614	58.231	ng		96
36) 1,2-Dichloroethane	12.28	62	693133	26.866	ng		99
38) 1,1,1-Trichloroethane	12.56	97	763186	26.222	ng		99
39) Isopropyl Acetate	13.67	61	1305	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.04	78	1838430	27.004	ng		100
42) Carbon Tetrachloride	13.20	117	648361	25.519	ng		100
43) Cyclohexane	13.33	84	1620978	55.309	ng		96
44) tert-Amyl Methyl Ether	13.67	73	3067282	58.936	ng		98
45) 1,2-Dichloropropane	13.89	63	476099	25.783	ng		100
46) Bromodichloromethane	14.08	83	667846	27.012	ng		100
47) Trichloroethene	14.13	130	568714	24.060	ng		100
48) 1,4-Dioxane	14.10	88	402850	28.719	ng		96
49) 2,2,4-Trimethylpentane...	14.20	57	2284443	26.066	ng		100
50) Methyl Methacrylate	14.34	100	478748	56.546	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202215.D Vial: 2
Acq On : 20 Aug 2022 8:54 Operator: WA
Sample : 25ng R16082022 ICV Inst : GCMS-16
Misc : S35-08012201/S35-08172204 (9/16)

Quant Time: Aug 20 10:47:36 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

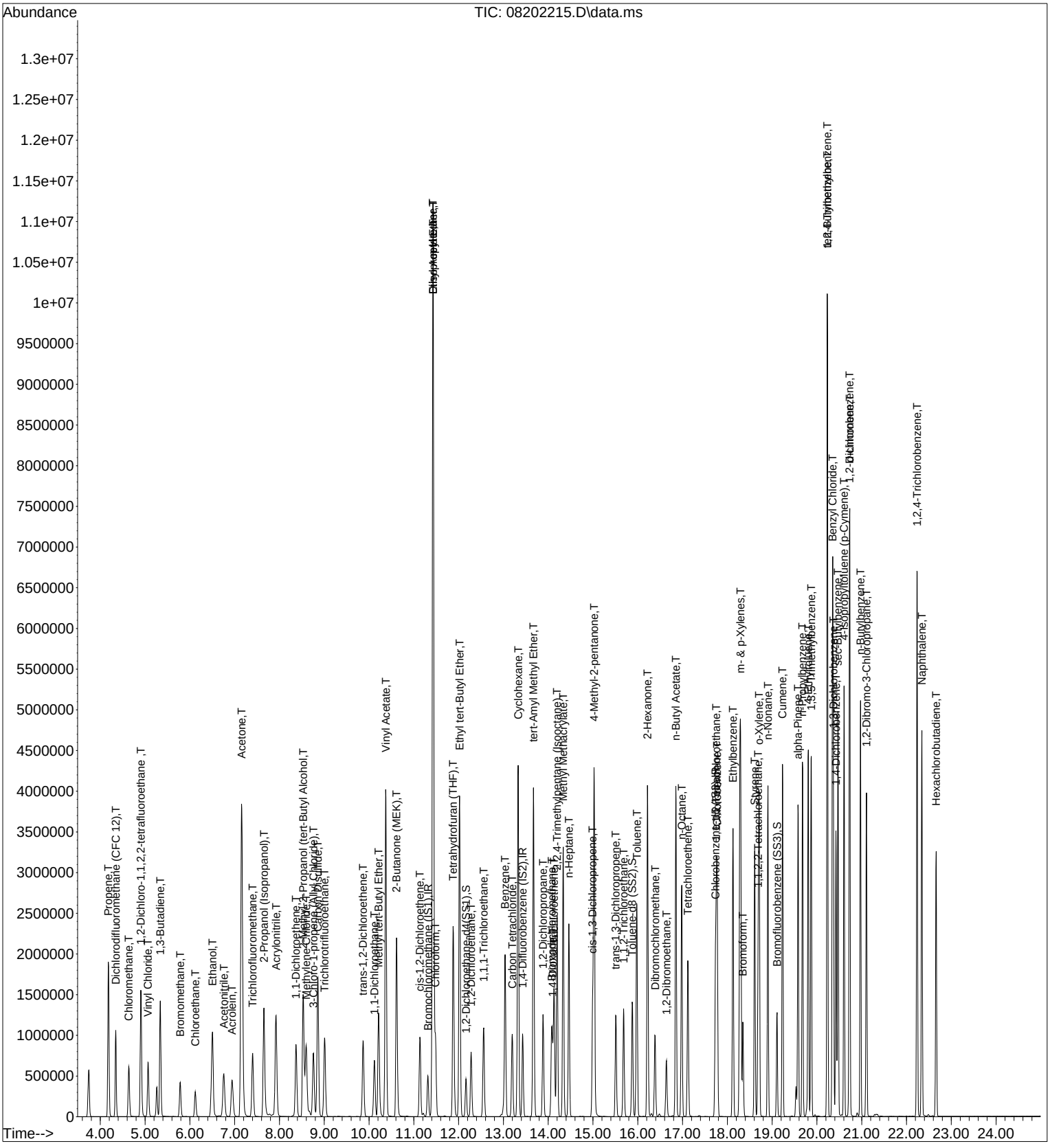
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	530553	27.613	ng		98
52) cis-1,3-Dichloropropene	14.99	75	791105	30.115	ng		100
53) 4-Methyl-2-pentanone	15.02	58	1166886	62.313	ng		95
54) trans-1,3-Dichloropropene	15.51	75	706755	26.624	ng		100
55) 1,1,2-Trichloroethane	15.68	97	457986	26.752	ng		99
58) Toluene	15.98	91	2107694	27.331	ng		100
59) 2-Hexanone	16.22	43	3116452	62.024	ng		97
60) Dibromochloromethane	16.39	129	610160	27.477	ng		100
61) 1,2-Dibromoethane	16.64	107	542398	27.224	ng		100
62) n-Butyl Acetate	16.85	43	3302933	59.747	ng		98
63) n-Octane	16.98	57	533314	28.255	ng		96
64) Tetrachloroethene	17.12	166	632995	26.754	ng		100
65) Chlorobenzene	17.77	112	1456219	27.102	ng		100
66) Ethylbenzene	18.13	91	2526585	28.872	ng		100
67) m- & p-Xylenes	18.29	91	4238884	60.873	ng		100
68) Bromoform	18.34	173	591800	29.595	ng		99
69) Styrene	18.61	104	1609046	31.639	ng		100
70) o-Xylene	18.71	91	2124027	30.566	ng		100
71) n-Nonane	18.91	43	1435043	29.194	ng		96
72) 1,1,2,2-Tetrachloroethane	18.69	83	941723	30.163	ng		100
74) Cumene	19.23	105	2800887	30.173	ng		100
75) alpha-Pinene	19.58	93	1416477	32.834	ng		99
76) n-Propylbenzene	19.68	91	3306469	31.327	ng		99
77) 3-Ethyltoluene	20.35	105	421	No Calib		#	
78) 4-Ethyltoluene	19.81	105	2842330	32.004	ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	2389638	31.200	ng		100
80) alpha-Methylstyrene	20.47	118	10293	No Calib		#	
81) 2-Ethyltoluene	20.35	105	518	No Calib		#	
82) 1,2,4-Trimethylbenzene	20.23	105	2646299	33.343	ng		99
83) n-Decane	20.23	58	119844	No Calib			
84) Benzyl Chloride	20.35	91	3958063	70.503	ng		99
85) 1,3-Dichlorobenzene	20.37	146	1486376	31.982	ng		100
86) 1,4-Dichlorobenzene	20.42	146	1417905	30.887	ng		100
87) sec-Butylbenzene	20.47	105	3252857	31.785	ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	2865609	31.742	ng		100
89) 1,2,3-Trimethylbenzene	20.35	105	518	No Calib		#	
90) 1,2-Dichlorobenzene	20.73	146	1424397	31.796	ng		100
91) d-Limonene	20.73	68	986144	32.582	ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1070016	62.354	ng		97
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.24	180	2148597	64.263	ng		100
95) Naphthalene	22.34	128	3565600	38.395	ng		100
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	633062	26.397	ng		100
98) Cyclohexanone	18.20	55	408	No Calib		#	
99) tert-Butylbenzene	20.23	119	2647098	33.262	ng		100
100) n-Butylbenzene	20.97	91	2510797	32.511	ng		99
101) 1,1,1,2-Tetrachloroethane	17.75	131	573288	27.552	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202215.D Vial: 2
Acq On : 20 Aug 2022 8:54 Operator: WA
Sample : 25ng R16082022 ICV Inst : GCMS-16
Misc : S35-08012201/S35-08172204 (9/16)

Quant Time: Aug 20 10:47:36 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202208.D Vial: 16
Acq On : 20 Aug 2022 4:54 Operator: WA
Sample : 50ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:16:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	202441	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	890862	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	228319	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	344813	10.657	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.28%				
57) Toluene-d8 (SS2)	15.88	98	1038527	9.948	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.60%				
73) Bromofluorobenzene (SS3)	19.11	174	392178	12.585	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
Target Compounds							Qvalue
2) Propene	4.17	42	1739049	77.607	ng		100
3) Dichlorodifluoromethan...	4.34	85	1764866	37.531	ng		100
4) Chloromethane	4.63	50	1474496	60.273	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	1115115	51.456	ng		100
6) Vinyl Chloride	5.07	62	1590798	54.803	ng		100
7) 1,3-Butadiene	5.33	54	1562222	75.807	ng		99
8) Bromomethane	5.78	94	710633	39.211	ng		100
9) Chloroethane	6.12	64	645675	55.722	ng		100
10) Ethanol	6.52	45	3229315	224.945	ng		100
11) Acetonitrile	6.76	41	1976191	60.337	ng		98
12) Acrolein	6.95	56	1421557	120.576	ng		100
13) Acetone	7.17	58	4630129	376.175	ng		93
14) Trichlorofluoromethane	7.40	101	1614285	38.489	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	5117444	113.492	ng		99
16) Acrylonitrile	7.93	53	3228549	146.228	ng		100
17) 1,1-Dichloroethene	8.37	96	896593	50.547	ng		100
18) 2-Methyl-2-Propanol (t...	8.54	59	4732398	100.846	ng		99
19) Methylene Chloride	8.60	84	900863	47.547	ng		99
20) 3-Chloro-1-propene (Al...	8.76	41	1827879	66.475	ng		100
21) Trichlorotrifluoroethane	9.01	151	877802	48.835	ng		100
22) Carbon Disulfide	8.85	76	7003461	95.030	ng		100
23) trans-1,2-Dichloroethene	9.87	61	1417970	48.908	ng		99
24) 1,1-Dichloroethane	10.12	63	1656231	50.501	ng		100
25) Methyl tert-Butyl Ether	10.21	73	2976506	48.546	ng		100
26) Vinyl Acetate	10.38	86	707870	218.238	ng		97
27) 2-Butanone (MEK)	10.62	72	1450619	129.224	ng		100
28) cis-1,2-Dichloroethene	11.14	61	1392460	52.066	ng		100
29) Diisopropyl Ether	11.43	87	2264829	158.962	ng	#	79
30) Ethyl Acetate	11.44	61	2288979	318.576	ng		98
31) n-Hexane	11.42	57	2460483	91.564	ng		100
32) Chloroform	11.49	83	1683337	46.351	ng		99
34) Tetrahydrofuran (THF)	11.88	72	1264376	117.172	ng		100
35) Ethyl tert-Butyl Ether	12.02	87	2891619	128.930	ng		100
36) 1,2-Dichloroethane	12.28	62	1426476	45.275	ng		100
38) 1,1,1-Trichloroethane	12.56	97	1518239	43.498	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.04	78	3885540	54.779	ng		99
42) Carbon Tetrachloride	13.20	117	1330088	42.890	ng		100
43) Cyclohexane	13.33	84	3477629	137.031	ng		99
44) tert-Amyl Methyl Ether	13.67	73	6710558	120.910	ng		99
45) 1,2-Dichloropropane	13.89	63	1016982	61.075	ng		99
46) Bromodichloromethane	14.08	83	1373752	48.431	ng		100
47) Trichloroethene	14.13	130	1140112	55.417	ng		100
48) 1,4-Dioxane	14.11	88	841263	61.581	ng		100
49) 2,2,4-Trimethylpentane...	14.20	57	5156725	72.496	ng		98
50) Methyl Methacrylate	14.34	100	1007103	142.716	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202208.D Vial: 16
Acq On : 20 Aug 2022 4:54 Operator: WA
Sample : 50ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:16:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

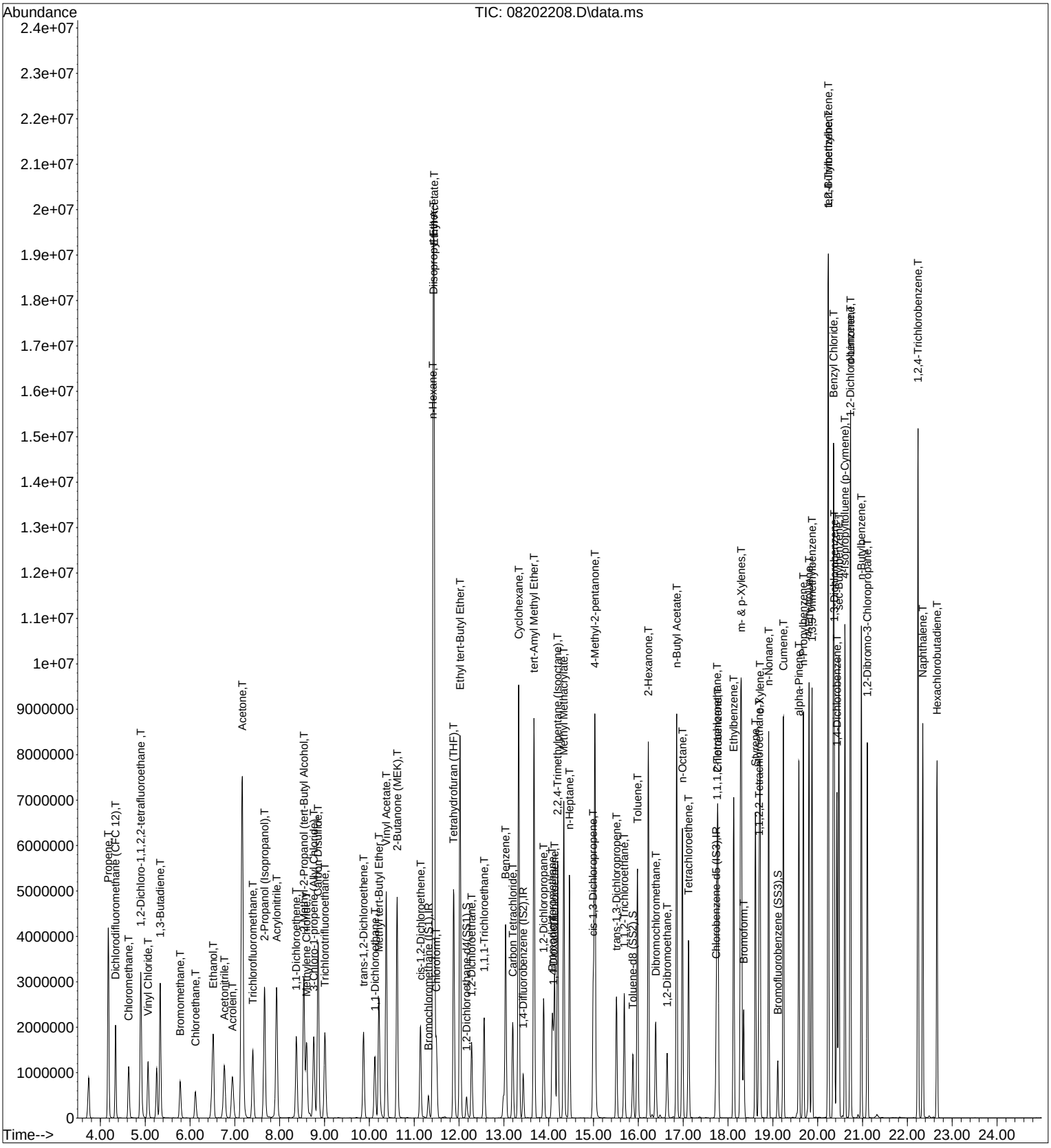
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	1163322	73.980	ng	100
52) cis-1,3-Dichloropropene	14.99	75	1686950	56.724	ng	100
53) 4-Methyl-2-pentanone	15.03	58	2549216	170.032	ng	96
54) trans-1,3-Dichloropropene	15.51	75	1510380	50.732	ng	99
55) 1,1,2-Trichloroethane	15.68	97	955840	53.769	ng	100
58) Toluene	15.98	91	4344524	44.602	ng	99
59) 2-Hexanone	16.22	43	6604168	137.619	ng	98
60) Dibromochloromethane	16.39	129	1292040	41.709	ng	100
61) 1,2-Dibromoethane	16.64	107	1142680	40.336	ng	100
62) n-Butyl Acetate	16.85	43	7359186	137.527	ng	98
63) n-Octane	16.98	57	1190806	62.721	ng	100
64) Tetrachloroethene	17.12	166	1284008	43.797	ng	100
65) Chlorobenzene	17.77	112	3130213	48.595	ng	100
66) Ethylbenzene	18.13	91	5213673	45.480	ng	100
67) m- & p-Xylenes	18.29	91	8485085	88.930	ng	99
68) Bromoform	18.35	173	1211891	44.610	ng	99
69) Styrene	18.61	104	3326405	50.501	ng	100
70) o-Xylene	18.71	91	4288387	45.167	ng	100
71) n-Nonane	18.91	43	3096107	69.577	ng	97
72) 1,1,2,2-Tetrachloroethane	18.69	83	1916095	47.621	ng	100
74) Cumene	19.24	105	5776601	51.668	ng	99
75) alpha-Pinene	19.58	93	2967422	50.250	ng	99
76) n-Propylbenzene	19.68	91	6742637	49.282	ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	5871336	53.091	ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	4766690	48.579	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	5278428	54.204	ng	99
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	8505767	105.268	ng	99
85) 1,3-Dichlorobenzene	20.37	146	3023594	54.763	ng	100
86) 1,4-Dichlorobenzene	20.43	146	2868588	51.417	ng	99
87) sec-Butylbenzene	20.47	105	6628443	52.121	ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	5931776	53.025	ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	2928145	53.526	ng	100
91) d-Limonene	20.73	68	2070720	63.965	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	2302023	111.792	ng	95
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	4864599	123.710	ng	99
95) Naphthalene	22.34	128	6515658	60.168	ng	100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	1495179	47.894	ng	99
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	5249392	57.016	ng	100
100) n-Butylbenzene	20.97	91	5159173	49.798	ng	99
101) 1,1,1,2-Tetrachloroethane	17.76	131	1210943	47.004	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202208.D Vial: 16
Acq On : 20 Aug 2022 4:54 Operator: WA
Sample : 50ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:16:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202209.D Vial: 16
Acq On : 20 Aug 2022 5:28 Operator: WA
Sample : 100ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:17:33 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 8/20/22
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.33	130	229065	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	1011873	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	264260	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.18	65	383988	10.488	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.92%				
57) Toluene-d8 (SS2)	15.88	98	1185842	9.815	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.48%				
73) Bromofluorobenzene (SS3)	19.11	174	462221	12.816	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
Target Compounds							Qvalue
2) Propene	4.19	42	4469335	176.266	ng		98
3) Dichlorodifluoromethan...	4.35	85	4147204	77.942	ng		100
4) Chloromethane	4.64	50	2169021	78.358	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	2578742	105.163	ng		100
6) Vinyl Chloride	5.08	62	3587782	109.232	ng		100
7) 1,3-Butadiene	5.35	54	3563655	152.827	ng		96
8) Bromomethane	5.80	94	1803862	87.964	ng		100
9) Chloroethane	6.13	64	1455001	110.973	ng		100
10) Ethanol	6.56	45	7582207	466.768	ng		100
11) Acetonitrile	6.80	41	4491243	121.187	ng		99
12) Acrolein	6.96	56	3271535	245.238	ng		100
13) Acetone	7.19	58	10751661	771.990	ng	#	76
14) Trichlorofluoromethane	7.41	101	3796385	79.996	ng		100
15) 2-Propanol (Isopropanol)	7.69	45	10639120	208.524	ng		98
16) Acrylonitrile	7.96	53	7415527	296.828	ng		99
17) 1,1-Dichloroethene	8.38	96	2119851	105.620	ng		99
18) 2-Methyl-2-Propanol (t...	8.56	59	5999765	112.993	ng		99
19) Methylene Chloride	8.61	84	2142450	99.934	ng		96
20) 3-Chloro-1-propene (Al...	8.77	41	4226724	135.848	ng		98
21) Trichlorotrifluoroethane	9.02	151	2038430	100.223	ng		99
22) Carbon Disulfide	8.86	76	16400311	196.670	ng		99
23) trans-1,2-Dichloroethene	9.88	61	3390098	103.340	ng		100
24) 1,1-Dichloroethane	10.13	63	3817302	102.867	ng		99
25) Methyl tert-Butyl Ether	10.22	73	6931043	99.904	ng		100
26) Vinyl Acetate	10.39	86	1700401	463.307	ng	#	75
27) 2-Butanone (MEK)	10.64	72	3357953	264.366	ng	#	88
28) cis-1,2-Dichloroethene	11.15	61	3321935	109.775	ng		100
29) Diisopropyl Ether	11.43	87	4252024	263.750	ng	#	46
30) Ethyl Acetate	11.47	61	4160444	511.742	ng		91
31) n-Hexane	11.42	57	4890053	160.827	ng		99
32) Chloroform	11.52	83	3814062	92.814	ng		99
34) Tetrahydrofuran (THF)	11.89	72	2993510	245.171	ng		94
35) Ethyl tert-Butyl Ether	12.03	87	6813886	268.502	ng		93
36) 1,2-Dichloroethane	12.29	62	3271402	91.762	ng		99
38) 1,1,1-Trichloroethane	12.57	97	3665214	92.451	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.04	78	9245527	114.758	ng		99
42) Carbon Tetrachloride	13.20	117	3235783	91.863	ng		100
43) Cyclohexane	13.34	84	8337951	289.254	ng		100
44) tert-Amyl Methyl Ether	13.68	73	15051446	238.763	ng		97
45) 1,2-Dichloropropane	13.89	63	2429256	128.443	ng		99
46) Bromodichloromethane	14.08	83	3308356	102.686	ng		100
47) Trichloroethene	14.14	130	2832880	121.229	ng		100
48) 1,4-Dioxane	14.11	88	2141939	138.040	ng		99
49) 2,2,4-Trimethylpentane...	14.20	57	12350832	152.869	ng		95
50) Methyl Methacrylate	14.35	100	2363165	294.835	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202209.D Vial: 16
Acq On : 20 Aug 2022 5:28 Operator: WA
Sample : 100ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:17:33 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

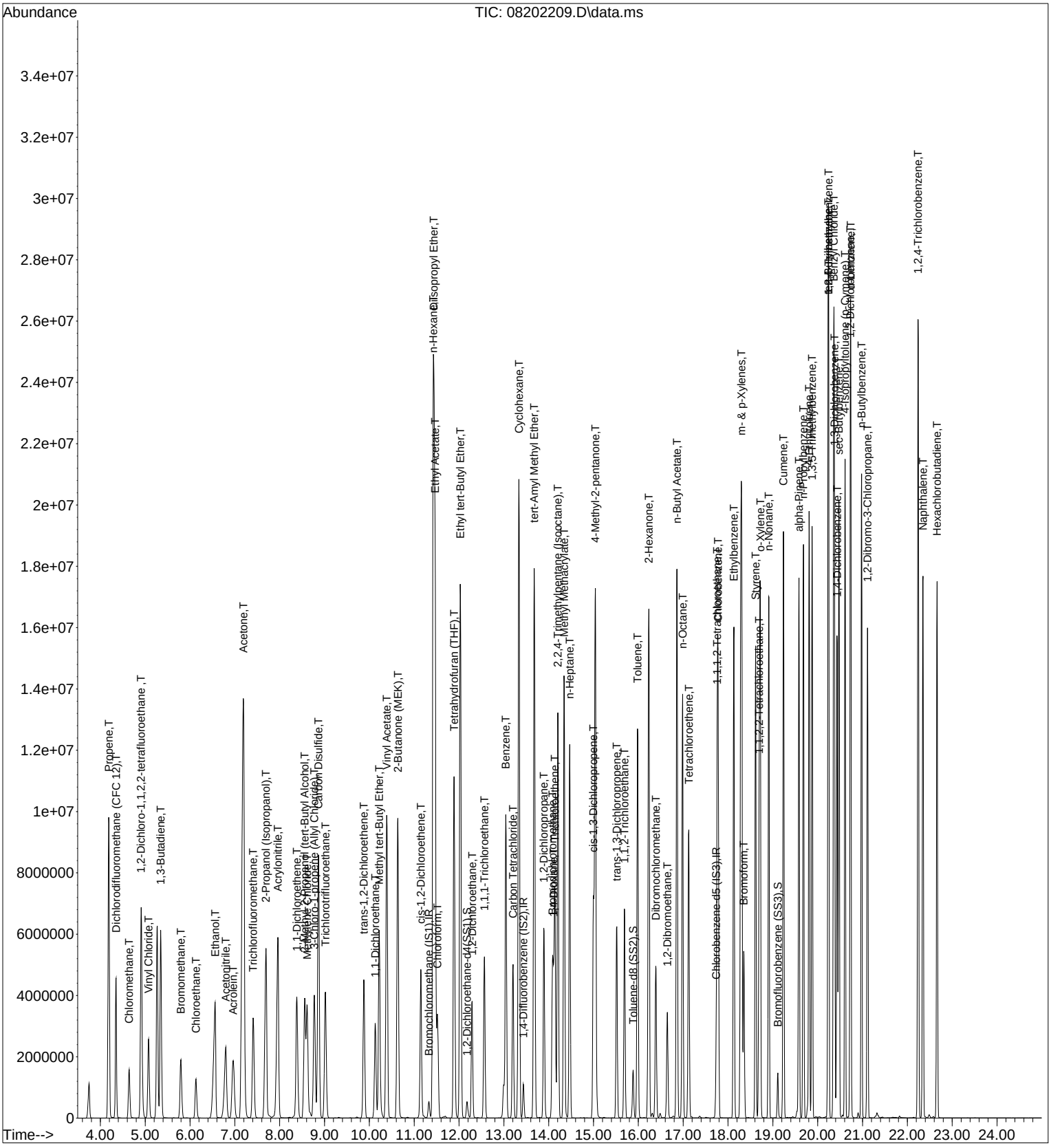
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	2766726	154.904	ng	100
52) cis-1,3-Dichloropropene	15.00	75	4017340	118.929	ng	100
53) 4-Methyl-2-pentanone	15.04	58	5881282	345.366	ng	86
54) trans-1,3-Dichloropropene	15.52	75	3638952	107.610	ng	99
55) 1,1,2-Trichloroethane	15.69	97	2346820	116.229	ng	99
58) Toluene	15.98	91	10177325	90.273	ng	98
59) 2-Hexanone	16.23	43	14030306	252.603	ng	92
60) Dibromochloromethane	16.39	129	3134768	87.433	ng	100
61) 1,2-Dibromoethane	16.65	107	2729398	83.242	ng	100
62) n-Butyl Acetate	16.86	43	15391658	248.516	ng	93
63) n-Octane	16.99	57	2773998	126.237	ng	99
64) Tetrachloroethene	17.12	166	3189398	93.993	ng	100
65) Chlorobenzene	17.78	112	7559387	101.396	ng	100
66) Ethylbenzene	18.13	91	12044029	90.774	ng	98
67) m- & p-Xylenes	18.30	91	18915556	171.287	ng	99
68) Bromoform	18.35	173	2889614	91.900	ng	99
69) Styrene	18.61	104	7847530	102.936	ng	100
70) o-Xylene	18.72	91	9853041	89.662	ng	99
71) n-Nonane	18.91	43	6653578	129.187	ng	92
72) 1,1,2,2-Tetrachloroethane	18.69	83	4458314	95.734	ng	99
74) Cumene	19.24	105	12791795	98.852	ng	97
75) alpha-Pinene	19.58	93	6836967	100.031	ng	98
76) n-Propylbenzene	19.68	91	14243584	89.947	ng	95
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	12755689	99.655	ng	97
79) 1,3,5-Trimethylbenzene	19.87	105	10623614	93.544	ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	9951049	88.290	ng	96
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.36	91	15667141	167.526	ng	96
85) 1,3-Dichlorobenzene	20.37	146	6069453	94.977	ng	100
86) 1,4-Dichlorobenzene	20.43	146	6669251	103.283	ng	99
87) sec-Butylbenzene	20.47	105	13616573	92.509	ng	96
88) 4-Isopropyltoluene (p-...	20.61	119	12255098	94.651	ng	97
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	5791601	91.471	ng	100
91) d-Limonene	20.74	68	3936421	105.059	ng	96
92) 1,2-Dibromo-3-Chloropr...	21.11	157	5001224	209.839	ng	91
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	9629107	211.570	ng	99
95) Naphthalene	22.35	128	14098400	112.483	ng	97
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	3549978	98.248	ng	99
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	9723001	91.244	ng	100
100) n-Butylbenzene	20.98	91	10929513	91.147	ng	97
101) 1,1,1,2-Tetrachloroethane	17.76	131	2923057	98.030	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202209.D Vial: 16
Acq On : 20 Aug 2022 5:28 Operator: WA
Sample : 100ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:17:33 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental

LCS Acceptance Criteria

8/29/22

25ng R16082022 ICV

	RT
Bromochloromethane (IS1)	11.32
1,4-Difluorobenzene (IS2)	13.43
Chlorobenzene-d5 (IS3)	17.73

Datafile: 08202215.D
Instrument: MS-16
Date: 8/20/2022

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
115-07-1	Propene	25.395	26.5	96	56-128	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	25.436	26.5	96	71-112	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	24.414	25.8	95	53-126	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	25.807	25.8	100	62-121	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	24.481	25.5	96	63-123	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	26.865	26.5	101	63-135	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	23.664	25.8	92	71-112	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	24.314	26.0	94	66-117	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	100.365	88.3	114	57-117	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	19.755	22.8	87	59-131	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	47.456	48.5	98	71-123	ok	70-130	ok	62-126	ok
67-64-1	Acetone	129.040	133	97	60-117	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	24.649	26.3	94	71-114	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	46.557	51.5	90	61-124	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	49.909	51.5	97	65-130	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	26.209	27.0	97	74-114	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	55.487	53.3	104	56-135	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	24.924	26.5	94	75-112	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	23.935	26.8	89	57-127	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	26.434	27.0	98	73-114	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	49.654	53.3	93	70-113	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	27.219	27.0	101	76-119	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	25.915	27.0	96	70-114	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	27.028	26.8	101	72-118	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	134.092	70.5	190	56-137	FAIL	70-130	FAIL	56-139	FAIL
78-93-3	2-Butanone	56.723	52.3	108	74-121	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	25.073	26.8	94	73-117	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	64.075	52.5	122	58-124	ok	70-130	ok	70-117	FAIL
141-78-6	Ethyl Acetate	86.071	107	80	59-161	ok	70-130	ok	65-128	ok
110-54-3	n-Hexane	31.125	26.5	117	55-130	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	26.410	26.5	100	71-114	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	52.727	51.5	102	73-114	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	58.231	53.5	109	76-119	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	26.866	27.0	100	71-119	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	26.222	26.3	100	73-119	ok	70-130	ok	68-125	ok
108-21-4	Isopropyl Acetate	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	65-129	#N/A
71-36-3	1-Butanol	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-133	#N/A
71-43-2	Benzene	27.004	27.0	100	72-113	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	25.519	25.8	99	67-123	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	55.309	52.8	105	70-119	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	58.936	53.5	110	74-120	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	25.783	26.5	97	70-118	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	27.012	27.0	100	74-119	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	24.060	26.5	91	74-115	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	28.719	26.5	108	77-124	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	26.066	27.0	97	65-120	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	56.546	53.3	106	78-126	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	27.613	26.5	104	70-119	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	30.115	27.0	112	81-126	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	62.313	54.0	115	73-129	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

25ng R16082022 ICV

	RT
Bromochloromethane (IS1)	11.32
1,4-Difluorobenzene (IS2)	13.43
Chlorobenzene-d5 (IS3)	17.73

Datafile: 08202215.D
Instrument: MS-16
Date: 8/20/2022

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
10061-02-6	trans-1,3-Dichloropropene	26.624	25.8	103	80-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	26.752	26.5	101	78-117	ok	70-130	ok	73-119	ok
108-88-3	Toluene	27.331	26.5	103	70-118	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	62.024	53.3	116	74-132	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	27.477	27.0	102	69-137	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	27.224	26.0	105	76-128	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	59.747	51.3	116	75-134	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	28.255	26.8	105	68-120	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	26.754	26.5	101	63-130	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	27.102	26.5	102	70-118	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	28.872	26.3	110	71-123	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	60.873	52.5	116	67-127	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	29.595	26.8	110	65-149	ok	70-130	ok	66-139	ok
100-42-5	Styrene	31.639	26.5	119	76-132	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	30.566	26.5	115	69-124	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	29.194	26.5	110	64-127	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	30.163	26.5	114	69-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	30.173	26.5	114	69-125	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	32.834	27.3	120	68-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	31.327	26.8	117	70-127	ok	70-130	ok	69-123	ok
620-14-4	3-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-123	#N/A
622-96-8	4-Ethyltoluene	32.004	27.0	119	69-127	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	31.200	26.3	119	66-129	ok	70-130	ok	67-130	ok
98-83-9	alpha-Methylstyrene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	67-128	#N/A
611-14-3	2-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	66-121	#N/A
95-63-6	1,2,4-Trimethylbenzene	33.343	26.0	128	63-142	ok	70-130	ok	66-132	ok
124-18-5	n-Decane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	70-118	#N/A
100-44-7	Benzyl Chloride	70.503	52.5	134	73-145	ok	70-130	FAIL	50-147	ok
541-73-1	1,3-Dichlorobenzene	31.982	26.3	122	67-136	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	30.887	26.5	117	63-134	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	31.785	26.3	121	68-130	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	31.742	26.3	121	60-139	ok	70-130	ok	67-130	ok
526-73-8	1,2,3-Trimethylbenzene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	60-134	#N/A
95-50-1	1,2-Dichlorobenzene	31.796	26.5	120	64-139	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	32.582	26.3	124	63-137	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	62.354	52.0	120	72-145	ok	70-130	ok	73-133	ok
1120-21-4	n-Undecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	69-123	#N/A
120-82-1	1,2,4-Trichlorobenzene	64.263	51.5	125	62-154	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	38.395	27.0	142	62-156	ok	70-130	FAIL	57-138	FAIL
112-40-3	n-Dodecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-147	#N/A
87-68-3	Hexachloro-1,3-butadiene	26.397	26.3	100	55-142	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	61-132	#N/A
98-06-6	tert-Butylbenzene	33.262	26.3	126	61-140	ok	70-130	ok	65-124	FAIL
104-51-8	n-Butylbenzene	32.511	26.3	124	70-131	ok	70-130	ok	66-130	ok

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 09\22\09222233.D Vial: 2
Acq On : 22 Sep 2022 18:16 Operator: WA/CG
Sample : CCV2 R16092222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09132201 (10/13)

Quant Time: Sep 22 19:22:11 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) WA 9/22/22
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	89	-0.02
2	T	Propene	1.736	1.897	-9.3	97	0.00
3	T	Dichlorodifluoromethane (CF	2.087	1.938	7.1	84	0.00
4	T	Chloromethane	1.840	1.731	5.9	78	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.323	1.183	10.6	80	0.00
6	T	Vinyl Chloride	1.945	1.852	4.8	84	-0.01
7	T	1,3-Butadiene	1.609	1.642	-2.1	83	0.00
8	T	Bromomethane	0.862	0.773	10.3	82	-0.01
9	T	Chloroethane	0.761	0.748	1.7	85	-0.01
10	T	Ethanol	1.017	1.040	-2.3	85	-0.06
11	T	Acetonitrile	2.626	2.605	0.8	87	-0.04
12	T	Acrolein	0.796	0.801	-0.6	84	-0.02
13	T	Acetone	0.966	0.935	3.2	82	-0.03
14	T	Trichlorofluoromethane	1.932	1.759	9.0	82	0.00
15	T	2-Propanol (Isopropanol)	2.976	2.853	4.1	77	-0.04
16	T	Acrylonitrile	1.634	1.668	-2.1	82	-0.04
17	T	1,1-Dichloroethene	0.981	0.913	6.9	80	-0.01
18	T	2-Methyl-2-Propanol (tert-B	2.553	2.298	10.0	63	-0.03
19	T	Methylene Chloride	1.026	0.931	9.3	80	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.790	1.893	-5.8	84	-0.01
21	T	Trichlorotrifluoroethane	1.001	0.881	12.0	79	-0.01
22	T	Carbon Disulfide	3.651	3.444	5.7	80	0.00
23	T	trans-1,2-Dichloroethene	1.465	1.489	-1.6	83	-0.01
24	T	1,1-Dichloroethane	1.853	1.775	4.2	83	-0.01
25	T	Methyl tert-Butyl Ether	3.080	3.021	1.9	81	0.00
26	T	Vinyl Acetate	0.251	0.257	-2.4	79	-0.02
27	T	2-Butanone (MEK)	0.699	0.706	-1.0	77	-0.02
28	T	cis-1,2-Dichloroethene	1.553	1.452	6.5	82	-0.01
29	T	Diisopropyl Ether	1.060	1.175	-10.8	79	0.00
30	T	Ethyl Acetate	0.538	0.617	-14.7	81	-0.03
31	T	n-Hexane	2.271	2.688	-18.4	83	0.00
32	T	Chloroform	1.816	1.714	5.6	80	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	1.665	1.726	-3.7	90	-0.01
34	T	Tetrahydrofuran (THF)	0.679	0.639	5.9	79	-0.01
35	T	Ethyl tert-Butyl Ether	1.362	1.370	-0.6	79	0.00
36	T	1,2-Dichloroethane	1.517	1.462	3.6	81	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	91	0.00
38	T	1,1,1-Trichloroethane	0.390	0.355	9.0	82	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	0#	0.00
40	T	1-Butanol	0.000	0.000	0.0	0#	-12.69#
41	T	Benzene	0.913	0.842	7.8	80	0.00
42	T	Carbon Tetrachloride	0.341	0.313	8.2	81	0.00
43	T	Cyclohexane	0.393	0.378	3.8	81	0.00
44	T	tert-Amyl Methyl Ether	0.698	0.694	0.6	78	0.00
45	T	1,2-Dichloropropane	0.248	0.236	4.8	82	0.00
46	T	Bromodichloromethane	0.332	0.311	6.3	82	0.00
47	T	Trichloroethene	0.317	0.252	20.5	79	0.00
48	T	1,4-Dioxane	0.188	0.187	0.5	81	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.176	1.158	1.5	84	0.00
50	T	Methyl Methacrylate	0.114	0.104	8.8	77	-0.01
51	T	n-Heptane	0.258	0.248	3.9	79	0.00
52	T	cis-1,3-Dichloropropene	0.352	0.358	-1.7	79	0.00
53	T	4-Methyl-2-pentanone	0.251	0.272	-8.4	81	-0.02
54	T	trans-1,3-Dichloropropene	0.356	0.342	3.9	79	-0.01
55	T	1,1,2-Trichloroethane	0.230	0.214	7.0	81	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 09\22\09222233.D Vial: 2
Acq On : 22 Sep 2022 18:16 Operator: WA/CG
Sample : CCV2 R16092222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09132201 (10/13)

Quant Time: Sep 22 19:22:11 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	88	0.00
57	S	Toluene-d8 (SS2)	4.819	4.490	6.8	86	0.00
58	T	Toluene	4.363	3.832	12.2	77	0.00
59	T	2-Hexanone	2.842	3.118	-9.7	80	-0.02
60	T	Dibromochloromethane	1.256	1.113	11.4	77	0.00
61	T	1,2-Dibromoethane	1.127	1.043	7.5	78	-0.01
62	T	n-Butyl Acetate	3.127	3.548	-13.5	81	-0.01
63	T	n-Octane	1.068	1.033	3.3	78	0.00
64	T	Tetrachloroethene	1.338	1.136	15.1	79	0.00
65	T	Chlorobenzene	3.040	2.697	11.3	78	0.00
66	T	Ethylbenzene	4.950	4.570	7.7	77	0.00
67	T	m- & p-Xylenes	3.939	3.697	6.1	76	-0.01
68	T	Bromoform	1.131	1.014	10.3	75	0.00
69	T	Styrene	2.877	2.814	2.2	75	0.00
70	T	o-Xylene	3.931	3.669	6.7	76	-0.01
71	T	n-Nonane	2.781	2.826	-1.6	78	0.00
72	T	1,1,2,2-Tetrachloroethane	1.766	1.669	5.5	76	0.00
73	S	Bromofluorobenzene (SS3)	1.801	1.602	11.0	82	0.00
74	T	Cumene	5.251	4.840	7.8	75	0.00
75	T	alpha-Pinene	2.440	2.355	3.5	73	0.00
76	T	n-Propylbenzene	5.971	5.788	3.1	75	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	0#	0.00
78	T	4-Ethyltoluene	5.024	4.803	4.4	74	0.00
79	T	1,3,5-Trimethylbenzene	4.333	4.031	7.0	75	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	0#	0.00
82	T	1,2,4-Trimethylbenzene	4.490	4.709	-4.9	78	-0.01
83	T	n-Decane	0.000	0.000	0.0	0#	0.00
84	T	Benzyl Chloride	3.176	3.705	-16.7	81	-0.01
85	T	1,3-Dichlorobenzene	2.629	2.543	3.3	75	0.00
86	T	1,4-Dichlorobenzene	2.597	2.405	7.4	74	-0.01
87	T	sec-Butylbenzene	5.789	5.693	1.7	75	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.107	5.048	1.2	75	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	0#	0.00
90	T	1,2-Dichlorobenzene	2.534	2.482	2.1	75	0.00
91	T	d-Limonene	1.712	1.800	-5.1	78	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.971	0.966	0.5	74	0.00
93	T	n-Undecane	0.000	0.000	0.0	0#	-21.51#
94	T	1,2,4-Trichlorobenzene	1.891	2.129	-12.6	80	0.00
95	T	Naphthalene	5.253	5.543	-5.5	82	0.00
96	T	n-Dodecane	0.000	0.000	0.0	0#	-22.59#
97	T	Hexachlorobutadiene	1.357	1.213	10.6	77	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-0.08
99	T	tert-Butylbenzene	4.502	4.653	-3.4	77	0.00
100	T	n-Butylbenzene	4.369	4.483	-2.6	77	0.00
101	T	1,1,1,2-Tetrachloroethane	1.177	1.057	10.2	80	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222233.D Vial: 2
Acq On : 22 Sep 2022 18:16 Operator: WA/CG
Sample : CCV2 R16092222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09132201 (10/13)

9/22/22

Quant Time: Sep 22 19:22:11 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	162375	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	735079	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	178464	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	280218	12.956	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
57) Toluene-d8 (SS2)	15.88	98	801276	11.646	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%				
73) Bromofluorobenzene (SS3)	19.11	174	285983	11.124	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.96%				
Target Compounds							Qvalue
2) Propene	4.18	42	646718	28.676	ng		100
3) Dichlorodifluoromethan...	4.34	85	667014	24.610	ng		100
4) Chloromethane	4.64	50	578913	24.215	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	399386	23.245	ng		100
6) Vinyl Chloride	5.06	62	607315	24.041	ng		99
7) 1,3-Butadiene	5.34	54	565090	27.041	ng		99
8) Bromomethane	5.79	94	255931	22.857	ng		100
9) Chloroethane	6.12	64	250271	25.308	ng		99
10) Ethanol	6.50	45	1165030	88.161	ng		100
11) Acetonitrile	6.75	41	769760	22.564	ng		98
12) Acrolein	6.94	56	501784	48.519	ng		100
13) Acetone	7.15	58	1600984	127.549	ng		96
14) Trichlorofluoromethane	7.40	101	594204	23.676	ng		100
15) 2-Propanol (Isopropanol)	7.65	45	1899355	49.137	ng		99
16) Acrylonitrile	7.92	53	1110168	52.316	ng		100
17) 1,1-Dichloroethene	8.37	96	320108	25.131	ng		97
18) 2-Methyl-2-Propanol (t...	8.53	59	1574357	47.477	ng		98
19) Methylene Chloride	8.60	84	320402	24.029	ng		93
20) 3-Chloro-1-propene (Al...	8.76	41	651630	28.030	ng		98
21) Trichlorotrifluoroethane	9.01	151	308976	23.764	ng		99
22) Carbon Disulfide	8.86	76	2382303	50.228	ng		100
23) trans-1,2-Dichloroethene	9.87	61	522153	27.447	ng		98
24) 1,1-Dichloroethane	10.12	63	616775	25.628	ng		100
25) Methyl tert-Butyl Ether	10.21	73	1049694	26.237	ng		99
26) Vinyl Acetate	10.37	86	234111	71.740	ng	#	89
27) 2-Butanone (MEK)	10.61	72	479072	52.724	ng	#	91
28) cis-1,2-Dichloroethene	11.14	61	499882	24.771	ng		99
29) Diisopropyl Ether	11.43	87	809086	58.756	ng	#	83
30) Ethyl Acetate	11.43	61	845617	120.889	ng		98
31) n-Hexane	11.42	57	916724	31.073	ng		99
32) Chloroform	11.48	83	590022	25.011	ng		100
34) Tetrahydrofuran (THF)	11.88	72	423535	48.051	ng		93
35) Ethyl tert-Butyl Ether	12.02	87	943361	53.313	ng		98
36) 1,2-Dichloroethane	12.28	62	512934	26.022	ng		100
38) 1,1,1-Trichloroethane	12.56	97	548224	23.879	ng		100
39) Isopropyl Acetate	13.67	61	1072	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.04	78	1324896	24.671	ng		99
42) Carbon Tetrachloride	13.20	117	478371	23.868	ng		100
43) Cyclohexane	13.33	84	1168236	50.531	ng		97
44) tert-Amyl Methyl Ether	13.67	73	2161712	52.654	ng		98
45) 1,2-Dichloropropane	13.89	63	364041	24.992	ng		99
46) Bromodichloromethane	14.08	83	488508	25.047	ng		100
47) Trichloroethene	14.13	130	389571	20.893	ng		99
48) 1,4-Dioxane	14.10	88	291836	26.374	ng		100
49) 2,2,4-Trimethylpentane...	14.20	57	1838203	26.589	ng		99
50) Methyl Methacrylate	14.34	100	324848	48.639	ng		99

Data File : I:\MS16\DATA\2022 09\22\09222233.D Vial: 2
Acq On : 22 Sep 2022 18:16 Operator: WA/CG
Sample : CCV2 R16092222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09132201 (10/13)

Quant Time: Sep 22 19:22:11 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

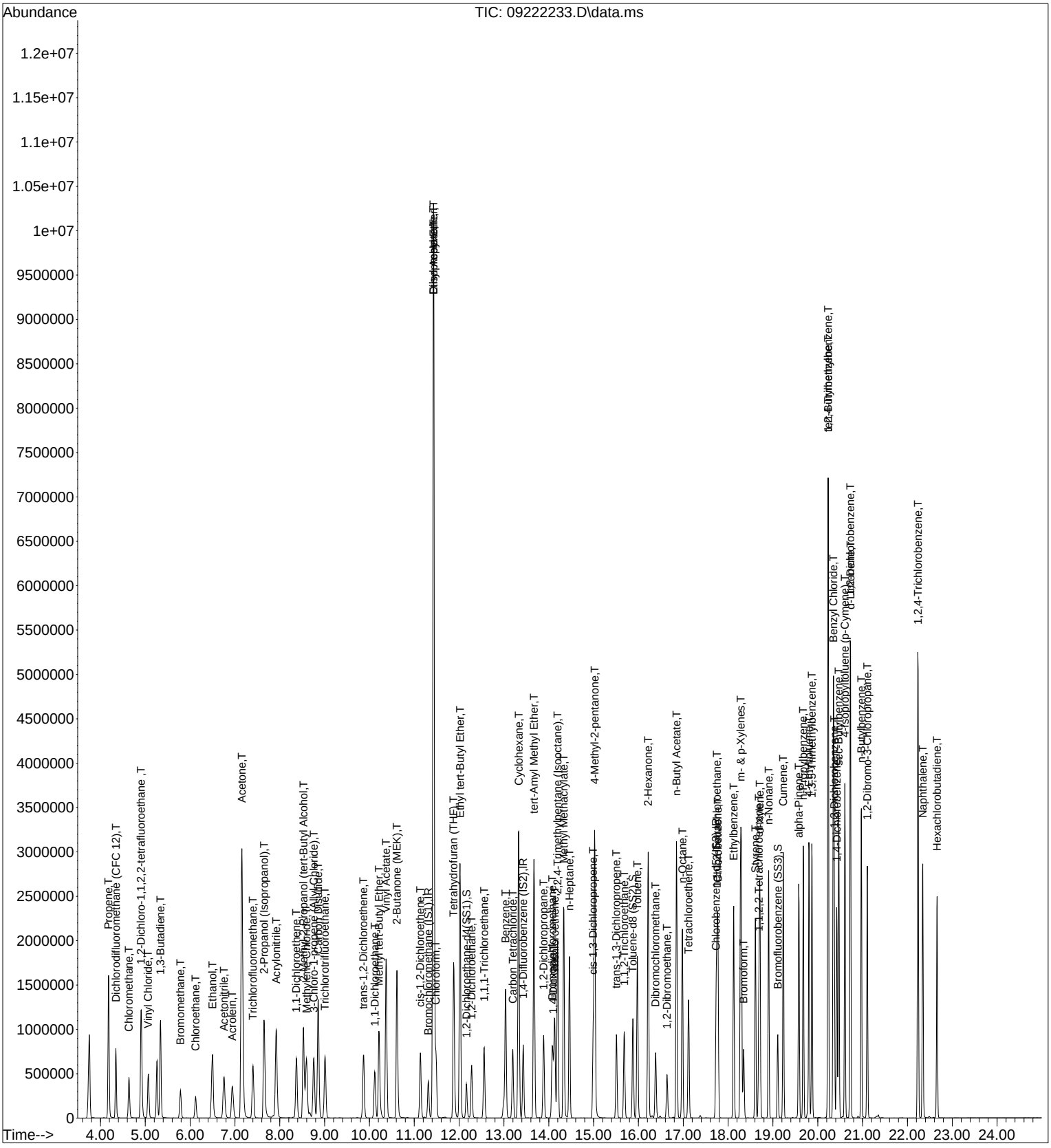
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	386517	25.501	ng		98
52) cis-1,3-Dichloropropene	14.99	75	568918	27.454	ng		100
53) 4-Methyl-2-pentanone	15.02	58	860755	58.270	ng		97
54) trans-1,3-Dichloropropene	15.51	75	512923	24.495	ng		100
55) 1,1,2-Trichloroethane	15.68	97	332967	24.656	ng		100
58) Toluene	15.98	91	1436201	23.058	ng		100
59) 2-Hexanone	16.22	43	2359587	58.145	ng		98
60) Dibromochloromethane	16.38	129	428925	23.915	ng		100
61) 1,2-Dibromoethane	16.63	107	387305	24.069	ng		99
62) n-Butyl Acetate	16.85	43	2595777	58.137	ng		98
63) n-Octane	16.98	57	394378	25.871	ng		98
64) Tetrachloroethene	17.12	166	429965	22.501	ng		100
65) Chlorobenzene	17.77	112	1020216	23.510	ng		100
66) Ethylbenzene	18.13	91	1712795	24.234	ng		99
67) m- & p-Xylenes	18.28	91	2771325	49.276	ng		99
68) Bromoform	18.35	173	387145	23.972	ng		100
69) Styrene	18.61	104	1064585	25.918	ng		100
70) o-Xylene	18.71	91	1388169	24.734	ng		99
71) n-Nonane	18.91	43	1069116	26.929	ng		98
72) 1,1,2,2-Tetrachloroethane	18.69	83	631579	25.047	ng		99
74) Cumene	19.23	105	1848515	24.656	ng		100
75) alpha-Pinene	19.58	93	916318	26.299	ng		99
76) n-Propylbenzene	19.68	91	2210555	25.931	ng		99
77) 3-Ethyltoluene	20.35	105	1581	No Calib		#	
78) 4-Ethyltoluene	19.80	105	1868589	26.050	ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	1525014	24.653	ng		99
80) alpha-Methylstyrene	20.47	118	6994	No Calib		#	
81) 2-Ethyltoluene	20.35	105	1581	No Calib		#	
82) 1,2,4-Trimethylbenzene	20.23	105	1764792	27.531	ng		99
83) n-Decane	20.23	58	93354	No Calib			
84) Benzyl Chloride	20.35	91	2803179	61.823	ng		98
85) 1,3-Dichlorobenzene	20.37	146	962215	25.635	ng		100
86) 1,4-Dichlorobenzene	20.42	146	909876	24.540	ng		100
87) sec-Butylbenzene	20.47	105	2153949	26.059	ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	1909943	26.195	ng		99
89) 1,2,3-Trimethylbenzene	20.35	105	1581	No Calib		#	
90) 1,2-Dichlorobenzene	20.73	146	947842	26.197	ng		100
91) d-Limonene	20.73	68	687627	28.129	ng		98
92) 1,2-Dibromo-3-Chloropr...	21.11	157	723880	52.229	ng		92
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.24	180	1588286	58.817	ng		100
95) Naphthalene	22.34	128	2176315	29.016	ng		100
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	458827	23.688	ng		99
98) Cyclohexanone	18.12	55	626	No Calib		#	
99) tert-Butylbenzene	20.23	119	1760370	27.387	ng		100
100) n-Butylbenzene	20.97	91	1712231	27.450	ng		99
101) 1,1,1,2-Tetrachloroethane	17.75	131	399930	23.798	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 09\22\09222233.D Vial: 2
Acq On : 22 Sep 2022 18:16 Operator: WA/CG
Sample : CCV2 R16092222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09132201 (10/13)

Quant Time: Sep 22 19:22:11 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

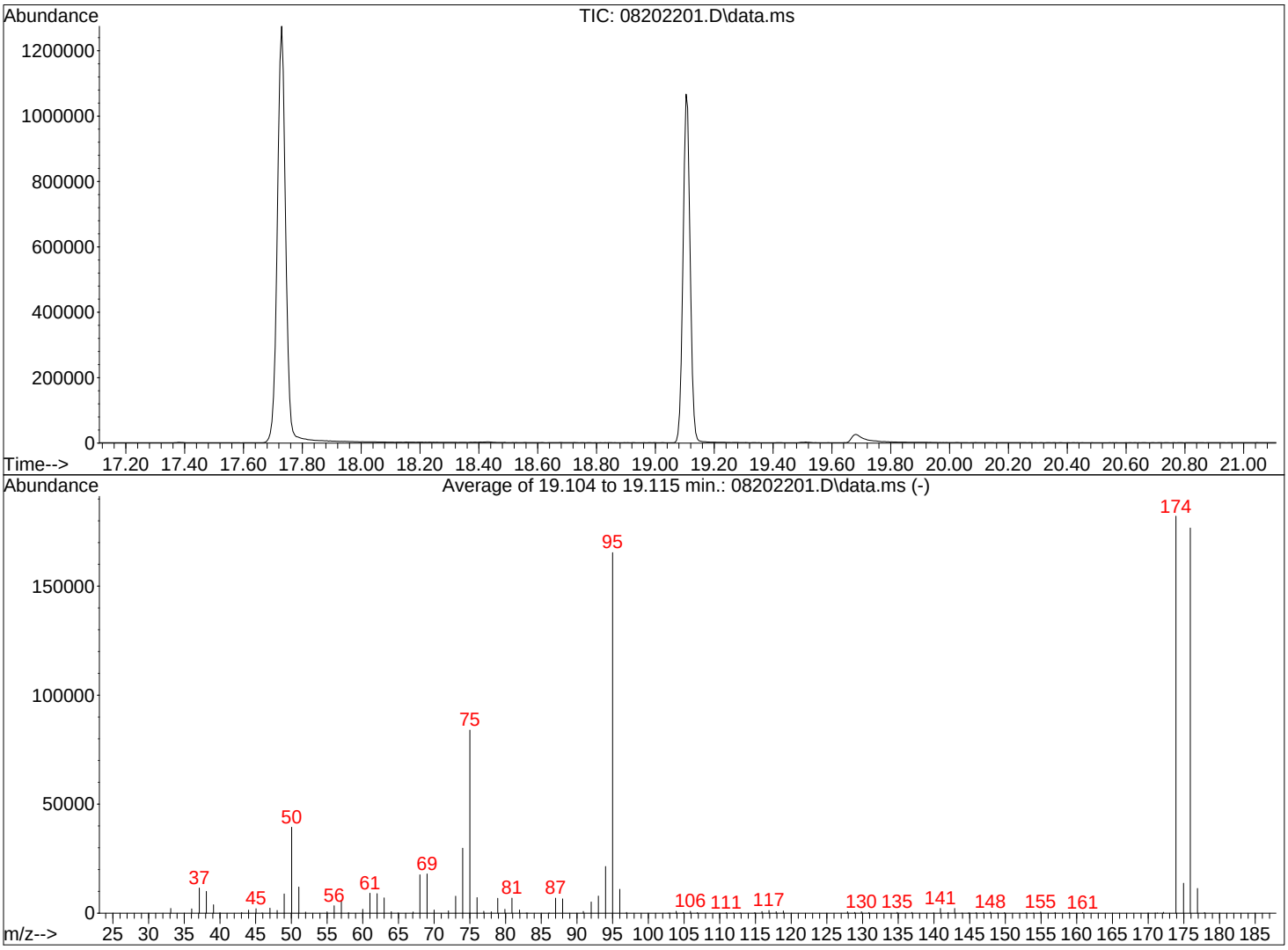


BFB

Data Path : I:\MS16\DATA\2022 08\20\
Data File : 08202201.D
Acq On : 20 Aug 2022 00:53
Operator : WA
Sample : BFB
Misc : S35-08012201
ALS Vial : 3 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16082022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Sat Aug 20 09:01:46 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2832

WA 8/21/22

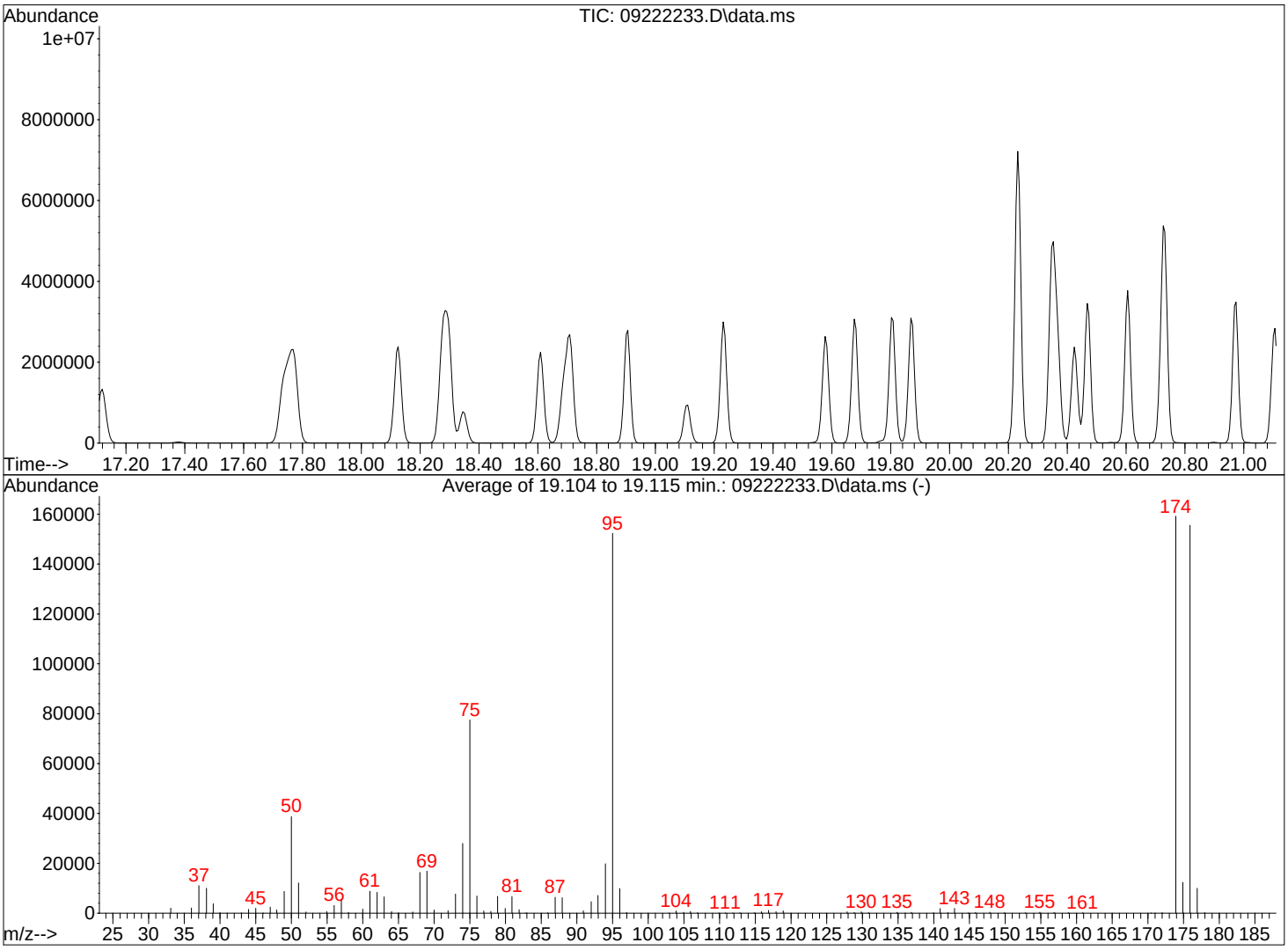
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.8	39413	PASS
75	95	30	66	50.8	83952	PASS
95	95	100	100	100.0	165360	PASS
96	95	5	9	6.6	10927	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	110.1	182144	PASS
175	174	4	9	7.5	13751	PASS
176	174	93	101	97.0	176725	PASS
177	176	5	9	6.4	11326	PASS

BFB

Data Path : I:\MS16\DATA\2022 09\22\
Data File : 09222233.D
Acq On : 22 Sep 2022 18:16
Operator : WA/CG
Sample : CCV2 R16092222 25ng
Misc : S35-08012201/S35-09132201 (10/13)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16082022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Sat Aug 20 09:01:46 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2832

9/22/22

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	25.4	38747	PASS
75	95	30	66	50.9	77483	PASS
95	95	100	100	100.0	152315	PASS
96	95	5	9	6.5	9870	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	104.5	159211	PASS
175	174	4	9	7.8	12362	PASS
176	174	93	101	97.7	155541	PASS
177	176	5	9	6.4	10006	PASS

TZ 8/30/22

Injection Log

Directory: J:\MS16\DATA\2022_08\20\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	8/20/22 0:53	08202201.D	BFB	S35-08012201	WA	3	passed
2	8/20/22 1:28	08202202.D	0.1ng R16082022 ICAL	S35-08012201/S35-08182202 (9/15)	WA	14	R13082022.M
3	8/20/22 2:02	08202203.D	0.2ng R16082022 ICAL	S35-08012201/S35-08182202 (9/15)	WA	14	
4	8/20/22 2:37	08202204.D	0.5ng R16082022 ICAL	S35-08012201/S35-08182202 (9/15)	WA	14	
5	8/20/22 3:11	08202205.D	1.0ng R16082022 ICAL	S35-08012201/S35-08182201 (9/15)	WA	15	
6	8/20/22 3:45	08202206.D	5.0ng R16082022 ICAL	S35-08012201/S35-08182201 (9/15)	WA	15	
7	8/20/22 4:20	08202207.D	25ng R16082022 ICAL	S35-08012201/S35-08162213 (9/15)	WA	16	
8	8/20/22 4:54	08202208.D	50ng R16082022 ICAL	S35-08012201/S35-08162213 (9/15)	WA	16	
9	8/20/22 5:28	08202209.D	100ng R16082022 ICAL	S35-08012201/S35-08162213 (9/15)	WA	16	
10	8/20/22 6:03	08202210.D	Blank	S35-08012201	WA	2	
11	8/20/22 6:37	08202211.D	25ng R16082022 ICV	S35-08012201/S35-08172204 (9/16)	WA	2	not used
12	8/20/22 7:11	08202212.D	25ng R16082022 ICV	S35-08012201/S35-08172204 (9/16)	WA	2	not used
13	8/20/22 7:46	08202213.D	Blank	S35-08012201	WA	2	
14	8/20/22 8:20	08202214.D	0.5ng R16082022 ICAL	S35-08012201/S35-08182201 (9/15)	WA	15	
15	8/20/22 8:54	08202215.D	25ng R16082022 ICV	S35-08012201/S35-08172204 (9/16)	WA	2	passed

ICAL R16082022.M: pass for low level compounds (ranges from 0.1ng --> 100ng)

Me-methacrylate, Benzyl-Cl: from 1ng--> 200ng;trans-1,3-DCP, 1,2,4-Trimehtylbenznene: 0.2ng-->100ng, d-Limonene,

naphthalene: 0.5ng --> 100ng; Ethyl Ac: from 2ng --> 400ng and
Vinyl Ac. fro 2.5ng --> 500g

ICV >130% for benzyl chloride and naphthalene; within Lab generated limits

Injection Log

Directory: I:\MS16\DATA\2022_09\22\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	*Comment*
1	9/22/22 18:16	09222233.D	CCV2 R16092222 25ng	S35-08012201/S35-09132201 (10/13)	WA/CG	2	*Passed*
2	9/22/22 18:50	09222234.D	CCV2 C16092222_5ng	S35-08012201/S35-09192202 (10/19)	WA/CG	16	*Passed*
3	9/22/22 19:24	09222235.D	MB2 R16092222_1000mL	S35-08012201	WA/CG	2	*Passed*
4	9/22/22 19:58	09222236.D	LCS2 R16092222 25ng	S35-08012201/S35-08242205 (9/23)	WA/CG	2	*Passed*
5	9/22/22 20:32	09222237.D	P2204118-001 (1000mL)	S35-08012201	WA/CG	3	
6	9/22/22 21:06	09222238.D	P2204118-002 (1000mL)	S35-08012201	WA/CG	4	
7	9/22/22 21:40	09222239.D	P2204118-002dup (1000mL)	S35-08012201	WA/CG	4	*Passed*
8	9/22/22 22:15	09222240.D	P2204118-003 (1000mL)	S35-08012201	WA/CG	5	
9	9/22/22 22:49	09222241.D	P2204118-004 (1000mL)	S35-08012201	WA/CG	6	
10	9/22/22 23:23	09222242.D	P2204118-005 (1000mL)	S35-08012201	WA/CG	7	
11	9/22/22 23:57	09222243.D	LCSD2 R16092222 25ng	S35-08012201/S35-08242205 (9/23)	WA/CG	2	*Passed*
12	9/23/22 0:31	09222244.D	P2204062-001 (400mL)	S35-08012201	WA/CG	13	
13	9/23/22 1:04	09222245.D	P2204062-002 (400mL)	S35-08012201	WA/CG	14	
14	9/23/22 1:39	09222246.D	P2204204-001 (25mL)	S35-08012201	WA/CG	8	
15	9/23/22 2:13	09222247.D	P2204204-002 (40mL)	S35-08012201	WA/CG	9	
16	9/23/22 2:47	09222248.D	P2204204-006 (30mL)	S35-08012201	WA/CG	10	
17	9/23/22 3:21	09222249.D	P2204204-010 (50mL)	S35-08012201	WA/CG	12	*rerun*
18	9/23/22 3:56	09222250.D	P2204062-002dil (25mL)	S35-08012201	WA/CG	14	
19	9/23/22 4:29	09222251.D	P2204204-001dil (15mL)	S35-08012201	WA/CG	8	
20	9/23/22 5:03	09222252.D	P2204204-002dil (20mL)	S35-08012201	WA/CG	9	
21	9/23/22 5:37	09222253.D	P2204204-006dil (15mL)	S35-08012201	WA/CG	10	
22	9/23/22 6:11	09222254.D	System	S35-08012201/S35-09132201 (10/13)	WA/CG	2	
23	9/23/22 6:50	09222255.D	P2204204-008 (10mL)	S35-08012201	WA/CG	1	
24	9/23/22 7:23	09222256.D	P2204204-009dil (0.2mL)	S35-08012201	WA/CG	1	
25	9/23/22 7:59	09222257.D	P2204204-009 (0.6mL)	S35-08012201	WA/CG	1	
26	9/23/22 8:33	09222258.D	P2204204-011 (4.5mL)	S35-08012201	WA/CG	1	
27	9/23/22 9:07	09222259.D	P2204204-011dil (2.0mL)	S35-08012201	WA/CG	1	
28	9/23/22 9:52	09222260.D	P2204161-001 (1000mL)	S35-08012201	WA/CG	3	
29	9/23/22 10:27	09222261.D	CCV2 End R16092222 25ng	S35-08012201/S35-09132201 (10/13)	WA/CG	2	*Passed-end DoD*
30	9/23/22 11:12	09222262.D	P2204161-002 (1000mL)	S35-08012201	WA/CG	4	
31	9/23/22 11:46	09222263.D	P2204161-003 (1000mL)	S35-08012201	WA/CG	5	
32	9/23/22 13:43	09222264.D	Blank	S35-08012201	WA/CG	2	
33	9/23/22 14:17	09222265.D	P2204161-004 (1000mL)	S35-08012201	WA/CG	6	
34	9/23/22 14:51	09222266.D	P2204183-001 (400mL)	S35-08012201	WA/CG	12	
35	9/23/22 15:25	09222267.D	P2204183-002 (400mL)	S35-08012201	WA/CG	13	
	CCV : 1,2,3-trichlorobenzene out high						
	LCS : ethanol out high, w/in 130% ; in LCSD : ethanol out high						

WDA 9/23/22

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-03
Cycles: 30
Batch: 29800

Batch Started By: on 8/16/22 0313
Finished Cleaning By: ALESAICHERRE on 8/18/22 0518

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS01252	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	8/22/22 0858		
AC02513	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	8/18/22 1217		
AS00936	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	8/22/22 0858		
AC02077	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	8/25/22 1014		gc22_08/19/22
AS00542	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	8/22/22 0858		
AS01327	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	8/22/22 0858		
AS01453	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	9/2/22 0722		
AS00534	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	9/1/22 1122		
AC02515	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	8/18/22 1218		
AS01580	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	8/22/22 0858		ms21-08/17/22
AS00685	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	8/22/22 0858		
AC01902	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	9/1/22 0835		
AC02257	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	9/1/22 1122		
AS00702	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0518	ALESAICHERRE	-14.0	8/18/22 1217		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 08\17\
Data File : 08172206.D
Acq On : 17 Aug 2022 13:22
Operator : KM
Sample : 081722 AS01580 29800
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

8/18/22

Quant Time: Aug 18 04:48:10 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

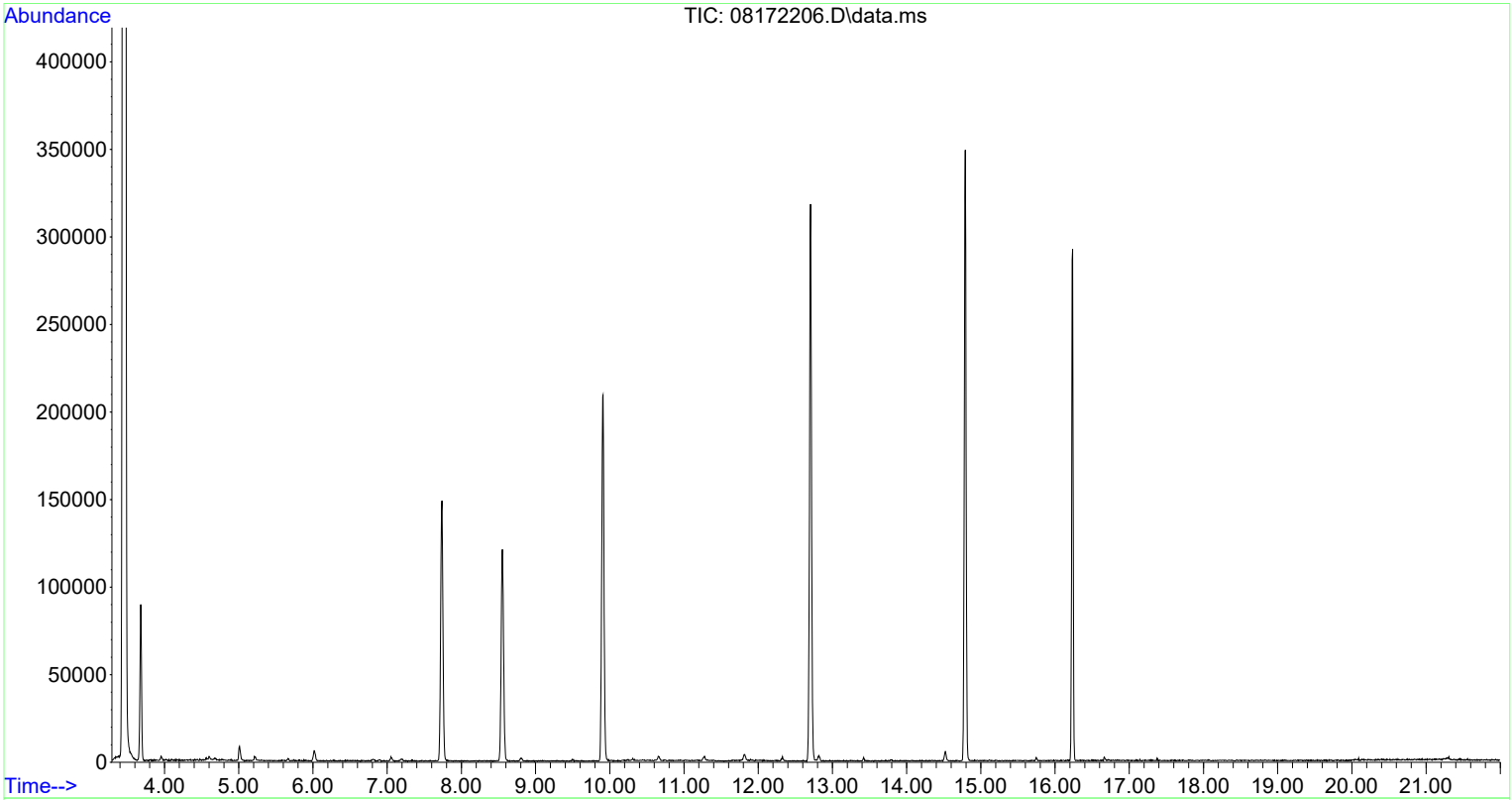
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.734	130	74244	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.907	114	233476	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	41572	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.555	65	114179	1001.36	pg		0.00
Spiked Amount 1000.000			Recovery = 100.14%				
57) Toluene-d8 (SS2)	12.708	98	245874	994.59	pg		0.00
Spiked Amount 1000.000			Recovery = 99.46%				
74) Bromofluorobenzene (SS3)	16.234	174	92379	925.96	pg		0.00
Spiked Amount 1000.000			Recovery = 92.60%				
Target Compounds							Qvalue
3] * Dichlorodifluoromethane	3.720	85	165	1.293	pg	#	74
4] * Chloromethane	3.851	50	87	2.398	pg	#	40
7] * 1,3-Butadiene	4.152	54	12	0.406	pg	#	8
10] * Ethanol	4.606	45	1350	31.404	pg		99
11] * Acetonitrile	4.773	41	343	2.399	pg		92
12] * Acrolein	4.884	56	272	7.144	pg		93
13] * Acetone	5.014	58	3495	59.260	pg		76
14] * Trichlorofluoromethane	5.138	101	92	0.527	pg		86
15] * 2-Propanol (Isopropa...	5.219	45	2913	20.691	pg		92
16] * Acrylonitrile	5.368	53	98	1.213	pg	#	76
18] tert-Butanol	5.778	59	208	1.744	pg	#	46
19] * Methylene Chloride	5.744	84	320	3.614	pg		98
22] * Carbon Disulfide	6.021	76	10716	31.751	pg		99
26] * Vinyl Acetate	6.898	86	184	15.579	pg	#	31
27] * 2-Butanone (MEK)	7.189	72	480	11.066	pg		93
31] * n-Hexane	7.825	57	67	0.816	pg	#	55
39] * Benzene	9.495	78	851	3.706	pg		99
48] * 1,4-Dioxane	10.779	88	206	3.264	pg		88
49] Isooctane	10.786	56	58	0.687	pg	#	60
51] * n-Heptane	11.098	71	54	0.980	pg	#	43
53] * 4-Methyl-2-pentanone	11.815	58	1194	23.961	pg		98
58] * Toluene	12.816	91	3253	11.015	pg		99
59] * 2-Hexanone	13.190	58	123	2.187	pg	#	53
66] * Ethylbenzene	15.220	91	119	0.539	pg	#	43
67] * m- & p-Xylenes	15.387	91	232	1.333	pg		98
70] * Styrene	15.727	104	148	1.255	pg		93
71] * o-Xylene	15.834	91	80	0.465	pg	#	29
72] * n-Nonane	16.067	57	59	0.994	pg	#	33
75] * Cumene	16.363	105	56	0.231	pg	#	48
76] * alpha-Pinene	16.705	93	68	0.649	pg	#	21
77] * n-Propylbenzene	16.812	91	71	0.263	pg	#	53
80] * 1,3,5-Trimethylbenzene	17.011	105	60	0.352	pg	#	28
83] tert-Butylbenzene	17.384	134	53	1.400	pg	#	1
84] * 1,2,4-Trimethylbenzene	17.357	105	93	0.568	pg	#	24
90] 1,2,3-Trimethylbenzene	17.843	105	132	12.744	pg	#	52
91] p-Isopropyltoluene	17.724	119	404	2.142	pg		99
93] * D-Limonene	17.843	68	116	2.144	pg		97
97] * 1,2,4-Trichlorobenzene	19.332	180	89	1.012	pg		98
98] * Naphthalene	19.441	128	240	1.270	pg	#	68

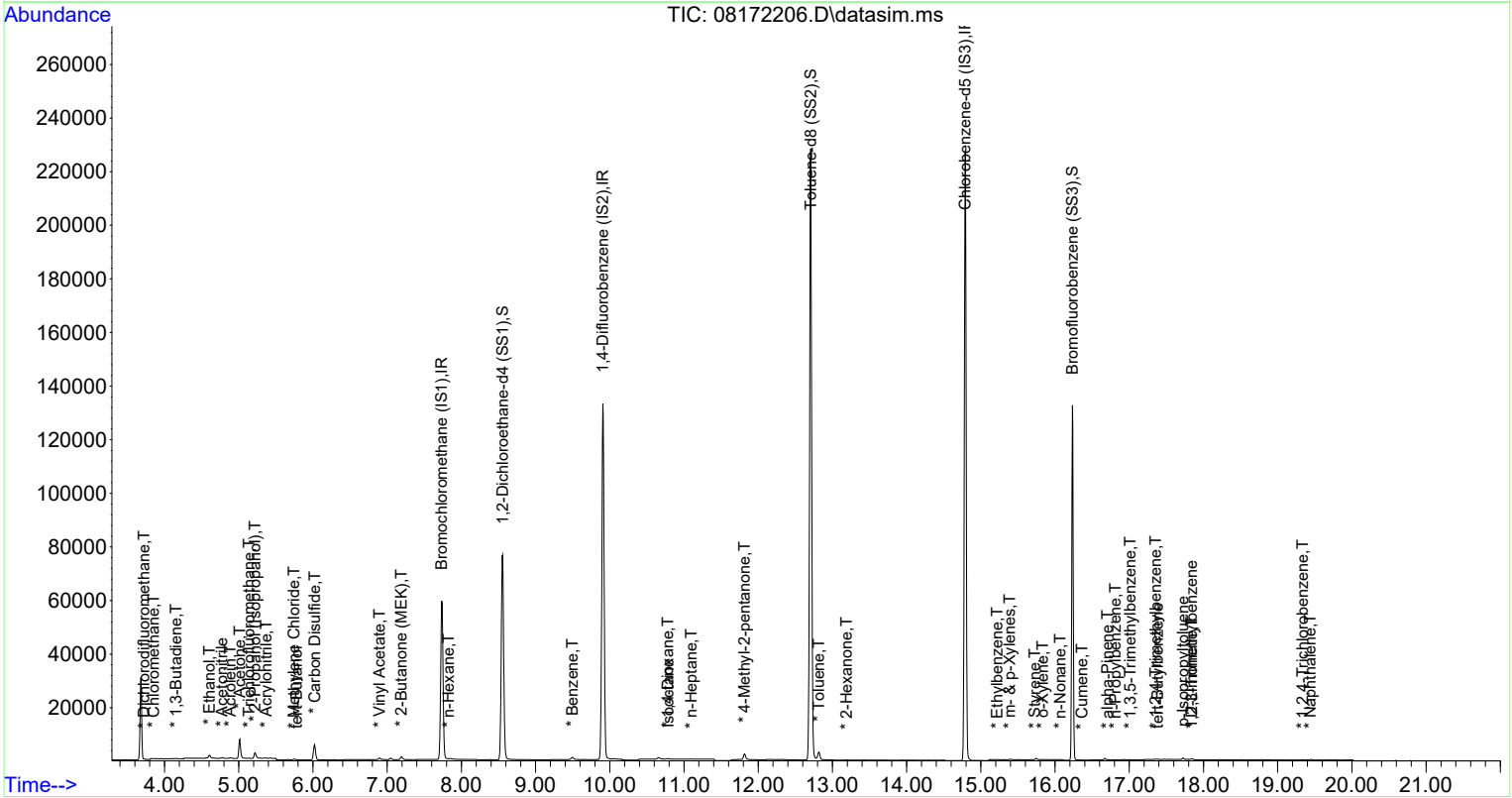
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 08\17\
Data File : 08172206.D
Acq On : 17 Aug 2022 13:22
Operator : KM
Sample : 081722 AS01580 29800
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 18 04:48:10 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 29801

Batch Started By: on 8/16/22 0317
Finished Cleaning By: ALESAICHERRE on 8/18/22 0519

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS01543	8/16/22	8/17/22	Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE				ms21-08/17/22
AC02147	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	9/1/22 0835		
AC02282	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	9/1/22 0835		
AC02069	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	8/30/22 0832		
AC01178	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	8/30/22 0832		
AS00617	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	9/1/22 0835		
AS01490	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	9/1/22 0835		
AC02289	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	9/1/22 1122		
AS01740	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	9/1/22 1122		
AC02348	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	9/1/22 1122		
AC01932	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	9/1/22 0835		
AC00819	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	9/1/22 0835		
AC01570	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	9/2/22 0722		
AS01555	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	9/1/22 1122		
AC02226	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	9/2/22 0722		
AC02482	8/16/22		Pass w/ Conditions	-14.3	8/18/22 0519	ALESAICHERRE	-14.0	9/1/22 0835		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 08\17\
Data File : 08172207.D
Acq On : 17 Aug 2022 14:07
Operator : KM
Sample : 081722 AS01543 29801
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 3 Sample Multiplier: 1

8/18/22

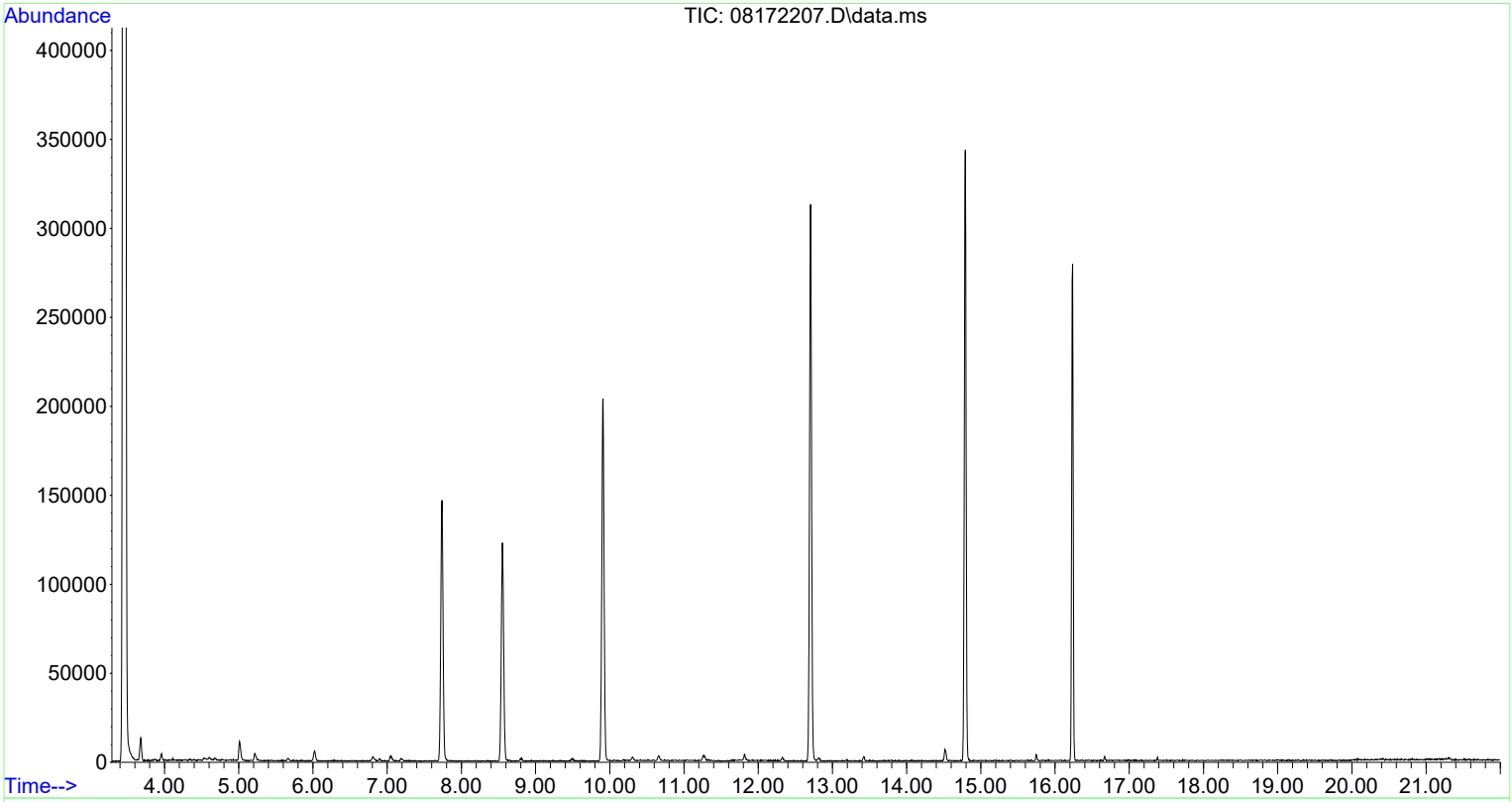
Quant Time: Aug 18 04:38:41 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

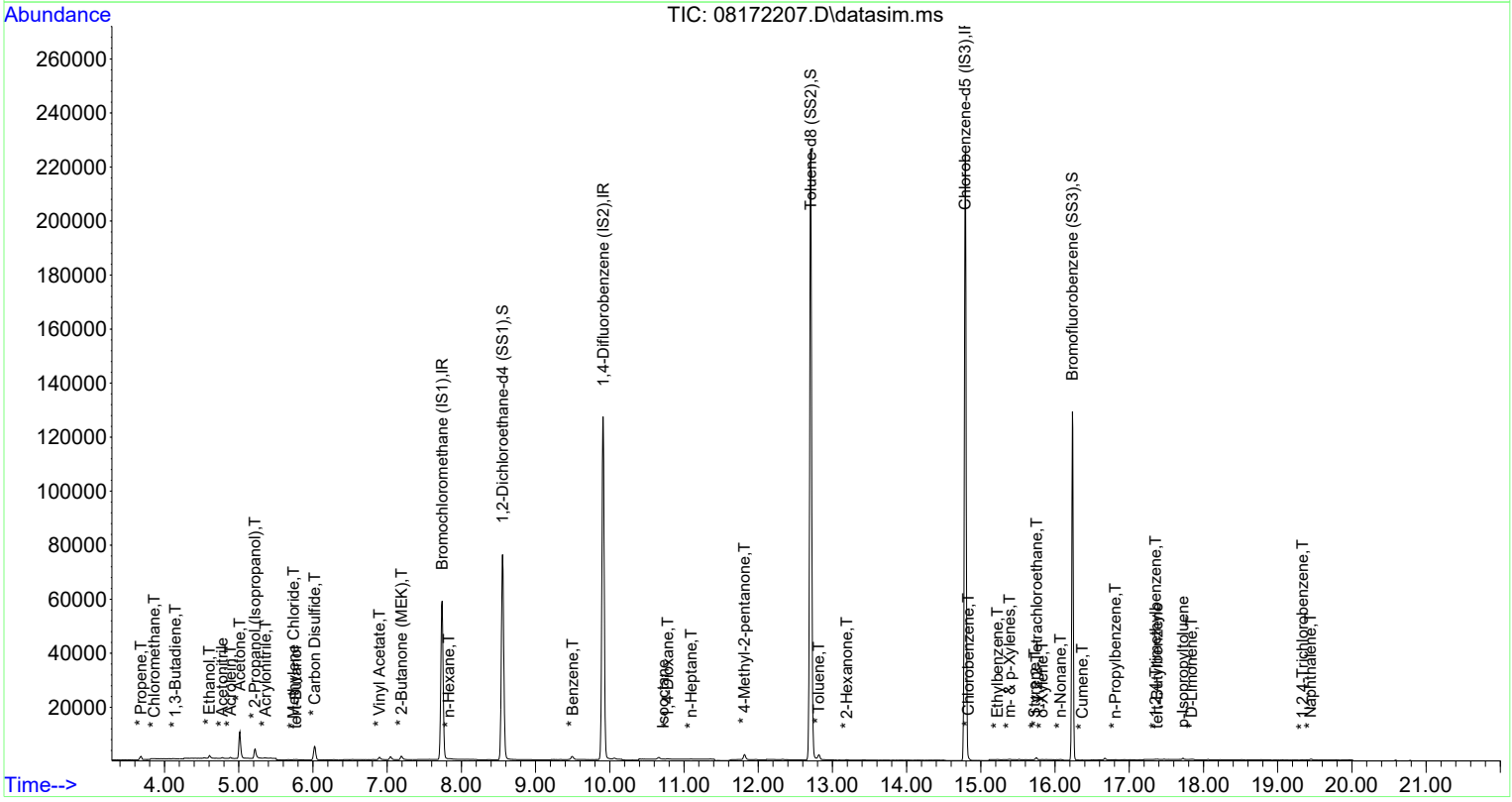
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.740	130	73140	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.912	114	226949	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	40896	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.555	65	112378	1000.44	pg		0.00
Spiked Amount 1000.000			Recovery = 100.04%				
57) Toluene-d8 (SS2)	12.707	98	241510	993.09	pg		0.00
Spiked Amount 1000.000			Recovery = 99.31%				
74) Bromofluorobenzene (SS3)	16.233	174	90978	926.99	pg		0.00
Spiked Amount 1000.000			Recovery = 92.70%				
Target Compounds							Qvalue
2] * Propene	3.682	42	576	9.406	pg	#	25
4] * Chloromethane	3.861	50	110	3.078	pg	#	40
7] * 1,3-Butadiene	4.147	54	3	0.103	pg	#	8
10] * Ethanol	4.606	45	1098	25.927	pg		99
11] * Acetonitrile	4.778	41	392	2.783	pg	#	70
12] * Acrolein	4.890	56	390	10.397	pg		95
13] * Acetone	5.014	58	5351	92.099	pg	#	61
15] * 2-Propanol (Isopropa...	5.219	45	4905	35.367	pg		96
16] * Acrylonitrile	5.362	53	76	0.955	pg		92
18] tert-Butanol	5.773	59	347	2.954	pg	#	81
19] * Methylene Chloride	5.739	84	156	1.788	pg		96
22] * Carbon Disulfide	6.021	76	9628	28.958	pg		99
26] * Vinyl Acetate	6.897	86	259	22.260	pg	#	24
27] * 2-Butanone (MEK)	7.194	72	559	13.082	pg		90
31] * n-Hexane	7.831	57	56	0.692	pg	#	55
39] * Benzene	9.500	78	853	3.822	pg		100
48] * 1,4-Dioxane	10.778	88	175	2.853	pg	#	76
49] Isooctane	10.720	56	72	0.877	pg	#	6
51] * n-Heptane	11.097	71	67	1.250	pg	#	43
53] * 4-Methyl-2-pentanone	11.815	58	1026	21.182	pg		99
58] * Toluene	12.816	91	1898	6.533	pg		98
59] * 2-Hexanone	13.195	58	191	3.452	pg	#	53
65] * Chlorobenzene	14.832	112	129	0.657	pg	#	42
66] * Ethylbenzene	15.226	91	109	0.502	pg	#	43
67] * m- & p-Xylenes	15.387	91	182	1.063	pg		90
70] * Styrene	15.727	104	125	1.077	pg		91
71] * o-Xylene	15.828	91	73	0.431	pg	#	29
72] * n-Nonane	16.073	57	78	1.335	pg	#	33
73] * 1,1,2,2-Tetrachloroe...	15.751	83	66	0.501	pg	#	18
75] * Cumene	16.368	105	64	0.269	pg	#	48
77] * n-Propylbenzene	16.812	91	91	0.343	pg	#	53
83] tert-Butylbenzene	17.378	134	67	1.799	pg	#	1
84] * 1,2,4-Trimethylbenzene	17.357	105	99	0.615	pg	#	24
91] p-Isopropyltoluene	17.724	119	325	1.752	pg		97
93] * D-Limonene	17.843	68	53	0.996	pg	#	6
97] * 1,2,4-Trichlorobenzene	19.335	180	56	0.647	pg		95
98] * Naphthalene	19.444	128	314	1.688	pg	#	68

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS21\DATA\2022 08\17\
Data File : 08172207.D
Acq On : 17 Aug 2022 14:07
Operator : KM
Sample : 081722 AS01543 29801
Misc : SIM + TICS (Sig #1); S35-06152201 (Sig #2)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 18 04:38:41 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

October 17, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on September 30, 2022. For your reference, these analyses have been assigned our service request number P2204345.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 2:23 pm, Oct 17, 2022

Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2204345
Project: DOE Perimeter Air / 080153

CASE NARRATIVE

The samples were received intact under chain of custody on September 30, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The analyte Vinyl Acetate could not be reported for this data set, due to a vendor anomaly found in the new standard being used. Once the issue has been resolved subsequent reports will include the compound in question.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2204345
Project ID: DOE Perimeter Air / 080153

Date Received: 9/30/2022
Time Received: 13:36

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_093022_S	P2204345-001	Air	9/30/2022	11:00	AC02180	-1.88	3.76	X
DOE-2_093022_S	P2204345-002	Air	9/30/2022	11:15	AC01795	-1.21	3.71	X
DOE-3_093022_S	P2204345-003	Air	9/30/2022	11:30	AC02172	-1.82	3.72	X
DOE-4_093022_S	P2204345-004	Air	9/30/2022	11:45	AC02512	-1.53	3.74	X

Air - Chain of Custody Record & Analytical Service Request

Page 1 of 1

P2204345

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No.

Company Name & Address (Reporting Information)	North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304
Project Name	DOE Perimeter Air
Project Number	080153.015.15
Project Manager	Trina Cesnik
P.O. # / Billing Information	PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Phone	805-587-0691
Fax	
Email Address for Result Reporting	cchristensen@northwindgrp.com; denise.gonzalez@northwindg
Sampler (Print & Sign)	T. Stewart Williford

ALS Contact: Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_093022_S	1	9/30/2022	1100	AC02180	FCR00044	-28.5	-3.5		X		
DOE-2_093022_S	2	9/30/2022	1115	AC01795	FCR00222	-28.0	-1.0		X		
DOE-3_093022_S	3	9/30/2022	1130	AC02172	FCR00590	-28.0	-2.0		X		
DOE-4_093022_S	4	9/30/2022	1145	AC02512	FCR00439	-28.0	-2.0		X	TBW	
~~DOE-4_093022_D~~		~~9/30/2022~~	~~1146~~	~~AC01939~~	~~FCR00311~~	~~-28.0~~	~~-26.7~~		~~X~~		DO NOT RUN

* Regulator FCR00311 malfunctioned and canister AC01939 did not fill properly. Do not analyze sample DOE-4_093022_D.

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries) X
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Data Validation Package) 10% Surcharge ____

EDD required Yes / No
Type: EQuIS
Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date: 9/30/22	Time: 1336	Received by: (Signature)	Date: 9-30-22	Time: 1336	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2204345

Project: DOE Perimeter Air / 080153

Sample(s) received on: 9/30/22 Date opened: 9/30/22 by: KYLE.WOODIN

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2204345-001.01	6.0 L Ambient Can					
P2204345-002.01	6.0 L Ambient Can					
P2204345-003.01	6.0 L Ambient Can					
P2204345-004.01	6.0 L Ambient Can					
P2204345-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_093022_S** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P2204345-001

Test Code: EPA TO-15 Date Collected: 9/30/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/30/22
Analyst: Wida Ang Date Analyzed: 10/5/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02180

Initial Pressure (psig): -1.88 Final Pressure (psig): 3.76

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.76	**0.46**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.78	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.63	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.75	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.59	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.75	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	**27**	3.0	**7.6**	0.84	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_093022_S** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P2204345-001

Test Code: EPA TO-15 Date Collected: 9/30/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/30/22
Analyst: Wida Ang Date Analyzed: 10/5/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02180

Initial Pressure (psig): -1.88 Final Pressure (psig): 3.76

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.76	ND	0.22	
67-66-3	Chloroform	ND	0.78	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.75	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.75	ND	0.14	
108-88-3	Toluene	**1.4**	0.75	**0.37**	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.75	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_093022_S** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P2204345-001

Test Code: EPA TO-15 Date Collected: 9/30/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/30/22
Analyst: Wida Ang Date Analyzed: 10/5/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02180

Initial Pressure (psig): -1.88 Final Pressure (psig): 3.76

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.75	ND	0.11	
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.75	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.75	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.75	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.75	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.75	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.75	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.75	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.75	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_093022_S** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P2204345-002

Test Code: EPA TO-15 Date Collected: 9/30/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/30/22
Analyst: Wida Ang Date Analyzed: 10/5/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01795

Initial Pressure (psig): -1.21 Final Pressure (psig): 3.71

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.72	**0.48**	0.15	
74-87-3	Chloromethane	ND	0.69	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.73	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.71	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.71	ND	0.32	
74-83-9	Bromomethane	ND	0.69	ND	0.18	
75-00-3	Chloroethane	ND	0.69	ND	0.26	
107-02-8	Acrolein	ND	1.4	ND	0.59	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.71	**0.21**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.55	
107-13-1	Acrylonitrile	ND	1.4	ND	0.63	
75-35-4	1,1-Dichloroethene	ND	0.73	ND	0.19	
75-09-2	Methylene Chloride	ND	0.71	ND	0.20	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.73	ND	0.096	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	0.72	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.72	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.72	ND	0.20	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.46	
156-59-2	cis-1,2-Dichloroethene	ND	0.71	ND	0.18	
141-78-6	Ethyl Acetate	**22**	2.9	**6.1**	0.79	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_093022_S** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P2204345-002

Test Code: EPA TO-15 Date Collected: 9/30/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/30/22
Analyst: Wida Ang Date Analyzed: 10/5/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01795

Initial Pressure (psig): -1.21 Final Pressure (psig): 3.71

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.72	ND	0.20	
67-66-3	Chloroform	ND	0.73	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.46	
107-06-2	1,2-Dichloroethane	ND	0.72	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.71	ND	0.13	
71-43-2	Benzene	ND	0.68	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.68	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.68	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.72	ND	0.11	
79-01-6	Trichloroethene	ND	0.71	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.71	ND	0.20	
142-82-5	n-Heptane	ND	0.72	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.68	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.69	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.71	ND	0.13	
108-88-3	Toluene	**0.99**	0.71	**0.26**	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.72	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.71	ND	0.092	
111-65-9	n-Octane	ND	0.72	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_093022_S** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P2204345-002

Test Code: EPA TO-15 Date Collected: 9/30/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/30/22
Analyst: Wida Ang Date Analyzed: 10/5/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01795

Initial Pressure (psig): -1.21 Final Pressure (psig): 3.71

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.71	ND	0.10	
100-41-4	Ethylbenzene	ND	0.71	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.34	
75-25-2	Bromoform	ND	0.71	ND	0.068	
100-42-5	Styrene	ND	0.68	ND	0.16	
95-47-6	o-Xylene	ND	0.71	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.71	ND	0.10	
98-82-8	Cumene	ND	0.71	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.72	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.72	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.71	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.71	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.71	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.71	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.71	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.71	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.72	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.71	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.71	ND	0.066	
104-51-8	n-Butylbenzene	ND	0.71	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_093022_S** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P2204345-003

Test Code: EPA TO-15 Date Collected: 9/30/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/30/22
Analyst: Wida Ang Date Analyzed: 10/5/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02172

Initial Pressure (psig): -1.82 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.76	**0.46**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.74	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**31**	3.0	**8.5**	0.83	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_093022_S** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P2204345-003

Test Code: EPA TO-15 Date Collected: 9/30/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/30/22
Analyst: Wida Ang Date Analyzed: 10/5/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02172

Initial Pressure (psig): -1.82 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.76	ND	0.22	
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	**1.3**	0.74	**0.35**	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.089	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_093022_S** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P2204345-003

Test Code: EPA TO-15 Date Collected: 9/30/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/30/22
Analyst: Wida Ang Date Analyzed: 10/5/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02172

Initial Pressure (psig): -1.82 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_093022_S** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P2204345-004

Test Code: EPA TO-15 Date Collected: 9/30/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/30/22
Analyst: Wida Ang Date Analyzed: 10/5/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02512

Initial Pressure (psig): -1.53 Final Pressure (psig): 3.74

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.74	**0.46**	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.76	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.71	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.61	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.73	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.21	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.47	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.18	
141-78-6	Ethyl Acetate	**11**	2.9	**3.0**	0.82	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_093022_S** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P2204345-004

Test Code: EPA TO-15 Date Collected: 9/30/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/30/22
Analyst: Wida Ang Date Analyzed: 10/5/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02512

Initial Pressure (psig): -1.53 Final Pressure (psig): 3.74

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.74	ND	0.21	
67-66-3	Chloroform	ND	0.76	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.47	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.70	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	ND	0.73	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	
142-82-5	n-Heptane	ND	0.74	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.71	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	**0.94**	0.73	**0.25**	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.087	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.095	
111-65-9	n-Octane	ND	0.74	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_093022_S** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P2204345-004

Test Code: EPA TO-15 Date Collected: 9/30/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 9/30/22
Analyst: Wida Ang Date Analyzed: 10/5/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02512

Initial Pressure (psig): -1.53 Final Pressure (psig): 3.74

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.73	ND	0.11	
100-41-4	Ethylbenzene	ND	0.73	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.73	ND	0.070	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	o-Xylene	ND	0.73	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.74	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.74	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.73	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.73	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.21	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.068	
104-51-8	n-Butylbenzene	ND	0.73	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P221004-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Chase Griffin Date Analyzed: 10/4/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P221004-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Chase Griffin Date Analyzed: 10/4/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.53	ND	0.15	
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P221004-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Chase Griffin Date Analyzed: 10/4/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153** ALS Project ID: P2204345

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 9/30/22
Analyst: Chase Griffin Date(s) Received: 9/30/22
Sample Type: 6.0 L Summa Canister(s) Date(s) Analyzed: 10/4 - 10/5/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P221004-MB	**97**	**110**	**97**	70-130	
Lab Control Sample	P221004-LCS	**96**	**109**	**98**	70-130	
Duplicate Lab Control Sample	P221004-DLCS	**95**	**110**	**99**	70-130	
DOE-1_093022_S	P2204345-001	**102**	**99**	**102**	70-130	
DOE-2_093022_S	P2204345-002	**102**	**84**	**80**	70-130	
DOE-3_093022_S	P2204345-003	**102**	**98**	**94**	70-130	
DOE-4_093022_S	P2204345-004	**102**	**98**	**94**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P221004-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Chase Griffin Date Analyzed: 10/4/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	212	163	160	**77**	**75**	71-112	3	25	
74-87-3	Chloromethane	206	170	167	**83**	**81**	53-126	2	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	167	164	**81**	**80**	62-121	1	25	
75-01-4	Vinyl Chloride	204	166	164	**81**	**80**	63-123	1	25	
106-99-0	1,3-Butadiene	212	184	183	**87**	**86**	63-135	1	25	
74-83-9	Bromomethane	206	170	167	**83**	**81**	71-112	2	25	
75-00-3	Chloroethane	208	168	165	**81**	**79**	66-117	3	25	
107-02-8	Acrolein	388	344	339	**89**	**87**	71-123	2	25	
75-69-4	Trichlorofluoromethane (CFC 11)	210	158	156	**75**	**74**	71-114	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	412	321	315	**78**	**76**	61-124	3	25	
107-13-1	Acrylonitrile	412	348	345	**84**	**84**	65-130	0	25	
75-35-4	1,1-Dichloroethene	216	176	173	**81**	**80**	74-114	1	25	
75-09-2	Methylene Chloride	212	170	168	**80**	**79**	75-112	1	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	174	170	**81**	**79**	73-114	3	25	
75-15-0	Carbon Disulfide	426	343	338	**81**	**79**	70-113	3	25	
156-60-5	trans-1,2-Dichloroethene	216	176	173	**81**	**80**	76-119	1	25	
75-34-3	1,1-Dichloroethane	216	171	170	**79**	**79**	70-114	0	25	
1634-04-4	Methyl tert-Butyl Ether	214	176	174	**82**	**81**	72-118	1	25	
78-93-3	2-Butanone (MEK)	418	352	348	**84**	**83**	74-121	1	25	
156-59-2	cis-1,2-Dichloroethene	214	170	168	**79**	**79**	73-117	0	25	
141-78-6	Ethyl Acetate	856	489	484	**57**	**57**	59-161	0	25	**L**

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P221004-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Chase Griffin Date Analyzed: 10/4/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-54-3	n-Hexane	212	165	162	**78**	**76**	55-130	3	25	
67-66-3	Chloroform	212	168	166	**79**	**78**	71-114	1	25	
109-99-9	Tetrahydrofuran (THF)	412	347	343	**84**	**83**	73-114	1	25	
107-06-2	1,2-Dichloroethane	216	169	166	**78**	**77**	71-119	1	25	
71-55-6	1,1,1-Trichloroethane	210	171	171	**81**	**81**	73-119	0	25	
71-43-2	Benzene	216	173	174	**80**	**81**	72-113	1	25	
56-23-5	Carbon Tetrachloride	206	165	164	**80**	**80**	67-123	0	25	
110-82-7	Cyclohexane	422	343	344	**81**	**82**	70-119	1	25	
78-87-5	1,2-Dichloropropane	212	171	172	**81**	**81**	70-118	0	25	
75-27-4	Bromodichloromethane	216	181	180	**84**	**83**	74-119	1	25	
79-01-6	Trichloroethene	212	176	176	**83**	**83**	74-115	0	25	
123-91-1	1,4-Dioxane	212	183	184	**86**	**87**	77-124	1	25	
142-82-5	n-Heptane	212	176	177	**83**	**83**	70-119	0	25	
10061-01-5	cis-1,3-Dichloropropene	216	191	191	**88**	**88**	81-126	0	25	
108-10-1	4-Methyl-2-pentanone	432	365	368	**84**	**85**	73-129	1	25	
10061-02-6	trans-1,3-Dichloropropene	206	190	192	**92**	**93**	80-127	1	25	
79-00-5	1,1,2-Trichloroethane	212	177	176	**83**	**83**	78-117	0	25	
108-88-3	Toluene	212	194	195	**92**	**92**	70-118	0	25	
591-78-6	2-Hexanone	426	401	405	**94**	**95**	74-132	1	25	
124-48-1	Dibromochloromethane	216	208	209	**96**	**97**	69-137	1	25	
106-93-4	1,2-Dibromoethane	208	201	202	**97**	**97**	76-128	0	25	
111-65-9	n-Octane	214	196	198	**92**	**93**	68-120	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2204345
Client Project ID: **DOE Perimeter Air / 080153** ALS Sample ID: P221004-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Chase Griffin Date Analyzed: 10/4/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
127-18-4	Tetrachloroethene	212	200	203	**94**	**96**	63-130	2	25	
100-41-4	Ethylbenzene	210	201	202	**96**	**96**	71-123	0	25	
179601-23-1	m,p-Xylenes	420	406	409	**97**	**97**	67-127	0	25	
75-25-2	Bromoform	214	217	217	**101**	**101**	65-149	0	25	
100-42-5	Styrene	212	216	219	**102**	**103**	76-132	1	25	
95-47-6	o-Xylene	212	202	204	**95**	**96**	69-124	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	207	209	**98**	**99**	69-128	1	25	
98-82-8	Cumene	212	201	202	**95**	**95**	69-125	0	25	
103-65-1	n-Propylbenzene	214	203	205	**95**	**96**	70-127	1	25	
622-96-8	4-Ethyltoluene	216	210	211	**97**	**98**	69-127	1	25	
108-67-8	1,3,5-Trimethylbenzene	210	208	210	**99**	**100**	66-129	1	25	
95-63-6	1,2,4-Trimethylbenzene	208	210	211	**101**	**101**	63-142	0	25	
100-44-7	Benzyl Chloride	420	555	557	**132**	**133**	73-145	0.8	25	
541-73-1	1,3-Dichlorobenzene	210	214	216	**102**	**103**	67-136	1	25	
106-46-7	1,4-Dichlorobenzene	212	214	216	**101**	**102**	63-134	1	25	
135-98-8	sec-Butylbenzene	210	201	203	**96**	**97**	68-130	1	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	210	204	205	**97**	**98**	60-139	1	25	
95-50-1	1,2-Dichlorobenzene	212	209	209	**99**	**99**	64-139	0	25	
120-82-1	1,2,4-Trichlorobenzene	412	503	508	**122**	**123**	62-154	0.8	25	
91-20-3	Naphthalene	216	290	294	**134**	**136**	62-156	1	25	
87-68-3	Hexachlorobutadiene	210	205	205	**98**	**98**	55-142	0	25	
104-51-8	n-Butylbenzene	210	215	217	**102**	**103**	70-131	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2204345

Client Project ID: **DOE Perimeter Air / 080153**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 10042201.D

Analyst: Chase Griffin Date Analyzed: 10/4/22

Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 01:37

Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	164265		7.23		693930		9.29		128410		14.82	
	Upper Limit	229971		7.56		971502		9.62		179774		15.15	
	Lower Limit	98559		6.90		416358		8.96		77046		14.49	
	Client Sample ID												
01	Method Blank	150871		7.19		645147		9.26		118754		14.81	
02	Lab Control Sample	157467		7.24		668783		9.29		123243		14.82	
03	Duplicate Lab Control Sample	160995		7.23		674288		9.29		123637		14.81	
04	DOE-1_093022_S	175245		11.30	I	924305		13.42	I	171891		17.73	I
05	DOE-2_093022_S	162975		11.30	I	730327		13.42	I	192457	I	17.73	I
06	DOE-3_093022_S	168063		11.30	I	753447		13.42	I	171630		17.73	I
08	DOE-4_093022_S	168457		11.30	I	757277		13.42	I	171254		17.73	I
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits. See case narrative.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052207.D Vial: 11
Acq On : 5 Oct 2022 7:48 Operator: WA
Sample : P2204345-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 10:18:42 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 10/5/22
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	175245	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	924305	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	171891	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	297105	12.728	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
57) Toluene-d8 (SS2)	15.87	98	819981	12.373	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
73) Bromofluorobenzene (SS3)	19.11	174	316570	12.784	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
Target Compounds							Qvalue
2) Propene	4.19	42	19010	0.781	ng	#	77
3) Dichlorodifluoromethan...	4.35	85	46197	1.579	ng		100
4) Chloromethane	4.64	50	5615	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	1161	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.35	54	108	N.D.			
8) Bromomethane	5.77	94	567	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.46	45	97980	6.870	ng		99
11) Acetonitrile	6.74	41	6711	N.D.			
12) Acrolein	6.94	56	2596	N.D.			
13) Acetone	7.14	58	98327	7.258	ng	#	83
14) Trichlorofluoromethane	7.39	101	21422	0.791	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	33050	0.792	ng		82
16) Acrylonitrile	7.91	53	1090	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.60	59	936	N.D.			
19) Methylene Chloride	8.57	84	3331	N.D.			
20) 3-Chloro-1-propene (Al...	8.67	41	171	N.D.			
21) Trichlorotrifluoroethane	9.00	151	4926	N.D.			
22) Carbon Disulfide	8.84	76	3512	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.33	86	3104	0.881	ng	#	91
27) 2-Butanone (MEK)	10.62	72	7501	0.765	ng		93
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.42	87	3100	N.D.			
30) Ethyl Acetate	11.42	61	143983	19.072	ng		98
31) n-Hexane	11.41	57	5326	N.D.			
32) Chloroform	11.47	83	1923	N.D.			
34) Tetrahydrofuran (THF)	11.93	72	390	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	394	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	19885	N.D.			
42) Carbon Tetrachloride	13.19	117	6229	N.D.			
43) Cyclohexane	13.32	84	1328	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	14.07	83	110	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	16115	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS16\DATA\2022 10\05\10052207.D Vial: 11
Acq On : 5 Oct 2022 7:48 Operator: WA
Sample : P2204345-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 10:18:42 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

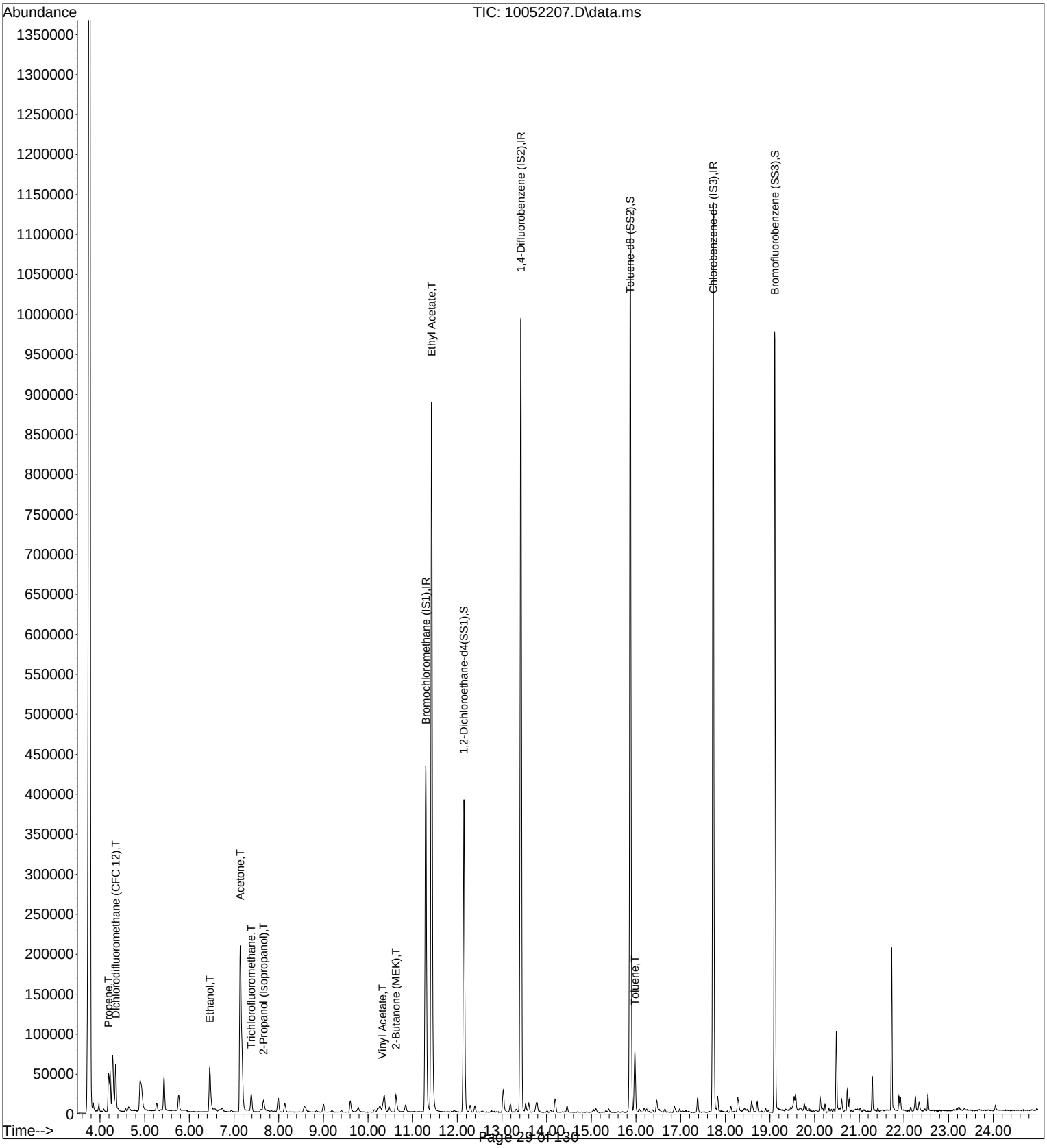
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	1771	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.05	58	736	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	58009	0.967 ng	99
59) 2-Hexanone	16.24	43	3959	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.86	43	8394	N.D.	
63) n-Octane	16.98	57	741	N.D.	
64) Tetrachloroethene	17.12	166	454	N.D.	
65) Chlorobenzene	17.77	112	117	N.D.	
66) Ethylbenzene	18.13	91	6525	N.D.	
67) m- & p-Xylenes	18.28	91	15035	N.D.	
68) Bromoform	18.35	173	303	N.D.	
69) Styrene	18.61	104	2686	N.D.	
70) o-Xylene	18.71	91	6108	N.D.	
71) n-Nonane	18.90	43	2773	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.23	105	1400	N.D.	
75) alpha-Pinene	19.58	93	5399	N.D.	
76) n-Propylbenzene	19.68	91	3296	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.81	105	2895	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	1714	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	5135	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.35	91	1072	N.D.	
85) 1,3-Dichlorobenzene	20.37	146	496	N.D.	
86) 1,4-Dichlorobenzene	20.43	146	1692	N.D.	
87) sec-Butylbenzene	20.47	105	349	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	6884	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	20.73	146	382	N.D.	
91) d-Limonene	20.73	68	5843	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.11	157	143	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.24	180	2270	N.D.	
95) Naphthalene	22.35	128	6793	N.D.	
96) n-Dodecane	22.54	58	212	No Calib	#
97) Hexachlorobutadiene	22.67	225	398	N.D.	
98) Cyclohexanone	18.18	55	269	No Calib	#
99) tert-Butylbenzene	20.24	119	806	N.D.	
100) n-Butylbenzene	20.98	91	1444	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052207.D Vial: 11
Acq On : 5 Oct 2022 7:48 Operator: WA
Sample : P2204345-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 10:18:42 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052207.D Vial: 11
Acq On : 5 Oct 2022 7:48 Operator: WA
Sample : P2204345-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 10:18:42 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 10/5/22

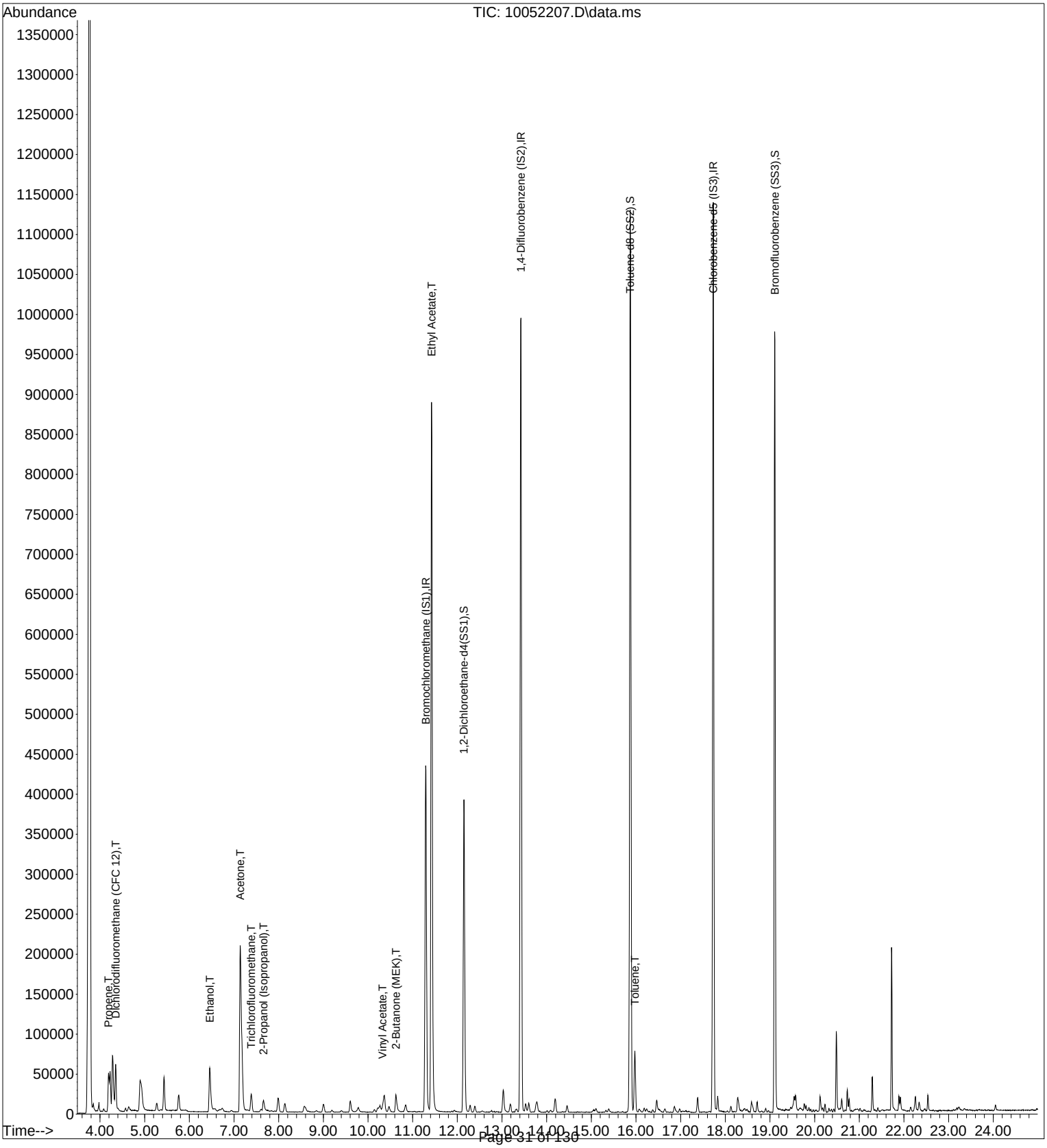
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	175245	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	924305	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	171891	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	297105	12.728	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
57) Toluene-d8 (SS2)	15.87	98	819981	12.373	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
73) Bromofluorobenzene (SS3)	19.11	174	316570	12.784	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
Target Compounds							Qvalue
2) Propene	4.19	42	19010	0.781	ng	#	77
3) Dichlorodifluoromethan...	4.35	85	46197	1.579	ng		100
10) Ethanol	6.46	45	97980	6.870	ng		99
13) Acetone	7.14	58	98327	7.258	ng	#	83
14) Trichlorofluoromethane	7.39	101	21422	0.791	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	33050	0.792	ng		82
26) Vinyl Acetate	10.33	86	3104	0.881	ng	#	91
27) 2-Butanone (MEK)	10.62	72	7501	0.765	ng		93
30) Ethyl Acetate	11.42	61	143983	19.072	ng		98
58) Toluene	15.98	91	58009	0.967	ng		99

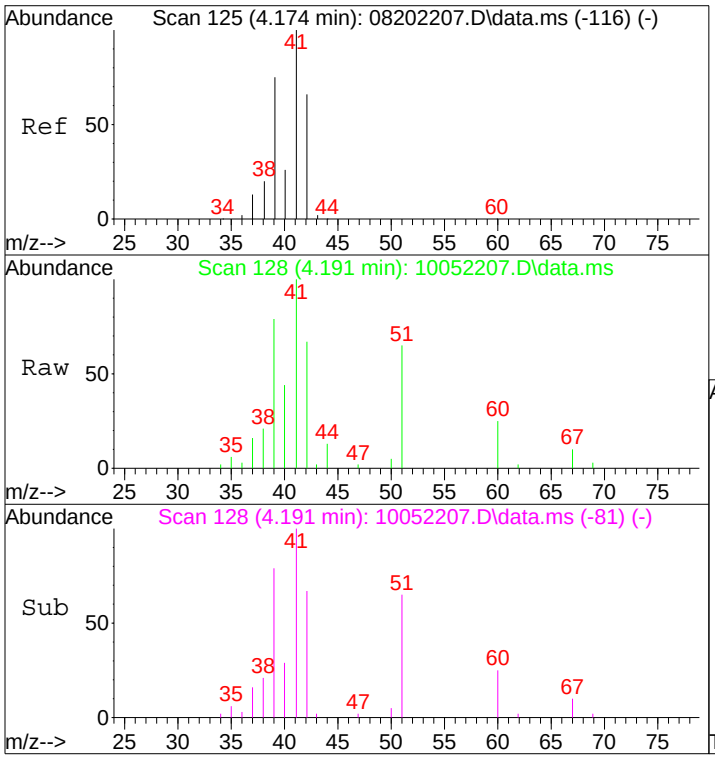
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052207.D Vial: 11
Acq On : 5 Oct 2022 7:48 Operator: WA
Sample : P2204345-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 10:18:42 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

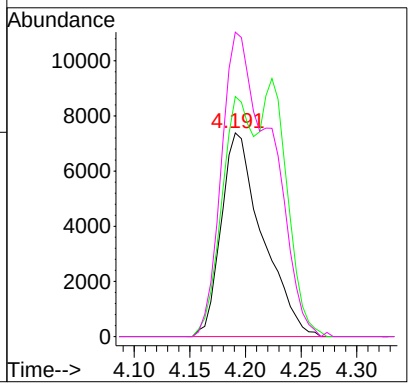


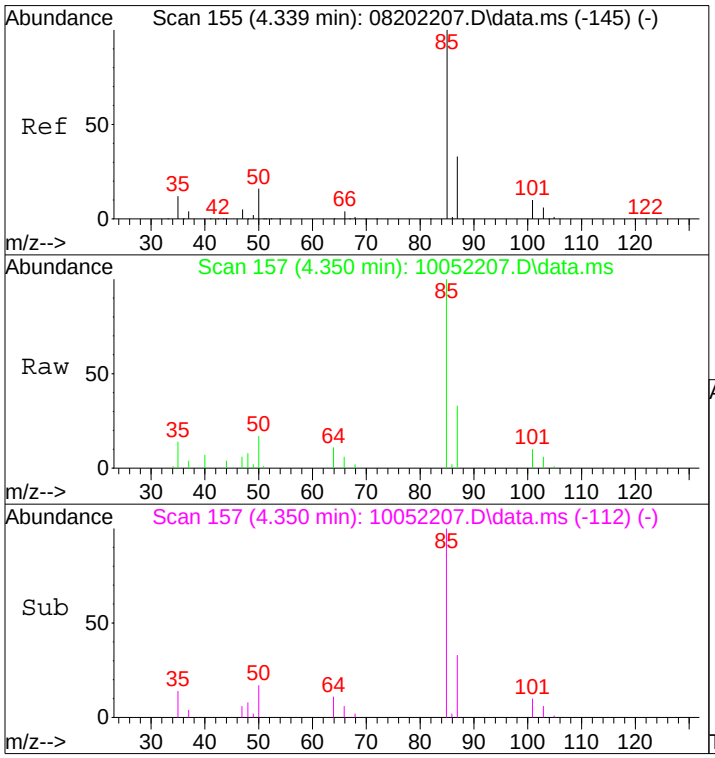


#2
Propene
Concen: 0.78 ng
RT: 4.19 min Scan# 128
Delta R.T. 0.006 min
Lab File: 10052207.D
Acq: 5 Oct 2022 7:48

Tgt Ion: 42 Resp: 19010

Ion	Ratio	Lower	Upper
42	100		
39	88.0	93.5	133.5#
41	180.5	131.9	171.9#

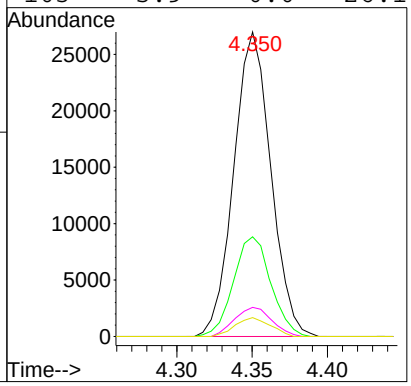


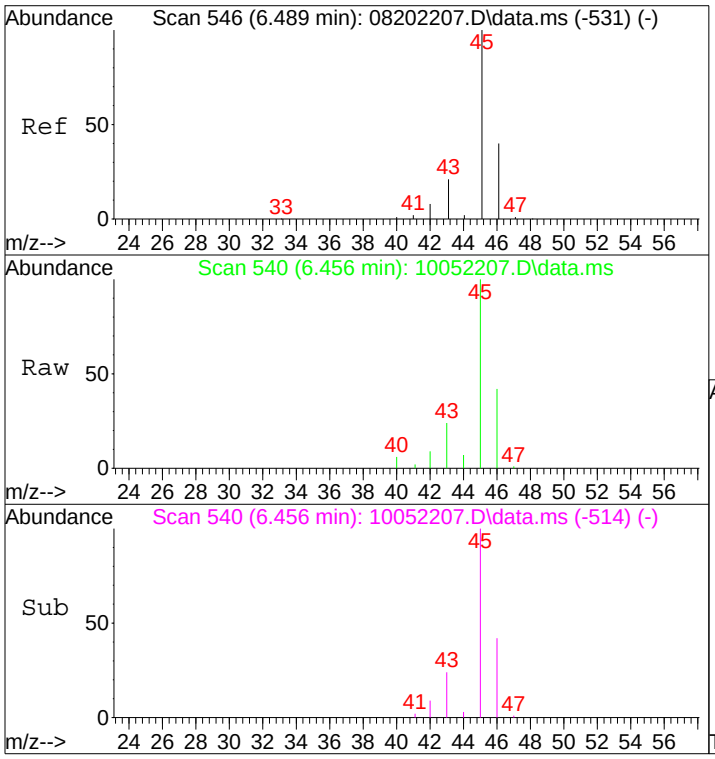


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.58 ng
RT: 4.35 min Scan# 157
Delta R.T. 0.000 min
Lab File: 10052207.D
Acq: 5 Oct 2022 7:48

Tgt Ion: 85 Resp: 46197

Ion	Ratio	Lower	Upper
85	100		
87	33.0	12.9	52.9
101	9.6	0.0	29.6
103	5.9	0.0	26.1

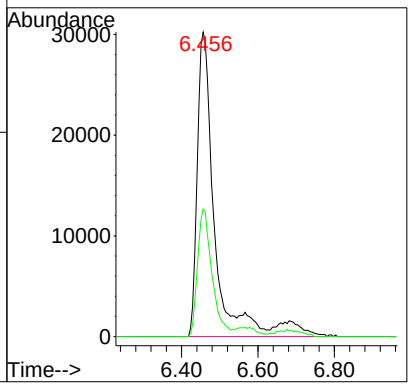


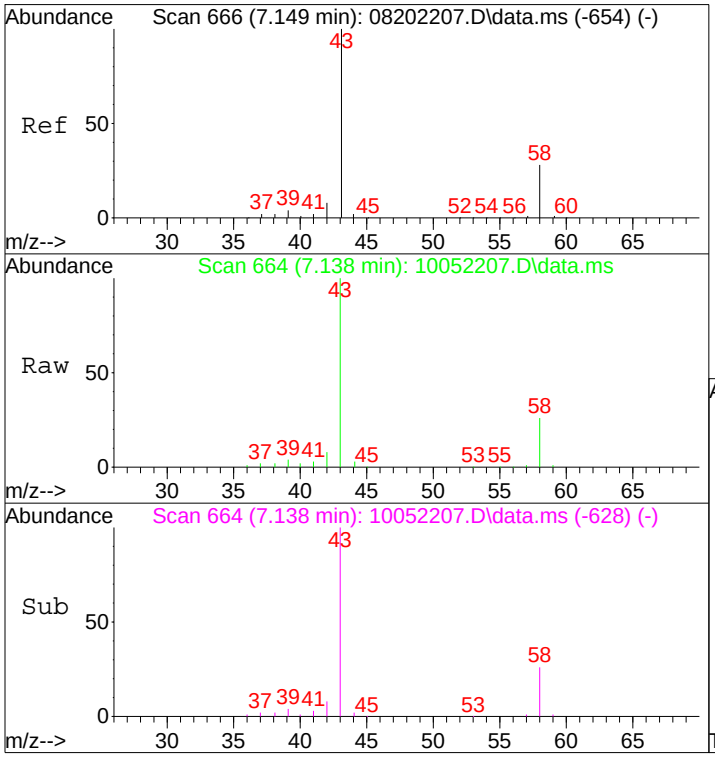


#10
Ethanol
Concen: 6.87 ng
RT: 6.46 min Scan# 540
Delta R.T. -0.104 min
Lab File: 10052207.D
Acq: 5 Oct 2022 7:48

Tgt Ion: 45 Resp: 97980

Ion	Ratio	Lower	Upper
45	100		
46	40.9	20.5	60.5

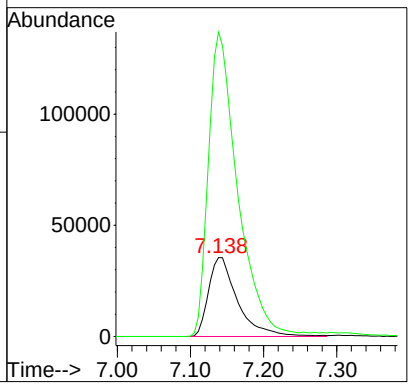


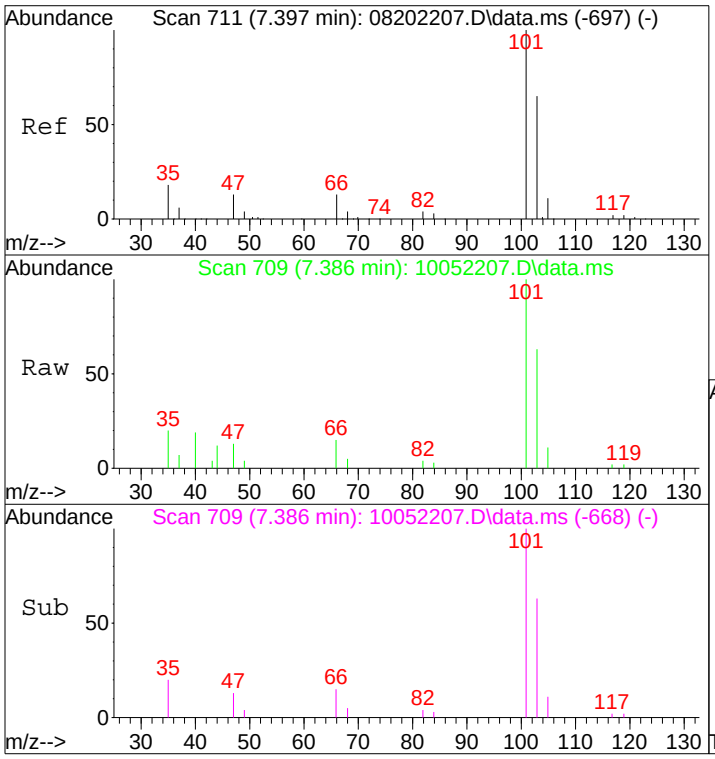


#13
Acetone
Concen: 7.26 ng
RT: 7.14 min Scan# 664
Delta R.T. -0.050 min
Lab File: 10052207.D
Acq: 5 Oct 2022 7:48

Tgt Ion: 58 Resp: 98327

Ion	Ratio	Lower	Upper
58	100		
43	396.0	328.5	388.5#

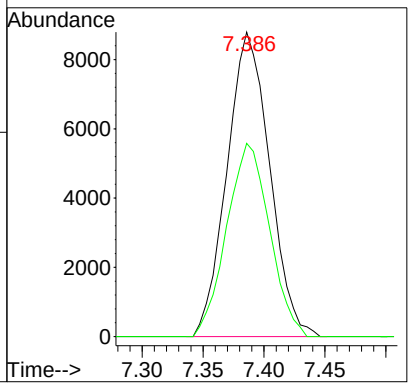


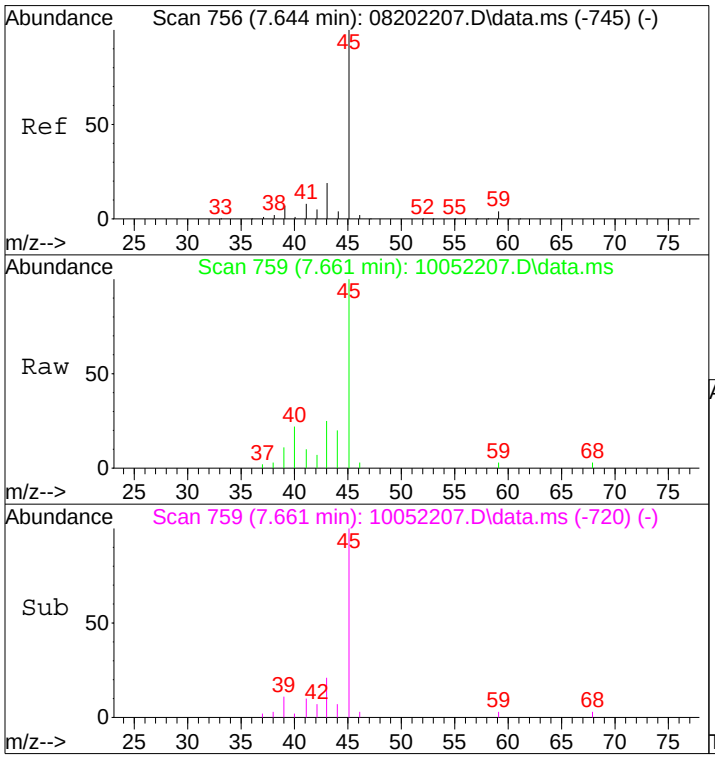


#14
Trichlorofluoromethane
Concen: 0.79 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.022 min
Lab File: 10052207.D
Acq: 5 Oct 2022 7:48

Tgt Ion:101 Resp: 21422

Ion	Ratio	Lower	Upper
101	100		
103	63.6	44.6	84.6

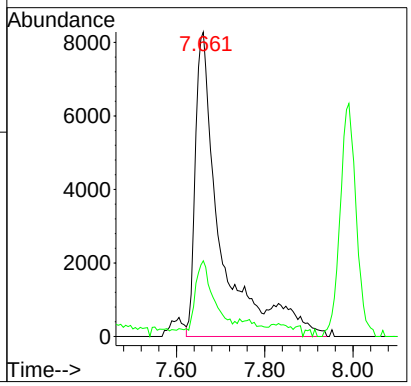


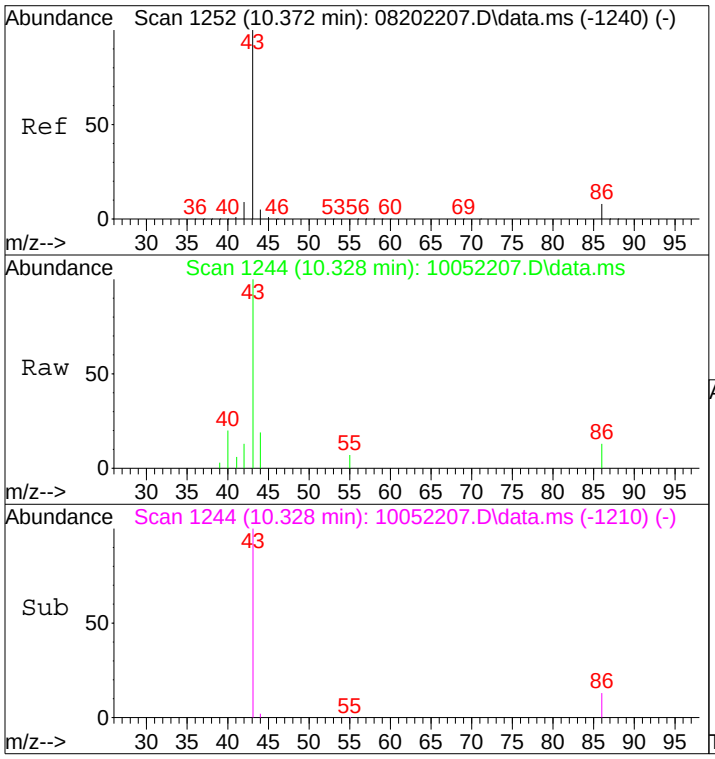


#15
2-Propanol (Isopropanol)
Concen: 0.79 ng
RT: 7.66 min Scan# 759
Delta R.T. -0.033 min
Lab File: 10052207.D
Acq: 5 Oct 2022 7:48

Tgt Ion: 45 Resp: 33050

Ion	Ratio	Lower	Upper
45	100		
43	27.9	0.0	39.5

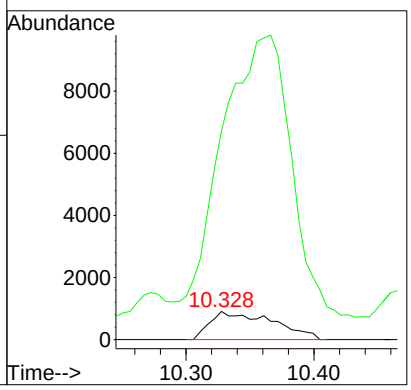


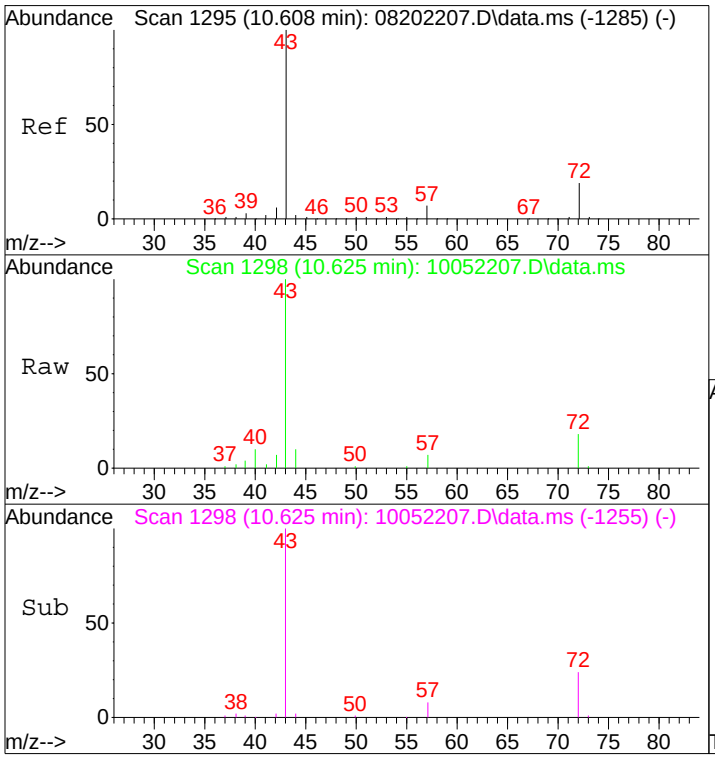


#26
Vinyl Acetate
Concen: 0.88 ng
RT: 10.33 min Scan# 1244
Delta R.T. -0.060 min
Lab File: 10052207.D
Acq: 5 Oct 2022 7:48

Tgt Ion: 86 Resp: 3104

Ion	Ratio	Lower	Upper
86	100		
43	1284.4	1314.6	1354.6#

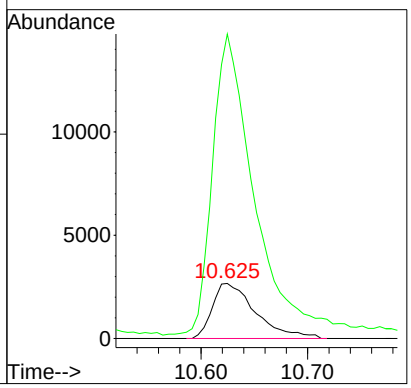


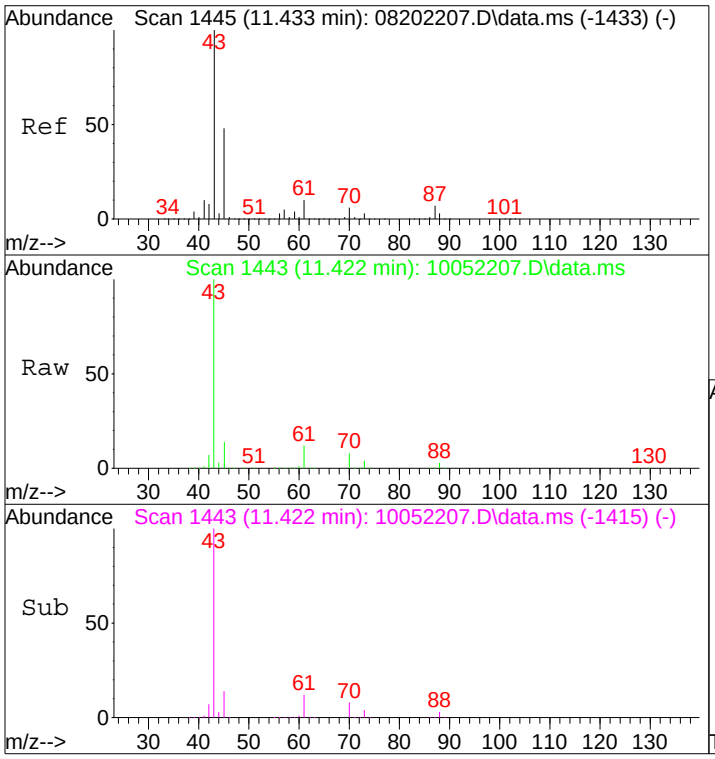


#27
2-Butanone (MEK)
Concen: 0.76 ng
RT: 10.62 min Scan# 1298
Delta R.T. -0.011 min
Lab File: 10052207.D
Acq: 5 Oct 2022 7:48

Tgt Ion: 72 Resp: 7501

Ion	Ratio	Lower	Upper
72	100		
43	539.4	500.2	540.2

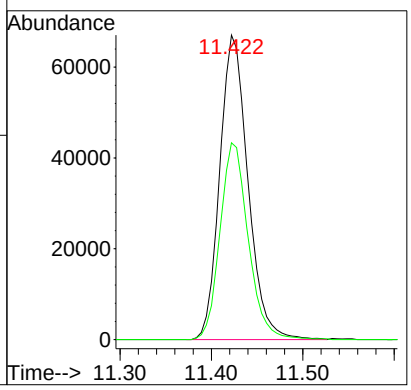


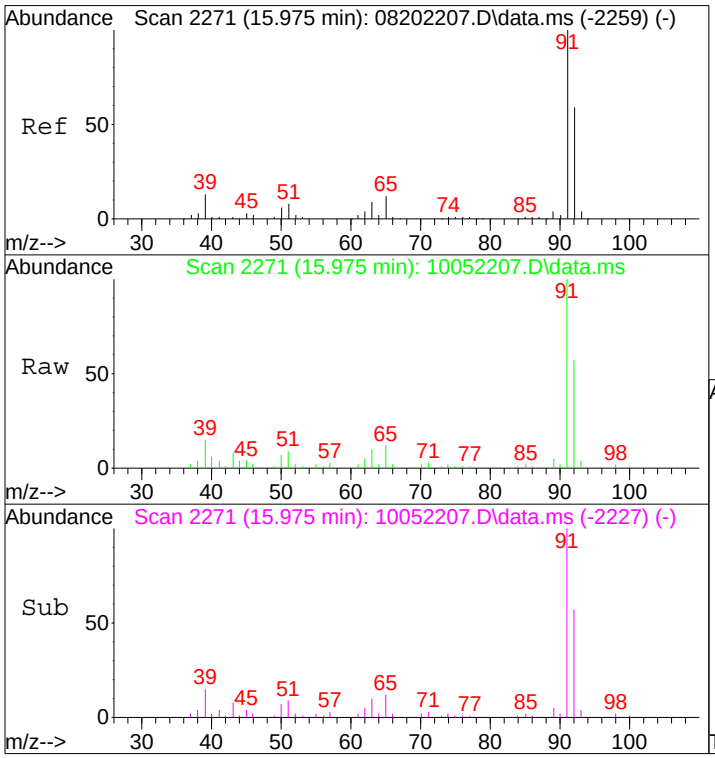


#30
Ethyl Acetate
Concen: 19.07 ng
RT: 11.42 min Scan# 1443
Delta R.T. -0.044 min
Lab File: 10052207.D
Acq: 5 Oct 2022 7:48

Tgt Ion: 61 Resp: 143983

Ion	Ratio	Lower	Upper
61	100		
70	64.6	46.5	86.5

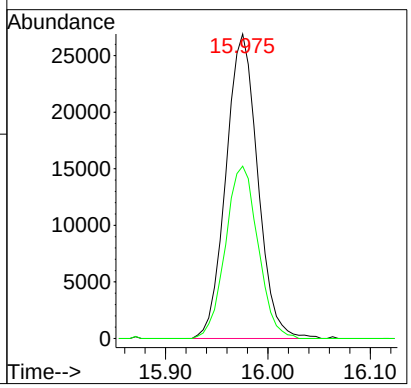




#58
Toluene
Concen: 0.97 ng
RT: 15.98 min Scan# 2271
Delta R.T. -0.005 min
Lab File: 10052207.D
Acq: 5 Oct 2022 7:48

Tgt Ion: 91 Resp: 58009

Ion	Ratio	Lower	Upper
91	100		
92	58.0	38.9	78.9



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052208.D Vial: 12
Acq On : 5 Oct 2022 8:22 Operator: WA
Sample : P2204345-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:12:36 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022 10/5/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	162975	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	730327	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	192457	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	276165	12.722	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.87	98	779493	10.505	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.08%				
73) Bromofluorobenzene (SS3)	19.11	174	278257	10.036	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.32%				
Target Compounds							Qvalue
2) Propene	4.20	42	13924m	0.615	ng		
3) Dichlorodifluoromethan...	4.34	85	47076	1.730	ng		99
4) Chloromethane	4.63	50	9810	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1268	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.77	94	1306	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.45	45	73833	5.567	ng		96
11) Acetonitrile	6.74	41	5300	N.D.			
12) Acrolein	6.94	56	4138	N.D.			
13) Acetone	7.14	58	90496	7.183	ng		88
14) Trichlorofluoromethane	7.39	101	22104	0.877	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	26807	0.691	ng		86
16) Acrylonitrile	7.91	53	366	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.61	59	721	N.D.			
19) Methylene Chloride	8.58	84	2496	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.00	151	4433	N.D.			
22) Carbon Disulfide	8.84	76	3970	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.33	86	2470	0.754	ng	#	93
27) 2-Butanone (MEK)	10.63	72	5745	0.630	ng	#	87
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	2578	N.D.			
30) Ethyl Acetate	11.43	61	114192	16.265	ng		97
31) n-Hexane	11.41	57	5146	N.D.			
32) Chloroform	11.47	83	1845	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	418	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.71	61	364	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	15648	N.D.			
42) Carbon Tetrachloride	13.19	117	5673	N.D.			
43) Cyclohexane	13.32	84	1272	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	14.08	83	219	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	16153	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS16\DATA\2022 10\05\10052208.D Vial: 12
Acq On : 5 Oct 2022 8:22 Operator: WA
Sample : P2204345-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:12:36 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

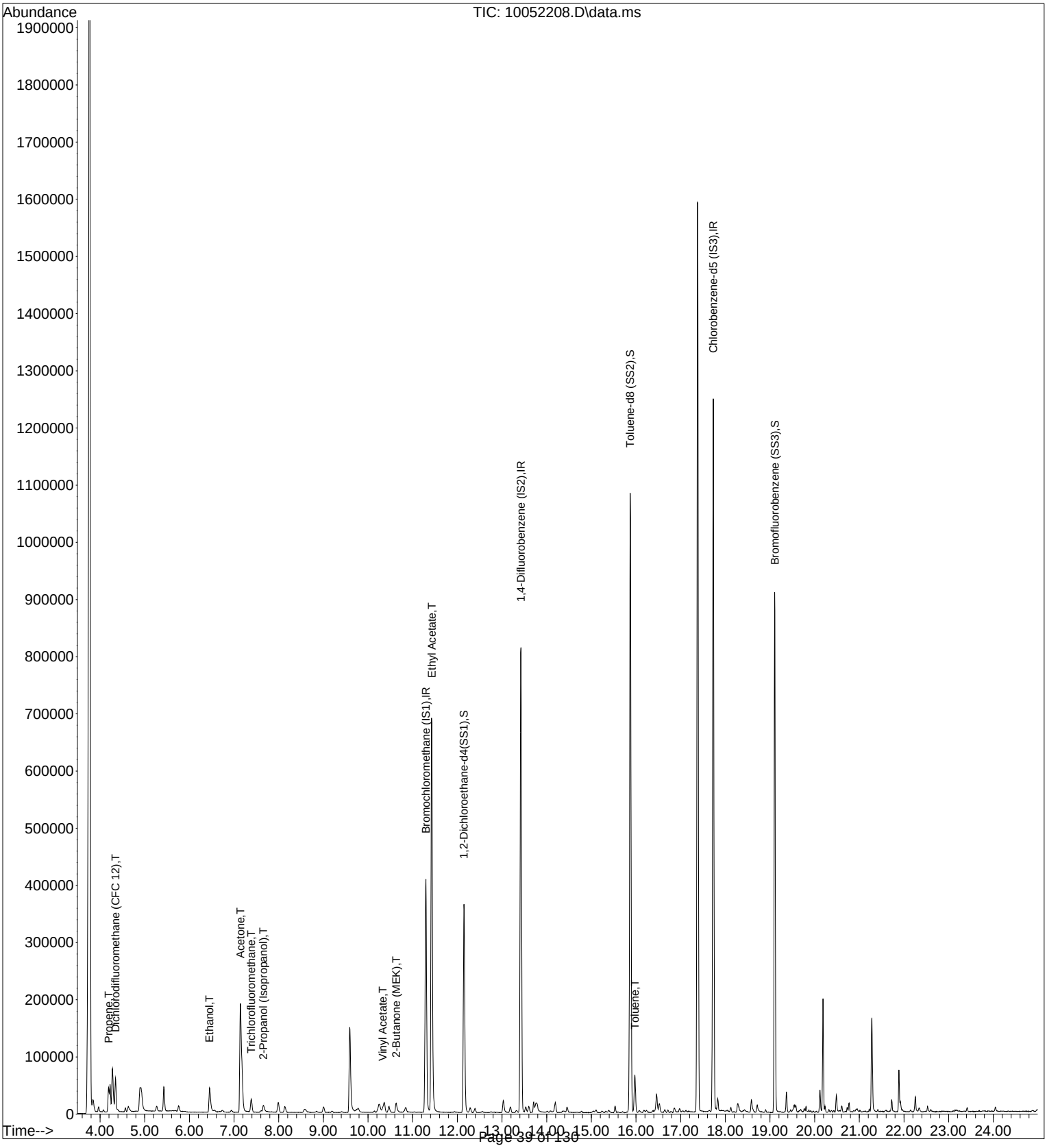
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.45	71	1771	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.05	58	627	N.D.	
54) trans-1,3-Dichloropropene	15.53	75	442	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	49034	0.730 ng	100
59) 2-Hexanone	16.23	43	3956	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.85	43	7748	N.D.	
63) n-Octane	16.98	57	1260	N.D.	
64) Tetrachloroethene	17.11	166	697	N.D.	
65) Chlorobenzene	17.77	112	276	N.D.	
66) Ethylbenzene	18.13	91	6151	N.D.	
67) m- & p-Xylenes	18.28	91	13584	N.D.	
68) Bromoform	18.35	173	241	N.D.	
69) Styrene	18.61	104	2403	N.D.	
70) o-Xylene	18.71	91	5145	N.D.	
71) n-Nonane	18.91	43	1738	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.23	105	582	N.D.	
75) alpha-Pinene	19.58	93	3762	N.D.	
76) n-Propylbenzene	19.68	91	1988	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.81	105	2193	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	1571	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	4876	N.D.	
83) n-Decane	20.18	58	114	No Calib	#
84) Benzyl Chloride	20.35	91	691	N.D.	
85) 1,3-Dichlorobenzene	20.37	146	319	N.D.	
86) 1,4-Dichlorobenzene	20.43	146	1283	N.D.	
87) sec-Butylbenzene	20.47	105	222	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	5035	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	20.72	146	213	N.D.	
91) d-Limonene	20.73	68	1614	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.24	180	1378	N.D.	
95) Naphthalene	22.34	128	4653	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.20	55	561	No Calib	#
99) tert-Butylbenzene	20.24	119	655	N.D.	
100) n-Butylbenzene	20.97	91	1851	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052208.D Vial: 12
Acq On : 5 Oct 2022 8:22 Operator: WA
Sample : P2204345-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:12:36 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052208.D Vial: 12
Acq On : 5 Oct 2022 8:22 Operator: WA
Sample : P2204345-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:12:36 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

10/5/22

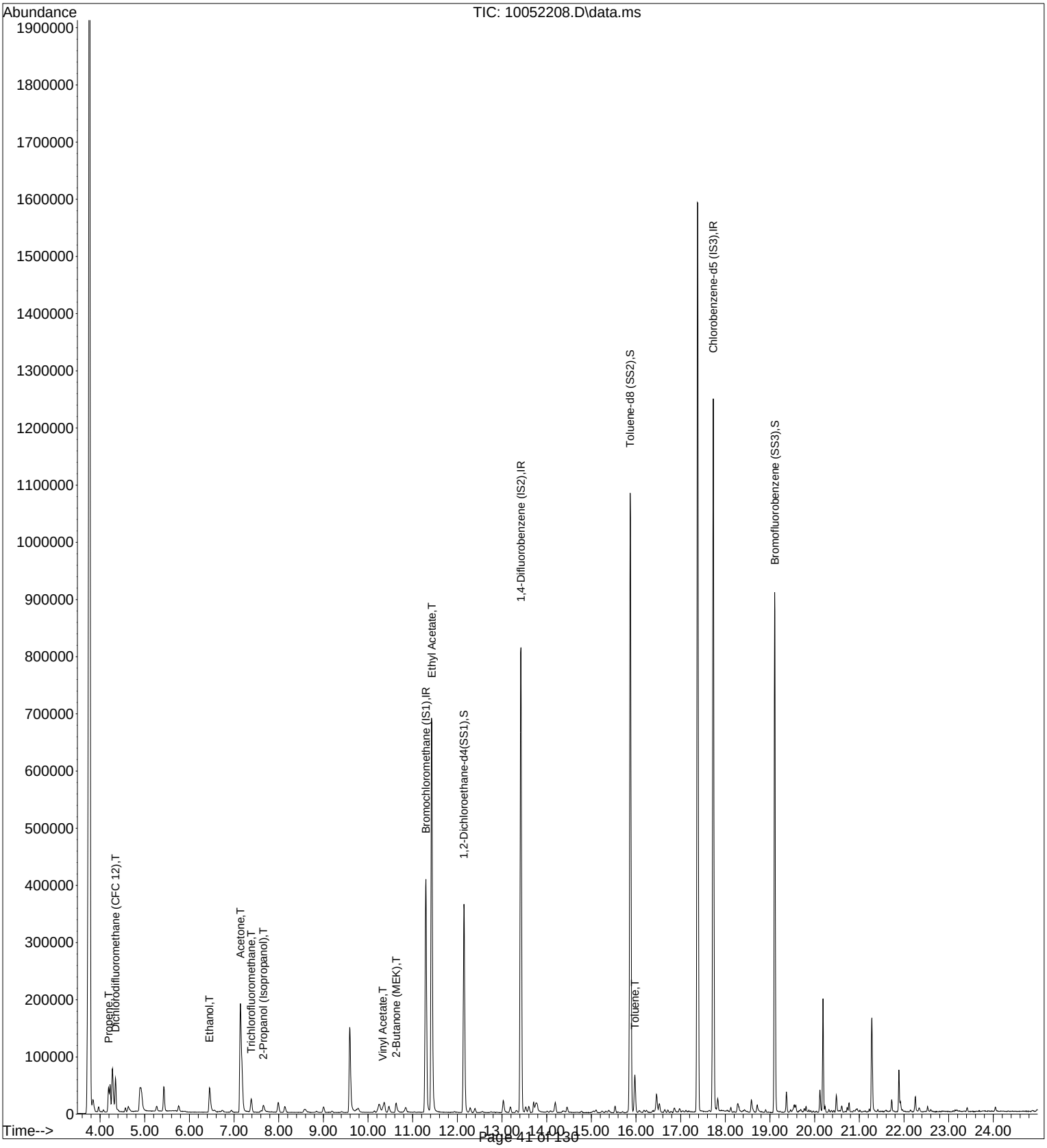
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	162975	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	730327	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	192457	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	276165	12.722	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.87	98	779493	10.505	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.08%				
73) Bromofluorobenzene (SS3)	19.11	174	278257	10.036	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.32%				
Target Compounds							Qvalue
2) Propene	4.20	42	13924m	0.615	ng		
3) Dichlorodifluoromethan...	4.34	85	47076	1.730	ng		99
10) Ethanol	6.45	45	73833	5.567	ng		96
13) Acetone	7.14	58	90496	7.183	ng		88
14) Trichlorofluoromethane	7.39	101	22104	0.877	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	26807	0.691	ng		86
26) Vinyl Acetate	10.33	86	2470	0.754	ng	#	93
27) 2-Butanone (MEK)	10.63	72	5745	0.630	ng	#	87
30) Ethyl Acetate	11.43	61	114192	16.265	ng		97
58) Toluene	15.98	91	49034	0.730	ng		100

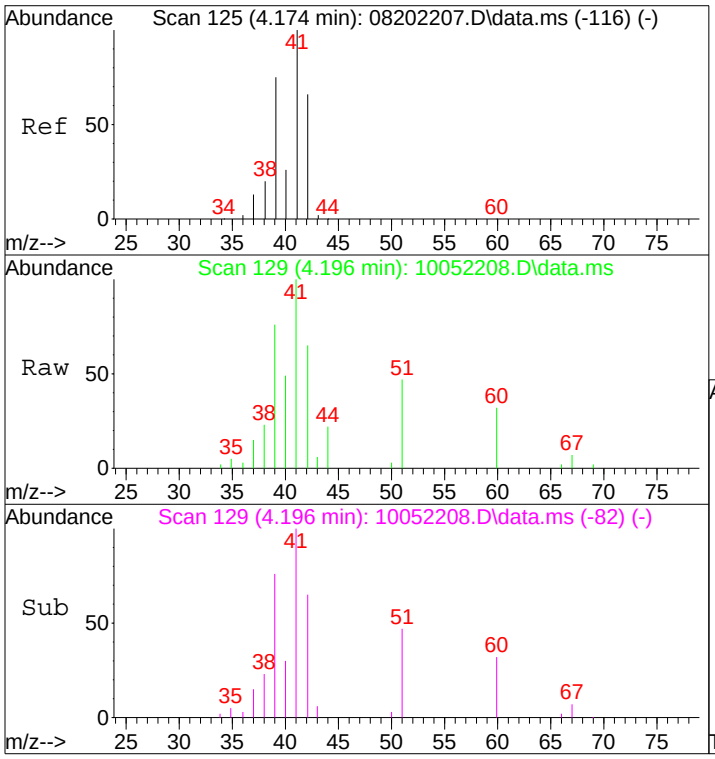
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052208.D Vial: 12
Acq On : 5 Oct 2022 8:22 Operator: WA
Sample : P2204345-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:12:36 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

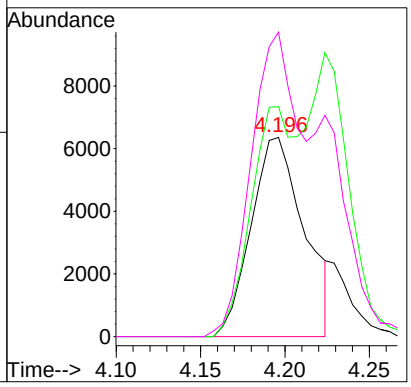


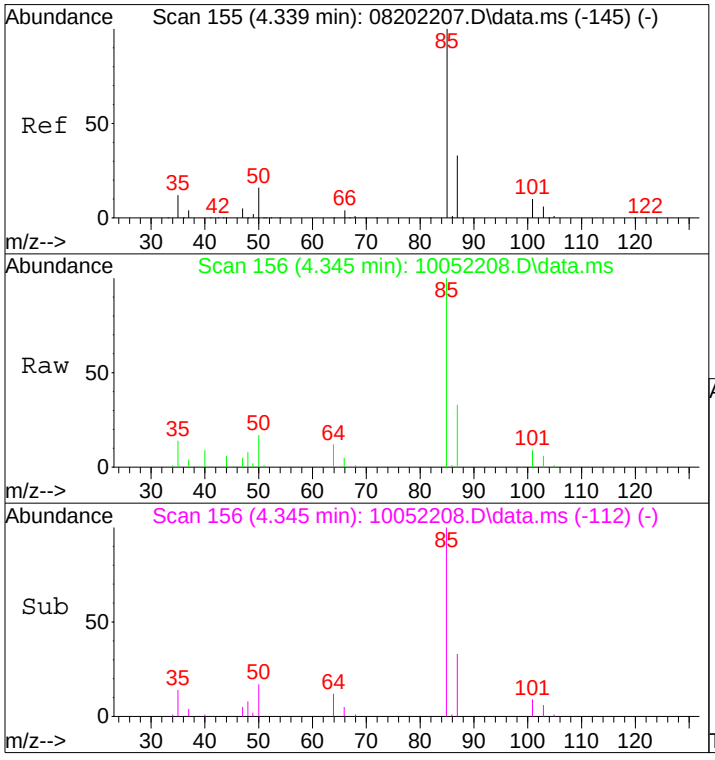


#2
Propene
Concen: 0.62 ng m
RT: 4.20 min Scan# 129
Delta R.T. 0.011 min
Lab File: 10052208.D
Acq: 5 Oct 2022 8:22

Tgt Ion: 42 Resp: 13924

Ion	Ratio	Lower	Upper
42	100		
39	97.6	93.5	133.5
41	138.1	131.9	171.9

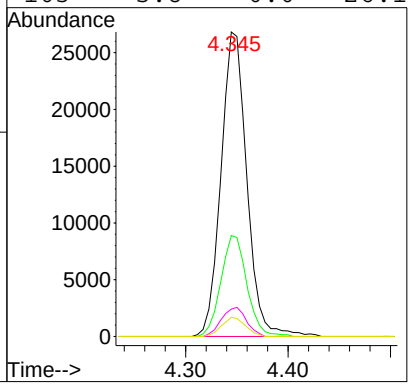


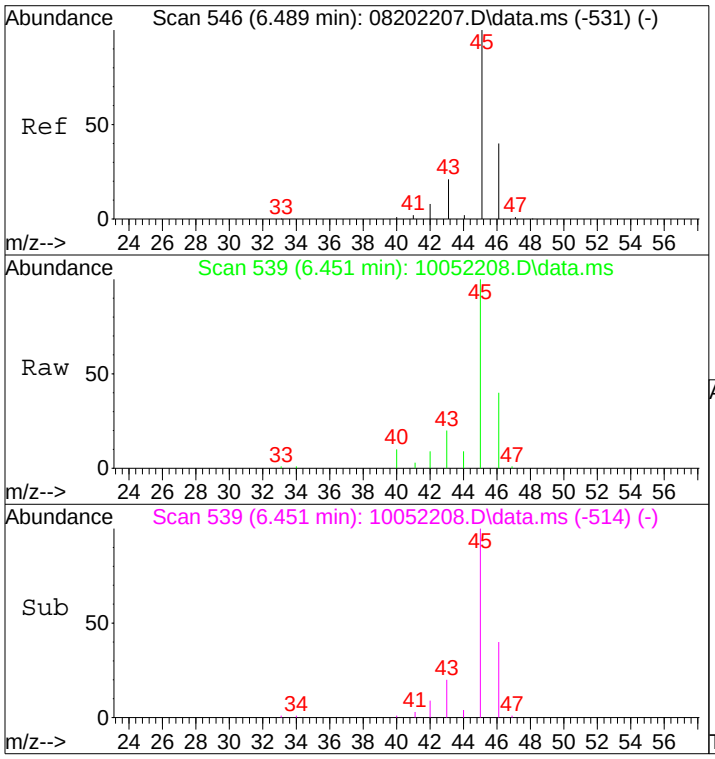


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.73 ng
RT: 4.34 min Scan# 156
Delta R.T. -0.006 min
Lab File: 10052208.D
Acq: 5 Oct 2022 8:22

Tgt Ion: 85 Resp: 47076

Ion	Ratio	Lower	Upper
85	100		
87	33.2	12.9	52.9
101	9.2	0.0	29.6
103	5.8	0.0	26.1

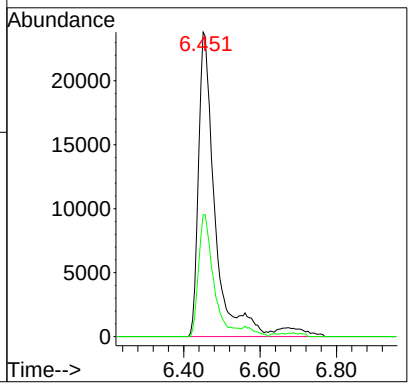


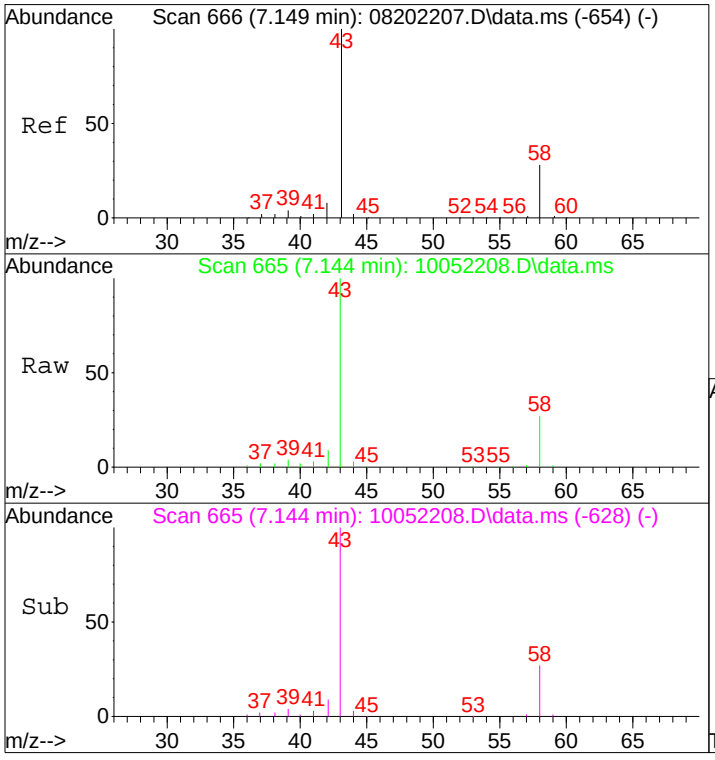


#10
Ethanol
Concen: 5.57 ng
RT: 6.45 min Scan# 539
Delta R.T. -0.110 min
Lab File: 10052208.D
Acq: 5 Oct 2022 8:22

Tgt Ion: 45 Resp: 73833

Ion	Ratio	Lower	Upper
45	100		
46	38.0	20.5	60.5

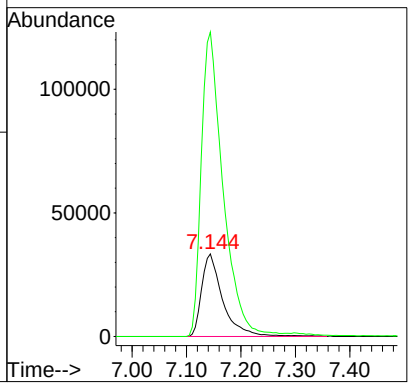


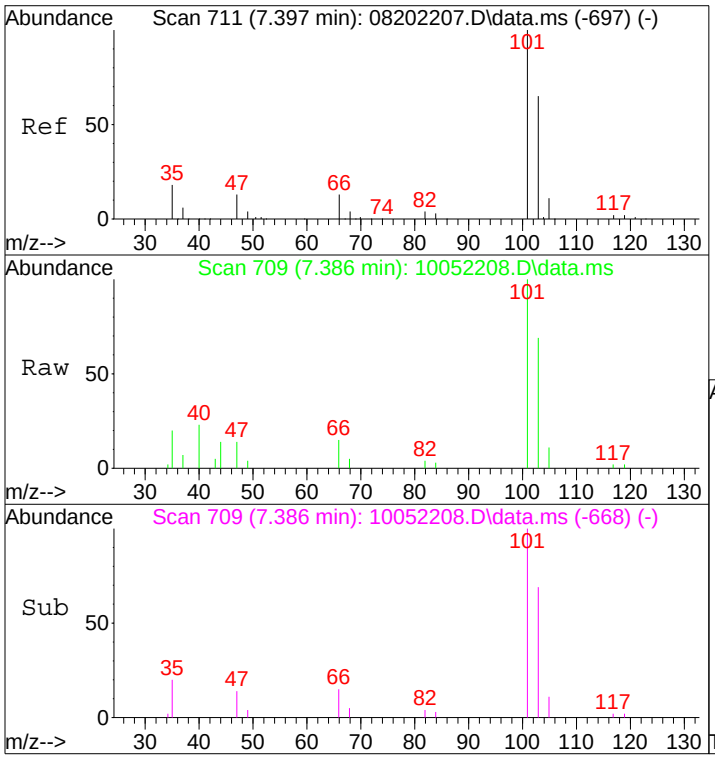


#13
Acetone
Concen: 7.18 ng
RT: 7.14 min Scan# 665
Delta R.T. -0.044 min
Lab File: 10052208.D
Acq: 5 Oct 2022 8:22

Tgt Ion: 58 Resp: 90496

Ion	Ratio	Lower	Upper
58	100		
43	383.9	328.5	388.5

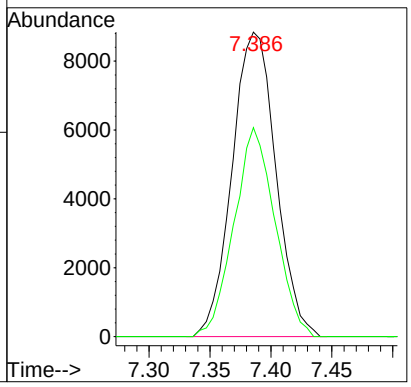


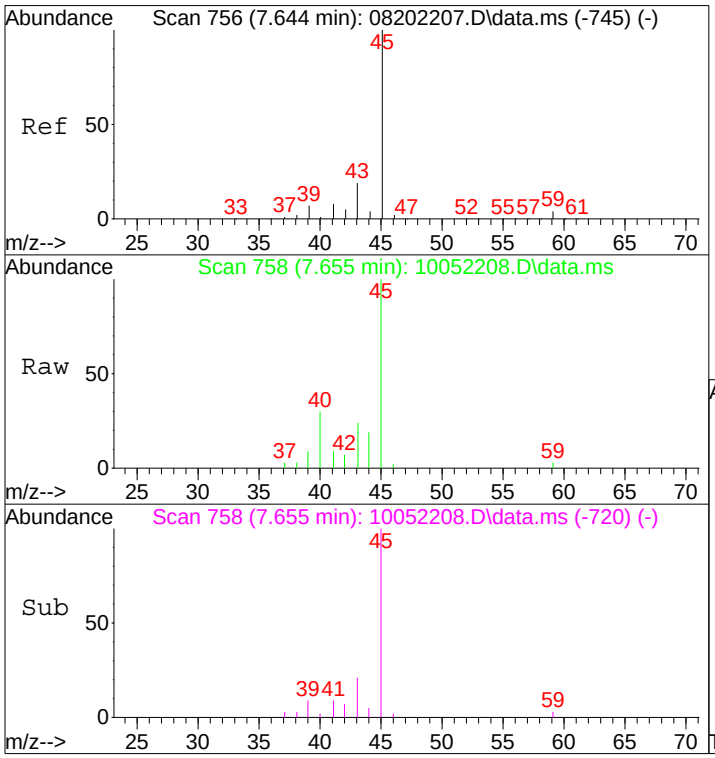


#14
Trichlorofluoromethane
Concen: 0.88 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.022 min
Lab File: 10052208.D
Acq: 5 Oct 2022 8:22

Tgt Ion:101 Resp: 22104

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.6	84.6

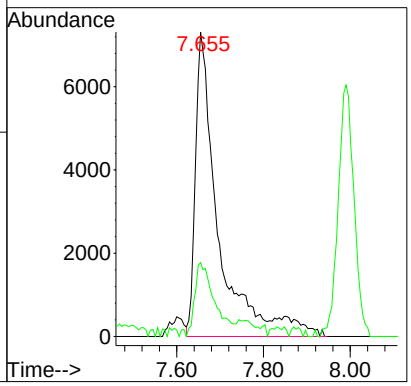


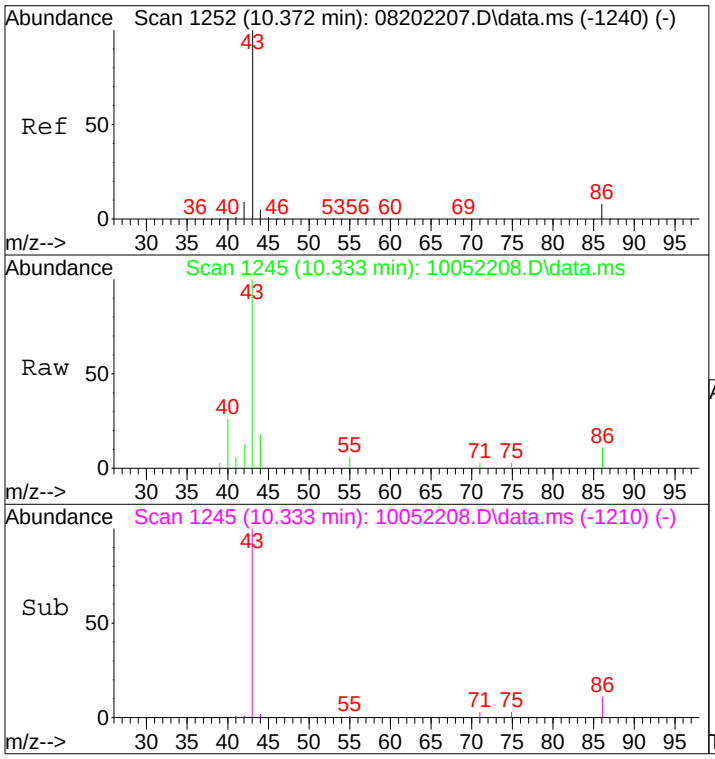


#15
2-Propanol (Isopropanol)
Concen: 0.69 ng
RT: 7.66 min Scan# 758
Delta R.T. -0.039 min
Lab File: 10052208.D
Acq: 5 Oct 2022 8:22

Tgt Ion: 45 Resp: 26807

Ion	Ratio	Lower	Upper
45	100		
43	25.8	0.0	39.5

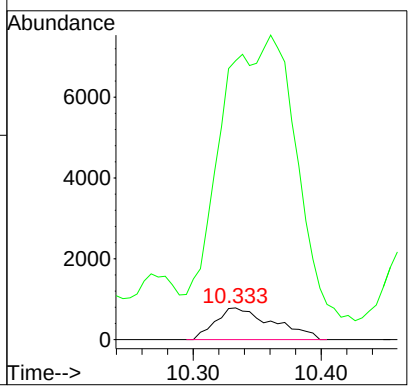


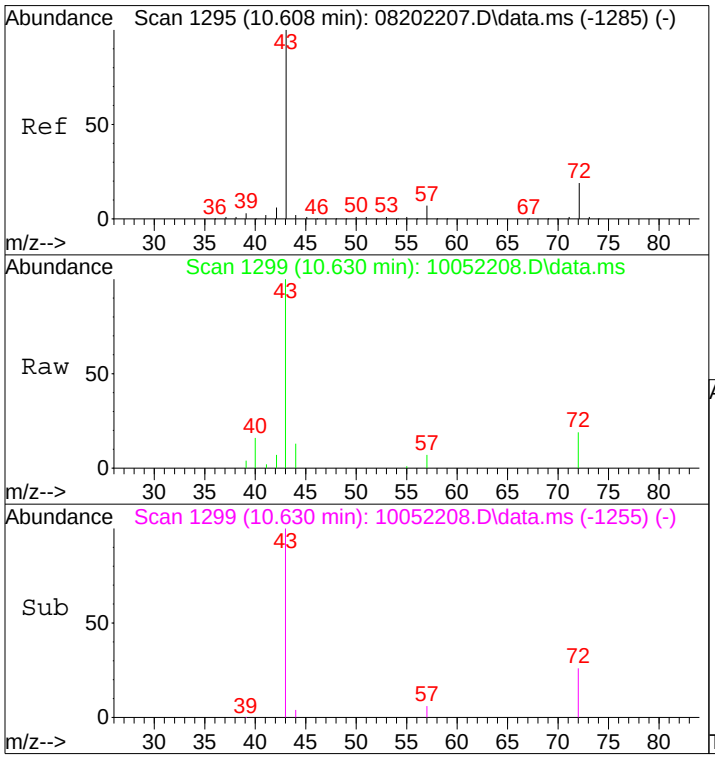


#26
Vinyl Acetate
Concen: 0.75 ng
RT: 10.33 min Scan# 1245
Delta R.T. -0.055 min
Lab File: 10052208.D
Acq: 5 Oct 2022 8:22

Tgt Ion: 86 Resp: 2470

Ion	Ratio	Lower	Upper
86	100		
43	1296.7	1314.6	1354.6#

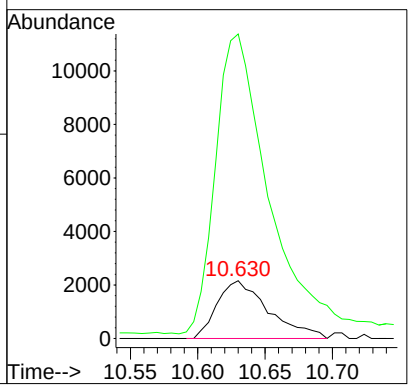


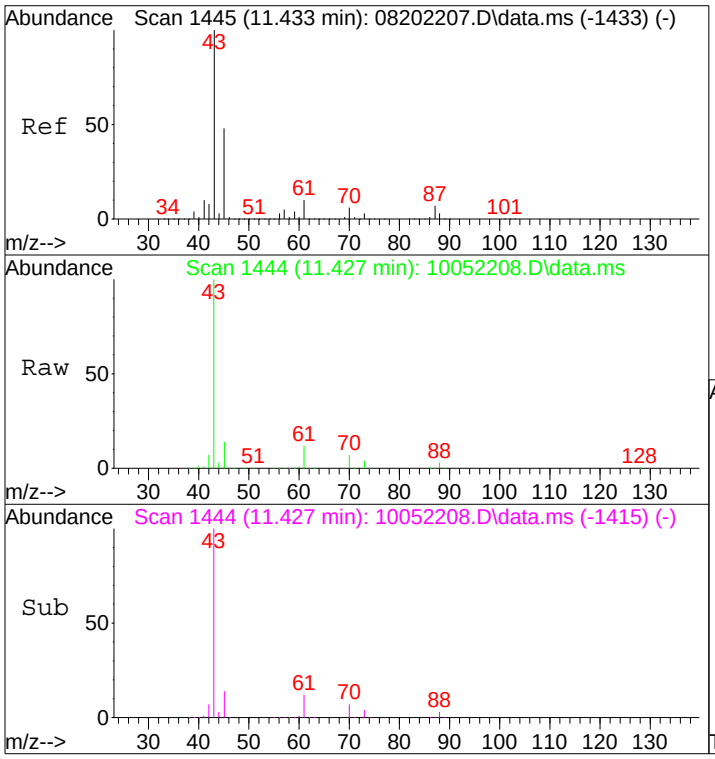


#27
2-Butanone (MEK)
Concen: 0.63 ng
RT: 10.63 min Scan# 1299
Delta R.T. -0.006 min
Lab File: 10052208.D
Acq: 5 Oct 2022 8:22

Tgt Ion: 72 Resp: 5745

Ion	Ratio	Lower	Upper
72	100		
43	558.4	500.2	540.2#

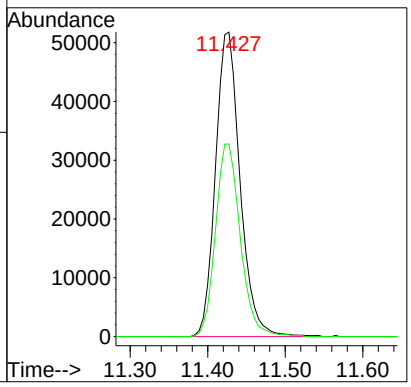


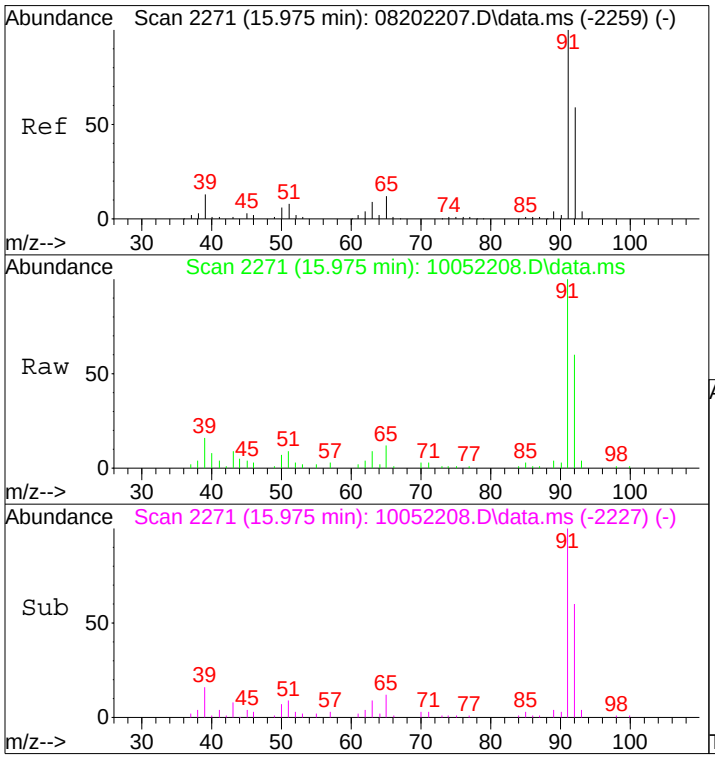


#30
Ethyl Acetate
Concen: 16.26 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.039 min
Lab File: 10052208.D
Acq: 5 Oct 2022 8:22

Tgt Ion: 61 Resp: 114192

Ion	Ratio	Lower	Upper
61	100		
70	63.7	46.5	86.5

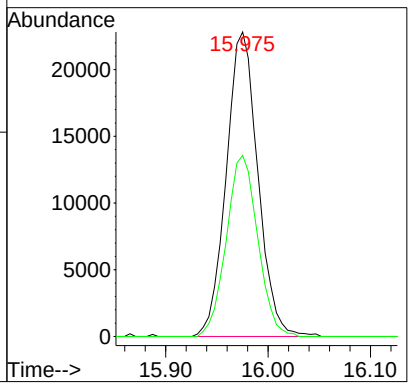




#58
Toluene
Concen: 0.73 ng
RT: 15.98 min Scan# 2271
Delta R.T. -0.006 min
Lab File: 10052208.D
Acq: 5 Oct 2022 8:22

Tgt Ion: 91 Resp: 49034

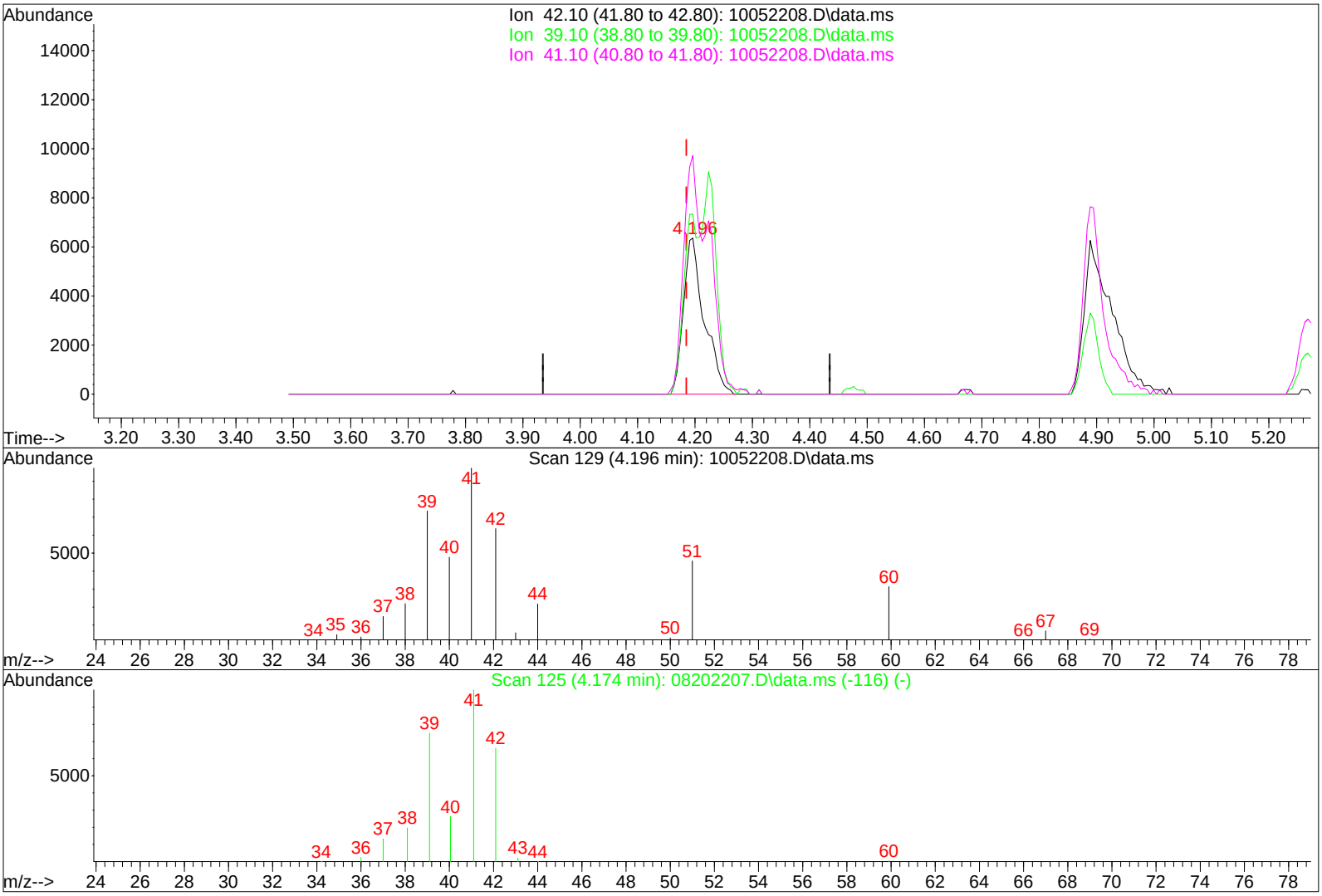
Ion	Ratio	Lower	Upper
91	100		
92	59.0	38.9	78.9



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 10\05\10052208.D Vial: 12
Acq On : 5 Oct 2022 8:22 Operator: WA
Sample : P2204345-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 10:18:46 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 10052208.D\data.ms

(2) Propene (T)

4.196min (+0.011) 0.71ng

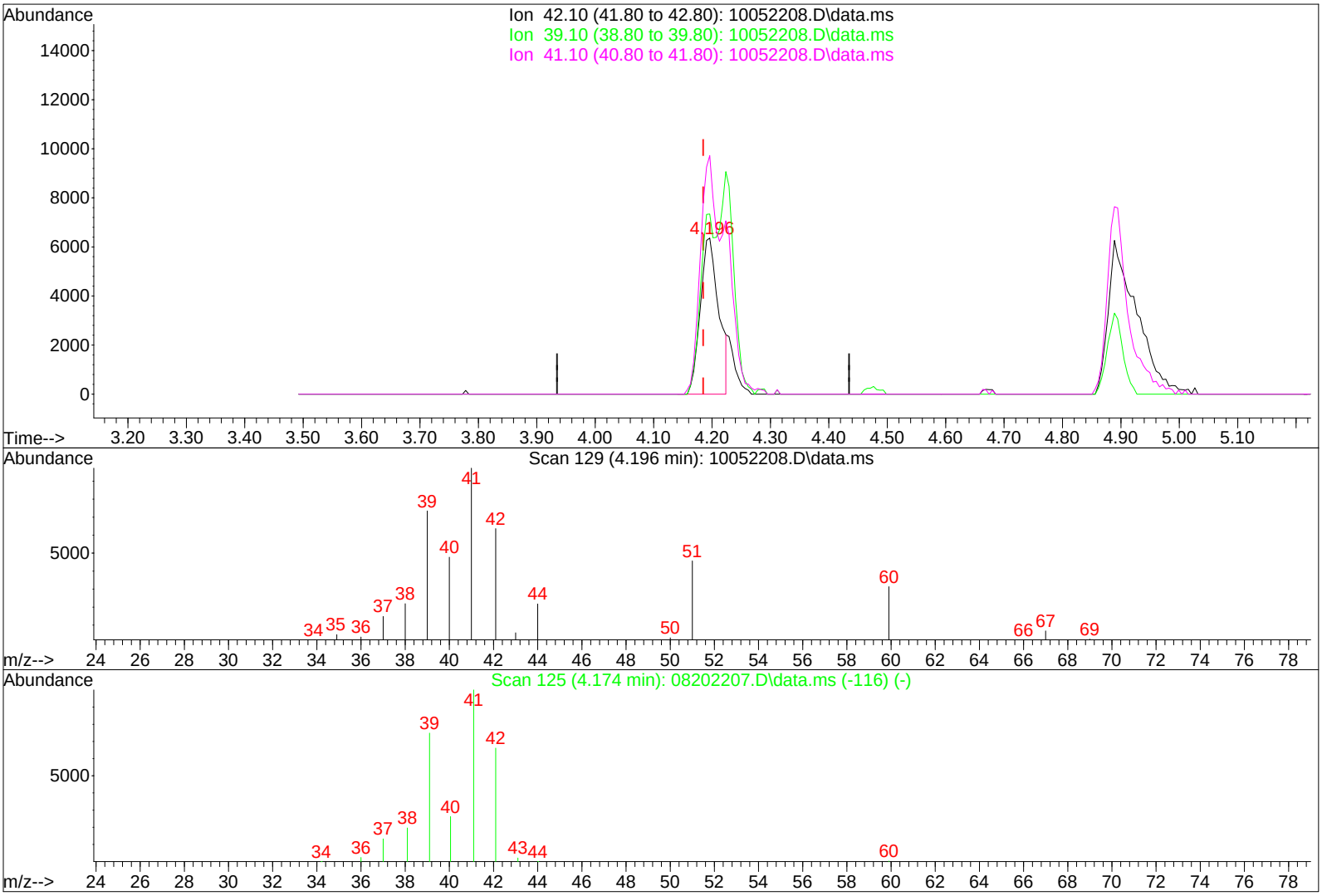
response 16065

Ion	Exp%	Act%
42.10	100	100
39.10	113.50	84.61#
41.10	151.90	185.28#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 10\05\10052208.D Vial: 12
Acq On : 5 Oct 2022 8:22 Operator: WA
Sample : P2204345-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 10:18:46 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 10052208.D\data.ms

(2) Propene (T)

4.196min (+0.011) 0.62ng m

response 13924

Ion	Exp%	Act%
42.10	100	100
39.10	113.50	97.62
41.10	151.90	138.09
0.00	0.00	0.00

IPC

10/5/22

10/5/22

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052209.D Vial: 3
Acq On : 5 Oct 2022 8:56 Operator: WA
Sample : P2204345-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:33:17 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 10/5/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	168063	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	753447	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	171630	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	284368	12.703	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
57) Toluene-d8 (SS2)	15.87	98	813559	12.295	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
73) Bromofluorobenzene (SS3)	19.11	174	290704	11.757	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
Target Compounds							Qvalue
2) Propene	4.20	42	15556m	0.666	ng		
3) Dichlorodifluoromethan...	4.36	85	44227	1.577	ng		100
4) Chloromethane	4.64	50	7255	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1189	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.77	94	531	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.46	45	79314	5.799	ng		99
11) Acetonitrile	6.74	41	4801	N.D.			
12) Acrolein	6.94	56	2707	N.D.			
13) Acetone	7.15	58	93656	7.209	ng	#	85
14) Trichlorofluoromethane	7.40	101	20409	0.786	ng		98
15) 2-Propanol (Isopropanol)	7.66	45	30757	0.769	ng		81
16) Acrylonitrile	7.92	53	109	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.61	59	800	N.D.			
19) Methylene Chloride	8.58	84	2732	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.01	151	4265	N.D.			
22) Carbon Disulfide	8.84	76	5382	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.33	86	2897	0.858	ng		99
27) 2-Butanone (MEK)	10.62	72	8800	0.936	ng		93
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	3224	N.D.			
30) Ethyl Acetate	11.43	61	154466	21.335	ng		96
31) n-Hexane	11.42	57	5485	N.D.			
32) Chloroform	11.47	83	1857	N.D.			
34) Tetrahydrofuran (THF)	11.93	72	328	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	410	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	17388	N.D.			
42) Carbon Tetrachloride	13.19	117	5991	N.D.			
43) Cyclohexane	13.32	84	1614	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	14.09	83	105	N.D.			
47) Trichloroethene	14.13	130	419	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	15819	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052209.D Vial: 3
Acq On : 5 Oct 2022 8:56 Operator: WA
Sample : P2204345-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:33:17 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

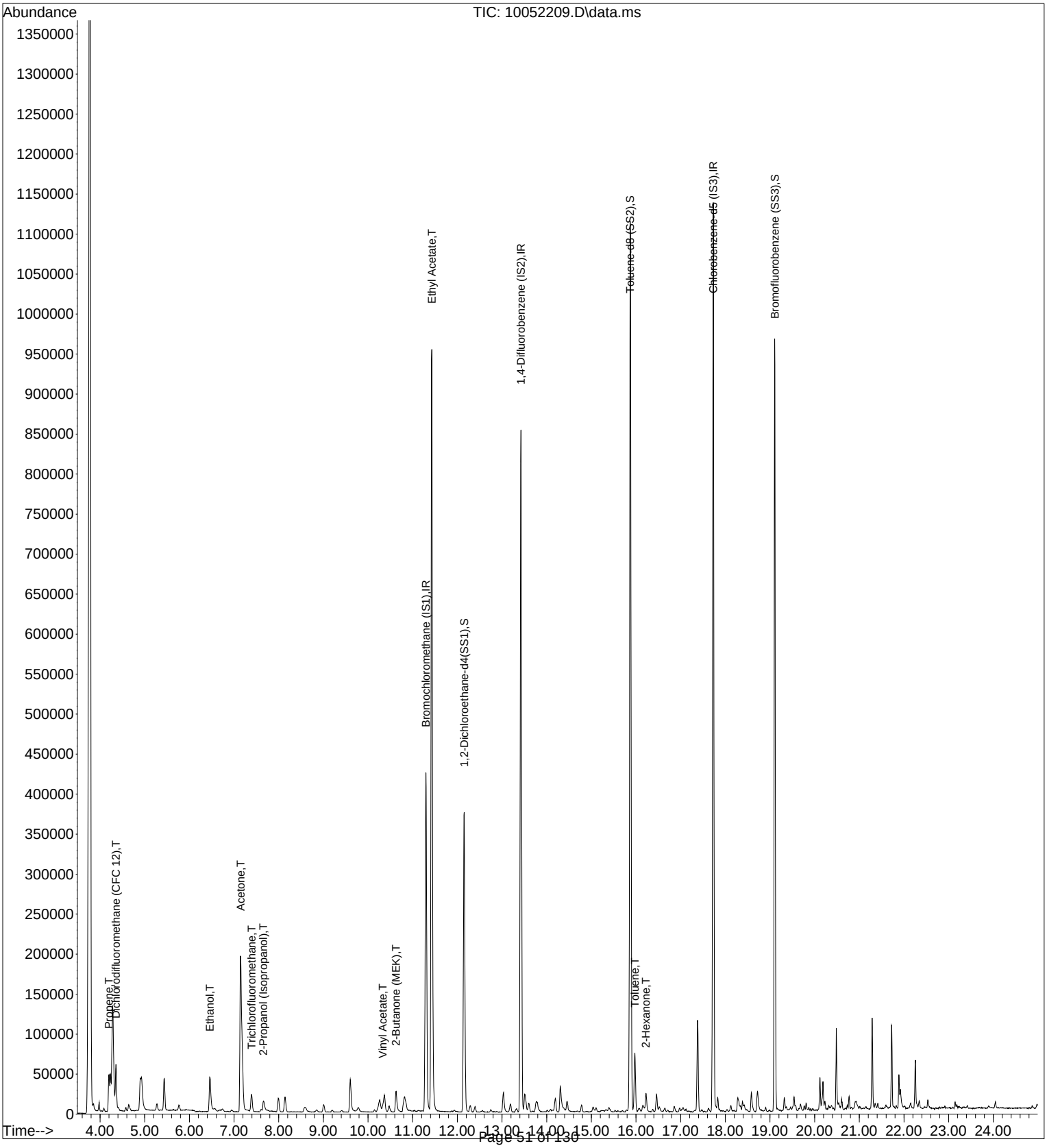
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	2157	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.03	58	1732	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	55378	0.925 ng	99
59) 2-Hexanone	16.22	43	21087	0.540 ng	96
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.85	43	5990	N.D.	
63) n-Octane	16.99	57	853	N.D.	
64) Tetrachloroethene	17.12	166	821	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.13	91	5643	N.D.	
67) m- & p-Xylenes	18.28	91	13166	N.D.	
68) Bromoform	18.35	173	131	N.D.	
69) Styrene	18.61	104	2041	N.D.	
70) o-Xylene	18.71	91	5002	N.D.	
71) n-Nonane	18.91	43	2105	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.23	105	453	N.D.	
75) alpha-Pinene	19.57	93	2228	N.D.	
76) n-Propylbenzene	19.68	91	2346	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.81	105	1633	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	1405	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	4716	N.D.	
83) n-Decane	20.17	58	647	No Calib	#
84) Benzyl Chloride	20.35	91	551	N.D.	
85) 1,3-Dichlorobenzene	20.37	146	382	N.D.	
86) 1,4-Dichlorobenzene	20.42	146	1203	N.D.	
87) sec-Butylbenzene	20.47	105	229	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	5597	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	20.73	146	244	N.D.	
91) d-Limonene	20.73	68	1241	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.24	180	1443	N.D.	
95) Naphthalene	22.35	128	5573	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.20	55	626	No Calib	#
99) tert-Butylbenzene	20.24	119	693	N.D.	
100) n-Butylbenzene	20.97	91	1890	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052209.D Vial: 3
Acq On : 5 Oct 2022 8:56 Operator: WA
Sample : P2204345-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:33:17 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052209.D Vial: 3
Acq On : 5 Oct 2022 8:56 Operator: WA
Sample : P2204345-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:33:17 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 10/5/22

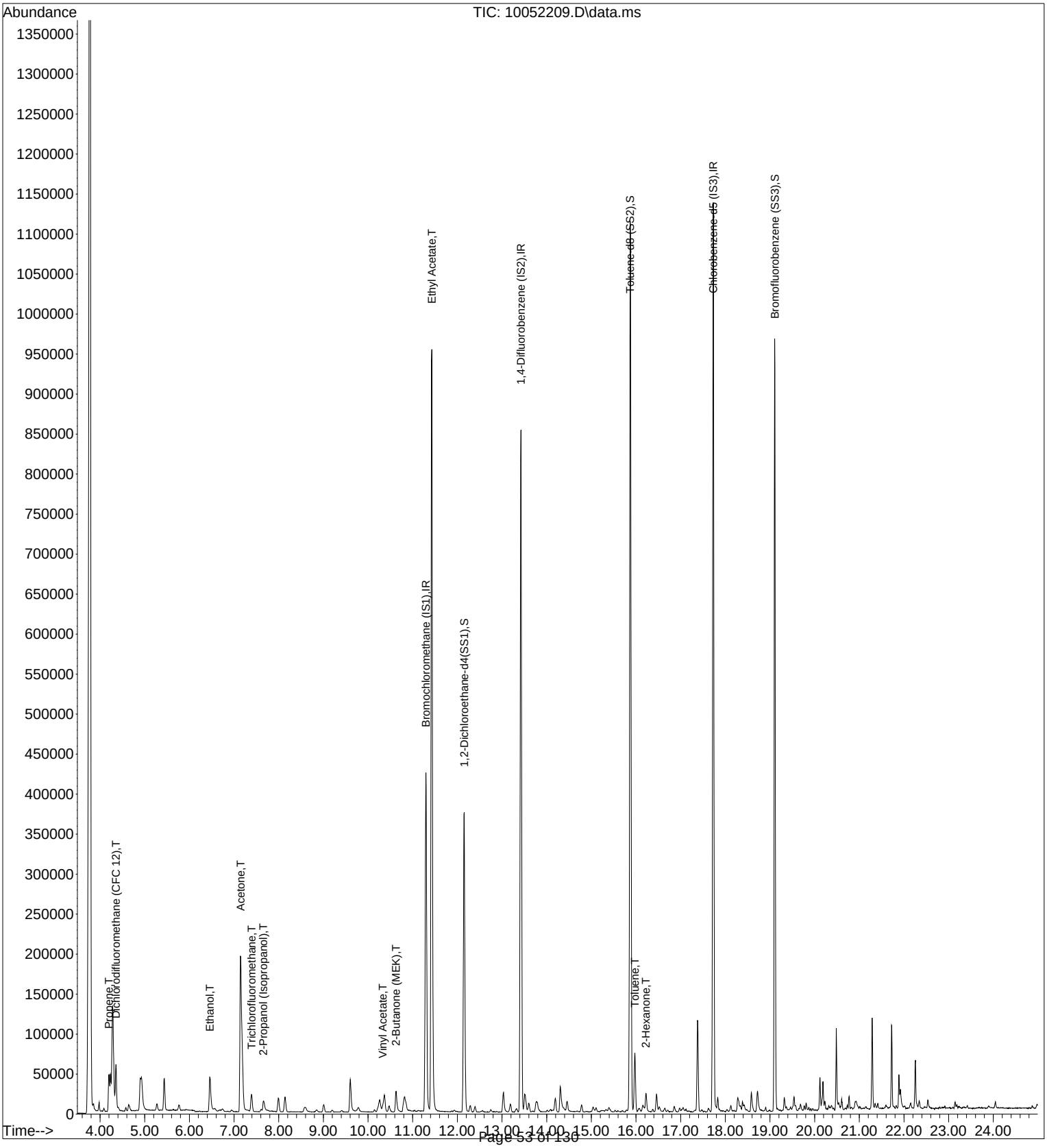
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	168063	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	753447	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	171630	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	284368	12.703	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
57) Toluene-d8 (SS2)	15.87	98	813559	12.295	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
73) Bromofluorobenzene (SS3)	19.11	174	290704	11.757	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
Target Compounds							Qvalue
2) Propene	4.20	42	15556m	0.666	ng		
3) Dichlorodifluoromethan...	4.36	85	44227	1.577	ng		100
10) Ethanol	6.46	45	79314	5.799	ng		99
13) Acetone	7.15	58	93656	7.209	ng	#	85
14) Trichlorofluoromethane	7.40	101	20409	0.786	ng		98
15) 2-Propanol (Isopropanol)	7.66	45	30757	0.769	ng		81
26) Vinyl Acetate	10.33	86	2897	0.858	ng		99
27) 2-Butanone (MEK)	10.62	72	8800	0.936	ng		93
30) Ethyl Acetate	11.43	61	154466	21.335	ng		96
58) Toluene	15.98	91	55378	0.925	ng		99
59) 2-Hexanone	16.22	43	21087	0.540	ng		96

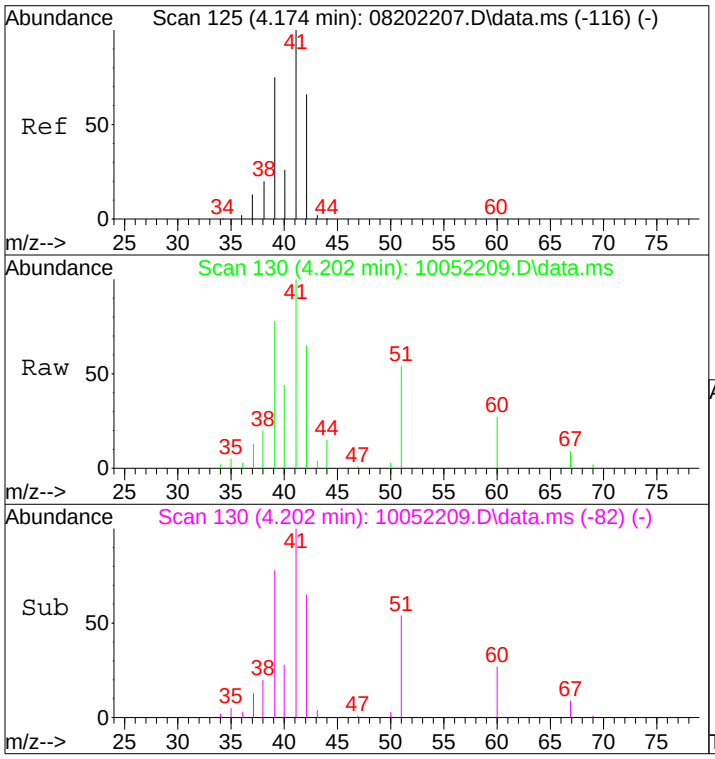
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052209.D Vial: 3
Acq On : 5 Oct 2022 8:56 Operator: WA
Sample : P2204345-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:33:17 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

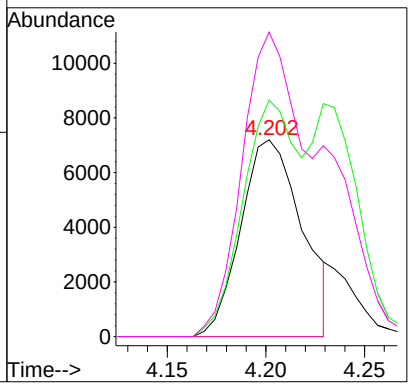


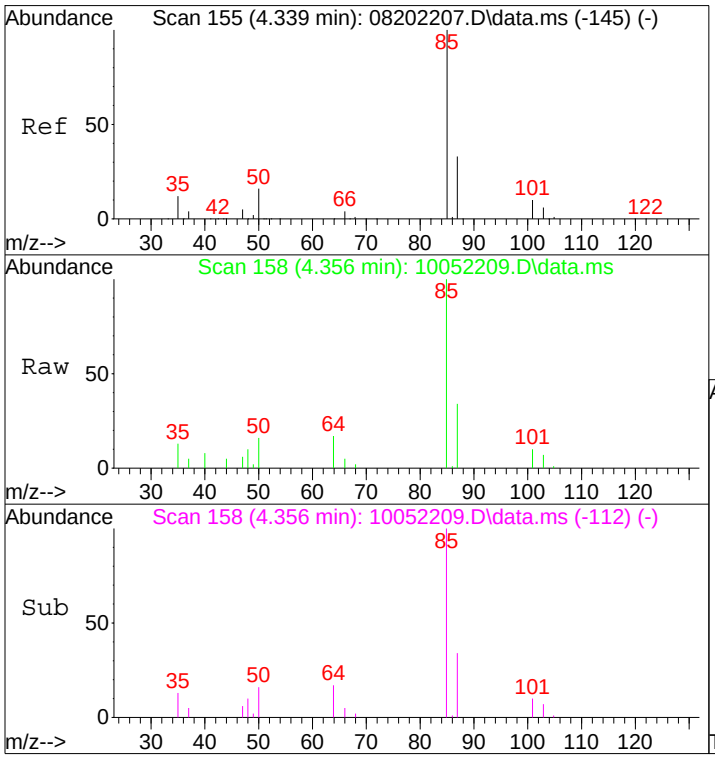


#2
Propene
Concen: 0.67 ng m
RT: 4.20 min Scan# 130
Delta R.T. 0.017 min
Lab File: 10052209.D
Acq: 5 Oct 2022 8:56

Tgt Ion: 42 Resp: 15556

Ion	Ratio	Lower	Upper
42	100		
39	107.7	93.5	133.5
41	209.0	131.9	171.9#

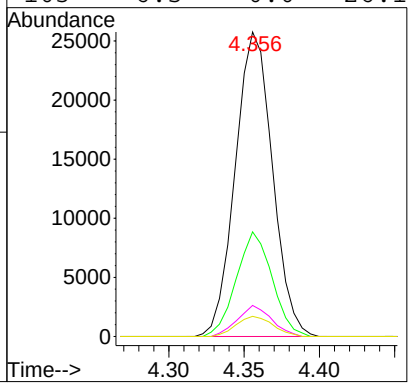


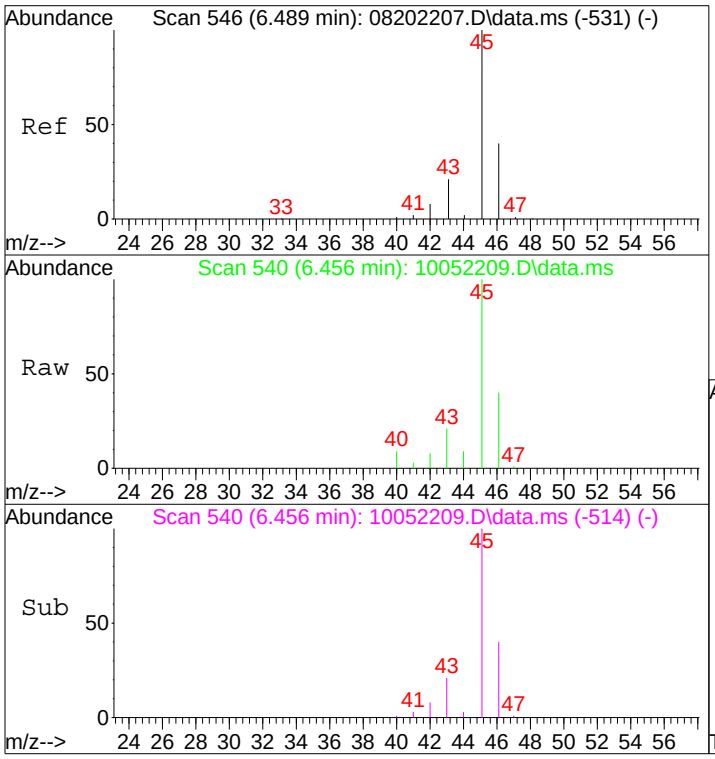


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.58 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.005 min
Lab File: 10052209.D
Acq: 5 Oct 2022 8:56

Tgt Ion: 85 Resp: 44227

Ion	Ratio	Lower	Upper
85	100		
87	33.0	12.9	52.9
101	9.3	0.0	29.6
103	6.5	0.0	26.1

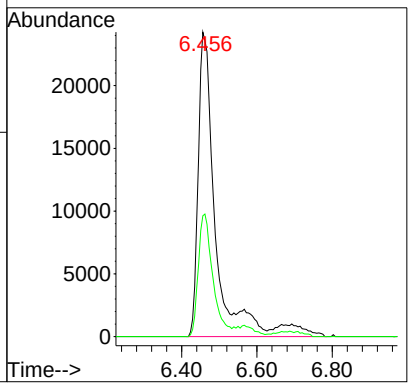


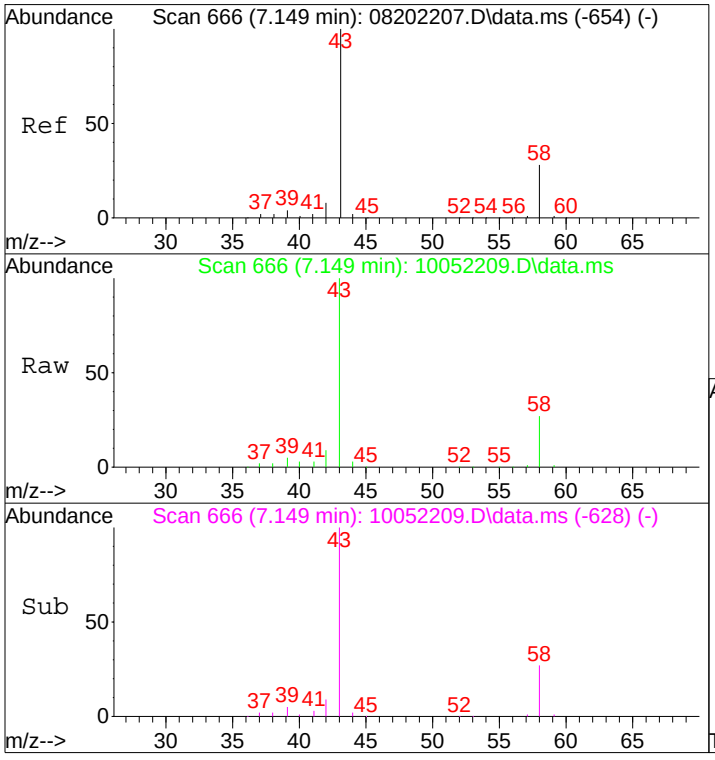


#10
Ethanol
Concen: 5.80 ng
RT: 6.46 min Scan# 540
Delta R.T. -0.105 min
Lab File: 10052209.D
Acq: 5 Oct 2022 8:56

Tgt Ion: 45 Resp: 79314

Ion	Ratio	Lower	Upper
45	100		
46	39.8	20.5	60.5

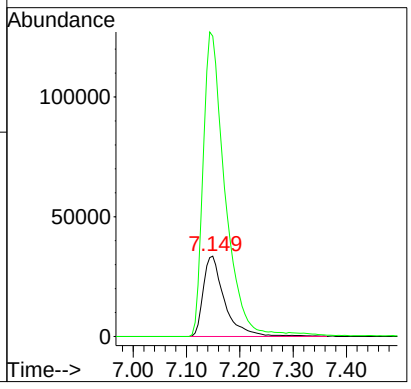


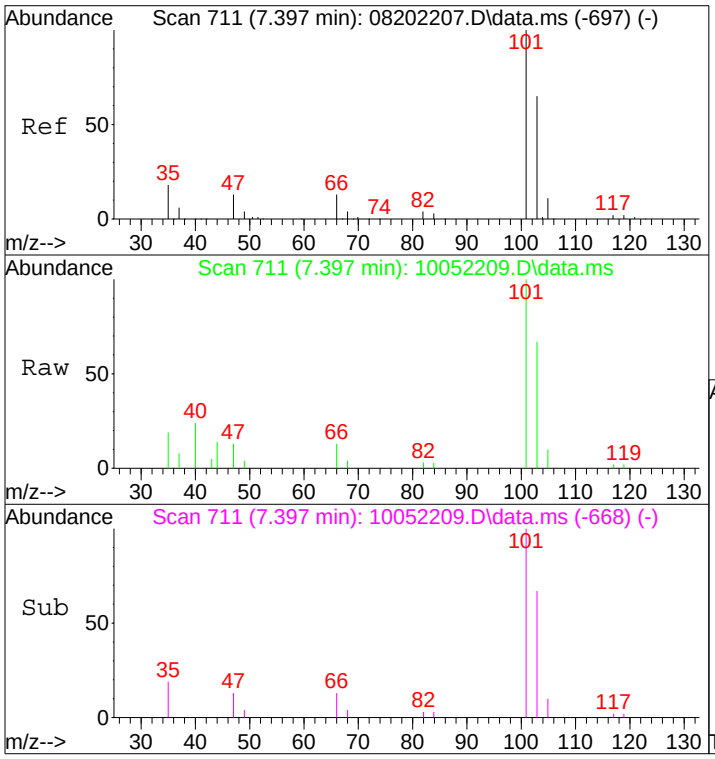


#13
Acetone
Concen: 7.21 ng
RT: 7.15 min Scan# 666
Delta R.T. -0.039 min
Lab File: 10052209.D
Acq: 5 Oct 2022 8:56

Tgt Ion: 58 Resp: 93656

Ion	Ratio	Lower	Upper
58	100		
43	391.7	328.5	388.5#

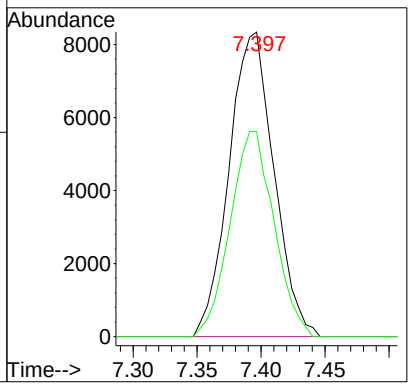


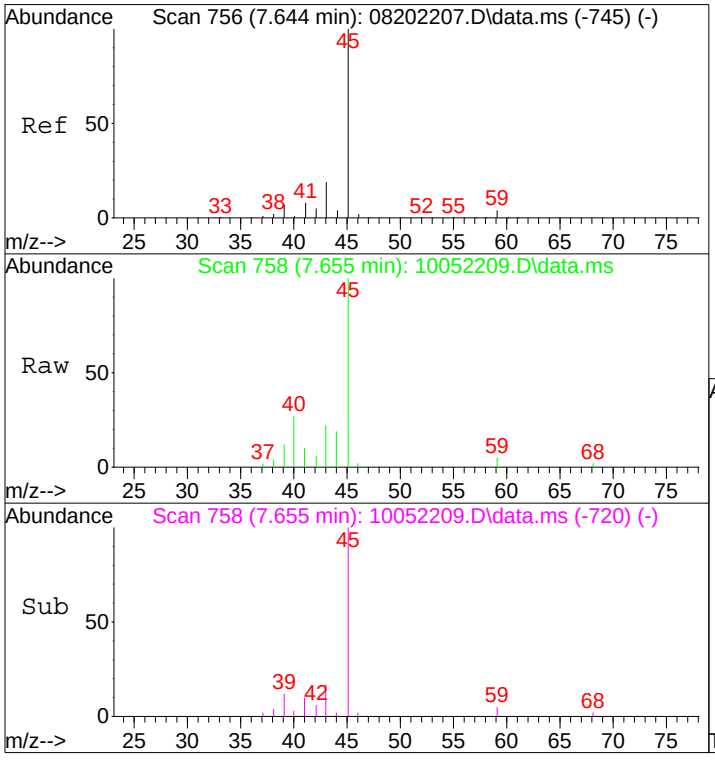


#14
Trichlorofluoromethane
Concen: 0.79 ng
RT: 7.40 min Scan# 711
Delta R.T. -0.011 min
Lab File: 10052209.D
Acq: 5 Oct 2022 8:56

Tgt Ion:101 Resp: 20409

Ion	Ratio	Lower	Upper
101	100		
103	65.8	44.6	84.6

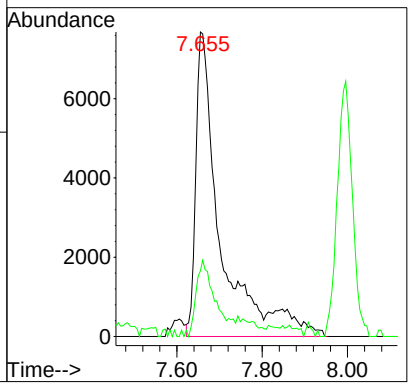


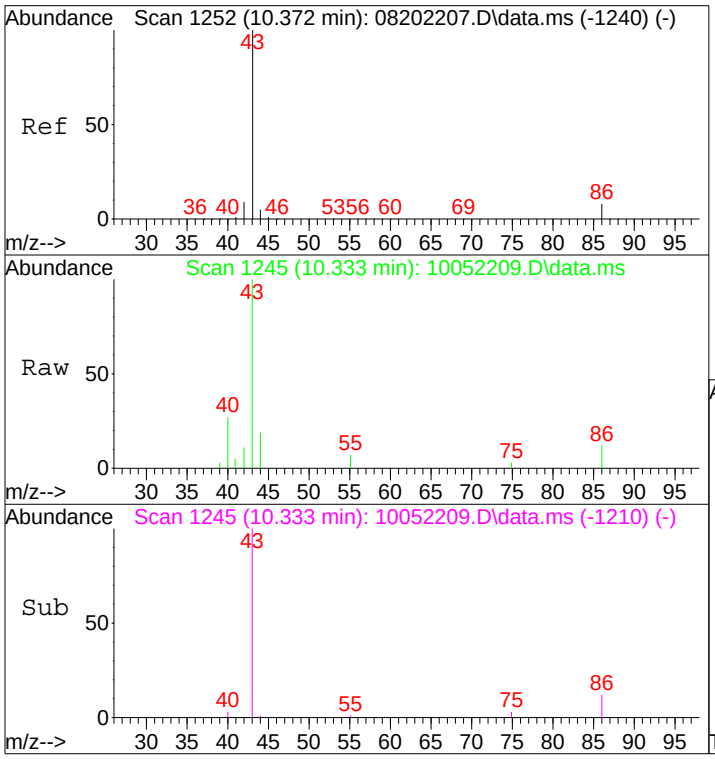


#15
2-Propanol (Isopropanol)
Concen: 0.77 ng
RT: 7.66 min Scan# 758
Delta R.T. -0.039 min
Lab File: 10052209.D
Acq: 5 Oct 2022 8:56

Tgt Ion: 45 Resp: 30757

Ion	Ratio	Lower	Upper
45	100		
43	28.1	0.0	39.5

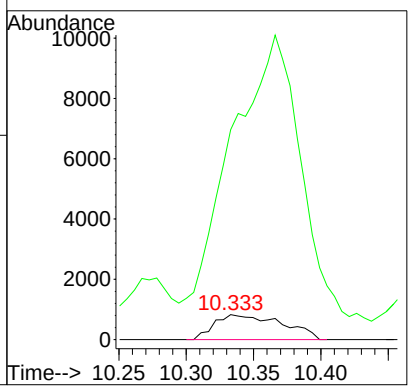


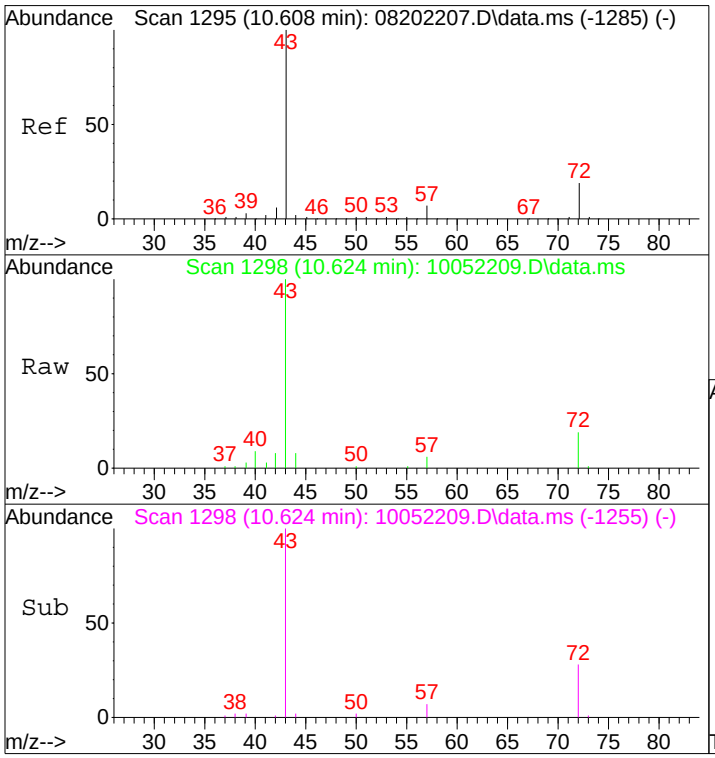


#26
Vinyl Acetate
Concen: 0.86 ng
RT: 10.33 min Scan# 1245
Delta R.T. -0.055 min
Lab File: 10052209.D
Acq: 5 Oct 2022 8:56

Tgt Ion: 86 Resp: 2897

Ion	Ratio	Lower	Upper
86	100		
43	1330.2	1314.6	1354.6

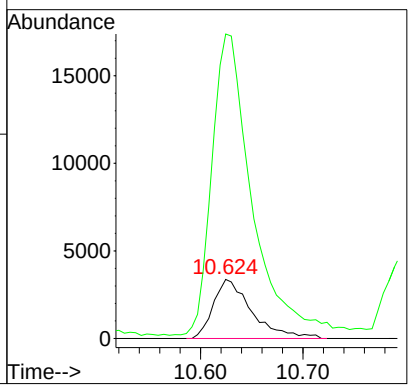


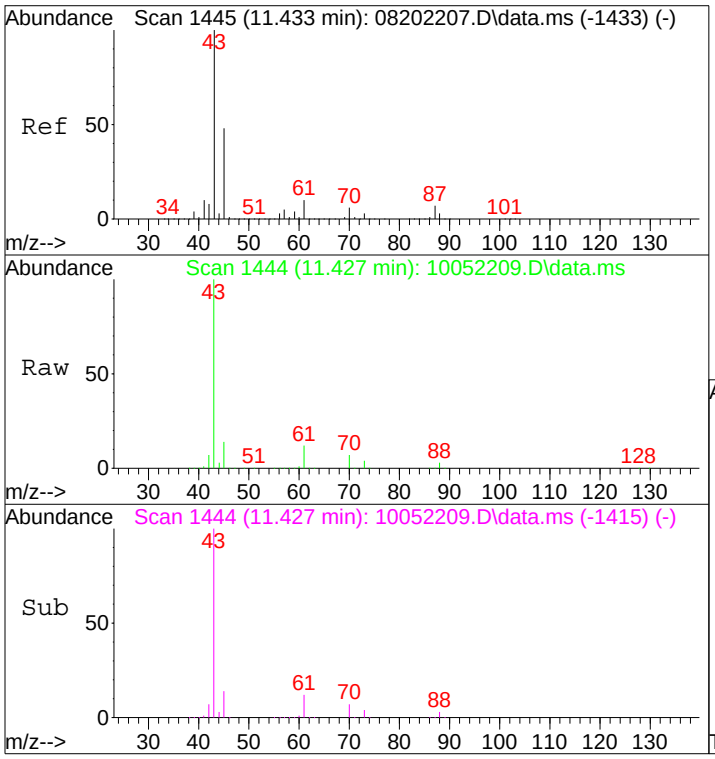


#27
2-Butanone (MEK)
Concen: 0.94 ng
RT: 10.62 min Scan# 1298
Delta R.T. -0.011 min
Lab File: 10052209.D
Acq: 5 Oct 2022 8:56

Tgt Ion: 72 Resp: 8800

Ion	Ratio	Lower	Upper
72	100		
43	539.7	500.2	540.2

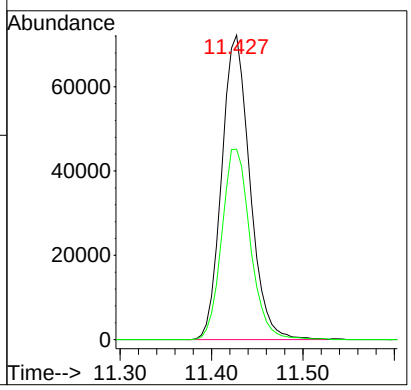


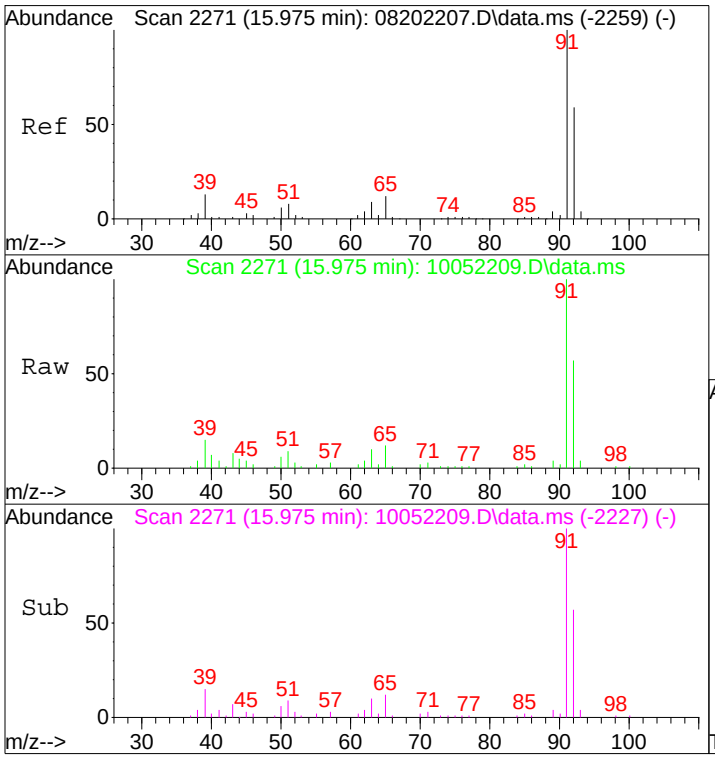


#30
Ethyl Acetate
Concen: 21.34 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.039 min
Lab File: 10052209.D
Acq: 5 Oct 2022 8:56

Tgt Ion: 61 Resp: 154466

Ion	Ratio	Lower	Upper
61	100		
70	63.6	46.5	86.5

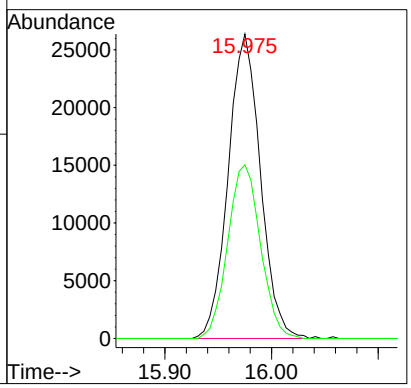


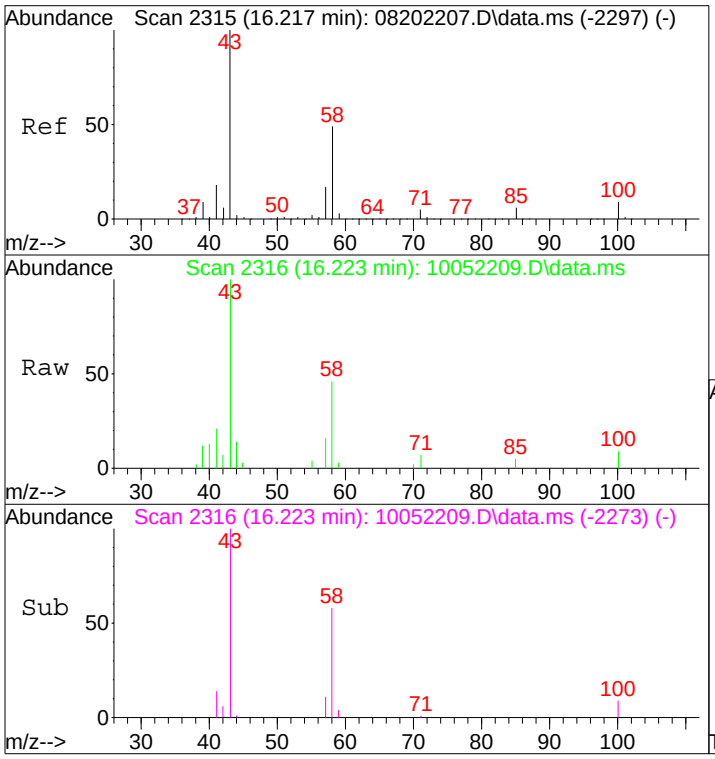


#58
Toluene
Concen: 0.92 ng
RT: 15.98 min Scan# 2271
Delta R.T. -0.006 min
Lab File: 10052209.D
Acq: 5 Oct 2022 8:56

Tgt Ion: 91 Resp: 55378

Ion	Ratio	Lower	Upper
91	100		
92	57.9	38.9	78.9

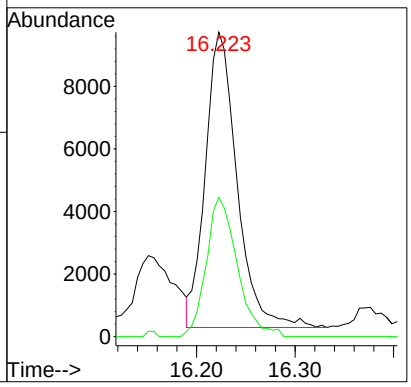




#59
2-Hexanone
Concen: 0.54 ng
RT: 16.22 min Scan# 2316
Delta R.T. -0.011 min
Lab File: 10052209.D
Acq: 5 Oct 2022 8:56

Tgt Ion: 43 Resp: 21087

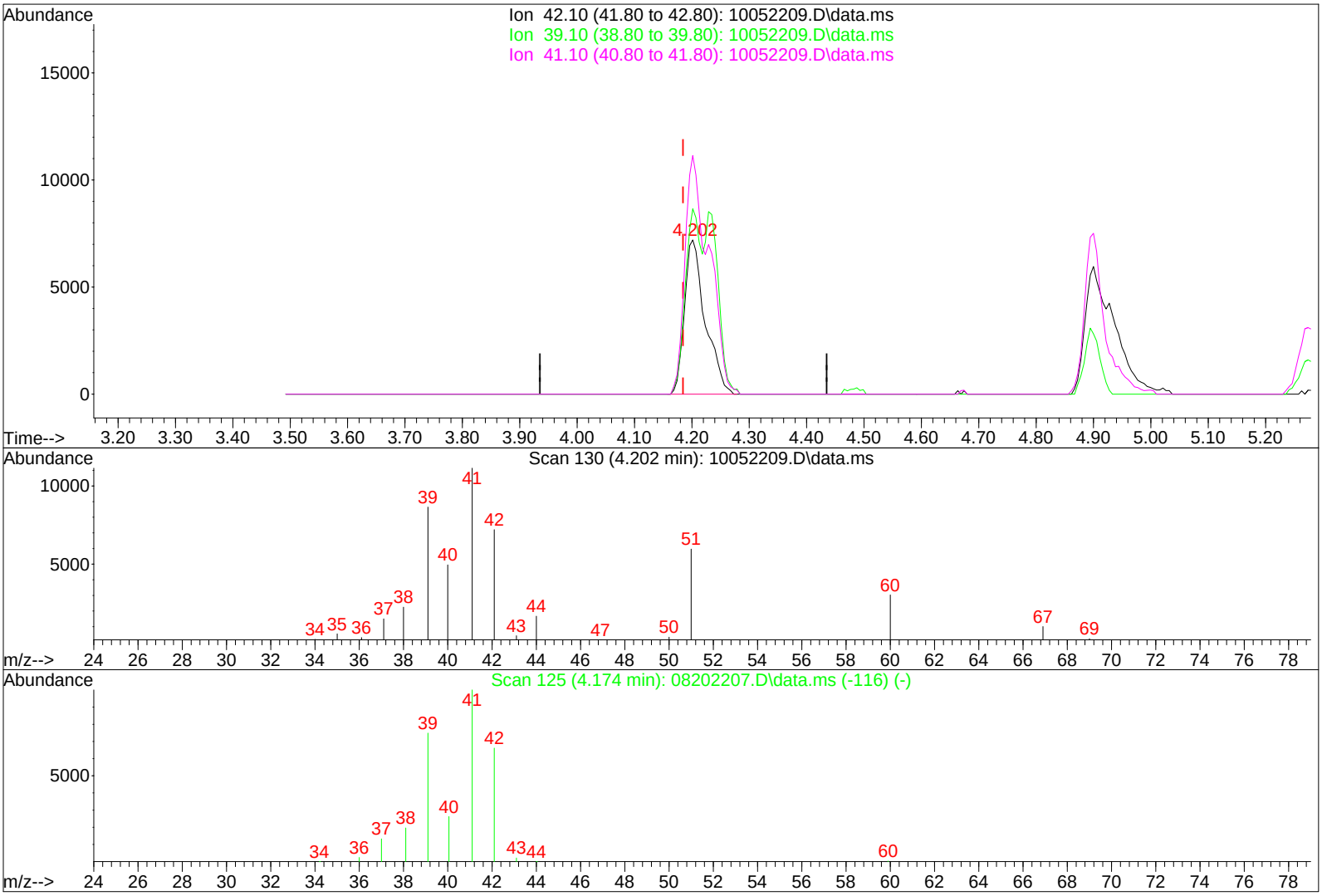
Ion	Ratio	Lower	Upper
43	100		
58	46.1	28.9	68.9



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 10\05\10052209.D Vial: 3
Acq On : 5 Oct 2022 8:56 Operator: WA
Sample : P2204345-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 10:18:48 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 10052209.D\data.ms

(2) Propene (T)

4.202min (+0.017) 0.78ng

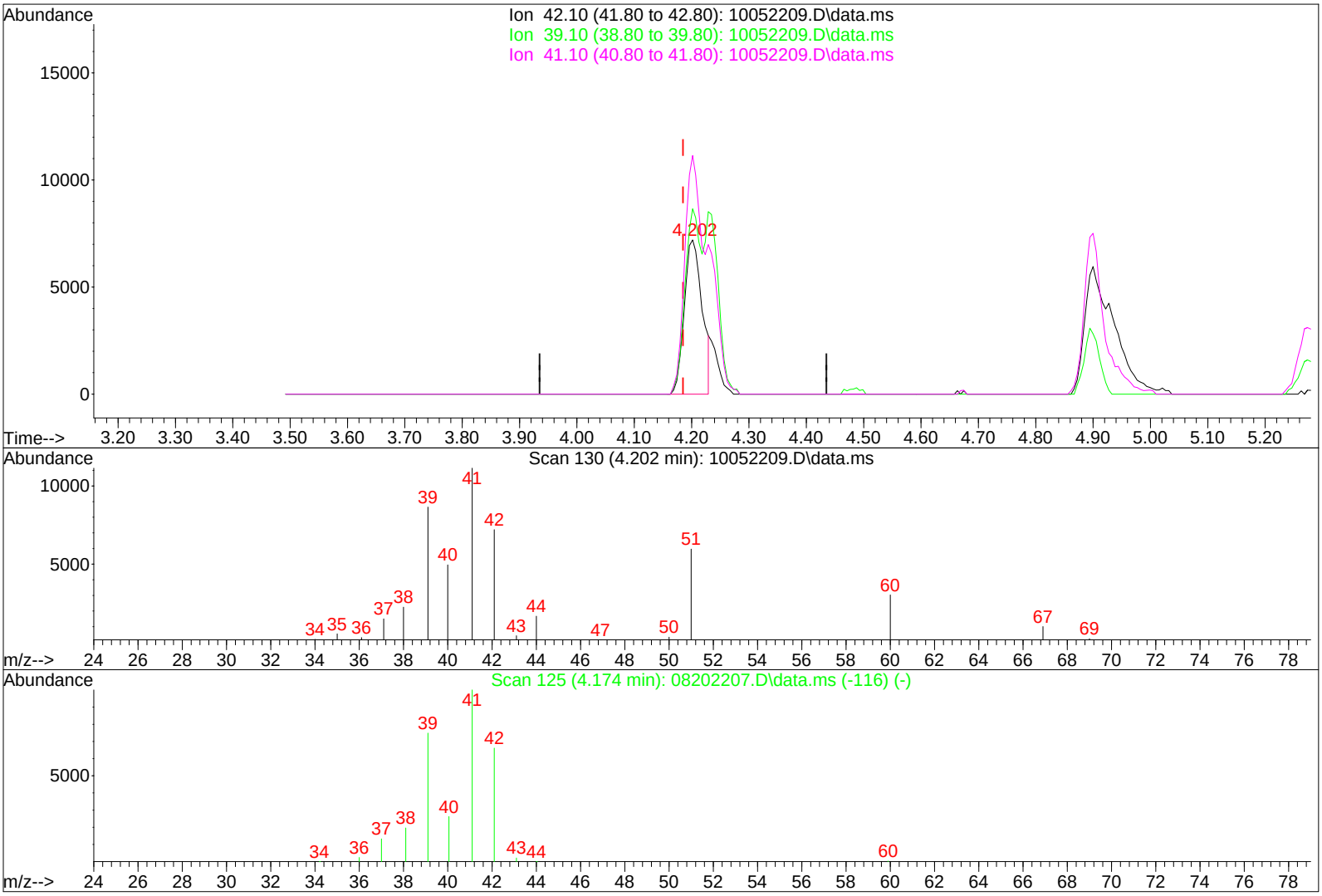
response 18129

Ion	Exp%	Act%
42.10	100	100
39.10	113.50	92.42#
41.10	151.90	179.33#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 10\05\10052209.D Vial: 3
Acq On : 5 Oct 2022 8:56 Operator: WA
Sample : P2204345-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 10:18:48 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 10052209.D\data.ms

(2) Propene (T)

4.202min (+0.017) 0.67ng m

response 15556

Ion	Exp%	Act%
42.10	100	100
39.10	113.50	107.70
41.10	151.90	208.99#
0.00	0.00	0.00

IPC

10/5/22

LH 10/5/22

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052210.D Vial: 4
Acq On : 5 Oct 2022 9:30 Operator: WA
Sample : P2204345-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:34:48 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

10/5/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	168457	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	757277	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	171254	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	287322	12.805	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
57) Toluene-d8 (SS2)	15.87	98	809856	12.266	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	19.11	174	290178	11.762	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
Target Compounds							Qvalue
2) Propene	4.19	42	12839m	0.549	ng		
3) Dichlorodifluoromethan...	4.34	85	46039	1.637	ng		99
4) Chloromethane	4.63	50	6152	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	1304	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.35	54	107	N.D.			
8) Bromomethane	5.77	94	452	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.46	45	80213	5.851	ng		99
11) Acetonitrile	6.74	41	4426	N.D.			
12) Acrolein	6.95	56	2003	N.D.			
13) Acetone	7.14	58	81157	6.232	ng	#	81
14) Trichlorofluoromethane	7.39	101	20527	0.788	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	28849	0.719	ng		82
16) Acrylonitrile	7.92	53	56	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.61	59	970	N.D.			
19) Methylene Chloride	8.57	84	2592	N.D.			
20) 3-Chloro-1-propene (Al...	8.68	41	279	N.D.			
21) Trichlorotrifluoroethane	9.01	151	4285	N.D.			
22) Carbon Disulfide	8.84	76	2833	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.34	86	1809	0.534	ng	#	49
27) 2-Butanone (MEK)	10.64	72	4782	0.507	ng	#	73
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	1305	N.D.			
30) Ethyl Acetate	11.43	61	56379	7.769	ng		96
31) n-Hexane	11.41	57	5089	N.D.			
32) Chloroform	11.46	83	1833	N.D.			
34) Tetrahydrofuran (THF)	11.93	72	162	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.28	62	268	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	13778	N.D.			
42) Carbon Tetrachloride	13.19	117	5863	N.D.			
43) Cyclohexane	13.32	84	1516	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	16439	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052210.D Vial: 4
Acq On : 5 Oct 2022 9:30 Operator: WA
Sample : P2204345-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:34:48 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

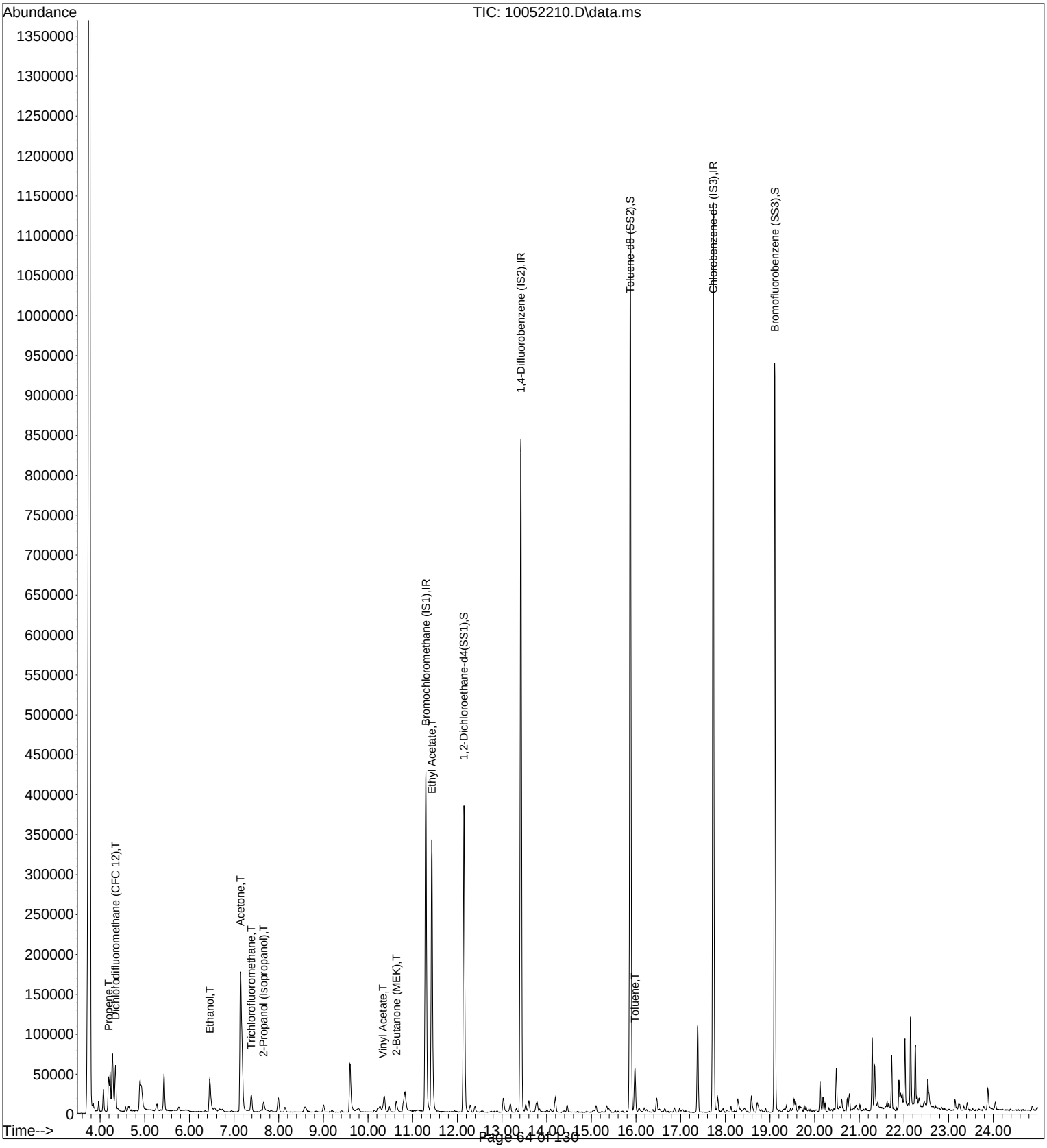
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	1892	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.05	58	689	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	39923	0.668 ng	99
59) 2-Hexanone	16.23	43	2304	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.85	43	4999	N.D.	
63) n-Octane	16.98	57	865	N.D.	
64) Tetrachloroethene	17.12	166	600	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.13	91	5593	N.D.	
67) m- & p-Xylenes	18.28	91	12949	N.D.	
68) Bromoform	18.35	173	267	N.D.	
69) Styrene	18.61	104	1955	N.D.	
70) o-Xylene	18.71	91	5168	N.D.	
71) n-Nonane	18.90	43	2114	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.24	105	425	N.D.	
75) alpha-Pinene	19.58	93	3405	N.D.	
76) n-Propylbenzene	19.71	91	2035	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.80	105	2003	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	1423	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	4799	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.35	91	364	N.D.	
85) 1,3-Dichlorobenzene	20.43	146	1161	N.D.	
86) 1,4-Dichlorobenzene	20.43	146	1161	N.D.	
87) sec-Butylbenzene	20.47	105	121	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	7238	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	3416	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.24	180	1035	N.D.	
95) Naphthalene	22.34	128	4060	N.D.	
96) n-Dodecane	22.54	58	285	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.21	55	543	No Calib	#
99) tert-Butylbenzene	20.24	119	637	N.D.	
100) n-Butylbenzene	20.97	91	1269	N.D.	
101) 1,1,1,2-Tetrachloroethane	17.75	131	471	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052210.D Vial: 4
Acq On : 5 Oct 2022 9:30 Operator: WA
Sample : P2204345-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:34:48 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052210.D Vial: 4
Acq On : 5 Oct 2022 9:30 Operator: WA
Sample : P2204345-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:34:48 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 10/5/22

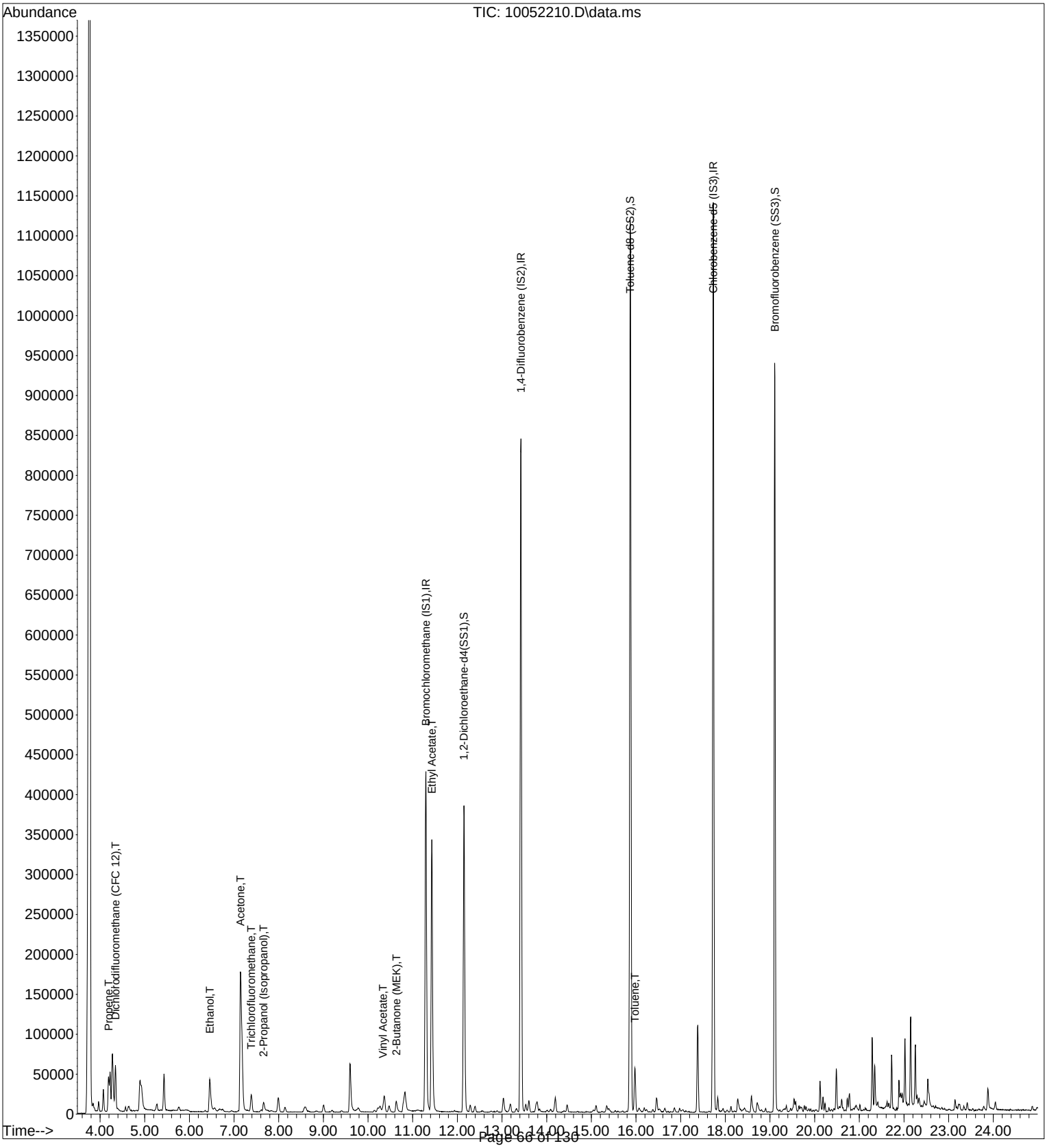
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	168457	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	757277	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	171254	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	287322	12.805	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
57) Toluene-d8 (SS2)	15.87	98	809856	12.266	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	19.11	174	290178	11.762	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
Target Compounds							Qvalue
2) Propene	4.19	42	12839m	0.549	ng		
3) Dichlorodifluoromethan...	4.34	85	46039	1.637	ng		99
10) Ethanol	6.46	45	80213	5.851	ng		99
13) Acetone	7.14	58	81157	6.232	ng	#	81
14) Trichlorofluoromethane	7.39	101	20527	0.788	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	28849	0.719	ng		82
26) Vinyl Acetate	10.34	86	1809	0.534	ng	#	49
27) 2-Butanone (MEK)	10.64	72	4782	0.507	ng	#	73
30) Ethyl Acetate	11.43	61	56379	7.769	ng		96
58) Toluene	15.98	91	39923	0.668	ng		99

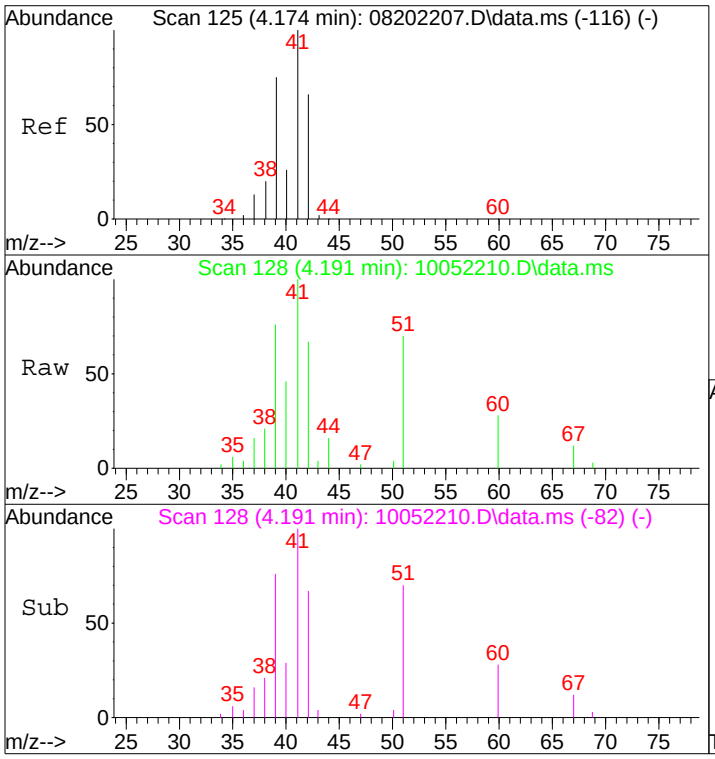
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052210.D Vial: 4
Acq On : 5 Oct 2022 9:30 Operator: WA
Sample : P2204345-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 11:34:48 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

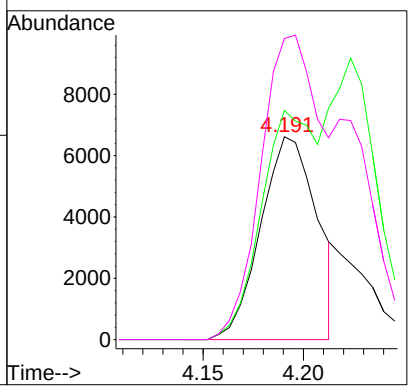


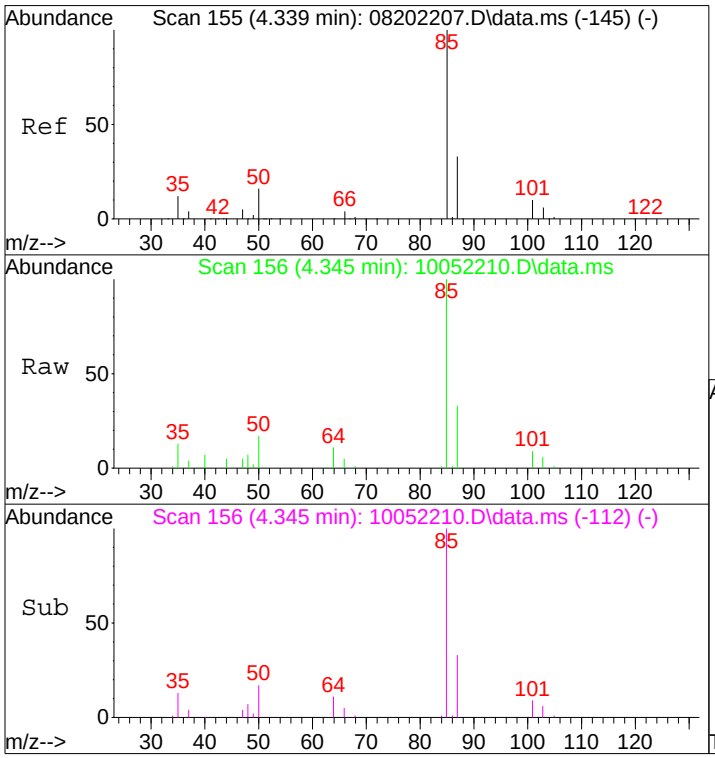


#2
Propene
Concen: 0.55 ng m
RT: 4.19 min Scan# 128
Delta R.T. 0.006 min
Lab File: 10052210.D
Acq: 5 Oct 2022 9:30

Tgt Ion: 42 Resp: 12839

Ion	Ratio	Lower	Upper
42	100		
39	110.8	93.5	133.5
41	238.1	131.9	171.9#

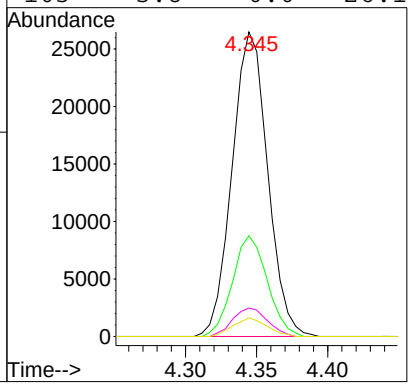


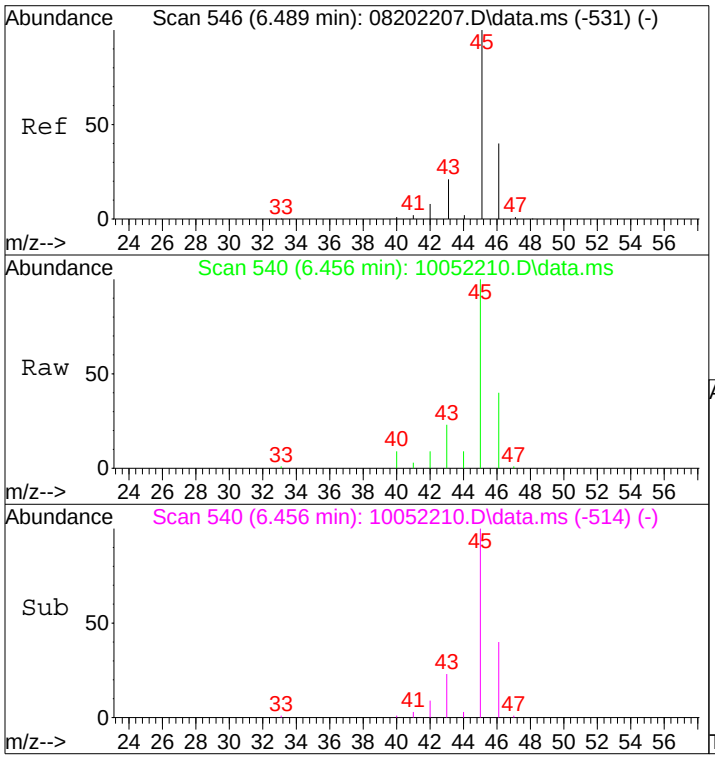


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.64 ng
RT: 4.34 min Scan# 156
Delta R.T. -0.006 min
Lab File: 10052210.D
Acq: 5 Oct 2022 9:30

Tgt Ion: 85 Resp: 46039

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.9	52.9
101	9.2	0.0	29.6
103	5.8	0.0	26.1

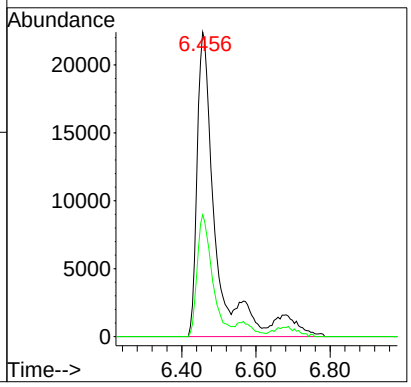


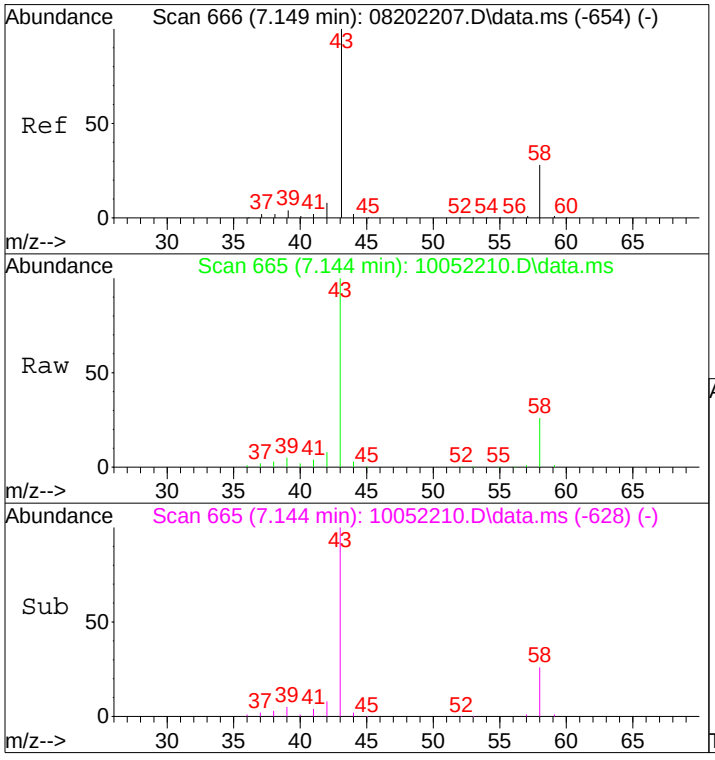


#10
Ethanol
Concen: 5.85 ng
RT: 6.46 min Scan# 540
Delta R.T. -0.105 min
Lab File: 10052210.D
Acq: 5 Oct 2022 9:30

Tgt Ion: 45 Resp: 80213

Ion	Ratio	Lower	Upper
45	100		
46	40.1	20.5	60.5

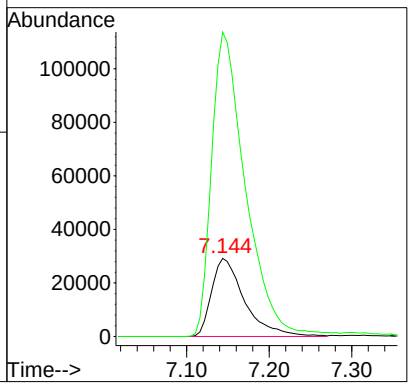


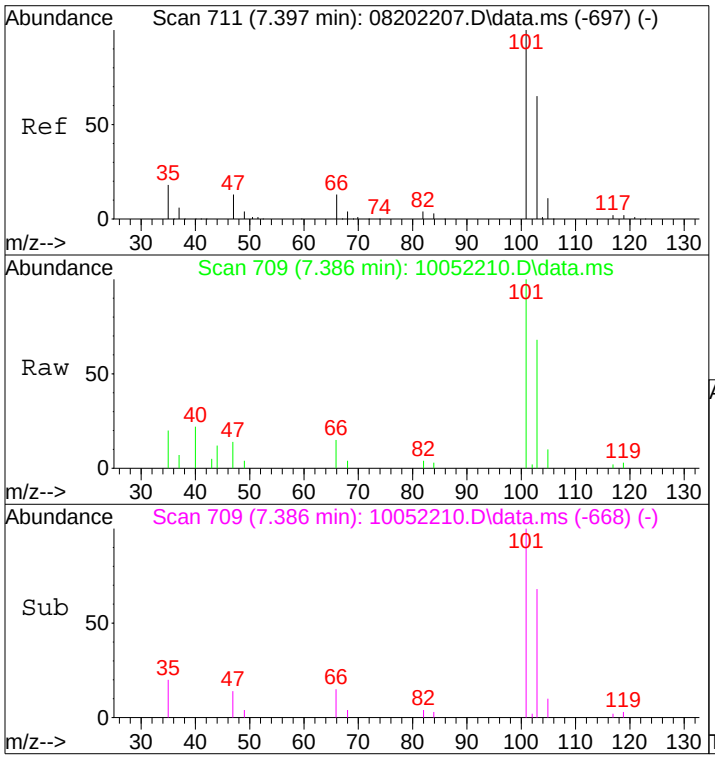


#13
Acetone
Concen: 6.23 ng
RT: 7.14 min Scan# 665
Delta R.T. -0.044 min
Lab File: 10052210.D
Acq: 5 Oct 2022 9:30

Tgt Ion: 58 Resp: 81157

Ion	Ratio	Lower	Upper
58	100		
43	400.2	328.5	388.5#

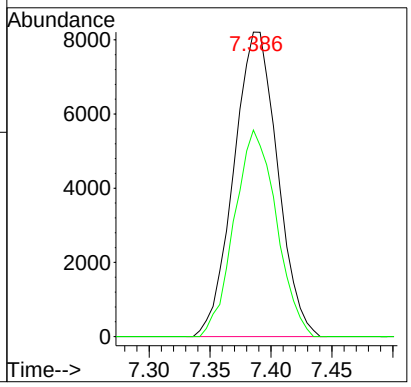


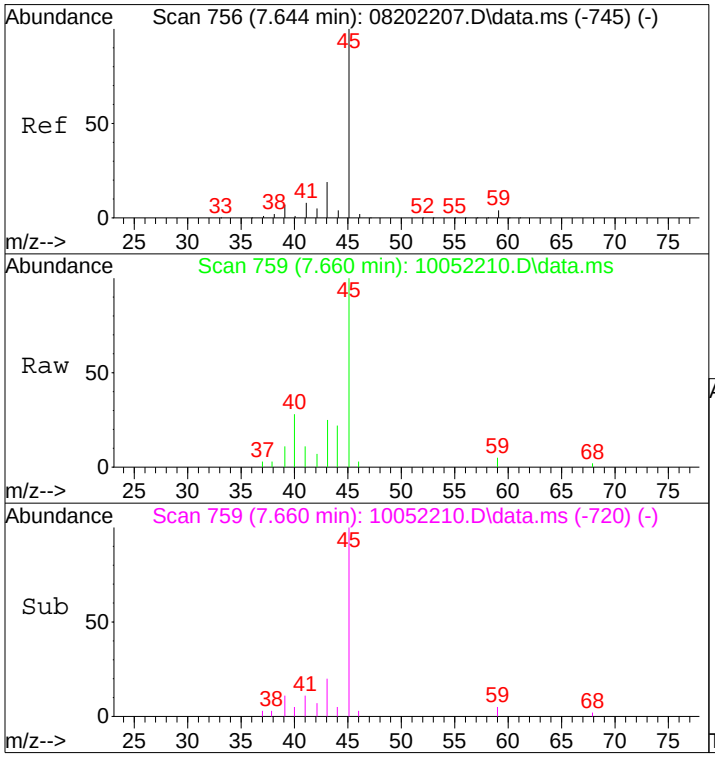


#14
Trichlorofluoromethane
Concen: 0.79 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.022 min
Lab File: 10052210.D
Acq: 5 Oct 2022 9:30

Tgt Ion:101 Resp: 20527

Ion	Ratio	Lower	Upper
101	100		
103	65.1	44.6	84.6

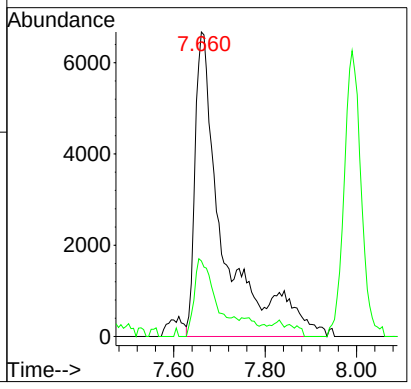


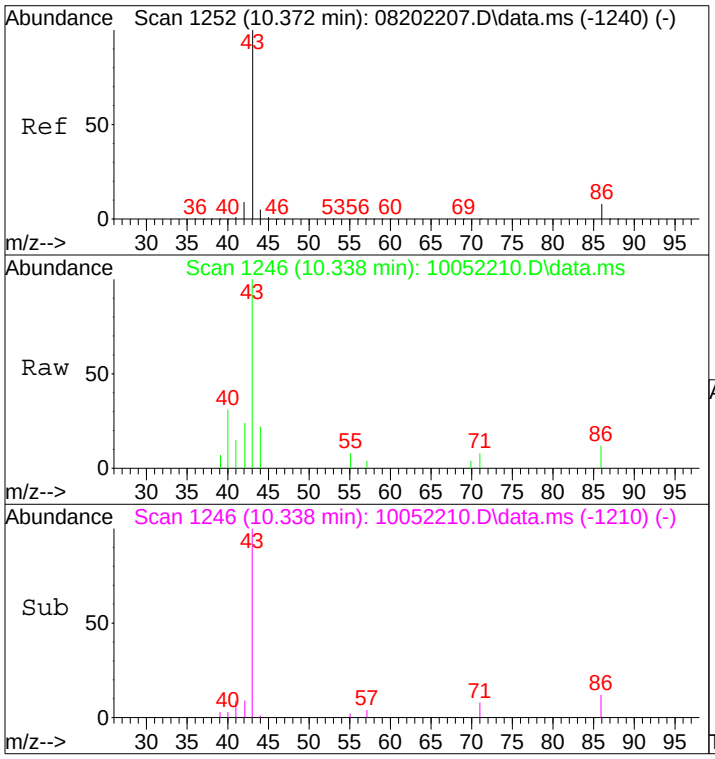


#15
2-Propanol (Isopropanol)
Concen: 0.72 ng
RT: 7.66 min Scan# 759
Delta R.T. -0.033 min
Lab File: 10052210.D
Acq: 5 Oct 2022 9:30

Tgt Ion: 45 Resp: 28849

Ion	Ratio	Lower	Upper
45	100		
43	27.7	0.0	39.5

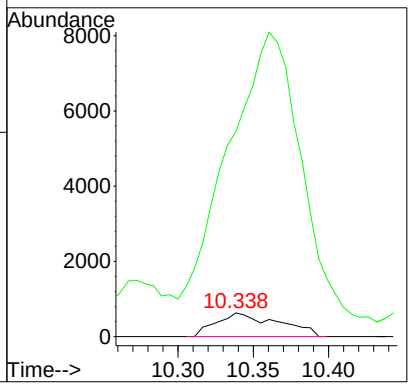


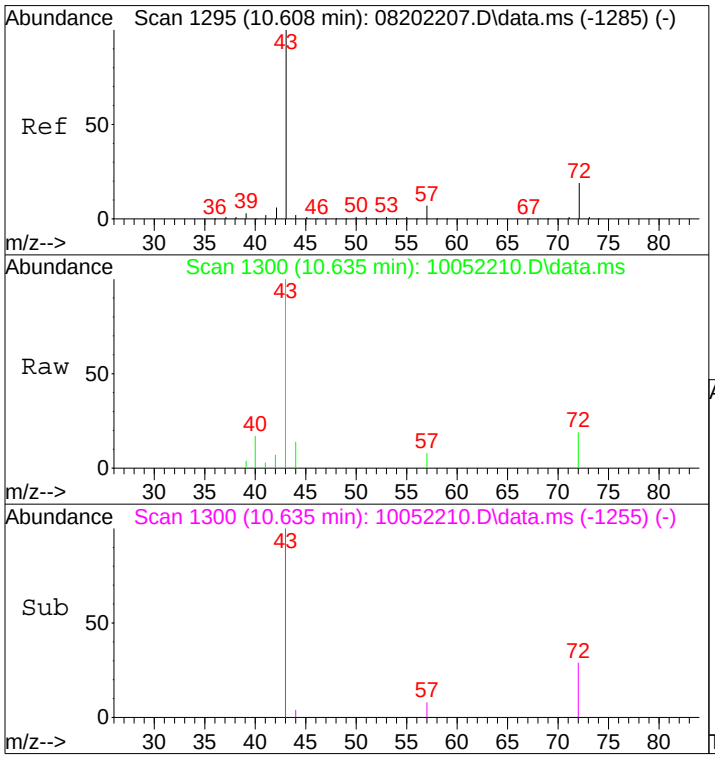


#26
Vinyl Acetate
Concen: 0.53 ng
RT: 10.34 min Scan# 1246
Delta R.T. -0.050 min
Lab File: 10052210.D
Acq: 5 Oct 2022 9:30

Tgt Ion: 86 Resp: 1809

Ion	Ratio	Lower	Upper
86	100		
43	1616.7	1314.6	1354.6#

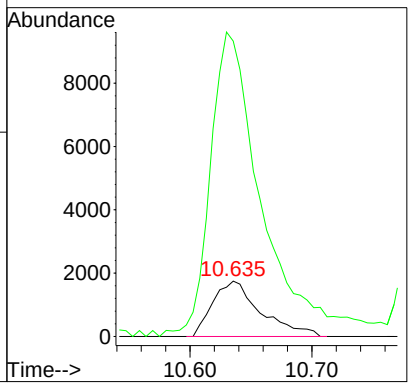


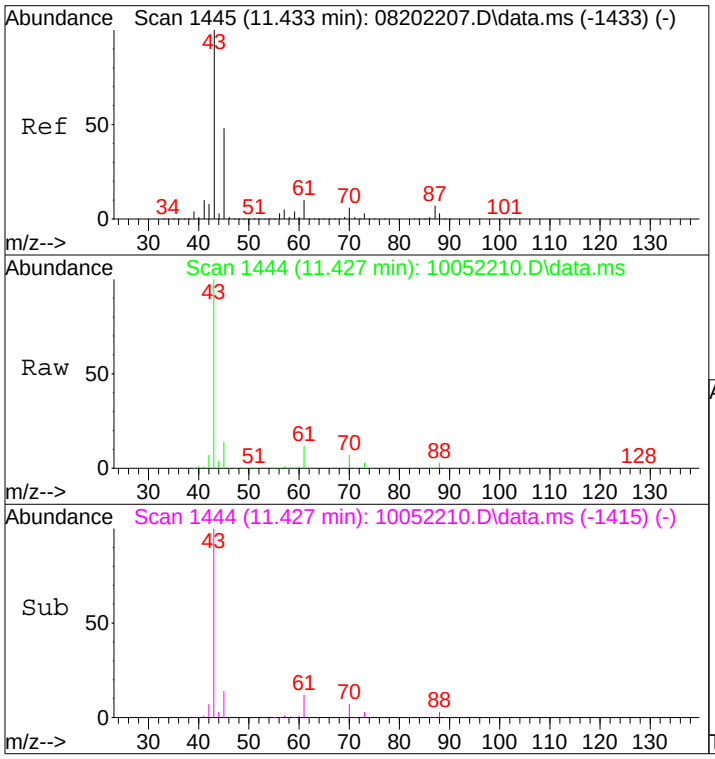


#27
2-Butanone (MEK)
Concen: 0.51 ng
RT: 10.64 min Scan# 1300
Delta R.T. -0.000 min
Lab File: 10052210.D
Acq: 5 Oct 2022 9:30

Tgt Ion: 72 Resp: 4782

Ion	Ratio	Lower	Upper
72	100		
43	595.8	500.2	540.2#

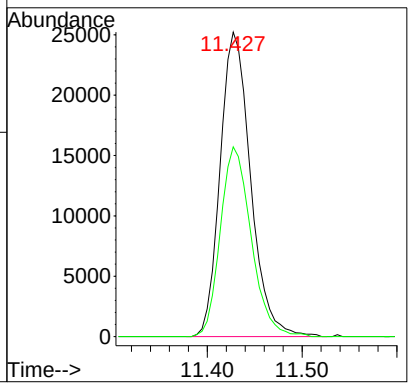


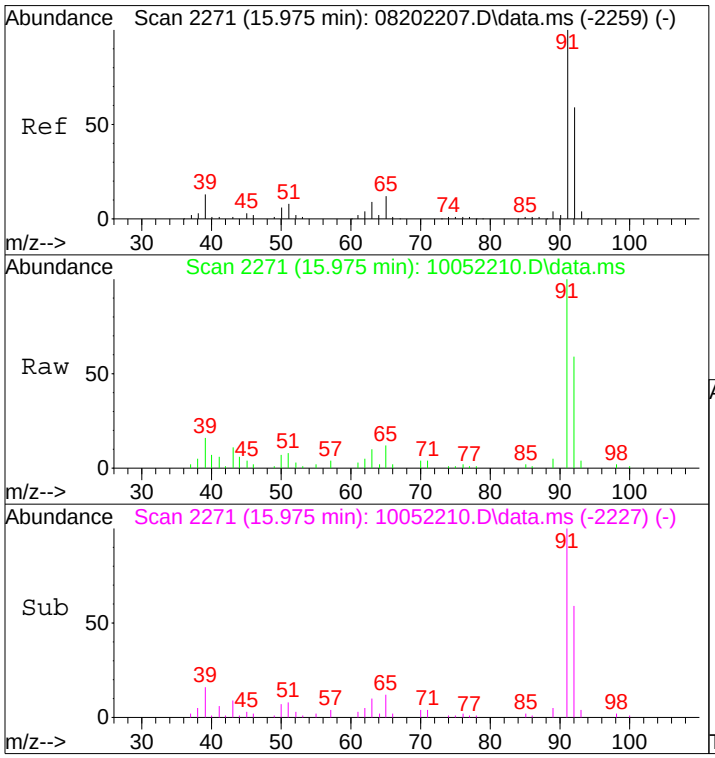


#30
Ethyl Acetate
Concen: 7.77 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.039 min
Lab File: 10052210.D
Acq: 5 Oct 2022 9:30

Tgt Ion: 61 Resp: 56379

Ion	Ratio	Lower	Upper
61	100		
70	63.0	46.5	86.5

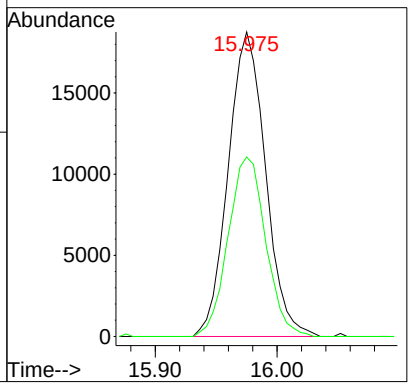




#58
Toluene
Concen: 0.67 ng
RT: 15.98 min Scan# 2271
Delta R.T. -0.006 min
Lab File: 10052210.D
Acq: 5 Oct 2022 9:30

Tgt Ion: 91 Resp: 39923

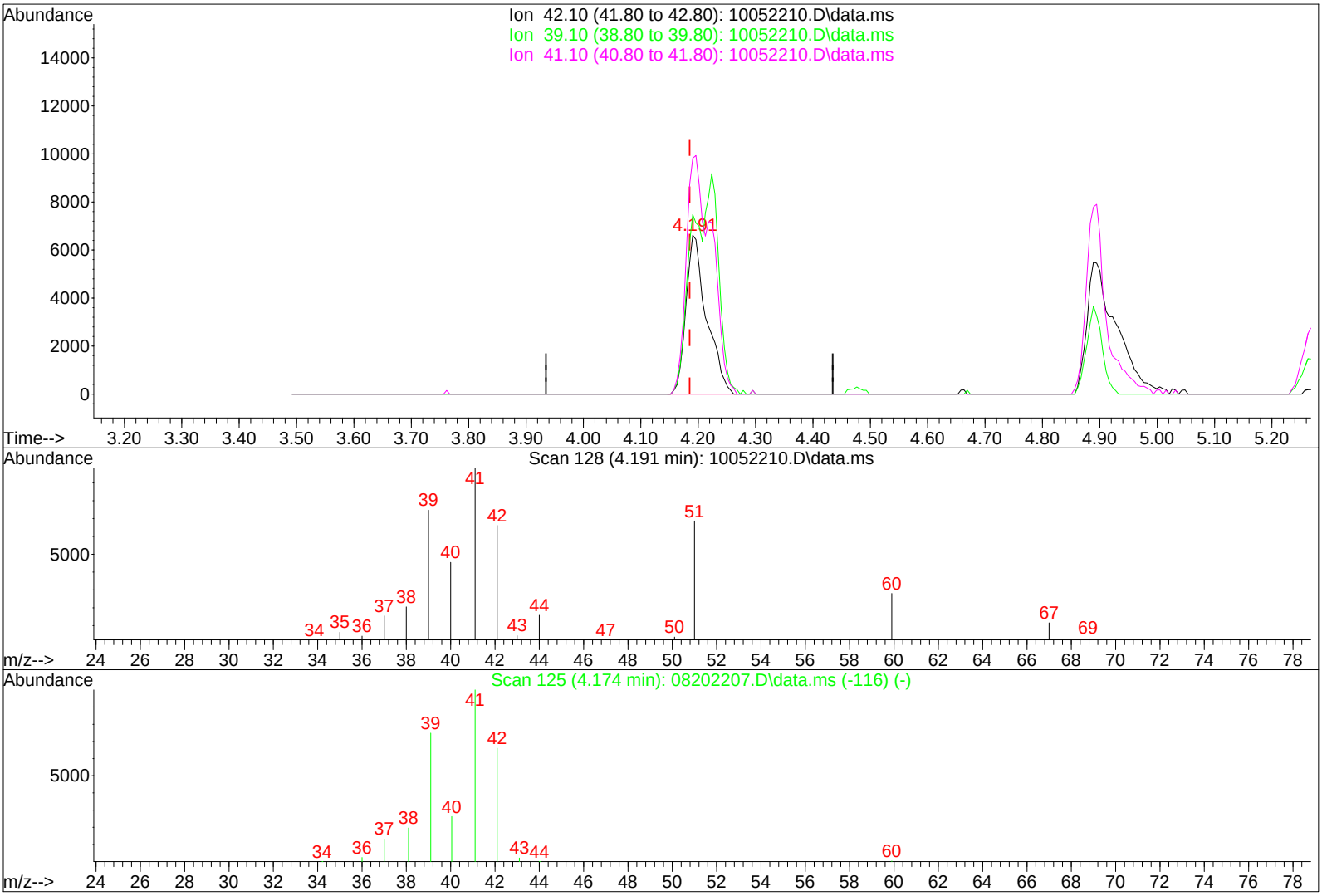
Ion	Ratio	Lower	Upper
91	100		
92	59.3	38.9	78.9



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 10\05\10052210.D Vial: 4
Acq On : 5 Oct 2022 9:30 Operator: WA
Sample : P2204345-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 10:18:50 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 10052210.D\data.ms

(2) Propene (T)

4.191min (+0.006) 0.71ng

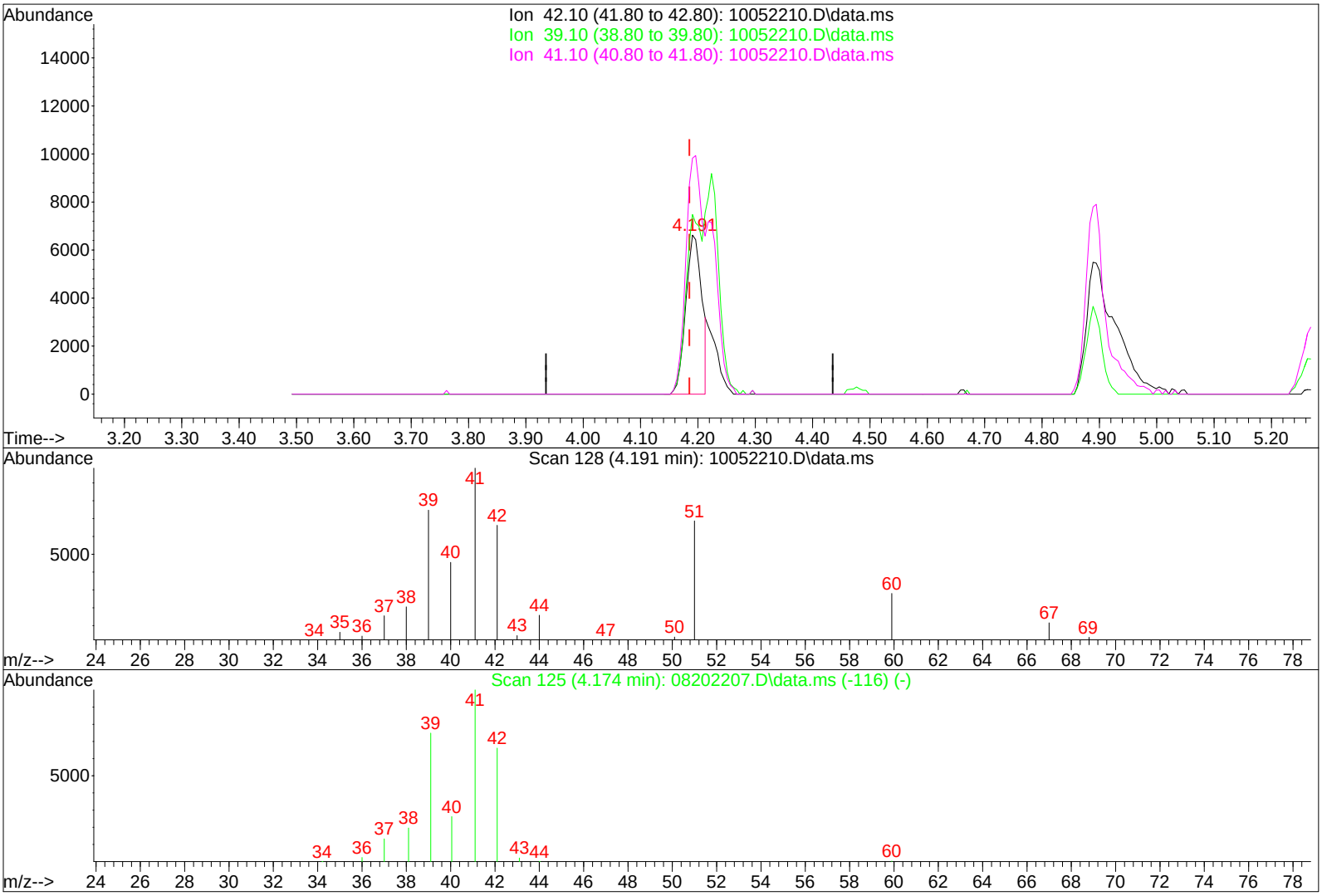
response 16511

Ion	Exp%	Act%
42.10	100	100
39.10	113.50	86.14#
41.10	151.90	185.16#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2022 10\05\10052210.D Vial: 4
Acq On : 5 Oct 2022 9:30 Operator: WA
Sample : P2204345-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 10:18:50 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 10052210.D\data.ms

(2) Propene (T)

4.191min (+0.006) 0.55ng m

response 12839

Ion	Exp%	Act%
42.10	100	100
39.10	113.50	110.77
41.10	151.90	238.11#
0.00	0.00	0.00

IPC

10/5/22

LH 10/5/22

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052203.D Vial: 2
Acq On : 5 Oct 2022 5:06 Operator: WA
Sample : MB R16100522_1000mL Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 07:59:30 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 10/5/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	165002	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	735861	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	169508	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	280210	12.750	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
57) Toluene-d8 (SS2)	15.87	98	795591	12.174	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
73) Bromofluorobenzene (SS3)	19.10	174	366009	14.988	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 119.92%				
Target Compounds							Qvalue
2) Propene	4.23	42	368	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.52	45	2689	0.200	ng		88
11) Acetonitrile	6.78	41	1293	N.D.			
12) Acrolein	6.97	56	101	N.D.			
13) Acetone	7.22	58	1880	0.147	ng	#	69
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.77	45	119	N.D.			
16) Acrylonitrile	7.94	53	677	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	808	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.42	84	860	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS16\DATA\2022 10\05\10052203.D Vial: 2
Acq On : 5 Oct 2022 5:06 Operator: WA
Sample : MB R16100522_1000mL Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 07:59:30 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

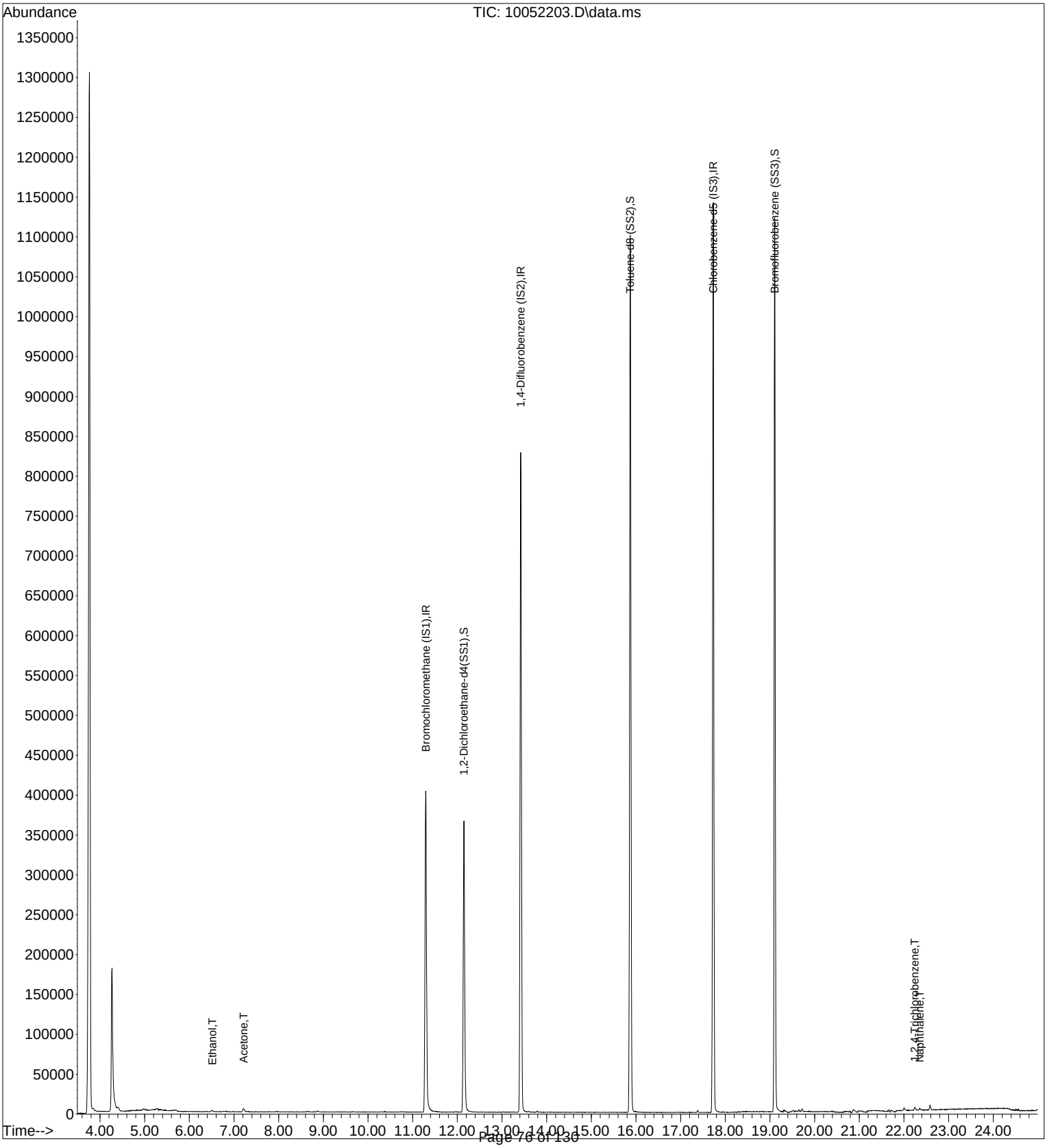
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.97	91	496	N.D.	
59) 2-Hexanone	16.30	43	101	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.91	43	279	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.15	91	1371	N.D.	
67) m- & p-Xylenes	18.30	91	1397	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.71	91	350	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.65	91	1938	N.D.	
77) 3-Ethyltoluene	20.25	105	332	No Calib	#
78) 4-Ethyltoluene	19.82	105	533	N.D.	
79) 1,3,5-Trimethylbenzene	19.88	105	253	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.25	105	332	No Calib	#
82) 1,2,4-Trimethylbenzene	20.25	105	332	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.37	91	179	N.D.	
85) 1,3-Dichlorobenzene	20.38	146	470	N.D.	
86) 1,4-Dichlorobenzene	20.44	146	654	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	20.25	105	332	No Calib	#
90) 1,2-Dichlorobenzene	20.73	146	298	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.24	180	2707	0.106 ng	# 88
95) Naphthalene	22.35	128	4134	0.058 ng	# 71
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	20.99	91	561	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052203.D Vial: 2
Acq On : 5 Oct 2022 5:06 Operator: WA
Sample : MB R16100522_1000mL Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 05 07:59:30 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052205.D Vial: 2
Acq On : 5 Oct 2022 6:14 Operator: WA
Sample : LCS R16100522 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09262203 (10/26)

Quant Time: Oct 05 07:18:29 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 10/5/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	203391	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	900417	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	194818	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	320343	11.825	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
57) Toluene-d8 (SS2)	15.88	98	932577	12.416	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
73) Bromofluorobenzene (SS3)	19.11	174	377401	13.447	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.60%				
Target Compounds							Qvalue
2) Propene	4.17	42	884145	31.298	ng		97
3) Dichlorodifluoromethan...	4.33	85	835418	24.607	ng		99
4) Chloromethane	4.63	50	786814	26.274	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.89	135	419827	19.507	ng		100
6) Vinyl Chloride	5.06	62	588080	18.585	ng		99
7) 1,3-Butadiene	5.33	54	569270	21.748	ng		98
8) Bromomethane	5.77	94	327738	23.368	ng		99
9) Chloroethane	6.12	64	322604	26.044	ng		99
10) Ethanol	6.50	45	1843959	111.398	ng		100
11) Acetonitrile	6.75	41	1071542	25.076	ng		98
12) Acrolein	6.93	56	662728	51.159	ng		99
13) Acetone	7.15	58	1793268	114.057	ng		96
14) Trichlorofluoromethane	7.40	101	721594	22.953	ng		100
15) 2-Propanol (Isopropanol)	7.65	45	2494623	51.522	ng		96
16) Acrylonitrile	7.91	53	1394997	52.481	ng		100
17) 1,1-Dichloroethene	8.36	96	394462	24.723	ng		98
18) 2-Methyl-2-Propanol (t...	8.52	59	2131653	51.320	ng		99
19) Methylene Chloride	8.59	84	379550	22.725	ng		88
20) 3-Chloro-1-propene (Al...	8.75	41	750690	25.780	ng		93
21) Trichlorotrifluoroethane	9.01	151	404961	24.866	ng		92
22) Carbon Disulfide	8.85	76	2538258	42.724	ng		100
23) trans-1,2-Dichloroethene	9.87	61	636970	26.730	ng		99
24) 1,1-Dichloroethane	10.11	63	761114	25.248	ng		99
25) Methyl tert-Butyl Ether	10.21	73	1207612	24.097	ng		97
26) Vinyl Acetate	10.37	86	387295	94.748	ng	#	77
27) 2-Butanone (MEK)	10.61	72	526792	46.284	ng	#	81
28) cis-1,2-Dichloroethene	11.14	61	602744	23.845	ng		100
29) Diisopropyl Ether	11.43	87	717697	41.609	ng	#	65
30) Ethyl Acetate	11.43	61	495725	56.577	ng		99
31) n-Hexane	11.41	57	813803	22.021	ng		99
32) Chloroform	11.48	83	672732	22.766	ng		100
34) Tetrahydrofuran (THF)	11.88	72	491860	44.550	ng	#	86
35) Ethyl tert-Butyl Ether	12.02	87	982342	44.320	ng		96
36) 1,2-Dichloroethane	12.27	62	601125	24.346	ng		100
38) 1,1,1-Trichloroethane	12.55	97	666821	23.711	ng		98
39) Isopropyl Acetate	13.67	61	1088	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	1583558	24.072	ng		98
42) Carbon Tetrachloride	13.19	117	565341	23.028	ng		99
43) Cyclohexane	13.32	84	1240443	43.802	ng		90
44) tert-Amyl Methyl Ether	13.67	73	2179548	43.340	ng		96
45) 1,2-Dichloropropane	13.89	63	437808	24.537	ng		99
46) Bromodichloromethane	14.07	83	562205	23.533	ng		100
47) Trichloroethene	14.13	130	489334	21.425	ng		99
48) 1,4-Dioxane	14.10	88	337029	24.865	ng		94
49) 2,2,4-Trimethylpentane...	14.19	57	2158474	25.489	ng		96
50) Methyl Methacrylate	14.33	100	372578	45.542	ng		91

Data File : I:\MS16\DATA\2022 10\05\10052205.D Vial: 2
Acq On : 5 Oct 2022 6:14 Operator: WA
Sample : LCS R16100522 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09262203 (10/26)

Quant Time: Oct 05 07:18:29 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

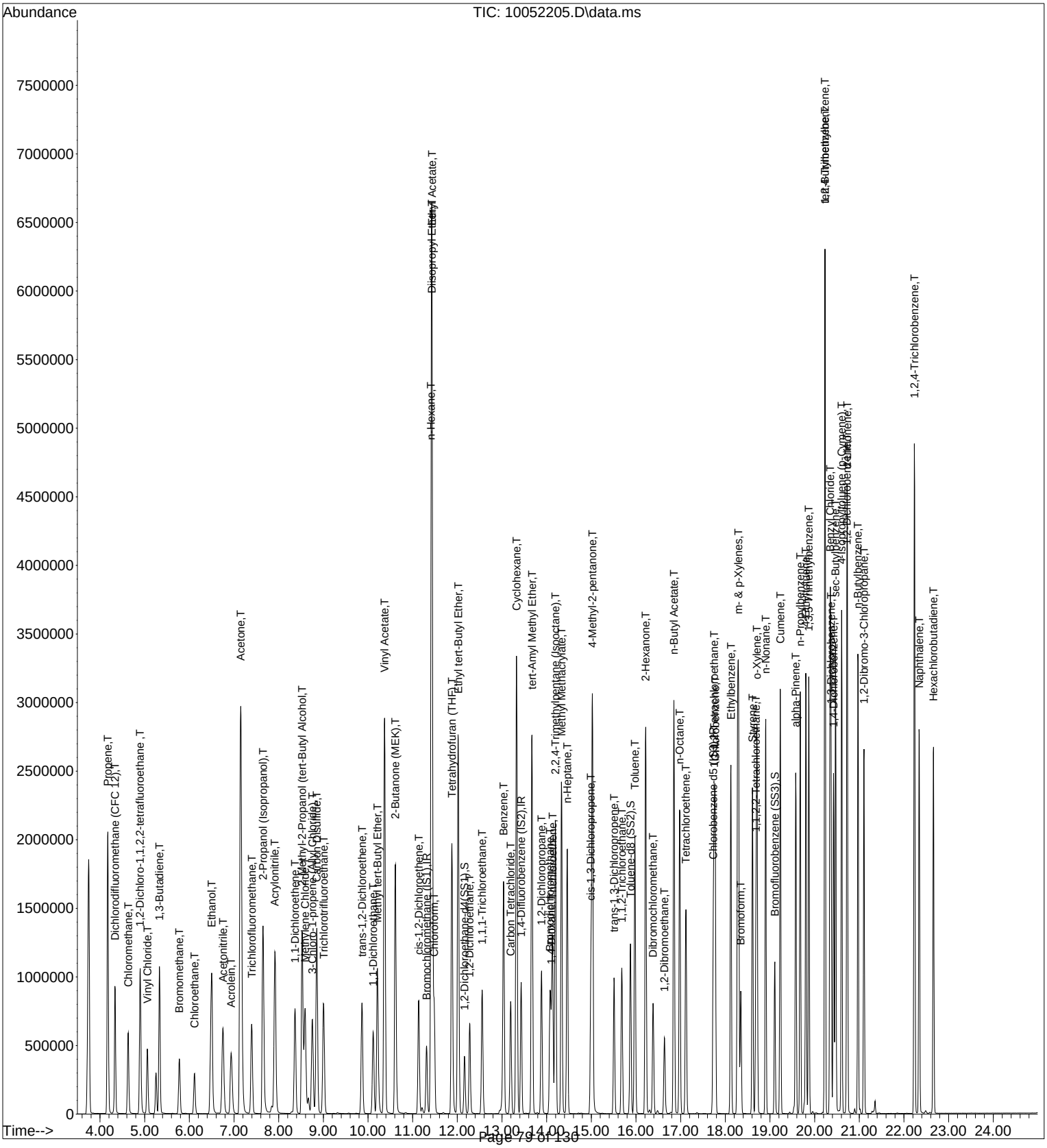
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	422989	22.783	ng		92
52) cis-1,3-Dichloropropene	14.99	75	634816	25.009	ng		100
53) 4-Methyl-2-pentanone	15.02	58	901452	49.819	ng		99
54) trans-1,3-Dichloropropene	15.51	75	580322	22.624	ng		100
55) 1,1,2-Trichloroethane	15.68	97	396111	23.946	ng		97
58) Toluene	15.98	91	1665594	24.497	ng		99
59) 2-Hexanone	16.22	43	2429853	54.850	ng		100
60) Dibromochloromethane	16.38	129	510840	26.092	ng		100
61) 1,2-Dibromoethane	16.64	107	465763	26.515	ng		100
62) n-Butyl Acetate	16.85	43	2718230	55.769	ng		98
63) n-Octane	16.98	57	450179	27.052	ng		94
64) Tetrachloroethene	17.12	166	542211	25.993	ng		100
65) Chlorobenzene	17.77	112	1149039	24.255	ng		99
66) Ethylbenzene	18.13	91	1965564	25.476	ng		100
67) m- & p-Xylenes	18.29	91	3021788	49.219	ng		100
68) Bromoform	18.35	173	486062	27.570	ng		99
69) Styrene	18.61	104	1206172	26.900	ng		100
70) o-Xylene	18.71	91	1528768	24.952	ng		100
71) n-Nonane	18.91	43	1207397	27.860	ng		98
72) 1,1,2,2-Tetrachloroethane	18.69	83	667975	24.266	ng		99
74) Cumene	19.23	105	2100311	25.663	ng		99
75) alpha-Pinene	19.58	93	936485	24.622	ng		99
76) n-Propylbenzene	19.68	91	2362772	25.390	ng		99
77) 3-Ethyltoluene	0.00	105	0	N.D.			
78) 4-Ethyltoluene	19.80	105	2056395	26.262	ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	1709494	25.315	ng		99
80) alpha-Methylstyrene	20.47	118	7223	No Calib		#	
81) 2-Ethyltoluene	0.00	105	0	N.D.			
82) 1,2,4-Trimethylbenzene	20.23	105	1718591	24.560	ng		99
83) n-Decane	20.23	58	86275	No Calib			
84) Benzyl Chloride	20.35	91	2256867	45.596	ng		99
85) 1,3-Dichlorobenzene	20.37	146	1040466	25.393	ng		100
86) 1,4-Dichlorobenzene	20.42	146	1046445	25.855	ng		100
87) sec-Butylbenzene	20.47	105	2248417	24.919	ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	2026153	25.456	ng		99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.			
90) 1,2-Dichlorobenzene	20.72	146	983176	24.892	ng		100
91) d-Limonene	20.73	68	583030	21.848	ng		96
92) 1,2-Dibromo-3-Chloropr...	21.11	157	806611	53.313	ng		93
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.23	180	1669641	56.640	ng		100
95) Naphthalene	22.34	128	2321010	28.348	ng		100
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	576726	27.275	ng		100
98) Cyclohexanone	18.20	55	168	No Calib		#	
99) tert-Butylbenzene	20.23	119	1717134	24.472	ng		100
100) n-Butylbenzene	20.97	91	1741211	25.572	ng		99
101) 1,1,1,2-Tetrachloroethane	17.75	131	447336	24.384	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052205.D Vial: 2
Acq On : 5 Oct 2022 6:14 Operator: WA
Sample : LCS R16100522 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09262203 (10/26)

Quant Time: Oct 05 07:18:29 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052206.D Vial: 2
Acq On : 5 Oct 2022 6:48 Operator: WA
Sample : LCSD R16100522 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09262203 (10/26)

Quant Time: Oct 05 07:18:31 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

10/5/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	180454	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	953993	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	192395	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.16	65	318447	13.249	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%			
57) Toluene-d8 (SS2)	15.88	98	851781	11.483	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%			
73) Bromofluorobenzene (SS3)	19.11	174	339410	12.246	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%			
Target Compounds						Qvalue
2) Propene	4.18	42	750359	29.938	ng	99
3) Dichlorodifluoromethan...	4.34	85	791411	26.274	ng	100
4) Chloromethane	4.64	50	736780	27.730	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	488832	25.601	ng	100
6) Vinyl Chloride	5.07	62	741007	26.395	ng	99
7) 1,3-Butadiene	5.34	54	691156	29.760	ng	100
8) Bromomethane	5.78	94	305276	24.533	ng	100
9) Chloroethane	6.12	64	286726	26.090	ng	100
10) Ethanol	6.50	45	1636601	111.438	ng	100
11) Acetonitrile	6.76	41	845598	22.304	ng	100
12) Acrolein	6.94	56	573734	49.918	ng	100
13) Acetone	7.15	58	1782874	127.810	ng	96
14) Trichlorofluoromethane	7.40	101	694386	24.896	ng	100
15) 2-Propanol (Isopropanol)	7.65	45	2142880	49.883	ng	99
16) Acrylonitrile	7.92	53	1225608	51.969	ng	100
17) 1,1-Dichloroethene	8.37	96	389616	27.523	ng	99
18) 2-Methyl-2-Propanol (t...	8.53	59	1978503	53.687	ng	99
19) Methylene Chloride	8.60	84	402942	27.192	ng	93
20) 3-Chloro-1-propene (Al...	8.75	41	736626	28.512	ng	98
21) Trichlorotrifluoroethane	9.01	151	418933	28.993	ng	97
22) Carbon Disulfide	8.85	76	2789633	52.923	ng	100
23) trans-1,2-Dichloroethene	9.87	61	586097	27.722	ng	99
24) 1,1-Dichloroethane	10.12	63	703876	26.317	ng	100
25) Methyl tert-Butyl Ether	10.21	73	1159709	26.083	ng	100
26) Vinyl Acetate	10.37	86	420517	115.952	ng	96
27) 2-Butanone (MEK)	10.61	72	528771	52.363	ng	95
28) cis-1,2-Dichloroethene	11.14	61	563819	25.141	ng	100
29) Diisopropyl Ether	11.43	87	887610	58.001	ng #	67
30) Ethyl Acetate	11.43	61	629242	80.944	ng	99
31) n-Hexane	11.42	57	980781	29.913	ng	100
32) Chloroform	11.48	83	675404	25.762	ng	100
34) Tetrahydrofuran (THF)	11.88	72	496133	50.648	ng	98
35) Ethyl tert-Butyl Ether	12.02	87	1059694	53.887	ng	99
36) 1,2-Dichloroethane	12.27	62	650714	29.704	ng	100
38) 1,1,1-Trichloroethane	12.55	97	660036	22.152	ng	100
39) Isopropyl Acetate	13.67	61	1520	No Calib	#	
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.04	78	1706159	24.480	ng	98
42) Carbon Tetrachloride	13.19	117	597366	22.966	ng	100
43) Cyclohexane	13.32	84	1411401	47.040	ng	90
44) tert-Amyl Methyl Ether	13.67	73	2547161	47.806	ng	97
45) 1,2-Dichloropropane	13.89	63	425354	22.500	ng	100
46) Bromodichloromethane	14.07	83	558117	22.050	ng	100
47) Trichloroethene	14.13	130	460031	19.010	ng	100
48) 1,4-Dioxane	14.10	88	327095	22.777	ng	99
49) 2,2,4-Trimethylpentane...	14.20	57	1959451	21.839	ng	98
50) Methyl Methacrylate	14.33	100	367143	42.357	ng	97

Data File : I:\MS16\DATA\2022 10\05\10052206.D Vial: 2
Acq On : 5 Oct 2022 6:48 Operator: WA
Sample : LCSD R16100522 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09262203 (10/26)

Quant Time: Oct 05 07:18:31 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

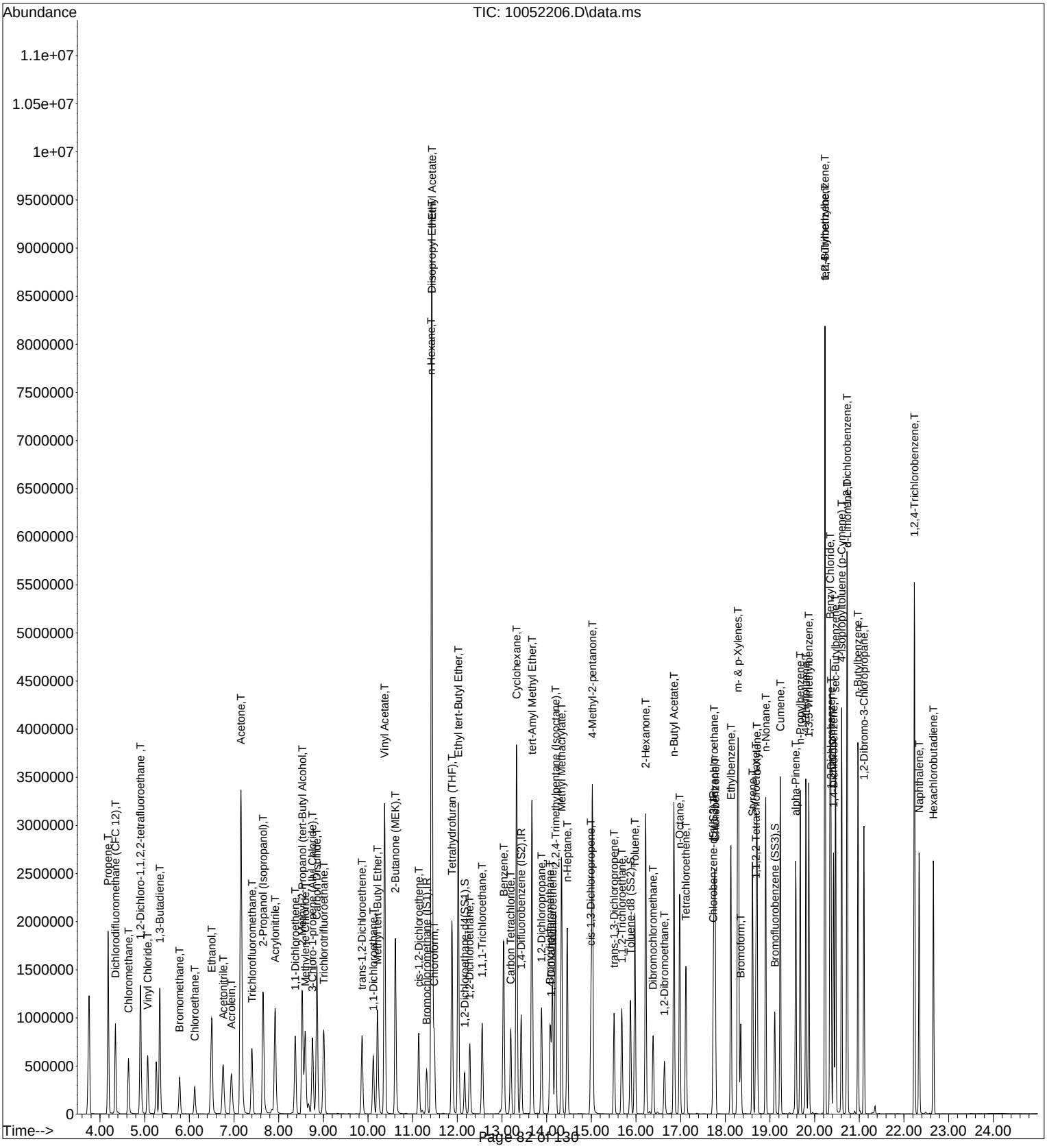
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	420998	21.403 ng	98
52) cis-1,3-Dichloropropene	14.99	75	639830	23.791 ng	100
53) 4-Methyl-2-pentanone	15.02	58	904631	47.187 ng	98
54) trans-1,3-Dichloropropene	15.51	75	569401	20.952 ng	100
55) 1,1,2-Trichloroethane	15.68	97	375155	21.405 ng	99
58) Toluene	15.98	91	1624178	24.188 ng	100
59) 2-Hexanone	16.22	43	2441038	55.796 ng	99
60) Dibromochloromethane	16.38	129	480361	24.844 ng	100
61) 1,2-Dibromoethane	16.64	107	435485	25.103 ng	100
62) n-Butyl Acetate	16.85	43	2668680	55.442 ng	99
63) n-Octane	16.98	57	426458	25.949 ng	99
64) Tetrachloroethene	17.12	166	500029	24.272 ng	100
65) Chlorobenzene	17.77	112	1158530	24.764 ng	100
66) Ethylbenzene	18.13	91	2020647	26.519 ng	99
67) m- & p-Xylenes	18.28	91	3362369	55.456 ng	99
68) Bromoform	18.35	173	471414	27.076 ng	99
69) Styrene	18.61	104	1291441	29.165 ng	100
70) o-Xylene	18.71	91	1687812	27.895 ng	99
71) n-Nonane	18.91	43	1278529	29.872 ng	98
72) 1,1,2,2-Tetrachloroethane	18.69	83	762262	28.040 ng	99
74) Cumene	19.23	105	2247109	27.802 ng	100
75) alpha-Pinene	19.58	93	914689	24.351 ng	97
76) n-Propylbenzene	19.68	91	2418632	26.318 ng	99
77) 3-Ethyltoluene	20.35	105	587	No Calib #	
78) 4-Ethyltoluene	19.80	105	2050508	26.516 ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	1717312	25.751 ng	99
80) alpha-Methylstyrene	20.47	118	7573	No Calib #	
81) 2-Ethyltoluene	20.35	105	587	No Calib #	
82) 1,2,4-Trimethylbenzene	20.23	105	1992324	28.830 ng	98
83) n-Decane	20.23	58	99770	No Calib	
84) Benzyl Chloride	20.35	91	2591854	53.023 ng	99
85) 1,3-Dichlorobenzene	20.37	146	1095549	27.074 ng	99
86) 1,4-Dichlorobenzene	20.42	146	1028942	25.742 ng	99
87) sec-Butylbenzene	20.47	105	2359593	26.480 ng	99
88) 4-Isopropyltoluene (p-...	20.61	119	2114943	26.906 ng	99
89) 1,2,3-Trimethylbenzene	20.35	105	587	No Calib #	
90) 1,2-Dichlorobenzene	20.73	146	1064088	27.280 ng	100
91) d-Limonene	20.73	68	707913	26.862 ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	792782	53.059 ng	94
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.23	180	1658800	56.981 ng	100
95) Naphthalene	22.34	128	2092227	25.875 ng	100
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.66	225	509807	24.414 ng	99
98) Cyclohexanone	18.13	55	681	No Calib #	
99) tert-Butylbenzene	20.23	119	1966775	28.383 ng	100
100) n-Butylbenzene	20.97	91	1867232	27.768 ng	99
101) 1,1,1,2-Tetrachloroethane	17.75	131	450962	24.892 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052206.D Vial: 2
Acq On : 5 Oct 2022 6:48 Operator: WA
Sample : LCSD R16100522 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09262203 (10/26)

Quant Time: Oct 05 07:18:31 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16082022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Sat Aug 20 09:01:46 2022
Response Via : Initial Calibration

Calibration Files
0.1 =08202202.D 0.2 =08202203.D 0.5 =08202214.D 1.0 =08202205.D 5.0 =08202206.D 25 =08202207.D 50 =08202208.D
100 =08202209.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	----------	ISTD	----------	----------	----------	----------	----------		
2)	T	Propene	1.666	1.488	1.387	1.494	1.757	1.729	2.045	2.323	1.736	18.05
3)	T	Dichlorodifluo...	2.164	2.088	2.163	2.043	1.991	2.051	2.056	2.135	2.087	2.99
4)	T	Chloromethane	2.082	1.966	1.981	2.066	1.733	1.979	1.768	1.149	1.840	16.66
5)	T	1,2-Dichloro-1...	1.277	1.255	1.449	1.337	1.279	1.306	1.324	1.353	1.323	4.61
6)	T	Vinyl Chloride	1.980	1.877	1.994	1.944	1.924	1.954	1.945	1.938	1.945	1.83
7)	T	1,3-Butadiene	1.394	1.421	1.501	1.560	1.582	1.757	1.820	1.835	1.609	10.86
8)	T	Bromomethane	0.809	0.809	0.870	0.825	0.918	0.839	0.860	0.965	0.862	6.39
9)	T	Chloroethane	0.739	0.705	0.780	0.779	0.757	0.785	0.774	0.771	0.761	3.56
10)	T	Ethanol	0.904	0.869	1.000	0.965	0.962	1.082	1.156	1.199	1.017	11.58
11)	T	Acetonitrile	2.821	2.651	2.427	2.568	2.521	2.646	2.682	2.693	2.626	4.57
12)	T	Acrolein	0.704	0.684	0.753	0.786	0.760	0.848	0.910	0.925	0.796	11.27
13)	T	Acetone	0.982	0.921	0.877	0.877	0.862	1.013	1.085	1.113	0.966	10.14
14)	T	Trichlorofluor...	1.978	1.864	2.014	1.951	1.838	1.903	1.917	1.992	1.932	3.23
15)	T	2-Propanol (Is...	2.979	2.906	3.090	3.059	2.580	3.276	3.083	2.832	2.976	7.00
16)	T	Acrylonitrile	1.343	1.385	1.491	1.546	1.577	1.809	1.945	1.974	1.634	15.01
17)	T	1,1-Dichloroet...	0.960	0.887	0.984	0.970	0.938	1.008	1.025	1.071	0.981	5.72
18)	T	2-Methyl-2-Pro...	2.466	2.540	2.709	2.714	2.419	3.253	2.770	1.552	2.553	18.82
19)	T	Methylene Chlo...	1.084	0.976	1.006	1.011	0.954	1.028	1.050	1.103	1.026	4.95
20)	T	3-Chloro-1-pro...	1.597	1.506	1.545	1.670	1.690	2.004	2.130	2.176	1.790	15.12
21)	T	Trichlorotrifl...	1.015	0.935	1.047	1.029	0.952	0.995	1.004	1.030	1.001	3.91
22)	T	Carbon Disulfide	3.561	3.332	3.476	3.407	3.344	3.828	4.060	4.202	3.651	9.24
23)	T	trans-1,2-Dich...	1.182	1.260	1.429	1.464	1.459	1.587	1.621	1.713	1.465	12.22
24)	T	1,1-Dichloroet...	1.824	1.789	1.813	1.843	1.795	1.900	1.912	1.947	1.853	3.20
25)	T	Methyl tert-Bu...	2.874	2.592	2.961	2.921	2.991	3.330	3.435	3.535	3.080	10.44
26)	T	Vinyl Acetate			0.172	0.183	0.217	0.291	0.312	0.331	0.251	27.42
27)	T	2-Butanone (MEK)	0.466	0.595	0.640	0.661	0.689	0.811	0.857	0.877	0.699	20.17
28)	T	cis-1,2-Dichlo...	1.710	1.466	1.456	1.455	1.433	1.575	1.622	1.710	1.553	7.52
29)	T	Diisopropyl Ether	0.873	0.866	0.999	0.982	1.032	1.315	1.319	1.094	1.060	16.60
30)	T	Ethyl Acetate			0.416	0.443	0.483	0.680	0.670	0.538	0.538	21.05
31)	T	n-Hexane	1.846	1.801	1.997	2.041	2.164	2.885	2.894	2.541	2.271	19.54
32)	T	Chloroform	1.694	1.690	1.812	1.757	1.741	1.910	1.961	1.964	1.816	6.30
33)	S	1,2-Dichloroet...	1.642	1.655	1.628	1.653	1.665	1.697	1.703	1.676	1.665	1.56
34)	T	Tetrahydrofura...	0.705	0.578	0.626	0.611	0.627	0.716	0.765	0.801	0.679	11.77
35)	T	Ethyl tert-But...	1.109	1.104	1.230	1.219	1.253	1.544	1.684	1.754	1.362	19.05
36)	T	1,2-Dichloroet...	1.406	1.372	1.540	1.475	1.465	1.597	1.631	1.653	1.517	6.87
37)	IR	1,4-Difluorobenzen...	----------	----------	ISTD	----------	----------	----------	----------	----------		
38)	T	1,1,1-Trichlor...	0.379	0.363	0.395	0.389	0.368	0.392	0.406	0.431	0.390	5.58
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	0.853	0.817	0.881	0.862	0.852	0.954	1.019	1.067	0.913	9.87
42)	T	Carbon Tetrach...	0.316	0.312	0.346	0.334	0.325	0.350	0.359	0.384	0.341	7.08

8/21/22

Method Path : I:\MS16\METHODS\
Method File : R16082022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

43)	T	Cyclohexane	0.331	0.337	0.370	0.359	0.368	0.425	0.465	0.490	0.393	15.17
44)	T	tert-Amyl Meth...	0.601	0.578	0.604	0.599	0.627	0.810	0.888	0.877	0.698	19.39
45)	T	1,2-Dichloropr...	0.227	0.216	0.243	0.240	0.237	0.261	0.272	0.286	0.248	9.43
46)	T	Bromodichlorom...	0.322	0.297	0.313	0.321	0.312	0.346	0.360	0.382	0.332	8.59
47)	T	Trichloroethene	0.442	0.348	0.279	0.271	0.268	0.290	0.305	0.333	0.317	18.37
48)	T	1,4-Dioxane	0.139	0.142	0.181	0.177	0.185	0.209	0.223	0.250	0.188	20.26
49)	T	2,2,4-Trimethy...	1.068	1.046	1.079	1.089	1.115	1.254	1.340	1.413	1.176	11.95
50)	T	Methyl Methacr...			0.092	0.095	0.101	0.123	0.133	0.138	0.114	17.87
51)	T	n-Heptane	0.206	0.206	0.246	0.241	0.246	0.286	0.308	0.322	0.258	16.92
52)	T	cis-1,3-Dichlo...	0.242	0.280	0.317	0.322	0.348	0.412	0.438	0.460	0.352	22.02
53)	T	4-Methyl-2-pen...	0.168	0.184	0.216	0.224	0.241	0.305	0.333	0.338	0.251	26.32
54)	T	trans-1,3-Dich...			0.276	0.285	0.325	0.394	0.416	0.441	0.356	19.63
55)	T	1,1,2-Trichlor...	0.208	0.205	0.222	0.216	0.219	0.241	0.253	0.274	0.230	10.42
56)	IR	Chlorobenzene-d5 (...	----------	----------	ISTD	----------	----------	----------	----------	----------	----------	
57)	S	Toluene-d8 (SS2)	4.939	4.963	5.171	4.963	4.869	4.612	4.549	4.487	4.819	5.01
58)	T	Toluene	4.284	4.149	4.628	4.224	4.089	4.411	4.531	4.585	4.363	4.72
59)	T	2-Hexanone	2.075	2.265	2.769	2.743	2.909	3.437	3.411	3.130	2.842	17.35
60)	T	Dibromochlorom...	1.138	1.163	1.336	1.244	1.217	1.268	1.310	1.373	1.256	6.55
61)	T	1,2-Dibromoethane	0.930	0.956	1.248	1.140	1.122	1.175	1.203	1.241	1.127	10.82
62)	T	n-Butyl Acetate	2.266	2.330	2.906	2.940	3.249	3.845	3.931	3.551	3.127	20.29
63)	T	n-Octane	0.918	0.908	1.082	0.995	1.024	1.170	1.219	1.226	1.068	11.93
64)	T	Tetrachloroethene	1.366	1.297	1.472	1.314	1.237	1.272	1.326	1.423	1.338	5.85
65)	T	Chlorobenzene	2.960	2.761	3.224	2.910	2.824	3.031	3.233	3.373	3.040	7.15
66)	T	Ethylbenzene	4.670	4.344	5.138	4.655	4.716	5.217	5.437	5.426	4.950	8.21
67)	T	m- & p-Xylenes	3.646	3.364	4.109	3.755	3.685	4.269	4.424	4.261	3.939	9.56
68)	T	Bromoform	1.057	0.996	1.143	1.071	1.082	1.184	1.240	1.277	1.131	8.59
69)	T	Styrene	2.258	2.230	2.788	2.676	2.809	3.316	3.436	3.502	2.877	17.38
70)	T	o-Xylene	3.556	3.353	4.027	3.686	3.737	4.264	4.430	4.397	3.931	10.35
71)	T	n-Nonane	2.633	2.395	2.537	2.599	2.728	3.187	3.198	2.969	2.781	10.89
72)	T	1,1,2,2-Tetrac...	1.527	1.543	1.729	1.718	1.704	1.940	1.979	1.989	1.766	10.49
73)	S	Bromofluoroben...	1.842	1.829	1.874	1.854	1.808	1.732	1.718	1.749	1.801	3.32
74)	T	Cumene	4.769	4.542	5.452	4.981	5.014	5.685	5.911	5.655	5.251	9.36
75)	T	alpha-Pinene	2.095	2.050	2.192	2.145	2.243	2.850	2.981	2.967	2.440	16.94
76)	T	n-Propylbenzene	5.004	4.944	6.202	5.757	5.866	6.796	6.900	6.297	5.971	12.26
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	4.321	4.150	5.044	4.698	4.846	5.702	5.898	5.535	5.024	12.77
79)	T	1,3,5-Trimethy...	3.866	3.795	4.442	4.027	4.100	4.766	4.924	4.741	4.333	10.21
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...		3.499	4.272	4.001	4.318	5.351	5.504	4.483	4.490	15.93
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride			2.200	2.171	2.741	4.055	4.393	3.496	3.176	29.90
85)	T	1,3-Dichlorobe...	2.397	2.208	2.703	2.453	2.464	2.977	3.123	2.708	2.629	11.74
86)	T	1,4-Dichlorobe...	2.261	2.244	2.733	2.365	2.384	2.848	2.963	2.976	2.597	12.14
87)	T	sec-Butylbenzene	4.892	4.772	5.829	5.498	5.745	6.656	6.847	6.076	5.789	12.86
88)	T	4-Isopropyltol...	4.173	4.064	5.258	4.784	5.057	5.924	6.127	5.469	5.107	14.67
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.275	2.143	2.661	2.340	2.392	2.907	2.996	2.560	2.534	12.00
91)	T	d-Limonene			1.375	1.380	1.619	2.041	2.119	1.740	1.712	18.60
92)	T	1,2-Dibromo-3-...	0.783	0.748	0.946	0.879	0.941	1.143	1.200	1.127	0.971	17.47
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	1.443	1.344	1.946	1.630	1.706	2.334	2.549	2.179	1.891	22.93

Method Path : I:\MS16\METHODS\
Method File : R16082022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95)	T	Naphthalene			4.943	3.825	4.228	5.976	6.486	6.063	5.253	20.65
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.240	1.200	1.394	1.256	1.252	1.381	1.544	1.584	1.357	10.72
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	3.835	3.826	4.550	4.269	4.422	5.353	5.423	4.339	4.502	13.44
100)	T	n-Butylbenzene	3.457	3.416	4.358	4.060	4.406	5.143	5.280	4.832	4.369	16.14
101)	T	1,1,1,2-Tetrac...	1.083	1.061	1.272	1.146	1.128	1.171	1.251	1.304	1.177	7.63

(#) = Out of Range

Primary Source Standards Concentrations (Working & Initial Calibration)

8/29/22

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-08182202 | 200ng/L Std. ID: S35-08162213
20ng/L Std. ID: S35-08182201 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Freon-114	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Vinyl Chloride	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Ethanol	3.45	3450	690	138.0	69.0	13.80	3.45		0.345	0.690	1.725	3.45	17.25	86.25	172.5	345
Acetonitrile	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Acrolein	1.93	1930	386	77.2	38.6	7.72	1.93		0.193	0.386	0.965	1.93	9.65	48.25	96.5	193
Acetone	5.27	5270	1054	210.8	105.4	21.08	5.27		0.527	1.054	2.635	5.27	26.35	131.75	263.5	527
Trichlorofluoromethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isopropanol	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Acrylonitrile	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.13	2130	426	85.2	42.6	8.52	2.13		0.213	0.426	1.065	2.13	10.65	53.25	106.5	213
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl tert-Butyl Ether	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Vinyl Acetate	2.80	2800	560	112.0	56.0	11.20	2.80		0.280	0.560	1.400	2.80	14.00	70.00	140.0	280
2-Butanone	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.22	4220	844	168.8	84.4	16.88	4.22		0.422	0.844	2.110	4.22	21.10	105.50	211.0	422
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrahydrofuran	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Ethyl tert-Butyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Carbon Tetrachloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cyclohexane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
tert-Amyl Methyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Bromodichloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Trichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,4-Dioxane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isooctane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Methyl Methacrylate	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
n-Heptane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Rev 10 08/29/22

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S35-08182202**	**200ng/L Std. ID:**	**S35-08162213**
20ng/L Std. ID:	**S35-08182201**	**1000ng/L Std. ID:**	

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**20**	**20**	**20**	**200**	**200**	**200**
	Source Std.			**Primary Working Standards**				**Injection (L):**	**0.025**	**0.050**	**0.0250**	**0.050**	**0.25**	**0.125**	**0.25**	**0.50**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
4-Methyl-2-pentanone	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
trans-1,3-Dichloropropene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,1,2-Trichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Toluene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
2-Hexanone	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Dibromochloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
n-Octane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrachloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Ethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
m-&p-Xylene	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Nonane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cumene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
alpha-Pinene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Propylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
4-Ethyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2,4-Trimethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzyl Chloride	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,3-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,4-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
sec-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
p-Isopropyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromo-3-chloropropane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2,4-Trichlorobenzene	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Naphthalene	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
tert-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,1,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Last Updated: 09/19/2020

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16082022.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2022_08\19\08202202.D
2	0.2	0	13	I:\MS16\DATA\2022_08\19\08202203.D
3	0.5	1	13	I:\MS16\DATA\2022_08\20\08202214.D
4	1.0	1	13	I:\MS16\DATA\2022_08\19\08202205.D
5	5.0	5	13	I:\MS16\DATA\2022_08\19\08202206.D
6	25	26	13	I:\MS16\DATA\2022_08\19\08202207.D
7	50	53	13	I:\MS16\DATA\2022_08\19\08202208.D
8	100	105	13	I:\MS16\DATA\2022_08\19\08202209.D

8/21/22

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Aug 20 07:18 2022	Aug 20 07:08 2022	20 Aug 2022 1:28
2	0.2	Aug 20 07:18 2022	Aug 20 07:08 2022	20 Aug 2022 2:02
3	0.5	Aug 20 09:01 2022	Aug 20 09:01 2022	20 Aug 2022 8:20
4	1.0	Aug 20 07:18 2022	Aug 20 07:08 2022	20 Aug 2022 3:11
5	5.0	Aug 20 07:18 2022	Aug 20 07:14 2022	20 Aug 2022 3:45
6	25	Aug 20 07:19 2022	Aug 20 07:15 2022	20 Aug 2022 4:20
7	50	Aug 20 07:19 2022	Aug 20 07:16 2022	20 Aug 2022 4:54
8	100	Aug 20 07:19 2022	Aug 20 07:17 2022	20 Aug 2022 5:28

R16082022.M Sun Aug 21 09:45:45 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202202.D Vial: 14
Acq On : 20 Aug 2022 1:28 Operator: WA
Sample : 0.1ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182202 (9/15)

Quant Time: Aug 20 07:08:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	178988	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	781844	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	175217	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	293948	10.275	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.24%				
57) Toluene-d8 (SS2)	15.87	98	865447	10.803	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.40%				
73) Bromofluorobenzene (SS3)	19.11	174	322764	13.497	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.00%				
Target Compounds							Qvalue
2) Propene	4.22	42	2505	0.126	ng	#	90
3) Dichlorodifluoromethan...	4.37	85	3284	0.079	ng	#	92
4) Chloromethane	4.66	50	3070	0.142	ng		90
5) 1,2-Dichloro-1,1,2,2-t...	4.93	135	1902	0.099	ng		83
6) Vinyl Chloride	5.09	62	2864	0.112	ng		98
7) 1,3-Butadiene	5.36	54	2116	0.116	ng	#	80
8) Bromomethane	5.79	94	1182	0.074	ng		95
9) Chloroethane	6.13	64	1090	0.106	ng		72
10) Ethanol	6.47	45	4466	0.352	ng		89
11) Acetonitrile	6.75	41	3676	0.127	ng	#	1
12) Acrolein	6.96	56	1945	0.187	ng		97
13) Acetone	7.18	58	7412	0.681	ng		93
14) Trichlorofluoromethane	7.40	101	2945	0.079	ng		97
15) 2-Propanol (Isopropanol)	7.69	45	8746	0.219	ng		89
16) Acrylonitrile	7.91	53	3942	0.202	ng		100
17) 1,1-Dichloroethene	8.36	96	1485	0.095	ng		98
18) 2-Methyl-2-Propanol (t...	8.60	59	7450	0.180	ng		87
19) Methylene Chloride	8.57	84	1645	0.098	ng		93
20) 3-Chloro-1-propene (Al...	8.75	41	2424	0.100	ng		82
21) Trichlorotrifluoroethane	9.01	151	1570	0.099	ng		90
22) Carbon Disulfide	8.85	76	10860	0.167	ng		95
23) trans-1,2-Dichloroethene	9.86	61	1828	0.071	ng		98
24) 1,1-Dichloroethane	10.10	63	2795	0.096	ng		91
25) Methyl tert-Butyl Ether	10.25	73	4404	0.081	ng		98
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.65	72	1394	0.140	ng	#	55
28) cis-1,2-Dichloroethene	11.11	61	2595	0.110	ng		93
29) Diisopropyl Ether	11.44	87	2651	0.210	ng	#	86
30) Ethyl Acetate	11.45	61	1946	0.306	ng		95
31) n-Hexane	11.41	57	2775	0.117	ng		95
32) Chloroform	11.46	83	2571	0.080	ng		97
34) Tetrahydrofuran (THF)	11.92	72	2058	0.216	ng		94
35) Ethyl tert-Butyl Ether	12.03	87	3368	0.170	ng		98
36) 1,2-Dichloroethane	12.27	62	2175	0.078	ng		98
38) 1,1,1-Trichloroethane	12.54	97	2487	0.081	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	5709	0.092	ng		96
42) Carbon Tetrachloride	13.18	117	2056	0.076	ng		97
43) Cyclohexane	13.32	84	4346	0.195	ng		100
44) tert-Amyl Methyl Ether	13.68	73	7965	0.164	ng		94
45) 1,2-Dichloropropane	13.89	63	1492	0.102	ng		94
46) Bromodichloromethane	14.07	83	2157	0.087	ng		90
47) Trichloroethene	14.13	130	2904	0.161	ng		98
48) 1,4-Dioxane	14.14	88	921	0.077	ng		85
49) 2,2,4-Trimethylpentane...	14.19	57	7216	0.116	ng		95
50) Methyl Methacrylate	14.34	100	724	0.117	ng	#	76

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202202.D Vial: 14
Acq On : 20 Aug 2022 1:28 Operator: WA
Sample : 0.1ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182202 (9/15)

Quant Time: Aug 20 07:08:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

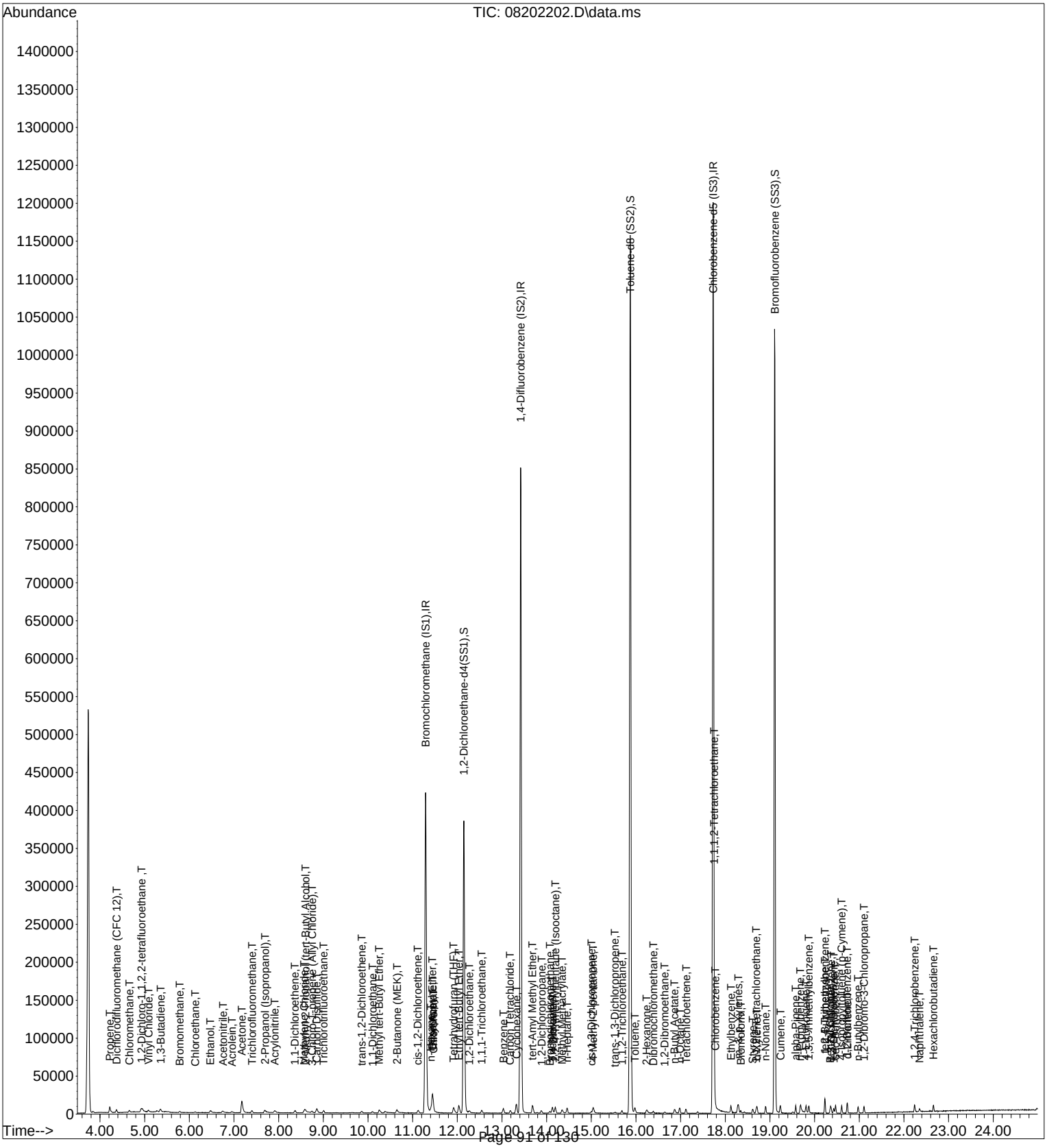
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	1368	0.099 ng		97
52) cis-1,3-Dichloropropene	15.00	75	1632	0.063 ng		74
53) 4-Methyl-2-pentanone	15.04	58	2259	0.172 ng	#	70
54) trans-1,3-Dichloropropene	15.52	75	1137	0.044 ng		71
55) 1,1,2-Trichloroethane	15.69	97	1381	0.089 ng		96
58) Toluene	15.98	91	6305	0.084 ng		96
59) 2-Hexanone	16.23	43	6165	0.167 ng		88
60) Dibromochloromethane	16.39	129	1723	0.072 ng		93
61) 1,2-Dibromoethane	16.64	107	1356	0.062 ng		93
62) n-Butyl Acetate	16.86	43	6511	0.159 ng		93
63) n-Octane	16.99	57	1377	0.095 ng		94
64) Tetrachloroethene	17.12	166	2030	0.090 ng		100
65) Chlorobenzene	17.77	112	4398	0.089 ng		96
66) Ethylbenzene	18.13	91	6874	0.078 ng		98
67) m- & p-Xylenes	18.29	91	10732	0.147 ng		94
68) Bromoform	18.35	173	1585	0.076 ng		92
69) Styrene	18.61	104	3355	0.066 ng		96
70) o-Xylene	18.71	91	5283	0.073 ng		96
71) n-Nonane	18.90	43	3912	0.115 ng		89
72) 1,1,2,2-Tetrachloroethane	18.69	83	2269	0.073 ng		98
74) Cumene	19.24	105	7153	0.083 ng		96
75) alpha-Pinene	19.58	93	3201	0.071 ng		83
76) n-Propylbenzene	19.68	91	7506	0.071 ng	#	71
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	19.81	105	6602	0.078 ng		97
79) 1,3,5-Trimethylbenzene	19.87	105	5745	0.076 ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	20.23	105	5075	0.068 ng		96
83) n-Decane	20.23	58	255	No Calib	#	
84) Benzyl Chloride	20.35	91	4600	0.074 ng		96
85) 1,3-Dichlorobenzene	20.37	146	3562	0.084 ng		91
86) 1,4-Dichlorobenzene	20.43	146	3359	0.078 ng		100
87) sec-Butylbenzene	20.47	105	7268	0.074 ng		98
88) 4-Isopropyltoluene (p-...	20.61	119	6200	0.072 ng		99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	20.73	146	3412	0.081 ng		91
91) d-Limonene	20.74	68	1621	0.065 ng		90
92) 1,2-Dibromo-3-Chloropr...	21.11	157	2304	0.146 ng	#	83
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	4226	0.140 ng		97
95) Naphthalene	22.35	128	4504	0.054 ng		92
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	1843	0.077 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.23	119	5698	0.081 ng		97
100) n-Butylbenzene	20.97	91	5185	0.065 ng		92
101) 1,1,1,2-Tetrachloroethane	17.75	131	1609	0.081 ng	#	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202202.D Vial: 14
Acq On : 20 Aug 2022 1:28 Operator: WA
Sample : 0.1ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182202 (9/15)

Quant Time: Aug 20 07:08:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202203.D Vial: 14
Acq On : 20 Aug 2022 2:02 Operator: WA
Sample : 0.2ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182202 (9/15)

Quant Time: Aug 20 07:08:49 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022 8/20/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	175623	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	769000	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	172830	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	290657	10.355	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.80%				
57) Toluene-d8 (SS2)	15.87	98	857684	10.854	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.80%				
73) Bromofluorobenzene (SS3)	19.11	174	316142	13.402	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.20%				
Target Compounds							Qvalue
2) Propene	4.21	42	4390	0.226	ng		92
3) Dichlorodifluoromethan...	4.36	85	6220	0.152	ng		96
4) Chloromethane	4.65	50	5690	0.268	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	3669	0.195	ng		98
6) Vinyl Chloride	5.07	62	5328	0.212	ng		100
7) 1,3-Butadiene	5.35	54	4233	0.237	ng		91
8) Bromomethane	5.78	94	2320	0.148	ng		97
9) Chloroethane	6.13	64	2041	0.203	ng		100
10) Ethanol	6.46	45	8429	0.677	ng		89
11) Acetonitrile	6.74	41	6778	0.239	ng		84
12) Acrolein	6.95	56	3712	0.363	ng		96
13) Acetone	7.16	58	13646	1.278	ng		94
14) Trichlorofluoromethane	7.40	101	5447	0.150	ng		95
15) 2-Propanol (Isopropanol)	7.67	45	16741	0.428	ng		97
16) Acrylonitrile	7.90	53	7977	0.416	ng		97
17) 1,1-Dichloroethene	8.36	96	2692	0.175	ng		97
18) 2-Methyl-2-Propanol (t...	8.59	59	15060	0.370	ng		91
19) Methylene Chloride	8.57	84	2908	0.177	ng		100
20) 3-Chloro-1-propene (Al...	8.74	41	4485	0.188	ng		91
21) Trichlorotrifluoroethane	9.00	151	2839	0.182	ng		99
22) Carbon Disulfide	8.85	76	19945	0.312	ng		96
23) trans-1,2-Dichloroethene	9.85	61	3823	0.152	ng		99
24) 1,1-Dichloroethane	10.10	63	5378	0.189	ng		95
25) Methyl tert-Butyl Ether	10.25	73	7793	0.147	ng		100
26) Vinyl Acetate	10.38	86	743	0.264	ng	#	1
27) 2-Butanone (MEK)	10.64	72	3493	0.359	ng	#	83
28) cis-1,2-Dichloroethene	11.12	61	4368	0.188	ng		92
29) Diisopropyl Ether	11.44	87	5157	0.417	ng	#	86
30) Ethyl Acetate	11.44	61	4374	0.702	ng		100
31) n-Hexane	11.42	57	5314	0.228	ng		97
32) Chloroform	11.45	83	5033	0.160	ng		96
34) Tetrahydrofuran (THF)	11.91	72	3314	0.354	ng		93
35) Ethyl tert-Butyl Ether	12.03	87	6575	0.338	ng		98
36) 1,2-Dichloroethane	12.27	62	4165	0.152	ng		97
38) 1,1,1-Trichloroethane	12.55	97	4694	0.156	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	10754	0.176	ng		99
42) Carbon Tetrachloride	13.19	117	3995	0.149	ng		98
43) Cyclohexane	13.32	84	8716	0.398	ng		96
44) tert-Amyl Methyl Ether	13.68	73	15069	0.315	ng		95
45) 1,2-Dichloropropane	13.89	63	2793	0.194	ng		99
46) Bromodichloromethane	14.07	83	3905	0.159	ng		97
47) Trichloroethene	14.13	130	4499	0.253	ng		96
48) 1,4-Dioxane	14.13	88	1850	0.157	ng		90
49) 2,2,4-Trimethylpentane...	14.19	57	13903	0.226	ng		96
50) Methyl Methacrylate	14.34	100	1663	0.273	ng	#	71

Data File : I:\MS16\DATA\2022 08\20\08202203.D Vial: 14
Acq On : 20 Aug 2022 2:02 Operator: WA
Sample : 0.2ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182202 (9/15)

Quant Time: Aug 20 07:08:49 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

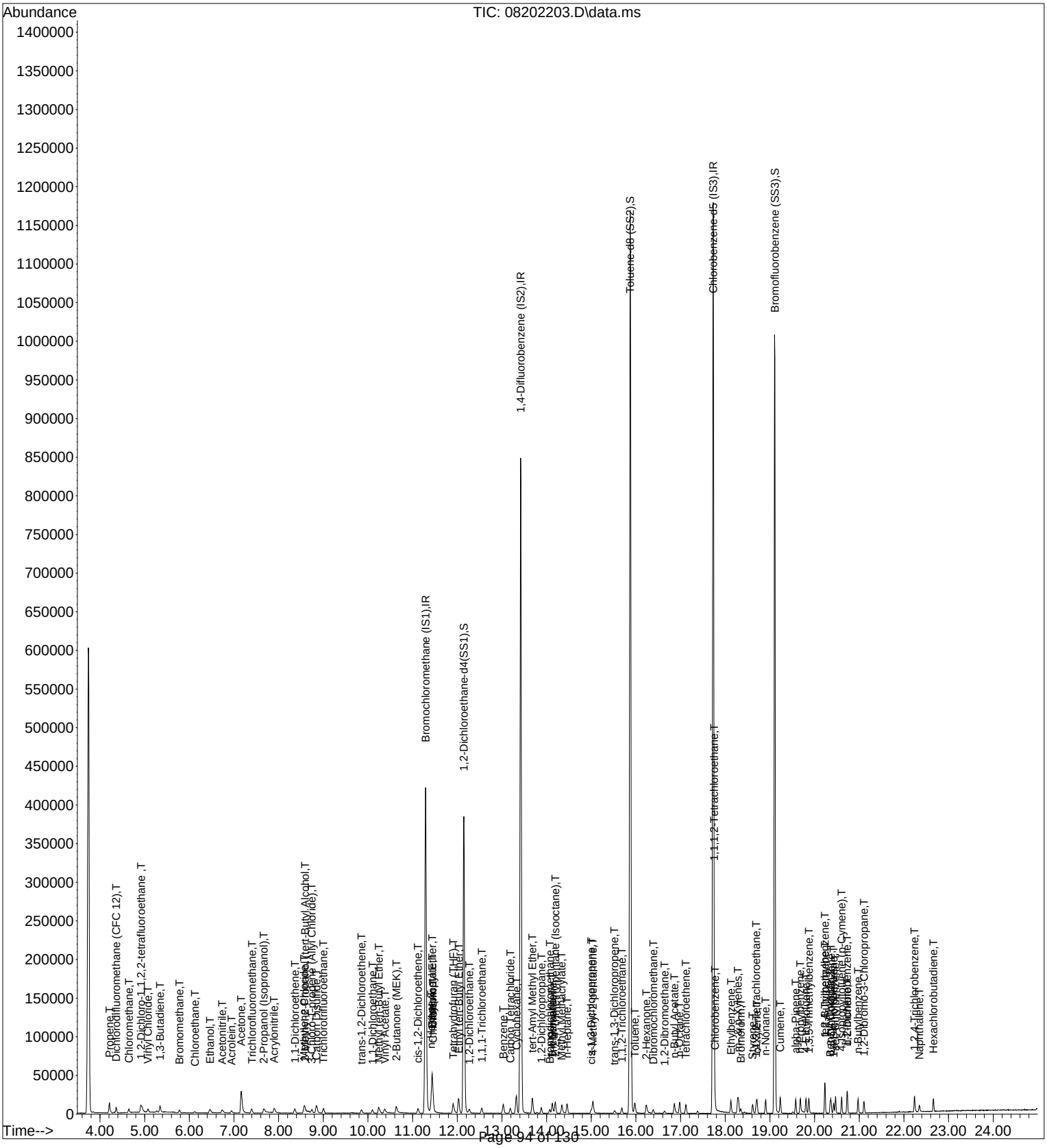
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	2690	0.198 ng		96
52) cis-1,3-Dichloropropene	15.00	75	3717	0.145 ng		98
53) 4-Methyl-2-pentanone	15.03	58	4864	0.376 ng		85
54) trans-1,3-Dichloropropene	15.52	75	2763	0.108 ng		91
55) 1,1,2-Trichloroethane	15.68	97	2677	0.174 ng		98
58) Toluene	15.98	91	12048	0.163 ng		95
59) 2-Hexanone	16.23	43	13277	0.365 ng		91
60) Dibromochloromethane	16.39	129	3474	0.148 ng		98
61) 1,2-Dibromoethane	16.64	107	2749	0.128 ng		96
62) n-Butyl Acetate	16.86	43	13208	0.326 ng		98
63) n-Octane	16.98	57	2688	0.187 ng		99
64) Tetrachloroethene	17.12	166	3801	0.171 ng		98
65) Chlorobenzene	17.77	112	8094	0.166 ng		95
66) Ethylbenzene	18.13	91	12614	0.145 ng		98
67) m- & p-Xylenes	18.28	91	19534	0.270 ng		97
68) Bromoform	18.35	173	2946	0.143 ng		98
69) Styrene	18.61	104	6538	0.131 ng		99
70) o-Xylene	18.71	91	9829	0.137 ng		99
71) n-Nonane	18.90	43	7019	0.208 ng		94
72) 1,1,2,2-Tetrachloroethane	18.69	83	4522	0.148 ng		95
74) Cumene	19.23	105	13440	0.159 ng		100
75) alpha-Pinene	19.58	93	6179	0.138 ng		84
76) n-Propylbenzene	19.68	91	14629	0.141 ng		92
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	19.81	105	12508	0.149 ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	11125	0.150 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	20.23	105	10160	0.138 ng		100
83) n-Decane	20.22	58	237	No Calib	#	
84) Benzyl Chloride	20.35	91	9440	0.154 ng		92
85) 1,3-Dichlorobenzene	20.37	146	6471	0.155 ng		97
86) 1,4-Dichlorobenzene	20.42	146	6579	0.156 ng		96
87) sec-Butylbenzene	20.47	105	13988	0.145 ng		98
88) 4-Isopropyltoluene (p-...	20.61	119	11911	0.141 ng		99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	20.73	146	6341	0.153 ng		100
91) d-Limonene	20.73	68	3325	0.136 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.11	157	4344	0.279 ng	#	84
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	7770	0.261 ng		98
95) Naphthalene	22.34	128	8937	0.109 ng		93
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	3518	0.149 ng		97
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.23	119	11214	0.161 ng		99
100) n-Butylbenzene	20.97	91	10107	0.129 ng		96
101) 1,1,1,2-Tetrachloroethane	17.75	131	3111	0.160 ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202203.D Vial: 14
Acq On : 20 Aug 2022 2:02 Operator: WA
Sample : 0.2ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182202 (9/15)

Quant Time: Aug 20 07:08:49 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202214.D Vial: 15
Acq On : 20 Aug 2022 8:20 Operator: WA
Sample : 0.5ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 09:01:15 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:19:39 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	200072	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	881582	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	184652	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	325717	12.184	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
57) Toluene-d8 (SS2)	15.87	98	954915	13.476	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
73) Bromofluorobenzene (SS3)	19.11	174	345996	13.042	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
Target Compounds							Qvalue
2) Propene	4.21	42	11655	0.413	ng		98
3) Dichlorodifluoromethan...	4.37	85	18351	0.555	ng		100
4) Chloromethane	4.65	50	16330	0.559	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	12064	0.578	ng		97
6) Vinyl Chloride	5.08	62	16121	0.521	ng		100
7) 1,3-Butadiene	5.35	54	12733	0.497	ng		94
8) Bromomethane	5.78	94	7098	0.510	ng		98
9) Chloroethane	6.12	64	6427	0.532	ng		98
10) Ethanol	6.45	45	27614	1.709	ng		95
11) Acetonitrile	6.73	41	17675	0.419	ng		94
12) Acrolein	6.94	56	11631	0.919	ng		99
13) Acetone	7.15	58	36969	2.386	ng		99
14) Trichlorofluoromethane	7.40	101	16763	0.548	ng		100
15) 2-Propanol (Isopropanol)	7.64	45	50694	1.090	ng		90
16) Acrylonitrile	7.90	53	24461	0.939	ng		99
17) 1,1-Dichloroethene	8.36	96	8508	0.546	ng		98
18) 2-Methyl-2-Propanol (t...	8.56	59	45742	1.134	ng		95
19) Methylene Chloride	8.57	84	8536	0.523	ng		92
20) 3-Chloro-1-propene (Al...	8.74	41	13106	0.460	ng		98
21) Trichlorotrifluoroethane	9.00	151	9047	0.572	ng		97
22) Carbon Disulfide	8.85	76	59251	1.024	ng		99
23) trans-1,2-Dichloroethene	9.85	61	12355	0.533	ng		98
24) 1,1-Dichloroethane	10.10	63	15521	0.527	ng		99
25) Methyl tert-Butyl Ether	10.23	73	25352	0.520	ng		99
26) Vinyl Acetate	10.37	86	3860	0.903	ng	#	93
27) 2-Butanone (MEK)	10.62	72	10708	0.958	ng	#	88
28) cis-1,2-Dichloroethene	11.12	61	12349	0.499	ng		96
29) Diisopropyl Ether	11.43	87	16943	1.010	ng	#	67
30) Ethyl Acetate	11.43	61	14066	1.638	ng		95
31) n-Hexane	11.42	57	16779	0.464	ng		99
32) Chloroform	11.47	83	15369	0.534	ng		99
34) Tetrahydrofuran (THF)	11.89	72	10219	0.945	ng	#	90
35) Ethyl tert-Butyl Ether	12.02	87	20868	0.962	ng		94
36) 1,2-Dichloroethane	12.27	62	13313	0.554	ng		98
38) 1,1,1-Trichloroethane	12.55	97	14625	0.538	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	33250	0.521	ng		99
42) Carbon Tetrachloride	13.19	117	12694	0.536	ng		98
43) Cyclohexane	13.32	84	27391	1.001	ng		92
44) tert-Amyl Methyl Ether	13.68	73	45188	0.919	ng		99
45) 1,2-Dichloropropane	13.88	63	8995	0.520	ng		98
46) Bromodichloromethane	14.07	83	11825	0.509	ng		98
47) Trichloroethene	14.13	130	10332	0.462	ng		97
48) 1,4-Dioxane	14.12	88	6783	0.516	ng		96
49) 2,2,4-Trimethylpentane...	14.19	57	41100	0.499	ng		97
50) Methyl Methacrylate	14.34	100	6844	0.866	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202214.D Vial: 15
Acq On : 20 Aug 2022 8:20 Operator: WA
Sample : 0.5ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 09:01:15 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:19:39 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

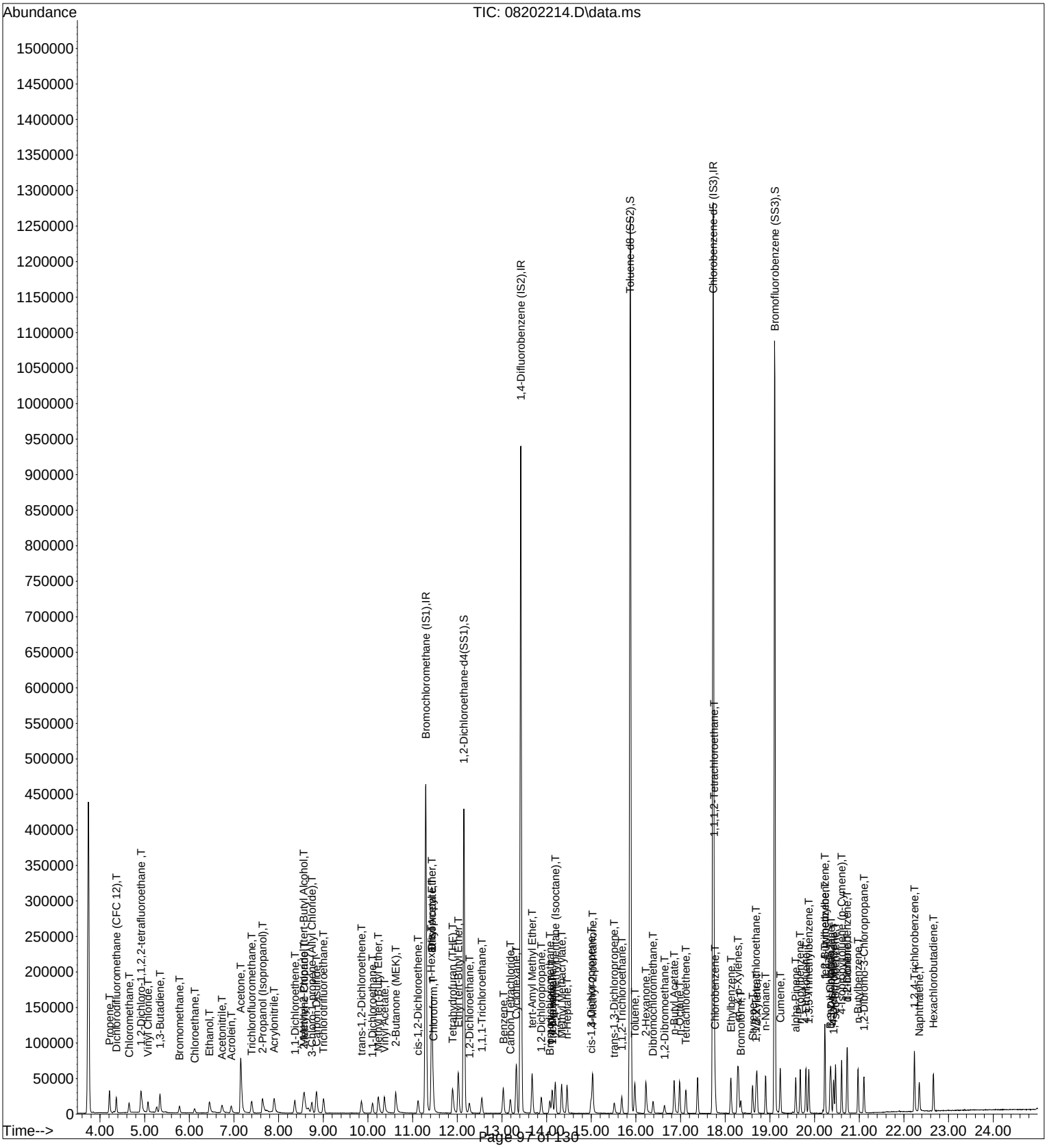
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	9210	0.515 ng	96
52) cis-1,3-Dichloropropene	15.00	75	12082	0.492 ng	100
53) 4-Methyl-2-pentanone	15.03	58	16404	0.934 ng	97
54) trans-1,3-Dichloropropene	15.51	75	9938	0.400 ng	99
55) 1,1,2-Trichloroethane	15.68	97	8298	0.516 ng	98
58) Toluene	15.98	91	35893	0.568 ng	99
59) 2-Hexanone	16.22	43	43355	1.047 ng	99
60) Dibromochloromethane	16.38	129	10661	0.584 ng	99
61) 1,2-Dibromoethane	16.64	107	9590	0.591 ng	98
62) n-Butyl Acetate	16.86	43	44001	0.963 ng	97
63) n-Octane	16.98	57	8549	0.551 ng	96
64) Tetrachloroethene	17.12	166	11524	0.595 ng	98
65) Chlorobenzene	17.77	112	25241	0.572 ng	99
66) Ethylbenzene	18.13	91	39851	0.556 ng	99
67) m- & p-Xylenes	18.28	91	63737	1.119 ng	97
68) Bromoform	18.35	173	9035	0.549 ng	98
69) Styrene	18.61	104	21827	0.524 ng	99
70) o-Xylene	18.71	91	31527	0.554 ng	99
71) n-Nonane	18.90	43	19859	0.488 ng	98
72) 1,1,2,2-Tetrachloroethane	18.69	83	13534	0.524 ng	100
74) Cumene	19.23	105	43084	0.568 ng	99
75) alpha-Pinene	19.58	93	17645	0.493 ng	84
76) n-Propylbenzene	19.68	91	49013	0.568 ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.81	105	40605	0.558 ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	34779	0.554 ng	99
80) alpha-Methylstyrene	20.47	118	158	No Calib #	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	33134	0.510 ng	98
83) n-Decane	20.23	58	1607	No Calib #	
84) Benzyl Chloride	20.35	91	34444	0.750 ng	100
85) 1,3-Dichlorobenzene	20.37	146	21159	0.558 ng	99
86) 1,4-Dichlorobenzene	20.42	146	21401	0.573 ng	99
87) sec-Butylbenzene	20.47	105	45636	0.543 ng	98
88) 4-Isopropyltoluene (p-...	20.61	119	41169	0.559 ng	98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	20.73	146	21028	0.576 ng	100
91) d-Limonene	20.73	68	10865	0.437 ng	93
92) 1,2-Dibromo-3-Chloropr...	21.11	157	14666	1.043 ng	93
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.24	180	30046	1.115 ng	99
95) Naphthalene	22.34	128	40164	0.549 ng	98
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.66	225	10917	0.555 ng	99
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	20.23	119	35626	0.547 ng	99
100) n-Butylbenzene	20.97	91	34443	0.545 ng	99
101) 1,1,1,2-Tetrachloroethane	17.75	131	9962	0.584 ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202214.D Vial: 15
Acq On : 20 Aug 2022 8:20 Operator: WA
Sample : 0.5ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 09:01:15 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:19:39 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202205.D Vial: 15
Acq On : 20 Aug 2022 3:11 Operator: WA
Sample : 1.0ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 07:08:53 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 8/20/22
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	172674	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	758667	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	169287	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	285358	10.340	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.72%				
57) Toluene-d8 (SS2)	15.87	98	840176	10.855	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.80%				
73) Bromofluorobenzene (SS3)	19.11	174	313819	13.582	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.64%				
Target Compounds							Qvalue
2) Propene	4.20	42	21675	1.134	ng		99
3) Dichlorodifluoromethan...	4.35	85	29918	0.746	ng		99
4) Chloromethane	4.63	50	29397	1.409	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	19212	1.039	ng		99
6) Vinyl Chloride	5.06	62	27122	1.095	ng		100
7) 1,3-Butadiene	5.33	54	22847	1.300	ng		96
8) Bromomethane	5.76	94	11620	0.752	ng		100
9) Chloroethane	6.10	64	11083	1.121	ng		98
10) Ethanol	6.45	45	46009	3.757	ng		99
11) Acetonitrile	6.72	41	32278	1.155	ng		98
12) Acrolein	6.93	56	20949	2.083	ng		98
13) Acetone	7.14	58	63810	6.078	ng		96
14) Trichlorofluoromethane	7.39	101	28031	0.784	ng		100
15) 2-Propanol (Isopropanol)	7.62	45	86636	2.253	ng		92
16) Acrylonitrile	7.89	53	43779	2.325	ng		100
17) 1,1-Dichloroethene	8.35	96	14477	0.957	ng		98
18) 2-Methyl-2-Propanol (t...	8.52	59	79095	1.976	ng		94
19) Methylene Chloride	8.56	84	14801	0.916	ng		96
20) 3-Chloro-1-propene (Al...	8.74	41	24458	1.043	ng		100
21) Trichlorotrifluoroethane	9.00	151	15358	1.002	ng		95
22) Carbon Disulfide	8.84	76	100248	1.595	ng		99
23) trans-1,2-Dichloroethene	9.84	61	21839	0.883	ng		98
24) 1,1-Dichloroethane	10.10	63	27237	0.974	ng		99
25) Methyl tert-Butyl Ether	10.22	73	43176	0.826	ng		99
26) Vinyl Acetate	10.36	86	7096	2.565	ng	#	95
27) 2-Butanone (MEK)	10.61	72	19092	1.994	ng		95
28) cis-1,2-Dichloroethene	11.12	61	21310	0.934	ng		99
29) Diisopropyl Ether	11.42	87	28757	2.366	ng	#	81
30) Ethyl Acetate	11.43	61	25845	4.217	ng		100
31) n-Hexane	11.41	57	29606	1.292	ng		99
32) Chloroform	11.46	83	25729	0.831	ng		98
34) Tetrahydrofuran (THF)	11.88	72	17206	1.869	ng		98
35) Ethyl tert-Butyl Ether	12.02	87	35690	1.866	ng		96
36) 1,2-Dichloroethane	12.27	62	21999	0.819	ng		98
38) 1,1,1-Trichloroethane	12.55	97	24822	0.835	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	56001	0.927	ng		99
42) Carbon Tetrachloride	13.19	117	21062	0.798	ng		99
43) Cyclohexane	13.32	84	45755	2.117	ng		98
44) tert-Amyl Methyl Ether	13.67	73	77133	1.632	ng		98
45) 1,2-Dichloropropane	13.88	63	15311	1.080	ng		98
46) Bromodichloromethane	14.07	83	20851	0.863	ng		99
47) Trichloroethene	14.13	130	17287	0.987	ng		100
48) 1,4-Dioxane	14.11	88	11364	0.977	ng		98
49) 2,2,4-Trimethylpentane...	14.19	57	71406	1.179	ng		96
50) Methyl Methacrylate	14.34	100	12182	2.027	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202205.D Vial: 15
Acq On : 20 Aug 2022 3:11 Operator: WA
Sample : 1.0ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 07:08:53 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

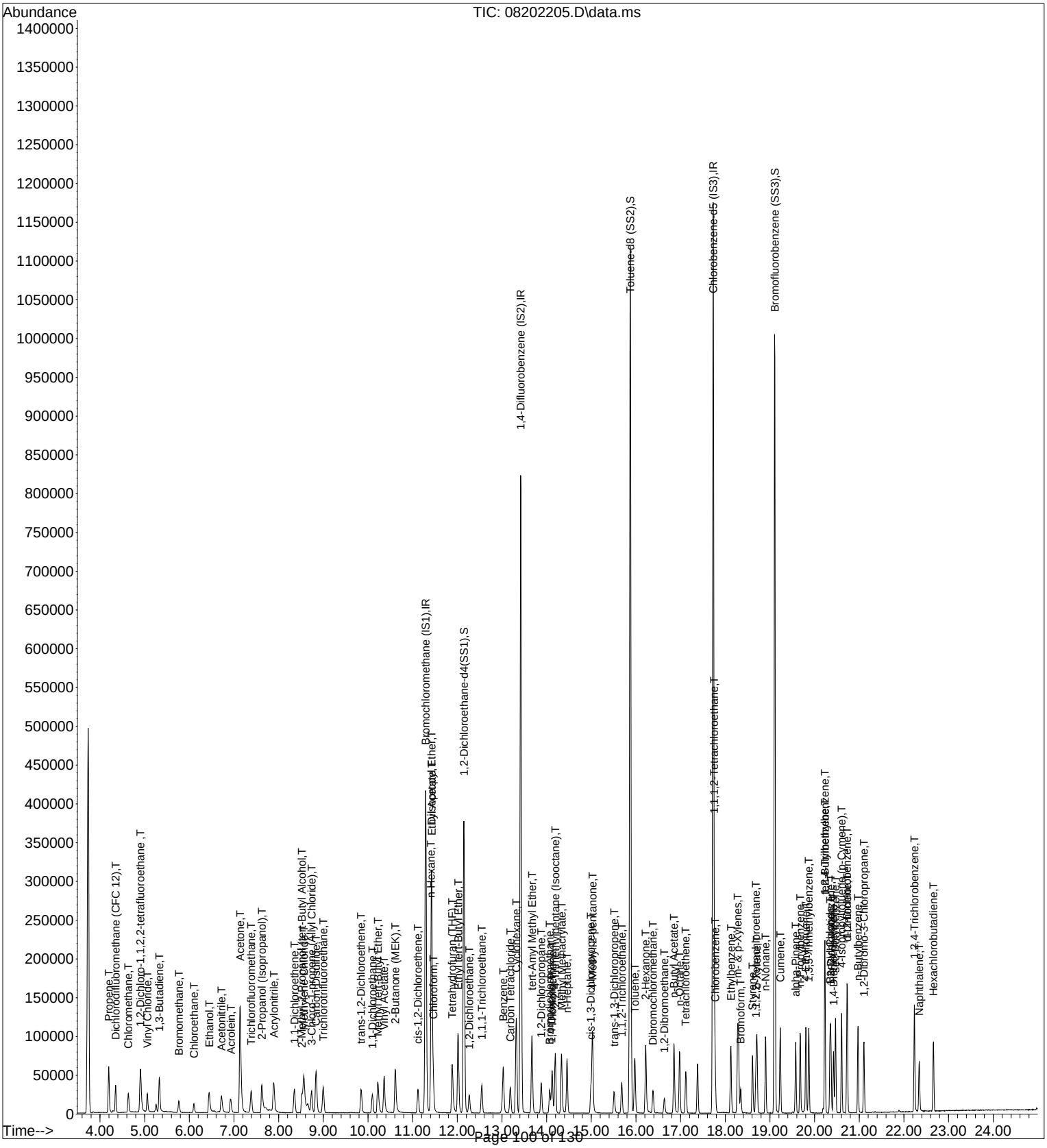
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	15529	1.160 ng	97
52) cis-1,3-Dichloropropene	14.99	75	21115	0.834 ng	99
53) 4-Methyl-2-pentanone	15.03	58	29254	2.291 ng	94
54) trans-1,3-Dichloropropene	15.51	75	17666	0.697 ng	100
55) 1,1,2-Trichloroethane	15.68	97	13879	0.917 ng	99
58) Toluene	15.98	91	60061	0.832 ng	98
59) 2-Hexanone	16.22	43	78763	2.214 ng	97
60) Dibromochloromethane	16.38	129	18196	0.792 ng	99
61) 1,2-Dibromoethane	16.63	107	16062	0.765 ng	99
62) n-Butyl Acetate	16.85	43	81629	2.057 ng	99
63) n-Octane	16.98	57	14419	1.024 ng	95
64) Tetrachloroethene	17.11	166	18864	0.868 ng	98
65) Chlorobenzene	17.77	112	41768	0.875 ng	99
66) Ethylbenzene	18.13	91	66194	0.779 ng	100
67) m- & p-Xylenes	18.28	91	106803	1.510 ng	98
68) Bromoform	18.35	173	15514	0.770 ng	98
69) Styrene	18.61	104	38417	0.787 ng	99
70) o-Xylene	18.71	91	52910	0.752 ng	99
71) n-Nonane	18.90	43	37307	1.131 ng	98
72) 1,1,2,2-Tetrachloroethane	18.69	83	24666	0.827 ng	99
74) Cumene	19.23	105	72186	0.871 ng	99
75) alpha-Pinene	19.58	93	31668	0.723 ng	91
76) n-Propylbenzene	19.68	91	83430	0.822 ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.80	105	69349	0.846 ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	57811	0.795 ng	100
80) alpha-Methylstyrene	20.47	118	229	No Calib #	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	56889	0.788 ng	99
83) n-Decane	20.23	58	3095	No Calib #	
84) Benzyl Chloride	20.35	91	62325	1.040 ng	99
85) 1,3-Dichlorobenzene	20.36	146	35211	0.860 ng	99
86) 1,4-Dichlorobenzene	20.42	146	33957	0.821 ng	100
87) sec-Butylbenzene	20.47	105	78922	0.837 ng	98
88) 4-Isopropyltoluene (p-...	20.61	119	68681	0.828 ng	98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	20.73	146	33902	0.836 ng	99
91) d-Limonene	20.73	68	19995	0.833 ng	94
92) 1,2-Dibromo-3-Chloropr...	21.11	157	25008	1.638 ng	92
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.23	180	46130	1.582 ng	99
95) Naphthalene	22.34	128	56975	0.710 ng	98
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.66	225	18033	0.779 ng	98
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	20.23	119	61287	0.898 ng	99
100) n-Butylbenzene	20.97	91	58829	0.766 ng	98
101) 1,1,1,2-Tetrachloroethane	17.75	131	16451	0.861 ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202205.D Vial: 15
Acq On : 20 Aug 2022 3:11 Operator: WA
Sample : 1.0ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 07:08:53 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202206.D Vial: 15
Acq On : 20 Aug 2022 3:45 Operator: WA
Sample : 5.0ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 07:14:57 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022 8/20/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	173347	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	764872	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	175939	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	288683	10.419	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.36%				
57) Toluene-d8 (SS2)	15.87	98	856579	10.648	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.20%				
73) Bromofluorobenzene (SS3)	19.11	174	318112	13.248	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%				
Target Compounds							Qvalue
2) Propene	4.17	42	127893	6.665	ng		99
3) Dichlorodifluoromethan...	4.34	85	146360	3.635	ng		100
4) Chloromethane	4.62	50	123768	5.908	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.89	135	92227	4.970	ng		100
6) Vinyl Chloride	5.05	62	134728	5.420	ng		99
7) 1,3-Butadiene	5.32	54	116259	6.588	ng		100
8) Bromomethane	5.76	94	64919	4.183	ng		98
9) Chloroethane	6.10	64	54072	5.450	ng		100
10) Ethanol	6.46	45	230229	18.729	ng		100
11) Acetonitrile	6.72	41	159098	5.673	ng		97
12) Acrolein	6.92	56	101707	10.075	ng		100
13) Acetone	7.13	58	314918	29.880	ng		98
14) Trichlorofluoromethane	7.39	101	132562	3.691	ng		99
15) 2-Propanol (Isopropanol)	7.62	45	366710	9.498	ng		96
16) Acrylonitrile	7.89	53	224115	11.854	ng		100
17) 1,1-Dichloroethene	8.35	96	70272	4.627	ng		100
18) 2-Methyl-2-Propanol (t...	8.50	59	353908	8.807	ng		97
19) Methylene Chloride	8.57	84	70141	4.323	ng		100
20) 3-Chloro-1-propene (Al...	8.74	41	124207	5.275	ng		99
21) Trichlorotrifluoroethane	9.00	151	71270	4.630	ng		98
22) Carbon Disulfide	8.84	76	493833	7.825	ng		100
23) trans-1,2-Dichloroethene	9.85	61	109286	4.402	ng		100
24) 1,1-Dichloroethane	10.10	63	133160	4.742	ng		100
25) Methyl tert-Butyl Ether	10.21	73	221930	4.227	ng		99
26) Vinyl Acetate	10.36	86	42131	15.169	ng	#	93
27) 2-Butanone (MEK)	10.60	72	99907	10.394	ng		95
28) cis-1,2-Dichloroethene	11.12	61	105325	4.599	ng		99
29) Diisopropyl Ether	11.42	87	151701	12.434	ng	#	86
30) Ethyl Acetate	11.42	61	141401	22.983	ng		99
31) n-Hexane	11.41	57	157587	6.849	ng		99
32) Chloroform	11.47	83	127993	4.116	ng		99
34) Tetrahydrofuran (THF)	11.87	72	88692	9.599	ng		97
35) Ethyl tert-Butyl Ether	12.02	87	184177	9.590	ng		96
36) 1,2-Dichloroethane	12.27	62	109706	4.066	ng		100
38) 1,1,1-Trichloroethane	12.55	97	118074	3.940	ng		100
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	279030	4.582	ng		100
42) Carbon Tetrachloride	13.19	117	103382	3.883	ng		100
43) Cyclohexane	13.32	84	236596	10.858	ng		98
44) tert-Amyl Methyl Ether	13.67	73	406793	8.537	ng		99
45) 1,2-Dichloropropane	13.88	63	76045	5.319	ng		100
46) Bromodichloromethane	14.07	83	102161	4.195	ng		100
47) Trichloroethene	14.13	130	85948	4.866	ng		100
48) 1,4-Dioxane	14.10	88	59953	5.111	ng		97
49) 2,2,4-Trimethylpentane...	14.19	57	368445	6.033	ng		99
50) Methyl Methacrylate	14.33	100	65591	10.826	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202206.D Vial: 15
Acq On : 20 Aug 2022 3:45 Operator: WA
Sample : 5.0ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 07:14:57 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

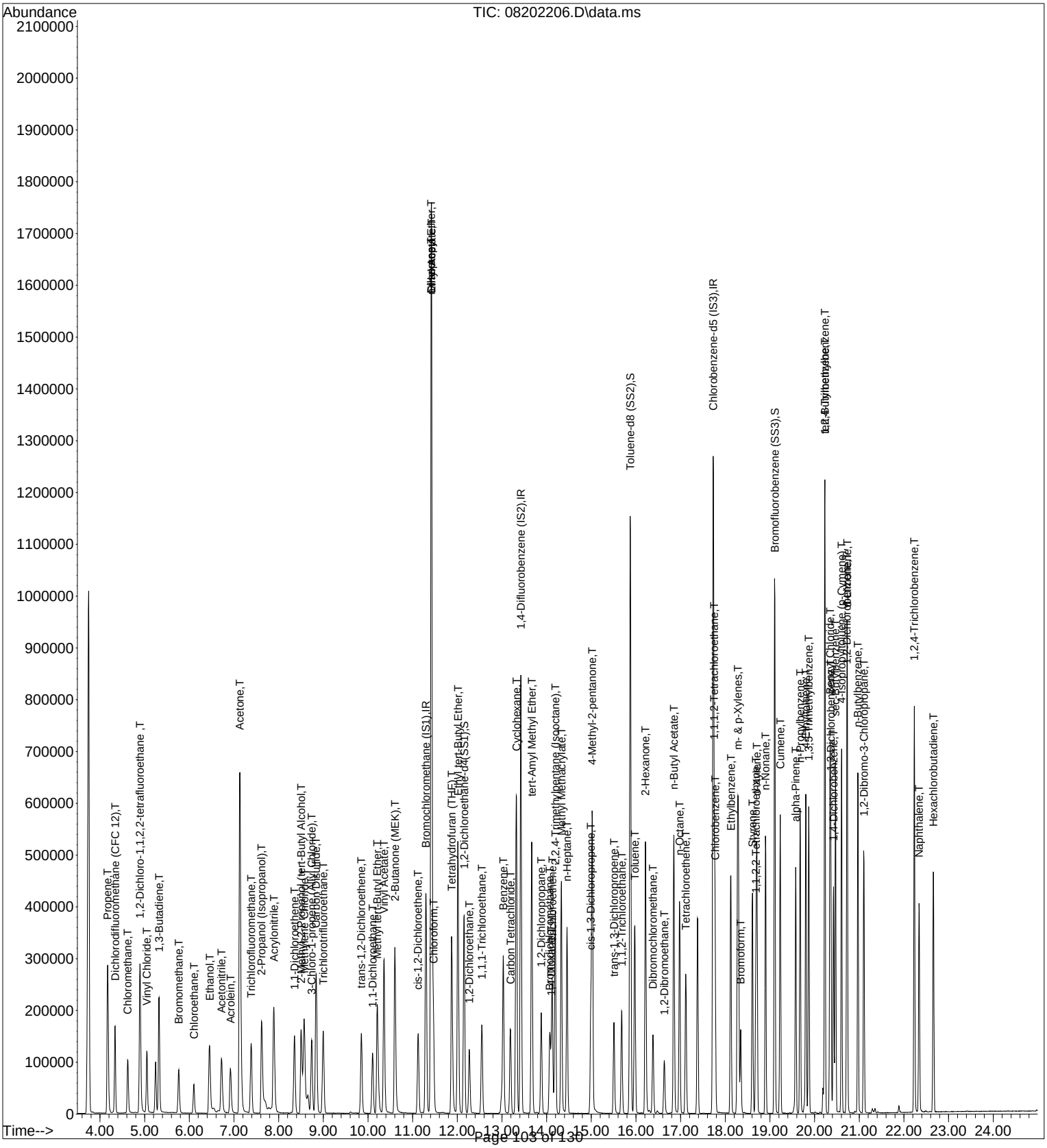
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	79648	5.899	ng	99
52) cis-1,3-Dichloropropene	14.99	75	115143	4.509	ng	100
53) 4-Methyl-2-pentanone	15.02	58	158700	12.329	ng	98
54) trans-1,3-Dichloropropene	15.51	75	101440	3.968	ng	100
55) 1,1,2-Trichloroethane	15.68	97	70954	4.649	ng	99
58) Toluene	15.98	91	302167	4.026	ng	99
59) 2-Hexanone	16.21	43	434078	11.738	ng	99
60) Dibromochloromethane	16.38	129	92490	3.875	ng	99
61) 1,2-Dibromoethane	16.63	107	82135	3.762	ng	99
62) n-Butyl Acetate	16.85	43	468770	11.368	ng	99
63) n-Octane	16.98	57	77090	5.269	ng	98
64) Tetrachloroethene	17.12	166	92275	4.085	ng	99
65) Chlorobenzene	17.77	112	210648	4.244	ng	100
66) Ethylbenzene	18.13	91	348482	3.945	ng	100
67) m- & p-Xylenes	18.28	91	544654	7.408	ng	100
68) Bromoform	18.35	173	81493	3.893	ng	99
69) Styrene	18.61	104	209576	4.129	ng	99
70) o-Xylene	18.71	91	278788	3.811	ng	99
71) n-Nonane	18.90	43	203518	5.935	ng	98
72) 1,1,2,2-Tetrachloroethane	18.69	83	127117	4.100	ng	99
74) Cumene	19.23	105	377601	4.383	ng	100
75) alpha-Pinene	19.58	93	172089	3.782	ng	94
76) n-Propylbenzene	19.68	91	441737	4.190	ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.80	105	371696	4.362	ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	305839	4.045	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.23	105	319084	4.252	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	408927	6.568	ng	99
85) 1,3-Dichlorobenzene	20.36	146	183804	4.320	ng	100
86) 1,4-Dichlorobenzene	20.42	146	177830	4.136	ng	100
87) sec-Butylbenzene	20.47	105	428602	4.374	ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	377230	4.376	ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.72	146	180126	4.273	ng	100
91) d-Limonene	20.73	68	121882	4.886	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	139041	8.762	ng	94
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.23	180	251000	8.283	ng	100
95) Naphthalene	22.34	128	327310	3.922	ng	100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	93422	3.883	ng	99
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.23	119	329910	4.650	ng	100
100) n-Butylbenzene	20.97	91	331794	4.156	ng	99
101) 1,1,1,2-Tetrachloroethane	17.75	131	84131	4.238	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202206.D Vial: 15
Acq On : 20 Aug 2022 3:45 Operator: WA
Sample : 5.0ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08182201 (9/15)

Quant Time: Aug 20 07:14:57 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202207.D Vial: 16
Acq On : 20 Aug 2022 4:20 Operator: WA
Sample : 25ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:15:39 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	182748	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	809929	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	202504	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.16	65	310094	10.616	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.96%			
57) Toluene-d8 (SS2)	15.88	98	934032	10.088	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.72%			
73) Bromofluorobenzene (SS3)	19.11	174	350824	12.693	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%			
Target Compounds						Qvalue
2) Propene	4.17	42	663630	32.806	ng	100
3) Dichlorodifluoromethan...	4.34	85	794706	18.721	ng	100
4) Chloromethane	4.63	50	745026	33.736	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.89	135	496316	25.370	ng	100
6) Vinyl Chloride	5.06	62	721308	27.527	ng	100
7) 1,3-Butadiene	5.33	54	680647	36.587	ng	100
8) Bromomethane	5.77	94	312959	19.129	ng	100
9) Chloroethane	6.12	64	295573	28.257	ng	100
10) Ethanol	6.49	45	1364059	105.256	ng	100
11) Acetonitrile	6.75	41	880137	29.768	ng	100
12) Acrolein	6.93	56	597836	56.173	ng	100
13) Acetone	7.15	58	1951766	175.659	ng	100
14) Trichlorofluoromethane	7.40	101	723260	19.103	ng	100
15) 2-Propanol (Isopropanol)	7.64	45	2454465	60.299	ng	100
16) Acrylonitrile	7.91	53	1355198	67.994	ng	100
17) 1,1-Dichloroethene	8.36	96	397853	24.847	ng	100
18) 2-Methyl-2-Propanol (t...	8.52	59	2509017	59.228	ng	100
19) Methylene Chloride	8.59	84	398226	23.283	ng	100
20) 3-Chloro-1-propene (Al...	8.75	41	776215	31.271	ng	100
21) Trichlorotrifluoroethane	9.00	151	392744	24.204	ng	100
22) Carbon Disulfide	8.85	76	2980263	44.797	ng	100
23) trans-1,2-Dichloroethene	9.87	61	626569	23.940	ng	100
24) 1,1-Dichloroethane	10.11	63	743134	25.101	ng	100
25) Methyl tert-Butyl Ether	10.21	73	1302238	23.528	ng	100
26) Vinyl Acetate	10.37	86	297792	101.704	ng	100
27) 2-Butanone (MEK)	10.61	72	619227	61.106	ng	100
28) cis-1,2-Dichloroethene	11.13	61	610304	25.279	ng	100
29) Diisopropyl Ether	11.43	87	1019032	79.230	ng	100
30) Ethyl Acetate	11.43	61	1048847	161.707	ng	100
31) n-Hexane	11.42	57	1107177	45.642	ng	100
32) Chloroform	11.48	83	740008	22.572	ng	100
34) Tetrahydrofuran (THF)	11.88	72	533850	54.804	ng	100
35) Ethyl tert-Butyl Ether	12.02	87	1196667	59.106	ng	100
36) 1,2-Dichloroethane	12.27	62	630321	22.161	ng	100
38) 1,1,1-Trichloroethane	12.55	97	667166	21.024	ng	100
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.03	78	1652808	25.630	ng	100
42) Carbon Tetrachloride	13.20	117	590091	20.930	ng	100
43) Cyclohexane	13.32	84	1444322	62.598	ng	100
44) tert-Amyl Methyl Ether	13.67	73	2782585	55.146	ng	100
45) 1,2-Dichloropropane	13.89	63	443498	29.296	ng	100
46) Bromodichloromethane	14.07	83	598942	23.225	ng	100
47) Trichloroethene	14.13	130	493792	26.400	ng	100
48) 1,4-Dioxane	14.10	88	359335	28.932	ng	100
49) 2,2,4-Trimethylpentane...	14.20	57	2194059	33.927	ng	100
50) Methyl Methacrylate	14.33	100	422622	65.874	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202207.D Vial: 16
Acq On : 20 Aug 2022 4:20 Operator: WA
Sample : 25ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:15:39 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

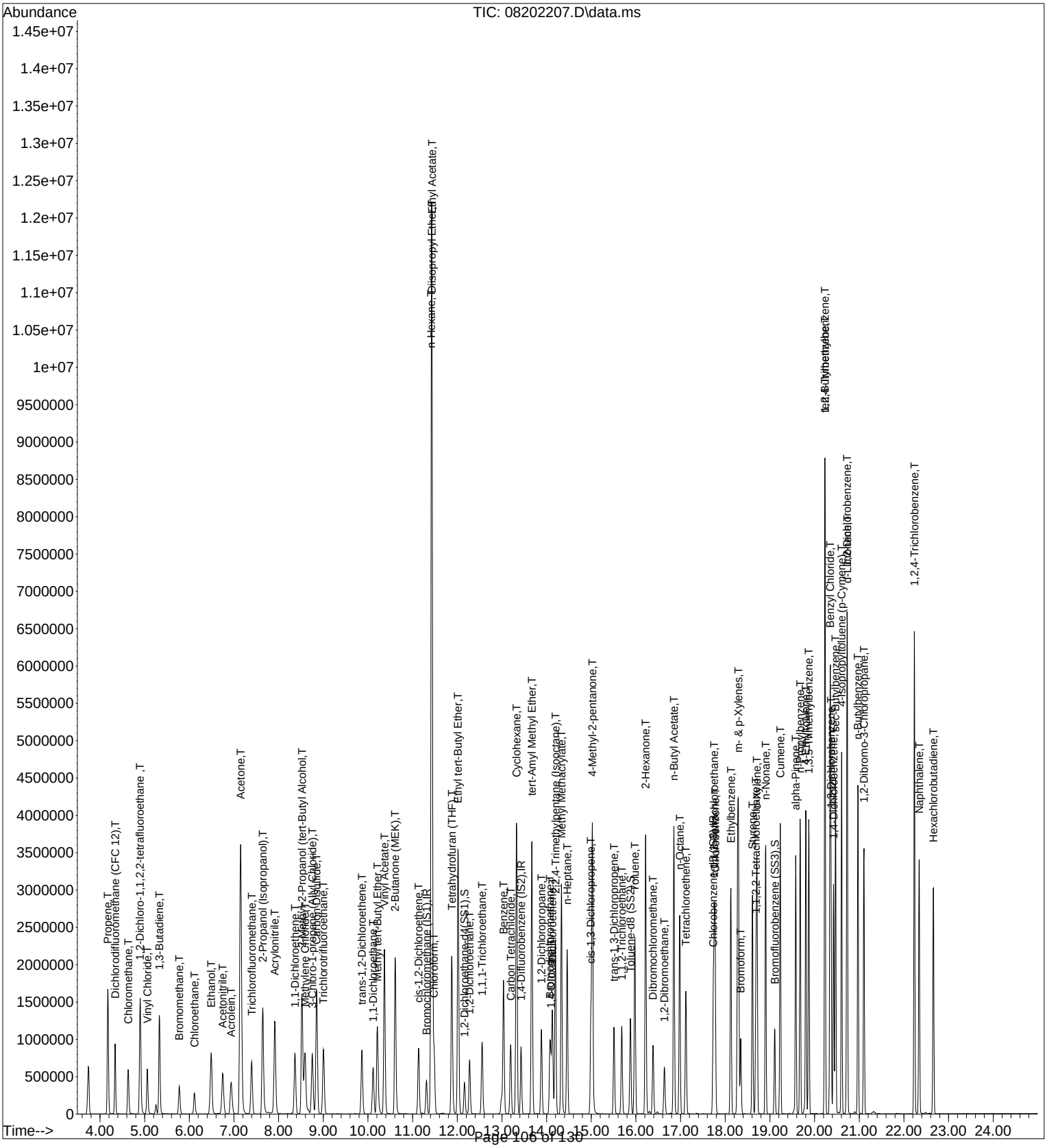
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	490278	34.294 ng	100
52) cis-1,3-Dichloropropene	14.99	75	720901	26.663 ng	100
53) 4-Methyl-2-pentanone	15.02	58	1063065	77.991 ng	100
54) trans-1,3-Dichloropropene	15.51	75	650253	24.024 ng	100
55) 1,1,2-Trichloroethane	15.68	97	413033	25.556 ng	100
58) Toluene	15.98	91	1875891	21.714 ng	100
59) 2-Hexanone	16.22	43	2950934	69.331 ng	100
60) Dibromochloromethane	16.38	129	554657	20.188 ng	100
61) 1,2-Dibromoethane	16.64	107	494988	19.700 ng	100
62) n-Butyl Acetate	16.85	43	3192515	67.267 ng	100
63) n-Octane	16.98	57	507027	30.110 ng	100
64) Tetrachloroethene	17.12	166	546097	21.002 ng	100
65) Chlorobenzene	17.77	112	1301232	22.776 ng	100
66) Ethylbenzene	18.13	91	2218457	21.819 ng	100
67) m- & p-Xylenes	18.29	91	3631255	42.910 ng	100
68) Bromoform	18.35	173	512880	21.286 ng	100
69) Styrene	18.61	104	1423500	24.366 ng	100
70) o-Xylene	18.71	91	1830410	21.736 ng	100
71) n-Nonane	18.91	43	1368408	34.672 ng	100
72) 1,1,2,2-Tetrachloroethane	18.69	83	832851	23.338 ng	100
74) Cumene	19.23	105	2463688	24.845 ng	100
75) alpha-Pinene	19.58	93	1258213	24.023 ng	100
76) n-Propylbenzene	19.68	91	2945201	24.270 ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.80	105	2517186	25.663 ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	2046246	23.513 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.23	105	2275504	26.346 ng	100
83) n-Decane	0.00	58	0	N.D. d	
84) Benzyl Chloride	20.35	91	3481634	48.582 ng	100
85) 1,3-Dichlorobenzene	20.37	146	1277900	26.095 ng	100
86) 1,4-Dichlorobenzene	20.42	146	1222757	24.711 ng	100
87) sec-Butylbenzene	20.47	105	2857628	25.335 ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	2543174	25.632 ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.73	146	1259734	25.963 ng	100
91) d-Limonene	20.73	68	884376	30.801 ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	972044	53.222 ng	100
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.23	180	1975446	56.641 ng	100
95) Naphthalene	22.34	128	2662319	27.719 ng	100
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.66	225	593089	21.420 ng	100
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.23	119	2297958	28.141 ng	100
100) n-Butylbenzene	20.97	91	2228812	24.256 ng	100
101) 1,1,1,2-Tetrachloroethane	17.75	131	502688	22.000 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202207.D Vial: 16
Acq On : 20 Aug 2022 4:20 Operator: WA
Sample : 25ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:15:39 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202215.D Vial: 2
Acq On : 20 Aug 2022 8:54 Operator: WA
Sample : 25ng R16082022 ICV Inst : GCMS-16
Misc : S35-08012201/S35-08172204 (9/16)

Quant Time: Aug 20 10:47:36 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	212523	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.43	114	931848	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	220965	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	349223	12.337	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.88	98	1046244	12.281	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
73) Bromofluorobenzene (SS3)	19.11	174	394161	12.382	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
Target Compounds							Qvalue
2) Propene	4.18	42	749622	25.395	ng		99
3) Dichlorodifluoromethan...	4.34	85	902325	25.436	ng		100
4) Chloromethane	4.64	50	763953	24.414	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	580334	25.807	ng		100
6) Vinyl Chloride	5.06	62	809427	24.481	ng		100
7) 1,3-Butadiene	5.34	54	734805	26.865	ng		99
8) Bromomethane	5.79	94	346791	23.664	ng		99
9) Chloroethane	6.12	64	314696	24.314	ng		100
10) Ethanol	6.51	45	1735920	100.365	ng		100
11) Acetonitrile	6.76	41	882046	19.755	ng		100
12) Acrolein	6.94	56	642360	47.456	ng		100
13) Acetone	7.15	58	2119932	129.040	ng		98
14) Trichlorofluoromethane	7.40	101	809685	24.649	ng		100
15) 2-Propanol (Isopropanol)	7.65	45	2355417	46.557	ng		99
16) Acrylonitrile	7.92	53	1386179	49.909	ng		100
17) 1,1-Dichloroethene	8.37	96	436943	26.209	ng		98
18) 2-Methyl-2-Propanol (t...	8.53	59	2408241	55.487	ng		99
19) Methylene Chloride	8.60	84	434967	24.924	ng		94
20) 3-Chloro-1-propene (Al...	8.76	41	728258	23.935	ng		96
21) Trichlorotrifluoroethane	9.01	151	449837	26.434	ng		96
22) Carbon Disulfide	8.86	76	3082411	49.654	ng		100
23) trans-1,2-Dichloroethene	9.87	61	677733	27.219	ng		99
24) 1,1-Dichloroethane	10.12	63	816304	25.915	ng		100
25) Methyl tert-Butyl Ether	10.21	73	1415289	27.028	ng		98
26) Vinyl Acetate	10.38	86	572728	134.092	ng	#	84
27) 2-Butanone (MEK)	10.61	72	674589	56.723	ng	#	89
28) cis-1,2-Dichloroethene	11.14	61	662234	25.073	ng		98
29) Diisopropyl Ether	11.43	87	1154813	64.075	ng	#	48
30) Ethyl Acetate	11.43	61	788011	86.071	ng		96
31) n-Hexane	11.42	57	1201863	31.125	ng		99
32) Chloroform	11.48	83	815463	26.410	ng		100
34) Tetrahydrofuran (THF)	11.88	72	608282	52.727	ng	#	91
35) Ethyl tert-Butyl Ether	12.02	87	1348614	58.231	ng		96
36) 1,2-Dichloroethane	12.28	62	693133	26.866	ng		99
38) 1,1,1-Trichloroethane	12.56	97	763186	26.222	ng		99
39) Isopropyl Acetate	13.67	61	1305	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.04	78	1838430	27.004	ng		100
42) Carbon Tetrachloride	13.20	117	648361	25.519	ng		100
43) Cyclohexane	13.33	84	1620978	55.309	ng		96
44) tert-Amyl Methyl Ether	13.67	73	3067282	58.936	ng		98
45) 1,2-Dichloropropane	13.89	63	476099	25.783	ng		100
46) Bromodichloromethane	14.08	83	667846	27.012	ng		100
47) Trichloroethene	14.13	130	568714	24.060	ng		100
48) 1,4-Dioxane	14.10	88	402850	28.719	ng		96
49) 2,2,4-Trimethylpentane...	14.20	57	2284443	26.066	ng		100
50) Methyl Methacrylate	14.34	100	478748	56.546	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202215.D Vial: 2
Acq On : 20 Aug 2022 8:54 Operator: WA
Sample : 25ng R16082022 ICV Inst : GCMS-16
Misc : S35-08012201/S35-08172204 (9/16)

Quant Time: Aug 20 10:47:36 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

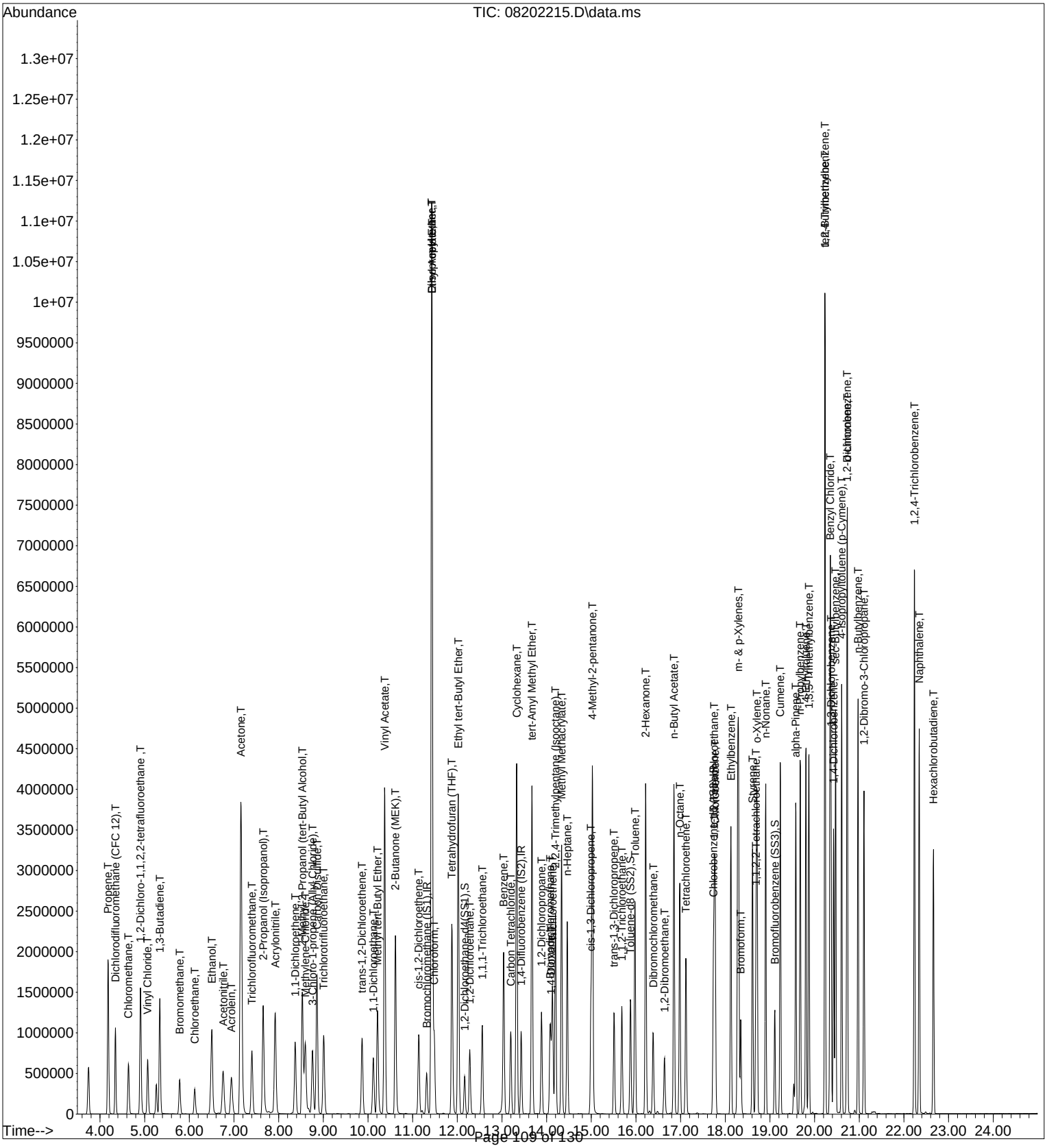
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	530553	27.613	ng		98
52) cis-1,3-Dichloropropene	14.99	75	791105	30.115	ng		100
53) 4-Methyl-2-pentanone	15.02	58	1166886	62.313	ng		95
54) trans-1,3-Dichloropropene	15.51	75	706755	26.624	ng		100
55) 1,1,2-Trichloroethane	15.68	97	457986	26.752	ng		99
58) Toluene	15.98	91	2107694	27.331	ng		100
59) 2-Hexanone	16.22	43	3116452	62.024	ng		97
60) Dibromochloromethane	16.39	129	610160	27.477	ng		100
61) 1,2-Dibromoethane	16.64	107	542398	27.224	ng		100
62) n-Butyl Acetate	16.85	43	3302933	59.747	ng		98
63) n-Octane	16.98	57	533314	28.255	ng		96
64) Tetrachloroethene	17.12	166	632995	26.754	ng		100
65) Chlorobenzene	17.77	112	1456219	27.102	ng		100
66) Ethylbenzene	18.13	91	2526585	28.872	ng		100
67) m- & p-Xylenes	18.29	91	4238884	60.873	ng		100
68) Bromoform	18.34	173	591800	29.595	ng		99
69) Styrene	18.61	104	1609046	31.639	ng		100
70) o-Xylene	18.71	91	2124027	30.566	ng		100
71) n-Nonane	18.91	43	1435043	29.194	ng		96
72) 1,1,2,2-Tetrachloroethane	18.69	83	941723	30.163	ng		100
74) Cumene	19.23	105	2800887	30.173	ng		100
75) alpha-Pinene	19.58	93	1416477	32.834	ng		99
76) n-Propylbenzene	19.68	91	3306469	31.327	ng		99
77) 3-Ethyltoluene	20.35	105	421	No Calib		#	
78) 4-Ethyltoluene	19.81	105	2842330	32.004	ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	2389638	31.200	ng		100
80) alpha-Methylstyrene	20.47	118	10293	No Calib		#	
81) 2-Ethyltoluene	20.35	105	518	No Calib		#	
82) 1,2,4-Trimethylbenzene	20.23	105	2646299	33.343	ng		99
83) n-Decane	20.23	58	119844	No Calib			
84) Benzyl Chloride	20.35	91	3958063	70.503	ng		99
85) 1,3-Dichlorobenzene	20.37	146	1486376	31.982	ng		100
86) 1,4-Dichlorobenzene	20.42	146	1417905	30.887	ng		100
87) sec-Butylbenzene	20.47	105	3252857	31.785	ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	2865609	31.742	ng		100
89) 1,2,3-Trimethylbenzene	20.35	105	518	No Calib		#	
90) 1,2-Dichlorobenzene	20.73	146	1424397	31.796	ng		100
91) d-Limonene	20.73	68	986144	32.582	ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1070016	62.354	ng		97
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.24	180	2148597	64.263	ng		100
95) Naphthalene	22.34	128	3565600	38.395	ng		100
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	633062	26.397	ng		100
98) Cyclohexanone	18.20	55	408	No Calib		#	
99) tert-Butylbenzene	20.23	119	2647098	33.262	ng		100
100) n-Butylbenzene	20.97	91	2510797	32.511	ng		99
101) 1,1,1,2-Tetrachloroethane	17.75	131	573288	27.552	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202215.D Vial: 2
Acq On : 20 Aug 2022 8:54 Operator: WA
Sample : 25ng R16082022 ICV Inst : GCMS-16
Misc : S35-08012201/S35-08172204 (9/16)

Quant Time: Aug 20 10:47:36 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202208.D Vial: 16
Acq On : 20 Aug 2022 4:54 Operator: WA
Sample : 50ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:16:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	202441	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	890862	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	228319	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	344813	10.657	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.28%				
57) Toluene-d8 (SS2)	15.88	98	1038527	9.948	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.60%				
73) Bromofluorobenzene (SS3)	19.11	174	392178	12.585	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
Target Compounds							Qvalue
2) Propene	4.17	42	1739049	77.607	ng		100
3) Dichlorodifluoromethan...	4.34	85	1764866	37.531	ng		100
4) Chloromethane	4.63	50	1474496	60.273	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	1115115	51.456	ng		100
6) Vinyl Chloride	5.07	62	1590798	54.803	ng		100
7) 1,3-Butadiene	5.33	54	1562222	75.807	ng		99
8) Bromomethane	5.78	94	710633	39.211	ng		100
9) Chloroethane	6.12	64	645675	55.722	ng		100
10) Ethanol	6.52	45	3229315	224.945	ng		100
11) Acetonitrile	6.76	41	1976191	60.337	ng		98
12) Acrolein	6.95	56	1421557	120.576	ng		100
13) Acetone	7.17	58	4630129	376.175	ng		93
14) Trichlorofluoromethane	7.40	101	1614285	38.489	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	5117444	113.492	ng		99
16) Acrylonitrile	7.93	53	3228549	146.228	ng		100
17) 1,1-Dichloroethene	8.37	96	896593	50.547	ng		100
18) 2-Methyl-2-Propanol (t...	8.54	59	4732398	100.846	ng		99
19) Methylene Chloride	8.60	84	900863	47.547	ng		99
20) 3-Chloro-1-propene (Al...	8.76	41	1827879	66.475	ng		100
21) Trichlorotrifluoroethane	9.01	151	877802	48.835	ng		100
22) Carbon Disulfide	8.85	76	7003461	95.030	ng		100
23) trans-1,2-Dichloroethene	9.87	61	1417970	48.908	ng		99
24) 1,1-Dichloroethane	10.12	63	1656231	50.501	ng		100
25) Methyl tert-Butyl Ether	10.21	73	2976506	48.546	ng		100
26) Vinyl Acetate	10.38	86	707870	218.238	ng		97
27) 2-Butanone (MEK)	10.62	72	1450619	129.224	ng		100
28) cis-1,2-Dichloroethene	11.14	61	1392460	52.066	ng		100
29) Diisopropyl Ether	11.43	87	2264829	158.962	ng	#	79
30) Ethyl Acetate	11.44	61	2288979	318.576	ng		98
31) n-Hexane	11.42	57	2460483	91.564	ng		100
32) Chloroform	11.49	83	1683337	46.351	ng		99
34) Tetrahydrofuran (THF)	11.88	72	1264376	117.172	ng		100
35) Ethyl tert-Butyl Ether	12.02	87	2891619	128.930	ng		100
36) 1,2-Dichloroethane	12.28	62	1426476	45.275	ng		100
38) 1,1,1-Trichloroethane	12.56	97	1518239	43.498	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.04	78	3885540	54.779	ng		99
42) Carbon Tetrachloride	13.20	117	1330088	42.890	ng		100
43) Cyclohexane	13.33	84	3477629	137.031	ng		99
44) tert-Amyl Methyl Ether	13.67	73	6710558	120.910	ng		99
45) 1,2-Dichloropropane	13.89	63	1016982	61.075	ng		99
46) Bromodichloromethane	14.08	83	1373752	48.431	ng		100
47) Trichloroethene	14.13	130	1140112	55.417	ng		100
48) 1,4-Dioxane	14.11	88	841263	61.581	ng		100
49) 2,2,4-Trimethylpentane...	14.20	57	5156725	72.496	ng		98
50) Methyl Methacrylate	14.34	100	1007103	142.716	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202208.D Vial: 16
Acq On : 20 Aug 2022 4:54 Operator: WA
Sample : 50ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:16:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

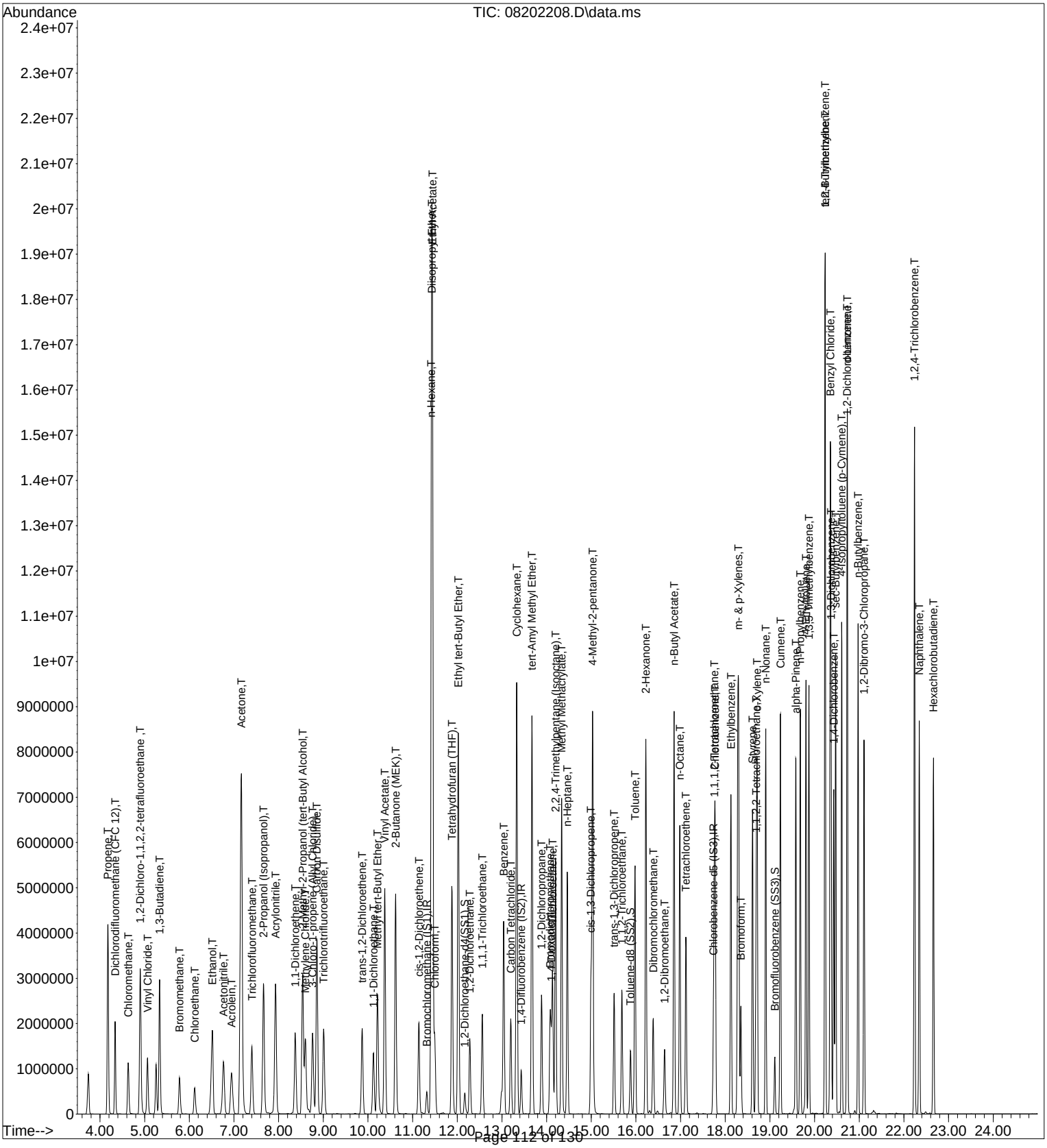
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	1163322	73.980	ng	100
52) cis-1,3-Dichloropropene	14.99	75	1686950	56.724	ng	100
53) 4-Methyl-2-pentanone	15.03	58	2549216	170.032	ng	96
54) trans-1,3-Dichloropropene	15.51	75	1510380	50.732	ng	99
55) 1,1,2-Trichloroethane	15.68	97	955840	53.769	ng	100
58) Toluene	15.98	91	4344524	44.602	ng	99
59) 2-Hexanone	16.22	43	6604168	137.619	ng	98
60) Dibromochloromethane	16.39	129	1292040	41.709	ng	100
61) 1,2-Dibromoethane	16.64	107	1142680	40.336	ng	100
62) n-Butyl Acetate	16.85	43	7359186	137.527	ng	98
63) n-Octane	16.98	57	1190806	62.721	ng	100
64) Tetrachloroethene	17.12	166	1284008	43.797	ng	100
65) Chlorobenzene	17.77	112	3130213	48.595	ng	100
66) Ethylbenzene	18.13	91	5213673	45.480	ng	100
67) m- & p-Xylenes	18.29	91	8485085	88.930	ng	99
68) Bromoform	18.35	173	1211891	44.610	ng	99
69) Styrene	18.61	104	3326405	50.501	ng	100
70) o-Xylene	18.71	91	4288387	45.167	ng	100
71) n-Nonane	18.91	43	3096107	69.577	ng	97
72) 1,1,2,2-Tetrachloroethane	18.69	83	1916095	47.621	ng	100
74) Cumene	19.24	105	5776601	51.668	ng	99
75) alpha-Pinene	19.58	93	2967422	50.250	ng	99
76) n-Propylbenzene	19.68	91	6742637	49.282	ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	5871336	53.091	ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	4766690	48.579	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	5278428	54.204	ng	99
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	8505767	105.268	ng	99
85) 1,3-Dichlorobenzene	20.37	146	3023594	54.763	ng	100
86) 1,4-Dichlorobenzene	20.43	146	2868588	51.417	ng	99
87) sec-Butylbenzene	20.47	105	6628443	52.121	ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	5931776	53.025	ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	2928145	53.526	ng	100
91) d-Limonene	20.73	68	2070720	63.965	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	2302023	111.792	ng	95
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	4864599	123.710	ng	99
95) Naphthalene	22.34	128	6515658	60.168	ng	100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	1495179	47.894	ng	99
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	5249392	57.016	ng	100
100) n-Butylbenzene	20.97	91	5159173	49.798	ng	99
101) 1,1,1,2-Tetrachloroethane	17.76	131	1210943	47.004	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202208.D Vial: 16
Acq On : 20 Aug 2022 4:54 Operator: WA
Sample : 50ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:16:47 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202209.D Vial: 16
Acq On : 20 Aug 2022 5:28 Operator: WA
Sample : 100ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:17:33 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 8/20/22
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.33	130	229065	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	1011873	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	264260	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.18	65	383988	10.488	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.92%				
57) Toluene-d8 (SS2)	15.88	98	1185842	9.815	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.48%				
73) Bromofluorobenzene (SS3)	19.11	174	462221	12.816	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
Target Compounds							Qvalue
2) Propene	4.19	42	4469335	176.266	ng		98
3) Dichlorodifluoromethan...	4.35	85	4147204	77.942	ng		100
4) Chloromethane	4.64	50	2169021	78.358	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	2578742	105.163	ng		100
6) Vinyl Chloride	5.08	62	3587782	109.232	ng		100
7) 1,3-Butadiene	5.35	54	3563655	152.827	ng		96
8) Bromomethane	5.80	94	1803862	87.964	ng		100
9) Chloroethane	6.13	64	1455001	110.973	ng		100
10) Ethanol	6.56	45	7582207	466.768	ng		100
11) Acetonitrile	6.80	41	4491243	121.187	ng		99
12) Acrolein	6.96	56	3271535	245.238	ng		100
13) Acetone	7.19	58	10751661	771.990	ng	#	76
14) Trichlorofluoromethane	7.41	101	3796385	79.996	ng		100
15) 2-Propanol (Isopropanol)	7.69	45	10639120	208.524	ng		98
16) Acrylonitrile	7.96	53	7415527	296.828	ng		99
17) 1,1-Dichloroethene	8.38	96	2119851	105.620	ng		99
18) 2-Methyl-2-Propanol (t...	8.56	59	5999765	112.993	ng		99
19) Methylene Chloride	8.61	84	2142450	99.934	ng		96
20) 3-Chloro-1-propene (Al...	8.77	41	4226724	135.848	ng		98
21) Trichlorotrifluoroethane	9.02	151	2038430	100.223	ng		99
22) Carbon Disulfide	8.86	76	16400311	196.670	ng		99
23) trans-1,2-Dichloroethene	9.88	61	3390098	103.340	ng		100
24) 1,1-Dichloroethane	10.13	63	3817302	102.867	ng		99
25) Methyl tert-Butyl Ether	10.22	73	6931043	99.904	ng		100
26) Vinyl Acetate	10.39	86	1700401	463.307	ng	#	75
27) 2-Butanone (MEK)	10.64	72	3357953	264.366	ng	#	88
28) cis-1,2-Dichloroethene	11.15	61	3321935	109.775	ng		100
29) Diisopropyl Ether	11.43	87	4252024	263.750	ng	#	46
30) Ethyl Acetate	11.47	61	4160444	511.742	ng		91
31) n-Hexane	11.42	57	4890053	160.827	ng		99
32) Chloroform	11.52	83	3814062	92.814	ng		99
34) Tetrahydrofuran (THF)	11.89	72	2993510	245.171	ng		94
35) Ethyl tert-Butyl Ether	12.03	87	6813886	268.502	ng		93
36) 1,2-Dichloroethane	12.29	62	3271402	91.762	ng		99
38) 1,1,1-Trichloroethane	12.57	97	3665214	92.451	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.04	78	9245527	114.758	ng		99
42) Carbon Tetrachloride	13.20	117	3235783	91.863	ng		100
43) Cyclohexane	13.34	84	8337951	289.254	ng		100
44) tert-Amyl Methyl Ether	13.68	73	15051446	238.763	ng		97
45) 1,2-Dichloropropane	13.89	63	2429256	128.443	ng		99
46) Bromodichloromethane	14.08	83	3308356	102.686	ng		100
47) Trichloroethene	14.14	130	2832880	121.229	ng		100
48) 1,4-Dioxane	14.11	88	2141939	138.040	ng		99
49) 2,2,4-Trimethylpentane...	14.20	57	12350832	152.869	ng		95
50) Methyl Methacrylate	14.35	100	2363165	294.835	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202209.D Vial: 16
Acq On : 20 Aug 2022 5:28 Operator: WA
Sample : 100ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:17:33 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

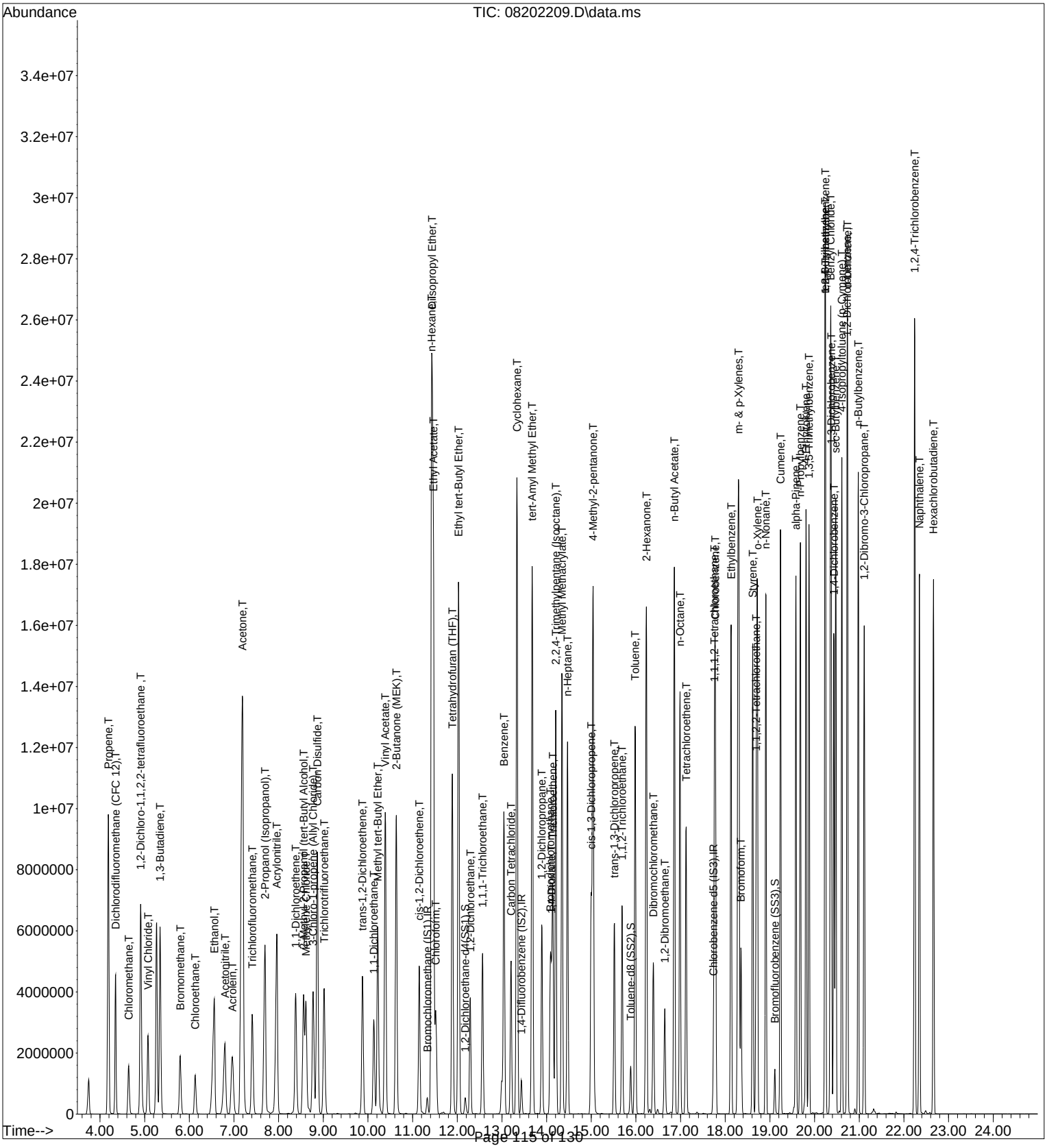
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	2766726	154.904	ng	100
52) cis-1,3-Dichloropropene	15.00	75	4017340	118.929	ng	100
53) 4-Methyl-2-pentanone	15.04	58	5881282	345.366	ng	86
54) trans-1,3-Dichloropropene	15.52	75	3638952	107.610	ng	99
55) 1,1,2-Trichloroethane	15.69	97	2346820	116.229	ng	99
58) Toluene	15.98	91	10177325	90.273	ng	98
59) 2-Hexanone	16.23	43	14030306	252.603	ng	92
60) Dibromochloromethane	16.39	129	3134768	87.433	ng	100
61) 1,2-Dibromoethane	16.65	107	2729398	83.242	ng	100
62) n-Butyl Acetate	16.86	43	15391658	248.516	ng	93
63) n-Octane	16.99	57	2773998	126.237	ng	99
64) Tetrachloroethene	17.12	166	3189398	93.993	ng	100
65) Chlorobenzene	17.78	112	7559387	101.396	ng	100
66) Ethylbenzene	18.13	91	12044029	90.774	ng	98
67) m- & p-Xylenes	18.30	91	18915556	171.287	ng	99
68) Bromoform	18.35	173	2889614	91.900	ng	99
69) Styrene	18.61	104	7847530	102.936	ng	100
70) o-Xylene	18.72	91	9853041	89.662	ng	99
71) n-Nonane	18.91	43	6653578	129.187	ng	92
72) 1,1,2,2-Tetrachloroethane	18.69	83	4458314	95.734	ng	99
74) Cumene	19.24	105	12791795	98.852	ng	97
75) alpha-Pinene	19.58	93	6836967	100.031	ng	98
76) n-Propylbenzene	19.68	91	14243584	89.947	ng	95
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	12755689	99.655	ng	97
79) 1,3,5-Trimethylbenzene	19.87	105	10623614	93.544	ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	9951049	88.290	ng	96
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.36	91	15667141	167.526	ng	96
85) 1,3-Dichlorobenzene	20.37	146	6069453	94.977	ng	100
86) 1,4-Dichlorobenzene	20.43	146	6669251	103.283	ng	99
87) sec-Butylbenzene	20.47	105	13616573	92.509	ng	96
88) 4-Isopropyltoluene (p-...	20.61	119	12255098	94.651	ng	97
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	5791601	91.471	ng	100
91) d-Limonene	20.74	68	3936421	105.059	ng	96
92) 1,2-Dibromo-3-Chloropr...	21.11	157	5001224	209.839	ng	91
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	9629107	211.570	ng	99
95) Naphthalene	22.35	128	14098400	112.483	ng	97
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	3549978	98.248	ng	99
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	9723001	91.244	ng	100
100) n-Butylbenzene	20.98	91	10929513	91.147	ng	97
101) 1,1,1,2-Tetrachloroethane	17.76	131	2923057	98.030	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 08\20\08202209.D Vial: 16
Acq On : 20 Aug 2022 5:28 Operator: WA
Sample : 100ng R16082022 ICAL Inst : GCMS-16
Misc : S35-08012201/S35-08162213 (9/15)

Quant Time: Aug 20 07:17:33 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 07:08:01 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental

LCS Acceptance Criteria

8/29/22

25ng R16082022 ICV

	RT
Bromochloromethane (IS1)	11.32
1,4-Difluorobenzene (IS2)	13.43
Chlorobenzene-d5 (IS3)	17.73

Datafile: 08202215.D
Instrument: MS-16
Date: 8/20/2022

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
115-07-1	Propene	25.395	26.5	96	56-128	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	25.436	26.5	96	71-112	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	24.414	25.8	95	53-126	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	25.807	25.8	100	62-121	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	24.481	25.5	96	63-123	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	26.865	26.5	101	63-135	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	23.664	25.8	92	71-112	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	24.314	26.0	94	66-117	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	100.365	88.3	114	57-117	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	19.755	22.8	87	59-131	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	47.456	48.5	98	71-123	ok	70-130	ok	62-126	ok
67-64-1	Acetone	129.040	133	97	60-117	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	24.649	26.3	94	71-114	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	46.557	51.5	90	61-124	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	49.909	51.5	97	65-130	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	26.209	27.0	97	74-114	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	55.487	53.3	104	56-135	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	24.924	26.5	94	75-112	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	23.935	26.8	89	57-127	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	26.434	27.0	98	73-114	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	49.654	53.3	93	70-113	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	27.219	27.0	101	76-119	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	25.915	27.0	96	70-114	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	27.028	26.8	101	72-118	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	134.092	70.5	190	56-137	FAIL	70-130	FAIL	56-139	FAIL
78-93-3	2-Butanone	56.723	52.3	108	74-121	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	25.073	26.8	94	73-117	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	64.075	52.5	122	58-124	ok	70-130	ok	70-117	FAIL
141-78-6	Ethyl Acetate	86.071	107	80	59-161	ok	70-130	ok	65-128	ok
110-54-3	n-Hexane	31.125	26.5	117	55-130	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	26.410	26.5	100	71-114	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	52.727	51.5	102	73-114	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	58.231	53.5	109	76-119	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	26.866	27.0	100	71-119	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	26.222	26.3	100	73-119	ok	70-130	ok	68-125	ok
108-21-4	Isopropyl Acetate	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	65-129	#N/A
71-36-3	1-Butanol	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-133	#N/A
71-43-2	Benzene	27.004	27.0	100	72-113	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	25.519	25.8	99	67-123	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	55.309	52.8	105	70-119	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	58.936	53.5	110	74-120	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	25.783	26.5	97	70-118	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	27.012	27.0	100	74-119	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	24.060	26.5	91	74-115	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	28.719	26.5	108	77-124	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	26.066	27.0	97	65-120	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	56.546	53.3	106	78-126	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	27.613	26.5	104	70-119	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	30.115	27.0	112	81-126	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	62.313	54.0	115	73-129	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

25ng R16082022 ICV

	RT
Bromochloromethane (IS1)	11.32
1,4-Difluorobenzene (IS2)	13.43
Chlorobenzene-d5 (IS3)	17.73

Datafile: 08202215.D
Instrument: MS-16
Date: 8/20/2022

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
10061-02-6	trans-1,3-Dichloropropene	26.624	25.8	103	80-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	26.752	26.5	101	78-117	ok	70-130	ok	73-119	ok
108-88-3	Toluene	27.331	26.5	103	70-118	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	62.024	53.3	116	74-132	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	27.477	27.0	102	69-137	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	27.224	26.0	105	76-128	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	59.747	51.3	116	75-134	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	28.255	26.8	105	68-120	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	26.754	26.5	101	63-130	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	27.102	26.5	102	70-118	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	28.872	26.3	110	71-123	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	60.873	52.5	116	67-127	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	29.595	26.8	110	65-149	ok	70-130	ok	66-139	ok
100-42-5	Styrene	31.639	26.5	119	76-132	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	30.566	26.5	115	69-124	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	29.194	26.5	110	64-127	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	30.163	26.5	114	69-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	30.173	26.5	114	69-125	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	32.834	27.3	120	68-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	31.327	26.8	117	70-127	ok	70-130	ok	69-123	ok
620-14-4	3-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-123	#N/A
622-96-8	4-Ethyltoluene	32.004	27.0	119	69-127	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	31.200	26.3	119	66-129	ok	70-130	ok	67-130	ok
98-83-9	alpha-Methylstyrene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	67-128	#N/A
611-14-3	2-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	66-121	#N/A
95-63-6	1,2,4-Trimethylbenzene	33.343	26.0	128	63-142	ok	70-130	ok	66-132	ok
124-18-5	n-Decane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	70-118	#N/A
100-44-7	Benzyl Chloride	70.503	52.5	134	73-145	ok	70-130	FAIL	50-147	ok
541-73-1	1,3-Dichlorobenzene	31.982	26.3	122	67-136	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	30.887	26.5	117	63-134	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	31.785	26.3	121	68-130	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	31.742	26.3	121	60-139	ok	70-130	ok	67-130	ok
526-73-8	1,2,3-Trimethylbenzene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	60-134	#N/A
95-50-1	1,2-Dichlorobenzene	31.796	26.5	120	64-139	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	32.582	26.3	124	63-137	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	62.354	52.0	120	72-145	ok	70-130	ok	73-133	ok
1120-21-4	n-Undecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	69-123	#N/A
120-82-1	1,2,4-Trichlorobenzene	64.263	51.5	125	62-154	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	38.395	27.0	142	62-156	ok	70-130	FAIL	57-138	FAIL
112-40-3	n-Dodecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-147	#N/A
87-68-3	Hexachloro-1,3-butadiene	26.397	26.3	100	55-142	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	61-132	#N/A
98-06-6	tert-Butylbenzene	33.262	26.3	126	61-140	ok	70-130	ok	65-124	FAIL
104-51-8	n-Butylbenzene	32.511	26.3	124	70-131	ok	70-130	ok	66-130	ok

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 10\05\10052201.D Vial: 2
Acq On : 5 Oct 2022 3:57 Operator: WA
Sample : CCV R16100522 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09232203 (10/23)

Quant Time: Oct 05 04:52:00 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 10/5/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	101	-0.02
2	T	Propene	1.736	1.538	11.4	90	0.00
3	T	Dichlorodifluoromethane (CF	2.087	1.958	6.2	97	0.00
4	T	Chloromethane	1.840	1.912	-3.9	98	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.323	1.240	6.3	96	0.00
6	T	Vinyl Chloride	1.945	1.876	3.5	97	0.00
7	T	1,3-Butadiene	1.609	1.759	-9.3	101	0.00
8	T	Bromomethane	0.862	0.768	10.9	93	-0.01
9	T	Chloroethane	0.761	0.731	3.9	94	-0.01
10	T	Ethanol	1.017	1.004	1.3	94	-0.06
11	T	Acetonitrile	2.626	2.409	8.3	92	-0.04
12	T	Acrolein	0.796	0.765	3.9	91	-0.02
13	T	Acetone	0.966	0.906	6.2	91	-0.03
14	T	Trichlorofluoromethane	1.932	1.823	5.6	97	0.00
15	T	2-Propanol (Isopropanol)	2.976	3.190	-7.2	99	-0.04
16	T	Acrylonitrile	1.634	1.588	2.8	89	-0.04
17	T	1,1-Dichloroethene	0.981	0.924	5.8	93	-0.01
18	T	2-Methyl-2-Propanol (tert-B	2.553	3.086	-20.9	96	-0.03
19	T	Methylene Chloride	1.026	0.924	9.9	91	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.790	1.711	4.4	86	-0.02
21	T	Trichlorotrifluoroethane	1.001	0.927	7.4	94	-0.01
22	T	Carbon Disulfide	3.651	3.394	7.0	90	-0.01
23	T	trans-1,2-Dichloroethene	1.465	1.466	-0.1	93	-0.01
24	T	1,1-Dichloroethane	1.853	1.728	6.7	92	-0.01
25	T	Methyl tert-Butyl Ether	3.080	2.979	3.3	91	0.00
26	T	Vinyl Acetate	0.251	0.256	-2.0	89	-0.02
27	T	2-Butanone (MEK)	0.699	0.697	0.3	87	-0.02
28	T	cis-1,2-Dichloroethene	1.553	1.430	7.9	92	-0.01
29	T	Diisopropyl Ether	1.060	1.193	-12.5	92	0.00
30	T	Ethyl Acetate	0.538	0.616	-14.5	92	-0.03
31	T	n-Hexane	2.271	2.619	-15.3	92	0.00
32	T	Chloroform	1.816	1.744	4.0	92	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	1.665	1.719	-3.2	103	-0.01
34	T	Tetrahydrofuran (THF)	0.679	0.630	7.2	89	-0.01
35	T	Ethyl tert-Butyl Ether	1.362	1.333	2.1	87	0.00
36	T	1,2-Dichloroethane	1.517	1.488	1.9	94	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	102	0.00
38	T	1,1,1-Trichloroethane	0.390	0.370	5.1	96	-0.01
39	T	Isopropyl Acetate	0.000	0.000	0.0	0#	0.00
40	T	1-Butanol	0.000	0.000	0.0	0#	-12.69#
41	T	Benzene	0.913	0.845	7.4	90	0.00
42	T	Carbon Tetrachloride	0.341	0.327	4.1	95	0.00
43	T	Cyclohexane	0.393	0.382	2.8	92	-0.01
44	T	tert-Amyl Methyl Ether	0.698	0.676	3.2	85	0.00
45	T	1,2-Dichloropropane	0.248	0.232	6.5	91	0.00
46	T	Bromodichloromethane	0.332	0.320	3.6	94	-0.01
47	T	Trichloroethene	0.317	0.264	16.7	92	-0.01
48	T	1,4-Dioxane	0.188	0.191	-1.6	93	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.176	1.130	3.9	92	0.00
50	T	Methyl Methacrylate	0.114	0.107	6.1	89	-0.02
51	T	n-Heptane	0.258	0.245	5.0	87	0.00
52	T	cis-1,3-Dichloropropene	0.352	0.358	-1.7	88	0.00
53	T	4-Methyl-2-pentanone	0.251	0.270	-7.6	90	-0.02
54	T	trans-1,3-Dichloropropene	0.356	0.334	6.2	86	-0.01
55	T	1,1,2-Trichloroethane	0.230	0.215	6.5	91	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 10\05\10052201.D Vial: 2
Acq On : 5 Oct 2022 3:57 Operator: WA
Sample : CCV R16100522 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09232203 (10/23)

Quant Time: Oct 05 04:52:00 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	112	0.00
57	S	Toluene-d8 (SS2)	4.819	3.913	18.8	95	0.00
58	T	Toluene	4.363	3.418	21.7	87	0.00
59	T	2-Hexanone	2.842	2.656	6.5	87	-0.02
60	T	Dibromochloromethane	1.256	1.003	20.1	89	0.00
61	T	1,2-Dibromoethane	1.127	0.926	17.8	89	-0.01
62	T	n-Butyl Acetate	3.127	3.007	3.8	88	-0.01
63	T	n-Octane	1.068	0.890	16.7	85	0.00
64	T	Tetrachloroethene	1.338	1.047	21.7	92	0.00
65	T	Chlorobenzene	3.040	2.618	13.9	97	0.00
66	T	Ethylbenzene	4.950	4.533	8.4	98	0.00
67	T	m- & p-Xylenes	3.939	3.533	10.3	93	-0.01
68	T	Bromoform	1.131	1.003	11.3	95	0.00
69	T	Styrene	2.877	2.575	10.5	87	0.00
70	T	o-Xylene	3.931	3.300	16.1	87	-0.01
71	T	n-Nonane	2.781	2.670	4.0	94	0.00
72	T	1,1,2,2-Tetrachloroethane	1.766	1.444	18.2	84	0.00
73	S	Bromofluorobenzene (SS3)	1.801	1.766	1.9	115	0.00
74	T	Cumene	5.251	4.628	11.9	91	0.00
75	T	alpha-Pinene	2.440	2.181	10.6	86	0.00
76	T	n-Propylbenzene	5.971	5.638	5.6	93	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	0#	0.00
78	T	4-Ethyltoluene	5.024	4.682	6.8	92	0.00
79	T	1,3,5-Trimethylbenzene	4.333	3.953	8.8	93	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	0#	0.00
82	T	1,2,4-Trimethylbenzene	4.490	4.155	7.5	87	-0.01
83	T	n-Decane	0.000	0.000	0.0	0#	0.00
84	T	Benzyl Chloride	3.176	2.572	19.0	71	-0.01
85	T	1,3-Dichlorobenzene	2.629	2.184	16.9	82	-0.01
86	T	1,4-Dichlorobenzene	2.597	2.044	21.3	81	-0.01
87	T	sec-Butylbenzene	5.789	4.900	15.4	83	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.107	4.412	13.6	84	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	0#	0.00
90	T	1,2-Dichlorobenzene	2.534	2.157	14.9	83	0.00
91	T	d-Limonene	1.712	1.426	16.7	79	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.971	0.836	13.9	82	0.00
93	T	n-Undecane	0.000	0.000	0.0	0#	-21.51#
94	T	1,2,4-Trichlorobenzene	1.891	1.774	6.2	85	0.00
95	T	Naphthalene	5.253	4.332	17.5	81	0.00
96	T	n-Dodecane	0.000	0.000	0.0	0#	-22.59#
97	T	Hexachlorobutadiene	1.357	1.101	18.9	90	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	0.00
99	T	tert-Butylbenzene	4.502	4.141	8.0	87	0.00
100	T	n-Butylbenzene	4.369	3.790	13.3	83	-0.01
101	T	1,1,1,2-Tetrachloroethane	1.177	1.038	11.8	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052201.D Vial: 2
Acq On : 5 Oct 2022 3:57 Operator: WA
Sample : CCV R16100522 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09232203 (10/23)

Quant Time: Oct 05 04:52:00 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 10/5/22
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	184921	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	823991	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	227583	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.16	65	317859	12.905	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%			
57) Toluene-d8 (SS2)	15.88	98	890520	10.149	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.20%			
73) Bromofluorobenzene (SS3)	19.11	174	401857	12.257	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%			
Target Compounds						Qvalue
2) Propene	4.19	42	597124	23.249	ng	99
3) Dichlorodifluoromethan...	4.34	85	767651	24.870	ng	100
4) Chloromethane	4.64	50	728468	26.755	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	476944	24.375	ng	100
6) Vinyl Chloride	5.07	62	700771	24.359	ng	99
7) 1,3-Butadiene	5.34	54	689430	28.969	ng	98
8) Bromomethane	5.79	94	289800	22.726	ng	99
9) Chloroethane	6.12	64	278277	24.710	ng	99
10) Ethanol	6.50	45	1280982	85.117	ng	100
11) Acetonitrile	6.75	41	810707	20.867	ng	99
12) Acrolein	6.94	56	546361	46.389	ng	100
13) Acetone	7.15	58	1766536	123.579	ng	96
14) Trichlorofluoromethane	7.40	101	701264	24.535	ng	99
15) 2-Propanol (Isopropanol)	7.65	45	2418316	54.935	ng	99
16) Acrylonitrile	7.92	53	1204103	49.824	ng	100
17) 1,1-Dichloroethene	8.37	96	369117	25.445	ng	99
18) 2-Methyl-2-Propanol (t...	8.53	59	2407968	63.762	ng	99
19) Methylene Chloride	8.60	84	362303	23.859	ng	97
20) 3-Chloro-1-propene (Al...	8.75	41	670888	25.340	ng	100
21) Trichlorotrifluoroethane	9.01	151	370108	24.995	ng	98
22) Carbon Disulfide	8.85	76	2673853	49.502	ng	100
23) trans-1,2-Dichloroethene	9.87	61	585483	27.024	ng	100
24) 1,1-Dichloroethane	10.12	63	683899	24.952	ng	100
25) Methyl tert-Butyl Ether	10.21	73	1179070	25.878	ng	100
26) Vinyl Acetate	10.37	86	265399	71.412	ng	99
27) 2-Butanone (MEK)	10.61	72	538655	52.053	ng	98
28) cis-1,2-Dichloroethene	11.14	61	560429	24.386	ng	100
29) Diisopropyl Ether	11.43	87	935195	59.634	ng	97
30) Ethyl Acetate	11.43	61	960847	120.615	ng	100
31) n-Hexane	11.42	57	1017143	30.273	ng	100
32) Chloroform	11.48	83	683515	25.441	ng	100
34) Tetrahydrofuran (THF)	11.88	72	475332	47.353	ng	99
35) Ethyl tert-Butyl Ether	12.02	87	1045505	51.882	ng	100
36) 1,2-Dichloroethane	12.28	62	594383	26.477	ng	100
38) 1,1,1-Trichloroethane	12.55	97	639838	24.862	ng	100
39) Isopropyl Acetate	13.67	61	1175	No Calib	#	
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.04	78	1489261	24.739	ng	99
42) Carbon Tetrachloride	13.20	117	561063	24.974	ng	100
43) Cyclohexane	13.32	84	1322321	51.024	ng	99
44) tert-Amyl Methyl Ether	13.67	73	2361721	51.319	ng	98
45) 1,2-Dichloropropane	13.89	63	401492	24.588	ng	99
46) Bromodichloromethane	14.07	83	564940	25.840	ng	99
47) Trichloroethene	14.13	130	456279	21.830	ng	100
48) 1,4-Dioxane	14.10	88	333565	26.892	ng	99
49) 2,2,4-Trimethylpentane...	14.20	57	2011183	25.952	ng	98
50) Methyl Methacrylate	14.33	100	375082	50.101	ng	97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052201.D Vial: 2
Acq On : 5 Oct 2022 3:57 Operator: WA
Sample : CCV R16100522 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09232203 (10/23)

Quant Time: Oct 05 04:52:00 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

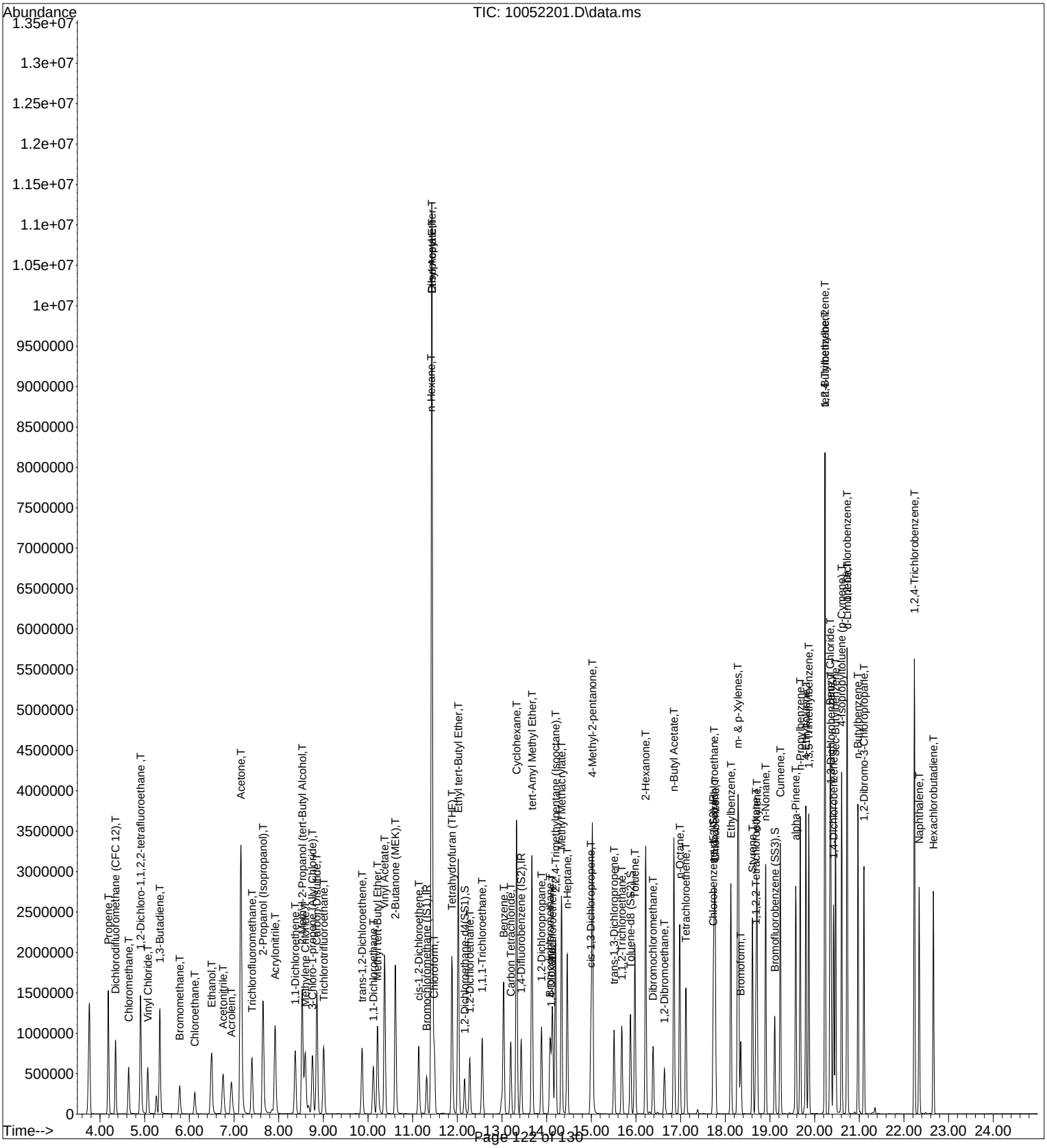
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	428204	25.203 ng		99
52) cis-1,3-Dichloropropene	14.99	75	637027	27.424 ng		100
53) 4-Methyl-2-pentanone	15.02	58	955804	57.722 ng		99
54) trans-1,3-Dichloropropene	15.51	75	562040	23.944 ng		100
55) 1,1,2-Trichloroethane	15.68	97	375193	24.785 ng		99
58) Toluene	15.98	91	1633570	20.567 ng		100
59) 2-Hexanone	16.22	43	2562804	49.522 ng		99
60) Dibromochloromethane	16.38	129	493134	21.561 ng		100
61) 1,2-Dibromoethane	16.64	107	438250	21.357 ng		99
62) n-Butyl Acetate	16.85	43	2805421	49.271 ng		99
63) n-Octane	16.98	57	433503	22.300 ng		100
64) Tetrachloroethene	17.12	166	505027	20.725 ng		100
65) Chlorobenzene	17.77	112	1263088	22.824 ng		100
66) Ethylbenzene	18.13	91	2166509	24.037 ng		100
67) m- & p-Xylenes	18.28	91	3377042	47.086 ng		99
68) Bromoform	18.35	173	488375	23.713 ng		100
69) Styrene	18.61	104	1242235	23.716 ng		100
70) o-Xylene	18.71	91	1592208	22.246 ng		100
71) n-Nonane	18.90	43	1288053	25.442 ng		98
72) 1,1,2,2-Tetrachloroethane	18.69	83	696590	21.663 ng		99
74) Cumene	19.23	105	2253730	23.573 ng		100
75) alpha-Pinene	19.58	93	1082194	24.356 ng		100
76) n-Propylbenzene	19.68	91	2746064	25.261 ng		99
77) 3-Ethyltoluene	20.36	105	794	No Calib	#	
78) 4-Ethyltoluene	19.80	105	2322697	25.392 ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	1907422	24.180 ng		99
80) alpha-Methylstyrene	20.47	118	7737	No Calib	#	
81) 2-Ethyltoluene	20.36	105	794	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.23	105	1985799	24.293 ng		99
83) n-Decane	20.23	58	97364	No Calib		
84) Benzyl Chloride	20.35	91	2481418	42.915 ng		99
85) 1,3-Dichlorobenzene	20.36	146	1053513	22.009 ng		100
86) 1,4-Dichlorobenzene	20.42	146	986020	20.854 ng		100
87) sec-Butylbenzene	20.47	105	2364172	22.429 ng		100
88) 4-Isopropyltoluene (p-...	20.61	119	2128682	22.894 ng		99
89) 1,2,3-Trimethylbenzene	20.36	105	794	No Calib	#	
90) 1,2-Dichlorobenzene	20.73	146	1050681	22.772 ng		100
91) d-Limonene	20.73	68	694441	22.277 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	798967	45.205 ng		94
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.23	180	1688001	49.018 ng		100
95) Naphthalene	22.34	128	2168752	22.675 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	531041	21.499 ng		100
98) Cyclohexanone	18.21	55	326	No Calib	#	
99) tert-Butylbenzene	20.23	119	1997897	24.374 ng		100
100) n-Butylbenzene	20.97	91	1845801	23.205 ng		99
101) 1,1,1,2-Tetrachloroethane	17.75	131	500894	23.373 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\05\10052201.D Vial: 2
Acq On : 5 Oct 2022 3:57 Operator: WA
Sample : CCV R16100522 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09232203 (10/23)

Quant Time: Oct 05 04:52:00 2022
Quant Method : I:\MS16\METHODS\R16082022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Aug 20 09:01:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

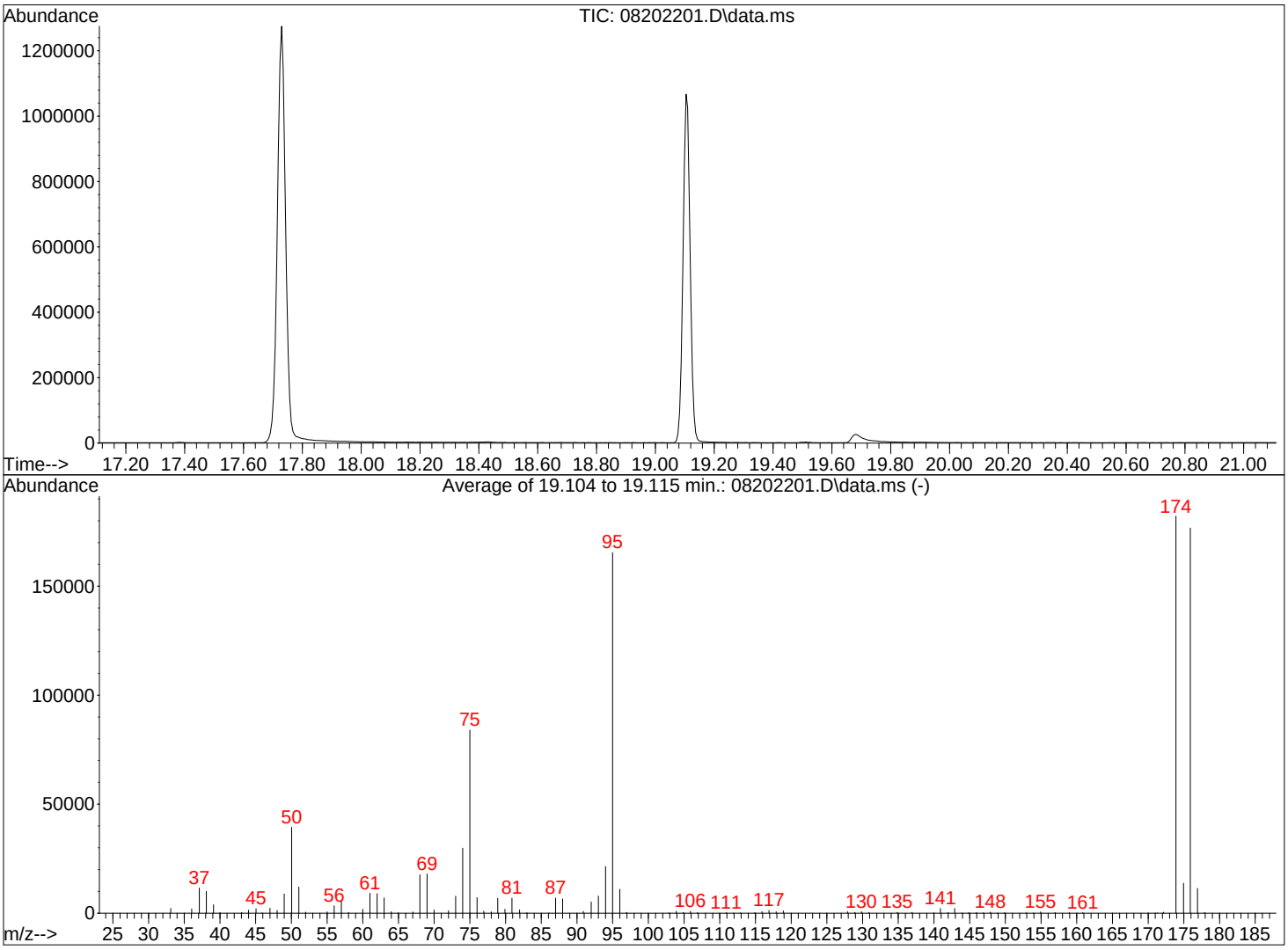


BFB

Data Path : I:\MS16\DATA\2022 08\20\
Data File : 08202201.D
Acq On : 20 Aug 2022 00:53
Operator : WA
Sample : BFB
Misc : S35-08012201
ALS Vial : 3 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16082022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Sat Aug 20 09:01:46 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2832

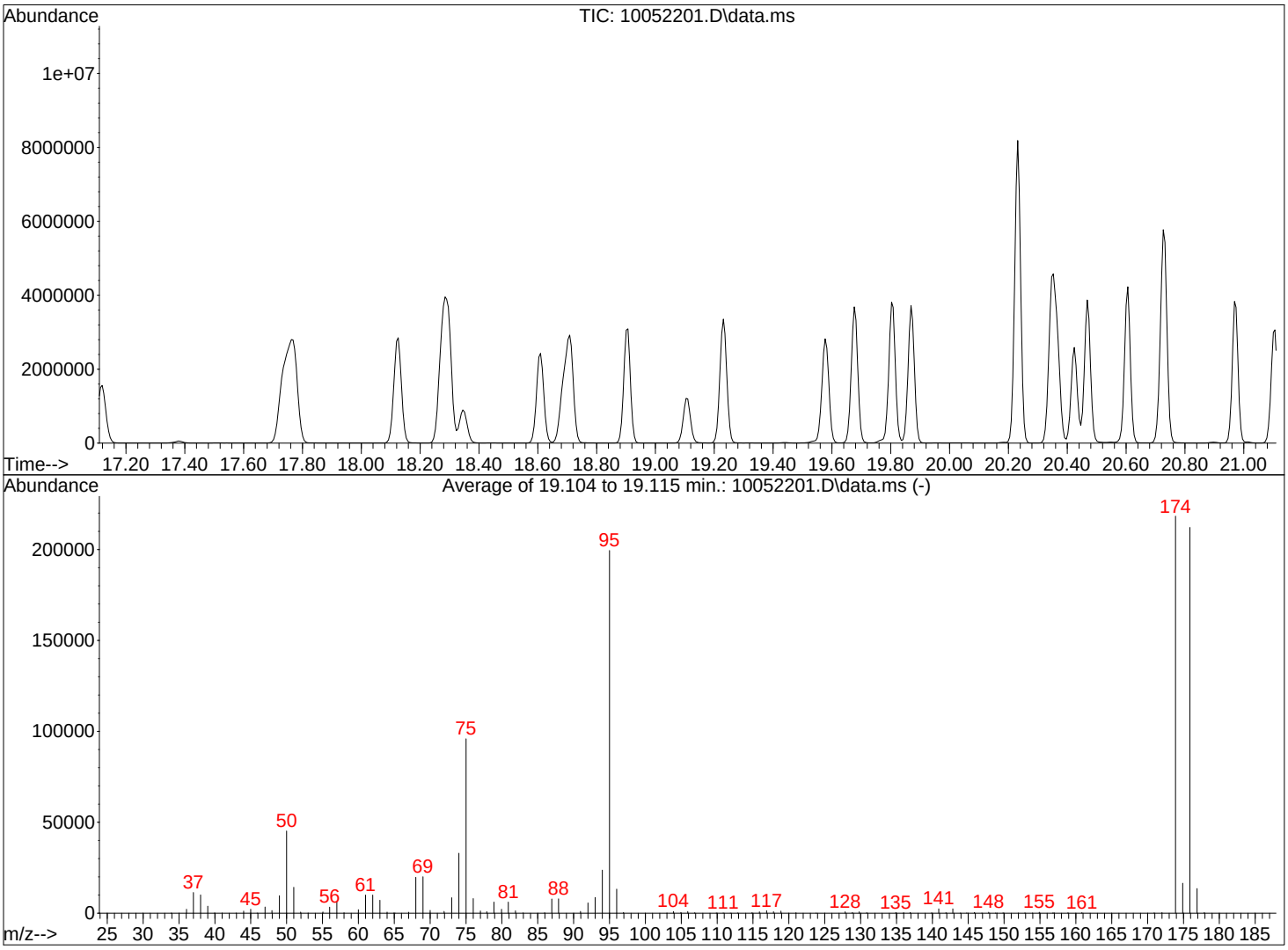
WA 8/21/22

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.8	39413	PASS
75	95	30	66	50.8	83952	PASS
95	95	100	100	100.0	165360	PASS
96	95	5	9	6.6	10927	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	110.1	182144	PASS
175	174	4	9	7.5	13751	PASS
176	174	93	101	97.0	176725	PASS
177	176	5	9	6.4	11326	PASS

Data Path : I:\MS16\DATA\2022 10\05\
Data File : 10052201.D
Acq On : 5 Oct 2022 3:57
Operator : WA
Sample : CCV R16100522 25ng
Misc : S35-08012201/S35-09232203 (10/23)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16082022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Sat Aug 20 09:01:46 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2832

10/5/22

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	22.7	45179	PASS
75	95	30	66	48.1	95880	PASS
95	95	100	100	100.0	199424	PASS
96	95	5	9	6.6	13249	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	109.5	218325	PASS
175	174	4	9	7.5	16483	PASS
176	174	93	101	97.2	212160	PASS
177	176	5	9	6.4	13541	PASS

TZ 8/30/22

Injection Log

Directory: J:\MS16\DATA\2022_08\20\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	8/20/22 0:53	08202201.D	BFB	S35-08012201	WA	3	passed
2	8/20/22 1:28	08202202.D	0.1ng R16082022 ICAL	S35-08012201/S35-08182202 (9/15)	WA	14	R13082022.M
3	8/20/22 2:02	08202203.D	0.2ng R16082022 ICAL	S35-08012201/S35-08182202 (9/15)	WA	14	
4	8/20/22 2:37	08202204.D	0.5ng R16082022 ICAL	S35-08012201/S35-08182202 (9/15)	WA	14	
5	8/20/22 3:11	08202205.D	1.0ng R16082022 ICAL	S35-08012201/S35-08182201 (9/15)	WA	15	
6	8/20/22 3:45	08202206.D	5.0ng R16082022 ICAL	S35-08012201/S35-08182201 (9/15)	WA	15	
7	8/20/22 4:20	08202207.D	25ng R16082022 ICAL	S35-08012201/S35-08162213 (9/15)	WA	16	
8	8/20/22 4:54	08202208.D	50ng R16082022 ICAL	S35-08012201/S35-08162213 (9/15)	WA	16	
9	8/20/22 5:28	08202209.D	100ng R16082022 ICAL	S35-08012201/S35-08162213 (9/15)	WA	16	
10	8/20/22 6:03	08202210.D	Blank	S35-08012201	WA	2	
11	8/20/22 6:37	08202211.D	25ng R16082022 ICV	S35-08012201/S35-08172204 (9/16)	WA	2	not used
12	8/20/22 7:11	08202212.D	25ng R16082022 ICV	S35-08012201/S35-08172204 (9/16)	WA	2	not used
13	8/20/22 7:46	08202213.D	Blank	S35-08012201	WA	2	
14	8/20/22 8:20	08202214.D	0.5ng R16082022 ICAL	S35-08012201/S35-08182201 (9/15)	WA	15	
15	8/20/22 8:54	08202215.D	25ng R16082022 ICV	S35-08012201/S35-08172204 (9/16)	WA	2	passed

ICAL R16082022.M: pass for low level compounds (ranges from 0.1ng --> 100ng)

Me-methacrylate, Benzyl-Cl: from 1ng--> 200ng;trans-1,3-DCP, 1,2,4-Trimehtylbenznene: 0.2ng-->100ng, d-Limonene,

naphthalene: 0.5ng --> 100ng; Ethyl Ac: from 2ng --> 400ng and
Vinyl Ac. fro 2.5ng --> 500g

ICV >130% for benzyl chloride and naphthalene; within Lab generated limits

Injection Log

Directory: I:\MS16\DATA\2022_10\05\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	*Comment*
1	10/5/22 3:57	10052201.D	CCV R16100522_25ng	S35-08012201/S35-09232203 (10/23)	WA	2	*Passed*
2	10/5/22 4:31	10052202.D	CCV C16100522_25ng	S35-08012201/S35-09192202 (10/19)	WA	16	*Passed*
3	10/5/22 5:06	10052203.D	MB R16100522_1000mL	S35-08012201	WA	2	*Passed*
4	10/5/22 5:40	10052204.D	P2204298-00dil (26mL)	S35-08012201	WA	7	
5	10/5/22 6:14	10052205.D	LCS R16100522_25ng	S35-08012201/S35-09262203 (10/26)	WA	2	*Passed*
6	10/5/22 6:48	10052206.D	LCSD R16100522_25ng	S35-08012201/S35-09262203 (10/26)	WA	2	*Passed*
7	10/5/22 7:48	10052207.D	P2204345-001 (1000mL)	S35-08012201	WA	11	
8	10/5/22 8:22	10052208.D	P2204345-002 (1000mL)	S35-08012201	WA	12	
9	10/5/22 8:56	10052209.D	P2204345-003 (1000mL)	S35-08012201	WA	3	
10	10/5/22 9:30	10052210.D	P2204345-004 (1000mL)	S35-08012201	WA	4	
11	10/5/22 10:05	10052211.D	P2204334-001 (1000mL) pf2	S35-08012201	WA	15	
12	10/5/22 10:39	10052212.D	P2204334-002 (1000mL)	S35-08012201	WA	8	
13	10/5/22 12:01	10052213.D	P2204328-007 (250mL)	S35-08012201	WA	10	
14	10/5/22 12:35	10052214.D	P2204328-007dil (50mL)	S35-08012201	WA	10	*not needed*
15	10/5/22 13:09	10052215.D	P2204344-001 (400mL)	S35-08012201	WA	3	
16	10/5/22 13:44	10052216.D	P2204328-001 (1000mL)	S35-08012201	WA	4	
17	10/5/22 14:18	10052217.D	P2204328-008 (1000mL)	S35-08012201	WA	11	
18	10/5/22 14:52	10052218.D	P2204328-009 (1000mL)	S35-08012201	WA	12	
19	10/5/22 15:26	10052219.D	P2204328-002 (1000mL)	S35-08012201	WA	5	
20	10/5/22 16:32	10052220.D	P2204410-001dil (2.0mL)	S35-08012201	WA	1	*screen*
21	10/5/22 17:06	10052221.D	P2204405-001 (1000mL)	S35-08012201	WA	3	
22	10/5/22 17:40	10052222.D	P2204405-002 (1000mL)	S35-08012201	WA	4	
23	10/5/22 18:15	10052223.D	P2204375-001 (30mL)	S35-08012201	WA	5	
24	10/5/22 18:49	10052224.D	P2204375-006 (15mL)	S35-08012201	WA	15	
25	10/5/22 19:22	10052225.D	P2204328-003 (1000mL)	S35-08012201	WA	6	
26	10/5/22 19:56	10052226.D	P2204328-003dil (100mL)	S35-08012201	WA	6	*not needed*
27	10/5/22 20:30	10052227.D	P2204405-001dil (200mL)	S35-08012201	WA	3	
28	10/5/22 21:05	10052228.D	P2204405-002dil (200mL)	S35-08012201	WA	4	
29	10/5/22 21:39	10052229.D	xP2204328-004 (1000mL)x	S35-08012201--> close	WA	7	*rerun*
30	10/5/22 22:13	10052230.D	P2204328-005 (1000mL)	S35-08012201	WA	8	
31	10/5/22 22:48	10052231.D	P2204328-006 (1000mL)	S35-08012201	WA	9	
32	10/5/22 23:22	10052232.D	P2204375-001dil (15mL)	S35-08012201	WA	5	
33	10/5/22 23:56	10052233.D	System	S35-08012201/S35-09232203 (10/23)	WA	2	
	CCV: tetramethylbenzenes, 1,2,3-trichlorobenzene out high						
	LCS/LCSD: ethanol out high, w/in 130%						
	RPD>25% for freon-114, vinyl chloride, 1,3-butadiene, DIPE, ethyl acetate and hexane						
						WA 10/6/22	

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-07
Cycles: 30
Batch: 29989

Batch Started By: ANAKLOWYCZ on 9/27/22 0803
Finished Cleaning By: ALESAICHERRE on 9/28/22 0450

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02108	9/27/22	9/27/22	Pass w/ Conditions	-14.3	9/28/22 0450	ALESAICHERRE	-14.0	9/29/22 0858		ms21-09/27/22
AC02124	9/27/22		Pass w/ Conditions	-14.3	9/28/22 0450	ALESAICHERRE	-14.0	10/4/22 0948		
AC01795	9/27/22		Pass w/ Conditions	-14.3	9/28/22 0450	ALESAICHERRE	-14.0	9/28/22 0246		
AC02172	9/27/22		Pass w/ Conditions	-14.3	9/28/22 0450	ALESAICHERRE	-14.0	9/28/22 0246		
AC02512	9/27/22		Pass w/ Conditions	-14.3	9/28/22 0450	ALESAICHERRE	-14.0	9/28/22 0246		
AC02180	9/27/22		Pass w/ Conditions	-14.3	9/28/22 0450	ALESAICHERRE	-14.0	9/28/22 0246		
AC01939	9/27/22		Pass w/ Conditions	-14.3	9/28/22 0450	ALESAICHERRE	-14.0	9/28/22 0246		
AC02296	9/27/22		Pass w/ Conditions	-14.3	9/28/22 0450	ALESAICHERRE	14.0	9/28/22 1016		
AC02409	9/27/22		Pass w/ Conditions	-14.3	9/28/22 0450	ALESAICHERRE	-14.0	9/29/22 0858		
AC01564	9/27/22		Pass w/ Conditions	-14.3	9/28/22 0450	ALESAICHERRE	-14.0	9/29/22 0858		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 09\27\
Data File : 09272207.D
Acq On : 27 Sep 2022 15:06
Operator : KM
Sample : 092722 AC02108 29989
Misc : SIM + TICS (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 3 Sample Multiplier: 1

9/28/22

Quant Time: Sep 28 04:36:26 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.734	130	72663	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.906	114	176609	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	34977	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.550	65	112736	1010.21	pg		0.00
Spiked Amount 1000.000			Recovery = 101.02%				
57) Toluene-d8 (SS2)	12.702	98	197676	950.40	pg		0.00
Spiked Amount 1000.000			Recovery = 95.04%				
74) Bromofluorobenzene (SS3)	16.233	174	68600	817.26	pg		0.00
Spiked Amount 1000.000			Recovery = 81.73%				
Target Compounds							Qvalue
3] * Dichlorodifluoromethane	3.725	85	1493	11.951	pg		95
4] * Chloromethane	3.856	50	513	14.450	pg		96
5] * 1,2-Dichloro-1,1,2,2...	3.941	85	51	0.775	pg	#	42
7] * 1,3-Butadiene	4.142	54	5	0.173	pg	#	8
8] * Bromomethane	4.367	94	82	1.833	pg	#	78
9] * Chloroethane	4.502	64	53	1.036	pg	#	43
10] * Ethanol	4.601	45	19533	464.263	pg		99
11] * Acetonitrile	4.773	41	1782	12.737	pg		96
12] * Acrolein	4.878	56	3893	104.468	pg		98
13] * Acetone	5.008	58	81230	1407.278	pg	#	39
14] * Trichlorofluoromethane	5.132	101	1285	7.518	pg		99
15] * 2-Propanol (Isopropa...	5.207	45	10167	73.789	pg	#	71
16] * Acrylonitrile	5.362	53	108	1.366	pg		92
18] tert-Butanol	5.754	59	3036	26.012	pg	#	88
19] * Methylene Chloride	5.744	84	2808	32.399	pg		98
21] * Trichlorotrifluoroet...	5.992	151	247	2.976	pg		99
22] * Carbon Disulfide	6.021	76	11175	33.832	pg		98
26] * Vinyl Acetate	6.893	86	3959	342.492	pg	#	7
27] * 2-Butanone (MEK)	7.174	72	7696	181.290	pg		97
29] DIPE	7.838	45	744	4.080	pg	#	46
30] * Ethyl Acetate	7.838	61	788	33.774	pg		99
31] * n-Hexane	7.825	57	699	8.698	pg		98
32] * Chloroform	7.877	83	225	1.490	pg		100
34] * Tetrahydrofuran	8.354	71	114	3.923	pg	#	71
39] * Benzene	9.495	78	3066	17.652	pg		97
42] * Carbon Tetrachloride	9.667	117	111	1.422	pg		93
43] * Cyclohexane	9.818	84	151	2.940	pg	#	67
47] * Trichloroethene	10.699	130	67	1.056	pg		94
48] * 1,4-Dioxane	10.757	88	292	6.117	pg		89
49] Isooctane	10.786	56	548	8.576	pg		72
51] * n-Heptane	11.090	71	893	21.416	pg		100
53] * 4-Methyl-2-pentanone	11.804	58	1530	40.590	pg		97
58] * Toluene	12.816	91	8648	34.803	pg		99
59] * 2-Hexanone	13.173	58	7029	148.544	pg		97
62] * n-Butyl Acetate	13.923	56	73	2.071	pg	#	31
63] * n-Octane	14.005	85	195	5.569	pg		88
64] * Tetrachloroethene	14.109	166	69	0.911	pg		89
66] * Ethylbenzene	15.220	91	635	3.417	pg		98
67] * m- & p-Xylenes	15.387	91	1657	11.317	pg		97
70] * Styrene	15.727	104	199	2.005	pg		88
71] * o-Xylene	15.828	91	702	4.851	pg		96
72] * n-Nonane	16.073	57	136	2.722	pg		94
75] * Cumene	16.368	105	82	0.403	pg	#	48
76] * alpha-Pinene	16.710	93	515	5.840	pg	#	72

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 09\27\
Data File : 09272207.D
Acq On : 27 Sep 2022 15:06
Operator : KM
Sample : 092722 AC02108 29989
Misc : SIM + TICS (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 28 04:36:26 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

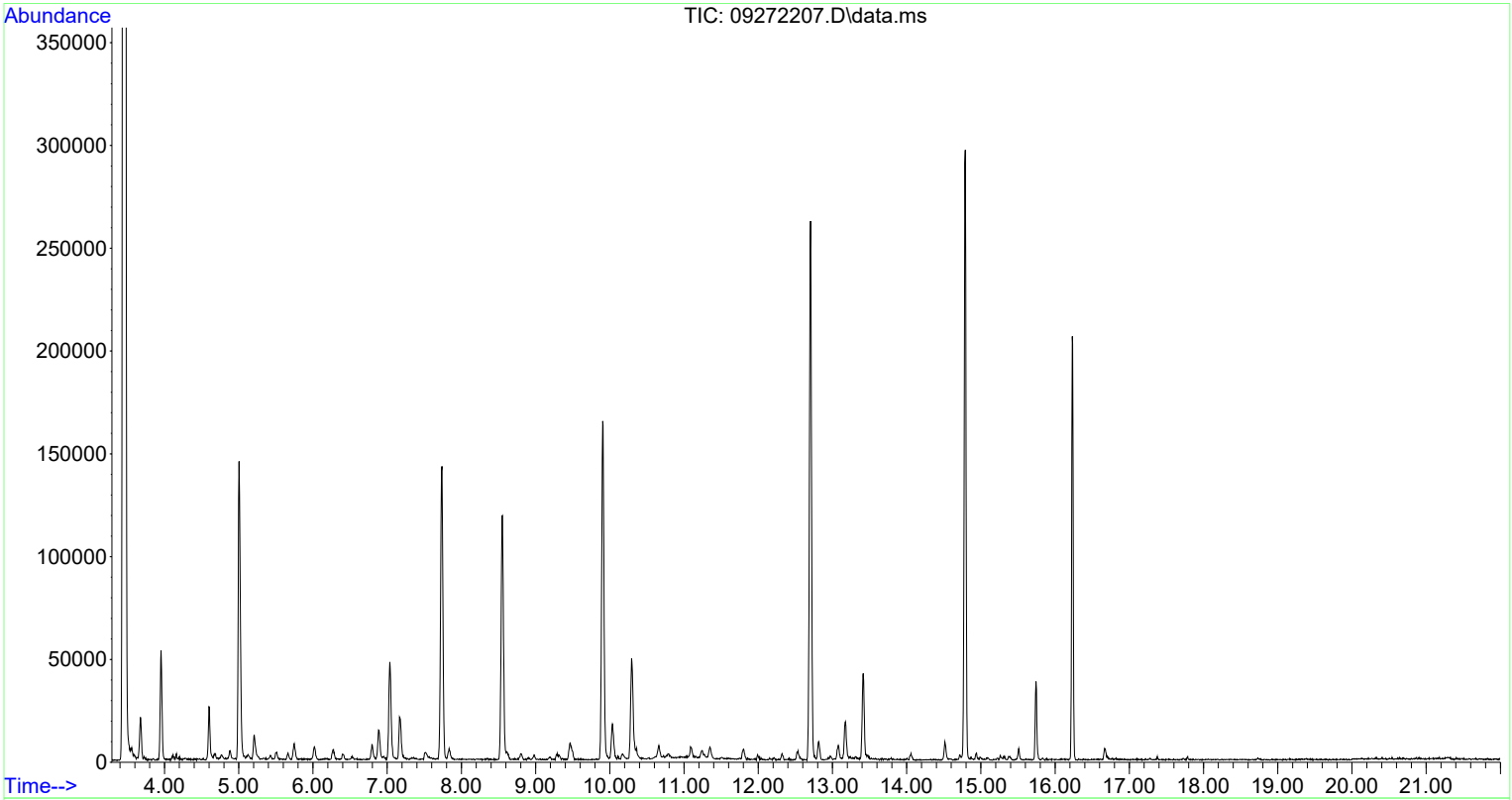
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
77] * n-Propylbenzene	16.816	91	151	0.665	pg	#	53
79] * 4-Ethyltoluene	16.909	105	281	1.714	pg		100
80] * 1,3,5-Trimethylbenzene	17.006	105	133	0.928	pg		93
83] tert-Butylbenzene	17.373	134	52	1.633	pg	#	1
84] * 1,2,4-Trimethylbenzene	17.357	105	403	2.926	pg	#	84
91] p-Isopropyltoluene	17.724	119	517	3.259	pg		98
93] * D-Limonene	17.843	68	141	3.098	pg		91
98] * Naphthalene	19.439	128	331	2.081	pg	#	68

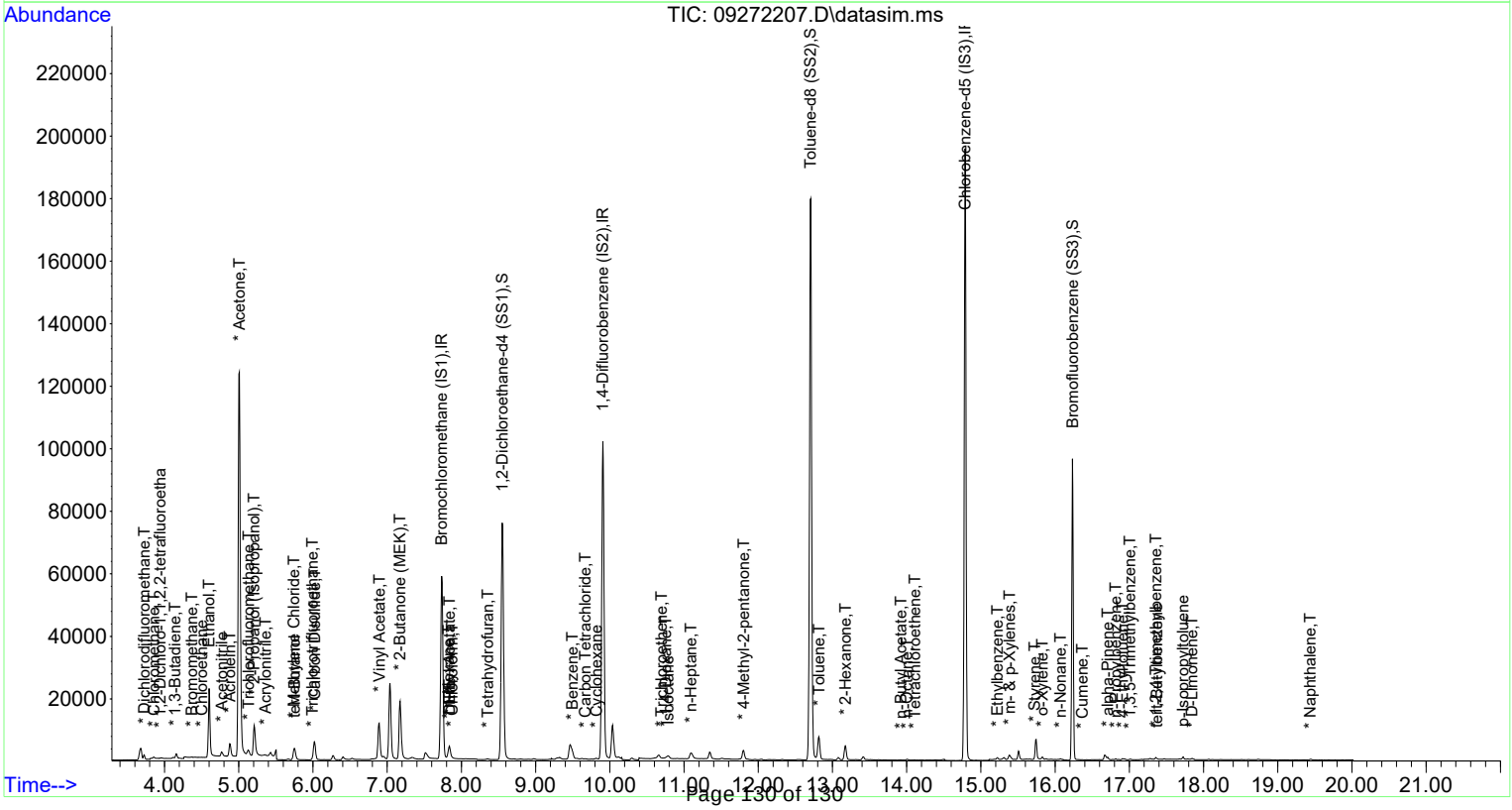
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 09\27\
Data File : 09272207.D
Acq On : 27 Sep 2022 15:06
Operator : KM
Sample : 092722 AC02108 29989
Misc : SIM + TICS (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 28 04:36:26 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

October 27, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on October 13, 2022. For your reference, these analyses have been assigned our service request number P2204597.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

By Sue Anderson at 4:04 pm, Oct 27, 2022

For Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2204597
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on October 13, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The analyte Vinyl Acetate could not be reported for this data set, due to a vendor anomaly found in the new standard being used. Once the issue has been resolved subsequent reports will include the compound in question.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2204597

Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 10/13/2022

Time Received: 13:42

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_101322_S	P2204597-001	Air	10/13/2022	11:00	AC01786	-1.63	3.78	X
DOE-2_101322_S	P2204597-002	Air	10/13/2022	11:15	AC02384	-1.84	3.67	X
DOE-3_101322_S	P2204597-003	Air	10/13/2022	11:30	AC00442	-0.43	3.92	X
DOE-4_101322_S	P2204597-004	Air	10/13/2022	11:45	AC02091	-1.42	3.75	X
DOE-1_101322_D	P2204597-005	Air	10/13/2022	11:01	AC02483	-1.83	3.92	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

P2204597

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No.

Company Name & Address (Reporting Information)	North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304
Project Name	DOE Perimeter Air
Project Number	080153.015.15
Project Manager	Trina Cesnik
P.O. # / Billing Information	PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Phone	805-587-0691
Fax	
Email Address for Result Reporting	cchristensen@northwindgrp.com; denise.gonzalez@northwindg
Sampler (Print & Sign)	T. Stewart Williford
ALS Contact:	Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_101322_S	1	10/13/2022	1100	AC01786	FCR00244	-29.0	-2.0		X		
DOE-2_101322_S	2	10/13/2022	1115	AC02384	FCR00077	-29.5	-3.0		X		
DOE-3_101322_S	3	10/13/2022	1130	AC00442	FCR00465	-29.0	-1.0		X		
DOE-4_101322_S	4	10/13/2022	1145	AC02091	FCR00526	-28.5	-1.0		X		
DOE-1_101322_D	5	10/13/2022	1101	AC02483	FCR00343	-29.0	-2.0		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries) X
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Data Validation Package) 10% Surcharge ____

EDD required Yes / No
Type: EQuIS Units: ____

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

	Date	Time		Date	Time
Relinquished by: (Signature) T. Stewart Williford	10/13/22	1342	Received by: (Signature)	10-13-22	1342
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2204597

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 10/13/22 Date opened: 10/13/22 by: KYLE.WOODIN

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2204597-001.01	6.0 L Ambient Can					
P2204597-002.01	6.0 L Ambient Can					
P2204597-003.01	6.0 L Ambient Can					
P2204597-004.01	6.0 L Ambient Can					
P2204597-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-001

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01786

Initial Pressure (psig): -1.63 Final Pressure (psig): 3.78

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.75	**0.43**	0.15	
74-87-3	Chloromethane	ND	0.72	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.76	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.72	ND	0.19	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.73	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.75	ND	0.21	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.19	
141-78-6	Ethyl Acetate	**15**	3.0	**4.2**	0.82	
110-54-3	n-Hexane	ND	0.75	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-001

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01786

Initial Pressure (psig): -1.63 Final Pressure (psig): 3.78

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.76	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.48	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	ND	0.71	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.71	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.71	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.73	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	
142-82-5	n-Heptane	ND	0.75	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	**1.0**	0.73	**0.26**	0.19	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.75	ND	0.088	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.095	
111-65-9	n-Octane	ND	0.75	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.73	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-001

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01786

Initial Pressure (psig): -1.63 Final Pressure (psig): 3.78

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.73	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.73	ND	0.071	
100-42-5	Styrene	ND	0.71	ND	0.17	
95-47-6	o-Xylene	ND	0.73	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.73	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.73	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.75	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.069	
104-51-8	n-Butylbenzene	ND	0.73	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.75	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-002

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02384

Initial Pressure (psig): -1.84 Final Pressure (psig): 3.67

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.76	**0.46**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.74	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**6.0**	3.0	**1.7**	0.83	
110-54-3	n-Hexane	ND	0.76	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-002

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02384

Initial Pressure (psig): -1.84 Final Pressure (psig): 3.67

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	ND	0.74	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.089	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-002

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02384

Initial Pressure (psig): -1.84 Final Pressure (psig): 3.67

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.76	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-003

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00442

Initial Pressure (psig): -0.43 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.30

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.69	**0.45**	0.14	
74-87-3	Chloromethane	ND	0.66	ND	0.32	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.70	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.68	ND	0.26	
106-99-0	1,3-Butadiene	ND	0.68	ND	0.31	
74-83-9	Bromomethane	ND	0.66	ND	0.17	
75-00-3	Chloroethane	ND	0.66	ND	0.25	
107-02-8	Acrolein	ND	1.3	ND	0.57	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.68	**0.20**	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.3	ND	0.53	
107-13-1	Acrylonitrile	ND	1.3	ND	0.60	
75-35-4	1,1-Dichloroethene	ND	0.70	ND	0.18	
75-09-2	Methylene Chloride	ND	0.68	ND	0.19	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.70	ND	0.092	
75-15-0	Carbon Disulfide	ND	1.4	ND	0.46	
156-60-5	trans-1,2-Dichloroethene	ND	0.69	ND	0.17	
75-34-3	1,1-Dichloroethane	ND	0.69	ND	0.17	
1634-04-4	Methyl tert-Butyl Ether	ND	0.69	ND	0.19	
78-93-3	2-Butanone (MEK)	**1.5**	1.3	**0.51**	0.44	
156-59-2	cis-1,2-Dichloroethene	ND	0.68	ND	0.17	
141-78-6	Ethyl Acetate	**120**	2.7	**34**	0.76	
110-54-3	n-Hexane	ND	0.69	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-003

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00442

Initial Pressure (psig): -0.43 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.30

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.70	ND	0.14	
109-99-9	Tetrahydrofuran (THF)	ND	1.3	ND	0.44	
107-06-2	1,2-Dichloroethane	ND	0.69	ND	0.17	
71-55-6	1,1,1-Trichloroethane	ND	0.68	ND	0.12	
71-43-2	Benzene	**0.93**	0.65	**0.29**	0.20	
56-23-5	Carbon Tetrachloride	ND	0.65	ND	0.10	
110-82-7	Cyclohexane	ND	1.4	ND	0.42	
78-87-5	1,2-Dichloropropane	ND	0.65	ND	0.14	
75-27-4	Bromodichloromethane	ND	0.69	ND	0.10	
79-01-6	Trichloroethene	ND	0.68	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.68	ND	0.19	
142-82-5	n-Heptane	ND	0.69	ND	0.17	
10061-01-5	cis-1,3-Dichloropropene	ND	0.65	ND	0.14	
108-10-1	4-Methyl-2-pentanone	ND	1.4	ND	0.35	
10061-02-6	trans-1,3-Dichloropropene	ND	0.66	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.68	ND	0.12	
108-88-3	Toluene	**2.6**	0.68	**0.68**	0.18	
591-78-6	2-Hexanone	ND	1.4	ND	0.35	
124-48-1	Dibromochloromethane	ND	0.69	ND	0.081	
106-93-4	1,2-Dibromoethane	ND	0.68	ND	0.088	
111-65-9	n-Octane	ND	0.69	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.68	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-003

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00442

Initial Pressure (psig): -0.43 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.30

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.68	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.4	ND	0.33	
75-25-2	Bromoform	ND	0.68	ND	0.065	
100-42-5	Styrene	ND	0.65	ND	0.15	
95-47-6	o-Xylene	ND	0.68	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.68	ND	0.098	
98-82-8	Cumene	ND	0.68	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.69	ND	0.14	
622-96-8	4-Ethyltoluene	ND	0.69	ND	0.14	
108-67-8	1,3,5-Trimethylbenzene	ND	0.68	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.68	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.4	ND	0.28	
541-73-1	1,3-Dichlorobenzene	ND	0.68	ND	0.11	
106-46-7	1,4-Dichlorobenzene	ND	0.68	ND	0.11	
135-98-8	sec-Butylbenzene	ND	0.68	ND	0.12	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.68	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.69	ND	0.11	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ND	0.19	
91-20-3	Naphthalene	ND	0.68	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.68	ND	0.063	
104-51-8	n-Butylbenzene	ND	0.68	ND	0.12	
1330-20-7	Xylenes, Total	ND	0.69	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-004

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02091

Initial Pressure (psig): -1.42 Final Pressure (psig): 3.75

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.74	**0.45**	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.75	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.72	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.72	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.71	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.61	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.72	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.64	
75-35-4	1,1-Dichloroethene	ND	0.75	ND	0.19	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.75	ND	0.098	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.20	
78-93-3	2-Butanone (MEK)	**1.4**	1.4	**0.49**	0.47	
156-59-2	cis-1,2-Dichloroethene	ND	0.72	ND	0.18	
141-78-6	Ethyl Acetate	**4.8**	2.9	**1.3**	0.81	
110-54-3	n-Hexane	ND	0.74	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-004

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02091

Initial Pressure (psig): -1.42 Final Pressure (psig): 3.75

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.75	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.47	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.72	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.70	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	**1.3**	0.72	**0.25**	0.13	
123-91-1	1,4-Dioxane	ND	0.72	ND	0.20	
142-82-5	n-Heptane	ND	0.74	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.71	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.72	ND	0.13	
108-88-3	Toluene	ND	0.72	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.087	
106-93-4	1,2-Dibromoethane	ND	0.72	ND	0.094	
111-65-9	n-Octane	ND	0.74	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.72	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-004

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02091

Initial Pressure (psig): -1.42 Final Pressure (psig): 3.75

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.72	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.72	ND	0.070	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	o-Xylene	ND	0.72	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.72	ND	0.11	
98-82-8	Cumene	ND	0.72	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.74	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.74	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.72	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.72	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.72	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.72	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.72	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.72	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.21	
91-20-3	Naphthalene	ND	0.72	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.72	ND	0.068	
104-51-8	n-Butylbenzene	ND	0.72	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.74	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_101322_D** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-005

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02483

Initial Pressure (psig): -1.83 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.77	**0.45**	0.16	
74-87-3	Chloromethane	ND	0.74	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.78	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
107-02-8	Acrolein	ND	1.5	ND	0.63	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.75	**0.20**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.59	
107-13-1	Acrylonitrile	ND	1.5	ND	0.67	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.75	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.77	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	ND	0.21	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	**11**	3.0	**3.2**	0.85	
110-54-3	n-Hexane	ND	0.77	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_101322_D** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-005

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02483

Initial Pressure (psig): -1.83 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.78	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.77	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.75	ND	0.14	
71-43-2	Benzene	ND	0.73	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.73	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.73	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.77	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
142-82-5	n-Heptane	ND	0.77	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.73	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.74	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.75	ND	0.14	
108-88-3	Toluene	**0.78**	0.75	**0.21**	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.77	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.75	ND	0.098	
111-65-9	n-Octane	ND	0.77	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.75	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_101322_D** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-005

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02483

Initial Pressure (psig): -1.83 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.75	ND	0.073	
100-42-5	Styrene	ND	0.73	ND	0.17	
95-47-6	o-Xylene	ND	0.75	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.77	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.77	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.75	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.75	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.75	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.75	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.75	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.77	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.071	
104-51-8	n-Butylbenzene	ND	0.75	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.77	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221022-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221022-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221022-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2204597

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 10/13/22
Analyst: Wida Ang Date(s) Received: 10/13/22
Sample Type: 6.0 L Summa Canister(s) Date(s) Analyzed: 10/22/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P221022-MB	**96**	**104**	**102**	70-130	
Lab Control Sample	P221022-LCS	**99**	**101**	**109**	70-130	
Duplicate Lab Control Sample	P221022-DLCS	**97**	**102**	**109**	70-130	
DOE-1_101322_S	P2204597-001	**96**	**98**	**102**	70-130	
DOE-2_101322_S	P2204597-002	**96**	**102**	**103**	70-130	
DOE-3_101322_S	P2204597-003	**97**	**101**	**102**	70-130	
DOE-3_101322_S	P2204597-003DUP	**97**	**100**	**102**	70-130	
DOE-4_101322_S	P2204597-004	**97**	**99**	**102**	70-130	
DOE-1_101322_D	P2204597-005	**97**	**103**	**103**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221022-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	212	197	201	**93**	**95**	71-112	2	25	
74-87-3	Chloromethane	206	198	193	**96**	**94**	53-126	2	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	190	193	**92**	**94**	62-121	2	25	
75-01-4	Vinyl Chloride	204	194	193	**95**	**95**	63-123	0	25	
106-99-0	1,3-Butadiene	212	222	222	**105**	**105**	63-135	0	25	
74-83-9	Bromomethane	206	201	204	**98**	**99**	71-112	1	25	
75-00-3	Chloroethane	208	222	223	**107**	**107**	66-117	0	25	
107-02-8	Acrolein	388	388	391	**100**	**101**	71-123	1	25	
75-69-4	Trichlorofluoromethane (CFC 11)	210	196	197	**93**	**94**	71-114	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	412	399	401	**97**	**97**	61-124	0	25	
107-13-1	Acrylonitrile	412	400	405	**97**	**98**	65-130	1	25	
75-35-4	1,1-Dichloroethene	216	203	203	**94**	**94**	74-114	0	25	
75-09-2	Methylene Chloride	212	207	207	**98**	**98**	75-112	0	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	207	208	**96**	**96**	73-114	0	25	
75-15-0	Carbon Disulfide	426	402	401	**94**	**94**	70-113	0	25	
156-60-5	trans-1,2-Dichloroethene	216	205	207	**95**	**96**	76-119	1	25	
75-34-3	1,1-Dichloroethane	216	202	203	**94**	**94**	70-114	0	25	
1634-04-4	Methyl tert-Butyl Ether	214	207	208	**97**	**97**	72-118	0	25	
78-93-3	2-Butanone (MEK)	418	445	445	**106**	**106**	74-121	0	25	
156-59-2	cis-1,2-Dichloroethene	214	202	202	**94**	**94**	73-117	0	25	
141-78-6	Ethyl Acetate	856	641	643	**75**	**75**	59-161	0	25	
110-54-3	n-Hexane	212	209	208	**99**	**98**	55-130	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221022-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	212	204	204	**96**	**96**	71-114	0	25	
109-99-9	Tetrahydrofuran (THF)	412	413	414	**100**	**100**	73-114	0	25	
107-06-2	1,2-Dichloroethane	216	203	202	**94**	**94**	71-119	0	25	
71-55-6	1,1,1-Trichloroethane	210	203	206	**97**	**98**	73-119	1	25	
71-43-2	Benzene	216	213	215	**99**	**100**	72-113	1	25	
56-23-5	Carbon Tetrachloride	206	195	199	**95**	**97**	67-123	2	25	
110-82-7	Cyclohexane	422	403	410	**95**	**97**	70-119	2	25	
78-87-5	1,2-Dichloropropane	212	201	204	**95**	**96**	70-118	1	25	
75-27-4	Bromodichloromethane	216	208	209	**96**	**97**	74-119	1	25	
79-01-6	Trichloroethene	212	214	216	**101**	**102**	74-115	1	25	
123-91-1	1,4-Dioxane	212	211	213	**100**	**100**	77-124	0	25	
142-82-5	n-Heptane	212	206	208	**97**	**98**	70-119	1	25	
10061-01-5	cis-1,3-Dichloropropene	216	233	236	**108**	**109**	81-126	0.9	25	
108-10-1	4-Methyl-2-pentanone	432	443	449	**103**	**104**	73-129	1	25	
10061-02-6	trans-1,3-Dichloropropene	206	219	219	**106**	**106**	80-127	0	25	
79-00-5	1,1,2-Trichloroethane	212	214	215	**101**	**101**	78-117	0	25	
108-88-3	Toluene	212	213	215	**100**	**101**	70-118	1	25	
591-78-6	2-Hexanone	426	448	458	**105**	**108**	74-132	3	25	
124-48-1	Dibromochloromethane	216	218	223	**101**	**103**	69-137	2	25	
106-93-4	1,2-Dibromoethane	208	224	228	**108**	**110**	76-128	2	25	
111-65-9	n-Octane	214	203	206	**95**	**96**	68-120	1	25	
127-18-4	Tetrachloroethene	212	219	223	**103**	**105**	63-130	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221022-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	210	221	223	**105**	**106**	71-123	0.9	25	
179601-23-1	m,p-Xylenes	420	447	454	**106**	**108**	67-127	2	25	
75-25-2	Bromoform	214	225	231	**105**	**108**	65-149	3	25	
100-42-5	Styrene	212	241	246	**114**	**116**	76-132	2	25	
95-47-6	o-Xylene	212	225	229	**106**	**108**	69-124	2	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	231	234	**109**	**110**	69-128	0.9	25	
98-82-8	Cumene	212	222	226	**105**	**107**	69-125	2	25	
103-65-1	n-Propylbenzene	214	230	234	**107**	**109**	70-127	2	25	
622-96-8	4-Ethyltoluene	216	241	245	**112**	**113**	69-127	0.9	25	
108-67-8	1,3,5-Trimethylbenzene	210	228	232	**109**	**110**	66-129	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	208	252	256	**121**	**123**	63-142	2	25	
100-44-7	Benzyl Chloride	420	580	590	**138**	**140**	73-145	1	25	
541-73-1	1,3-Dichlorobenzene	210	255	260	**121**	**124**	67-136	2	25	
106-46-7	1,4-Dichlorobenzene	212	244	250	**115**	**118**	63-134	3	25	
135-98-8	sec-Butylbenzene	210	231	236	**110**	**112**	68-130	2	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	210	230	236	**110**	**112**	60-139	2	25	
95-50-1	1,2-Dichlorobenzene	212	247	253	**117**	**119**	64-139	2	25	
120-82-1	1,2,4-Trichlorobenzene	412	510	521	**124**	**126**	62-154	2	25	
91-20-3	Naphthalene	216	300	309	**139**	**143**	62-156	3	25	
87-68-3	Hexachlorobutadiene	210	220	224	**105**	**107**	55-142	2	25	
104-51-8	n-Butylbenzene	210	247	251	**118**	**120**	70-131	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-003DUP

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00442

Initial Pressure (psig): -0.43 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.30

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Dichlorodifluoromethane (CFC 12)	2.23	0.452	2.26	0.458	2.245	**1**	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Trichlorofluoromethane	1.11	0.197	1.17	0.208	1.14	**5**	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	ND	ND	-	-	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	1.50	0.507	1.63	0.554	1.565	**8**	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Ethyl Acetate	123	34.3	127	35.2	125	**3**	25	
n-Hexane	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-003DUP

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00442

Initial Pressure (psig): -0.43 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.30

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Chloroform	ND	ND	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	0.933	0.292	0.930	0.291	0.9315	**0.3**	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Trichloroethene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	2.57	0.683	2.61	0.693	2.59	**2**	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Octane	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_101322_S** ALS Project ID: P2204597
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204597-003DUP

Test Code: EPA TO-15 Date Collected: 10/13/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/13/22
Analyst: Wida Ang Date Analyzed: 10/22/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00442

Initial Pressure (psig): -0.43 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.30

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
sec-Butylbenzene	ND	ND	ND	ND	-	-	25	
4-Isopropyltoluene (p-Cymene)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	
n-Butylbenzene	ND	ND	ND	ND	-	-	25	
Xylenes, Total	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **North Wind, Inc.** ALS Project ID: P2204597

Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 10222201.D

Analyst: Wida Ang Date Analyzed: 10/22/22

Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 13:36

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	142863	11.32	642239	13.43	132098	17.73
	Upper Limit	200008	11.65	899135	13.76	184937	18.06
	Lower Limit	85718	10.99	385343	13.10	79259	17.40
	Client Sample ID						
01	Method Blank	120940	11.30	545640	13.42	107361	17.73
02	Lab Control Sample	149616	11.31	672449	13.43	137750	17.73
03	Duplicate Lab Control Sample	149470	11.31	663899	13.43	135537	17.73
04	DOE-1_101322_S	129366	11.30	577736	13.42	122138	17.73
05	DOE-2_101322_S	125751	11.30	562456	13.42	114792	17.73
06	DOE-3_101322_S	126213	11.30	564895	13.42	116036	17.73
07	DOE-3_101322_S (Lab Duplicate)	125717	11.30	563415	13.42	116294	17.73
08	DOE-4_101322_S	127959	11.30	578000	13.42	120863	17.73
09	DOE-1_101322_D	125364	11.29	560183	13.42	112319	17.73
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222211.D Vial: 12
Acq On : 22 Oct 2022 19:18 Operator: WA
Sample : P2204597-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:06:18 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 10/23/22

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	129366	12.500 ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	577736	12.500 ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	122138	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	208072	12.027 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%			
57) Toluene-d8 (SS2)	15.87	98	661945	12.297 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%			
73) Bromofluorobenzene (SS3)	19.11	174	216699	12.774 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	4.35	85	34002	1.523 ng		99
4) Chloromethane	4.64	50	3831	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	937	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.79	94	544	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.46	45	39872	4.523 ng		93
11) Acetonitrile	6.74	41	3479	N.D.		
12) Acrolein	6.95	56	1359	N.D.		
13) Acetone	7.14	58	53514	6.123 ng		88
14) Trichlorofluoromethane	7.39	101	15553	0.790 ng		99
15) 2-Propanol (Isopropanol)	7.66	45	14533	0.552 ng		92
16) Acrylonitrile	7.91	53	792	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.60	59	601	N.D.		
19) Methylene Chloride	8.57	84	2122	N.D.		
20) 3-Chloro-1-propene (Al...	8.67	41	401	N.D.		
21) Trichlorotrifluoroethane	9.01	151	3030	N.D.		
22) Carbon Disulfide	8.84	76	1969	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.63	72	6667	0.882 ng	#	80
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.43	87	1556	N.D.		
30) Ethyl Acetate	11.43	61	55374	10.836 ng		90
31) n-Hexane	11.42	57	2993	N.D.		
32) Chloroform	11.46	83	1530	N.D.		
34) Tetrahydrofuran (THF)	11.93	72	255	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.26	62	266	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.03	78	12130	N.D.		
42) Carbon Tetrachloride	13.19	117	4162	N.D.		
43) Cyclohexane	13.32	84	882	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.19	57	9187	N.D.		
50) Methyl Methacrylate	14.35	100	562	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222211.D Vial: 12
Acq On : 22 Oct 2022 19:18 Operator: WA
Sample : P2204597-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:06:18 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

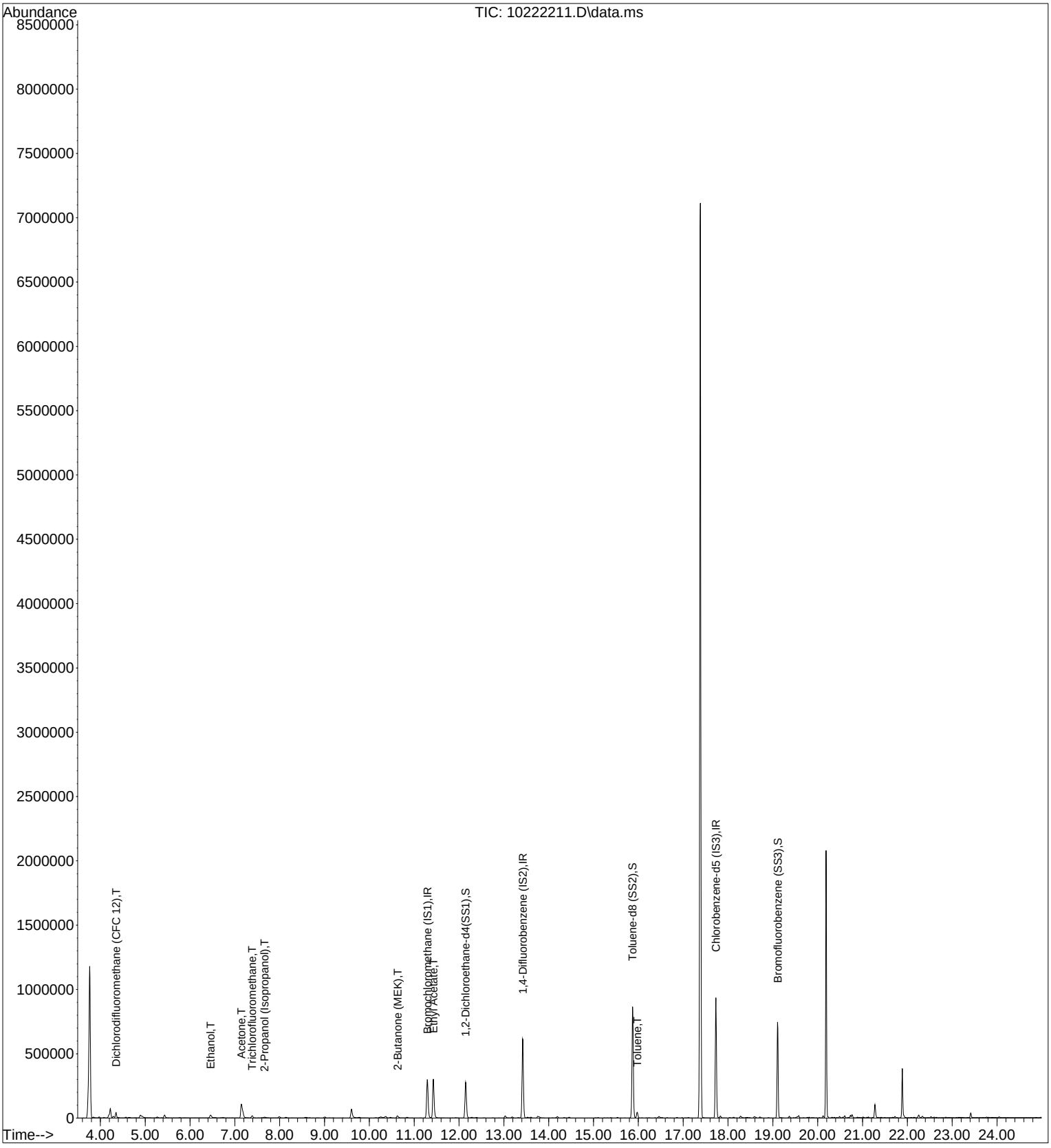
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.45	71	1387	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.04	58	470	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	35204	0.707 ng	98
59) 2-Hexanone	16.23	43	2664	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.86	43	4031	N.D.	
63) n-Octane	16.98	57	488	N.D.	
64) Tetrachloroethene	17.12	166	704	N.D.	
65) Chlorobenzene	17.77	112	107	N.D.	
66) Ethylbenzene	18.13	91	4981	N.D.	
67) m- & p-Xylenes	18.28	91	11281	N.D.	
68) Bromoform	18.35	173	117	N.D.	
69) Styrene	18.62	104	2936	N.D.	
70) o-Xylene	18.71	91	4153	N.D.	
71) n-Nonane	18.90	43	1542	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.23	105	531	N.D.	
75) alpha-Pinene	19.58	93	6017	N.D.	
76) n-Propylbenzene	19.68	91	1460	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.81	105	1659	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	1127	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	4167	N.D.	
83) n-Decane	20.19	58	531	No Calib #	
84) Benzyl Chloride	20.35	91	744	N.D.	
85) 1,3-Dichlorobenzene	20.37	146	510	N.D.	
86) 1,4-Dichlorobenzene	20.43	146	1181	N.D.	
87) sec-Butylbenzene	20.47	105	203	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	8413	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	20.73	146	327	N.D.	
91) d-Limonene	20.73	68	4929	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.23	180	1476	N.D.	
95) Naphthalene	22.34	128	4574	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.21	55	280	No Calib #	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.97	91	890	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222211.D Vial: 12
Acq On : 22 Oct 2022 19:18 Operator: WA
Sample : P2204597-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:06:18 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222211.D Vial: 12
Acq On : 22 Oct 2022 19:18 Operator: WA
Sample : P2204597-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

WA 10/23/22

Quant Time: Oct 23 20:06:18 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

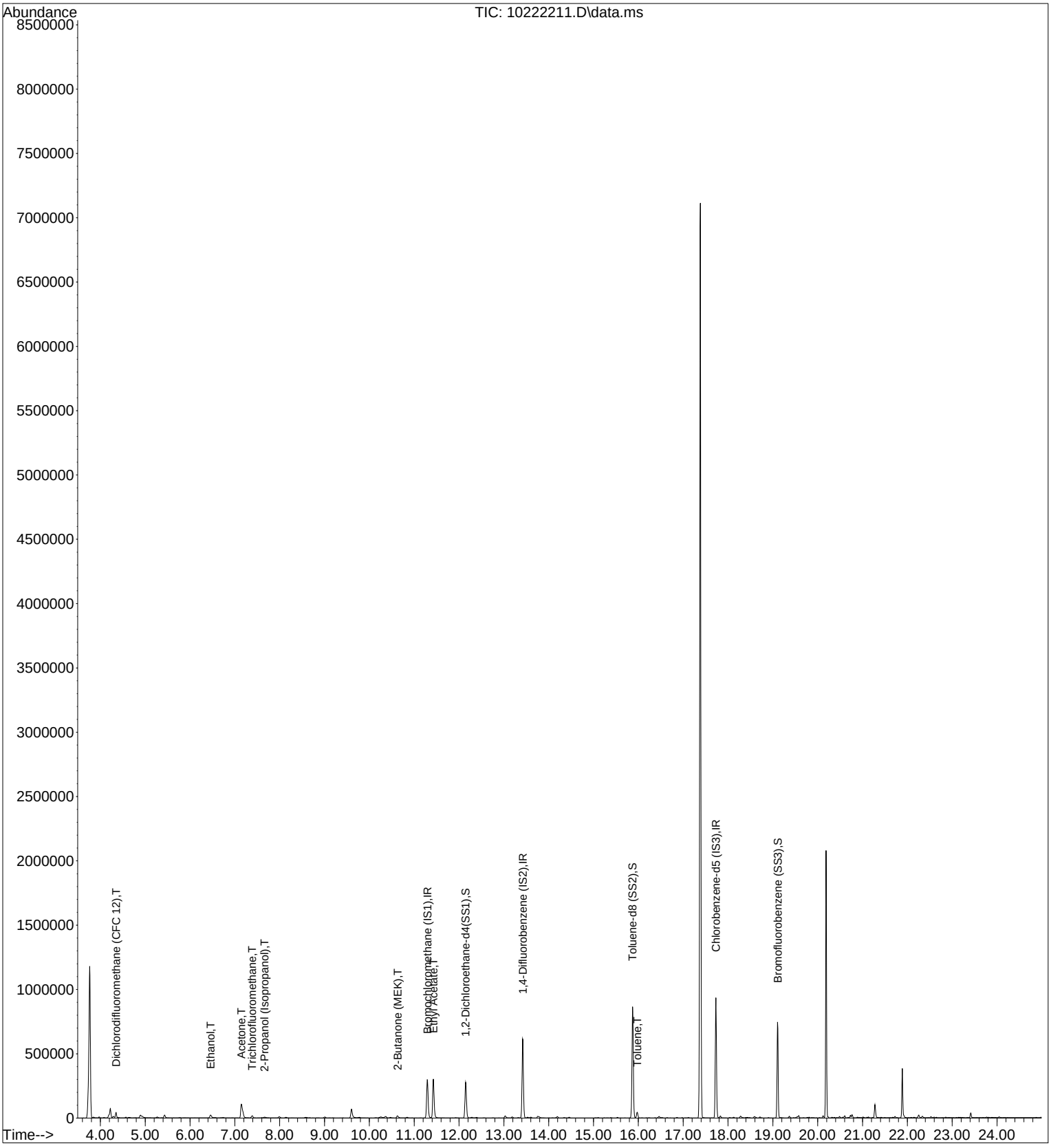
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	129366	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	577736	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	122138	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	208072	12.027	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
57) Toluene-d8 (SS2)	15.87	98	661945	12.297	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
73) Bromofluorobenzene (SS3)	19.11	174	216699	12.774	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.35	85	34002	1.523	ng		99
10) Ethanol	6.46	45	39872	4.523	ng		93
13) Acetone	7.14	58	53514	6.123	ng		88
14) Trichlorofluoromethane	7.39	101	15553	0.790	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	14533	0.552	ng		92
27) 2-Butanone (MEK)	10.63	72	6667	0.882	ng	#	80
30) Ethyl Acetate	11.43	61	55374	10.836	ng		90
58) Toluene	15.98	91	35204	0.707	ng		98

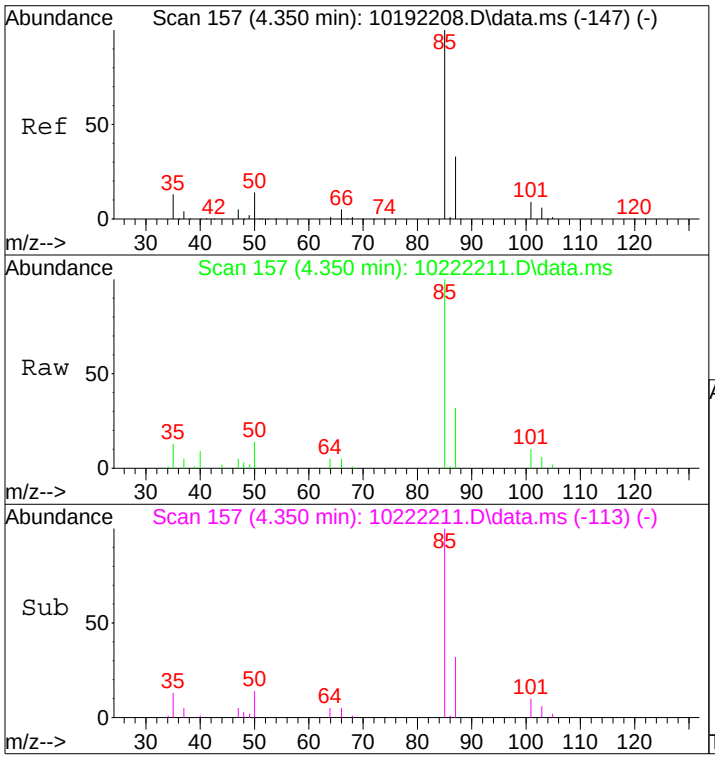
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222211.D Vial: 12
Acq On : 22 Oct 2022 19:18 Operator: WA
Sample : P2204597-001 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:06:18 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

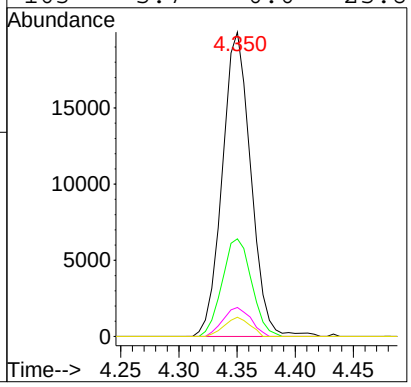


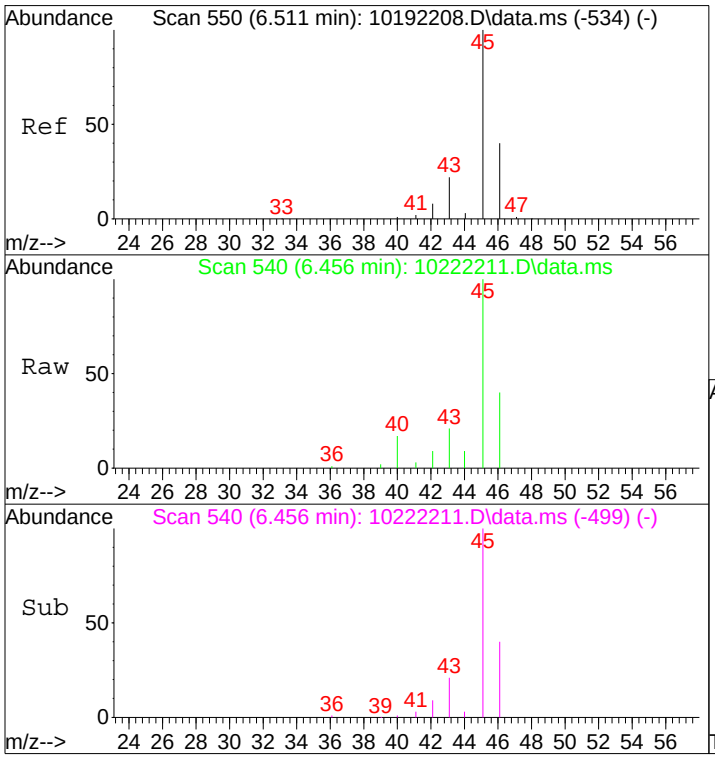


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.52 ng
RT: 4.35 min Scan# 157
Delta R.T. -0.005 min
Lab File: 10222211.D
Acq: 22 Oct 2022 19:18

Tgt Ion: 85 Resp: 34002

Ion	Ratio	Lower	Upper
85	100		
87	33.2	12.7	52.7
101	9.3	0.0	29.1
103	5.7	0.0	25.8

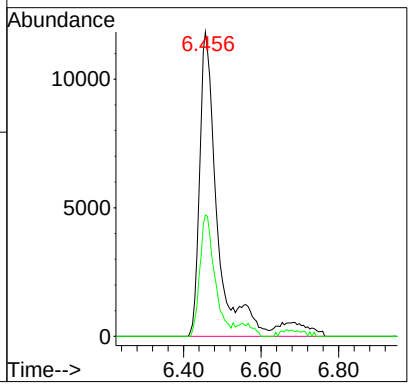


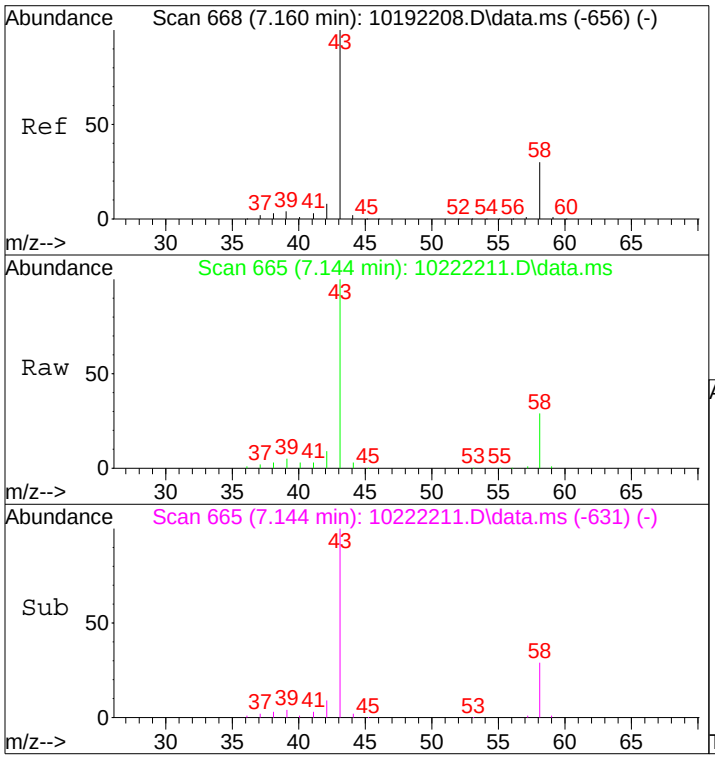


#10
Ethanol
Concen: 4.52 ng
RT: 6.46 min Scan# 540
Delta R.T. -0.027 min
Lab File: 10222211.D
Acq: 22 Oct 2022 19:18

Tgt Ion: 45 Resp: 39872

Ion	Ratio	Lower	Upper
45	100		
46	35.8	20.0	60.0

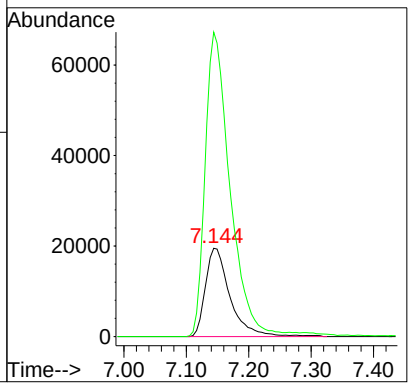


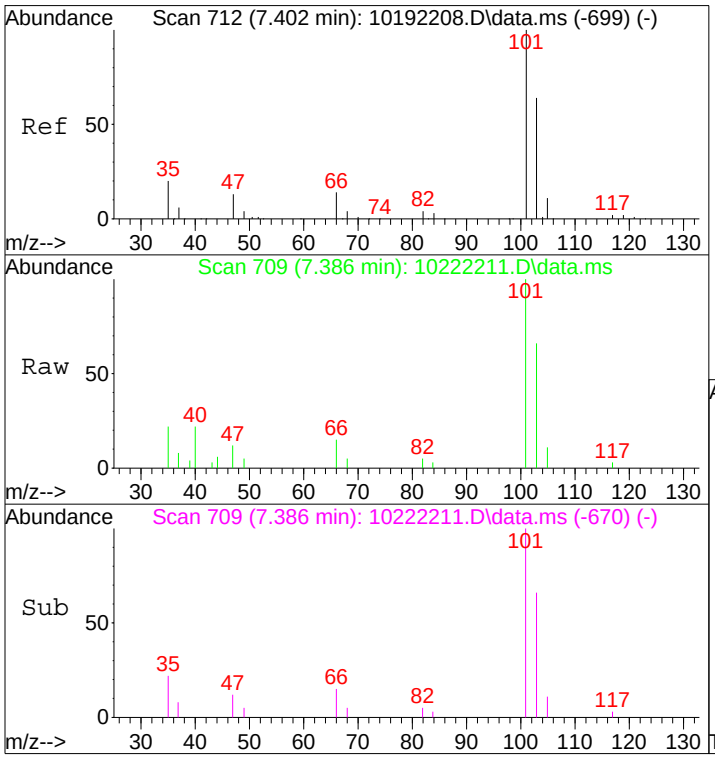


#13
Acetone
Concen: 6.12 ng
RT: 7.14 min Scan# 665
Delta R.T. -0.060 min
Lab File: 10222211.D
Acq: 22 Oct 2022 19:18

Tgt Ion: 58 Resp: 53514

Ion	Ratio	Lower	Upper
58	100		
43	353.6	298.4	358.4

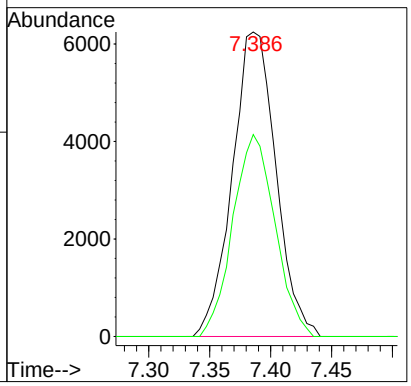


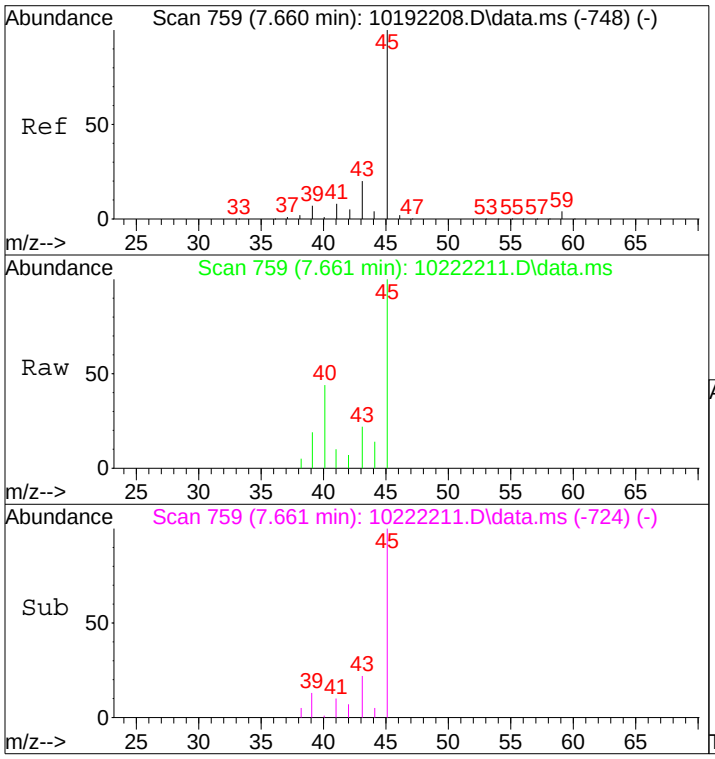


#14
Trichlorofluoromethane
Concen: 0.79 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.033 min
Lab File: 10222211.D
Acq: 22 Oct 2022 19:18

Tgt Ion:101 Resp: 15553

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.4	84.4

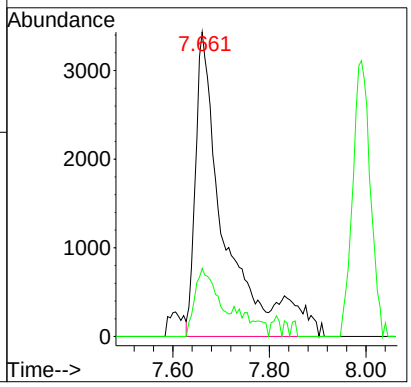


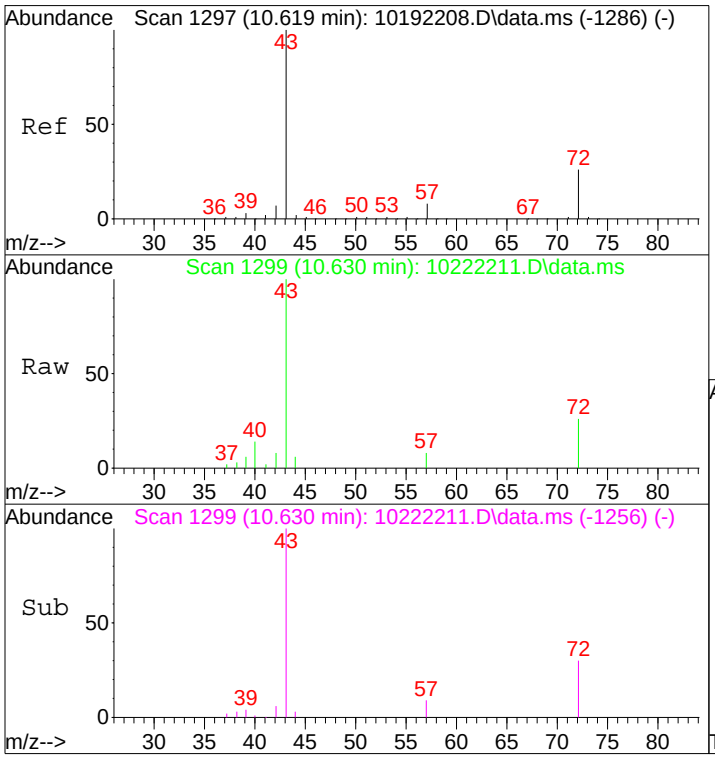


#15
2-Propanol (Isopropanol)
Concen: 0.55 ng
RT: 7.66 min Scan# 759
Delta R.T. -0.055 min
Lab File: 10222211.D
Acq: 22 Oct 2022 19:18

Tgt Ion: 45 Resp: 14533

Ion	Ratio	Lower	Upper
45	100		
43	24.1	0.3	40.3

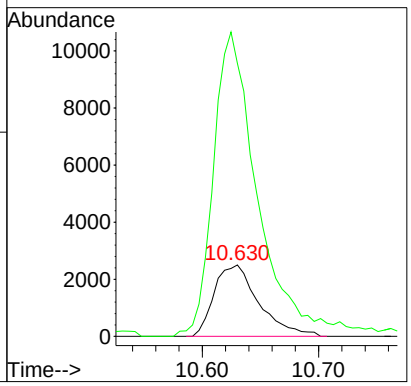


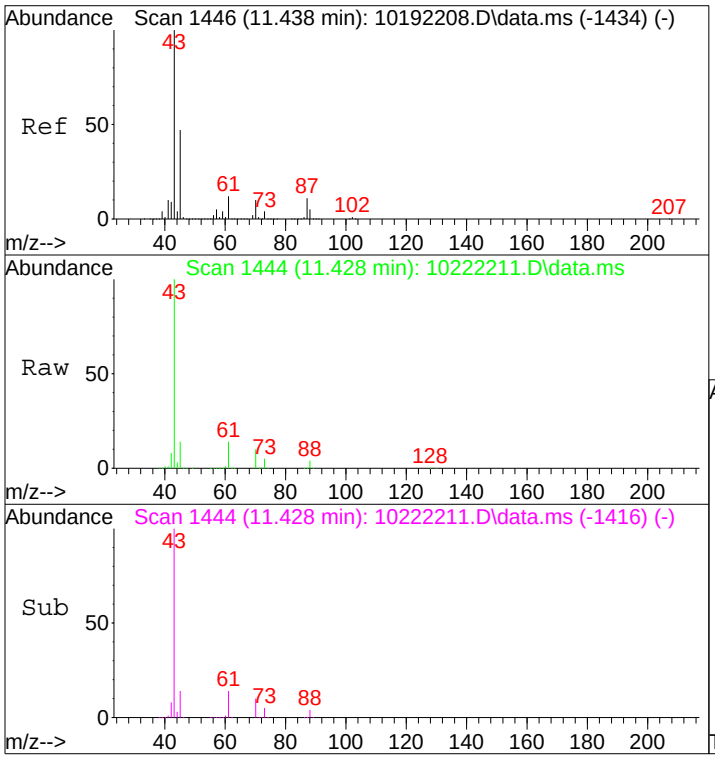


#27
2-Butanone (MEK)
Concen: 0.88 ng
RT: 10.63 min Scan# 1299
Delta R.T. -0.011 min
Lab File: 10222211.D
Acq: 22 Oct 2022 19:18

Tgt Ion: 72 Resp: 6667

Ion	Ratio	Lower	Upper
72	100		
43	432.7	365.7	405.7#

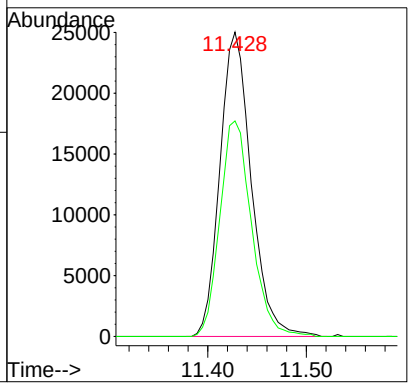


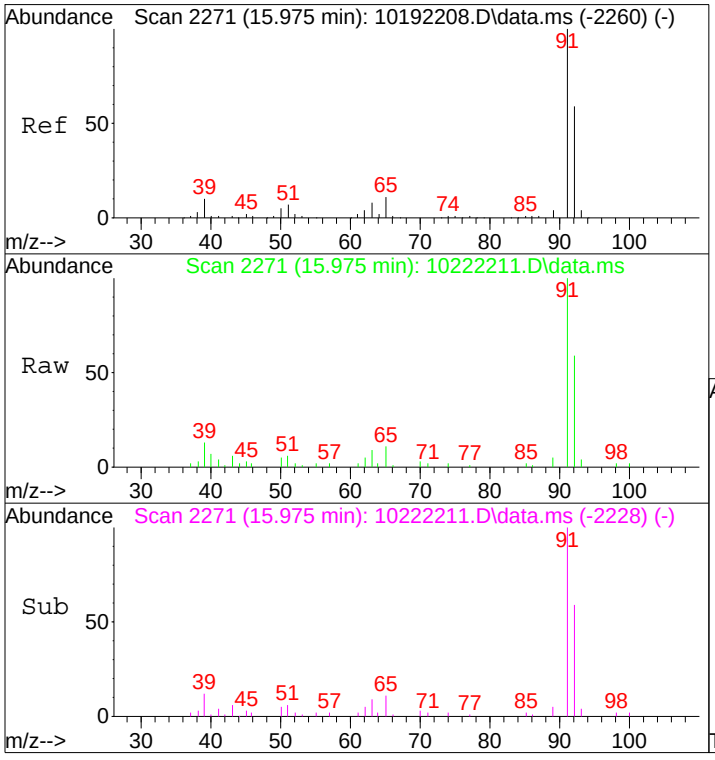


#30
Ethyl Acetate
Concen: 10.84 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.044 min
Lab File: 10222211.D
Acq: 22 Oct 2022 19:18

Tgt Ion: 61 Resp: 55374

Ion	Ratio	Lower	Upper
61	100		
70	71.5	60.3	100.3

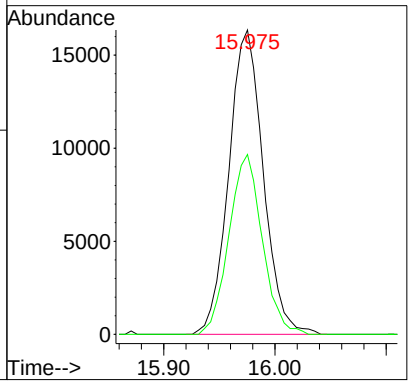




#58
Toluene
Concen: 0.71 ng
RT: 15.98 min Scan# 2271
Delta R.T. -0.011 min
Lab File: 10222211.D
Acq: 22 Oct 2022 19:18

Tgt Ion: 91 Resp: 35204

Ion	Ratio	Lower	Upper
91	100		
92	57.0	38.8	78.8



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222212.D Vial: 12
Acq On : 22 Oct 2022 20:05 Operator: WA
Sample : P2204597-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:07:09 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 10/23/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	125751	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	562456	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	114792	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	202263	12.027	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
57) Toluene-d8 (SS2)	15.87	98	642256	12.695	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
73) Bromofluorobenzene (SS3)	19.11	174	204308	12.815	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	4.35	85	34705	1.599	ng		100
4) Chloromethane	4.64	50	3037	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	874	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.79	94	316	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.46	45	41207	4.809	ng		93
11) Acetonitrile	6.74	41	2887	N.D.			
12) Acrolein	6.95	56	1252	N.D.			
13) Acetone	7.15	58	57305	6.745	ng		87
14) Trichlorofluoromethane	7.39	101	15303	0.800	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	14731	0.575	ng		95
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.60	59	306	N.D.			
19) Methylene Chloride	8.58	84	2214	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.00	151	2939	N.D.			
22) Carbon Disulfide	8.84	76	3917	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.25	73	232	N.D.			
26) Vinyl Acetate	10.35	86	1123	N.D.			
27) 2-Butanone (MEK)	10.62	72	4422	0.602	ng	#	84
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.43	87	398	N.D.			
30) Ethyl Acetate	11.43	61	20689	4.165	ng		91
31) n-Hexane	11.41	57	2490	N.D.			
32) Chloroform	11.46	83	1447	N.D.			
34) Tetrahydrofuran (THF)	11.94	72	280	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	197	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	9997	N.D.			
42) Carbon Tetrachloride	13.18	117	4018	N.D.			
43) Cyclohexane	13.32	84	882	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.13	130	356	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	8842	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222212.D Vial: 12
Acq On : 22 Oct 2022 20:05 Operator: WA
Sample : P2204597-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:07:09 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

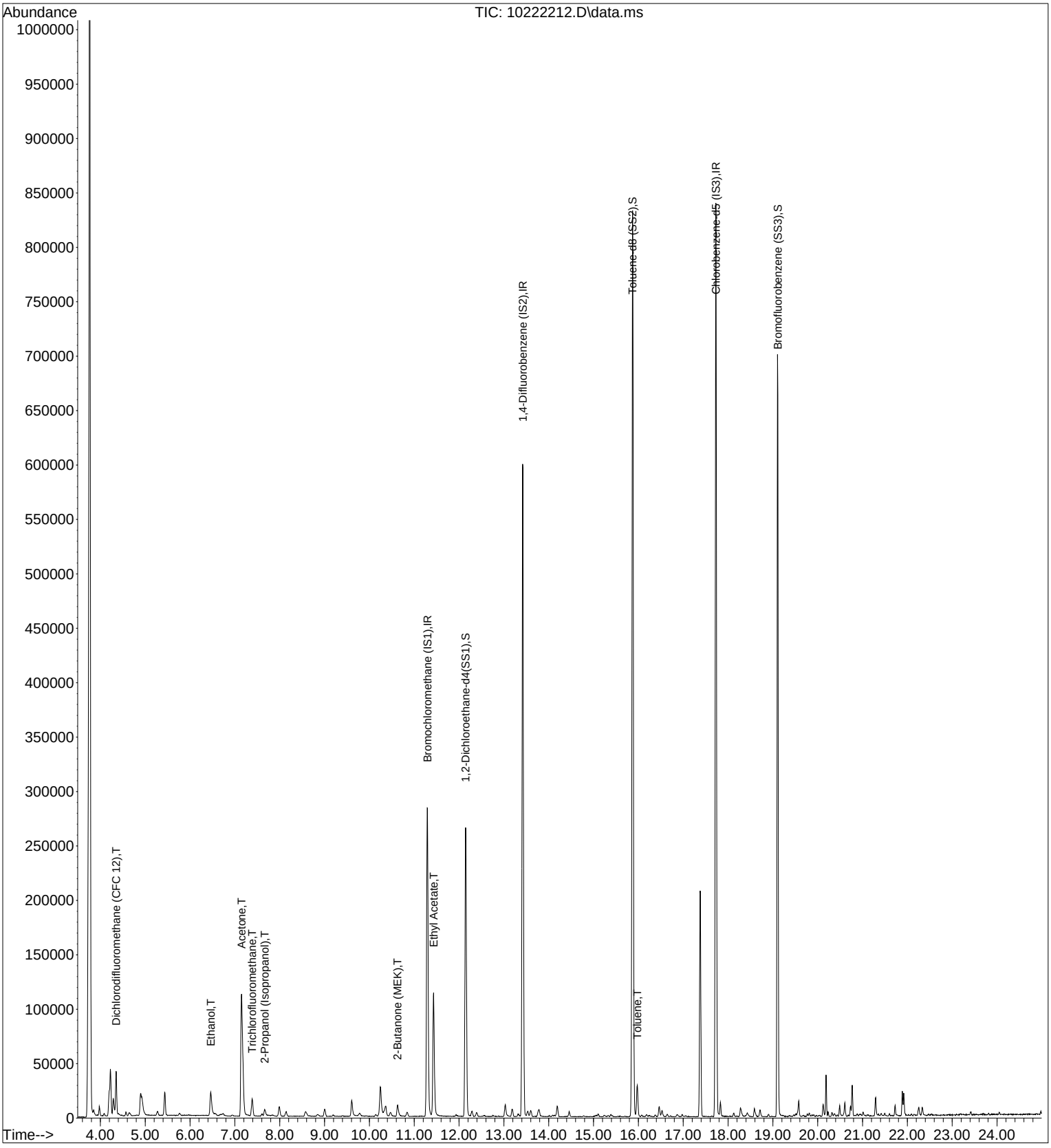
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	1118	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	22432	0.479 ng	97
59) 2-Hexanone	16.25	43	2059	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.87	43	2355	N.D.	
63) n-Octane	16.98	57	320	N.D.	
64) Tetrachloroethene	17.11	166	134	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.13	91	3388	N.D.	
67) m- & p-Xylenes	18.28	91	7278	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.63	104	904	N.D.	
70) o-Xylene	18.71	91	3100	N.D.	
71) n-Nonane	18.90	43	1137	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.23	105	288	N.D.	
75) alpha-Pinene	19.58	93	4849	N.D.	
76) n-Propylbenzene	19.68	91	1070	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.81	105	1191	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	846	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	2357	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.35	91	260	N.D.	
85) 1,3-Dichlorobenzene	20.43	146	472	N.D.	
86) 1,4-Dichlorobenzene	20.43	146	472	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	7086	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	2029	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.24	180	858	N.D.	
95) Naphthalene	22.35	128	2166	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.20	55	122	No Calib	#
99) tert-Butylbenzene	20.23	119	383	N.D.	
100) n-Butylbenzene	20.97	91	611	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222212.D Vial: 12
Acq On : 22 Oct 2022 20:05 Operator: WA
Sample : P2204597-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:07:09 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222212.D Vial: 12
Acq On : 22 Oct 2022 20:05 Operator: WA
Sample : P2204597-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:07:09 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 10/23/22
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

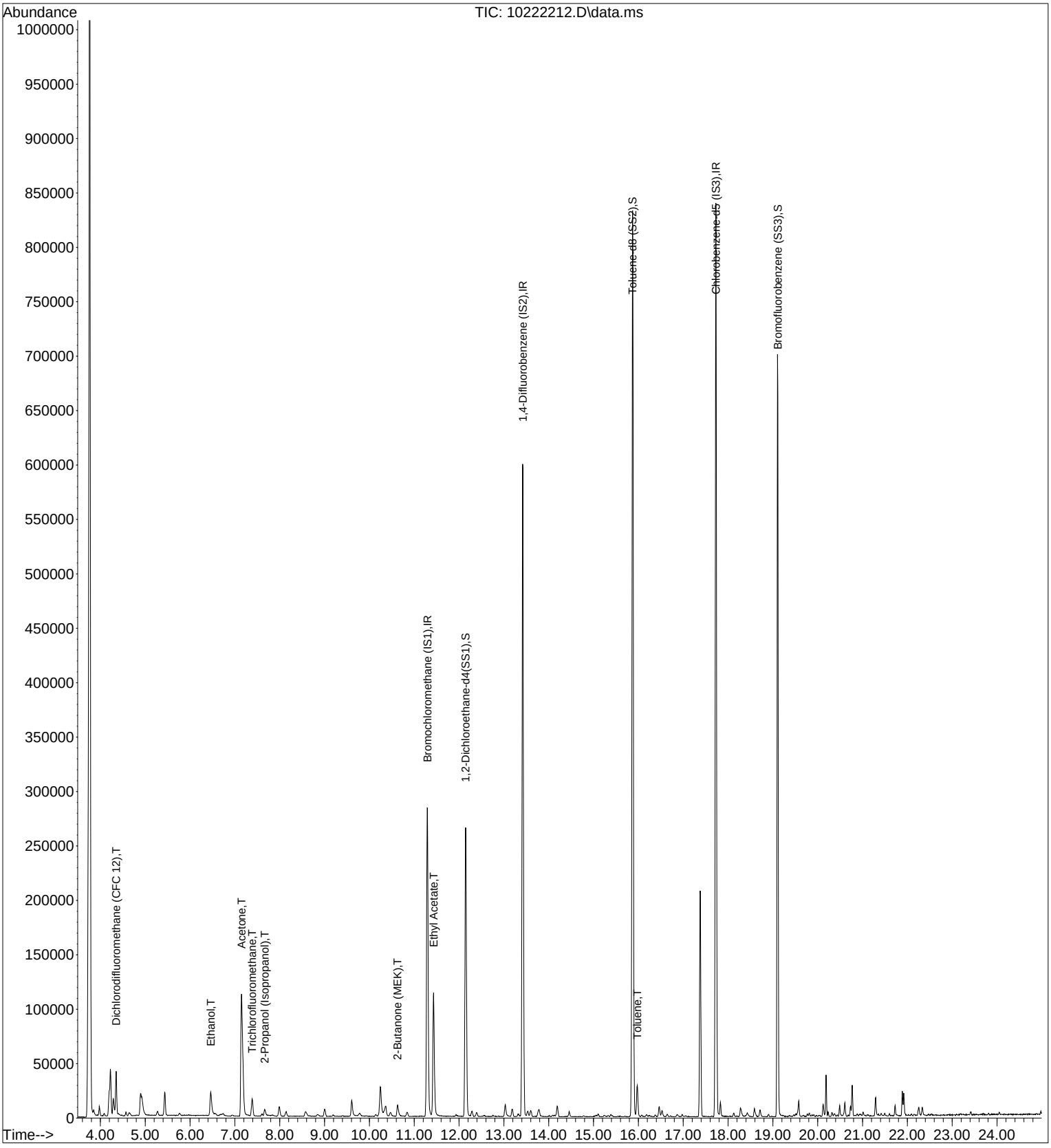
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	125751	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	562456	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	114792	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	202263	12.027	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
57) Toluene-d8 (SS2)	15.87	98	642256	12.695	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
73) Bromofluorobenzene (SS3)	19.11	174	204308	12.815	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.35	85	34705	1.599	ng		100
10) Ethanol	6.46	45	41207	4.809	ng		93
13) Acetone	7.15	58	57305	6.745	ng		87
14) Trichlorofluoromethane	7.39	101	15303	0.800	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	14731	0.575	ng		95
27) 2-Butanone (MEK)	10.62	72	4422	0.602	ng	#	84
30) Ethyl Acetate	11.43	61	20689	4.165	ng		91
58) Toluene	15.98	91	22432	0.479	ng		97

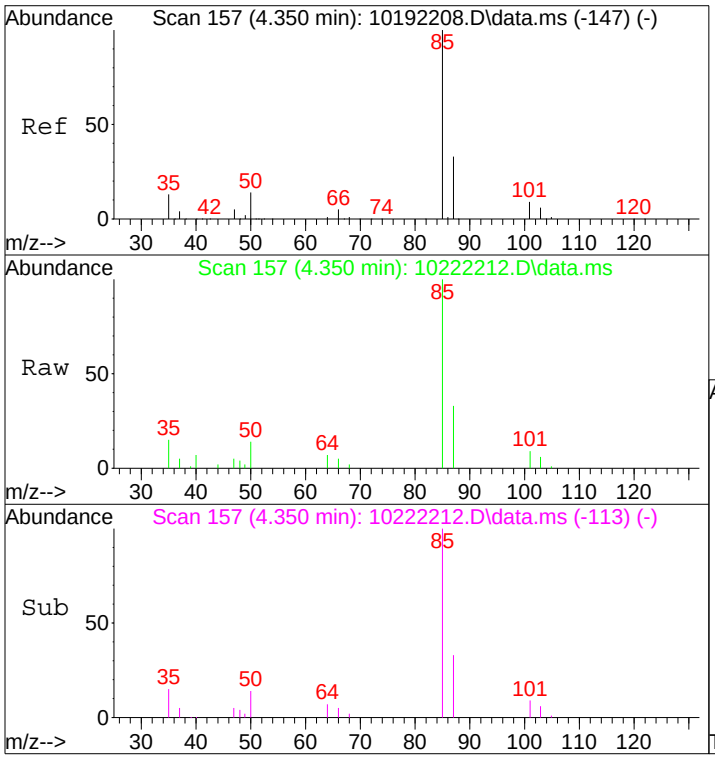
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222212.D Vial: 12
Acq On : 22 Oct 2022 20:05 Operator: WA
Sample : P2204597-002 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:07:09 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

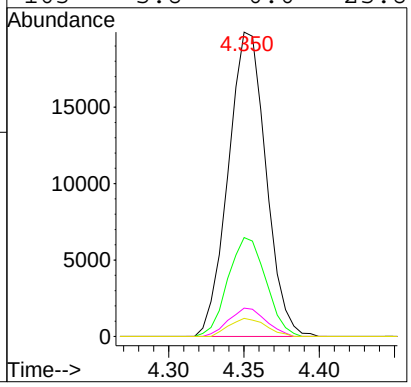


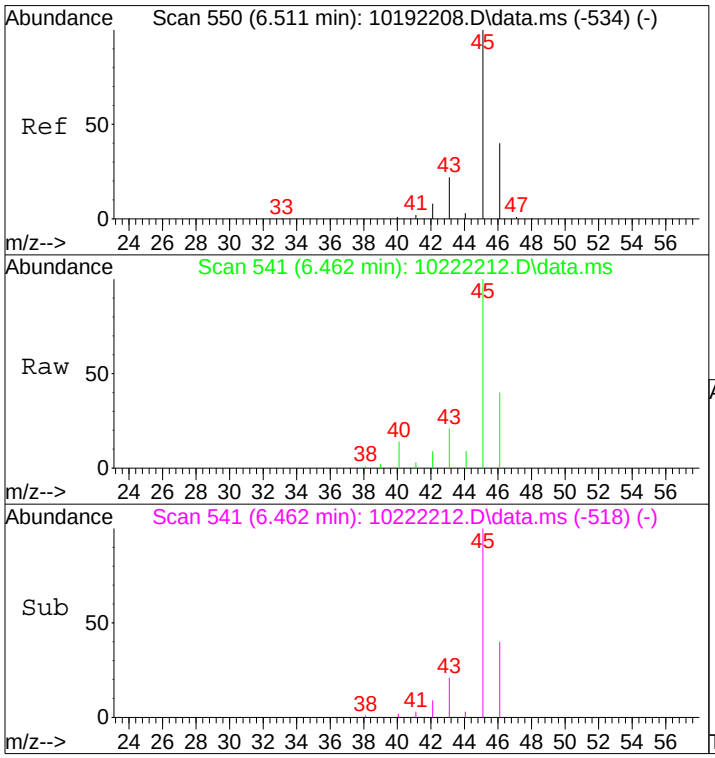


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.60 ng
RT: 4.35 min Scan# 157
Delta R.T. -0.005 min
Lab File: 10222212.D
Acq: 22 Oct 2022 20:05

Tgt Ion: 85 Resp: 34705

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.7	52.7
101	9.2	0.0	29.1
103	5.8	0.0	25.8

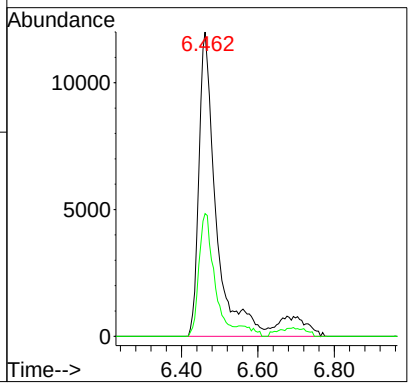


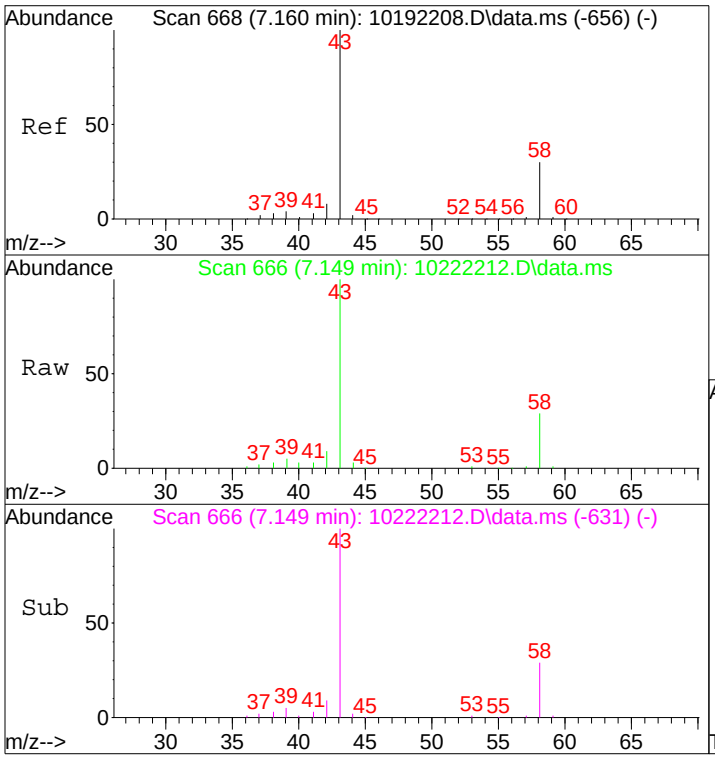


#10
Ethanol
Concen: 4.81 ng
RT: 6.46 min Scan# 541
Delta R.T. -0.121 min
Lab File: 10222212.D
Acq: 22 Oct 2022 20:05

Tgt Ion: 45 Resp: 41207

Ion	Ratio	Lower	Upper
45	100		
46	36.0	20.0	60.0

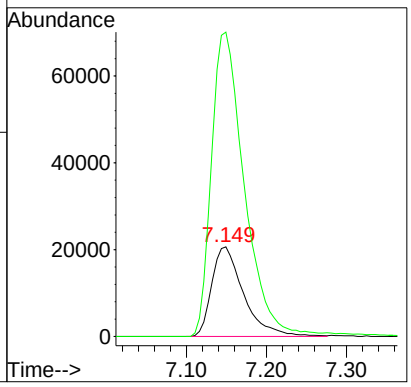


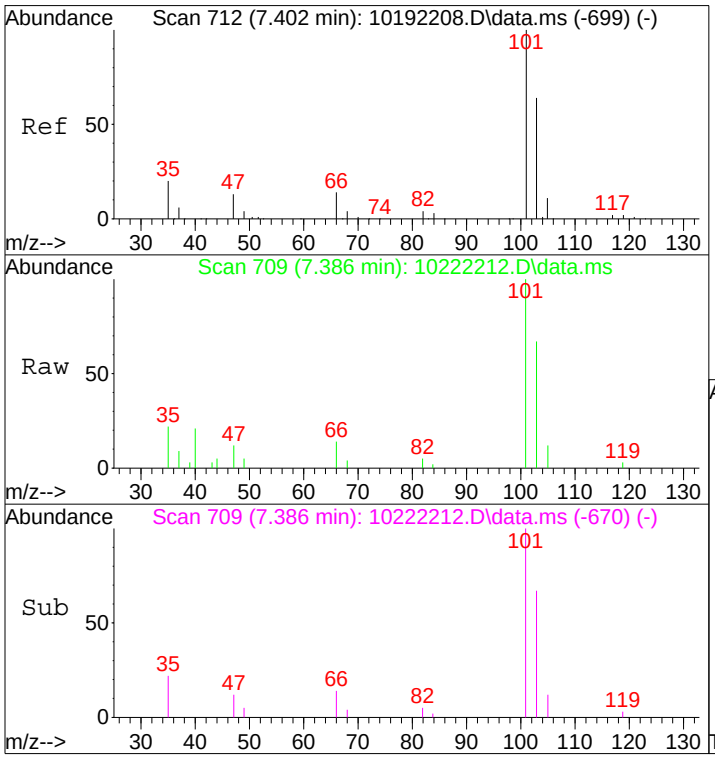


#13
Acetone
Concen: 6.75 ng
RT: 7.15 min Scan# 666
Delta R.T. -0.055 min
Lab File: 10222212.D
Acq: 22 Oct 2022 20:05

Tgt Ion: 58 Resp: 57305

Ion	Ratio	Lower	Upper
58	100		
43	354.7	298.4	358.4

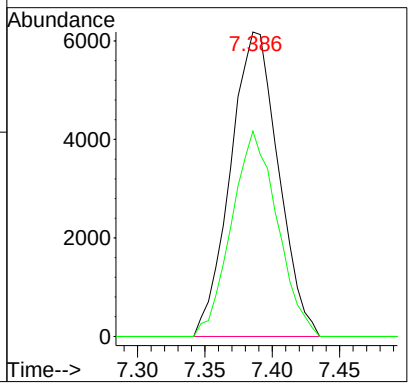


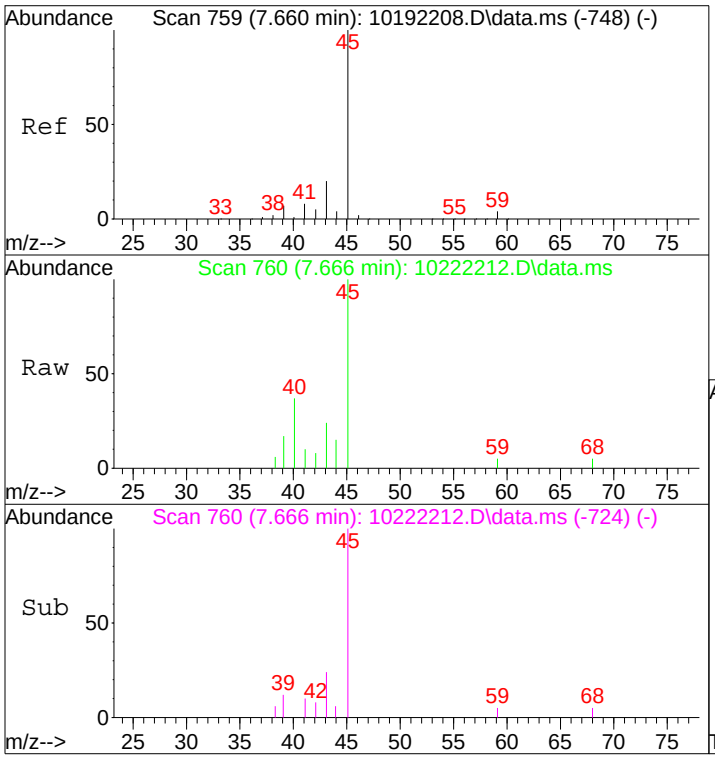


#14
Trichlorofluoromethane
Concen: 0.80 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.033 min
Lab File: 10222212.D
Acq: 22 Oct 2022 20:05

Tgt Ion:101 Resp: 15303

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.4	84.4

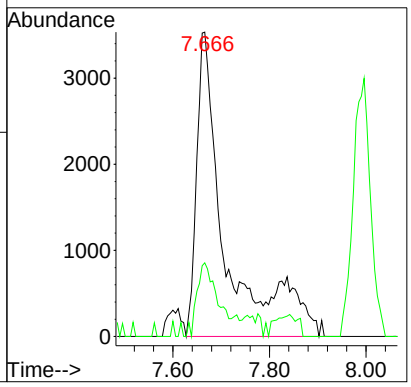


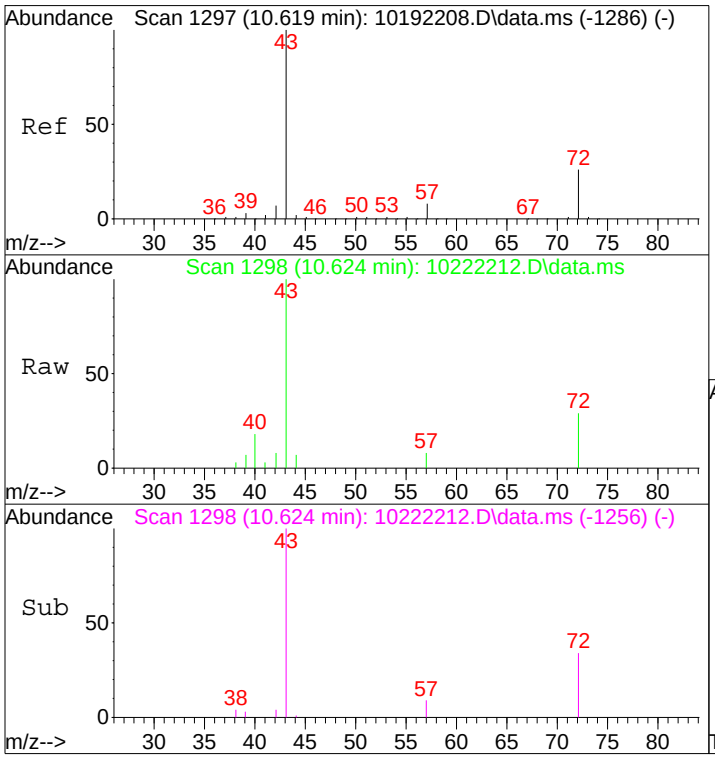


#15
2-Propanol (Isopropanol)
Concen: 0.58 ng
RT: 7.67 min Scan# 760
Delta R.T. -0.049 min
Lab File: 10222212.D
Acq: 22 Oct 2022 20:05

Tgt Ion: 45 Resp: 14731

Ion	Ratio	Lower	Upper
45	100		
43	22.6	0.3	40.3

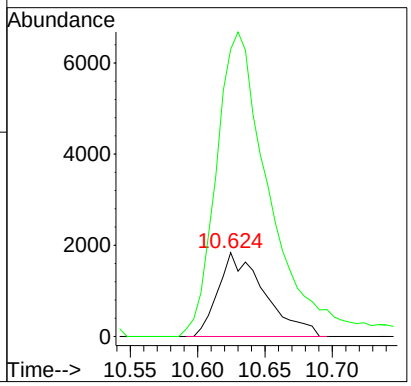


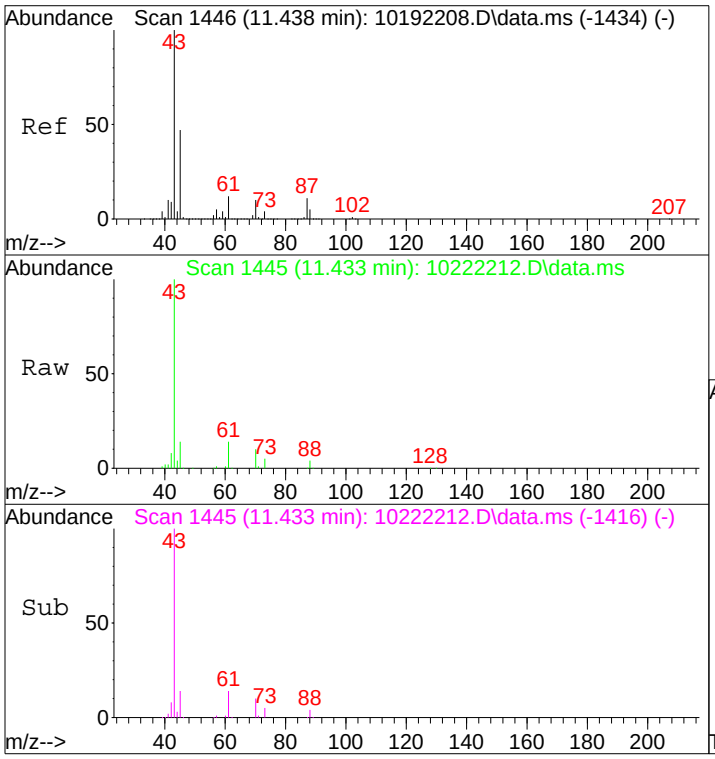


#27
2-Butanone (MEK)
Concen: 0.60 ng
RT: 10.62 min Scan# 1298
Delta R.T. -0.016 min
Lab File: 10222212.D
Acq: 22 Oct 2022 20:05

Tgt Ion: 72 Resp: 4422

Ion	Ratio	Lower	Upper
72	100		
43	422.8	365.7	405.7#

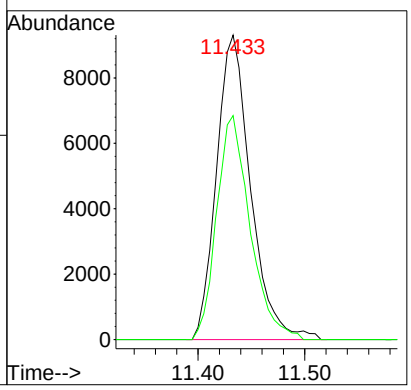


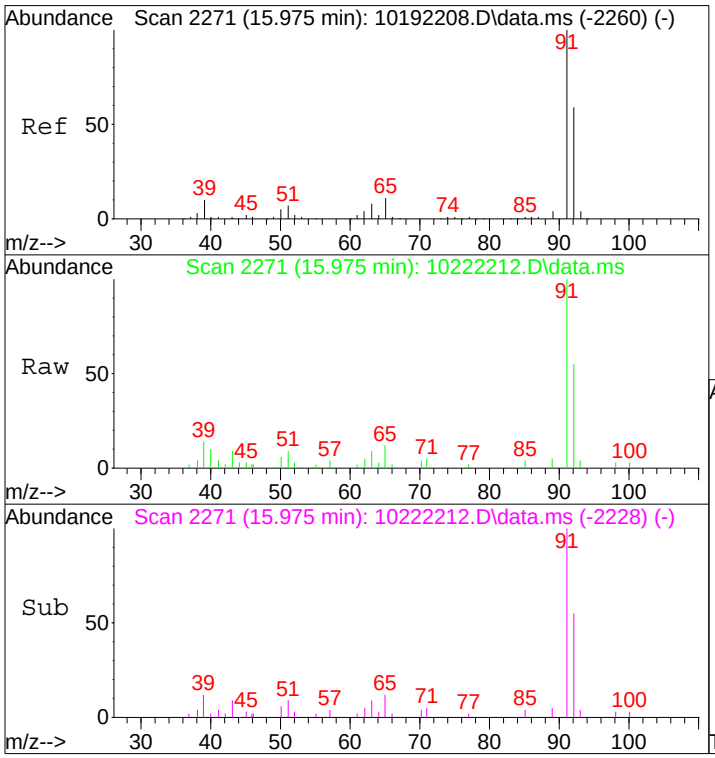


#30
Ethyl Acetate
Concen: 4.17 ng
RT: 11.43 min Scan# 1445
Delta R.T. -0.038 min
Lab File: 10222212.D
Acq: 22 Oct 2022 20:05

Tgt Ion: 61 Resp: 20689

Ion	Ratio	Lower	Upper
61	100		
70	72.0	60.3	100.3

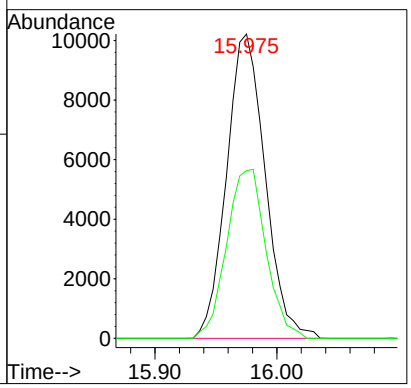




#58
Toluene
Concen: 0.48 ng
RT: 15.98 min Scan# 2271
Delta R.T. -0.011 min
Lab File: 10222212.D
Acq: 22 Oct 2022 20:05

Tgt Ion: 91 Resp: 22432

Ion	Ratio	Lower	Upper
91	100		
92	56.8	38.8	78.8



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222213.D Vial: 13
Acq On : 22 Oct 2022 20:40 Operator: WA
Sample : P2204597-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:08:16 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

10/23/22

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	126213	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	564895	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	116036	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	12.15	65	204133	12.094 ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%		
57) Toluene-d8 (SS2)	15.87	98	643057	12.575 ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%		
73) Bromofluorobenzene (SS3)	19.10	174	206465	12.811 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%		
Target Compounds					Qvalue
2) Propene	4.19	42	6181	N.D.	
3) Dichlorodifluoromethan...	4.36	85	37394	1.717 ng	100
4) Chloromethane	4.64	50	2710	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	935	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	5.79	94	130	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.47	45	138919	16.153 ng	100
11) Acetonitrile	6.74	41	3539	N.D.	
12) Acrolein	6.93	56	3255	0.452 ng	97
13) Acetone	7.14	58	65082	7.633 ng	94
14) Trichlorofluoromethane	7.39	101	16343	0.851 ng	98
15) 2-Propanol (Isopropanol)	7.67	45	15677	0.610 ng	94
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	8.60	59	621	N.D.	
19) Methylene Chloride	8.58	84	2590	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	9.00	151	3193	N.D.	
22) Carbon Disulfide	8.85	76	1506	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	10.62	72	8485	1.150 ng	94
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	11.43	61	473140	94.902 ng	92
31) n-Hexane	11.41	57	3506	N.D.	
32) Chloroform	11.47	83	1879	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	12.27	62	260	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	0.00	56	0	N.D.	
41) Benzene	13.03	78	30060	0.718 ng	99
42) Carbon Tetrachloride	13.19	117	4314	N.D.	
43) Cyclohexane	13.32	84	1187	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D.	
47) Trichloroethene	0.00	130	0	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	14.19	57	7576	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222213.D Vial: 13
Acq On : 22 Oct 2022 20:40 Operator: WA
Sample : P2204597-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:08:16 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

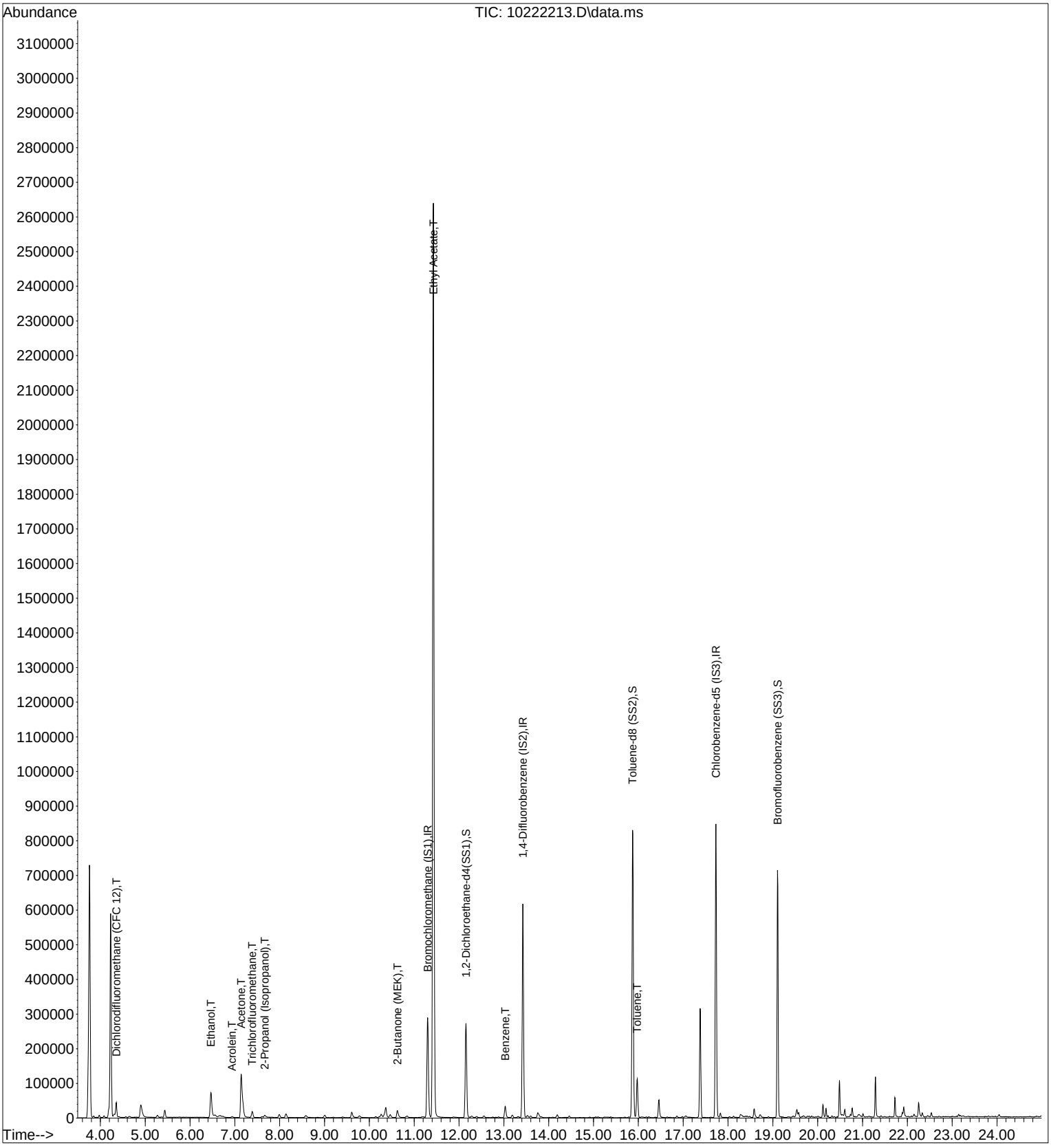
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	1234	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.04	58	296	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	93678	1.980 ng	99
59) 2-Hexanone	16.24	43	3630	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.86	43	4888	N.D.	
63) n-Octane	16.98	57	546	N.D.	
64) Tetrachloroethene	17.12	166	238	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.13	91	3739	N.D.	
67) m- & p-Xylenes	18.28	91	7690	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.61	104	1822	N.D.	
70) o-Xylene	18.71	91	3014	N.D.	
71) n-Nonane	18.91	43	963	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.23	105	384	N.D.	
75) alpha-Pinene	19.58	93	4278	N.D.	
76) n-Propylbenzene	19.68	91	1199	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.81	105	1026	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	866	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	2782	N.D.	
83) n-Decane	20.12	58	441	No Calib	#
84) Benzyl Chloride	20.35	91	304	N.D.	
85) 1,3-Dichlorobenzene	20.42	146	640	N.D.	
86) 1,4-Dichlorobenzene	20.42	146	640	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	10542	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	1561	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.24	180	457	N.D.	
95) Naphthalene	22.34	128	2963	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.16	55	307	No Calib	#
99) tert-Butylbenzene	20.23	119	395	N.D.	
100) n-Butylbenzene	20.97	91	1139	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222213.D Vial: 13
Acq On : 22 Oct 2022 20:40 Operator: WA
Sample : P2204597-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:08:16 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222213.D Vial: 13
Acq On : 22 Oct 2022 20:40 Operator: WA
Sample : P2204597-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:08:16 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 10/23/22

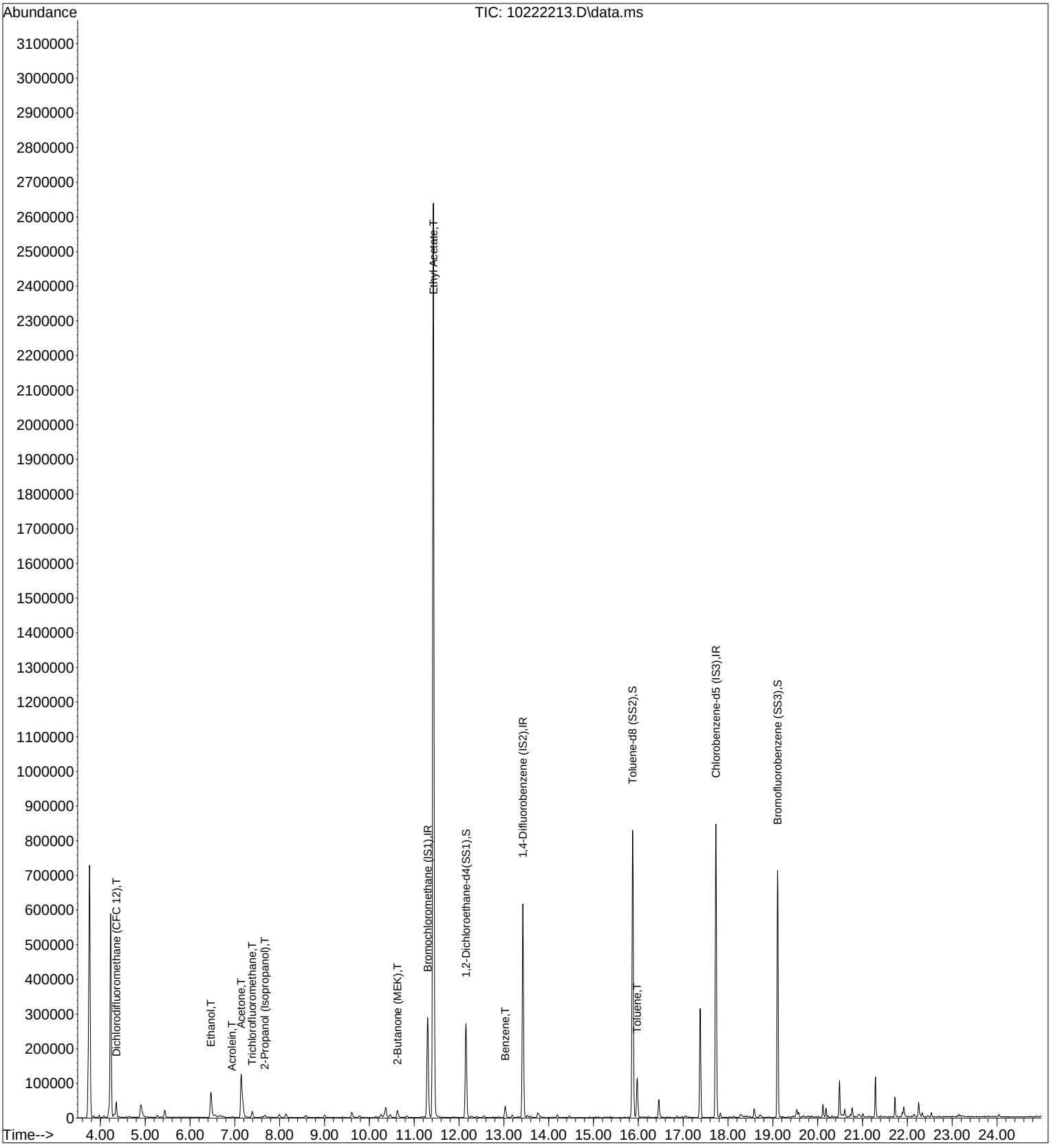
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	126213	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	564895	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	116036	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	204133	12.094	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%			
57) Toluene-d8 (SS2)	15.87	98	643057	12.575	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%			
73) Bromofluorobenzene (SS3)	19.10	174	206465	12.811	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	4.36	85	37394	1.717	ng	100
10) Ethanol	6.47	45	138919	16.153	ng	100
12) Acrolein	6.93	56	3255	0.452	ng	97
13) Acetone	7.14	58	65082	7.633	ng	94
14) Trichlorofluoromethane	7.39	101	16343	0.851	ng	98
15) 2-Propanol (Isopropanol)	7.67	45	15677	0.610	ng	94
27) 2-Butanone (MEK)	10.62	72	8485	1.150	ng	94
30) Ethyl Acetate	11.43	61	473140	94.902	ng	92
41) Benzene	13.03	78	30060	0.718	ng	99
58) Toluene	15.98	91	93678	1.980	ng	99

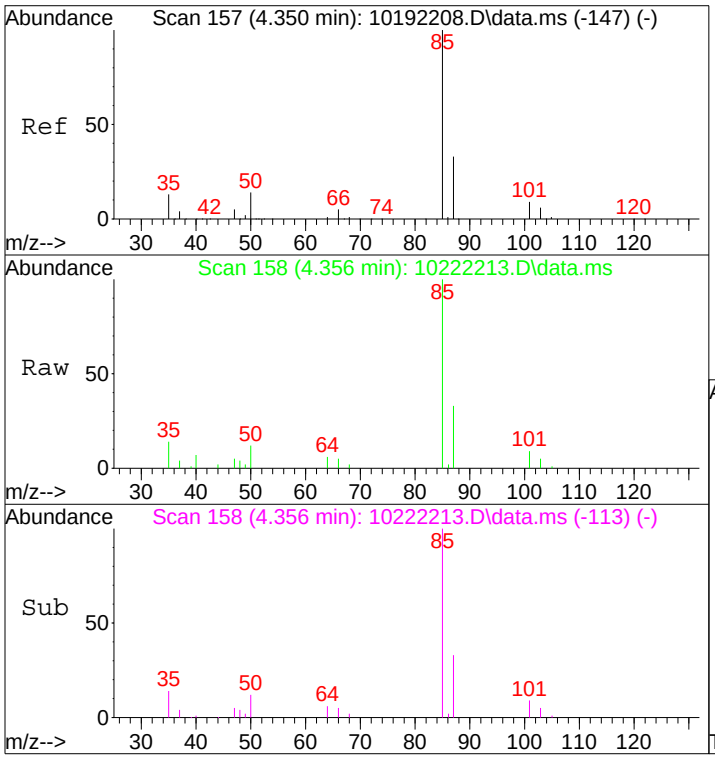
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222213.D Vial: 13
Acq On : 22 Oct 2022 20:40 Operator: WA
Sample : P2204597-003 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:08:16 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

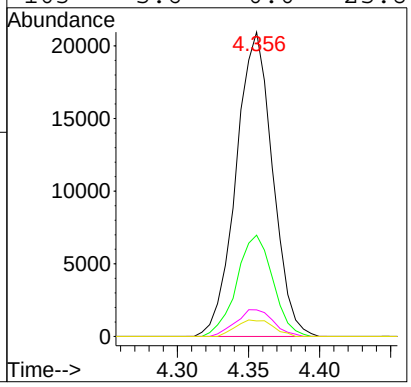


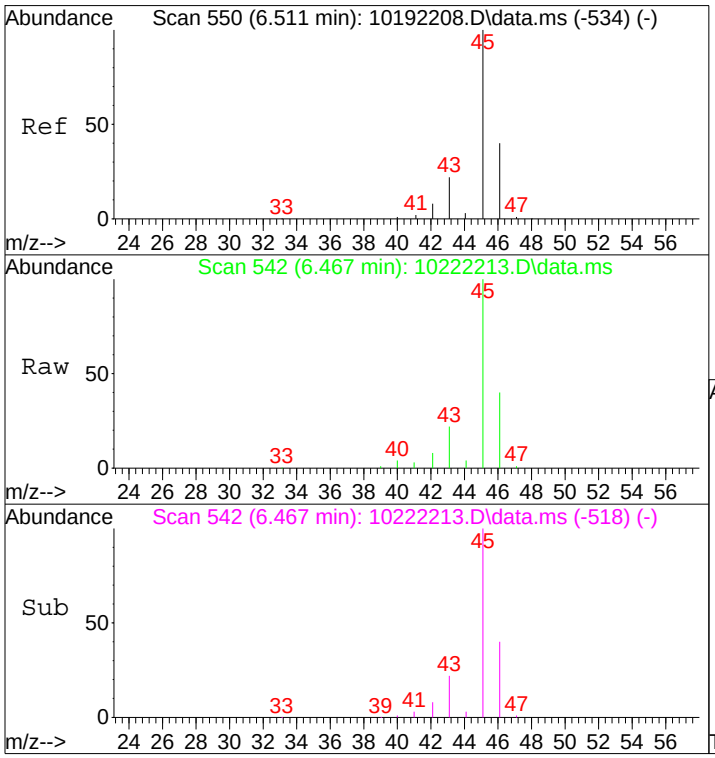


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.72 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.000 min
Lab File: 10222213.D
Acq: 22 Oct 2022 20:40

Tgt Ion: 85 Resp: 37394

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.7	52.7
101	9.0	0.0	29.1
103	5.6	0.0	25.8

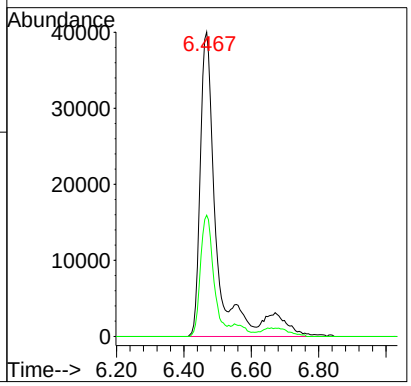


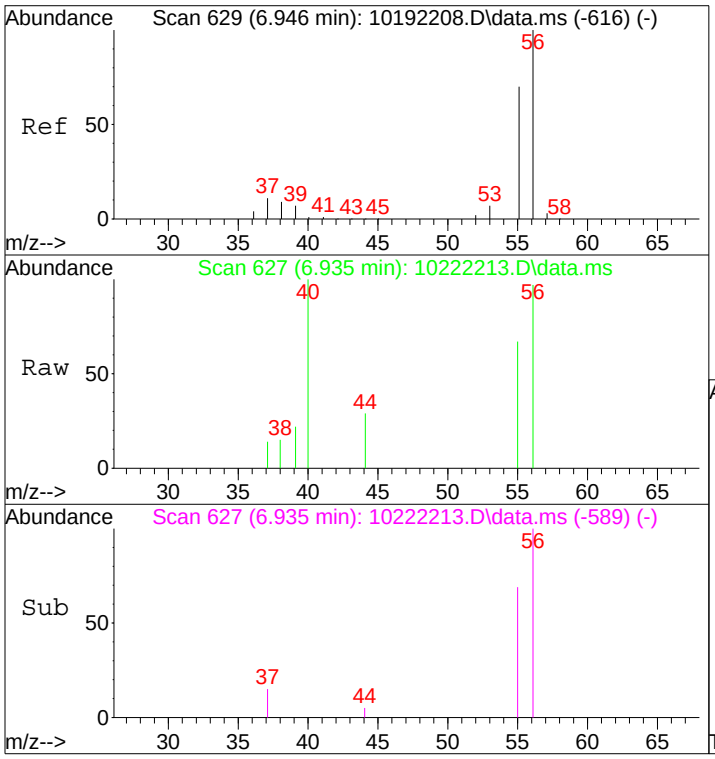


#10
Ethanol
Concen: 16.15 ng
RT: 6.47 min Scan# 542
Delta R.T. -0.116 min
Lab File: 10222213.D
Acq: 22 Oct 2022 20:40

Tgt Ion: 45 Resp: 138919

Ion	Ratio	Lower	Upper
45	100		
46	39.8	20.0	60.0

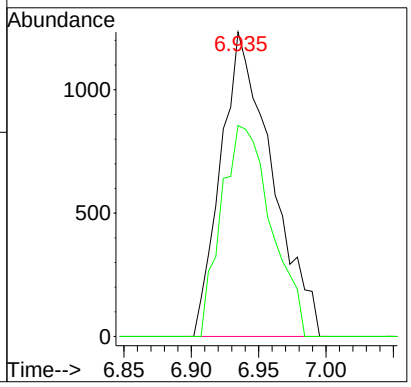


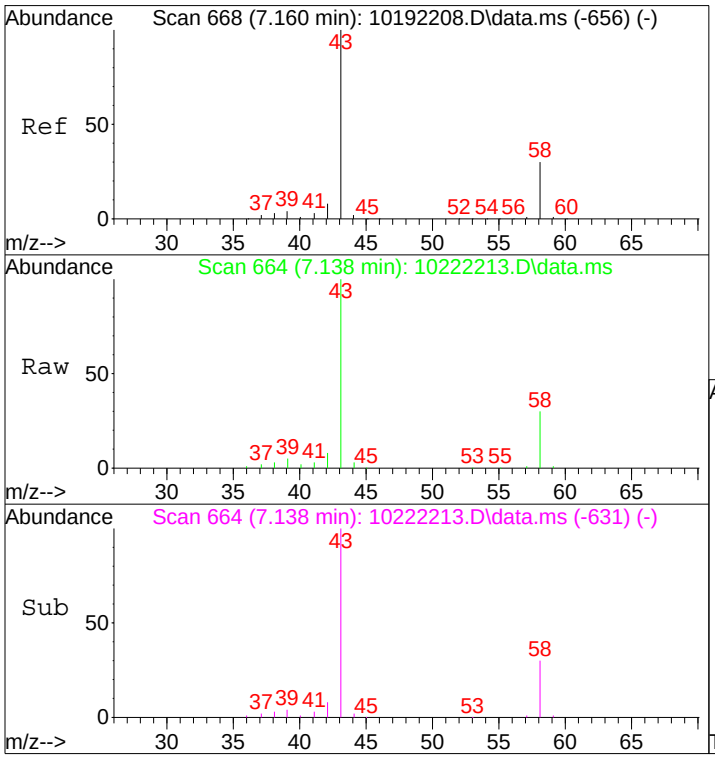


#12
Acrolein
Concen: 0.45 ng
RT: 6.93 min Scan# 627
Delta R.T. -0.038 min
Lab File: 10222213.D
Acq: 22 Oct 2022 20:40

Tgt Ion: 56 Resp: 3255

Ion	Ratio	Lower	Upper
56	100		
55	67.7	50.3	90.3

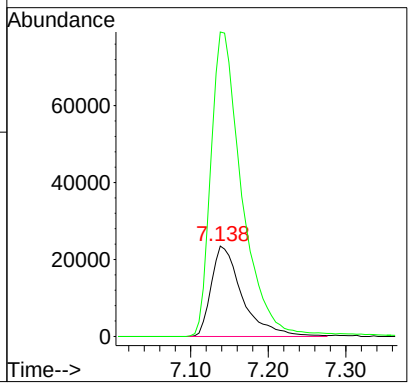


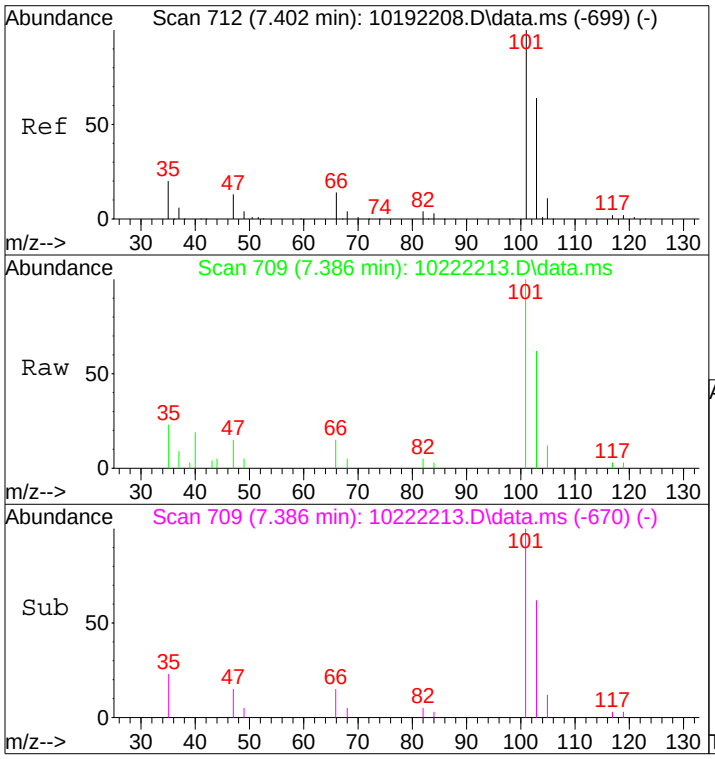


#13
Acetone
Concen: 7.63 ng
RT: 7.14 min Scan# 664
Delta R.T. -0.066 min
Lab File: 10222213.D
Acq: 22 Oct 2022 20:40

Tgt Ion: 58 Resp: 65082

Ion	Ratio	Lower	Upper
58	100		
43	341.0	298.4	358.4

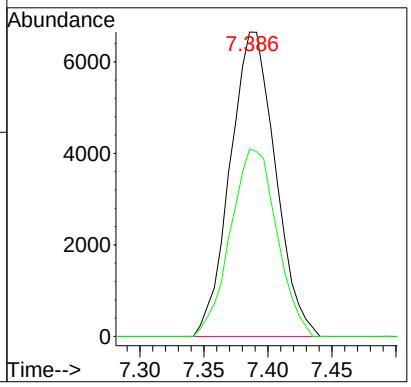


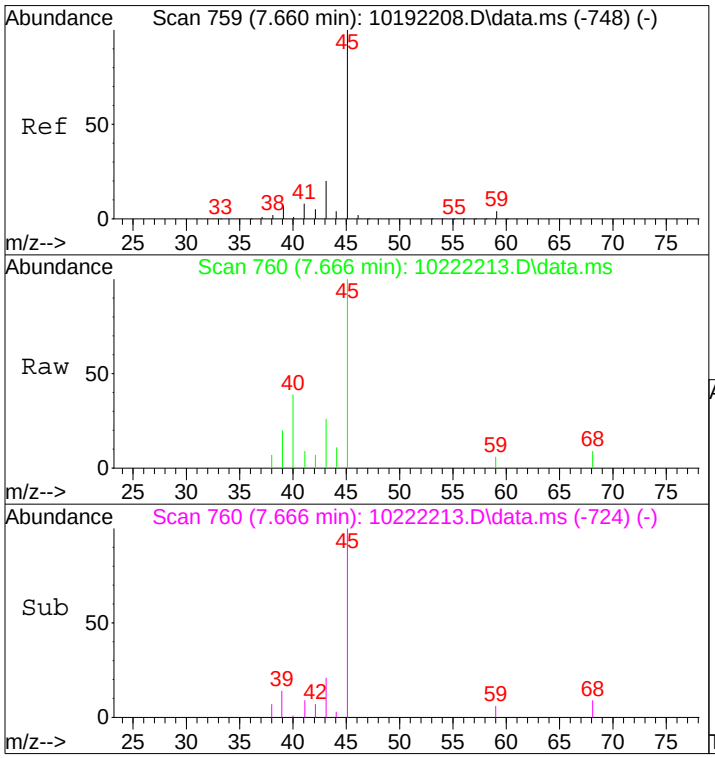


#14
Trichlorofluoromethane
Concen: 0.85 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.033 min
Lab File: 10222213.D
Acq: 22 Oct 2022 20:40

Tgt Ion:101 Resp: 16343

Ion	Ratio	Lower	Upper
101	100		
103	63.0	44.4	84.4

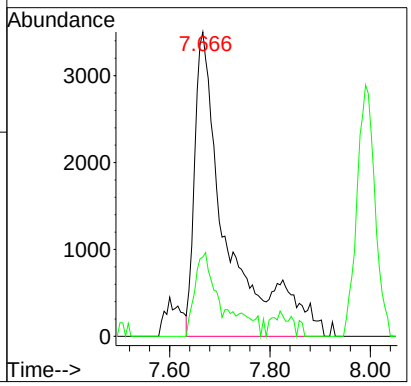


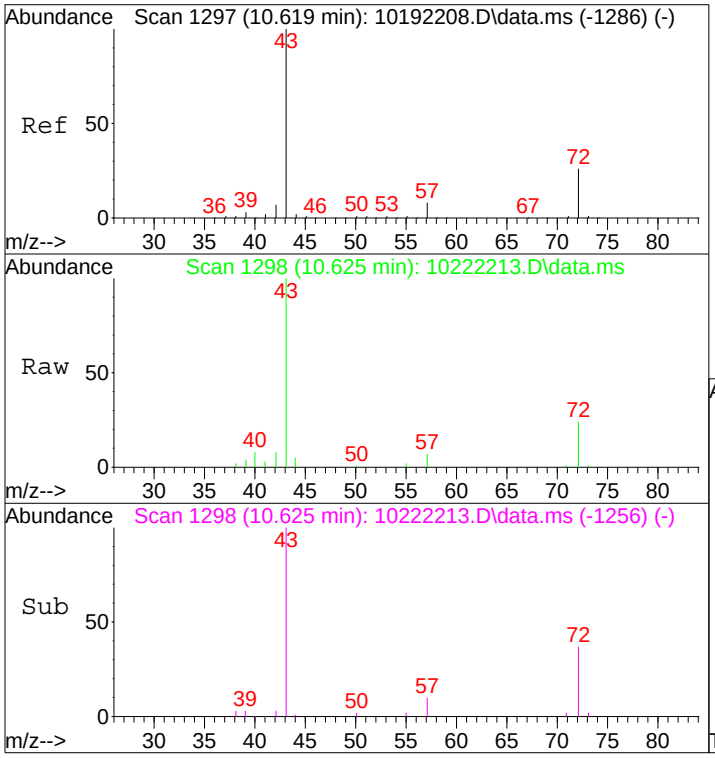


#15
2-Propanol (Isopropanol)
Concen: 0.61 ng
RT: 7.67 min Scan# 760
Delta R.T. -0.049 min
Lab File: 10222213.D
Acq: 22 Oct 2022 20:40

Tgt Ion: 45 Resp: 15677

Ion	Ratio	Lower	Upper
45	100		
43	23.0	0.3	40.3

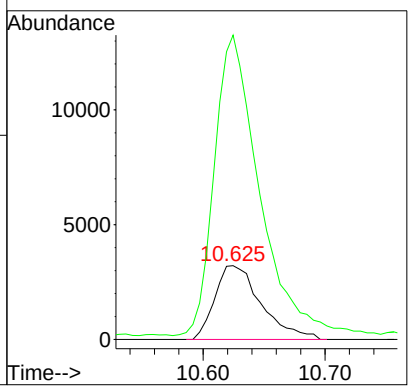


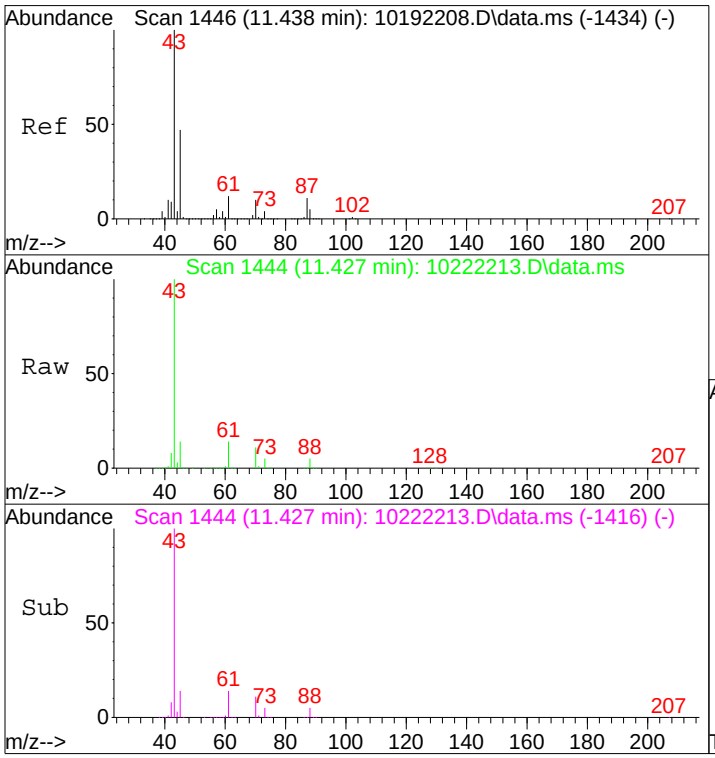


#27
2-Butanone (MEK)
Concen: 1.15 ng
RT: 10.62 min Scan# 1298
Delta R.T. -0.016 min
Lab File: 10222213.D
Acq: 22 Oct 2022 20:40

Tgt Ion: 72 Resp: 8485

Ion	Ratio	Lower	Upper
72	100		
43	399.0	365.7	405.7

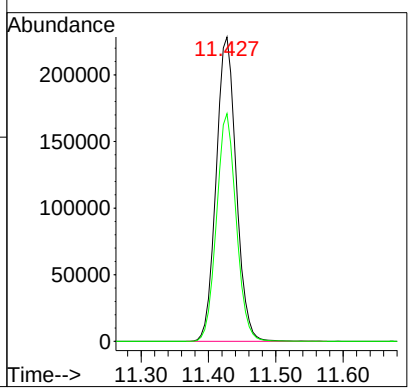


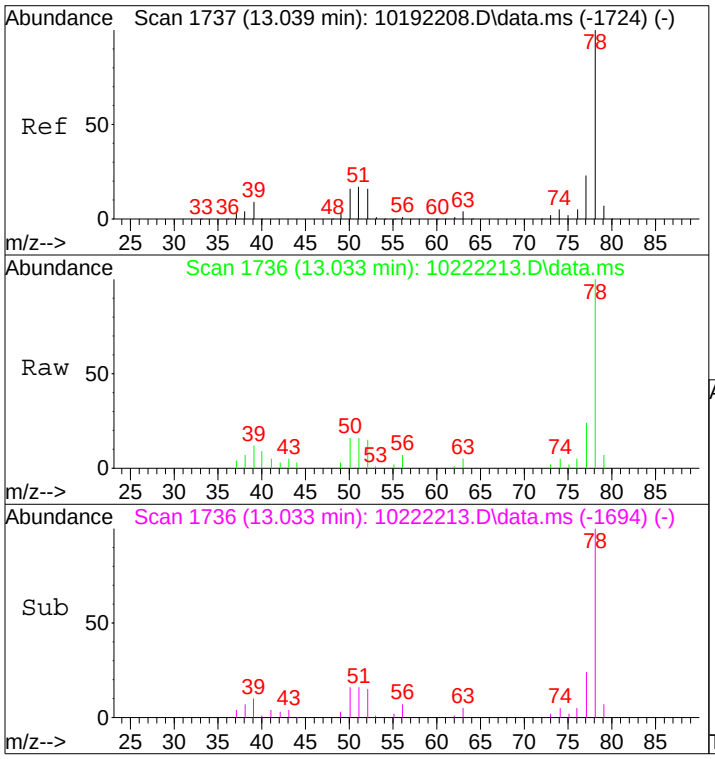


#30
Ethyl Acetate
Concen: 94.90 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.044 min
Lab File: 10222213.D
Acq: 22 Oct 2022 20:40

Tgt Ion: 61 Resp: 473140

Ion	Ratio	Lower	Upper
61	100		
70	73.4	60.3	100.3

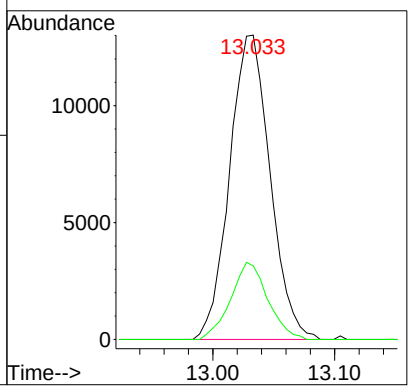


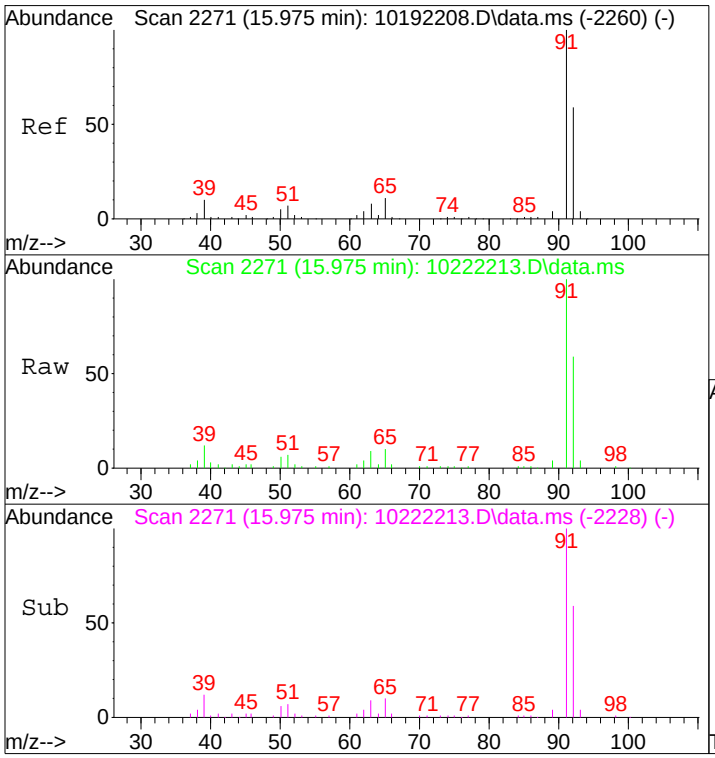


#41
Benzene
Concen: 0.72 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.016 min
Lab File: 10222213.D
Acq: 22 Oct 2022 20:40

Tgt Ion: 78 Resp: 30060

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.5	43.5

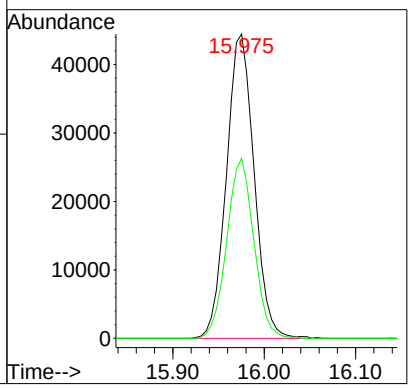




#58
Toluene
Concen: 1.98 ng
RT: 15.98 min Scan# 2271
Delta R.T. -0.011 min
Lab File: 10222213.D
Acq: 22 Oct 2022 20:40

Tgt Ion: 91 Resp: 93678

Ion	Ratio	Lower	Upper
91	100		
92	57.8	38.8	78.8



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222215.D Vial: 14
Acq On : 22 Oct 2022 21:54 Operator: WA
Sample : P2204597-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:10:57 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 10/23/22
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	127959	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	578000	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	120863	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	207147	12.105	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.87	98	660073	12.392	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	19.11	174	214143	12.757	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	4.35	85	34988	1.585	ng		99
4) Chloromethane	4.64	50	3181	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	935	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.78	94	232	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.47	45	38934	4.465	ng		99
11) Acetonitrile	6.74	41	2575	N.D.			
12) Acrolein	6.94	56	4571	0.627	ng		97
13) Acetone	7.14	58	77388	8.952	ng		95
14) Trichlorofluoromethane	7.39	101	15365	0.789	ng		99
15) 2-Propanol (Isopropanol)	7.67	45	14106	0.541	ng		82
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.61	59	844	N.D.			
19) Methylene Chloride	8.57	84	2117	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.00	151	2886	N.D.			
22) Carbon Disulfide	8.84	76	5960	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.25	73	491	N.D.			
26) Vinyl Acetate	10.33	86	6332	2.385	ng	#	41
27) 2-Butanone (MEK)	10.62	72	7720	1.032	ng	#	80
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.44	87	377	N.D.			
30) Ethyl Acetate	11.43	61	17471	3.456	ng		90
31) n-Hexane	11.41	57	2395	N.D.			
32) Chloroform	11.47	83	1316	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	391	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	9189	N.D.			
42) Carbon Tetrachloride	13.19	117	4561	N.D.			
43) Cyclohexane	13.31	84	939	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.13	130	11640	0.953	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	7973	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222215.D Vial: 14
Acq On : 22 Oct 2022 21:54 Operator: WA
Sample : P2204597-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:10:57 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

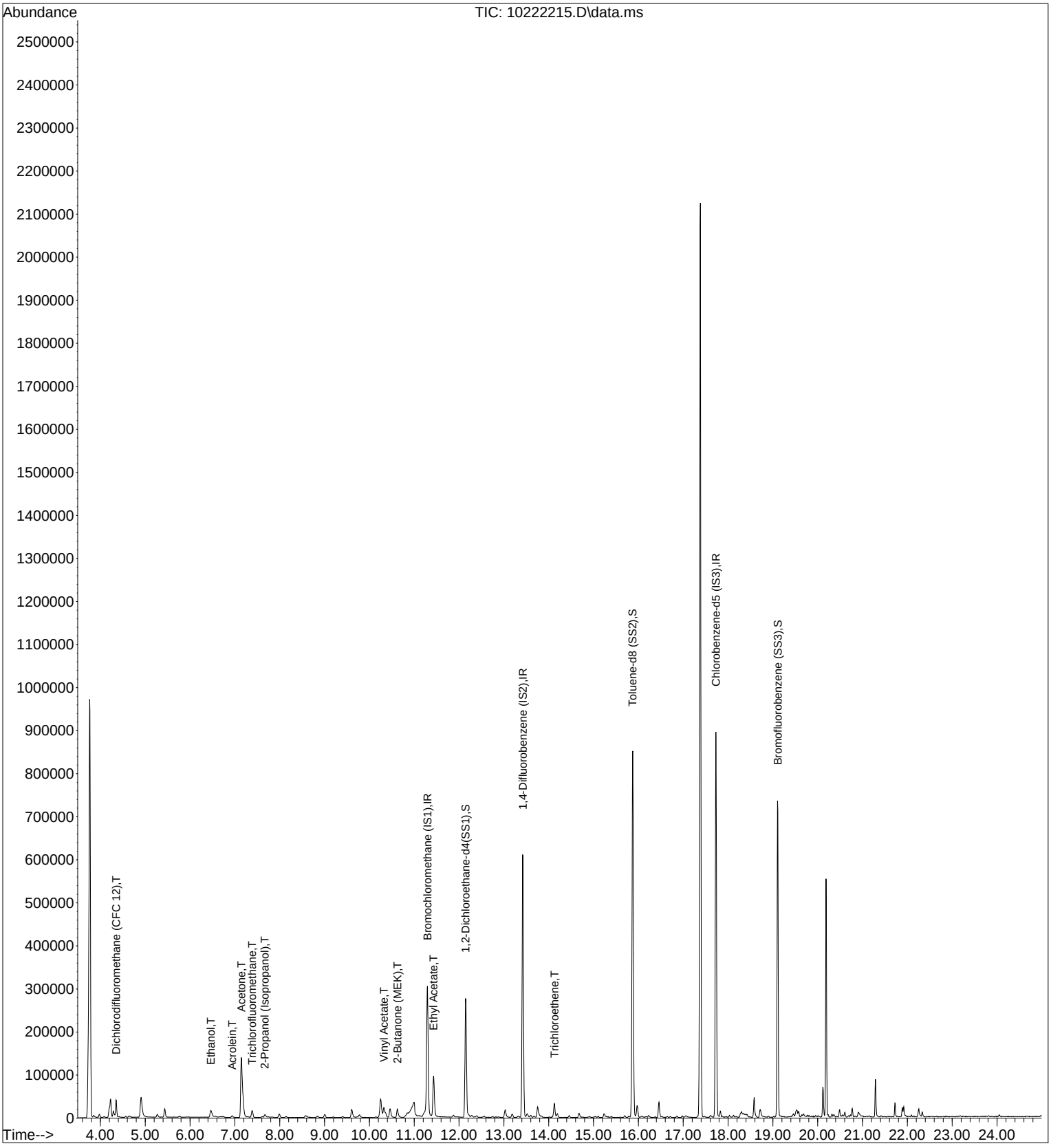
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	1022	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	15.03	58	500	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.97	91	21296	N.D.		
59) 2-Hexanone	16.23	43	3956	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.86	43	2741	N.D.		
63) n-Octane	16.98	57	638	N.D.		
64) Tetrachloroethene	17.12	166	137	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.13	91	3578	N.D.		
67) m- & p-Xylenes	18.28	91	7618	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.61	104	1969	N.D.		
70) o-Xylene	18.71	91	2904	N.D.		
71) n-Nonane	18.90	43	1341	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	19.58	93	4724	N.D.		
76) n-Propylbenzene	19.68	91	1106	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	19.81	105	988	N.D.		
79) 1,3,5-Trimethylbenzene	19.87	105	718	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	20.23	105	2517	N.D.		
83) n-Decane	20.19	58	390	No Calib	#	
84) Benzyl Chloride	20.36	91	276	N.D.		
85) 1,3-Dichlorobenzene	20.43	146	501	N.D.		
86) 1,4-Dichlorobenzene	20.43	146	501	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	20.61	119	5377	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.73	68	1024	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	362	N.D.		
95) Naphthalene	22.34	128	1840	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.17	55	1281	No Calib	#	
99) tert-Butylbenzene	20.24	119	382	N.D.		
100) n-Butylbenzene	20.96	91	663	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222215.D Vial: 14
Acq On : 22 Oct 2022 21:54 Operator: WA
Sample : P2204597-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:10:57 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222215.D Vial: 14
Acq On : 22 Oct 2022 21:54 Operator: WA
Sample : P2204597-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:10:57 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 10/23/22

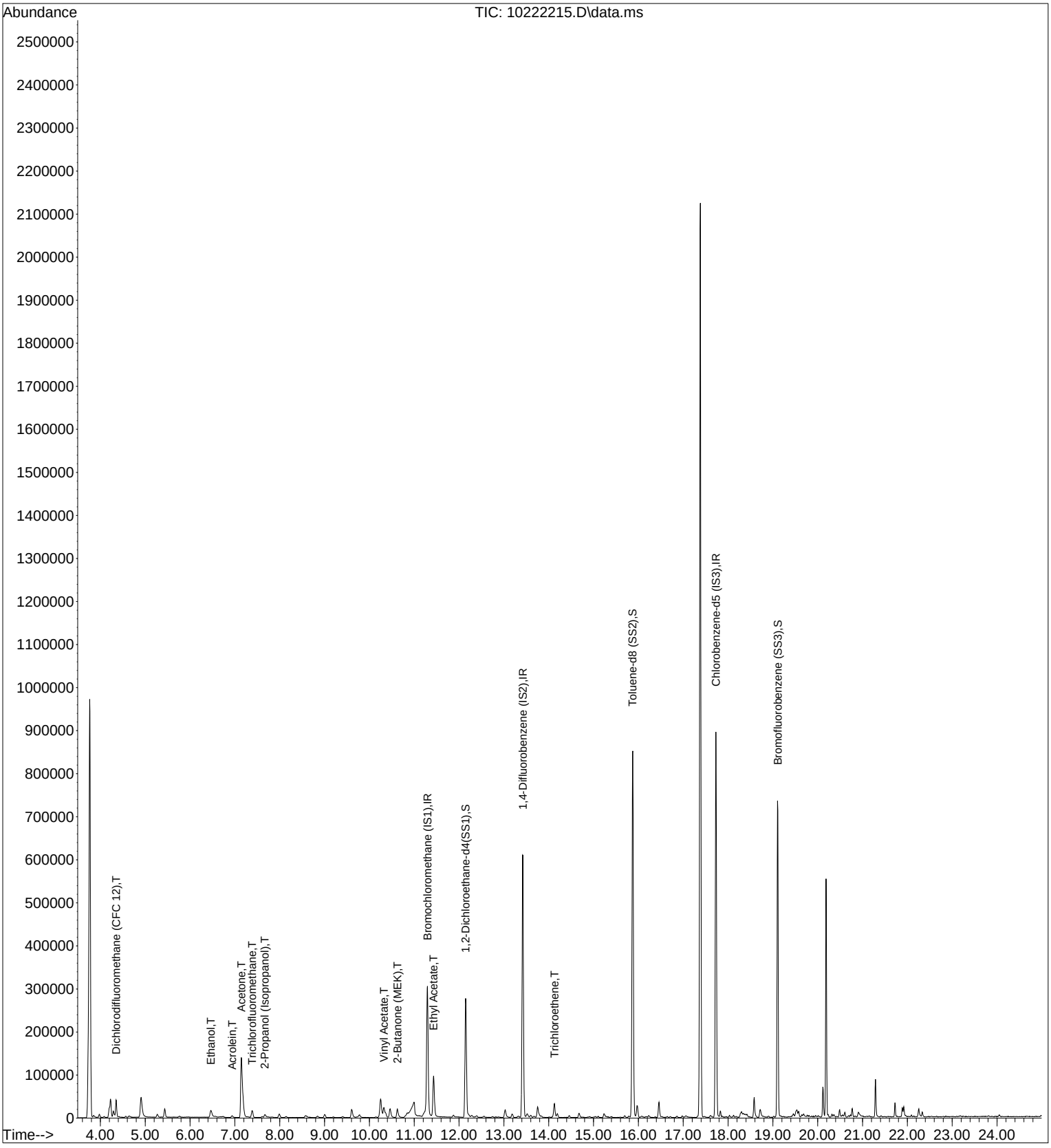
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	127959	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	578000	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	120863	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	207147	12.105	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.87	98	660073	12.392	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	19.11	174	214143	12.757	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.35	85	34988	1.585	ng		99
10) Ethanol	6.47	45	38934	4.465	ng		99
12) Acrolein	6.94	56	4571	0.627	ng		97
13) Acetone	7.14	58	77388	8.952	ng		95
14) Trichlorofluoromethane	7.39	101	15365	0.789	ng		99
15) 2-Propanol (Isopropanol)	7.67	45	14106	0.541	ng		82
26) Vinyl Acetate	10.33	86	6332	2.385	ng	#	41
27) 2-Butanone (MEK)	10.62	72	7720	1.032	ng	#	80
30) Ethyl Acetate	11.43	61	17471	3.456	ng		90
47) Trichloroethene	14.13	130	11640	0.953	ng		99

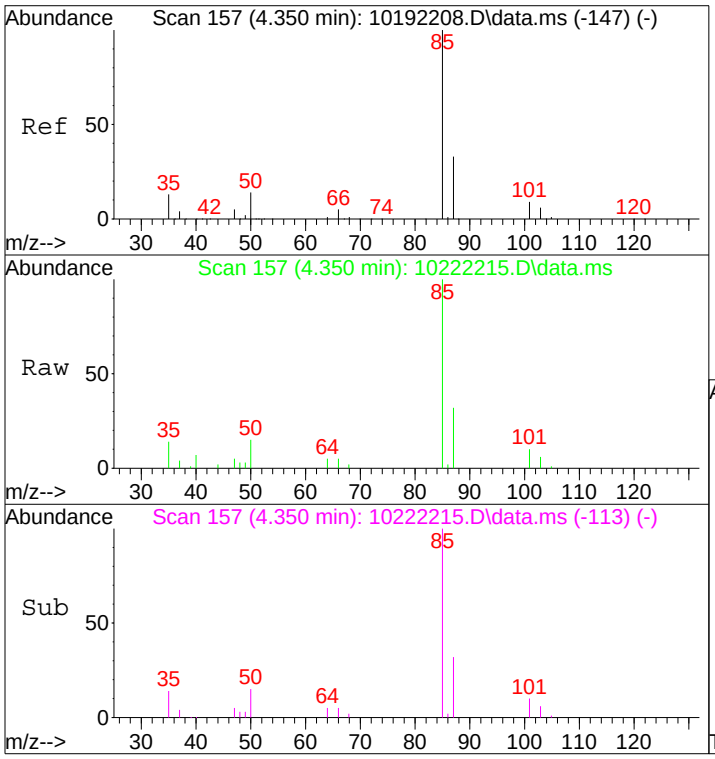
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222215.D Vial: 14
Acq On : 22 Oct 2022 21:54 Operator: WA
Sample : P2204597-004 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:10:57 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

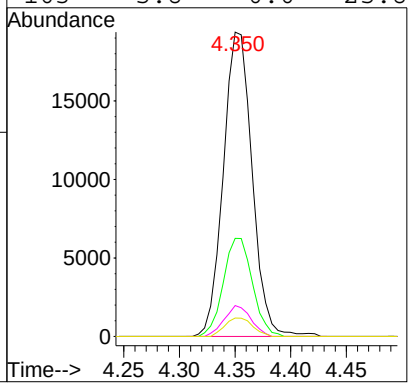


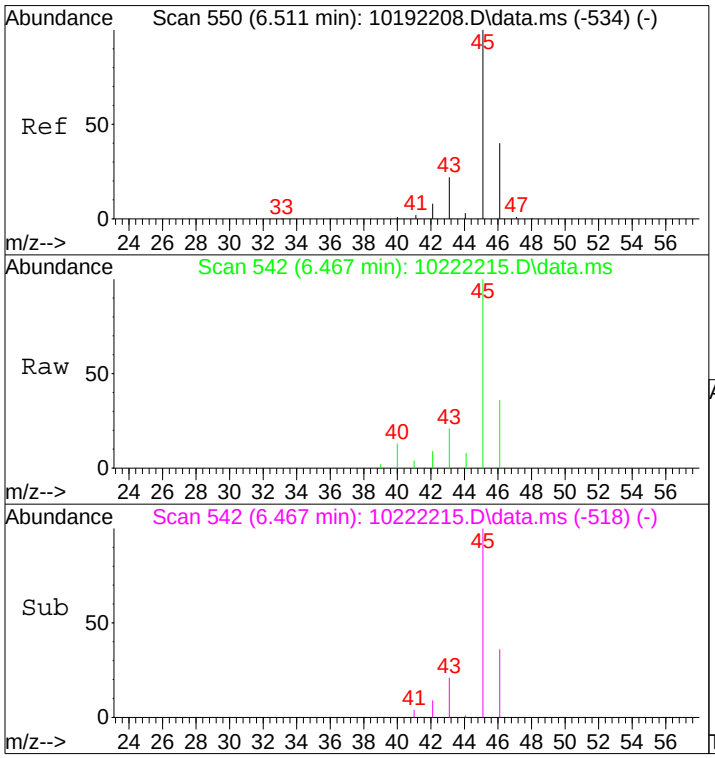


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.58 ng
RT: 4.35 min Scan# 157
Delta R.T. -0.006 min
Lab File: 10222215.D
Acq: 22 Oct 2022 21:54

Tgt Ion: 85 Resp: 34988

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.7	52.7
101	9.4	0.0	29.1
103	5.8	0.0	25.8

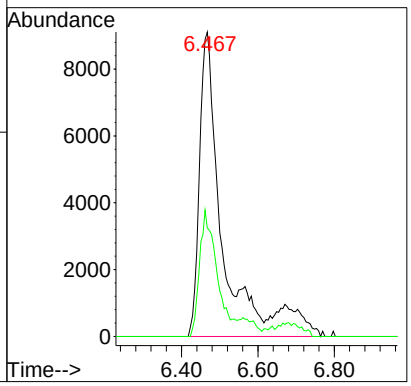


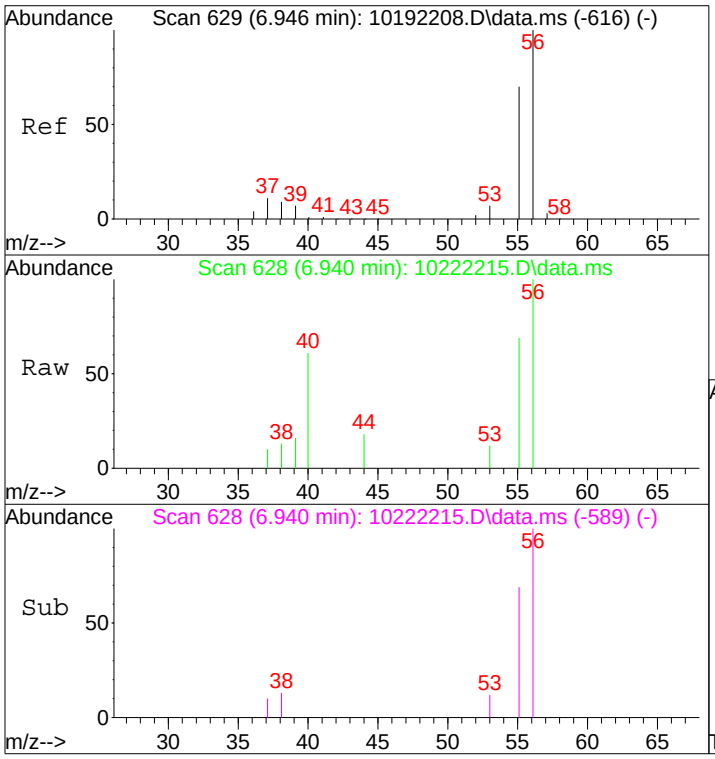


#10
Ethanol
Concen: 4.47 ng
RT: 6.47 min Scan# 542
Delta R.T. -0.116 min
Lab File: 10222215.D
Acq: 22 Oct 2022 21:54

Tgt Ion: 45 Resp: 38934

Ion	Ratio	Lower	Upper
45	100		
46	40.6	20.0	60.0

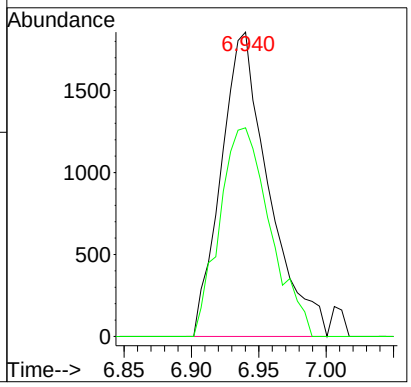


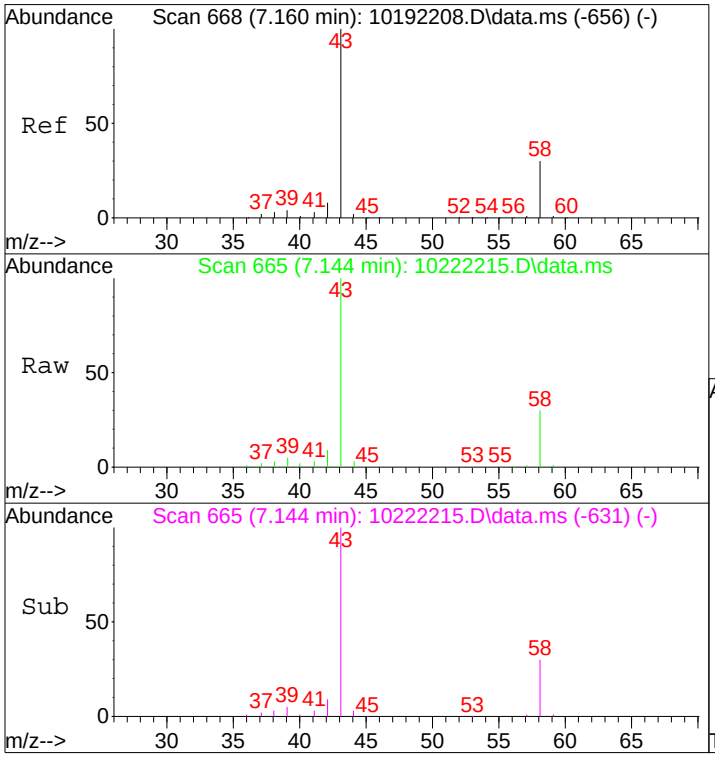


#12
Acrolein
Concen: 0.63 ng
RT: 6.94 min Scan# 628
Delta R.T. -0.033 min
Lab File: 10222215.D
Acq: 22 Oct 2022 21:54

Tgt Ion: 56 Resp: 4571

Ion	Ratio	Lower	Upper
56	100		
55	72.6	50.3	90.3

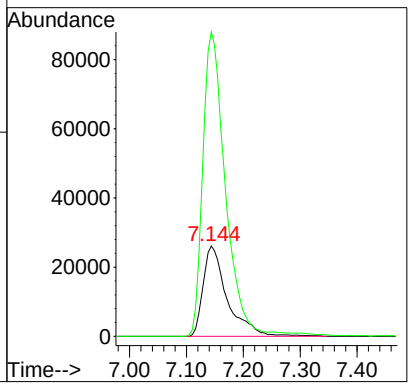


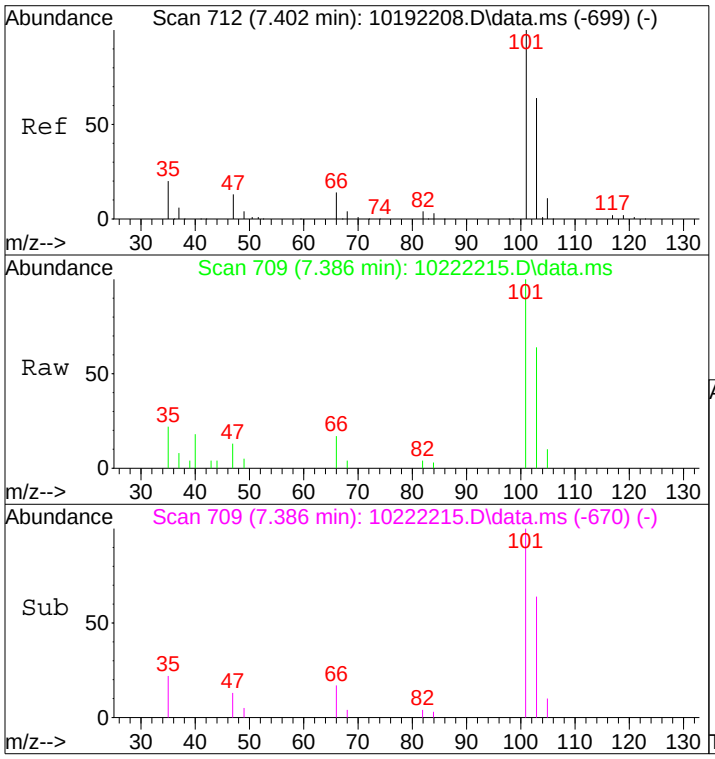


#13
Acetone
Concen: 8.95 ng
RT: 7.14 min Scan# 665
Delta R.T. -0.061 min
Lab File: 10222215.D
Acq: 22 Oct 2022 21:54

Tgt Ion: 58 Resp: 77388

Ion	Ratio	Lower	Upper
58	100		
43	318.0	298.4	358.4

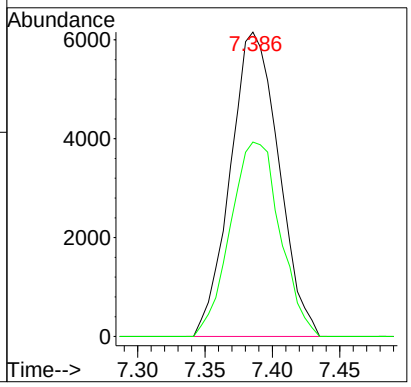


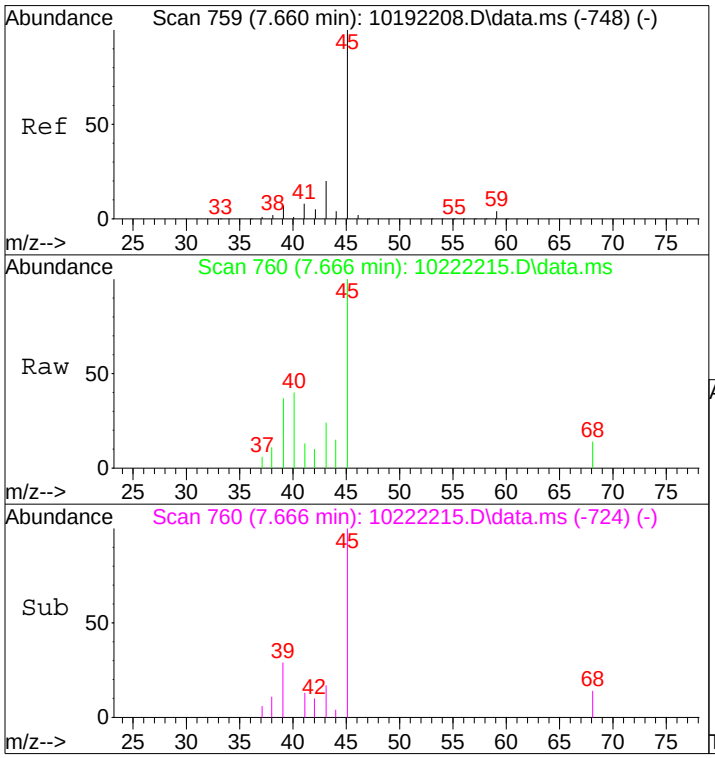


#14
Trichlorofluoromethane
Concen: 0.79 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.033 min
Lab File: 10222215.D
Acq: 22 Oct 2022 21:54

Tgt Ion:101 Resp: 15365

Ion	Ratio	Lower	Upper
101	100		
103	65.6	44.4	84.4

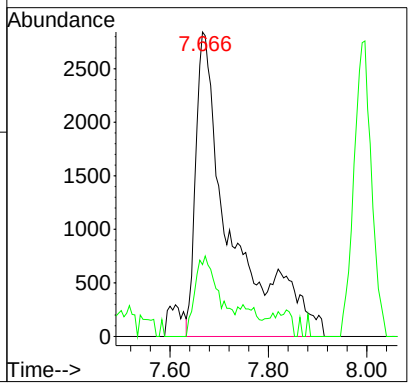


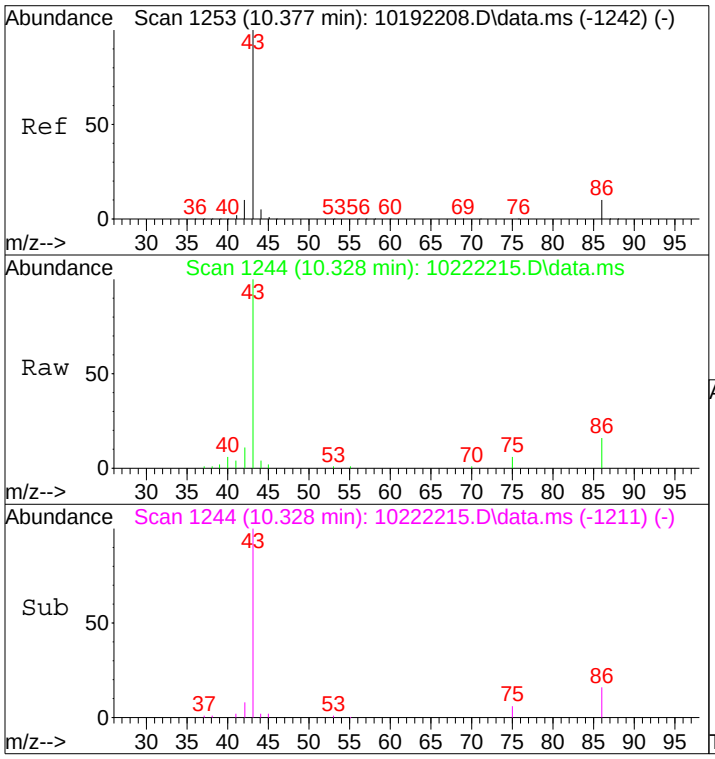


#15
2-Propanol (Isopropanol)
Concen: 0.54 ng
RT: 7.67 min Scan# 760
Delta R.T. -0.050 min
Lab File: 10222215.D
Acq: 22 Oct 2022 21:54

Tgt Ion: 45 Resp: 14106

Ion	Ratio	Lower	Upper
45	100		
43	28.8	0.3	40.3

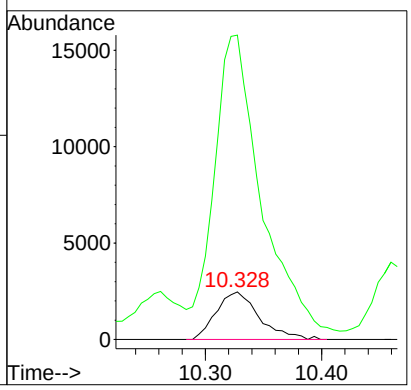


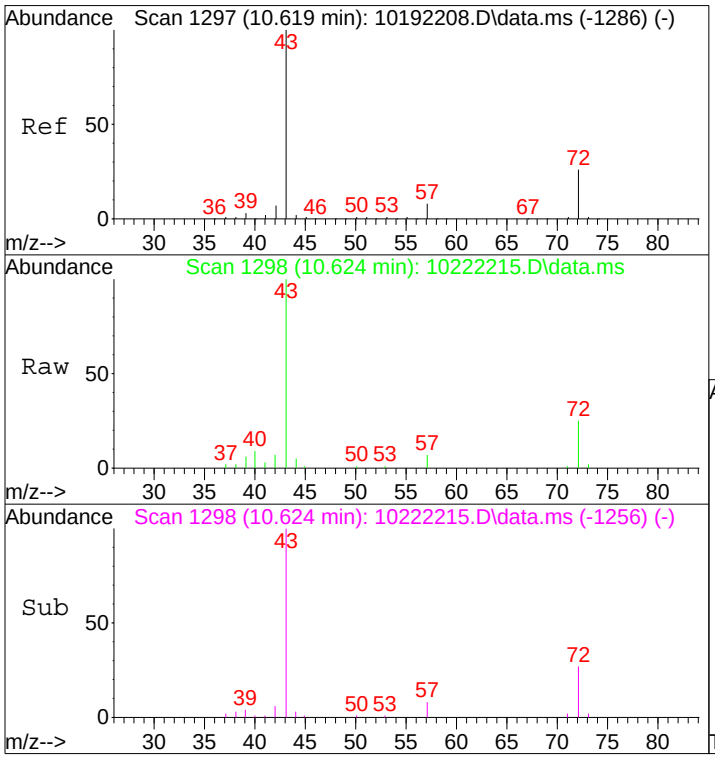


#26
Vinyl Acetate
Concen: 2.39 ng
RT: 10.33 min Scan# 1244
Delta R.T. -0.066 min
Lab File: 10222215.D
Acq: 22 Oct 2022 21:54

Tgt Ion: 86 Resp: 6332

Ion	Ratio	Lower	Upper
86	100		
43	719.7	958.6	998.6#

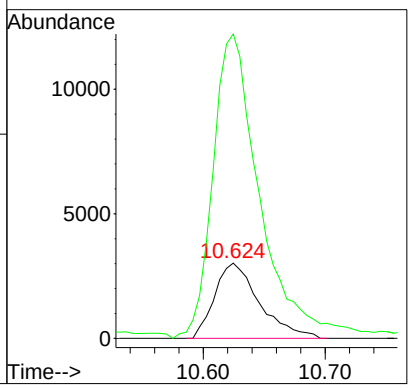


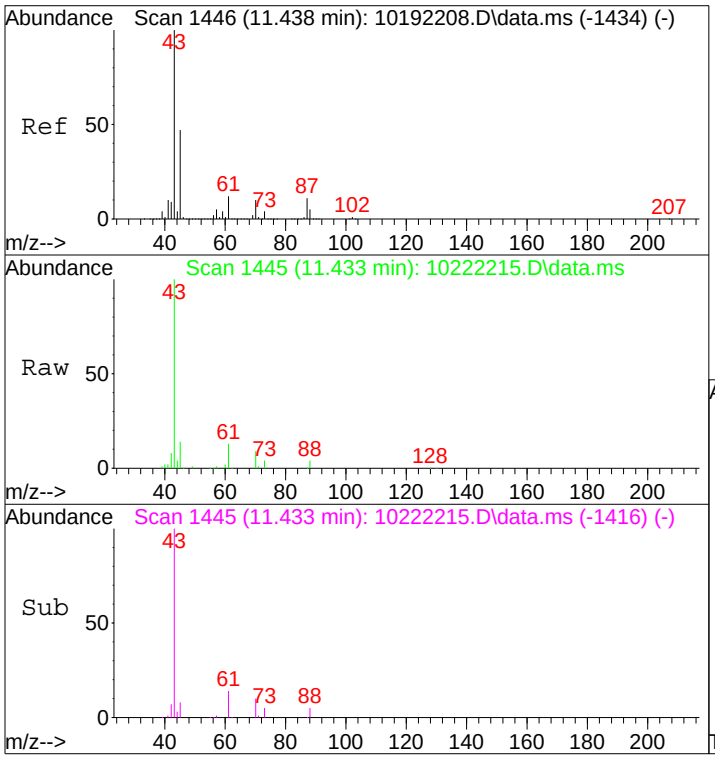


#27
2-Butanone (MEK)
Concen: 1.03 ng
RT: 10.62 min Scan# 1298
Delta R.T. -0.017 min
Lab File: 10222215.D
Acq: 22 Oct 2022 21:54

Tgt Ion: 72 Resp: 7720

Ion	Ratio	Lower	Upper
72	100		
43	431.1	365.7	405.7#

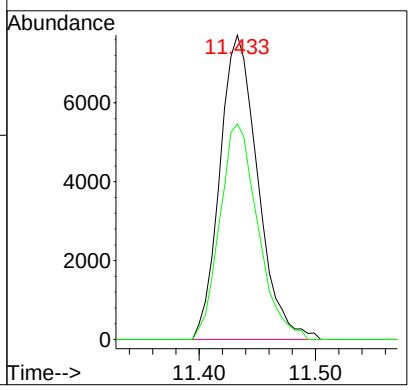


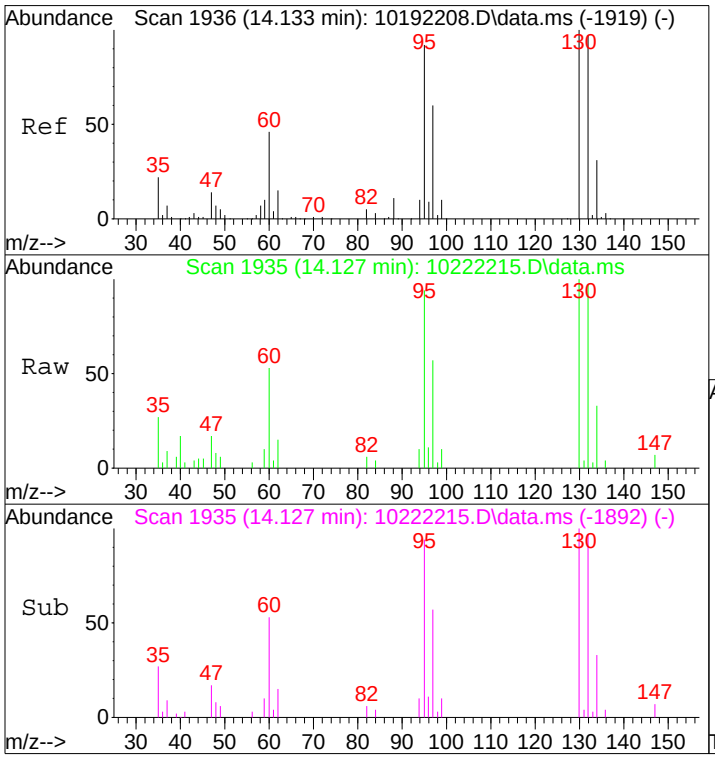


#30
Ethyl Acetate
Concen: 3.46 ng
RT: 11.43 min Scan# 1445
Delta R.T. -0.039 min
Lab File: 10222215.D
Acq: 22 Oct 2022 21:54

Tgt Ion: 61 Resp: 17471

Ion	Ratio	Lower	Upper
61	100		
70	71.2	60.3	100.3

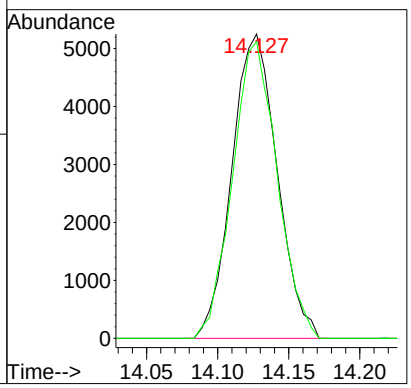




#47
Trichloroethene
Concen: 0.95 ng
RT: 14.13 min Scan# 1935
Delta R.T. -0.011 min
Lab File: 10222215.D
Acq: 22 Oct 2022 21:54

Tgt Ion:130 Resp: 11640

Ion	Ratio	Lower	Upper
130	100		
132	96.2	77.0	117.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222216.D Vial: 6
Acq On : 22 Oct 2022 22:28 Operator: WA
Sample : P2204597-005 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:17:13 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 10/23/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	125364	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	560183	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	112319	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	202834	12.098	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
57) Toluene-d8 (SS2)	15.87	98	637099	12.870	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	19.11	174	201092	12.891	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	4.34	85	33349	1.542	ng		99
4) Chloromethane	4.64	50	2744	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	829	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.78	94	260	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.			
11) Acetonitrile	6.83	41	49	N.D.			
12) Acrolein	6.93	56	850	N.D.			
13) Acetone	7.14	58	48548	5.732	ng	#	85
14) Trichlorofluoromethane	7.39	101	15036	0.788	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	13796	0.540	ng		93
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.61	59	231	N.D.			
19) Methylene Chloride	8.57	84	2155	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.00	151	3025	N.D.			
22) Carbon Disulfide	8.85	76	1367	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.33	86	1282	0.493	ng	#	66
27) 2-Butanone (MEK)	10.62	72	3544	0.484	ng	#	63
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.42	87	908	N.D.			
30) Ethyl Acetate	11.43	61	39160	7.908	ng		89
31) n-Hexane	11.41	57	2741	N.D.			
32) Chloroform	11.45	83	1564	N.D.			
34) Tetrahydrofuran (THF)	11.92	72	467	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	175	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	10166	N.D.			
42) Carbon Tetrachloride	13.19	117	4002	N.D.			
43) Cyclohexane	13.32	84	823	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	8558	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222216.D Vial: 6
Acq On : 22 Oct 2022 22:28 Operator: WA
Sample : P2204597-005 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:17:13 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

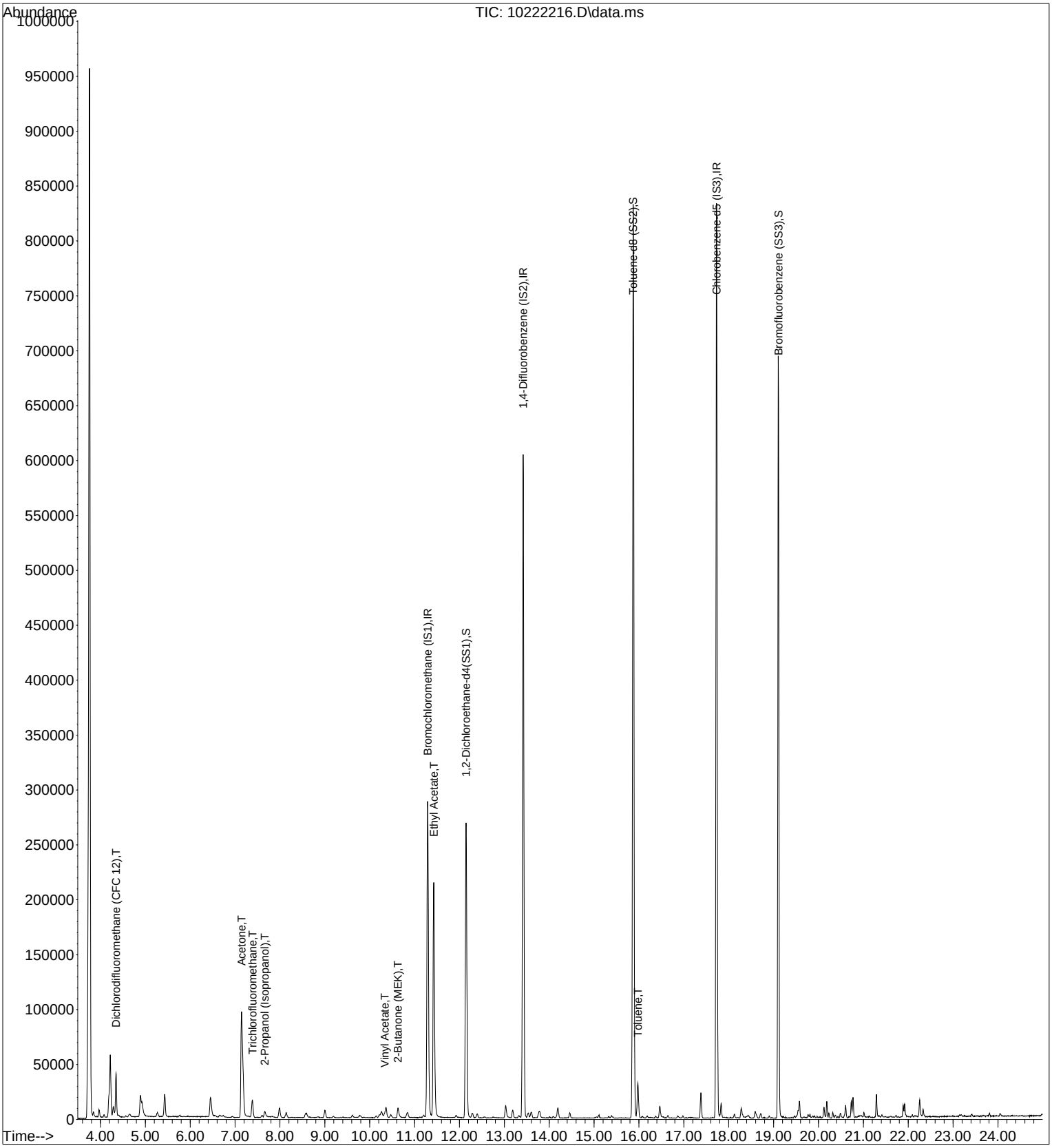
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	1252	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	24521	0.535 ng	99
59) 2-Hexanone	16.24	43	1569	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.87	43	2654	N.D.	
63) n-Octane	16.98	57	331	N.D.	
64) Tetrachloroethene	17.12	166	108	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.13	91	3550	N.D.	
67) m- & p-Xylenes	18.28	91	7770	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.62	104	1424	N.D.	
70) o-Xylene	18.71	91	2932	N.D.	
71) n-Nonane	18.90	43	1160	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.24	105	183	N.D.	
75) alpha-Pinene	19.57	93	5155	N.D.	
76) n-Propylbenzene	19.68	91	913	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.81	105	1161	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	700	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	2715	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.43	91	186	N.D.	
85) 1,3-Dichlorobenzene	20.43	146	524	N.D.	
86) 1,4-Dichlorobenzene	20.43	146	524	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	6176	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	3470	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.24	180	169	N.D.	
95) Naphthalene	22.35	128	1470	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.18	55	108	No Calib #	
99) tert-Butylbenzene	20.24	119	344	N.D.	
100) n-Butylbenzene	20.97	91	532	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222216.D Vial: 6
Acq On : 22 Oct 2022 22:28 Operator: WA
Sample : P2204597-005 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:17:13 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222216.D Vial: 6
Acq On : 22 Oct 2022 22:28 Operator: WA
Sample : P2204597-005 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:17:13 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 10/23/22

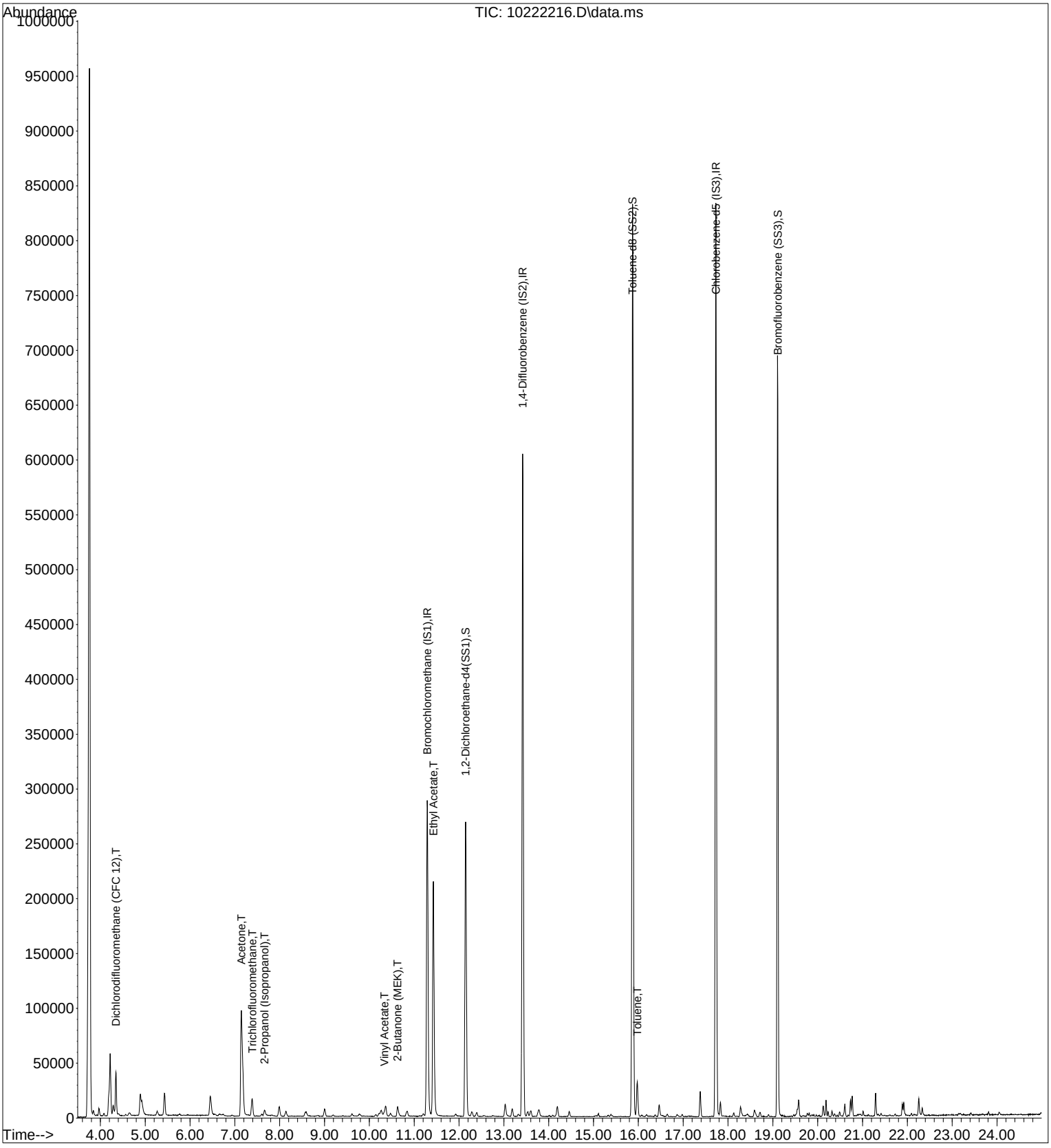
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	125364	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	560183	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	112319	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	202834	12.098	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
57) Toluene-d8 (SS2)	15.87	98	637099	12.870	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	19.11	174	201092	12.891	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.34	85	33349	1.542	ng		99
13) Acetone	7.14	58	48548	5.732	ng	#	85
14) Trichlorofluoromethane	7.39	101	15036	0.788	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	13796	0.540	ng		93
26) Vinyl Acetate	10.33	86	1282	0.493	ng	#	66
27) 2-Butanone (MEK)	10.62	72	3544	0.484	ng	#	63
30) Ethyl Acetate	11.43	61	39160	7.908	ng		89
58) Toluene	15.98	91	24521	0.535	ng		99

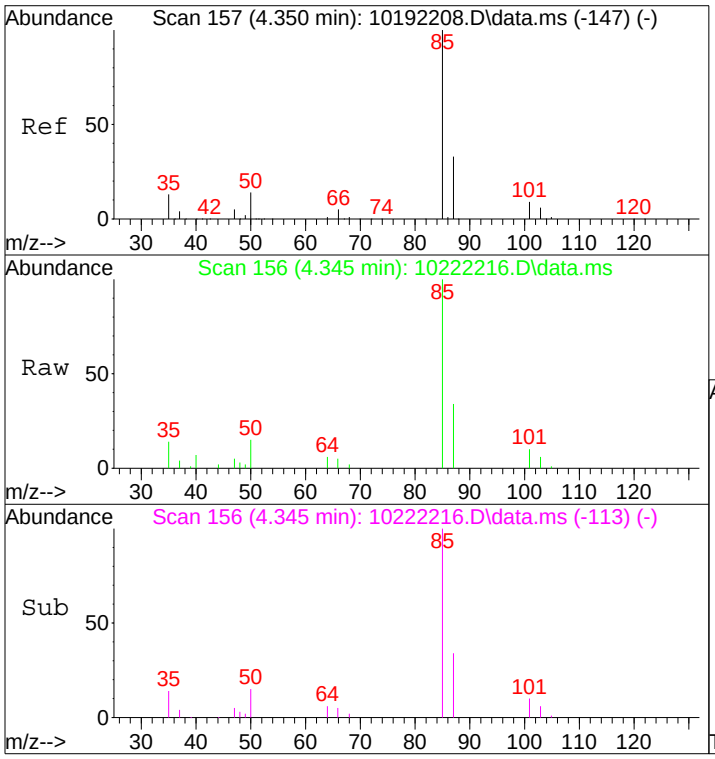
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222216.D Vial: 6
Acq On : 22 Oct 2022 22:28 Operator: WA
Sample : P2204597-005 (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:17:13 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

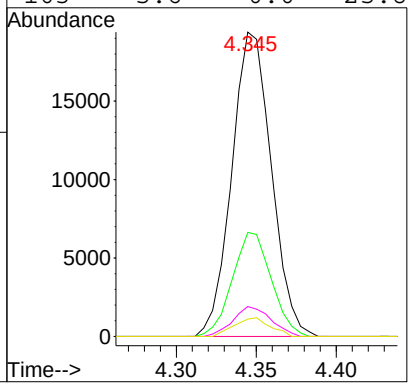


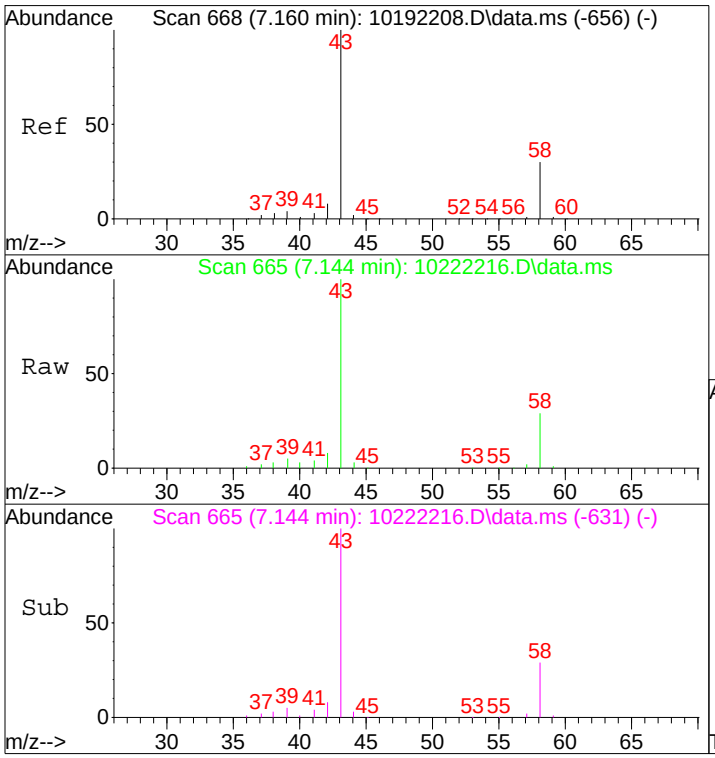


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.54 ng
RT: 4.34 min Scan# 156
Delta R.T. -0.011 min
Lab File: 10222216.D
Acq: 22 Oct 2022 22:28

Tgt Ion: 85 Resp: 33349

Ion	Ratio	Lower	Upper
85	100		
87	33.6	12.7	52.7
101	9.5	0.0	29.1
103	5.6	0.0	25.8

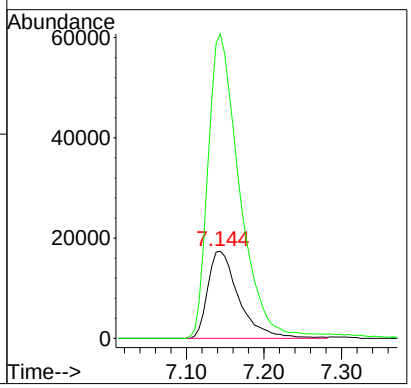


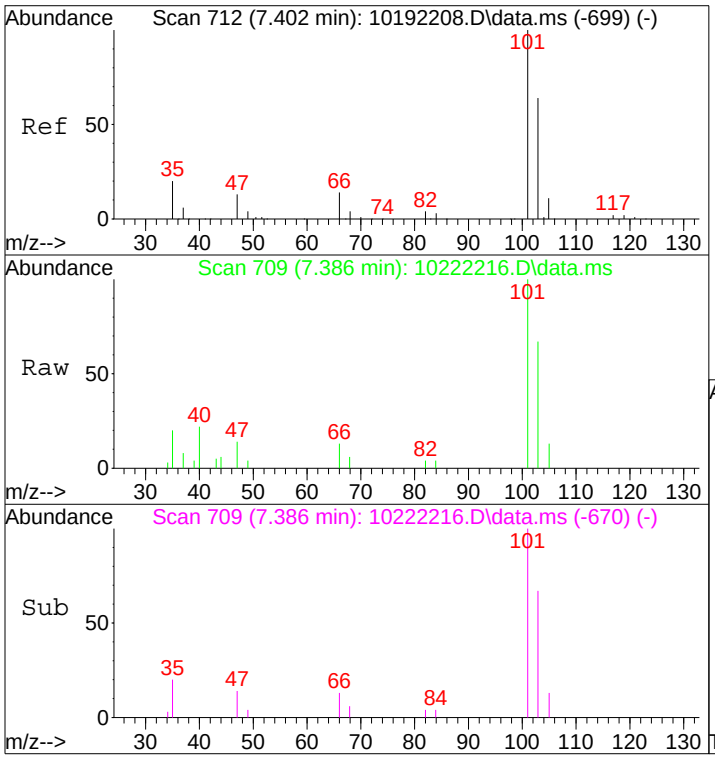


#13
Acetone
Concen: 5.73 ng
RT: 7.14 min Scan# 665
Delta R.T. -0.060 min
Lab File: 10222216.D
Acq: 22 Oct 2022 22:28

Tgt Ion: 58 Resp: 48548

Ion	Ratio	Lower	Upper
58	100		
43	360.5	298.4	358.4#

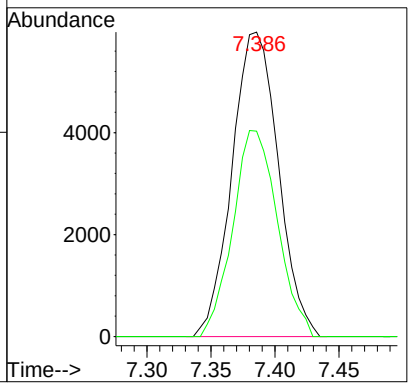


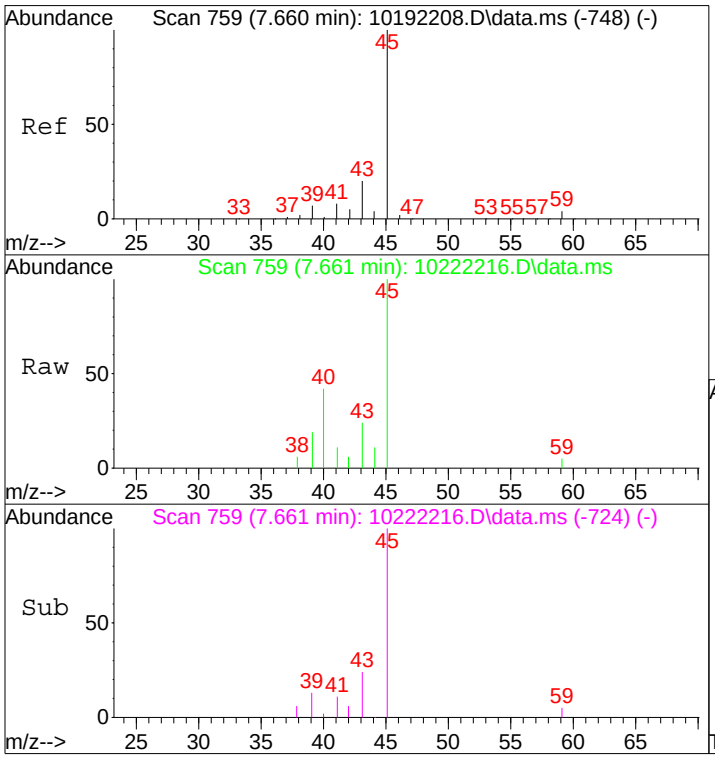


#14
Trichlorofluoromethane
Concen: 0.79 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.033 min
Lab File: 10222216.D
Acq: 22 Oct 2022 22:28

Tgt Ion:101 Resp: 15036

Ion	Ratio	Lower	Upper
101	100		
103	65.1	44.4	84.4

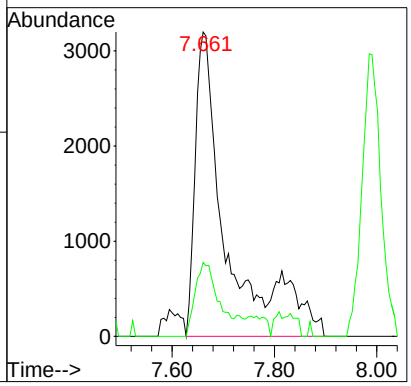


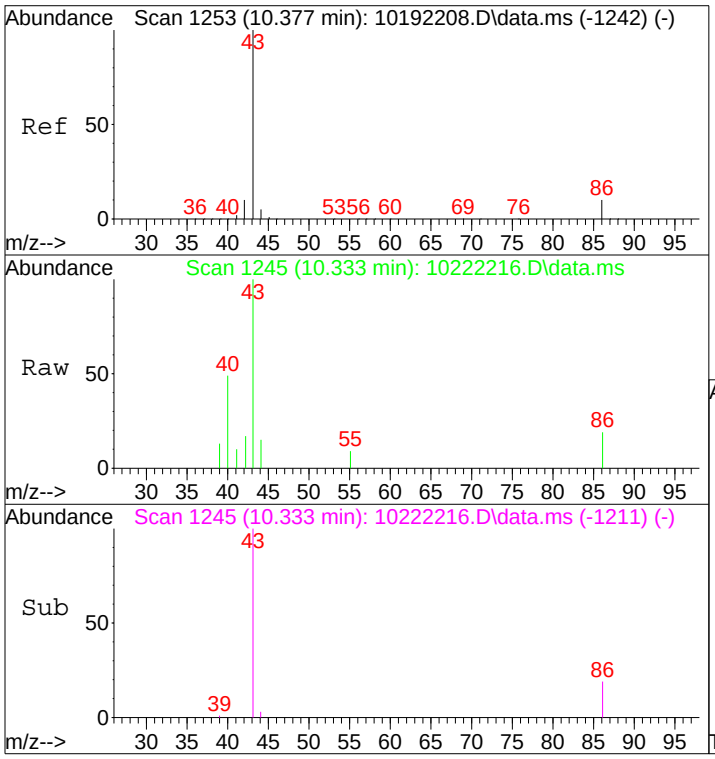


#15
2-Propanol (Isopropanol)
Concen: 0.54 ng
RT: 7.66 min Scan# 759
Delta R.T. -0.055 min
Lab File: 10222216.D
Acq: 22 Oct 2022 22:28

Tgt Ion: 45 Resp: 13796

Ion	Ratio	Lower	Upper
45	100		
43	23.3	0.3	40.3

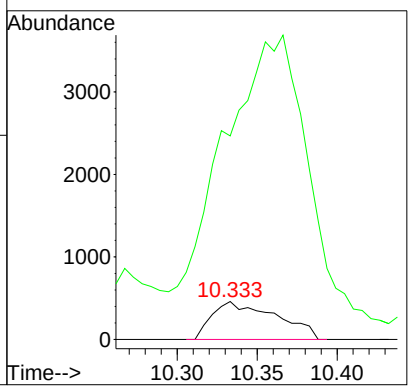


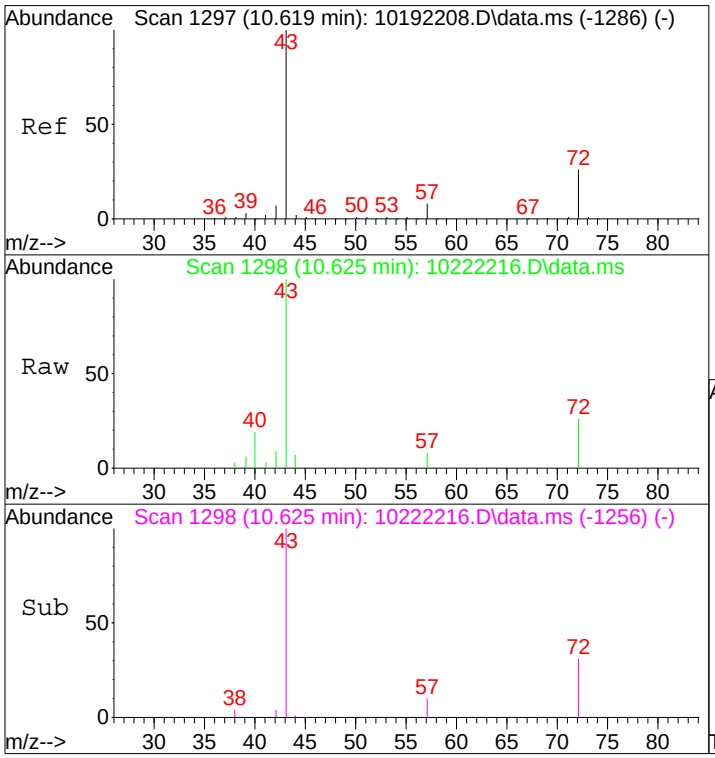


#26
Vinyl Acetate
Concen: 0.49 ng
RT: 10.33 min Scan# 1245
Delta R.T. -0.061 min
Lab File: 10222216.D
Acq: 22 Oct 2022 22:28

Tgt Ion: 86 Resp: 1282

Ion	Ratio	Lower	Upper
86	100		
43	1126.9	958.6	998.6#

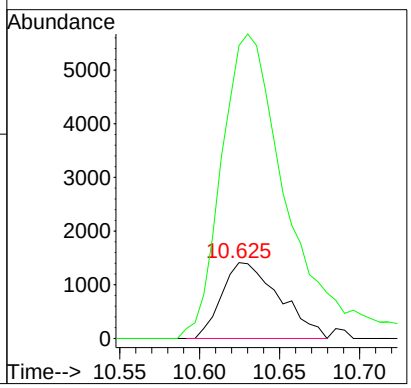


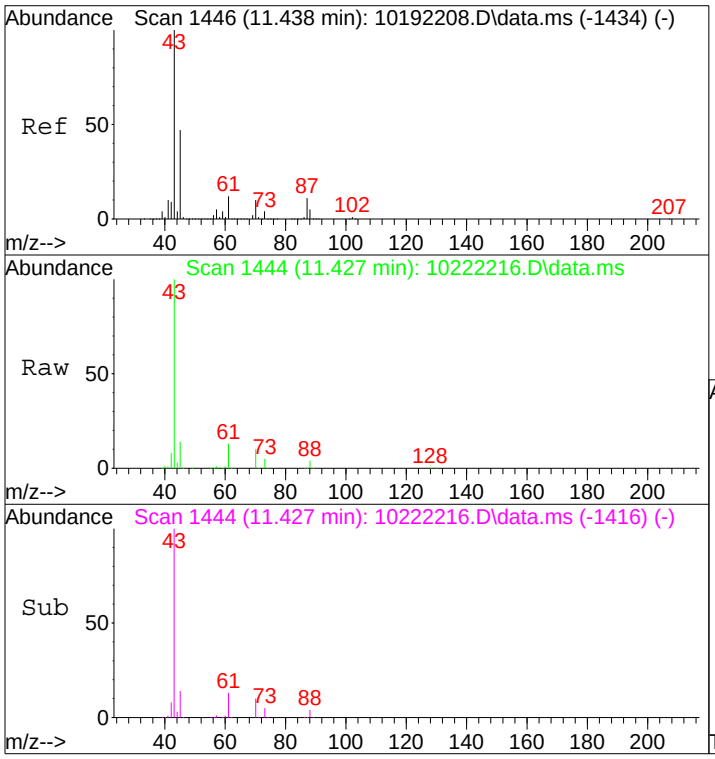


#27
2-Butanone (MEK)
Concen: 0.48 ng
RT: 10.62 min Scan# 1298
Delta R.T. -0.016 min
Lab File: 10222216.D
Acq: 22 Oct 2022 22:28

Tgt Ion: 72 Resp: 3544

Ion	Ratio	Lower	Upper
72	100		
43	470.7	365.7	405.7#

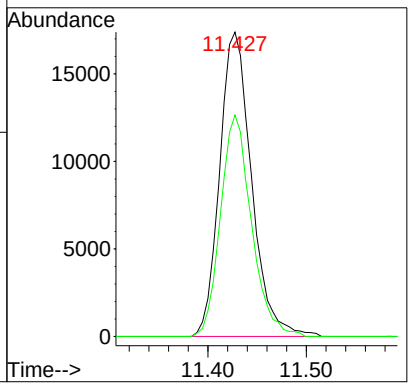


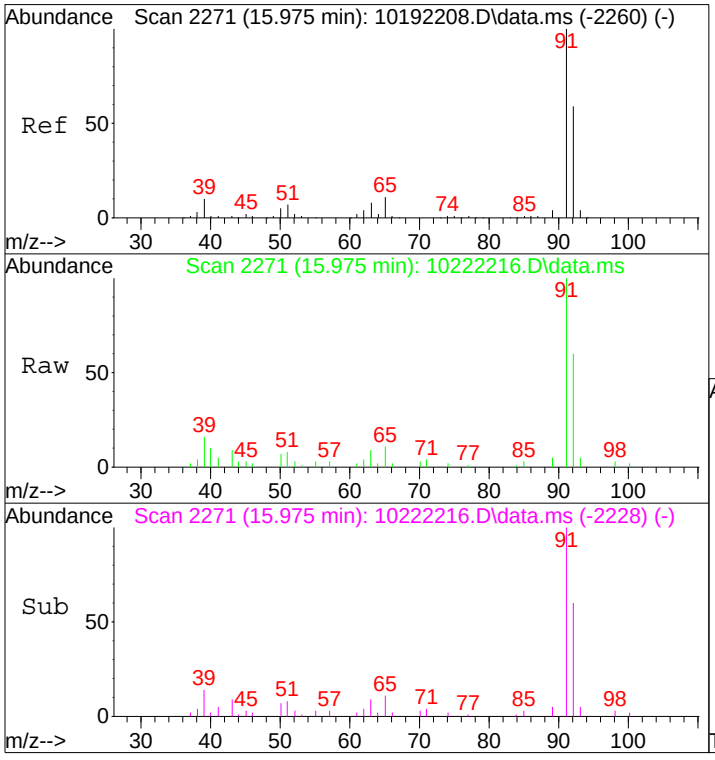


#30
Ethyl Acetate
Concen: 7.91 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.044 min
Lab File: 10222216.D
Acq: 22 Oct 2022 22:28

Tgt Ion: 61 Resp: 39160

Ion	Ratio	Lower	Upper
61	100		
70	70.5	60.3	100.3

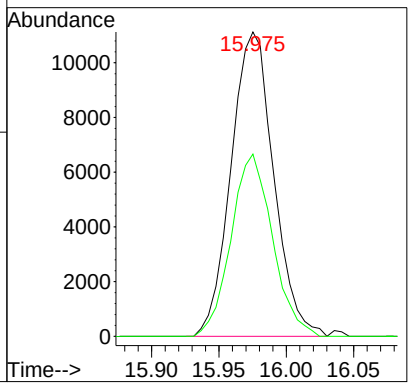




#58
Toluene
Concen: 0.54 ng
RT: 15.98 min Scan# 2271
Delta R.T. -0.011 min
Lab File: 10222216.D
Acq: 22 Oct 2022 22:28

Tgt Ion: 91 Resp: 24521

Ion	Ratio	Lower	Upper
91	100		
92	58.2	38.8	78.8



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222203.D Vial: 7
Acq On : 22 Oct 2022 14:45 Operator: WA
Sample : MB R16102222_1000mL Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 22 19:53:55 2022
Quant Method : I:\MS16\METHODS\R16101922.M WA 10/22/22
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	120940	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	545640	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	107361	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	194330	12.015	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%				
57) Toluene-d8 (SS2)	15.87	98	614968	12.997	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.00%				
73) Bromofluorobenzene (SS3)	19.11	174	189751	12.725	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.51	45	1369	0.166	ng		98
11) Acetonitrile	6.78	41	957	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.21	58	985	0.121	ng	#	74
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	7.94	53	424	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.89	76	100	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.04	78	365	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.42	84	414	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222203.D Vial: 7
Acq On : 22 Oct 2022 14:45 Operator: WA
Sample : MB R16102222_1000mL Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 22 19:53:55 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

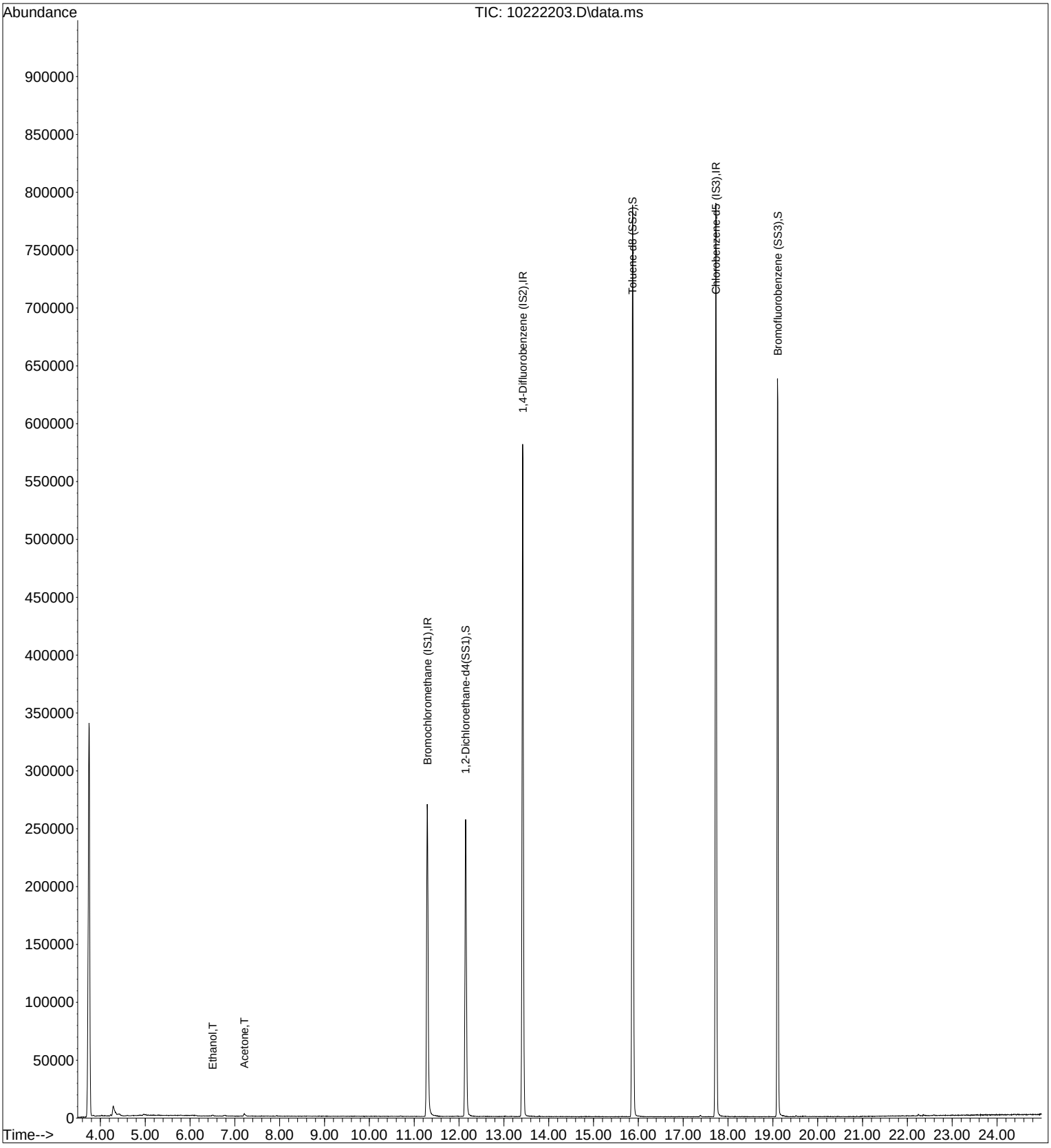
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0			N.D.
52) cis-1,3-Dichloropropene	0.00	75	0			N.D.
53) 4-Methyl-2-pentanone	0.00	58	0			N.D.
54) trans-1,3-Dichloropropene	0.00	75	0			N.D.
55) 1,1,2-Trichloroethane	0.00	97	0			N.D.
58) Toluene	0.00	91	0			N.D.
59) 2-Hexanone	0.00	43	0			N.D.
60) Dibromochloromethane	0.00	129	0			N.D.
61) 1,2-Dibromoethane	0.00	107	0			N.D.
62) n-Butyl Acetate	0.00	43	0			N.D.
63) n-Octane	0.00	57	0			N.D.
64) Tetrachloroethene	0.00	166	0			N.D.
65) Chlorobenzene	0.00	112	0			N.D.
66) Ethylbenzene	0.00	91	0			N.D.
67) m- & p-Xylenes	0.00	91	0			N.D.
68) Bromoform	0.00	173	0			N.D.
69) Styrene	0.00	104	0			N.D.
70) o-Xylene	0.00	91	0			N.D.
71) n-Nonane	0.00	43	0			N.D.
72) 1,1,2,2-Tetrachloroethane	0.00	83	0			N.D.
74) Cumene	0.00	105	0			N.D.
75) alpha-Pinene	0.00	93	0			N.D.
76) n-Propylbenzene	19.65	91	178			N.D.
77) 3-Ethyltoluene	0.00	105	0			N.D.
78) 4-Ethyltoluene	19.82	105	118			N.D.
79) 1,3,5-Trimethylbenzene	19.82	105	118			N.D.
80) alpha-Methylstyrene	0.00	118	0			N.D.
81) 2-Ethyltoluene	0.00	105	0			N.D.
82) 1,2,4-Trimethylbenzene	0.00	105	0			N.D.
83) n-Decane	0.00	58	0			N.D.
84) Benzyl Chloride	0.00	91	0			N.D.
85) 1,3-Dichlorobenzene	0.00	146	0			N.D.
86) 1,4-Dichlorobenzene	0.00	146	0			N.D.
87) sec-Butylbenzene	0.00	105	0			N.D.
88) 4-Isopropyltoluene (p-...	0.00	119	0			N.D.
89) 1,2,3-Trimethylbenzene	0.00	105	0			N.D.
90) 1,2-Dichlorobenzene	0.00	146	0			N.D.
91) d-Limonene	0.00	68	0			N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0			N.D.
93) n-Undecane	0.00	58	0			N.D.
94) 1,2,4-Trichlorobenzene	22.24	180	733			N.D.
95) Naphthalene	22.35	128	1331			N.D.
96) n-Dodecane	0.00	58	0			N.D.
97) Hexachlorobutadiene	0.00	225	0			N.D.
98) Cyclohexanone	0.00	55	0			N.D.
99) tert-Butylbenzene	0.00	119	0			N.D.
100) n-Butylbenzene	0.00	91	0			N.D.
101) 1,1,1,2-Tetrachloroethane	0.00	131	0			N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222203.D Vial: 7
Acq On : 22 Oct 2022 14:45 Operator: WA
Sample : MB R16102222_1000mL Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 22 19:53:55 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222208.D Vial: 2
Acq On : 22 Oct 2022 17:36 Operator: WA
Sample : LCS R16102222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09262204 (10/26)

Quant Time: Oct 22 19:54:05 2022 10/22/22
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	149616	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	672449	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	137750	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	246675	12.328	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
57) Toluene-d8 (SS2)	15.88	98	767740	12.646	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
73) Bromofluorobenzene (SS3)	19.11	174	260035	13.592	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.72%				
Target Compounds							Qvalue
2) Propene	4.17	42	402488	22.824	ng		99
3) Dichlorodifluoromethan...	4.34	85	635919	24.630	ng		100
4) Chloromethane	4.63	50	439730	24.770	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	376577	23.741	ng		99
6) Vinyl Chloride	5.06	62	495143	24.300	ng		100
7) 1,3-Butadiene	5.33	54	406645	27.760	ng		97
8) Bromomethane	5.78	94	278186	25.136	ng		99
9) Chloroethane	6.12	64	241569	27.719	ng		99
10) Ethanol	6.51	45	1014107	99.470	ng		100
11) Acetonitrile	6.76	41	526018	19.374	ng		100
12) Acrolein	6.94	56	414135	48.547	ng		100
13) Acetone	7.15	58	1281682	126.801	ng		96
14) Trichlorofluoromethane	7.40	101	557312	24.476	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	1518793	49.848	ng		100
16) Acrylonitrile	7.92	53	854487	50.034	ng		100
17) 1,1-Dichloroethene	8.36	96	308037	25.430	ng		97
18) 2-Methyl-2-Propanol (t...	8.54	59	1692940	59.340	ng		99
19) Methylene Chloride	8.59	84	325272	25.817	ng		96
20) 3-Chloro-1-propene (Al...	8.75	41	414483	23.722	ng		97
21) Trichlorotrifluoroethane	9.00	151	279119	25.842	ng		99
22) Carbon Disulfide	8.85	76	2238281	50.207	ng		100
23) trans-1,2-Dichloroethene	9.87	61	425961	25.614	ng		97
24) 1,1-Dichloroethane	10.12	63	531759	25.268	ng		100
25) Methyl tert-Butyl Ether	10.21	73	993675	25.858	ng		99
26) Vinyl Acetate	10.37	86	406401	130.929	ng	#	93
27) 2-Butanone (MEK)	10.61	72	486655	55.658	ng		96
28) cis-1,2-Dichloroethene	11.14	61	421000	25.219	ng		98
29) Diisopropyl Ether	11.43	87	810195	55.159	ng	#	66
30) Ethyl Acetate	11.43	61	473581	80.132	ng		100
31) n-Hexane	11.42	57	671111	26.153	ng		100
32) Chloroform	11.48	83	583015	25.546	ng		100
34) Tetrahydrofuran (THF)	11.88	72	437793	51.643	ng		95
35) Ethyl tert-Butyl Ether	12.02	87	923413	54.391	ng		98
36) 1,2-Dichloroethane	12.28	62	442837	25.399	ng		100
38) 1,1,1-Trichloroethane	12.55	97	520839	25.347	ng		100
39) Isopropyl Acetate	13.68	61	969	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.04	78	1327084	26.614	ng		100
42) Carbon Tetrachloride	13.20	117	419145	24.385	ng		99
43) Cyclohexane	13.32	84	1124454	50.414	ng		97
44) tert-Amyl Methyl Ether	13.67	73	2042086	54.293	ng		99
45) 1,2-Dichloropropane	13.89	63	312151	25.110	ng		99
46) Bromodichloromethane	14.07	83	465658	26.031	ng		100
47) Trichloroethene	14.13	130	380393	26.773	ng		100
48) 1,4-Dioxane	14.10	88	274654	26.381	ng		98
49) 2,2,4-Trimethylpentane...	14.20	57	1378292	24.452	ng		99
50) Methyl Methacrylate	14.34	100	328638	53.368	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222208.D Vial: 2
Acq On : 22 Oct 2022 17:36 Operator: WA
Sample : LCS R16102222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09262204 (10/26)

Quant Time: Oct 22 19:54:05 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

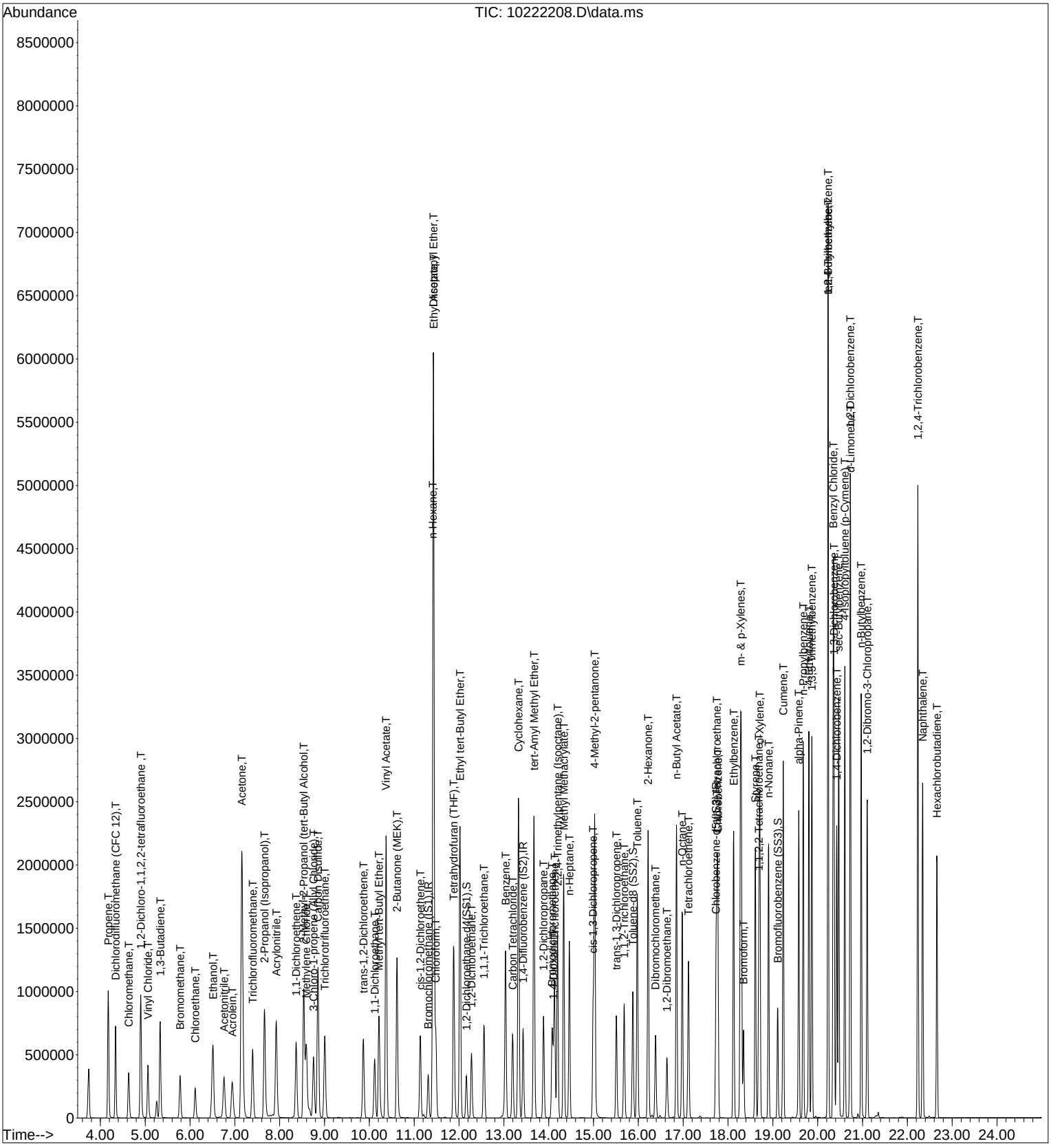
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	374231	25.734 ng		99
52) cis-1,3-Dichloropropene	14.99	75	541201	29.138 ng		100
53) 4-Methyl-2-pentanone	15.02	58	662905	55.417 ng		98
54) trans-1,3-Dichloropropene	15.51	75	486436	27.323 ng		100
55) 1,1,2-Trichloroethane	15.68	97	323003	26.724 ng		100
58) Toluene	15.98	91	1496957	26.649 ng		99
59) 2-Hexanone	16.22	43	1643130	56.010 ng		99
60) Dibromochloromethane	16.38	129	404286	27.298 ng		100
61) 1,2-Dibromoethane	16.64	107	379983	28.041 ng		100
62) n-Butyl Acetate	16.85	43	1823340	56.379 ng		99
63) n-Octane	16.98	57	308124	25.428 ng		99
64) Tetrachloroethene	17.12	166	398756	27.426 ng		99
65) Chlorobenzene	17.77	112	979155	26.400 ng		100
66) Ethylbenzene	18.13	91	1736849	27.606 ng		100
67) m- & p-Xylenes	18.28	91	2863301	55.835 ng		100
68) Bromoform	18.35	173	337878	28.129 ng		100
69) Styrene	18.61	104	1096706	30.142 ng		100
70) o-Xylene	18.71	91	1409328	28.076 ng		100
71) n-Nonane	18.91	43	716095	25.200 ng		99
72) 1,1,2,2-Tetrachloroethane	18.69	83	642758	28.884 ng		99
74) Cumene	19.23	105	1870905	27.782 ng		99
75) alpha-Pinene	19.58	93	900808	30.583 ng		100
76) n-Propylbenzene	19.68	91	2244476	28.753 ng		99
77) 3-Ethyltoluene	20.35	105	642	No Calib	#	
78) 4-Ethyltoluene	19.80	105	1911350	30.087 ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	1603863	28.496 ng		99
80) alpha-Methylstyrene	20.47	118	6764	No Calib	#	
81) 2-Ethyltoluene	20.35	105	642	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.23	105	1840458	31.464 ng		100
83) n-Decane	20.23	58	67972	No Calib		
84) Benzyl Chloride	20.35	91	2591847	72.474 ng		99
85) 1,3-Dichlorobenzene	20.36	146	992133	31.881 ng		100
86) 1,4-Dichlorobenzene	20.42	146	917701	30.518 ng		100
87) sec-Butylbenzene	20.47	105	2162583	28.924 ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	1911598	28.780 ng		100
89) 1,2,3-Trimethylbenzene	20.35	105	642	No Calib	#	
90) 1,2-Dichlorobenzene	20.73	146	958659	30.890 ng		100
91) d-Limonene	20.73	68	616857	31.188 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	677139	56.640 ng		99
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.23	180	1427661	63.771 ng		100
95) Naphthalene	22.34	128	2081106	37.542 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	367848	27.497 ng		100
98) Cyclohexanone	18.12	55	529	No Calib	#	
99) tert-Butylbenzene	20.23	119	1836734	31.110 ng		99
100) n-Butylbenzene	20.97	91	1733349	30.894 ng		99
101) 1,1,1,2-Tetrachloroethane	17.75	131	368431	25.407 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222208.D Vial: 2
Acq On : 22 Oct 2022 17:36 Operator: WA
Sample : LCS R16102222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-09262204 (10/26)

Quant Time: Oct 22 19:54:05 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222209.D Vial: 6
Acq On : 22 Oct 2022 18:10 Operator: WA
Sample : LCSD R16102222 25ng Inst : GCMS-16
Misc : S35-08012201//S35-09262204 (10/26)

Quant Time: Oct 22 19:54:07 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 10/22/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	149470	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	663899	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	135537	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	243122	12.163	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
57) Toluene-d8 (SS2)	15.88	98	758374	12.696	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
73) Bromofluorobenzene (SS3)	19.11	174	256047	13.602	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
Target Compounds							Qvalue
2) Propene	4.17	42	410011	23.274	ng		99
3) Dichlorodifluoromethan...	4.34	85	649154	25.168	ng		100
4) Chloromethane	4.63	50	427010	24.077	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	382785	24.156	ng		100
6) Vinyl Chloride	5.06	62	492197	24.179	ng		100
7) 1,3-Butadiene	5.33	54	406699	27.791	ng		98
8) Bromomethane	5.78	94	282226	25.526	ng		100
9) Chloroethane	6.12	64	242936	27.903	ng		99
10) Ethanol	6.51	45	1023679	100.506	ng		100
11) Acetonitrile	6.76	41	535738	19.751	ng		98
12) Acrolein	6.94	56	416891	48.918	ng		100
13) Acetone	7.16	58	1288291	127.579	ng		96
14) Trichlorofluoromethane	7.40	101	561577	24.687	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	1525928	50.131	ng		100
16) Acrylonitrile	7.92	53	862881	50.575	ng		99
17) 1,1-Dichloroethene	8.37	96	306945	25.365	ng		97
18) 2-Methyl-2-Propanol (t...	8.53	59	1698996	59.610	ng		99
19) Methylene Chloride	8.59	84	326010	25.901	ng		97
20) 3-Chloro-1-propene (Al...	8.75	41	412763	23.646	ng		96
21) Trichlorotrifluoroethane	9.01	151	281134	26.054	ng		100
22) Carbon Disulfide	8.85	76	2231745	50.109	ng		100
23) trans-1,2-Dichloroethene	9.87	61	430065	25.886	ng		97
24) 1,1-Dichloroethane	10.12	63	534615	25.429	ng		100
25) Methyl tert-Butyl Ether	10.21	73	998771	26.016	ng		99
26) Vinyl Acetate	10.37	86	407047	131.265	ng	#	93
27) 2-Butanone (MEK)	10.61	72	486200	55.661	ng		96
28) cis-1,2-Dichloroethene	11.14	61	420113	25.190	ng		97
29) Diisopropyl Ether	11.43	87	809891	55.192	ng	#	65
30) Ethyl Acetate	11.43	61	474199	80.315	ng		99
31) n-Hexane	11.42	57	667316	26.031	ng		99
32) Chloroform	11.48	83	581269	25.494	ng		99
34) Tetrahydrofuran (THF)	11.88	72	438375	51.762	ng		95
35) Ethyl tert-Butyl Ether	12.02	87	918314	54.143	ng		98
36) 1,2-Dichloroethane	12.28	62	440418	25.284	ng		100
38) 1,1,1-Trichloroethane	12.55	97	521945	25.728	ng		99
39) Isopropyl Acetate	13.68	61	893	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.04	78	1322800	26.870	ng		100
42) Carbon Tetrachloride	13.20	117	423118	24.933	ng		99
43) Cyclohexane	13.32	84	1127502	51.202	ng		98
44) tert-Amyl Methyl Ether	13.67	73	2033500	54.761	ng		99
45) 1,2-Dichloropropane	13.89	63	312512	25.463	ng		99
46) Bromodichloromethane	14.08	83	461560	26.134	ng		100
47) Trichloroethene	14.13	130	378796	27.004	ng		100
48) 1,4-Dioxane	14.10	88	273842	26.642	ng		98
49) 2,2,4-Trimethylpentane...	14.20	57	1383178	24.855	ng		99
50) Methyl Methacrylate	14.34	100	327588	53.883	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222209.D Vial: 6
Acq On : 22 Oct 2022 18:10 Operator: WA
Sample : LCSD R16102222 25ng Inst : GCMS-16
Misc : S35-08012201//S35-09262204 (10/26)

Quant Time: Oct 22 19:54:07 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

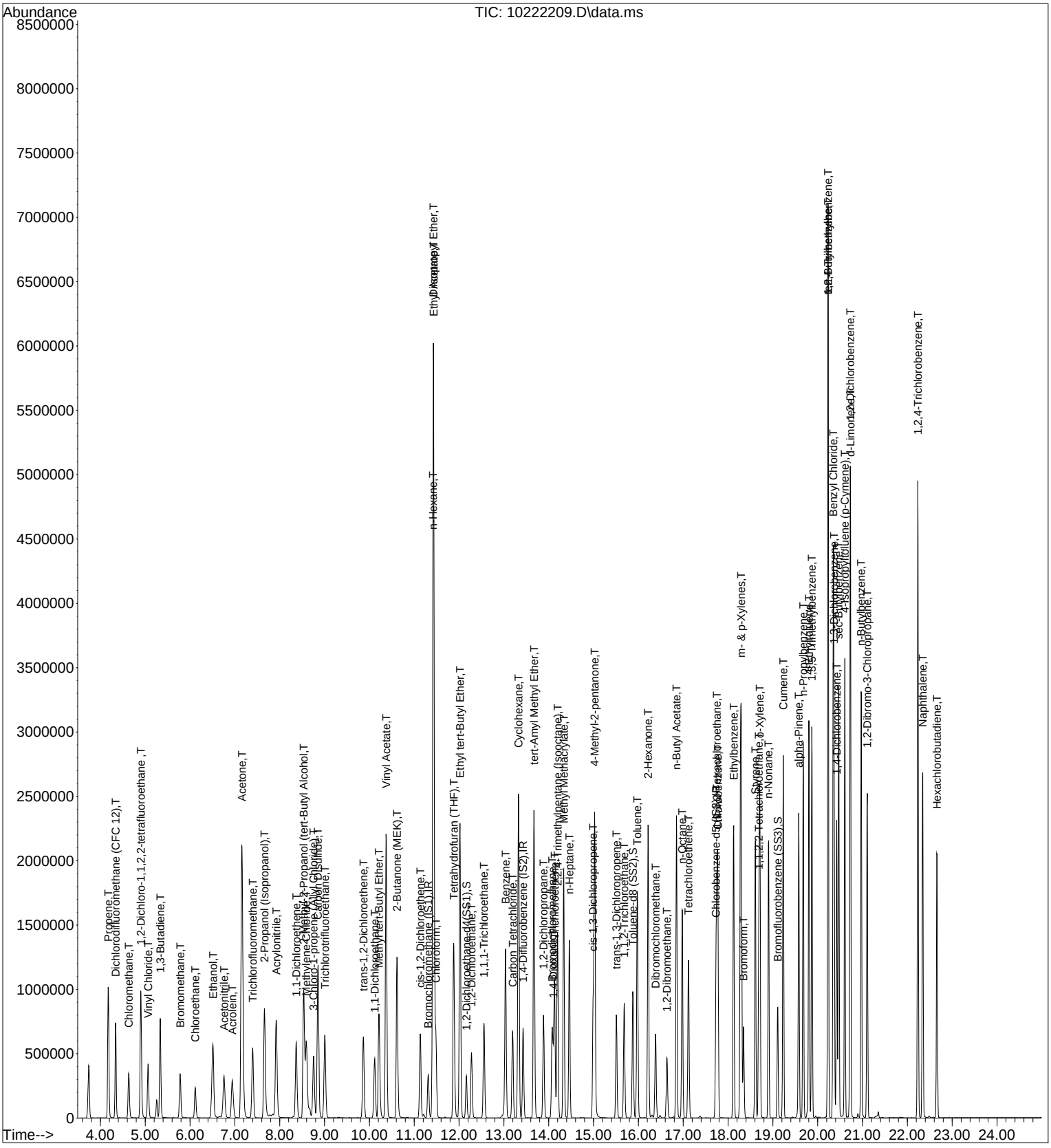
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	374168	26.061 ng		99
52) cis-1,3-Dichloropropene	14.99	75	542039	29.559 ng		100
53) 4-Methyl-2-pentanone	15.02	58	662273	56.077 ng		98
54) trans-1,3-Dichloropropene	15.51	75	482152	27.431 ng		99
55) 1,1,2-Trichloroethane	15.68	97	320841	26.886 ng		100
58) Toluene	15.97	91	1487758	26.917 ng		99
59) 2-Hexanone	16.22	43	1651714	57.221 ng		100
60) Dibromochloromethane	16.38	129	406224	27.877 ng		100
61) 1,2-Dibromoethane	16.63	107	379536	28.466 ng		100
62) n-Butyl Acetate	16.85	43	1822193	57.264 ng		99
63) n-Octane	16.98	57	307418	25.784 ng		99
64) Tetrachloroethene	17.12	166	398258	27.839 ng		99
65) Chlorobenzene	17.77	112	978320	26.809 ng		100
66) Ethylbenzene	18.13	91	1727535	27.907 ng		100
67) m- & p-Xylenes	18.29	91	2860728	56.696 ng		100
68) Bromoform	18.35	173	341349	28.882 ng		100
69) Styrene	18.61	104	1099948	30.725 ng		99
70) o-Xylene	18.71	91	1412799	28.605 ng		99
71) n-Nonane	18.90	43	714226	25.545 ng		99
72) 1,1,2,2-Tetrachloroethane	18.69	83	641088	29.280 ng		99
74) Cumene	19.23	105	1875279	28.302 ng		99
75) alpha-Pinene	19.58	93	895539	30.901 ng		100
76) n-Propylbenzene	19.68	91	2242823	29.201 ng		99
77) 3-Ethyltoluene	20.36	105	524	No Calib	#	
78) 4-Ethyltoluene	19.80	105	1916146	30.655 ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	1605020	28.983 ng		99
80) alpha-Methylstyrene	20.47	118	6877	No Calib	#	
81) 2-Ethyltoluene	20.36	105	524	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.23	105	1841475	31.995 ng		100
83) n-Decane	20.23	58	67192	No Calib		
84) Benzyl Chloride	20.35	91	2596492	73.789 ng		99
85) 1,3-Dichlorobenzene	20.36	146	994933	32.493 ng		99
86) 1,4-Dichlorobenzene	20.42	146	924633	31.251 ng		100
87) sec-Butylbenzene	20.47	105	2166973	29.456 ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	1925057	29.456 ng		99
89) 1,2,3-Trimethylbenzene	20.36	105	524	No Calib	#	
90) 1,2-Dichlorobenzene	20.73	146	963991	31.569 ng		100
91) d-Limonene	20.73	68	617658	31.738 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	677157	57.567 ng		99
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.23	180	1435743	65.179 ng		100
95) Naphthalene	22.34	128	2108403	38.656 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	369084	28.040 ng		100
98) Cyclohexanone	18.13	55	430	No Calib	#	
99) tert-Butylbenzene	20.23	119	1827401	31.457 ng		100
100) n-Butylbenzene	20.97	91	1731992	31.374 ng		99
101) 1,1,1,2-Tetrachloroethane	17.75	131	369150	25.872 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222209.D Vial: 6
Acq On : 22 Oct 2022 18:10 Operator: WA
Sample : LCSD R16102222 25ng Inst : GCMS-16
Misc : S35-08012201//S35-09262204 (10/26)

Quant Time: Oct 22 19:54:07 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222214.D Vial: 13
Acq On : 22 Oct 2022 21:20 Operator: WA
Sample : P2204597-003dup (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:10:20 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 10/23/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	125717	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	563415	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	116294	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	203319	12.093	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
57) Toluene-d8 (SS2)	15.87	98	643717	12.560	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
73) Bromofluorobenzene (SS3)	19.11	174	205360	12.714	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
Target Compounds							Qvalue
2) Propene	4.18	42	5725	N.D.			
3) Dichlorodifluoromethan...	4.35	85	37755	1.740	ng		99
4) Chloromethane	4.64	50	2243	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	1059	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.78	94	180	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.47	45	143277	16.725	ng		100
11) Acetonitrile	6.82	41	113	N.D.			
12) Acrolein	6.93	56	2941	N.D.			
13) Acetone	7.14	58	66957	7.884	ng		94
14) Trichlorofluoromethane	7.39	101	17205	0.899	ng		99
15) 2-Propanol (Isopropanol)	7.67	45	17022	0.665	ng		83
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.61	59	387	N.D.			
19) Methylene Chloride	8.57	84	2800	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.00	151	3327	N.D.			
22) Carbon Disulfide	8.84	76	1639	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.62	72	9225	1.256	ng	#	86
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	11.43	61	484501	97.564	ng		91
31) n-Hexane	11.42	57	3498	N.D.			
32) Chloroform	11.47	83	1815	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.28	62	418	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	29870	0.715	ng		98
42) Carbon Tetrachloride	13.19	117	4347	N.D.			
43) Cyclohexane	13.31	84	1035	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	7544	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222214.D Vial: 13
Acq On : 22 Oct 2022 21:20 Operator: WA
Sample : P2204597-003dup (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:10:20 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

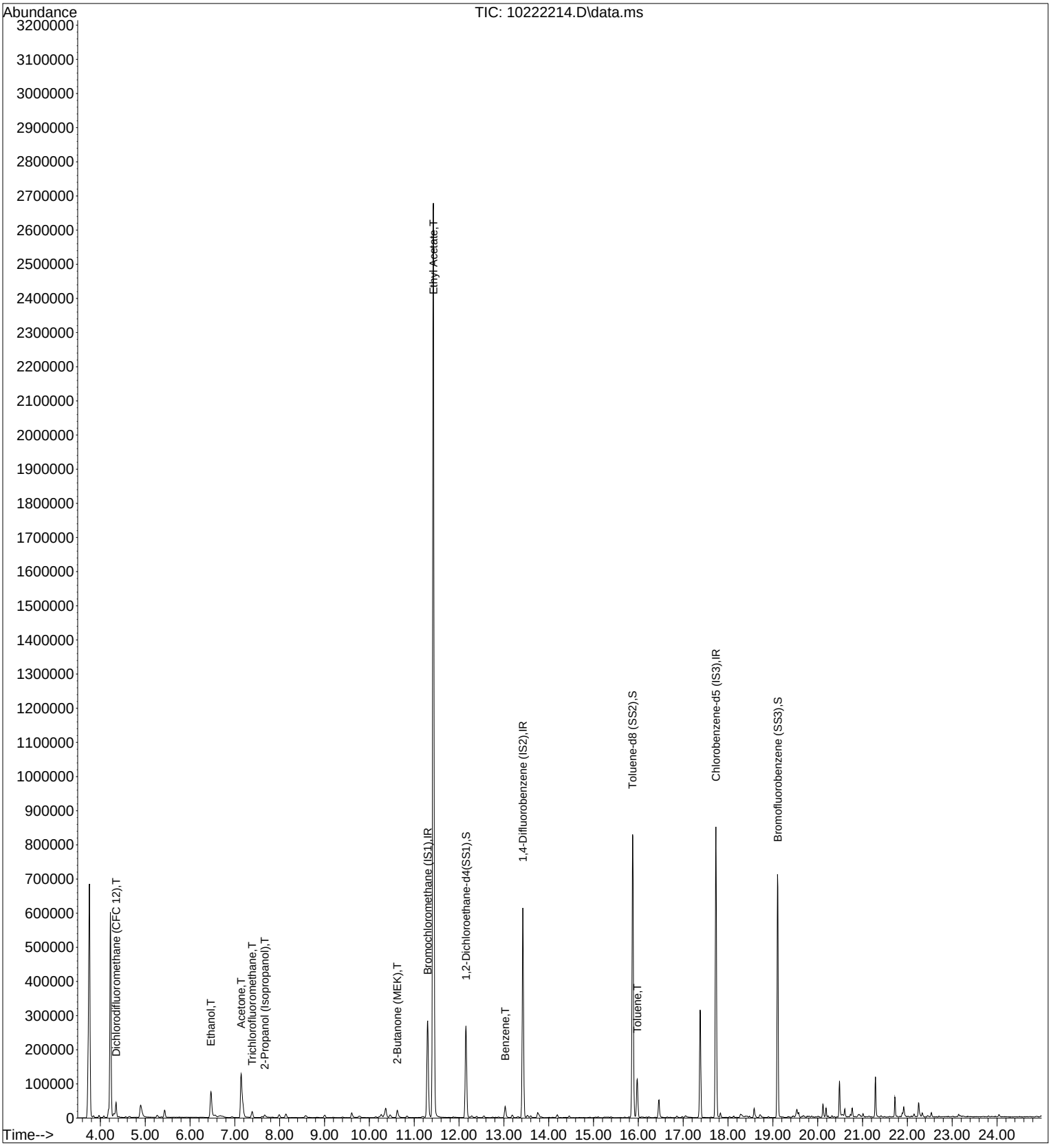
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	1156	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.05	58	322	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	95189	2.007 ng	99
59) 2-Hexanone	16.23	43	2083	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.86	43	5208	N.D.	
63) n-Octane	16.97	57	433	N.D.	
64) Tetrachloroethene	17.11	166	112	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.13	91	3587	N.D.	
67) m- & p-Xylenes	18.28	91	7924	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.61	104	1793	N.D.	
70) o-Xylene	18.71	91	2987	N.D.	
71) n-Nonane	18.91	43	1476	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.24	105	355	N.D.	
75) alpha-Pinene	19.58	93	4320	N.D.	
76) n-Propylbenzene	19.68	91	1170	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.81	105	1222	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	781	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	2756	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.35	91	250	N.D.	
85) 1,3-Dichlorobenzene	20.42	146	620	N.D.	
86) 1,4-Dichlorobenzene	20.42	146	620	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	11306	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	1862	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.23	180	458	N.D.	
95) Naphthalene	22.34	128	2783	N.D.	
96) n-Dodecane	22.54	58	124	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.19	55	482	No Calib	#
99) tert-Butylbenzene	20.23	119	404	N.D.	
100) n-Butylbenzene	20.97	91	1101	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222214.D Vial: 13
Acq On : 22 Oct 2022 21:20 Operator: WA
Sample : P2204597-003dup (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:10:20 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222214.D Vial: 13
Acq On : 22 Oct 2022 21:20 Operator: WA
Sample : P2204597-003dup (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:10:20 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

10/23/22

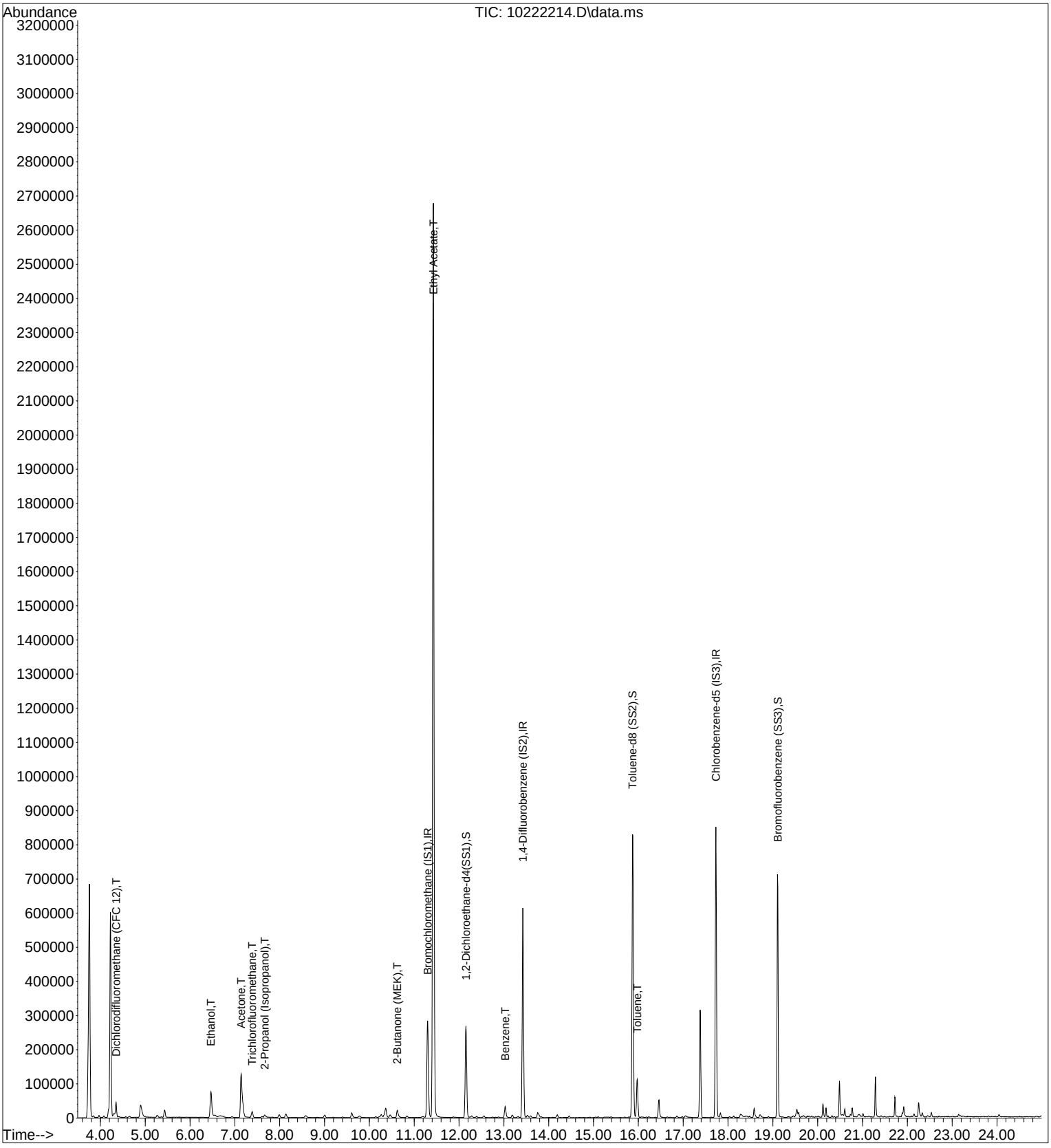
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	125717	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	563415	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	116294	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	203319	12.093	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
57) Toluene-d8 (SS2)	15.87	98	643717	12.560	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
73) Bromofluorobenzene (SS3)	19.11	174	205360	12.714	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.35	85	37755	1.740	ng		99
10) Ethanol	6.47	45	143277	16.725	ng		100
13) Acetone	7.14	58	66957	7.884	ng		94
14) Trichlorofluoromethane	7.39	101	17205	0.899	ng		99
15) 2-Propanol (Isopropanol)	7.67	45	17022	0.665	ng		83
27) 2-Butanone (MEK)	10.62	72	9225	1.256	ng	#	86
30) Ethyl Acetate	11.43	61	484501	97.564	ng		91
41) Benzene	13.03	78	29870	0.715	ng		98
58) Toluene	15.98	91	95189	2.007	ng		99

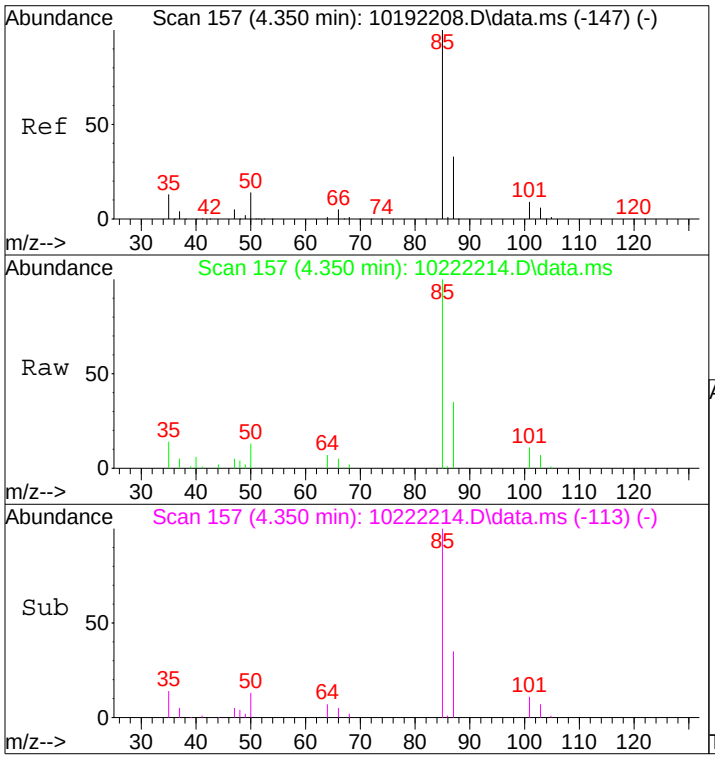
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222214.D Vial: 13
Acq On : 22 Oct 2022 21:20 Operator: WA
Sample : P2204597-003dup (1000mL) Inst : GCMS-16
Misc : S35-08012201

Quant Time: Oct 23 20:10:20 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

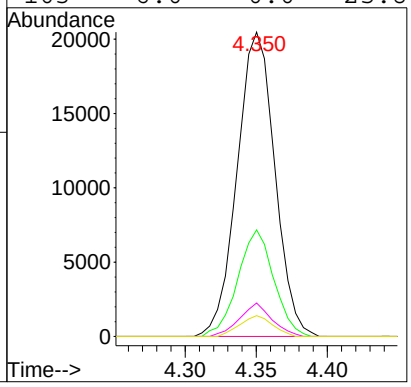


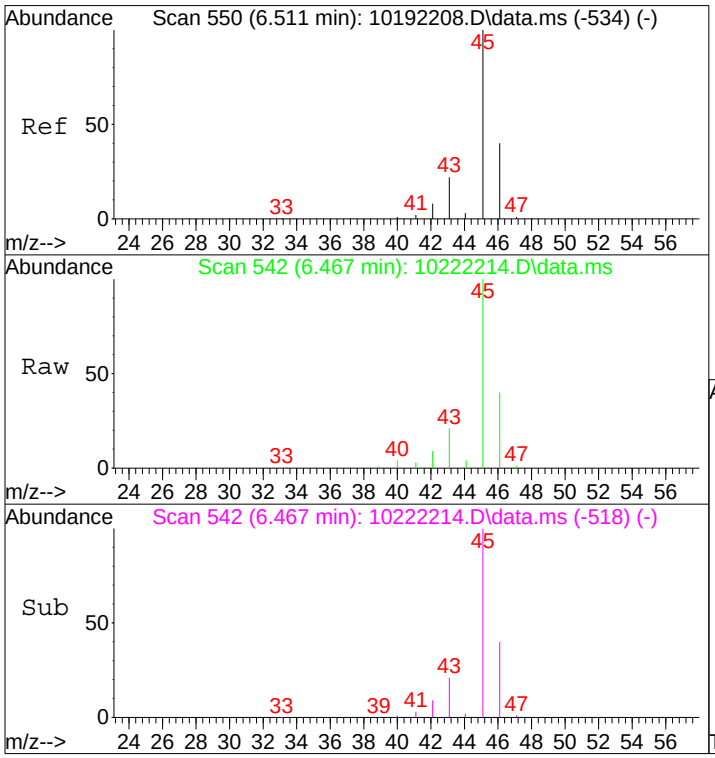


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.74 ng
RT: 4.35 min Scan# 157
Delta R.T. -0.005 min
Lab File: 10222214.D
Acq: 22 Oct 2022 21:20

Tgt Ion: 85 Resp: 37755

Ion	Ratio	Lower	Upper
85	100		
87	33.4	12.7	52.7
101	9.4	0.0	29.1
103	6.0	0.0	25.8

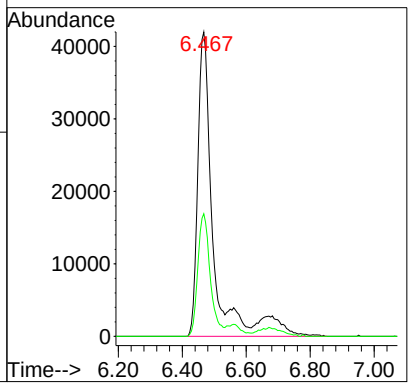


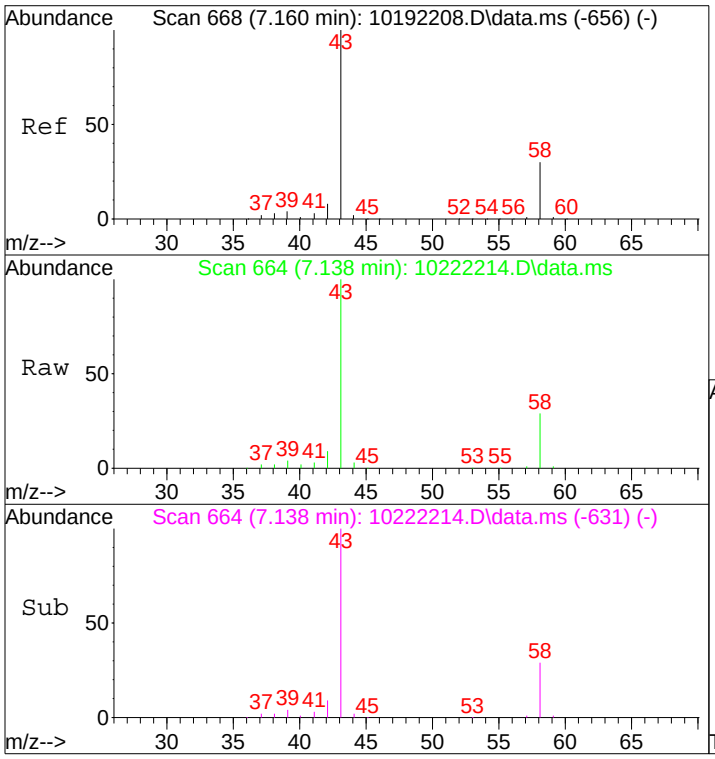


#10
Ethanol
Concen: 16.73 ng
RT: 6.47 min Scan# 542
Delta R.T. -0.116 min
Lab File: 10222214.D
Acq: 22 Oct 2022 21:20

Tgt Ion: 45 Resp: 143277

Ion	Ratio	Lower	Upper
45	100		
46	40.1	20.0	60.0

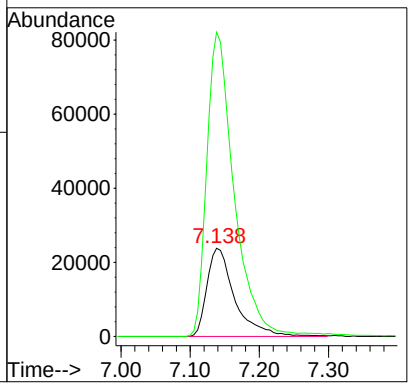


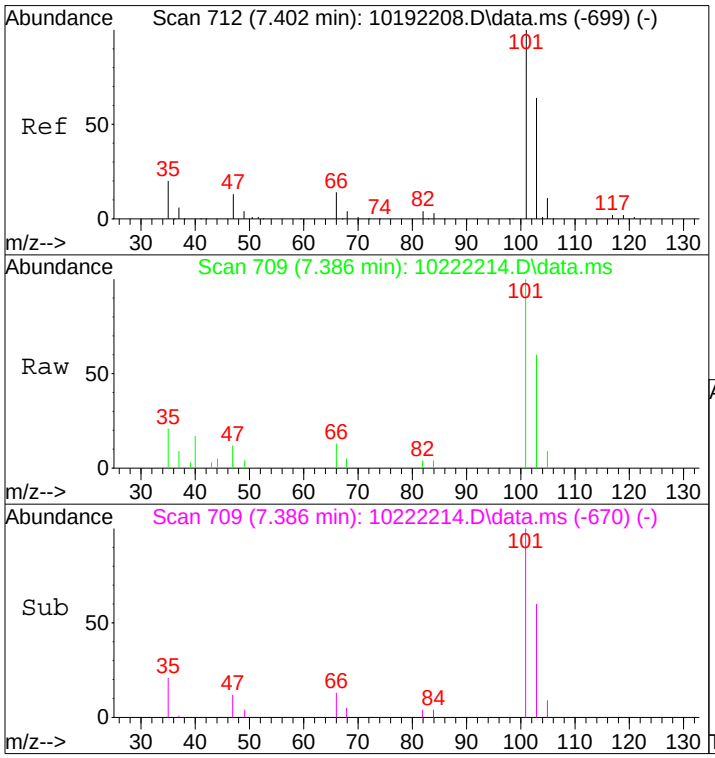


#13
Acetone
Concen: 7.88 ng
RT: 7.14 min Scan# 664
Delta R.T. -0.066 min
Lab File: 10222214.D
Acq: 22 Oct 2022 21:20

Tgt Ion: 58 Resp: 66957

Ion	Ratio	Lower	Upper
58	100		
43	340.9	298.4	358.4

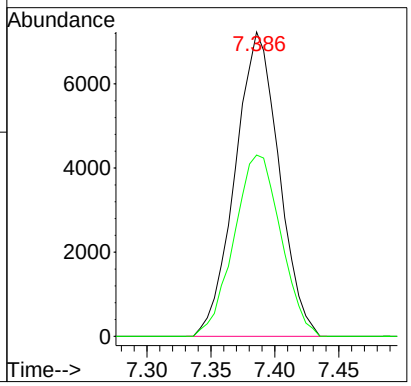


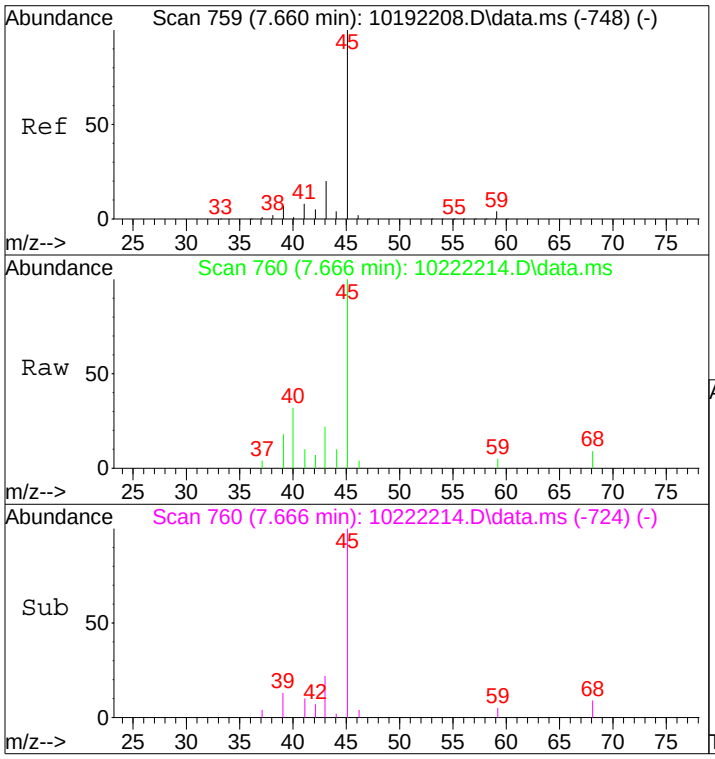


#14
Trichlorofluoromethane
Concen: 0.90 ng
RT: 7.39 min Scan# 709
Delta R.T. -0.033 min
Lab File: 10222214.D
Acq: 22 Oct 2022 21:20

Tgt Ion:101 Resp: 17205

Ion	Ratio	Lower	Upper
101	100		
103	63.8	44.4	84.4

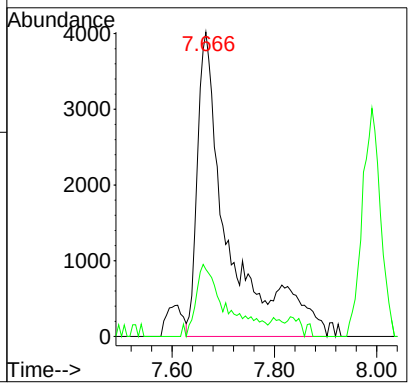


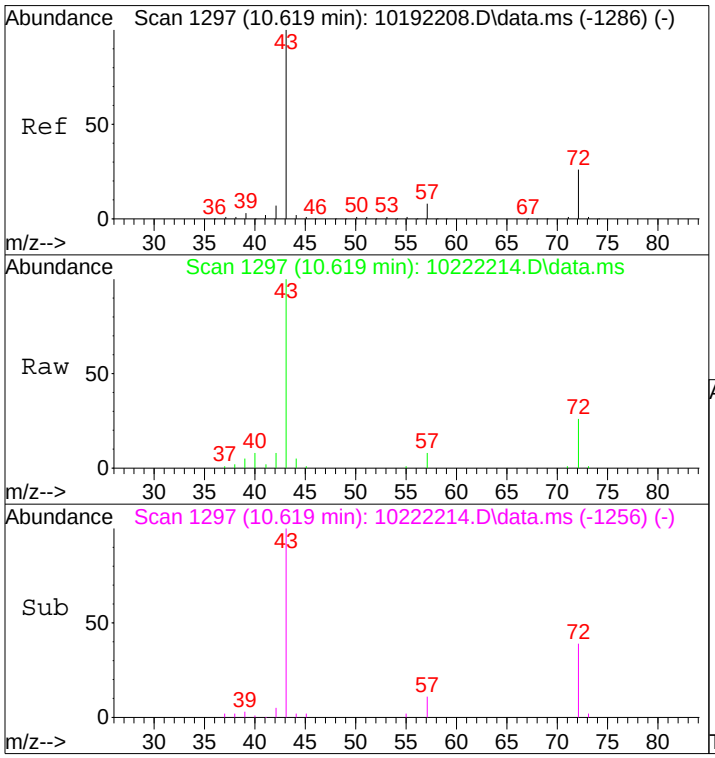


#15
2-Propanol (Isopropanol)
Concen: 0.66 ng
RT: 7.67 min Scan# 760
Delta R.T. -0.049 min
Lab File: 10222214.D
Acq: 22 Oct 2022 21:20

Tgt Ion: 45 Resp: 17022

Ion	Ratio	Lower	Upper
45	100		
43	28.2	0.3	40.3

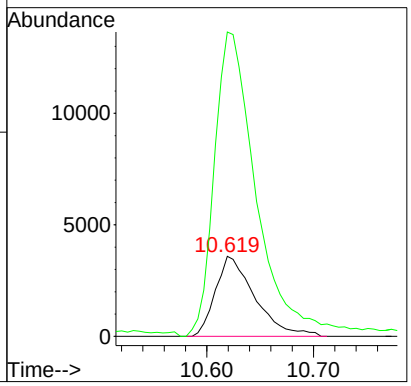


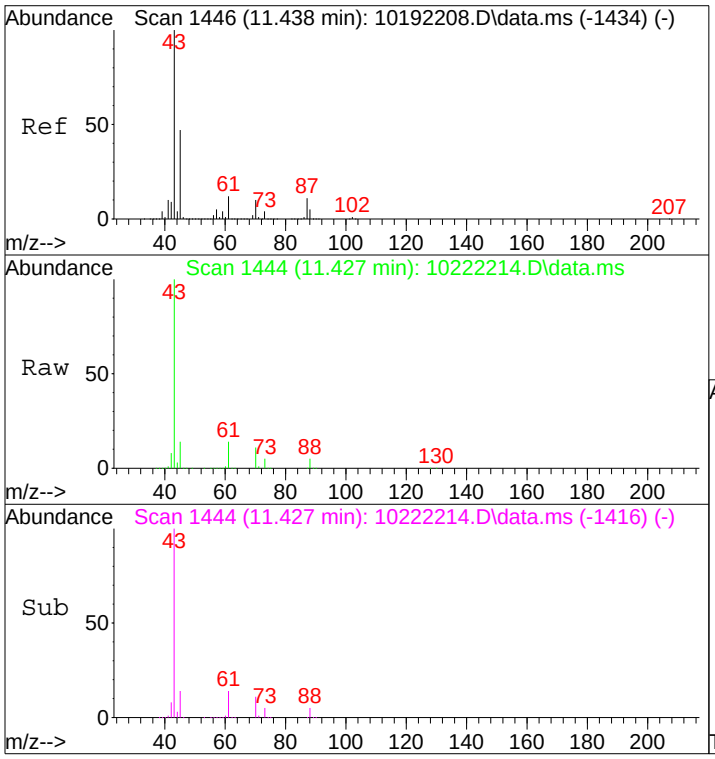


#27
2-Butanone (MEK)
Concen: 1.26 ng
RT: 10.62 min Scan# 1297
Delta R.T. -0.022 min
Lab File: 10222214.D
Acq: 22 Oct 2022 21:20

Tgt Ion: 72 Resp: 9225

Ion	Ratio	Lower	Upper
72	100		
43	417.6	365.7	405.7#

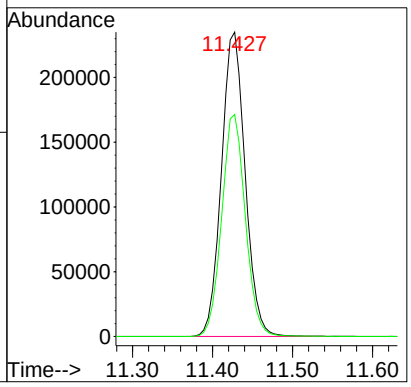


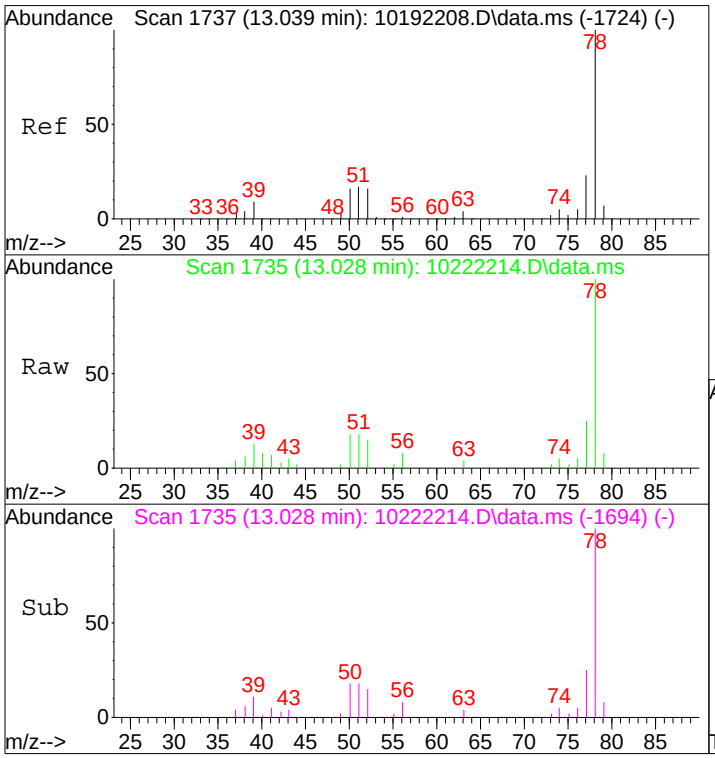


#30
Ethyl Acetate
Concen: 97.56 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.044 min
Lab File: 10222214.D
Acq: 22 Oct 2022 21:20

Tgt Ion: 61 Resp: 484501

Ion	Ratio	Lower	Upper
61	100		
70	72.7	60.3	100.3

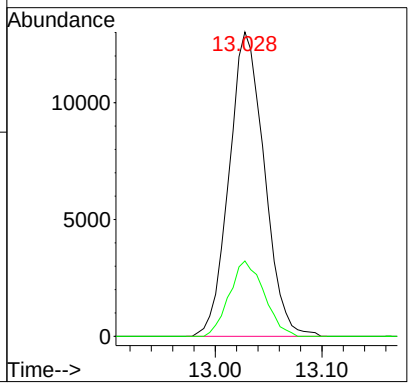


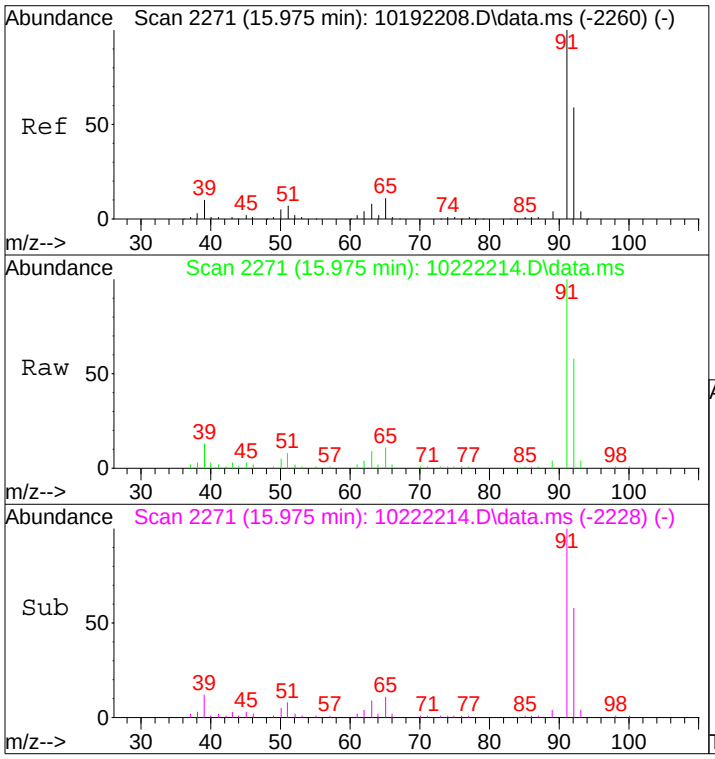


#41
Benzene
Concen: 0.71 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.022 min
Lab File: 10222214.D
Acq: 22 Oct 2022 21:20

Tgt Ion: 78 Resp: 29870

Ion	Ratio	Lower	Upper
78	100		
77	24.4	3.5	43.5

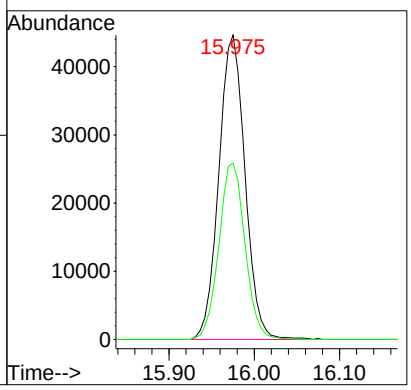




#58
Toluene
Concen: 2.01 ng
RT: 15.98 min Scan# 2271
Delta R.T. -0.011 min
Lab File: 10222214.D
Acq: 22 Oct 2022 21:20

Tgt Ion: 91 Resp: 95189

Ion	Ratio	Lower	Upper
91	100		
92	57.8	38.8	78.8



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16101922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Oct 19 13:14:51 2022
Response Via : Initial Calibration

Calibration Files
0.1 =10192202.D 0.2 =10192205.D 0.5 =10192212.D 1.0 =10192206.D 5.0 =10192207.D 25 =10192208.D 50 =10192209.D
100 =10192210.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene	1.397	1.530	1.236	1.468	1.556	1.385	1.486	1.728	1.473	9.78
3)	T	Dichlorodifluo...	2.303	2.195	2.281	2.427	2.050	1.987	1.980	2.034	2.157	7.79
4)	T	Chloromethane	1.691	1.587	1.815	1.882	1.385	1.413	1.224	0.868	1.483	22.55
5)	T	1,2-Dichloro-1...	1.371	1.295	1.410	1.455	1.243	1.218	1.240	1.370	1.325	6.65
6)	T	Vinyl Chloride	1.597	1.708	1.854	1.974	1.721	1.607	1.562	1.596	1.702	8.56
7)	T	1,3-Butadiene	0.989	1.042	1.183	1.389	1.246	1.307	1.292	1.344	1.224	11.69
8)	T	Bromomethane	0.872	0.938	0.982	1.106	0.908	0.877	0.854	0.860	0.925	9.23
9)	T	Chloroethane	0.735	0.728	0.726	0.809	0.745	0.641	0.700	0.742	0.728	6.46
10)	T	Ethanol	0.838	0.783	1.003	0.934	0.790	0.827	0.810	0.830	0.852	9.00
11)	T	Acetonitrile	2.927	2.344	2.500	2.455	2.074	2.025	1.925	1.897	2.268	15.63
12)	T	Acrolein	0.715	0.699	0.772	0.795	0.675	0.704	0.675	0.667	0.713	6.61
13)	T	Acetone	0.866	0.795	0.829	0.879	0.784	0.858	0.840	0.905	0.844	4.88
14)	T	Trichlorofluor...	1.918	2.000	1.950	2.101	1.811	1.821	1.797	1.821	1.902	5.76
15)	T	2-Propanol (Is...	3.140	2.764	2.973	3.054	2.097	2.449	2.131	1.756	2.546	20.19
16)	T	Acrylonitrile	1.384	1.412	1.441	1.511	1.375	1.482	1.401	1.409	1.427	3.35
17)	T	1,1-Dichloroet...	0.991	1.069	1.011	1.120	0.952	0.978	0.973	1.002	1.012	5.50
18)	T	2-Methyl-2-Pro...	2.712	2.551	2.684	2.943	2.212	2.699	2.195	1.074	2.384	24.66
19)	T	Methylene Chlo...	1.060	1.100	1.028	1.126	0.999	1.063	1.024	1.021	1.053	4.13
20)	T	3-Chloro-1-pro...	1.536	1.479	1.429	1.421	1.408	1.536	1.442	1.427	1.460	3.53
21)	T	Trichlorotrifl...	0.857	0.903	0.900	1.018	0.871	0.898	0.878	0.894	0.902	5.48
22)	T	Carbon Disulfide	3.791	3.712	3.561	3.904	3.477	3.769	3.730	3.853	3.725	3.84
23)	T	trans-1,2-Dich...	1.274	1.401	1.402	1.524	1.407	1.394	1.342	1.371	1.389	5.06
24)	T	1,1-Dichloroet...	1.797	1.810	1.789	1.980	1.711	1.707	1.635	1.637	1.758	6.41
25)	T	Methyl tert-Bu...	3.339	2.938	3.220	3.576	3.159	3.311	3.227	2.915	3.211	6.71
26)	T	Vinyl Acetate			0.196	0.219	0.228	0.297	0.297	0.319	0.259	19.74
27)	T	2-Butanone (MEK)	0.523	0.594	0.715	0.791	0.726	0.829	0.813	0.854	0.731	16.12
28)	T	cis-1,2-Dichlo...	1.395	1.399	1.404	1.540	1.360	1.382	1.332	1.345	1.395	4.61
29)	T	Diisopropyl Ether	1.035	0.939	1.042	1.187	1.106	1.487	1.618	1.403	1.227	20.01
30)	T	Ethyl Acetate	0.337	0.403	0.426	0.480	0.466	0.623	0.662	0.552	0.494	22.50
31)	T	n-Hexane	1.901	1.985	1.926	2.129	1.969	2.448	2.471	2.322	2.144	11.07
32)	T	Chloroform	1.953	1.889	1.808	2.077	1.861	1.941	1.876	1.850	1.907	4.38
33)	S	1,2-Dichloroet...	1.702	1.696	1.704	1.711	1.708	1.721	1.602	1.529	1.672	4.12
34)	T	Tetrahydrofura...	0.678	0.687	0.699	0.753	0.655	0.723	0.717	0.753	0.708	4.93
35)	T	Ethyl tert-But...	1.215	1.171	1.253	1.400	1.306	1.543	1.607	1.852	1.418	16.48
36)	T	1,2-Dichloroet...	1.462	1.511	1.416	1.639	1.433	1.457	1.363	1.372	1.457	6.05
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.378	0.364	0.378	0.403	0.368	0.380	0.388	0.398	0.382	3.57
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	0.919	0.886	0.890	0.967	0.878	0.936	0.949	0.991	0.927	4.41
42)	T	Carbon Tetrach...	0.296	0.292	0.308	0.346	0.310	0.325	0.330	0.350	0.320	6.81

10/19/22

Method Path : I:\MS16\METHODS\
Method File : R16101922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

43)	T	Cyclohexane	0.397	0.391	0.375	0.412	0.375	0.414	0.443	0.511	0.415	10.80
44)	T	tert-Amyl Meth...	0.637	0.588	0.611	0.669	0.646	0.751	0.806	0.884	0.699	14.89
45)	T	1,2-Dichloropr...	0.228	0.238	0.220	0.252	0.222	0.231	0.227	0.232	0.231	4.33
46)	T	Bromodichlorom...	0.320	0.325	0.315	0.352	0.315	0.334	0.339	0.360	0.333	5.10
47)	T	Trichloroethene	0.243	0.247	0.244	0.272	0.245	0.268	0.280	0.315	0.264	9.47
48)	T	1,4-Dioxane	0.163	0.181	0.179	0.195	0.181	0.203	0.210	0.236	0.194	11.75
49)	T	2,2,4-Trimethy...	1.152	1.002	0.993	1.111	0.990	1.037	1.024	1.074	1.048	5.67
50)	T	Methyl Methacr...			0.093	0.101	0.099	0.123	0.128	0.143	0.114	17.28
51)	T	n-Heptane	0.264	0.246	0.252	0.277	0.252	0.282	0.283	0.305	0.270	7.41
52)	T	cis-1,3-Dichlo...	0.268	0.270	0.318	0.371	0.345	0.386	0.394	0.410	0.345	15.94
53)	T	4-Methyl-2-pen...	0.181	0.175	0.199	0.226	0.216	0.248	0.256	0.278	0.222	16.50
54)	T	trans-1,3-Dich...			0.270	0.308	0.315	0.355	0.362	0.375	0.331	12.03
55)	T	1,1,2-Trichlor...	0.196	0.214	0.210	0.242	0.214	0.233	0.237	0.251	0.225	8.44
56)	IR	Chlorobenzene-d5 (...	----------	----------	ISTD	----------	----------	----------	----------	----------	----------	
57)	S	Toluene-d8 (SS2)	5.491	5.468	5.557	5.619	5.432	5.599	5.537	5.370	5.509	1.54
58)	T	Toluene	4.871	4.584	5.014	5.448	4.738	5.250	5.300	5.575	5.097	6.90
59)	T	2-Hexanone	2.287	2.025	2.618	2.818	2.628	2.918	2.968	3.036	2.662	13.27
60)	T	Dibromochlorom...	1.130	1.174	1.272	1.398	1.269	1.465	1.479	1.565	1.344	11.61
61)	T	1,2-Dibromoethane	1.038	1.039	1.149	1.324	1.194	1.346	1.348	1.398	1.230	11.72
62)	T	n-Butyl Acetate	2.284	2.397	2.755	3.137	2.907	3.279	3.319	3.400	2.935	14.51
63)	T	n-Octane	1.164	1.034	1.018	1.146	1.007	1.112	1.115	1.200	1.100	6.55
64)	T	Tetrachloroethene	1.165	1.121	1.223	1.405	1.217	1.364	1.437	1.622	1.319	12.74
65)	T	Chlorobenzene	2.942	3.077	3.206	3.529	3.102	3.381	3.578	4.109	3.366	11.13
66)	T	Ethylbenzene	5.034	4.924	5.373	5.879	5.330	6.077	6.281	6.776	5.709	11.39
67)	T	m- & p-Xylenes	4.224	3.990	4.068	4.651	4.234	5.022	5.336	5.702	4.653	13.70
68)	T	Bromoform	0.843	0.883	0.961	1.092	1.042	1.235	1.269	1.395	1.090	17.99
69)	T	Styrene	2.504	2.613	2.902	3.292	3.161	3.800	3.899	4.241	3.302	19.08
70)	T	o-Xylene	3.900	3.801	4.117	4.640	4.272	4.950	5.128	5.632	4.555	14.18
71)	T	n-Nonane	2.647	2.573	2.341	2.699	2.467	2.614	2.603	2.684	2.579	4.66
72)	T	1,1,2,2-Tetrac...	1.670	1.764	1.773	2.110	1.899	2.225	2.257	2.456	2.019	14.01
73)	S	Bromofluoroben...	1.654	1.645	1.683	1.688	1.715	1.854	1.831	1.819	1.736	4.89
74)	T	Cumene	5.529	5.325	5.495	6.070	5.684	6.653	6.904	7.229	6.111	11.89
75)	T	alpha-Pinene	2.116	2.030	2.137	2.445	2.553	3.102	3.291	3.708	2.673	23.30
76)	T	n-Propylbenzene	6.149	6.490	6.340	7.057	6.751	7.866	8.036	7.980	7.084	10.95
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	4.473	4.989	4.909	5.650	5.485	6.641	6.875	7.096	5.765	17.18
79)	T	1,3,5-Trimethy...	4.656	4.573	4.353	4.864	4.780	5.629	5.820	6.185	5.107	13.17
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	4.031	4.297	4.293	4.874	4.880	6.504	7.228	6.357	5.308	22.82
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride			1.825	1.972	2.632	4.011	4.614	4.417	3.245	38.60
85)	T	1,3-Dichlorobe...	1.992	2.166	2.357	2.636	2.648	3.302	3.597	3.895	2.824	24.62
86)	T	1,4-Dichlorobe...	2.142	2.227	2.516	2.674	2.586	3.048	3.160	3.477	2.729	17.03
87)	T	sec-Butylbenzene	5.586	6.051	5.721	6.597	6.771	7.817	7.974	7.762	6.785	14.28
88)	T	4-Isopropyltol...	4.950	5.226	5.044	5.798	5.825	6.982	7.195	7.198	6.027	16.00
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.055	2.232	2.319	2.514	2.586	3.309	3.701	3.815	2.816	24.51
91)	T	d-Limonene	1.371	1.531	1.469	1.672	1.800	2.108	2.253	2.153	1.795	18.92
92)	T	1,2-Dibromo-3-...			0.810	0.882	0.929	1.177	1.269	1.442	1.085	22.99
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...			1.651	1.648	1.608	2.071	2.487	2.725	2.032	23.73

Method Path : I:\MS16\METHODS\
Method File : R16101922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95)	T	Naphthalene		3.092	4.971	4.511	4.776	5.621	5.912	6.328	5.030	21.33
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	0.999	1.091	0.969	1.076	1.009	1.262	1.461	1.844	1.214	24.96
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	4.150	4.551	4.264	4.899	4.905	6.536	7.221	6.334	5.358	21.78
100)	T	n-Butylbenzene	3.870	4.309	4.462	5.008	5.072	5.879	5.989	6.142	5.091	16.67
101)	T	1,1,1,2-Tetrac...	1.224	1.095	1.204	1.372	1.193	1.339	1.432	1.668	1.316	13.65

(#) = Out of Range

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-10172210 | 200ng/L Std. ID: S35-10172201
20ng/L Std. ID: S35-10172209 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Freon-114	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Vinyl Chloride	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Ethanol	3.45	3450	690	138.0	69.0	13.80	3.45		0.345	0.690	1.725	3.45	17.25	86.25	172.5	345
Acetonitrile	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Acrolein	1.93	1930	386	77.2	38.6	7.72	1.93		0.193	0.386	0.965	1.93	9.65	48.25	96.5	193
Acetone	5.27	5270	1054	210.8	105.4	21.08	5.27		0.527	1.054	2.635	5.27	26.35	131.75	263.5	527
Trichlorofluoromethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isopropanol	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Acrylonitrile	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.13	2130	426	85.2	42.6	8.52	2.13		0.213	0.426	1.065	2.13	10.65	53.25	106.5	213
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl tert-Butyl Ether	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Vinyl Acetate	2.80	2800	560	112.0	56.0	11.20	2.80		0.280	0.560	1.400	2.80	14.00	70.00	140.0	280
2-Butanone	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.22	4220	844	168.8	84.4	16.88	4.22		0.422	0.844	2.110	4.22	21.10	105.50	211.0	422
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrahydrofuran	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Ethyl tert-Butyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Carbon Tetrachloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cyclohexane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
tert-Amyl Methyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Bromodichloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Trichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,4-Dioxane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isooctane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Methyl Methacrylate	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
n-Heptane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

TO15 MS16

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | **40ng/L Std. ID:**
4ng/L Std. ID: S35-10172210 | **200ng/L Std. ID:** S35-10172201
20ng/L Std. ID: S35-10172209 | **1000ng/L Std. ID:**

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.			Primary Working Standards				Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
4-Methyl-2-pentanone	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
trans-1,3-Dichloropropene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,1,2-Trichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Toluene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
2-Hexanone	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Dibromochloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
n-Octane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrachloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Ethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
m-&p-Xylene	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Nonane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cumene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Alpha-Pinene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Propylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
4-Ethyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2,4-Trimethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzyl Chloride	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,3-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,4-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
sec-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
p-Isopropyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromo-3-chloropropane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2,4-Trichlorobenzene	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Naphthalene	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
tert-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,1,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

8/1/19 GOT

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16101922.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2022_10\19\10192202.D
2	0.2	0	13	I:\MS16\DATA\2022_10\19\10192205.D
3	0.5	1	13	I:\MS16\DATA\2022_10\19\10192212.D
4	1.0	1	13	I:\MS16\DATA\2022_10\19\10192206.D
5	5.0	5	13	I:\MS16\DATA\2022_10\19\10192207.D
6	25	26	13	I:\MS16\DATA\2022_10\19\10192208.D
7	50	53	13	I:\MS16\DATA\2022_10\19\10192209.D
8	100	105	13	I:\MS16\DATA\2022_10\19\10192210.D

10/19/22

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Oct 19 13:11 2022	Oct 19 10:14 2022	19 Oct 2022 5:36
2	0.2	Oct 19 13:12 2022	Oct 19 10:18 2022	19 Oct 2022 7:33
3	0.5	Oct 19 13:12 2022	Oct 19 13:12 2022	19 Oct 2022 11:32
4	1.0	Oct 19 13:13 2022	Oct 19 10:21 2022	19 Oct 2022 8:08
5	5.0	Oct 19 13:13 2022	Oct 19 10:22 2022	19 Oct 2022 8:41
6	25	Oct 19 13:14 2022	Oct 19 10:23 2022	19 Oct 2022 9:15
7	50	Oct 19 13:14 2022	Oct 19 10:25 2022	19 Oct 2022 9:49
8	100	Oct 19 13:14 2022	Oct 19 10:53 2022	19 Oct 2022 10:23

R16101922.M Wed Oct 19 15:10:40 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192202.D Vial: 13
Acq On : 19 Oct 2022 5:36 Operator: WA
Sample : 0.1ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172210 (11/16)

Quant Time: Oct 19 10:14:21 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022 10/19/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	155637	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	708257	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	147975	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	264965	12.782	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
57) Toluene-d8 (SS2)	15.87	98	812476	14.242	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.92%				
73) Bromofluorobenzene (SS3)	19.10	174	244784	11.483	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%				
Target Compounds							Qvalue
2) Propene	4.21	42	1827	0.085	ng	#	91
3) Dichlorodifluoromethan...	4.37	85	3039	0.117	ng	#	92
4) Chloromethane	4.66	50	2168	0.095	ng		89
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1775	0.108	ng		90
6) Vinyl Chloride	5.08	62	2008	0.083	ng		99
7) 1,3-Butadiene	5.36	54	1305	0.065	ng	#	68
8) Bromomethane	5.79	94	1108	0.103	ng	#	78
9) Chloroethane	6.13	64	942	0.099	ng		65
10) Ethanol	6.49	45	3598	0.284	ng		84
11) Acetonitrile	6.74	41	3316	0.101	ng	#	68
12) Acrolein	6.96	56	1719	0.173	ng		94
13) Acetone	7.18	58	5683	0.472	ng	#	82
14) Trichlorofluoromethane	7.41	101	2483	0.103	ng		97
15) 2-Propanol (Isopropanol)	7.69	45	8015	0.216	ng		92
16) Acrylonitrile	7.91	53	3532	0.174	ng		98
17) 1,1-Dichloroethene	8.36	96	1332	0.109	ng		88
18) 2-Methyl-2-Propanol (t...	8.61	59	7124	0.224	ng		76
19) Methylene Chloride	8.58	84	1399	0.109	ng		83
20) 3-Chloro-1-propene (Al...	8.75	41	2027	0.091	ng		80
21) Trichlorotrifluoroethane	9.00	151	1152	0.092	ng		88
22) Carbon Disulfide	8.85	76	10053	0.221	ng		97
23) trans-1,2-Dichloroethene	9.85	61	1713	0.094	ng		92
24) 1,1-Dichloroethane	10.10	63	2394	0.104	ng		94
25) Methyl tert-Butyl Ether	10.26	73	4448	0.116	ng		95
26) Vinyl Acetate	10.38	86	192	0.061	ng	#	1
27) 2-Butanone (MEK)	10.65	72	1362	0.156	ng	#	52
28) cis-1,2-Dichloroethene	11.11	61	1841	0.095	ng		98
29) Diisopropyl Ether	11.44	87	2731	0.207	ng	#	74
30) Ethyl Acetate	11.46	61	1773	0.264	ng		92
31) n-Hexane	11.42	57	2485	0.088	ng	#	93
32) Chloroform	11.46	83	2578	0.114	ng		94
34) Tetrahydrofuran (THF)	11.93	72	1723	0.204	ng	#	79
35) Ethyl tert-Butyl Ether	12.04	87	3206	0.189	ng	#	85
36) 1,2-Dichloroethane	12.27	62	1966	0.104	ng		93
38) 1,1,1-Trichloroethane	12.54	97	2251	0.102	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	5571	0.108	ng		96
42) Carbon Tetrachloride	13.19	117	1742	0.090	ng		98
43) Cyclohexane	13.32	84	4718	0.212	ng		96
44) tert-Amyl Methyl Ether	13.69	73	7653	0.193	ng		92
45) 1,2-Dichloropropane	13.89	63	1356	0.097	ng		100
46) Bromodichloromethane	14.07	83	1939	0.103	ng		90
47) Trichloroethene	14.13	130	1445	0.080	ng		94
48) 1,4-Dioxane	14.15	88	981	0.092	ng		93
49) 2,2,4-Trimethylpentane...	14.19	57	7049	0.106	ng		94
50) Methyl Methacrylate	14.35	100	662	0.103	ng	#	41

Data File : I:\MS16\DATA\2022 10\19\10192202.D Vial: 13
Acq On : 19 Oct 2022 5:36 Operator: WA
Sample : 0.1ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172210 (11/16)

Quant Time: Oct 19 10:14:21 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

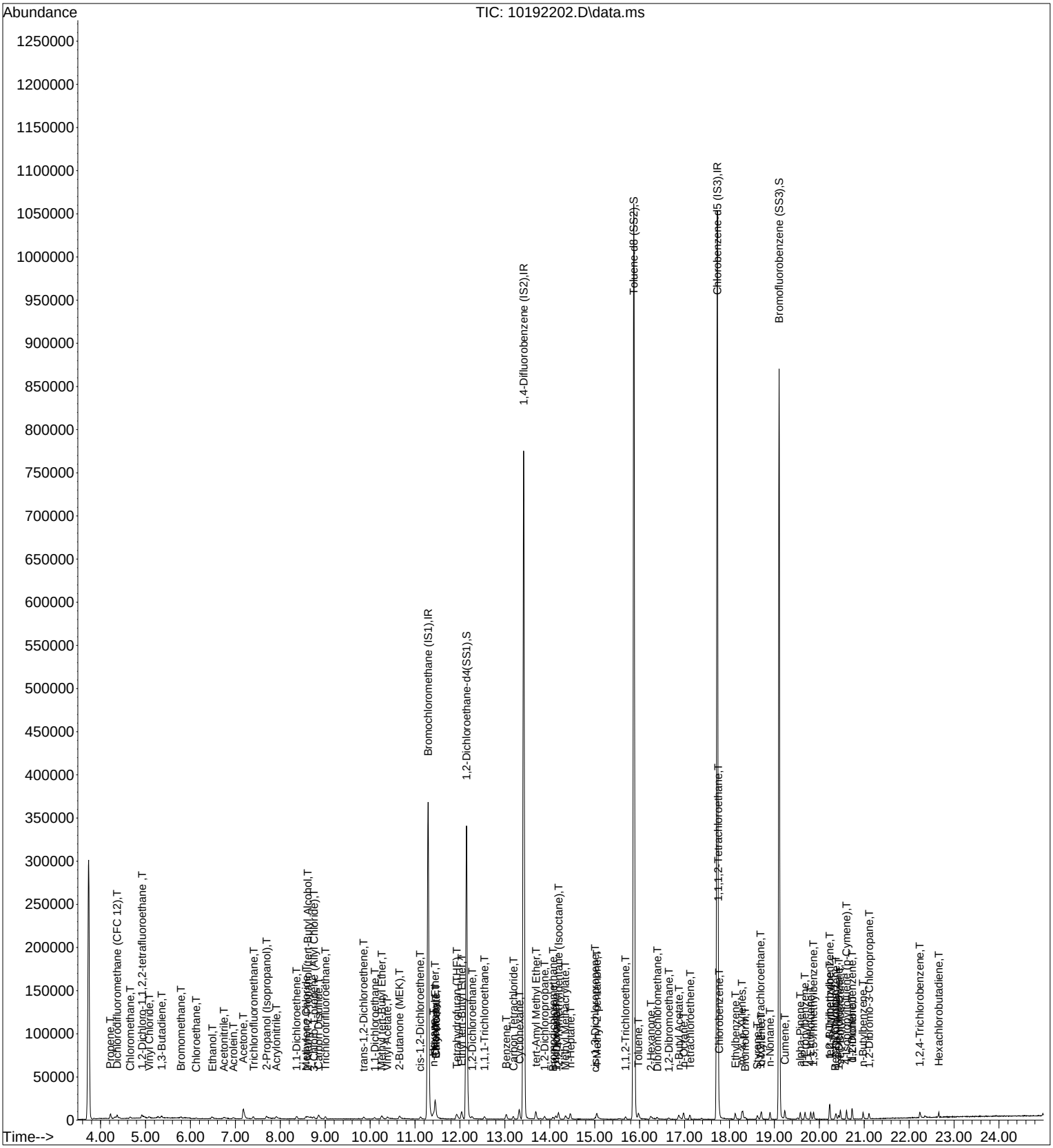
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	1587	0.109 ng		94
52) cis-1,3-Dichloropropene	15.01	75	1642	0.082 ng		69
53) 4-Methyl-2-pentanone	15.05	58	2208	0.155 ng	#	61
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d		
55) 1,1,2-Trichloroethane	15.68	97	1177	0.090 ng		91
58) Toluene	15.97	91	6054	0.117 ng		97
59) 2-Hexanone	16.25	43	5739	0.171 ng		75
60) Dibromochloromethane	16.39	129	1445	0.097 ng		99
61) 1,2-Dibromoethane	16.65	107	1278	0.096 ng		97
62) n-Butyl Acetate	16.88	43	5543	0.150 ng		94
63) n-Octane	16.98	57	1475	0.117 ng	#	80
64) Tetrachloroethene	17.12	166	1462	0.092 ng		93
65) Chlorobenzene	17.77	112	3692	0.103 ng		90
66) Ethylbenzene	18.13	91	6257	0.107 ng		94
67) m- & p-Xylenes	18.28	91	10502	0.225 ng		90
68) Bromoform	18.35	173	1068	0.080 ng		83
69) Styrene	18.62	104	3142	0.092 ng		92
70) o-Xylene	18.71	91	4894	0.105 ng		94
71) n-Nonane	18.90	43	3322	0.101 ng		84
72) 1,1,2,2-Tetrachloroethane	18.69	83	2096	0.100 ng		97
74) Cumene	19.23	105	7003	0.113 ng		92
75) alpha-Pinene	19.58	93	2730	0.094 ng		92
76) n-Propylbenzene	19.68	91	7789	0.110 ng		93
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	19.81	105	5772	0.097 ng		95
79) 1,3,5-Trimethylbenzene	19.87	105	5843	0.114 ng		87
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	20.23	105	5011	0.094 ng		96
83) n-Decane	0.00	58	0	N.D. d		
84) Benzyl Chloride	20.35	91	3105	0.083 ng		76
85) 1,3-Dichlorobenzene	20.37	146	2499	0.080 ng		92
86) 1,4-Dichlorobenzene	20.43	146	2688	0.087 ng		94
87) sec-Butylbenzene	20.47	105	7010	0.102 ng		95
88) 4-Isopropyltoluene (p-...	20.61	119	6212	0.103 ng		96
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	20.73	146	2603	0.087 ng		100
91) d-Limonene	20.73	68	1737	0.086 ng		89
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1737	0.151 ng	#	59
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	2738	0.122 ng		97
95) Naphthalene	0.00	128	0	N.D. d		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	1254	0.078 ng		95
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.23	119	5208	0.098 ng		99
100) n-Butylbenzene	20.97	91	4902	0.095 ng		94
101) 1,1,1,2-Tetrachloroethane	17.75	131	1536	0.110 ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192202.D Vial: 13
Acq On : 19 Oct 2022 5:36 Operator: WA
Sample : 0.1ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172210 (11/16)

Quant Time: Oct 19 10:14:21 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192205.D Vial: 13
Acq On : 19 Oct 2022 7:33 Operator: WA
Sample : 0.2ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172210 (11/16)

Quant Time: Oct 19 10:18:30 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

10/19/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	151043	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	688181	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	143497	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	256178	12.734	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
57) Toluene-d8 (SS2)	15.87	98	784587	14.182	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%				
73) Bromofluorobenzene (SS3)	19.11	174	236038	11.418	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.36%				
Target Compounds							Qvalue
2) Propene	4.21	42	3882	0.185	ng		90
3) Dichlorodifluoromethan...	4.37	85	5622	0.223	ng		95
4) Chloromethane	4.66	50	3951	0.178	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	3256	0.204	ng		95
6) Vinyl Chloride	5.08	62	4170	0.177	ng		99
7) 1,3-Butadiene	5.35	54	2670	0.137	ng	#	85
8) Bromomethane	5.79	94	2312	0.222	ng		99
9) Chloroethane	6.14	64	1811	0.197	ng		85
10) Ethanol	6.48	45	6531	0.531	ng		92
11) Acetonitrile	6.75	41	5154	0.162	ng		89
12) Acrolein	6.95	56	3258	0.339	ng		96
13) Acetone	7.17	58	10124	0.867	ng	#	82
14) Trichlorofluoromethane	7.40	101	5027	0.215	ng		94
15) 2-Propanol (Isopropanol)	7.68	45	13694	0.381	ng		89
16) Acrylonitrile	7.91	53	6996	0.354	ng		95
17) 1,1-Dichloroethene	8.37	96	2791	0.236	ng		93
18) 2-Methyl-2-Propanol (t...	8.59	59	13009	0.422	ng		87
19) Methylene Chloride	8.58	84	2818	0.227	ng		94
20) 3-Chloro-1-propene (Al...	8.75	41	3789	0.175	ng		84
21) Trichlorotrifluoroethane	9.01	151	2358	0.195	ng		97
22) Carbon Disulfide	8.85	76	19106	0.433	ng		97
23) trans-1,2-Dichloroethene	9.86	61	3656	0.207	ng		89
24) 1,1-Dichloroethane	10.10	63	4680	0.209	ng		97
25) Methyl tert-Butyl Ether	10.25	73	7598	0.204	ng		96
26) Vinyl Acetate	10.38	86	831	0.274	ng	#	1
27) 2-Butanone (MEK)	10.64	72	3000	0.355	ng	#	77
28) cis-1,2-Dichloroethene	11.13	61	3585	0.191	ng		99
29) Diisopropyl Ether	11.44	87	4813	0.376	ng	#	58
30) Ethyl Acetate	11.44	61	4113	0.632	ng		95
31) n-Hexane	11.42	57	5037	0.184	ng		98
32) Chloroform	11.46	83	4839	0.221	ng		100
34) Tetrahydrofuran (THF)	11.92	72	3389	0.413	ng	#	91
35) Ethyl tert-Butyl Ether	12.04	87	6001	0.365	ng		93
36) 1,2-Dichloroethane	12.27	62	3944	0.215	ng		97
38) 1,1,1-Trichloroethane	12.55	97	4203	0.196	ng		96
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	10444	0.208	ng		99
42) Carbon Tetrachloride	13.19	117	3345	0.178	ng		96
43) Cyclohexane	13.32	84	9036	0.417	ng		98
44) tert-Amyl Methyl Ether	13.68	73	13737	0.357	ng		95
45) 1,2-Dichloropropane	13.89	63	2748	0.202	ng		94
46) Bromodichloromethane	14.07	83	3832	0.210	ng		100
47) Trichloroethene	14.12	130	2855	0.164	ng		100
48) 1,4-Dioxane	14.14	88	2110	0.204	ng		91
49) 2,2,4-Trimethylpentane...	14.19	57	11918	0.184	ng		93
50) Methyl Methacrylate	14.34	100	1718	0.275	ng	#	68

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192205.D Vial: 13
Acq On : 19 Oct 2022 7:33 Operator: WA
Sample : 0.2ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172210 (11/16)

Quant Time: Oct 19 10:18:30 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

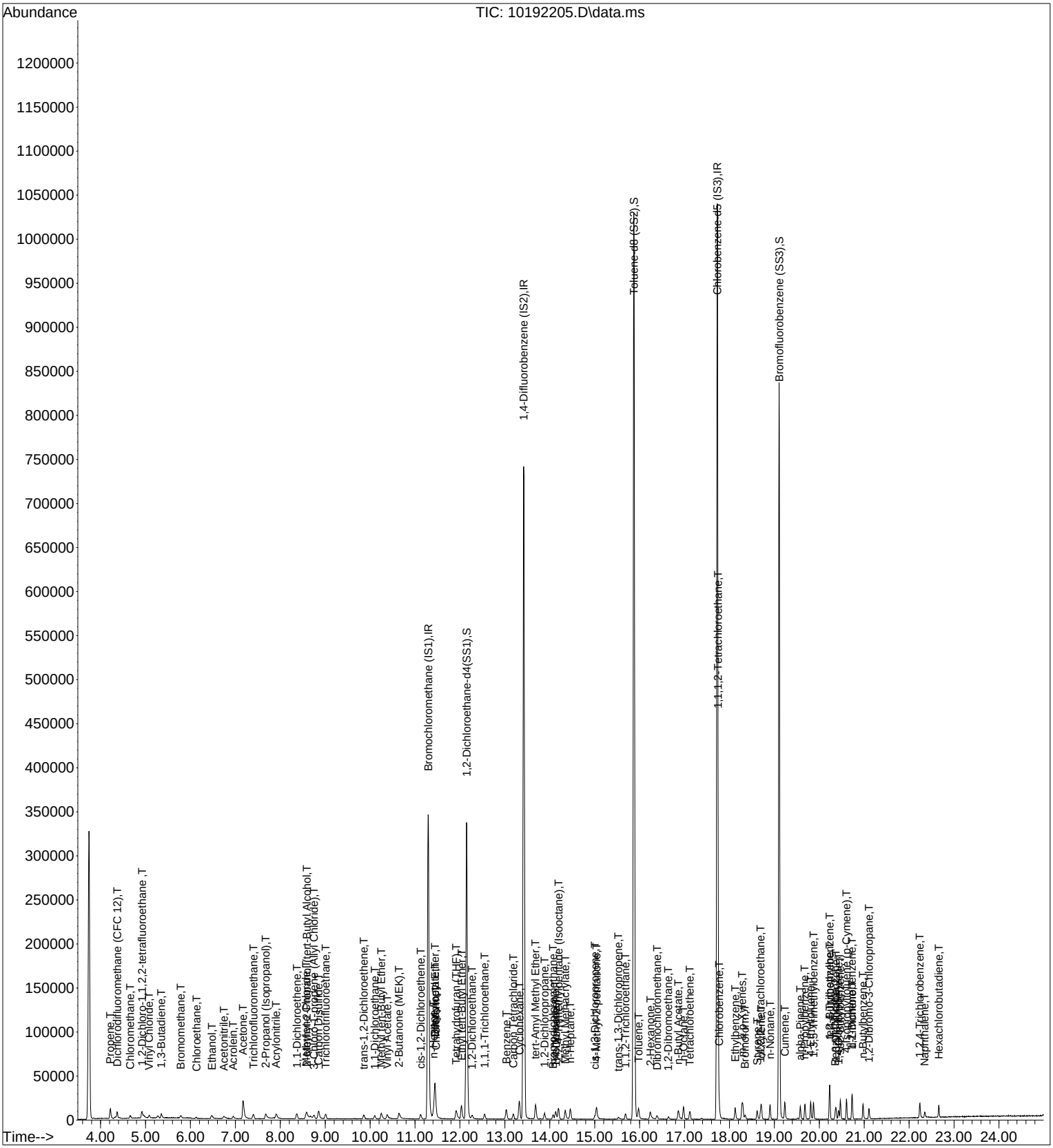
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	2877	0.203	ng		97
52) cis-1,3-Dichloropropene	15.00	75	3208	0.165	ng		96
53) 4-Methyl-2-pentanone	15.04	58	4138	0.299	ng	#	70
54) trans-1,3-Dichloropropene	15.52	75	1922	0.098	ng		95
55) 1,1,2-Trichloroethane	15.68	97	2492	0.197	ng		100
58) Toluene	15.98	91	11051	0.221	ng		97
59) 2-Hexanone	16.24	43	9856	0.302	ng		92
60) Dibromochloromethane	16.39	129	2910	0.202	ng		97
61) 1,2-Dibromoethane	16.64	107	2482	0.192	ng		99
62) n-Butyl Acetate	16.86	43	11281	0.314	ng		98
63) n-Octane	16.98	57	2541	0.207	ng		93
64) Tetrachloroethene	17.12	166	2728	0.178	ng		97
65) Chlorobenzene	17.77	112	7488	0.215	ng		94
66) Ethylbenzene	18.13	91	11871	0.209	ng		95
67) m- & p-Xylenes	18.28	91	19239	0.425	ng		94
68) Bromoform	18.35	173	2169	0.167	ng		96
69) Styrene	18.62	104	6359	0.193	ng		98
70) o-Xylene	18.71	91	9250	0.205	ng		94
71) n-Nonane	18.91	43	6263	0.196	ng		91
72) 1,1,2,2-Tetrachloroethane	18.69	83	4292	0.212	ng		98
74) Cumene	19.23	105	13082	0.217	ng		99
75) alpha-Pinene	19.58	93	5081	0.181	ng		79
76) n-Propylbenzene	19.68	91	15945	0.233	ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D.			
78) 4-Ethyltoluene	19.81	105	12485	0.216	ng		96
79) 1,3,5-Trimethylbenzene	19.87	105	11129	0.224	ng		95
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	0.00	105	0	N.D.			
82) 1,2,4-Trimethylbenzene	20.23	105	10360	0.201	ng		98
83) n-Decane	0.00	58	0	N.D.	d		
84) Benzyl Chloride	20.35	91	5391	0.148	ng		88
85) 1,3-Dichlorobenzene	20.37	146	5272	0.175	ng		97
86) 1,4-Dichlorobenzene	20.43	146	5419	0.182	ng		100
87) sec-Butylbenzene	20.47	105	14726	0.222	ng		95
88) 4-Isopropyltoluene (p-...	20.61	119	12718	0.217	ng		97
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.			
90) 1,2-Dichlorobenzene	20.73	146	5483	0.188	ng		98
91) d-Limonene	20.73	68	3761	0.191	ng		91
92) 1,2-Dibromo-3-Chloropr...	21.11	157	3311	0.297	ng	#	70
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.24	180	5827	0.268	ng		99
95) Naphthalene	22.34	128	7810	0.130	ng		91
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	2656	0.171	ng		100
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	20.23	119	11077	0.214	ng		98
100) n-Butylbenzene	20.97	91	10585	0.211	ng	#	94
101) 1,1,1,2-Tetrachloroethane	17.75	131	2665	0.197	ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192205.D Vial: 13
Acq On : 19 Oct 2022 7:33 Operator: WA
Sample : 0.2ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172210 (11/16)

Quant Time: Oct 19 10:18:30 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192212.D Vial: 14
Acq On : 19 Oct 2022 11:32 Operator: WA
Sample : 0.5ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 13:12:35 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:12:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 10/19/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	161586	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.42	114	736969	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	150985	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	275328	13.170	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
57) Toluene-d8 (SS2)	15.87	98	839012	12.670	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
73) Bromofluorobenzene (SS3)	19.11	174	254106	12.119	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
Target Compounds							Qvalue
2) Propene	4.21	42	8388	0.462	ng		96
3) Dichlorodifluoromethan...	4.37	85	15631	0.605	ng		100
4) Chloromethane	4.66	50	12084	0.697	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	9475	0.592	ng		99
6) Vinyl Chloride	5.08	62	12103	0.590	ng		98
7) 1,3-Butadiene	5.35	54	8106	0.549	ng		91
8) Bromomethane	5.79	94	6471	0.573	ng		97
9) Chloroethane	6.13	64	4831	0.532	ng		98
10) Ethanol	6.47	45	22369	2.189	ng		97
11) Acetonitrile	6.74	41	14707	0.527	ng		89
12) Acrolein	6.95	56	9635	1.105	ng		97
13) Acetone	7.17	58	28223	2.714	ng		93
14) Trichlorofluoromethane	7.40	101	13105	0.563	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	39393	1.277	ng		90
16) Acrylonitrile	7.91	53	19090	1.089	ng		100
17) 1,1-Dichloroethene	8.36	96	7056	0.567	ng		98
18) 2-Methyl-2-Propanol (t...	8.56	59	36599	1.269	ng		93
19) Methylene Chloride	8.57	84	7043	0.543	ng		95
20) 3-Chloro-1-propene (Al...	8.75	41	9791	0.554	ng		94
21) Trichlorotrifluoroethane	9.01	151	6283	0.569	ng		97
22) Carbon Disulfide	8.85	76	49021	1.071	ng		100
23) trans-1,2-Dichloroethene	9.85	61	9784	0.570	ng		100
24) 1,1-Dichloroethane	10.11	63	12370	0.553	ng		99
25) Methyl tert-Butyl Ether	10.24	73	22267	0.551	ng		96
26) Vinyl Acetate	10.38	86	3539	1.309	ng	#	54
27) 2-Butanone (MEK)	10.63	72	9662	1.054	ng		94
28) cis-1,2-Dichloroethene	11.13	61	9619	0.543	ng		100
29) Diisopropyl Ether	11.43	87	14275	0.913	ng	#	79
30) Ethyl Acetate	11.44	61	11632	1.862	ng		96
31) n-Hexane	11.42	57	13073	0.476	ng		99
32) Chloroform	11.46	83	12384	0.511	ng		98
34) Tetrahydrofuran (THF)	11.91	72	9219	1.042	ng		96
35) Ethyl tert-Butyl Ether	12.03	87	17164	0.950	ng		94
36) 1,2-Dichloroethane	12.27	62	9887	0.547	ng		99
38) 1,1,1-Trichloroethane	12.55	97	11690	0.532	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	28066	0.519	ng		99
42) Carbon Tetrachloride	13.19	117	9449	0.505	ng		97
43) Cyclohexane	13.32	84	23245	0.960	ng		99
44) tert-Amyl Methyl Ether	13.68	73	38199	0.934	ng		97
45) 1,2-Dichloropropane	13.89	63	6814	0.502	ng		99
46) Bromodichloromethane	14.07	83	9923	0.508	ng		100
47) Trichloroethene	14.13	130	7543	0.486	ng		98
48) 1,4-Dioxane	14.13	88	5579	0.489	ng		98
49) 2,2,4-Trimethylpentane...	14.19	57	31606	0.515	ng		95
50) Methyl Methacrylate	14.34	100	5784	0.974	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192212.D Vial: 14
Acq On : 19 Oct 2022 11:32 Operator: WA
Sample : 0.5ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 13:12:35 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:12:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

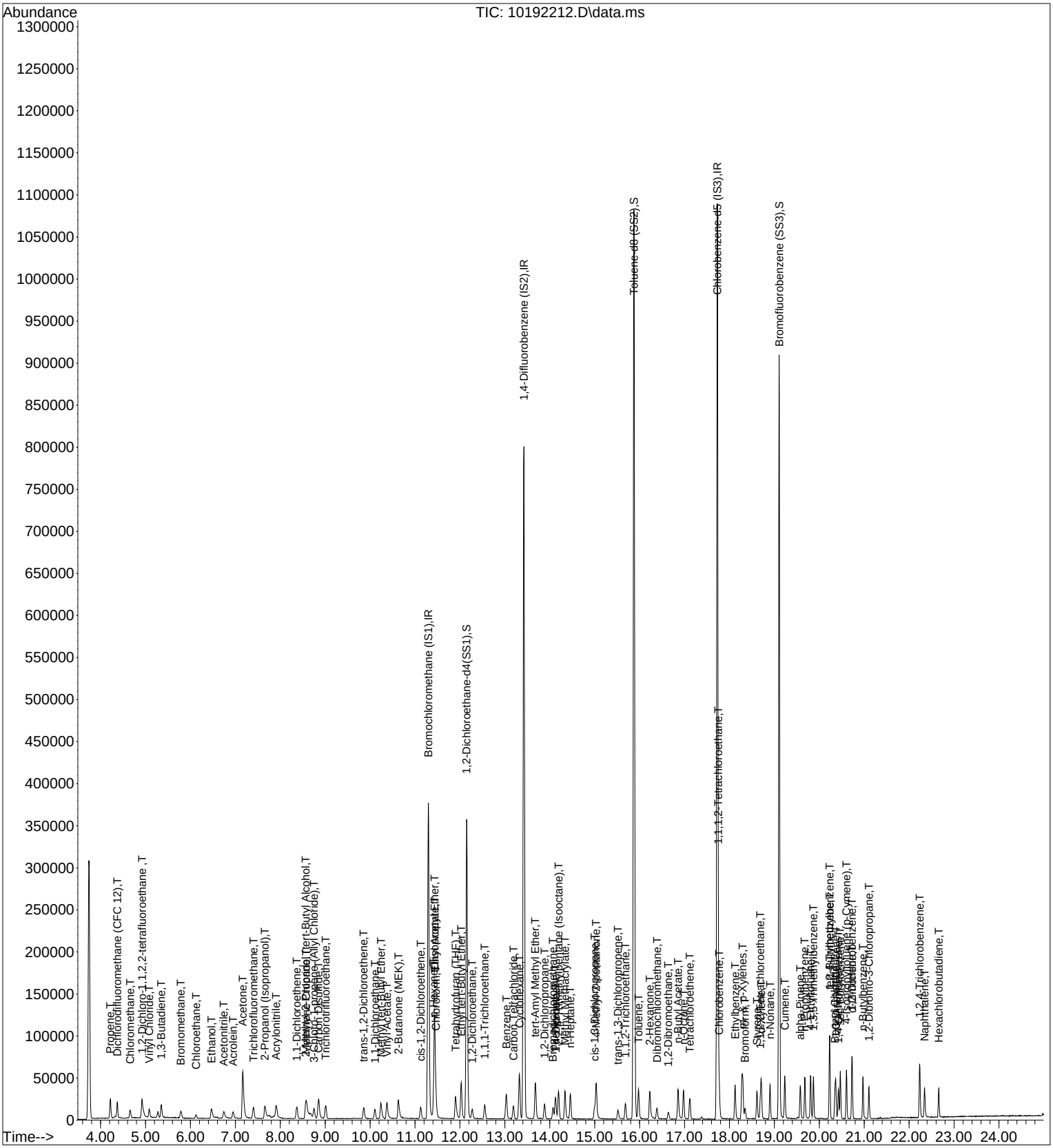
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	7885	0.500 ng		100
52) cis-1,3-Dichloropropene	15.00	75	10131	0.499 ng		99
53) 4-Methyl-2-pentanone	15.03	58	12618	0.969 ng		86
54) trans-1,3-Dichloropropene	15.52	75	8131	0.461 ng		100
55) 1,1,2-Trichloroethane	15.68	97	6554	0.488 ng		97
58) Toluene	15.98	91	31798	0.525 ng		96
59) 2-Hexanone	16.23	43	33518	1.067 ng		90
60) Dibromochloromethane	16.39	129	8295	0.517 ng		98
61) 1,2-Dibromoethane	16.64	107	7219	0.491 ng		98
62) n-Butyl Acetate	16.86	43	34112	0.974 ng		98
63) n-Octane	16.98	57	6579	0.501 ng		95
64) Tetrachloroethene	17.12	166	7832	0.493 ng		99
65) Chlorobenzene	17.77	112	20526	0.509 ng		98
66) Ethylbenzene	18.13	91	34070	0.499 ng		97
67) m- & p-Xylenes	18.29	91	51592	0.922 ng		96
68) Bromoform	18.35	173	6210	0.477 ng		99
69) Styrene	18.61	104	18581	0.471 ng		97
70) o-Xylene	18.71	91	26356	0.482 ng		96
71) n-Nonane	18.91	43	14987	0.482 ng		93
72) 1,1,2,2-Tetrachloroethane	18.69	83	11353	0.467 ng		98
74) Cumene	19.23	105	35509	0.485 ng		99
75) alpha-Pinene	19.58	93	14066	0.434 ng		77
76) n-Propylbenzene	19.68	91	40967	0.483 ng		98
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	19.81	105	32313	0.467 ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	27866	0.454 ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	20.23	105	27223	0.426 ng		98
83) n-Decane	20.23	58	1522	No Calib	#	
84) Benzyl Chloride	20.35	91	23370	0.727 ng		91
85) 1,3-Dichlorobenzene	20.37	146	15086	0.449 ng		100
86) 1,4-Dichlorobenzene	20.42	146	16110	0.500 ng		93
87) sec-Butylbenzene	20.47	105	36622	0.449 ng		94
88) 4-Isopropyltoluene (p-...	20.61	119	32289	0.445 ng		96
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	20.73	146	14985	0.446 ng		99
91) d-Limonene	20.73	68	9495	0.440 ng		90
92) 1,2-Dibromo-3-Chloropr...	21.11	157	10276	0.869 ng	#	79
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.23	180	20834	0.984 ng		99
95) Naphthalene	22.34	128	33023	0.575 ng		99
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	6203	0.423 ng		98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.23	119	27294	0.423 ng		99
100) n-Butylbenzene	20.97	91	28831	0.473 ng		95
101) 1,1,1,2-Tetrachloroethane	17.75	131	7708	0.488 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192212.D Vial: 14
Acq On : 19 Oct 2022 11:32 Operator: WA
Sample : 0.5ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 13:12:35 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:12:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192206.D Vial: 14
Acq On : 19 Oct 2022 8:08 Operator: WA
Sample : 1.0ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 10:21:48 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 10/19/22
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	147541	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	681095	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	137255	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	252462	12.847	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
57) Toluene-d8 (SS2)	15.87	98	771257	14.575	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.64%				
73) Bromofluorobenzene (SS3)	19.11	174	231657	11.716	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
Target Compounds							Qvalue
2) Propene	4.20	42	18191	0.888	ng		98
3) Dichlorodifluoromethan...	4.36	85	30363	1.233	ng		99
4) Chloromethane	4.64	50	22880	1.053	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	17858	1.144	ng		98
6) Vinyl Chloride	5.07	62	23537	1.025	ng		99
7) 1,3-Butadiene	5.34	54	17373	0.915	ng		95
8) Bromomethane	5.77	94	13321	1.309	ng		100
9) Chloroethane	6.11	64	9835	1.095	ng		99
10) Ethanol	6.46	45	38016	3.166	ng		96
11) Acetonitrile	6.73	41	26368	0.851	ng		97
12) Acrolein	6.93	56	18107	1.927	ng		99
13) Acetone	7.14	58	54701	4.796	ng		90
14) Trichlorofluoromethane	7.39	101	25792	1.131	ng		100
15) 2-Propanol (Isopropanol)	7.64	45	73899	2.104	ng		93
16) Acrylonitrile	7.90	53	36558	1.896	ng		99
17) 1,1-Dichloroethene	8.36	96	14273	1.233	ng		99
18) 2-Methyl-2-Propanol (t...	8.53	59	73289	2.432	ng		94
19) Methylene Chloride	8.57	84	14093	1.163	ng		90
20) 3-Chloro-1-propene (Al...	8.74	41	17783	0.842	ng		99
21) Trichlorotrifluoroethane	9.00	151	12977	1.098	ng		98
22) Carbon Disulfide	8.84	76	98151	2.277	ng		100
23) trans-1,2-Dichloroethene	9.85	61	19429	1.124	ng		100
24) 1,1-Dichloroethane	10.10	63	25007	1.144	ng		99
25) Methyl tert-Butyl Ether	10.22	73	45163	1.242	ng		100
26) Vinyl Acetate	10.37	86	7236	2.440	ng	#	63
27) 2-Butanone (MEK)	10.62	72	19501	2.362	ng	#	88
28) cis-1,2-Dichloroethene	11.13	61	19268	1.051	ng		100
29) Diisopropyl Ether	11.43	87	29690	2.373	ng	#	79
30) Ethyl Acetate	11.43	61	23923	3.764	ng		95
31) n-Hexane	11.41	57	26381	0.984	ng		99
32) Chloroform	11.47	83	25984	1.212	ng		100
34) Tetrahydrofuran (THF)	11.89	72	18127	2.263	ng		96
35) Ethyl tert-Butyl Ether	12.02	87	35039	2.179	ng		93
36) 1,2-Dichloroethane	12.27	62	20891	1.166	ng		99
38) 1,1,1-Trichloroethane	12.55	97	23053	1.084	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	56361	1.133	ng		99
42) Carbon Tetrachloride	13.19	117	19581	1.054	ng		100
43) Cyclohexane	13.32	84	47098	2.199	ng		98
44) tert-Amyl Methyl Ether	13.67	73	77283	2.032	ng		96
45) 1,2-Dichloropropane	13.88	63	14393	1.066	ng		99
46) Bromodichloromethane	14.07	83	20508	1.135	ng		98
47) Trichloroethene	14.13	130	15582	0.902	ng		97
48) 1,4-Dioxane	14.11	88	11281	1.100	ng		100
49) 2,2,4-Trimethylpentane...	14.19	57	65376	1.021	ng		96
50) Methyl Methacrylate	14.34	100	11670	1.886	ng		90

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192206.D Vial: 14
Acq On : 19 Oct 2022 8:08 Operator: WA
Sample : 1.0ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 10:21:48 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

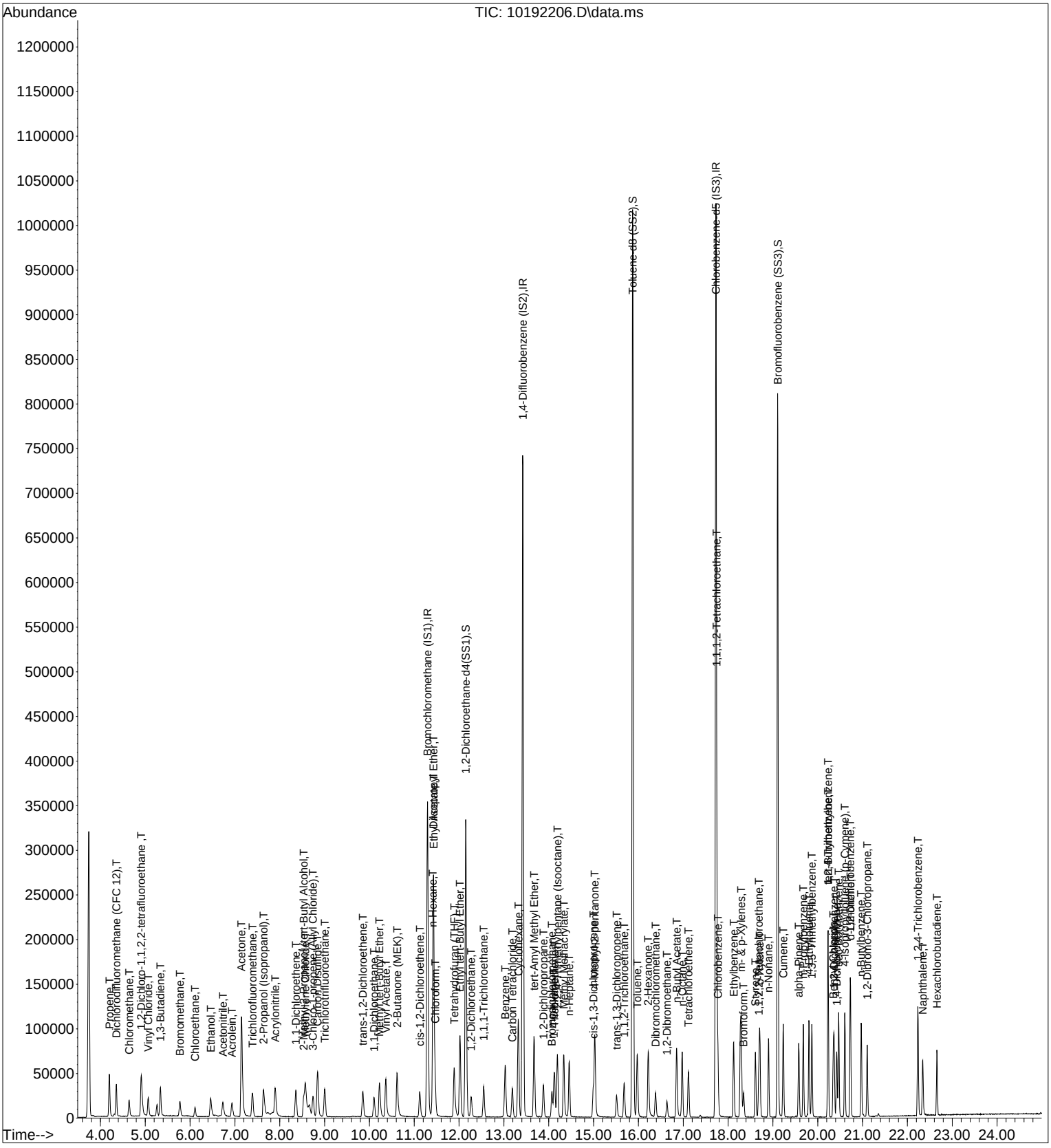
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	16009	1.140	ng		98
52) cis-1,3-Dichloropropene	15.00	75	21830	1.137	ng		97
53) 4-Methyl-2-pentanone	15.02	58	26495	1.936	ng		89
54) trans-1,3-Dichloropropene	15.51	75	17131	0.883	ng		98
55) 1,1,2-Trichloroethane	15.68	97	13974	1.117	ng		99
58) Toluene	15.98	91	62811	1.311	ng		99
59) 2-Hexanone	16.22	43	65609	2.102	ng		93
60) Dibromochloromethane	16.38	129	16575	1.202	ng		100
61) 1,2-Dibromoethane	16.64	107	15122	1.222	ng		99
62) n-Butyl Acetate	16.86	43	70603	2.056	ng		97
63) n-Octane	16.98	57	13465	1.148	ng		93
64) Tetrachloroethene	17.12	166	16352	1.113	ng		100
65) Chlorobenzene	17.77	112	41077	1.231	ng		99
66) Ethylbenzene	18.13	91	67784	1.247	ng		98
67) m- & p-Xylenes	18.29	91	107245	2.479	ng		96
68) Bromoform	18.35	173	12827	1.033	ng		99
69) Styrene	18.61	104	38320	1.213	ng		99
70) o-Xylene	18.71	91	54001	1.251	ng		96
71) n-Nonane	18.90	43	31414	1.029	ng		93
72) 1,1,2,2-Tetrachloroethane	18.69	83	24561	1.266	ng		100
74) Cumene	19.23	105	71311	1.237	ng		99
75) alpha-Pinene	19.58	93	29268	1.092	ng		87
76) n-Propylbenzene	19.68	91	82915	1.265	ng		97
77) 3-Ethyltoluene	0.00	105	0	N.D.			
78) 4-Ethyltoluene	19.80	105	67619	1.226	ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	56609	1.190	ng		98
80) alpha-Methylstyrene	20.47	118	178	No Calib		#	
81) 2-Ethyltoluene	0.00	105	0	N.D.			
82) 1,2,4-Trimethylbenzene	20.23	105	56192	1.140	ng		98
83) n-Decane	0.00	58	0	N.D.	d		
84) Benzyl Chloride	20.35	91	45908	1.316	ng		96
85) 1,3-Dichlorobenzene	20.36	146	30677	1.063	ng		100
86) 1,4-Dichlorobenzene	20.42	146	31123	1.091	ng		99
87) sec-Butylbenzene	20.47	105	76789	1.208	ng		97
88) 4-Isopropyltoluene (p-...	20.61	119	67483	1.203	ng		98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.			
90) 1,2-Dichlorobenzene	20.73	146	29535	1.061	ng		98
91) d-Limonene	20.73	68	19645	1.045	ng		96
92) 1,2-Dibromo-3-Chloropr...	21.11	157	20330	1.907	ng	#	76
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.23	180	37811	1.821	ng		99
95) Naphthalene	22.34	128	54482	0.944	ng		100
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	12521	0.840	ng		98
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	20.23	119	57020	1.153	ng		100
100) n-Butylbenzene	20.97	91	58838	1.227	ng		96
101) 1,1,1,2-Tetrachloroethane	17.75	131	15974	1.236	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192206.D Vial: 14
Acq On : 19 Oct 2022 8:08 Operator: WA
Sample : 1.0ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 10:21:48 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192207.D Vial: 14
Acq On : 19 Oct 2022 8:41 Operator: WA
Sample : 5.0ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 10:22:54 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022 WA 10/19/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	149025	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.43	114	678139	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	143611	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	254486	12.821	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
57) Toluene-d8 (SS2)	15.88	98	780050	14.089	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.72%				
73) Bromofluorobenzene (SS3)	19.11	174	246289	11.904	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
Target Compounds							Qvalue
2) Propene	4.19	42	97397	4.705	ng		99
3) Dichlorodifluoromethan...	4.35	85	129524	5.207	ng		100
4) Chloromethane	4.64	50	85052	3.876	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	77030	4.885	ng		99
6) Vinyl Chloride	5.07	62	103635	4.470	ng		100
7) 1,3-Butadiene	5.33	54	78709	4.104	ng		98
8) Bromomethane	5.78	94	55235	5.375	ng		99
9) Chloroethane	6.12	64	45717	5.037	ng		100
10) Ethanol	6.47	45	162463	13.395	ng		100
11) Acetonitrile	6.74	41	112526	3.594	ng		100
12) Acrolein	6.93	56	77658	8.182	ng		99
13) Acetone	7.15	58	246295	21.380	ng		92
14) Trichlorofluoromethane	7.40	101	112241	4.873	ng		100
15) 2-Propanol (Isopropanol)	7.64	45	256262	7.223	ng		96
16) Acrylonitrile	7.91	53	168076	8.630	ng		99
17) 1,1-Dichloroethene	8.36	96	61289	5.243	ng		96
18) 2-Methyl-2-Propanol (t...	8.52	59	278212	9.141	ng		97
19) Methylene Chloride	8.58	84	63104	5.157	ng		95
20) 3-Chloro-1-propene (Al...	8.75	41	88964	4.170	ng		96
21) Trichlorotrifluoroethane	9.01	151	56064	4.698	ng		99
22) Carbon Disulfide	8.85	76	441528	10.143	ng		100
23) trans-1,2-Dichloroethene	9.86	61	90552	5.186	ng		97
24) 1,1-Dichloroethane	10.11	63	109159	4.942	ng		100
25) Methyl tert-Butyl Ether	10.22	73	201497	5.488	ng		100
26) Vinyl Acetate	10.37	86	38083	12.715	ng	#	77
27) 2-Butanone (MEK)	10.61	72	90392	10.839	ng	#	90
28) cis-1,2-Dichloroethene	11.13	61	85942	4.640	ng		99
29) Diisopropyl Ether	11.43	87	139830	11.064	ng	#	79
30) Ethyl Acetate	11.43	61	117175	18.252	ng		95
31) n-Hexane	11.42	57	123229	4.551	ng		99
32) Chloroform	11.47	83	117575	5.430	ng		99
34) Tetrahydrofuran (THF)	11.88	72	79683	9.850	ng		94
35) Ethyl tert-Butyl Ether	12.02	87	165022	10.161	ng		94
36) 1,2-Dichloroethane	12.27	62	92270	5.100	ng		100
38) 1,1,1-Trichloroethane	12.55	97	104806	4.948	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	254792	5.143	ng		100
42) Carbon Tetrachloride	13.19	117	87343	4.724	ng		100
43) Cyclohexane	13.32	84	213486	10.010	ng		98
44) tert-Amyl Methyl Ether	13.67	73	371557	9.810	ng		98
45) 1,2-Dichloropropane	13.89	63	63096	4.695	ng		98
46) Bromodichloromethane	14.07	83	91478	5.084	ng		100
47) Trichloroethene	14.13	130	69826	4.059	ng		99
48) 1,4-Dioxane	14.11	88	52073	5.101	ng		99
49) 2,2,4-Trimethylpentane...	14.19	57	289927	4.546	ng		97
50) Methyl Methacrylate	14.33	100	57103	9.268	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192207.D Vial: 14
Acq On : 19 Oct 2022 8:41 Operator: WA
Sample : 5.0ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 10:22:54 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

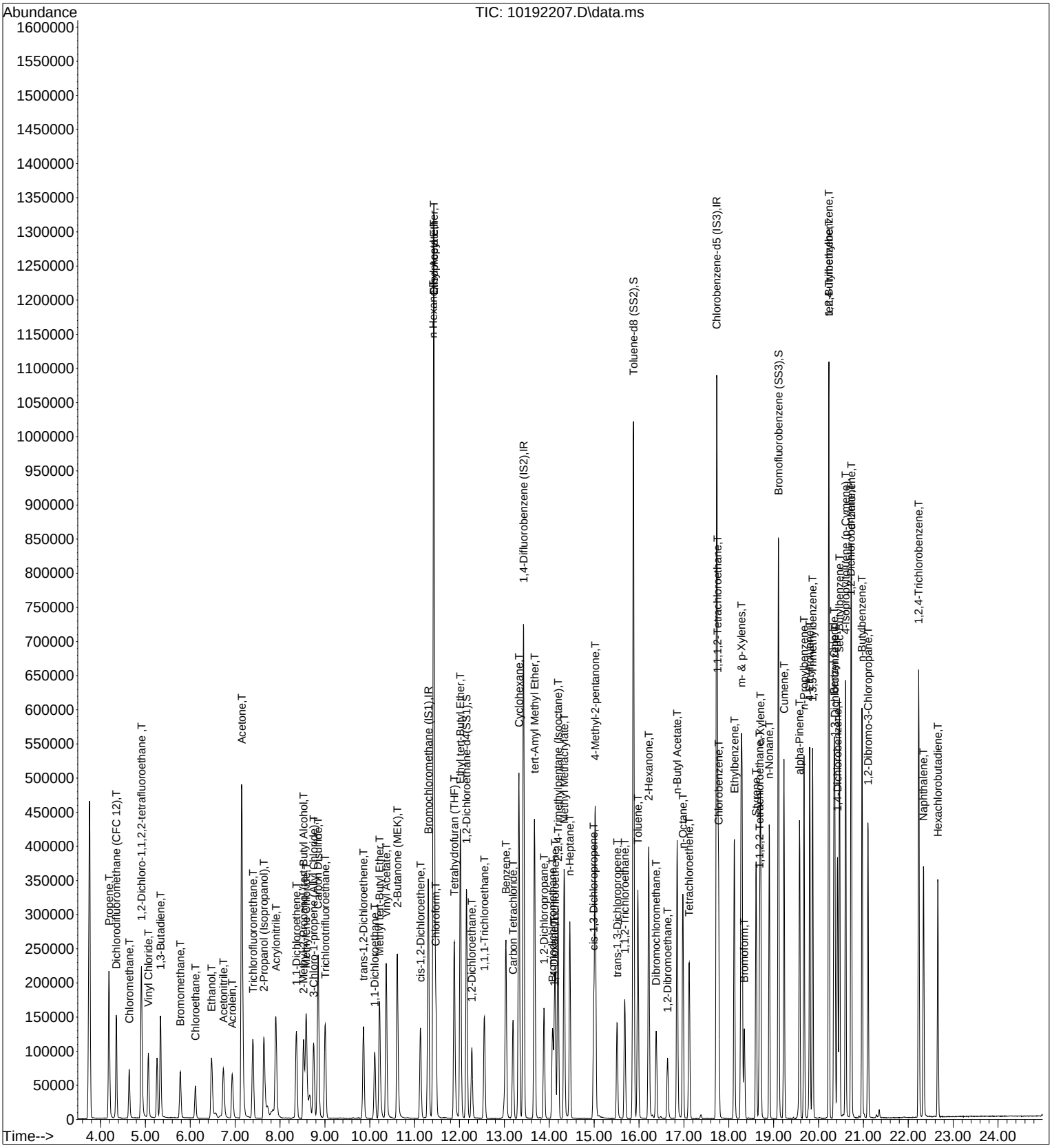
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	72530	5.187	ng	98
52) cis-1,3-Dichloropropene	14.99	75	101123	5.290	ng	100
53) 4-Methyl-2-pentanone	15.02	58	125786	9.230	ng	92
54) trans-1,3-Dichloropropene	15.51	75	87118	4.510	ng	99
55) 1,1,2-Trichloroethane	15.68	97	61667	4.950	ng	98
58) Toluene	15.98	91	285770	5.702	ng	99
59) 2-Hexanone	16.22	43	319983	9.799	ng	96
60) Dibromochloromethane	16.38	129	78716	5.454	ng	99
61) 1,2-Dibromoethane	16.64	107	71351	5.510	ng	99
62) n-Butyl Acetate	16.85	43	342298	9.527	ng	97
63) n-Octane	16.98	57	61906	5.046	ng	95
64) Tetrachloroethene	17.12	166	74114	4.820	ng	99
65) Chlorobenzene	17.77	112	188856	5.408	ng	100
66) Ethylbenzene	18.13	91	321479	5.652	ng	99
67) m- & p-Xylenes	18.28	91	510816	11.287	ng	99
68) Bromoform	18.35	173	64037	4.927	ng	100
69) Styrene	18.61	104	192498	5.824	ng	99
70) o-Xylene	18.71	91	260138	5.760	ng	98
71) n-Nonane	18.90	43	150202	4.702	ng	94
72) 1,1,2,2-Tetrachloroethane	18.69	83	115611	5.698	ng	99
74) Cumene	19.23	105	349342	5.790	ng	99
75) alpha-Pinene	19.58	93	159881	5.702	ng	94
76) n-Propylbenzene	19.68	91	414926	6.049	ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.80	105	343451	5.950	ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	291061	5.847	ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.23	105	294327	5.706	ng	99
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	320534	8.785	ng	96
85) 1,3-Dichlorobenzene	20.36	146	161224	5.338	ng	100
86) 1,4-Dichlorobenzene	20.42	146	157492	5.279	ng	100
87) sec-Butylbenzene	20.47	105	412299	6.199	ng	98
88) 4-Isopropyltoluene (p-...	20.61	119	354685	6.045	ng	98
89) 1,2,3-Trimethylbenzene	20.36	105	598	No Calib	#	
90) 1,2-Dichlorobenzene	20.72	146	158934	5.459	ng	99
91) d-Limonene	20.73	68	110657	5.625	ng	96
92) 1,2-Dibromo-3-Chloropr...	21.11	157	112091	10.050	ng	86
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.23	180	193048	8.884	ng	99
95) Naphthalene	22.34	128	301811	5.001	ng	100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	61437	3.942	ng	99
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.23	119	298683	5.775	ng	99
100) n-Butylbenzene	20.97	91	311752	6.211	ng	99
101) 1,1,1,2-Tetrachloroethane	17.75	131	72640	5.371	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192207.D Vial: 14
Acq On : 19 Oct 2022 8:41 Operator: WA
Sample : 5.0ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 10:22:54 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192208.D Vial: 2
Acq On : 19 Oct 2022 9:15 Operator: WA
Sample : 25ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201 (11/16)

Quant Time: Oct 19 10:23:29 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

10/19/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	174366	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	798658	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	168632	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.16	65	300156	12.924	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%			
57) Toluene-d8 (SS2)	15.88	98	944097	14.522	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.16%			
73) Bromofluorobenzene (SS3)	19.11	174	312611	12.868	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%			
Target Compounds						Qvalue
2) Propene	4.19	42	507160	20.941	ng	100
3) Dichlorodifluoromethan...	4.35	85	734360	25.231	ng	100
4) Chloromethane	4.64	50	507565	19.770	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	441850	23.948	ng	100
6) Vinyl Chloride	5.07	62	566036	20.866	ng	100
7) 1,3-Butadiene	5.34	54	483008	21.524	ng	100
8) Bromomethane	5.79	94	311819	25.933	ng	100
9) Chloroethane	6.13	64	230161	21.674	ng	100
10) Ethanol	6.51	45	994445	70.077	ng	100
11) Acetonitrile	6.76	41	642682	17.544	ng	100
12) Acrolein	6.95	56	473588	42.644	ng	100
13) Acetone	7.16	58	1576809	116.984	ng	100
14) Trichlorofluoromethane	7.40	101	660530	24.509	ng	100
15) 2-Propanol (Isopropanol)	7.66	45	1750652	42.176	ng	100
16) Acrylonitrile	7.92	53	1059381	46.489	ng	100
17) 1,1-Dichloroethene	8.38	96	368430	26.935	ng	100
18) 2-Methyl-2-Propanol (t...	8.53	59	1985654	55.762	ng	100
19) Methylene Chloride	8.60	84	392907	27.440	ng	100
20) 3-Chloro-1-propene (Al...	8.76	41	567948	22.751	ng	100
21) Trichlorotrifluoroethane	9.01	151	338049	24.212	ng	100
22) Carbon Disulfide	8.86	76	2799763	54.970	ng	100
23) trans-1,2-Dichloroethene	9.87	61	525207	25.709	ng	100
24) 1,1-Dichloroethane	10.12	63	636850	24.642	ng	100
25) Methyl tert-Butyl Ether	10.22	73	1235291	28.753	ng	100
26) Vinyl Acetate	10.38	86	290370	82.861	ng	100
27) 2-Butanone (MEK)	10.62	72	604295	61.931	ng	100
28) cis-1,2-Dichloroethene	11.14	61	510699	23.567	ng	100
29) Diisopropyl Ether	11.43	87	1099468	74.353	ng	100
30) Ethyl Acetate	11.44	61	916384	121.997	ng	100
31) n-Hexane	11.42	57	896468	28.296	ng	100
32) Chloroform	11.48	83	717440	28.320	ng	100
34) Tetrahydrofuran (THF)	11.88	72	514135	54.319	ng	100
35) Ethyl tert-Butyl Ether	12.02	87	1141084	60.052	ng	100
36) 1,2-Dichloroethane	12.28	62	548890	25.931	ng	100
38) 1,1,1-Trichloroethane	12.56	97	636603	25.521	ng	100
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.04	78	1599567	27.414	ng	100
42) Carbon Tetrachloride	13.20	117	539248	24.764	ng	100
43) Cyclohexane	13.33	84	1389812	55.330	ng	100
44) tert-Amyl Methyl Ether	13.67	73	2544561	57.046	ng	100
45) 1,2-Dichloropropane	13.89	63	387492	24.484	ng	100
46) Bromodichloromethane	14.08	83	570977	26.945	ng	100
47) Trichloroethene	14.13	130	449104	22.168	ng	100
48) 1,4-Dioxane	14.10	88	343519	28.573	ng	100
49) 2,2,4-Trimethylpentane...	14.20	57	1789638	23.826	ng	100
50) Methyl Methacrylate	14.34	100	416419	57.386	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192208.D Vial: 2
Acq On : 19 Oct 2022 9:15 Operator: WA
Sample : 25ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201 (11/16)

Quant Time: Oct 19 10:23:29 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

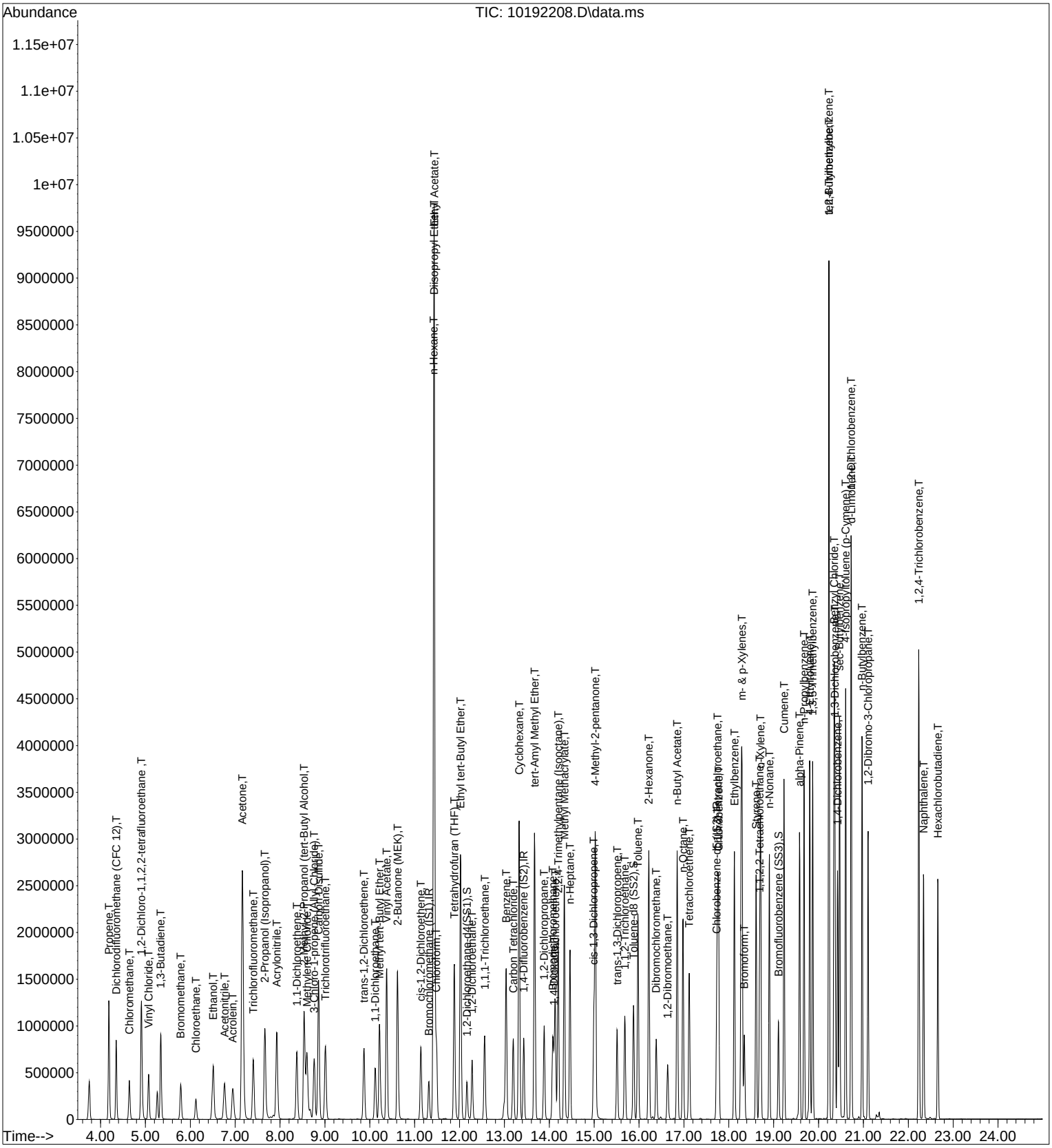
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	478049	29.030 ng	100
52) cis-1,3-Dichloropropene	14.99	75	665907	29.576 ng	100
53) 4-Methyl-2-pentanone	15.02	58	852684	53.128 ng	100
54) trans-1,3-Dichloropropene	15.51	75	578816	25.441 ng	100
55) 1,1,2-Trichloroethane	15.68	97	394840	26.910 ng	100
58) Toluene	15.98	91	1859076	31.588 ng	100
59) 2-Hexanone	16.22	43	2086072	54.402 ng	100
60) Dibromochloromethane	16.38	129	533652	31.489 ng	100
61) 1,2-Dibromoethane	16.63	107	472071	31.047 ng	100
62) n-Butyl Acetate	16.85	43	2266989	53.734 ng	100
63) n-Octane	16.98	57	401148	27.849 ng	100
64) Tetrachloroethene	17.12	166	487743	27.012 ng	100
65) Chlorobenzene	17.77	112	1208722	29.477 ng	100
66) Ethylbenzene	18.13	91	2152001	32.223 ng	100
67) m- & p-Xylenes	18.29	91	3556742	66.928 ng	100
68) Bromoform	18.35	173	445546	29.196 ng	100
69) Styrene	18.61	104	1358479	35.002 ng	100
70) o-Xylene	18.71	91	1769735	33.371 ng	100
71) n-Nonane	18.91	43	934601	24.914 ng	100
72) 1,1,2,2-Tetrachloroethane	18.69	83	795470	33.386 ng	100
74) Cumene	19.23	105	2400883	33.890 ng	100
75) alpha-Pinene	19.58	93	1140495	34.642 ng	100
76) n-Propylbenzene	19.68	91	2838669	35.241 ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.80	105	2441508	36.022 ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	2012226	34.426 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.23	105	2303276	38.027 ng	100
83) n-Decane	0.00	58	0	N.D. d	
84) Benzyl Chloride	20.35	91	2867999	66.941 ng	100
85) 1,3-Dichlorobenzene	20.36	146	1180459	33.283 ng	100
86) 1,4-Dichlorobenzene	20.42	146	1089552	31.100 ng	100
87) sec-Butylbenzene	20.47	105	2794554	35.781 ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	2496105	36.230 ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.73	146	1193953	34.923 ng	100
91) d-Limonene	20.73	68	760753	32.935 ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	833679	63.658 ng	100
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.23	180	1459707	57.207 ng	100
95) Naphthalene	22.34	128	2085512	29.427 ng	100
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.66	225	451320	24.659 ng	100
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.23	119	2336791	38.475 ng	100
100) n-Butylbenzene	20.97	91	2121687	35.998 ng	100
101) 1,1,1,2-Tetrachloroethane	17.75	131	478774	30.151 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192208.D Vial: 2
Acq On : 19 Oct 2022 9:15 Operator: WA
Sample : 25ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201 (11/16)

Quant Time: Oct 19 10:23:29 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192209.D Vial: 2
Acq On : 19 Oct 2022 9:49 Operator: WA
Sample : 50ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201(11/16)

Quant Time: Oct 19 10:25:58 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) VOA 10/19/22
QLast Update : Wed Oct 19 10:24:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	198335	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	879733	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	183981	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	317727	12.027	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
57) Toluene-d8 (SS2)	15.88	98	1018705	14.362	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.88%				
73) Bromofluorobenzene (SS3)	19.11	174	336905	12.711	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
Target Compounds							Qvalue
2) Propene	4.19	42	1237546	44.924	ng		99
3) Dichlorodifluoromethan...	4.35	85	1665255	50.301	ng		99
4) Chloromethane	4.65	50	1000090	34.247	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1023286	48.759	ng		99
6) Vinyl Chloride	5.08	62	1251199	40.550	ng		100
7) 1,3-Butadiene	5.35	54	1086423	42.563	ng		98
8) Bromomethane	5.80	94	691226	50.540	ng		99
9) Chloroethane	6.13	64	572222	47.374	ng		100
10) Ethanol	6.54	45	2217415	137.374	ng		100
11) Acetonitrile	6.79	41	1389401	33.344	ng		98
12) Acrolein	6.96	56	1033909	81.847	ng		100
13) Acetone	7.18	58	3512045	229.071	ng		96
14) Trichlorofluoromethane	7.41	101	1482960	48.375	ng		100
15) 2-Propanol (Isopropanol)	7.69	45	3466283	73.415	ng		99
16) Acrylonitrile	7.95	53	2278374	87.900	ng		100
17) 1,1-Dichloroethene	8.38	96	833756	53.588	ng		95
18) 2-Methyl-2-Propanol (t...	8.56	59	3674401	90.716	ng		99
19) Methylene Chloride	8.61	84	860729	52.848	ng		95
20) 3-Chloro-1-propene (Al...	8.77	41	1212667	42.706	ng		97
21) Trichlorotrifluoroethane	9.02	151	752413	47.378	ng		99
22) Carbon Disulfide	8.86	76	6303286	108.802	ng		100
23) trans-1,2-Dichloroethene	9.88	61	1150219	49.499	ng		98
24) 1,1-Dichloroethane	10.13	63	1387983	47.216	ng		100
25) Methyl tert-Butyl Ether	10.22	73	2739382	56.057	ng		99
26) Vinyl Acetate	10.38	86	658985	165.324	ng	#	93
27) 2-Butanone (MEK)	10.62	72	1347475	121.407	ng		95
28) cis-1,2-Dichloroethene	11.15	61	1120452	45.456	ng		96
29) Diisopropyl Ether	11.44	87	2721663	161.814	ng	#	74
30) Ethyl Acetate	11.45	61	2215474	259.299	ng		96
31) n-Hexane	11.42	57	2058412	57.121	ng		99
32) Chloroform	11.50	83	1577548	54.747	ng		100
34) Tetrahydrofuran (THF)	11.89	72	1160201	107.763	ng		95
35) Ethyl tert-Butyl Ether	12.03	87	2702582	125.041	ng		96
36) 1,2-Dichloroethane	12.29	62	1167811	48.503	ng		100
38) 1,1,1-Trichloroethane	12.56	97	1432190	52.124	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.04	78	3572426	55.583	ng		100
42) Carbon Tetrachloride	13.20	117	1207663	50.348	ng		100
43) Cyclohexane	13.33	84	3271560	118.241	ng		98
44) tert-Amyl Methyl Ether	13.68	73	6009765	122.314	ng		99
45) 1,2-Dichloropropane	13.89	63	838624	48.105	ng		100
46) Bromodichloromethane	14.08	83	1278052	54.754	ng		100
47) Trichloroethene	14.13	130	1032989	46.291	ng		100
48) 1,4-Dioxane	14.11	88	784628	59.248	ng		98
49) 2,2,4-Trimethylpentane...	14.20	57	3890053	47.017	ng		99
50) Methyl Methacrylate	14.34	100	955311	119.518	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192209.D Vial: 2
Acq On : 19 Oct 2022 9:49 Operator: WA
Sample : 50ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201(11/16)

Quant Time: Oct 19 10:25:58 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:24:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

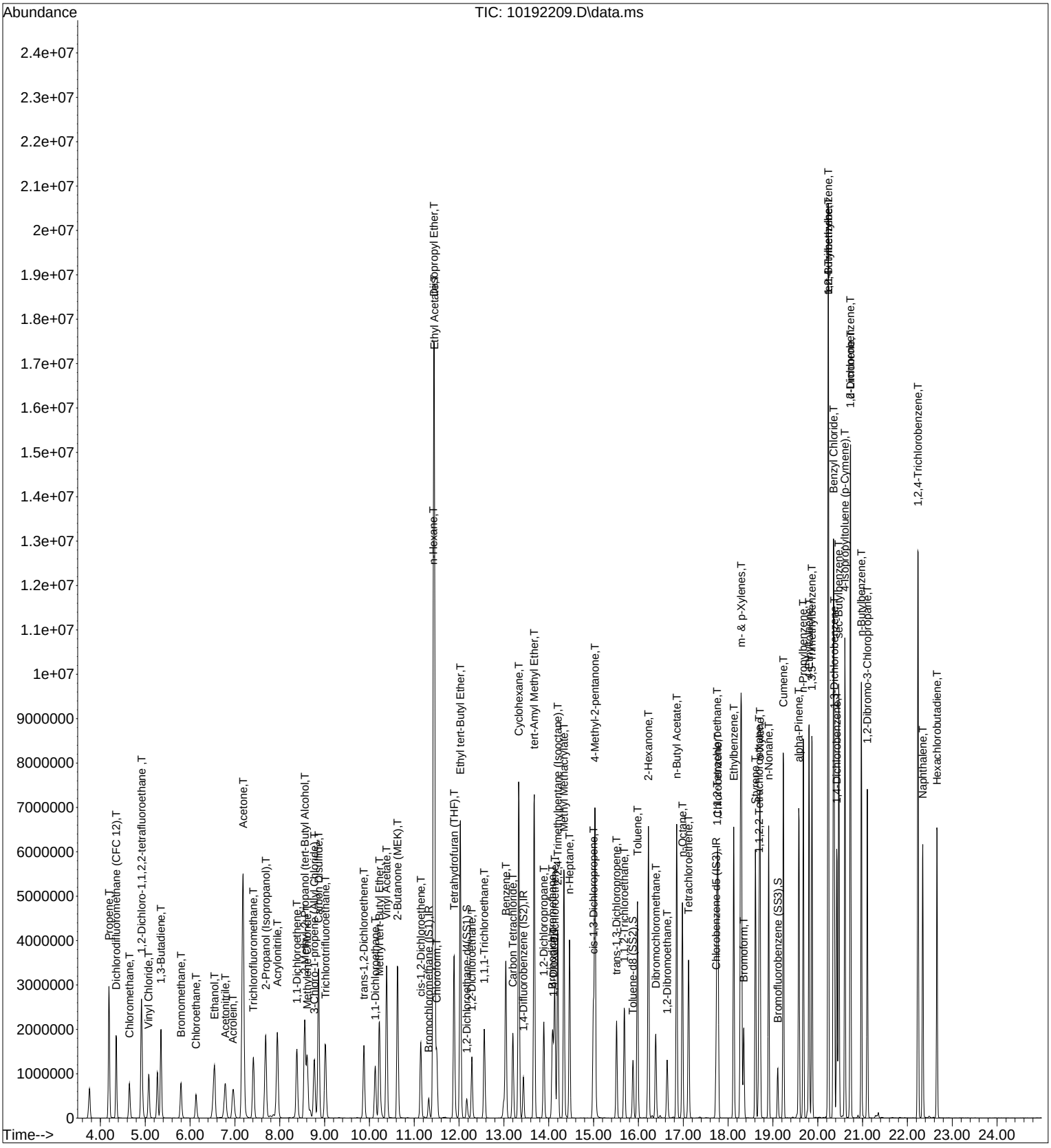
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	1053967	58.104	ng	98
52) cis-1,3-Dichloropropene	15.00	75	1495560	60.304	ng	100
53) 4-Methyl-2-pentanone	15.03	58	1935166	109.462	ng	96
54) trans-1,3-Dichloropropene	15.51	75	1299903	51.869	ng	100
55) 1,1,2-Trichloroethane	15.68	97	884563	54.731	ng	100
58) Toluene	15.98	91	4095344	63.780	ng	100
59) 2-Hexanone	16.22	43	4630344	110.679	ng	99
60) Dibromochloromethane	16.39	129	1175442	63.573	ng	100
61) 1,2-Dibromoethane	16.64	107	1031484	62.179	ng	100
62) n-Butyl Acetate	16.86	43	5007630	108.792	ng	99
63) n-Octane	16.98	57	877888	55.861	ng	98
64) Tetrachloroethene	17.12	166	1120783	56.893	ng	99
65) Chlorobenzene	17.77	112	2791442	62.396	ng	100
66) Ethylbenzene	18.13	91	4853429	66.610	ng	99
67) m- & p-Xylenes	18.29	91	8246661	142.234	ng	100
68) Bromoform	18.35	173	999621	60.039	ng	100
69) Styrene	18.61	104	3041798	71.835	ng	100
70) o-Xylene	18.71	91	4000505	69.141	ng	100
71) n-Nonane	18.91	43	2030753	49.618	ng	97
72) 1,1,2,2-Tetrachloroethane	18.69	83	1760845	67.736	ng	99
74) Cumene	19.23	105	5436162	70.334	ng	99
75) alpha-Pinene	19.58	93	2639695	73.489	ng	99
76) n-Propylbenzene	19.68	91	6327837	72.004	ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	5514790	74.577	ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	4539716	71.187	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	5585325	84.520	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	7198212	153.993	ng	99
85) 1,3-Dichlorobenzene	20.37	146	2805732	72.507	ng	100
86) 1,4-Dichlorobenzene	20.42	146	2464807	64.485	ng	100
87) sec-Butylbenzene	20.47	105	6220137	72.996	ng	99
88) 4-Isopropyltoluene (p-...	20.61	119	5612925	74.673	ng	99
89) 1,2,3-Trimethylbenzene	20.35	105	1305	No Calib	#	
90) 1,2-Dichlorobenzene	20.73	146	2914257	78.130	ng	100
91) d-Limonene	20.73	68	1774476	70.413	ng	97
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1960958	137.243	ng	96
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	3825111	137.403	ng	100
95) Naphthalene	22.34	128	4786192	61.900	ng	100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	1139332	57.056	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	5632723	85.004	ng	99
100) n-Butylbenzene	20.97	91	4715758	73.336	ng	99
101) 1,1,1,2-Tetrachloroethane	17.76	131	1116886	64.468	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192209.D Vial: 2
Acq On : 19 Oct 2022 9:49 Operator: WA
Sample : 50ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201(11/16)

Quant Time: Oct 19 10:25:58 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:24:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192210.D Vial: 2
Acq On : 19 Oct 2022 10:23 Operator: WA
Sample : 100ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201(11/16)

Quant Time: Oct 19 10:53:42 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:29:11 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

10/19/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.33	130	216072	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	13.44	114	960082	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	199871	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.18	65	330320	11.724	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
57) Toluene-d8 (SS2)	15.88	98	1073306	12.208	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
73) Bromofluorobenzene (SS3)	19.11	174	363553	13.189	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.52%				
Target Compounds							Qvalue
2) Propene	4.20	42	3137083	133.742	ng		98
3) Dichlorodifluoromethan...	4.36	85	3727319	108.199	ng		99
4) Chloromethane	4.65	50	1546174	63.468	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	2463078	116.968	ng		99
6) Vinyl Chloride	5.09	62	2786021	101.669	ng		100
7) 1,3-Butadiene	5.36	54	2462164	127.850	ng		97
8) Bromomethane	5.81	94	1515496	100.043	ng		99
9) Chloroethane	6.14	64	1321897	109.827	ng		100
10) Ethanol	6.58	45	4949115	364.862	ng		100
11) Acetonitrile	6.81	41	2984211	78.653	ng		98
12) Acrolein	6.97	56	2224091	190.407	ng		99
13) Acetone	7.20	58	8242944	603.671	ng		87
14) Trichlorofluoromethane	7.42	101	3274245	105.438	ng		100
15) 2-Propanol (Isopropanol)	7.72	45	6222455	145.320	ng		100
16) Acrylonitrile	7.97	53	4992449	214.175	ng		100
17) 1,1-Dichloroethene	8.39	96	1871183	113.063	ng		92
18) 2-Methyl-2-Propanol (t...	8.57	59	3916652	94.547	ng		99
19) Methylene Chloride	8.62	84	1871247	108.220	ng		93
20) 3-Chloro-1-propene (Al...	8.78	41	2614064	111.277	ng		96
21) Trichlorotrifluoroethane	9.02	151	1669541	113.770	ng		97
22) Carbon Disulfide	8.87	76	14186246	234.816	ng		99
23) trans-1,2-Dichloroethene	9.88	61	2559716	112.029	ng		95
24) 1,1-Dichloroethane	10.14	63	3027585	100.415	ng		100
25) Methyl tert-Butyl Ether	10.22	73	5391469	98.797	ng		99
26) Vinyl Acetate	10.39	86	1545327	462.013	ng	#	82
27) 2-Butanone (MEK)	10.64	72	3083867	259.087	ng	#	89
28) cis-1,2-Dichloroethene	11.15	61	2464965	103.819	ng		94
29) Diisopropyl Ether	11.44	87	5142077	251.594	ng	#	51
30) Ethyl Acetate	11.47	61	4029473	492.577	ng		90
31) n-Hexane	11.43	57	4214561	116.233	ng		100
32) Chloroform	11.52	83	3389385	104.334	ng		99
34) Tetrahydrofuran (THF)	11.89	72	2656996	227.802	ng		92
35) Ethyl tert-Butyl Ether	12.03	87	6788331	294.590	ng	#	88
36) 1,2-Dichloroethane	12.29	62	2560589	105.654	ng		100
38) 1,1,1-Trichloroethane	12.57	97	3209982	113.140	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.05	78	8142491	117.011	ng		100
42) Carbon Tetrachloride	13.20	117	2799083	116.438	ng		99
43) Cyclohexane	13.34	84	8236583	270.476	ng		94
44) tert-Amyl Methyl Ether	13.68	73	14399651	281.271	ng		96
45) 1,2-Dichloropropane	13.90	63	1869399	105.834	ng		100
46) Bromodichloromethane	14.08	83	2959289	117.728	ng		100
47) Trichloroethene	14.14	130	2536370	128.877	ng		100
48) 1,4-Dioxane	14.11	88	1920448	133.336	ng		95
49) 2,2,4-Trimethylpentane...	14.20	57	8908297	111.930	ng		97
50) Methyl Methacrylate	14.35	100	2326964	319.804	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192210.D Vial: 2
Acq On : 19 Oct 2022 10:23 Operator: WA
Sample : 100ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201(11/16)

Quant Time: Oct 19 10:53:42 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:29:11 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

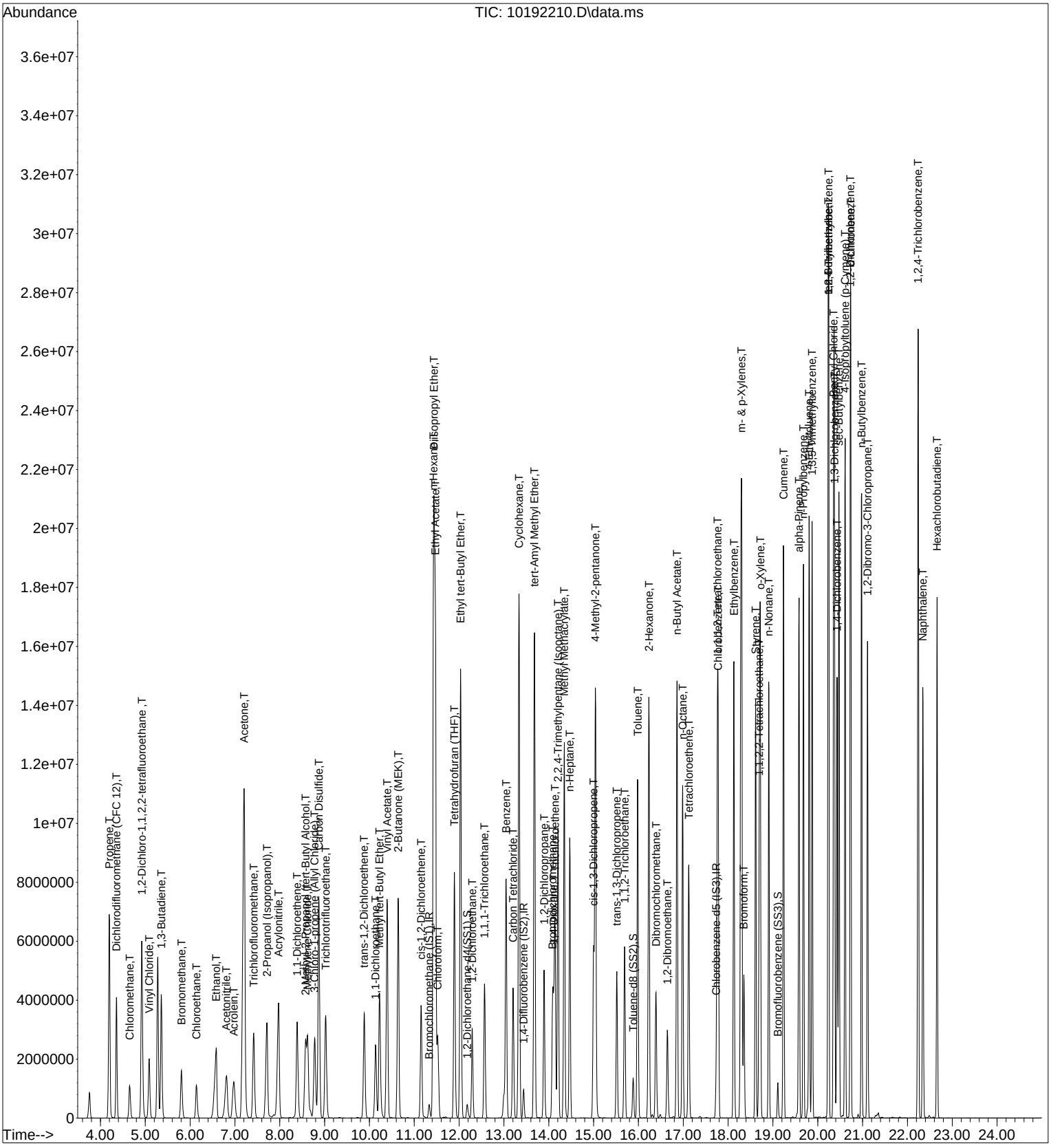
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	2484750	123.346	ng	97
52) cis-1,3-Dichloropropene	15.00	75	3401946	132.321	ng	99
53) 4-Methyl-2-pentanone	15.04	58	4588184	280.739	ng	87
54) trans-1,3-Dichloropropene	15.52	75	2935640	133.328	ng	100
55) 1,1,2-Trichloroethane	15.69	97	2047205	118.822	ng	98
58) Toluene	15.99	91	9360667	118.572	ng	99
59) 2-Hexanone	16.23	43	10291730	253.436	ng	94
60) Dibromochloromethane	16.39	129	2703147	130.734	ng	100
61) 1,2-Dibromoethane	16.65	107	2325192	121.931	ng	100
62) n-Butyl Acetate	16.86	43	11145416	246.510	ng	94
63) n-Octane	16.99	57	2053568	119.918	ng	95
64) Tetrachloroethene	17.12	166	2749799	135.386	ng	100
65) Chlorobenzene	17.78	112	6964536	134.947	ng	99
66) Ethylbenzene	18.13	91	11375654	129.414	ng	97
67) m- & p-Xylenes	18.30	91	19145974	267.252	ng	97
68) Bromoform	18.35	173	2387236	144.468	ng	100
69) Styrene	18.61	104	7188776	143.713	ng	100
70) o-Xylene	18.72	91	9546109	136.738	ng	98
71) n-Nonane	18.91	43	4548714	111.318	ng	91
72) 1,1,2,2-Tetrachloroethane	18.69	83	4162589	133.504	ng	99
74) Cumene	19.24	105	12368047	131.189	ng	95
75) alpha-Pinene	19.58	93	6462020	159.406	ng	98
76) n-Propylbenzene	19.68	91	13652630	123.981	ng	94
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	12367047	139.961	ng	95
79) 1,3,5-Trimethylbenzene	19.87	105	10482780	133.302	ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	10672245	130.059	ng	99
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	14972744	388.305	ng	91
85) 1,3-Dichlorobenzene	20.37	146	6602021	157.505	ng	99
86) 1,4-Dichlorobenzene	20.43	146	5892451	144.268	ng	99
87) sec-Butylbenzene	20.47	105	13155166	124.344	ng	93
88) 4-Isopropyltoluene (p-...	20.61	119	12199706	130.863	ng	94
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	6527045	154.810	ng	99
91) d-Limonene	20.74	68	3683435	132.733	ng	92
92) 1,2-Dibromo-3-Chloropr...	21.11	157	4842288	331.885	ng	86
93) n-Undecane	0.00	58	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.24	180	9107129	353.009	ng	99
95) Naphthalene	22.34	128	11129549	154.928	ng	98
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	3125639	173.835	ng	99
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	10735078	129.191	ng	98
100) n-Butylbenzene	20.98	91	10509105	134.488	ng	95
101) 1,1,1,2-Tetrachloroethane	17.76	131	2826580	140.611	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192210.D Vial: 2
Acq On : 19 Oct 2022 10:23 Operator: WA
Sample : 100ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201(11/16)

Quant Time: Oct 19 10:53:42 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:29:11 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental

LCS Acceptance Criteria

10/19/22

LCS R16101922_25ng_ICV

	RT
Bromochloromethane (IS1)	11.32
1,4-Difluorobenzene (IS2)	13.43
Chlorobenzene-d5 (IS3)	17.73

Datafile: 10192214.D
Instrument: MS-16
Date: ##########

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
115-07-1	Propene	24.440	26.5	92	56-128	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	24.463	26.5	92	71-112	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	22.689	25.8	88	53-126	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	23.341	25.8	90	62-121	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	23.502	25.5	92	63-123	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	27.401	26.5	103	63-135	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	24.686	25.8	96	71-112	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	22.811	26.0	88	66-117	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	99.133	88.3	112	57-117	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	19.285	22.8	85	59-131	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	44.330	48.5	91	71-123	ok	70-130	ok	62-126	ok
67-64-1	Acetone	122.664	133	92	60-117	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	24.283	26.3	92	71-114	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	46.260	51.5	90	61-124	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	48.459	51.5	94	65-130	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	25.007	27.0	93	74-114	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	51.998	53.3	98	56-135	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	25.215	26.5	95	75-112	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	23.568	26.8	88	57-127	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	25.455	27.0	94	73-114	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	49.057	53.3	92	70-113	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	25.039	27.0	93	76-119	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	24.755	27.0	92	70-114	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	25.074	26.8	94	72-118	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	118.637	70.5	168	56-137	FAIL	70-130	FAIL	56-139	FAIL
78-93-3	2-Butanone	53.970	52.3	103	74-121	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	24.513	26.8	91	73-117	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	53.194	52.5	101	58-124	ok	70-130	ok	70-117	ok
141-78-6	Ethyl Acetate	76.022	107	71	59-161	ok	70-130	ok	65-128	ok
110-54-3	n-Hexane	25.198	26.5	95	55-130	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	24.864	26.5	94	71-114	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	49.995	51.5	97	73-114	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	51.562	53.5	96	76-119	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	24.586	27.0	91	71-119	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	24.853	26.3	94	73-119	ok	70-130	ok	68-125	ok
108-21-4	Isopropyl Acetate	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	65-129	#N/A
71-36-3	1-Butanol	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-133	#N/A
71-43-2	Benzene	25.687	27.0	95	72-113	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	24.143	25.8	94	67-123	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	48.580	52.8	92	70-119	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	50.868	53.5	95	74-120	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	24.461	26.5	92	70-118	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	25.190	27.0	93	74-119	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	25.652	26.5	97	74-115	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	26.113	26.5	99	77-124	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	23.991	27.0	89	65-120	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	51.278	53.3	96	78-126	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	25.086	26.5	95	70-119	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	27.880	27.0	103	81-126	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	53.491	54.0	99	73-129	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

LCS R16101922_25ng_ICV

	RT
Bromochloromethane (IS1)	11.32
1,4-Difluorobenzene (IS2)	13.43
Chlorobenzene-d5 (IS3)	17.73

Datafile: 10192214.D
Instrument: MS-16
Date: ##########

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
10061-02-6	trans-1,3-Dichloropropene	25.335	25.8	98	80-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	25.854	26.5	98	78-117	ok	70-130	ok	73-119	ok
108-88-3	Toluene	25.976	26.5	98	70-118	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	53.599	53.3	101	74-132	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	27.761	27.0	103	69-137	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	27.059	26.0	104	76-128	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	53.582	51.3	104	75-134	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	25.195	26.8	94	68-120	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	27.037	26.5	102	63-130	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	25.445	26.5	96	70-118	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	26.919	26.3	102	71-123	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	53.978	52.5	103	67-127	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	28.781	26.8	107	65-149	ok	70-130	ok	66-139	ok
100-42-5	Styrene	27.860	26.5	105	76-132	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	27.431	26.5	104	69-124	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	25.154	26.5	95	64-127	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	27.703	26.5	105	69-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	27.379	26.5	103	69-125	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	28.775	27.3	105	68-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	27.652	26.8	103	70-127	ok	70-130	ok	69-123	ok
620-14-4	3-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-123	#N/A
622-96-8	4-Ethyltoluene	28.902	27.0	107	69-127	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	27.774	26.3	106	66-129	ok	70-130	ok	67-130	ok
98-83-9	alpha-Methylstyrene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	67-128	#N/A
611-14-3	2-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	66-121	#N/A
95-63-6	1,2,4-Trimethylbenzene	29.661	26.0	114	63-142	ok	70-130	ok	66-132	ok
124-18-5	n-Decane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	70-118	#N/A
100-44-7	Benzyl Chloride	55.198	52.5	105	73-145	ok	70-130	ok	50-147	ok
541-73-1	1,3-Dichlorobenzene	27.046	26.3	103	67-136	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	25.047	26.5	95	63-134	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	28.117	26.3	107	68-130	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	28.116	26.3	107	60-139	ok	70-130	ok	67-130	ok
526-73-8	1,2,3-Trimethylbenzene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	60-134	#N/A
95-50-1	1,2-Dichlorobenzene	27.639	26.5	104	64-139	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	28.944	26.3	110	63-137	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	51.177	52.0	98	72-145	ok	70-130	ok	73-133	ok
1120-21-4	n-Undecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	69-123	#N/A
120-82-1	1,2,4-Trichlorobenzene	38.552	51.5	75	62-154	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	19.416	27.0	72	62-156	ok	70-130	ok	57-138	ok
112-40-3	n-Dodecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-147	#N/A
87-68-3	Hexachloro-1,3-butadiene	25.455	26.3	97	55-142	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	61-132	#N/A
98-06-6	tert-Butylbenzene	29.923	26.3	114	61-140	ok	70-130	ok	65-124	ok
104-51-8	n-Butylbenzene	27.964	26.3	106	70-131	ok	70-130	ok	66-130	ok

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192214.D Vial: 15
Acq On : 19 Oct 2022 12:52 Operator: WA
Sample : LCS R16101922 25ng ICV Inst : GCMS-16
Misc : S35-08012201/S35-09262204 (10/26)

Quant Time: Oct 19 13:24:06 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) VOA 10/19/22
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	184382	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	831882	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	167607	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	305733	12.399	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
57) Toluene-d8 (SS2)	15.88	98	964415	13.056	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%				
73) Bromofluorobenzene (SS3)	19.11	174	314902	13.528	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.24%				
Target Compounds							Qvalue
2) Propene	4.18	42	531121	24.440	ng		99
3) Dichlorodifluoromethan...	4.34	85	778351	24.463	ng		100
4) Chloromethane	4.64	50	496380	22.689	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	456268	23.341	ng		100
6) Vinyl Chloride	5.07	62	590171	23.502	ng		100
7) 1,3-Butadiene	5.33	54	494657	27.401	ng		98
8) Bromomethane	5.78	94	336697	24.686	ng		99
9) Chloroethane	6.12	64	244988	22.811	ng		100
10) Ethanol	6.52	45	1245521	99.133	ng		100
11) Acetonitrile	6.76	41	645253	19.285	ng		98
12) Acrolein	6.95	56	466031	44.330	ng		100
13) Acetone	7.16	58	1527968	122.664	ng		97
14) Trichlorofluoromethane	7.40	101	681407	24.283	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	1736986	46.260	ng		100
16) Acrylonitrile	7.92	53	1019895	48.459	ng		100
17) 1,1-Dichloroethene	8.37	96	373289	25.007	ng		98
18) 2-Methyl-2-Propanol (t...	8.54	59	1828210	51.998	ng		100
19) Methylene Chloride	8.60	84	391502	25.215	ng		97
20) 3-Chloro-1-propene (Al...	8.75	41	507492	23.568	ng		98
21) Trichlorotrifluoroethane	9.01	151	338820	25.455	ng		100
22) Carbon Disulfide	8.85	76	2695182	49.057	ng		100
23) trans-1,2-Dichloroethene	9.87	61	513147	25.039	ng		99
24) 1,1-Dichloroethane	10.12	63	641995	24.755	ng		100
25) Methyl tert-Butyl Ether	10.22	73	1187450	25.074	ng		99
26) Vinyl Acetate	10.38	86	453819	118.637	ng	#	95
27) 2-Butanone (MEK)	10.62	72	581545	53.970	ng		97
28) cis-1,2-Dichloroethene	11.14	61	504310	24.513	ng		98
29) Diisopropyl Ether	11.43	87	962882	53.194	ng	#	67
30) Ethyl Acetate	11.43	61	553690	76.022	ng		99
31) n-Hexane	11.42	57	796836	25.198	ng		100
32) Chloroform	11.48	83	699323	24.864	ng		99
34) Tetrahydrofuran (THF)	11.88	72	522309	49.995	ng		97
35) Ethyl tert-Butyl Ether	12.02	87	1078806	51.562	ng		98
36) 1,2-Dichloroethane	12.28	62	528286	24.586	ng		99
38) 1,1,1-Trichloroethane	12.55	97	631769	24.853	ng		99
39) Isopropyl Acetate	13.67	61	1067	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.04	78	1584500	25.687	ng		100
42) Carbon Tetrachloride	13.19	117	513381	24.143	ng		100
43) Cyclohexane	13.32	84	1340455	48.580	ng		99
44) tert-Amyl Methyl Ether	13.67	73	2366859	50.868	ng		99
45) 1,2-Dichloropropane	13.89	63	376176	24.461	ng		100
46) Bromodichloromethane	14.07	83	557454	25.190	ng		100
47) Trichloroethene	14.13	130	450886	25.652	ng		100
48) 1,4-Dioxane	14.10	88	336311	26.113	ng		99
49) 2,2,4-Trimethylpentane...	14.20	57	1672920	23.991	ng		100
50) Methyl Methacrylate	14.33	100	390632	51.278	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192214.D Vial: 15
Acq On : 19 Oct 2022 12:52 Operator: WA
Sample : LCS R16101922 25ng ICV Inst : GCMS-16
Misc : S35-08012201/S35-09262204 (10/26)

Quant Time: Oct 19 13:24:06 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

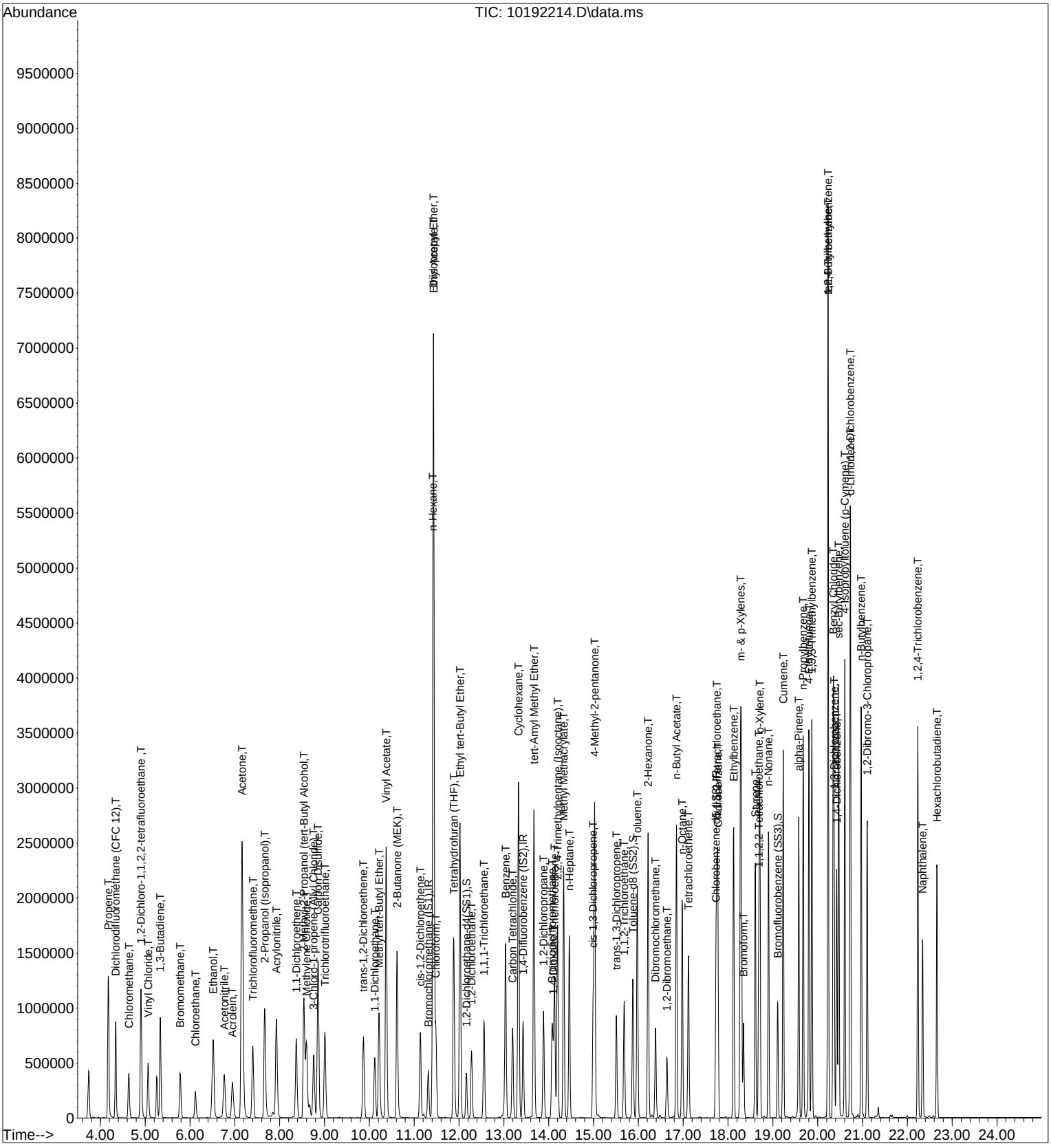
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	451311	25.086	ng		99
52) cis-1,3-Dichloropropene	14.99	75	640611	27.880	ng		99
53) 4-Methyl-2-pentanone	15.02	58	791572	53.491	ng		99
54) trans-1,3-Dichloropropene	15.51	75	557988	25.335	ng		100
55) 1,1,2-Trichloroethane	15.68	97	386590	25.854	ng		100
58) Toluene	15.98	91	1775418	25.976	ng		100
59) 2-Hexanone	16.22	43	1913226	53.599	ng		100
60) Dibromochloromethane	16.38	129	500246	27.761	ng		100
61) 1,2-Dibromoethane	16.64	107	446142	27.059	ng		100
62) n-Butyl Acetate	16.85	43	2108480	53.582	ng		100
63) n-Octane	16.98	57	371486	25.195	ng		99
64) Tetrachloroethene	17.12	166	478302	27.037	ng		100
65) Chlorobenzene	17.77	112	1148288	25.445	ng		100
66) Ethylbenzene	18.13	91	2060692	26.919	ng		100
67) m- & p-Xylenes	18.28	91	3368068	53.978	ng		100
68) Bromoform	18.35	173	420646	28.781	ng		100
69) Styrene	18.61	104	1233404	27.860	ng		100
70) o-Xylene	18.71	91	1675380	27.431	ng		100
71) n-Nonane	18.90	43	869705	25.154	ng		100
72) 1,1,2,2-Tetrachloroethane	18.69	83	750079	27.703	ng		99
74) Cumene	19.23	105	2243408	27.379	ng		99
75) alpha-Pinene	19.58	93	1031237	28.775	ng		99
76) n-Propylbenzene	19.68	91	2626418	27.652	ng		100
77) 3-Ethyltoluene	20.34	105	115	No Calib		#	
78) 4-Ethyltoluene	19.80	105	2234019	28.902	ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	1902046	27.774	ng		100
80) alpha-Methylstyrene	20.47	118	8447	No Calib		#	
81) 2-Ethyltoluene	20.34	105	115	No Calib		#	
82) 1,2,4-Trimethylbenzene	20.23	105	2111061	29.661	ng		100
83) n-Decane	20.23	58	78383	No Calib			
84) Benzyl Chloride	20.35	91	2401867	55.198	ng		100
85) 1,3-Dichlorobenzene	20.37	146	1024098	27.046	ng		100
86) 1,4-Dichlorobenzene	20.42	146	916430	25.047	ng		100
87) sec-Butylbenzene	20.47	105	2557922	28.117	ng		100
88) 4-Isopropyltoluene (p-...	20.61	119	2272266	28.116	ng		100
89) 1,2,3-Trimethylbenzene	20.34	105	115	No Calib		#	
90) 1,2-Dichlorobenzene	20.73	146	1043701	27.639	ng		100
91) d-Limonene	20.73	68	696568	28.944	ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	744431	51.177	ng		100
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.23	180	1050153	38.552	ng		100
95) Naphthalene	22.34	128	1309552	19.416	ng		100
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	414340	25.455	ng		99
98) Cyclohexanone	18.21	55	240	No Calib		#	
99) tert-Butylbenzene	20.23	119	2149548	29.923	ng		100
100) n-Butylbenzene	20.97	91	1909047	27.964	ng		100
101) 1,1,1,2-Tetrachloroethane	17.75	131	457410	25.924	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192214.D Vial: 15
Acq On : 19 Oct 2022 12:52 Operator: WA
Sample : LCS R16101922 25ng ICV Inst : GCMS-16
Misc : S35-08012201/S35-09262204 (10/26)

Quant Time: Oct 19 13:24:06 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 10\22\10222201.D Vial: 16
Acq On : 22 Oct 2022 13:36 Operator: WA
Sample : CCV R16102222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-10172201 (11/16)

Quant Time: Oct 22 19:53:51 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 10/22/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	82	-0.02
2	T	Propene	1.473	1.285	12.8	76	-0.01
3	T	Dichlorodifluoromethane (CF	2.157	1.973	8.5	81	0.00
4	T	Chloromethane	1.483	1.357	8.5	79	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.325	1.233	6.9	83	-0.01
6	T	Vinyl Chloride	1.702	1.582	7.1	81	-0.02
7	T	1,3-Butadiene	1.224	1.292	-5.6	81	-0.02
8	T	Bromomethane	0.925	0.897	3.0	84	-0.02
9	T	Chloroethane	0.728	0.643	11.7	82	-0.02
10	T	Ethanol	0.852	0.764	10.3	76	0.03
11	T	Acetonitrile	2.268	1.866	17.7	75	-0.05
12	T	Acrolein	0.713	0.666	6.6	78	-0.03
13	T	Acetone	0.844	0.810	4.0	77	-0.04
14	T	Trichlorofluoromethane	1.902	1.784	6.2	80	-0.02
15	T	2-Propanol (Isopropanol)	2.546	2.281	10.4	76	-0.05
16	T	Acrylonitrile	1.427	1.379	3.4	76	-0.05
17	T	1,1-Dichloroethene	1.012	0.949	6.2	79	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.384	2.512	-5.4	76	-0.04
19	T	Methylene Chloride	1.053	1.011	4.0	78	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.460	1.403	3.9	75	-0.02
21	T	Trichlorotrifluoroethane	0.902	0.872	3.3	80	-0.01
22	T	Carbon Disulfide	3.725	3.605	3.2	78	-0.01
23	T	trans-1,2-Dichloroethene	1.389	1.311	5.6	77	-0.01
24	T	1,1-Dichloroethane	1.758	1.606	8.6	77	-0.02
25	T	Methyl tert-Butyl Ether	3.211	3.168	1.3	78	0.00
26	T	Vinyl Acetate	0.259	0.277	-6.9	76	-0.02
27	T	2-Butanone (MEK)	0.731	0.772	-5.6	76	-0.02
28	T	cis-1,2-Dichloroethene	1.395	1.296	7.1	77	-0.02
29	T	Diisopropyl Ether	1.227	1.363	-11.1	75	0.00
30	T	Ethyl Acetate	0.494	0.561	-13.6	74	-0.03
31	T	n-Hexane	2.144	2.216	-3.4	74	0.00
32	T	Chloroform	1.907	1.837	3.7	78	-0.04
33	S	1,2-Dichloroethane-d4(SS1)	1.672	1.658	0.8	79	-0.02
34	T	Tetrahydrofuran (THF)	0.708	0.682	3.7	77	-0.01
35	T	Ethyl tert-Butyl Ether	1.418	1.468	-3.5	78	-0.01
36	T	1,2-Dichloroethane	1.457	1.351	7.3	76	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	80	-0.01
38	T	1,1,1-Trichloroethane	0.382	0.366	4.2	77	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	0#	0.00
40	T	1-Butanol	0.000	0.000	0.0	0#	-12.69#
41	T	Benzene	0.927	0.902	2.7	77	-0.01
42	T	Carbon Tetrachloride	0.320	0.308	3.8	76	0.00
43	T	Cyclohexane	0.415	0.398	4.1	77	0.00
44	T	tert-Amyl Methyl Ether	0.699	0.727	-4.0	78	-0.01
45	T	1,2-Dichloropropane	0.231	0.219	5.2	76	-0.01
46	T	Bromodichloromethane	0.333	0.320	3.9	77	0.00
47	T	Trichloroethene	0.264	0.262	0.8	79	0.00
48	T	1,4-Dioxane	0.194	0.198	-2.1	78	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.048	0.973	7.2	75	0.00
50	T	Methyl Methacrylate	0.114	0.115	-0.9	75	-0.01
51	T	n-Heptane	0.270	0.267	1.1	76	0.00
52	T	cis-1,3-Dichloropropene	0.345	0.363	-5.2	76	0.00
53	T	4-Methyl-2-pentanone	0.222	0.233	-5.0	75	-0.02
54	T	trans-1,3-Dichloropropene	0.331	0.335	-1.2	76	0.00
55	T	1,1,2-Trichloroethane	0.225	0.224	0.4	77	-0.01

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2022 10\22\10222201.D Vial: 16
Acq On : 22 Oct 2022 13:36 Operator: WA
Sample : CCV R16102222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-10172201 (11/16)

Quant Time: Oct 22 19:53:51 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	78	0.00
57	S	Toluene-d8 (SS2)	5.509	5.619	-2.0	79	0.00
58	T	Toluene	5.097	5.134	-0.7	77	-0.01
59	T	2-Hexanone	2.662	2.790	-4.8	75	-0.02
60	T	Dibromochloromethane	1.344	1.402	-4.3	75	-0.01
61	T	1,2-Dibromoethane	1.230	1.296	-5.4	75	0.00
62	T	n-Butyl Acetate	2.935	3.077	-4.8	74	-0.01
63	T	n-Octane	1.100	1.064	3.3	75	-0.01
64	T	Tetrachloroethene	1.319	1.358	-3.0	78	0.00
65	T	Chlorobenzene	3.366	3.296	2.1	76	0.00
66	T	Ethylbenzene	5.709	5.949	-4.2	77	0.00
67	T	m- & p-Xylenes	4.653	4.853	-4.3	76	-0.01
68	T	Bromoform	1.090	1.153	-5.8	73	0.00
69	T	Styrene	3.302	3.588	-8.7	74	0.00
70	T	o-Xylene	4.555	4.771	-4.7	75	-0.01
71	T	n-Nonane	2.579	2.473	4.1	74	0.00
72	T	1,1,2,2-Tetrachloroethane	2.019	2.152	-6.6	76	0.00
73	S	Bromofluorobenzene (SS3)	1.736	1.857	-7.0	78	0.00
74	T	Cumene	6.111	6.406	-4.8	75	0.00
75	T	alpha-Pinene	2.673	3.063	-14.6	77	0.00
76	T	n-Propylbenzene	7.084	7.626	-7.7	76	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	0#	0.00
78	T	4-Ethyltoluene	5.765	6.361	-10.3	75	0.00
79	T	1,3,5-Trimethylbenzene	5.107	5.436	-6.4	76	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	0#	0.00
82	T	1,2,4-Trimethylbenzene	5.308	6.203	-16.9	75	-0.01
83	T	n-Decane	0.000	0.000	0.0	0#	0.00
84	T	Benzyl Chloride	3.245	3.829	-18.0	75	0.00
85	T	1,3-Dichlorobenzene	2.824	3.068	-8.6	73	-0.01
86	T	1,4-Dichlorobenzene	2.729	2.781	-1.9	71	0.00
87	T	sec-Butylbenzene	6.785	7.538	-11.1	76	0.00
88	T	4-Isopropyltoluene (p-Cymen	6.027	6.641	-10.2	75	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	0#	0.00
90	T	1,2-Dichlorobenzene	2.816	3.118	-10.7	74	0.00
91	T	d-Limonene	1.795	2.047	-14.0	76	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.085	1.092	-0.6	73	0.00
93	T	n-Undecane	0.000	0.000	0.0	0#	-21.51#
94	T	1,2,4-Trichlorobenzene	2.032	1.859	8.5	70	0.00
95	T	Naphthalene	5.030	4.836	3.9	67	0.00
96	T	n-Dodecane	0.000	0.000	0.0	0#	-22.59#
97	T	Hexachlorobutadiene	1.214	1.231	-1.4	76	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	0.03
99	T	tert-Butylbenzene	5.358	6.259	-16.8	75	0.00
100	T	n-Butylbenzene	5.091	5.687	-11.7	76	-0.01
101	T	1,1,1,2-Tetrachloroethane	1.316	1.282	2.6	75	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222201.D Vial: 16
Acq On : 22 Oct 2022 13:36 Operator: WA
Sample : CCV R16102222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-10172201 (11/16)

Quant Time: Oct 22 19:53:51 2022 10/22/22
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	142863	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	642239	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	132098	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	236885	12.399	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
57) Toluene-d8 (SS2)	15.88	98	742205	12.749	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
73) Bromofluorobenzene (SS3)	19.11	174	245294	13.370	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.96%				
Target Compounds							Qvalue
2) Propene	4.19	42	385605	22.901	ng		99
3) Dichlorodifluoromethan...	4.35	85	597655	24.243	ng		100
4) Chloromethane	4.64	50	399492	23.567	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	366416	24.192	ng		100
6) Vinyl Chloride	5.07	62	456505	23.462	ng		100
7) 1,3-Butadiene	5.34	54	391360	27.980	ng		97
8) Bromomethane	5.79	94	261279	24.724	ng		100
9) Chloroethane	6.13	64	189177	22.733	ng		100
10) Ethanol	6.51	45	753603	77.412	ng		100
11) Acetonitrile	6.76	41	485195	18.715	ng		98
12) Acrolein	6.95	56	367328	45.096	ng		100
13) Acetone	7.16	58	1219923	126.396	ng		98
14) Trichlorofluoromethane	7.40	101	530062	24.380	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	1336224	45.929	ng		99
16) Acrylonitrile	7.92	53	807669	49.528	ng		100
17) 1,1-Dichloroethene	8.37	96	292784	25.314	ng		97
18) 2-Methyl-2-Propanol (t...	8.54	59	1514417	55.591	ng		99
19) Methylene Chloride	8.60	84	306198	25.452	ng		97
20) 3-Chloro-1-propene (Al...	8.76	41	424948	25.470	ng		97
21) Trichlorotrifluoroethane	9.01	151	269164	26.098	ng		99
22) Carbon Disulfide	8.86	76	2193864	51.537	ng		100
23) trans-1,2-Dichloroethene	9.87	61	404574	25.478	ng		97
24) 1,1-Dichloroethane	10.12	63	490876	24.428	ng		100
25) Methyl tert-Butyl Ether	10.22	73	968497	26.394	ng		99
26) Vinyl Acetate	10.38	86	221347	74.681	ng		96
27) 2-Butanone (MEK)	10.62	72	461103	55.229	ng		96
28) cis-1,2-Dichloroethene	11.14	61	392399	24.617	ng		97
29) Diisopropyl Ether	11.43	87	825479	58.856	ng	#	94
30) Ethyl Acetate	11.44	61	676660	119.906	ng		99
31) n-Hexane	11.42	57	664954	27.138	ng		100
32) Chloroform	11.48	83	556514	25.537	ng		100
34) Tetrahydrofuran (THF)	11.88	72	397783	49.141	ng		95
35) Ethyl tert-Butyl Ether	12.02	87	889287	54.857	ng		98
36) 1,2-Dichloroethane	12.28	62	417028	25.049	ng		100
38) 1,1,1-Trichloroethane	12.56	97	493190	25.131	ng		99
39) Isopropyl Acetate	13.67	61	844	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.04	78	1239463	26.026	ng		100
42) Carbon Tetrachloride	13.20	117	410781	25.023	ng		100
43) Cyclohexane	13.33	84	1072873	50.364	ng		98
44) tert-Amyl Methyl Ether	13.67	73	1979851	55.114	ng		99
45) 1,2-Dichloropropane	13.89	63	295418	24.882	ng		100
46) Bromodichloromethane	14.08	83	440373	25.776	ng		100
47) Trichloroethene	14.13	130	353532	26.053	ng		99
48) 1,4-Dioxane	14.11	88	269506	27.105	ng		97
49) 2,2,4-Trimethylpentane...	14.20	57	1349529	25.068	ng		99
50) Methyl Methacrylate	14.34	100	313314	53.273	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222201.D Vial: 16
Acq On : 22 Oct 2022 13:36 Operator: WA
Sample : CCV R16102222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-10172201 (11/16)

Quant Time: Oct 22 19:53:51 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

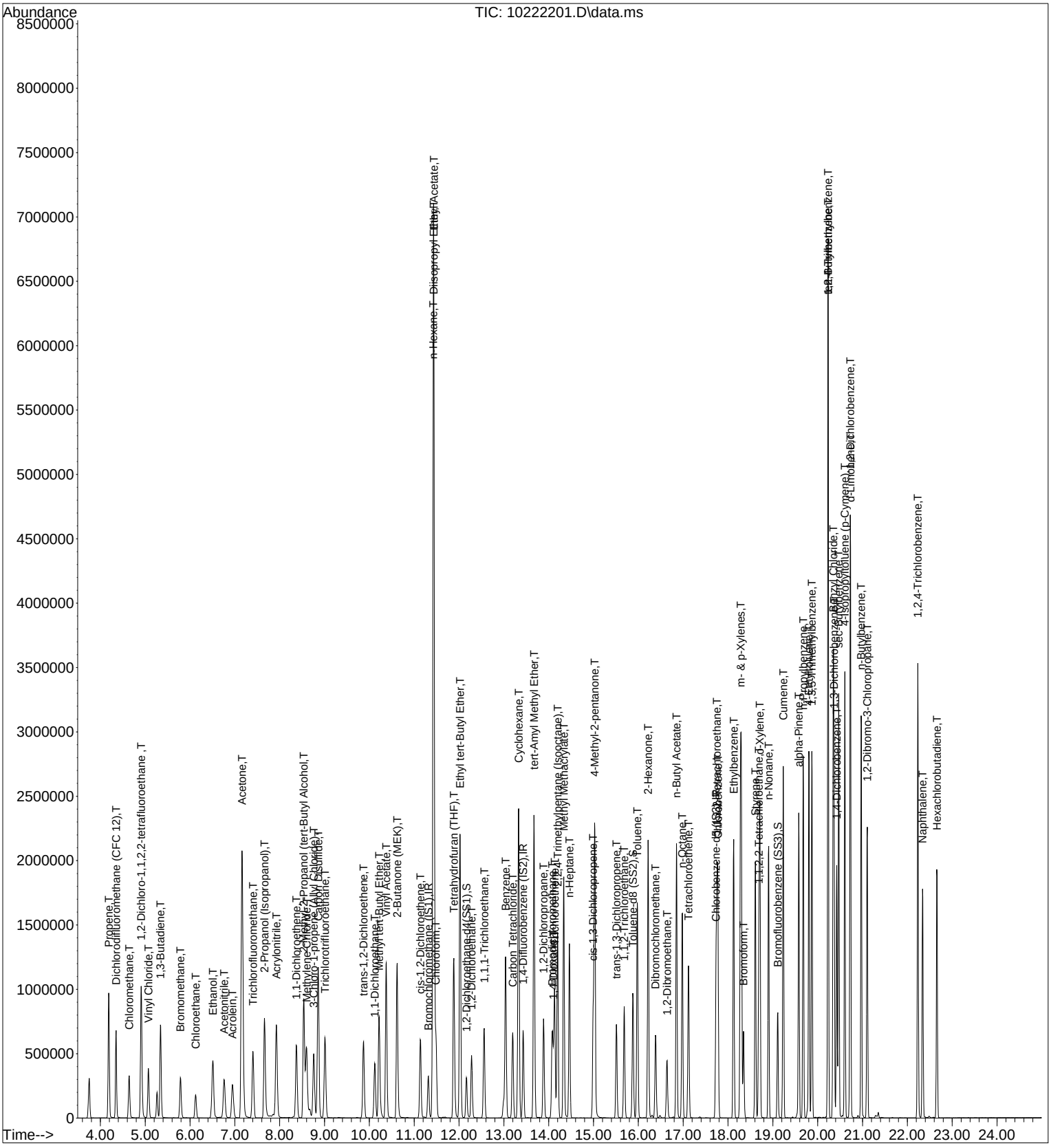
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	363174	26.148 ng		99
52) cis-1,3-Dichloropropene	14.99	75	503795	28.400 ng		100
53) 4-Methyl-2-pentanone	15.02	58	643713	56.344 ng		98
54) trans-1,3-Dichloropropene	15.51	75	438767	25.804 ng		100
55) 1,1,2-Trichloroethane	15.68	97	305258	26.443 ng		100
58) Toluene	15.98	91	1424183	26.438 ng		99
59) 2-Hexanone	16.22	43	1562850	55.552 ng		99
60) Dibromochloromethane	16.38	129	399922	28.159 ng		100
61) 1,2-Dibromoethane	16.64	107	356167	27.409 ng		100
62) n-Butyl Acetate	16.85	43	1666466	53.733 ng		99
63) n-Octane	16.98	57	300687	25.876 ng		99
64) Tetrachloroethene	17.12	166	380369	27.280 ng		99
65) Chlorobenzene	17.77	112	923045	25.952 ng		100
66) Ethylbenzene	18.13	91	1650201	27.351 ng		99
67) m- & p-Xylenes	18.28	91	2692441	54.750 ng		100
68) Bromoform	18.35	173	326001	28.301 ng		100
69) Styrene	18.61	104	1004873	28.800 ng		99
70) o-Xylene	18.71	91	1336101	27.756 ng		100
71) n-Nonane	18.91	43	692467	25.411 ng		99
72) 1,1,2,2-Tetrachloroethane	18.69	83	602741	28.245 ng		99
74) Cumene	19.23	105	1810910	28.042 ng		100
75) alpha-Pinene	19.58	93	881969	31.225 ng		100
76) n-Propylbenzene	19.68	91	2155742	28.798 ng		99
77) 3-Ethyltoluene	20.35	105	530	No Calib		
78) 4-Ethyltoluene	19.80	105	1831800	30.069 ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	1522305	28.205 ng		99
80) alpha-Methylstyrene	20.47	118	6681	No Calib	#	
81) 2-Ethyltoluene	20.35	105	530	No Calib		
82) 1,2,4-Trimethylbenzene	20.23	105	1720626	30.674 ng		100
83) n-Decane	20.23	58	63993	No Calib		
84) Benzyl Chloride	20.35	91	2144686	62.536 ng		98
85) 1,3-Dichlorobenzene	20.36	146	859238	28.792 ng		99
86) 1,4-Dichlorobenzene	20.42	146	778862	27.010 ng		100
87) sec-Butylbenzene	20.47	105	2111027	29.442 ng		99
88) 4-Isopropyltoluene (p-...	20.61	119	1859866	29.199 ng		100
89) 1,2,3-Trimethylbenzene	20.35	105	530	No Calib		
90) 1,2-Dichlorobenzene	20.73	146	881512	29.619 ng		100
91) d-Limonene	20.73	68	578796	30.516 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	606016	52.860 ng		98
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.23	180	1026700	47.823 ng		100
95) Naphthalene	22.34	128	1405325	26.436 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	344719	26.871 ng		100
98) Cyclohexanone	18.21	55	106	No Calib	#	
99) tert-Butylbenzene	20.23	119	1752854	30.959 ng		100
100) n-Butylbenzene	20.97	91	1607568	29.878 ng		99
101) 1,1,1,2-Tetrachloroethane	17.75	131	359106	25.823 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\22\10222201.D Vial: 16
Acq On : 22 Oct 2022 13:36 Operator: WA
Sample : CCV R16102222 25ng Inst : GCMS-16
Misc : S35-08012201/S35-10172201 (11/16)

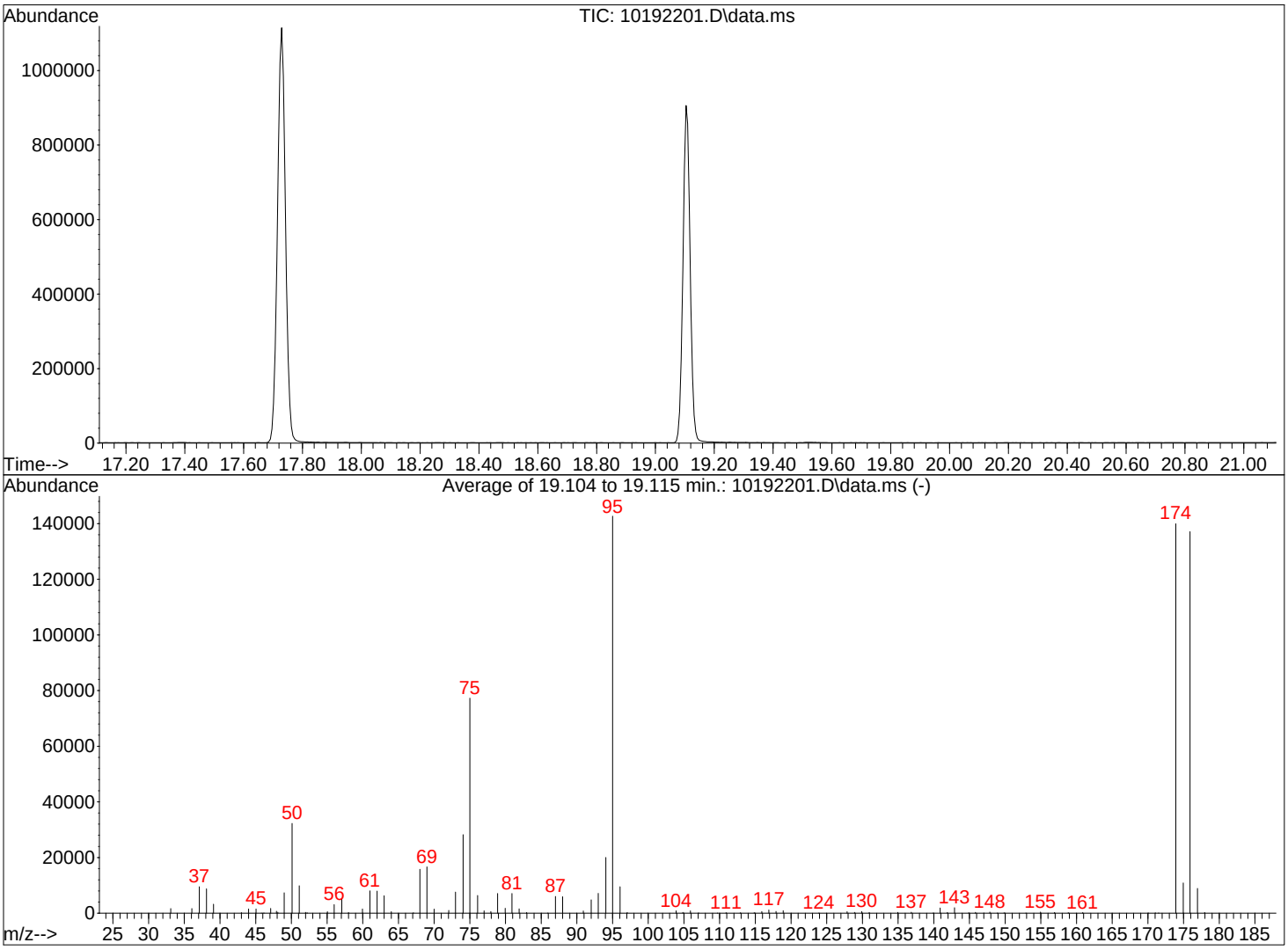
Quant Time: Oct 22 19:53:51 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS16\DATA\2022 10\19\
Data File : 10192201.D
Acq On : 19 Oct 2022 5:02
Operator : WA
Sample : 12.5ng BFB Std
Misc : S35-08012201
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16101922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Sat Aug 20 09:01:46 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2832

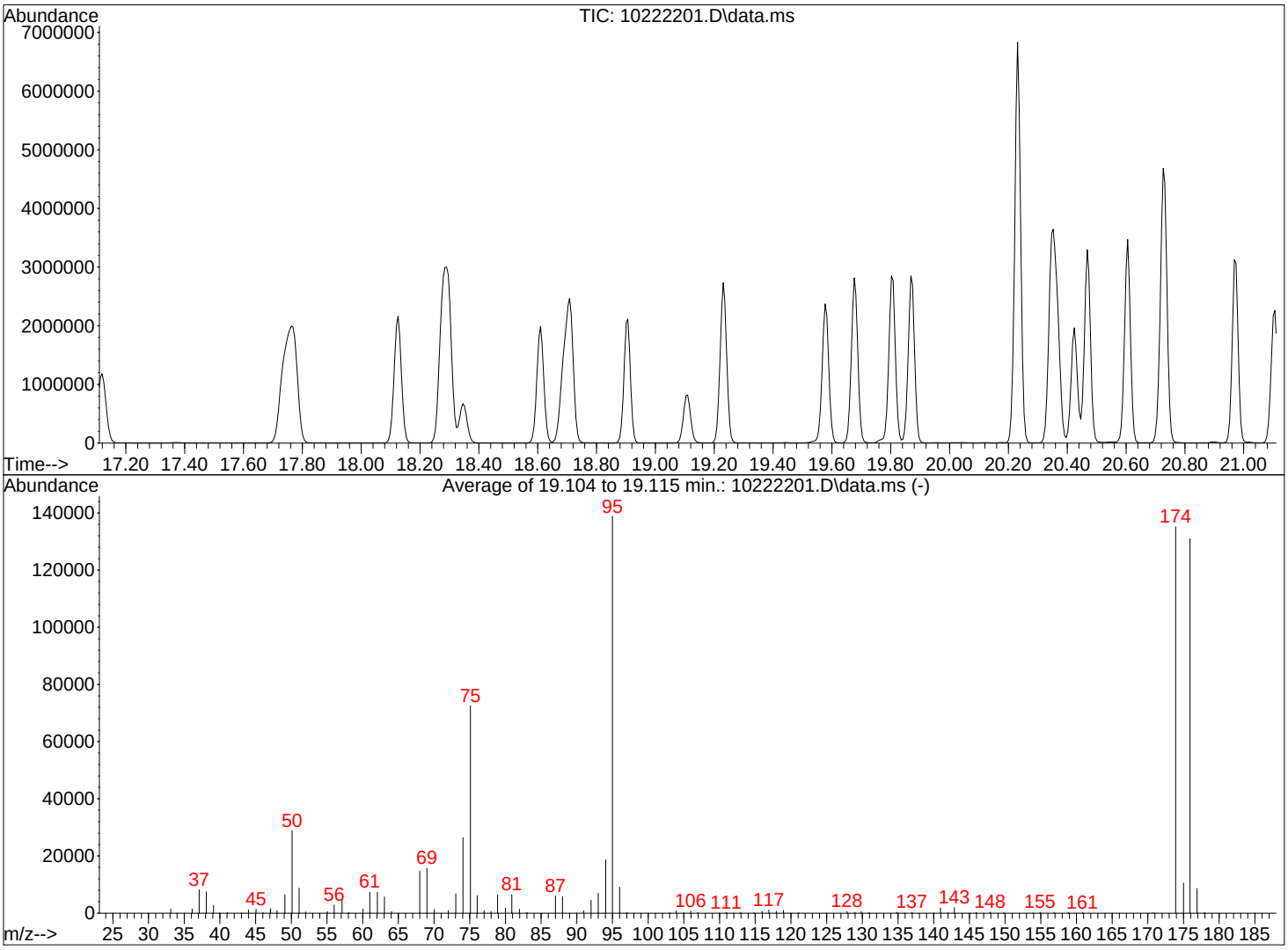
WA 10/19/22

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	22.6	32283	PASS
75	95	30	66	54.2	77285	PASS
95	95	100	100	100.0	142680	PASS
96	95	5	9	6.7	9525	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	98.1	139955	PASS
175	174	4	9	7.8	10872	PASS
176	174	93	101	98.0	137117	PASS
177	176	5	9	6.5	8917	PASS

Data Path : I:\MS16\DATA\2022 10\22\
Data File : 10222201.D
Acq On : 22 Oct 2022 13:36
Operator : WA
Sample : CCV R16102222 25ng
Misc : S35-08012201/S35-10172201 (11/16)
ALS Vial : 16 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16101922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Oct 19 13:14:51 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2832

10/22/22

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.8	28819	PASS
75	95	30	66	52.2	72560	PASS
95	95	100	100	100.0	138885	PASS
96	95	5	9	6.6	9109	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	97.3	135149	PASS
175	174	4	9	7.8	10585	PASS
176	174	93	101	96.9	130960	PASS
177	176	5	9	6.6	8624	PASS

Injection Log

Directory: I:\MS16\DATA\2022_10\19\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	*Comment*
1	10/19/22 5:02	10192201.D	12.5ng BFB Std	S35-08012202	WA	2	*Passed*
2	10/19/22 5:36	10192202.D	0.1ng R16101922 ICAL Std	S35-08012202/S35-10172210 (11/16)	WA	13	***R16101922.M***
4	10/19/22 6:59	10192204.D	x0.5ng R16101922 ICAL Stdx-rerun	S35-08012202/S35-10172210 (11/16)	WA	13	
5	10/19/22 7:33	10192205.D	0.2ng R16101922 ICAL Std	S35-08012202/S35-10172210 (11/16)	WA	13	
6	10/19/22 8:08	10192206.D	1.0ng R16101922 ICAL Std	S35-08012202/S35-10172209 (11/16)	WA	14	
7	10/19/22 8:41	10192207.D	5.0ng R16101922 ICAL Std	S35-08012202/S35-10172209 (11/16)	WA	14	
8	10/19/22 9:15	10192208.D	25ng R16101922 ICAL Std	S35-08012202/S35-10172201 (11/16)	WA	2	
10	10/19/22 9:49	10192209.D	50ng R16101922 ICAL Std	S35-08012202/S35-10172201(11/16)	WA	2	
11	10/19/22 10:23	10192210.D	100ng R16101922 ICAL Std	S35-08012202/S35-10172201(11/16)	WA	2	
12	10/19/22 10:57	10192211.D	Blank	S35-08012202	WA	2	
13	10/19/22 11:32	10192212.D	0.5ng R16101922 ICAL Std	S35-08012202/S35-10172209 (11/16)	WA	14	
15	10/19/22 12:07	10192213.D	ICV R16101922_25ng	S35-08012202/S35-09262203 (10/26)	WA	2	*not used*
16	10/19/22 12:52	10192214.D	LCS R16101922_25ng_ICV	S35-08012202/S35-09262204 (10/26)	WA	15	*Passed*
	R16101922.M: good for low level compounds ranges from 0.1ng --> 100ng; except: vinyl acetate from 2.5ng --> 500ng,						
	Me-methacrylate, Benzyl-Cl, 1,2-DBCP and 1,2,4-TCB from 1.0ng --> 200ng and Naphthalene from 0.2ng --> 100ng						

10/27/22

Injection Log

Directory: I:\MS16\DATA\2022_10\22\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	*Comment*
1	10/22/22 13:36	10222201.D	CCV R16102222_25ng	S35-08012201/S35-10172201 (11/16)	WA	16	*Passed*
2	10/22/22 14:11	10222202.D	CCV C16102222_5ng	S35-08012201/S35-09262206 (10/25)	WA	2	*Passed*
3	10/22/22 14:45	10222203.D	MB R16102222_1000mL	S35-08012201	WA	7	*Passed*
4	10/22/22 15:19	10222204.D	P2204667-001 (400mL)	S35-08012201	WA	8	
5	10/22/22 15:53	10222205.D	P2204667-002 (400mL)	S35-08012201	WA	9	
6	10/22/22 16:28	10222206.D	P2204667-003 (400mL)	S35-08012201	WA	10	
7	10/22/22 17:02	10222207.D	P2204667-004 (400mL)	S35-08012201	WA	2	
8	10/22/22 17:36	10222208.D	LCS R16102222_25ng	S35-08012201/S35-09262204 (10/26)	WA	2	*Passed*
9	10/22/22 18:10	10222209.D	LCSD R16102222_25ng	S35-08012201//S35-09262204 (10/26)	WA	6	*Passed*
10	10/22/22 18:44	10222210.D	P2204597-005dil (100mL)	S35-08012201	WA	11	
11	10/22/22 19:18	10222211.D	P2204597-001 (1000mL)	S35-08012201	WA	12	
12	10/22/22 20:05	10222212.D	P2204597-002 (1000mL)	S35-08012201	WA	12	
13	10/22/22 20:40	10222213.D	P2204597-003 (1000mL)	S35-08012201	WA	13	
14	10/22/22 21:20	10222214.D	P2204597-003dup (1000mL)	S35-08012201	WA	13	*Passed*
15	10/22/22 21:54	10222215.D	P2204597-004 (1000mL)	S35-08012201	WA	14	
16	10/22/22 22:28	10222216.D	P2204597-005 (1000mL)	S35-08012201	WA	6	
17	10/22/22 23:02	10222217.D	P2204624-001dil (100mL)	S35-08012201	WA	1	
18	10/22/22 23:36	10222218.D	P2204624-002dil (100mL)	S35-08012201	WA	3	
19	10/23/22 0:10	10222219.D	LOQ R16102222_0.5ng	S35-08012201	WA	15	
							WA 10/23/22

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-03
Cycles: 30
Batch: 30045

Batch Started By: on 10/6/22 0705
Finished Cleaning By: ALESAICHERRE on 10/7/22 0555

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02469	10/6/22		Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/12/22 0834		
AC02425	10/6/22	10/6/22	Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/14/22 1041		ms21-10/06/22
AC02339	10/6/22		Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/13/22 0857		
AC01570	10/6/22		Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/12/22 0834		
AC02257	10/6/22		Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/12/22 0834		
AC02289	10/6/22		Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/12/22 0834		
AC02348	10/6/22		Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/12/22 0834		
AC02086	10/6/22		Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/12/22 0834		
AC02089	10/6/22		Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/12/22 0834		
AC02344	10/6/22		Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/12/22 0834		
AC02093	10/6/22		Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/13/22 0857		
AC02483	10/6/22		Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/11/22 0242		
AC02384	10/6/22		Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/11/22 0242		
AC02377	10/6/22		Pass w/ Conditions	-14.3	10/7/22 0555	ALESAICHERRE	-14.0	10/13/22 0857		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 10\06\
Data File : 10062209.D
Acq On : 6 Oct 2022 17:57
Operator : KM
Sample : 100622 AC02425 30045
Misc : SIM + TICS (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

10/7/22

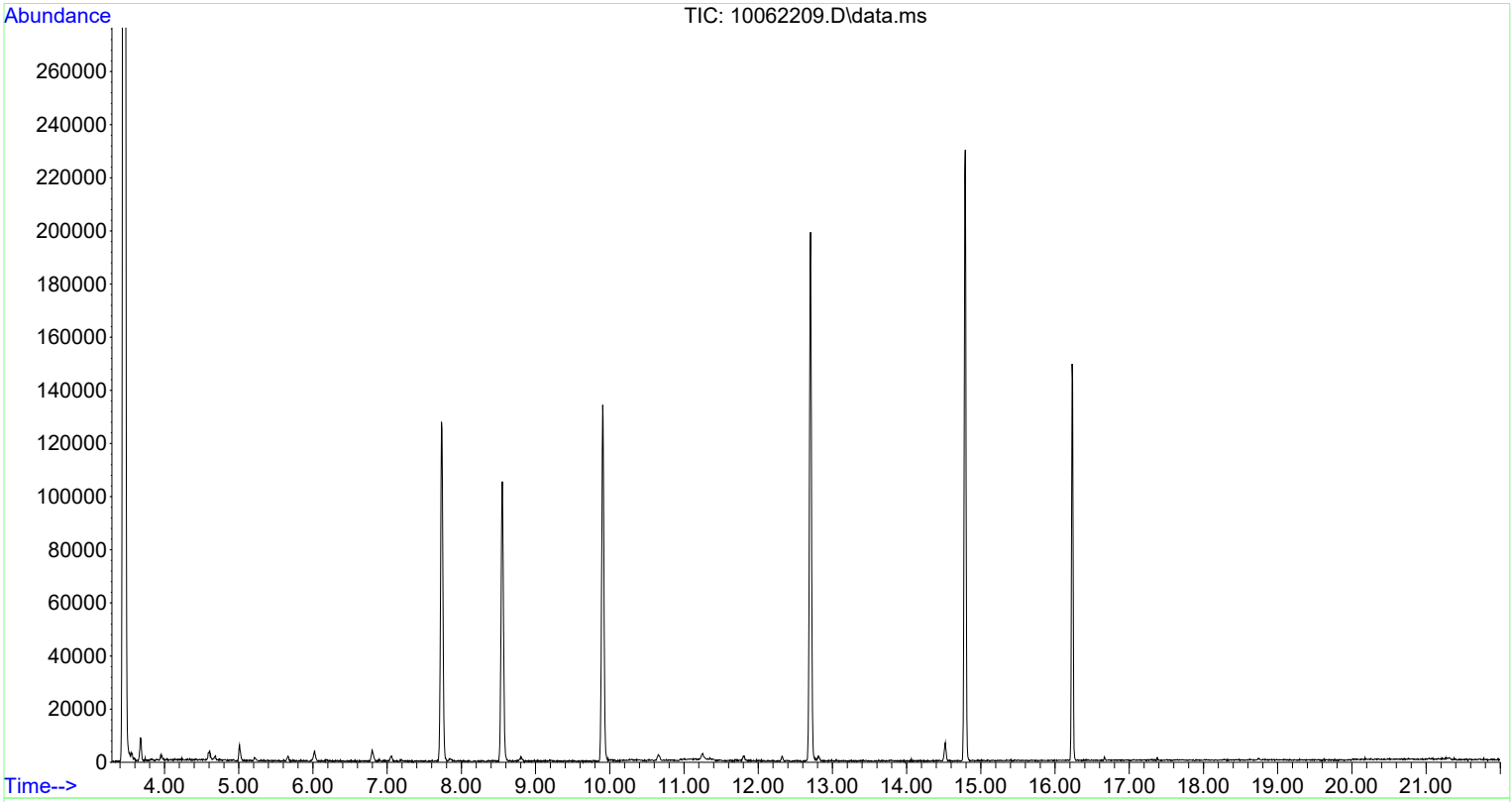
Quant Time: Oct 07 04:47:35 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

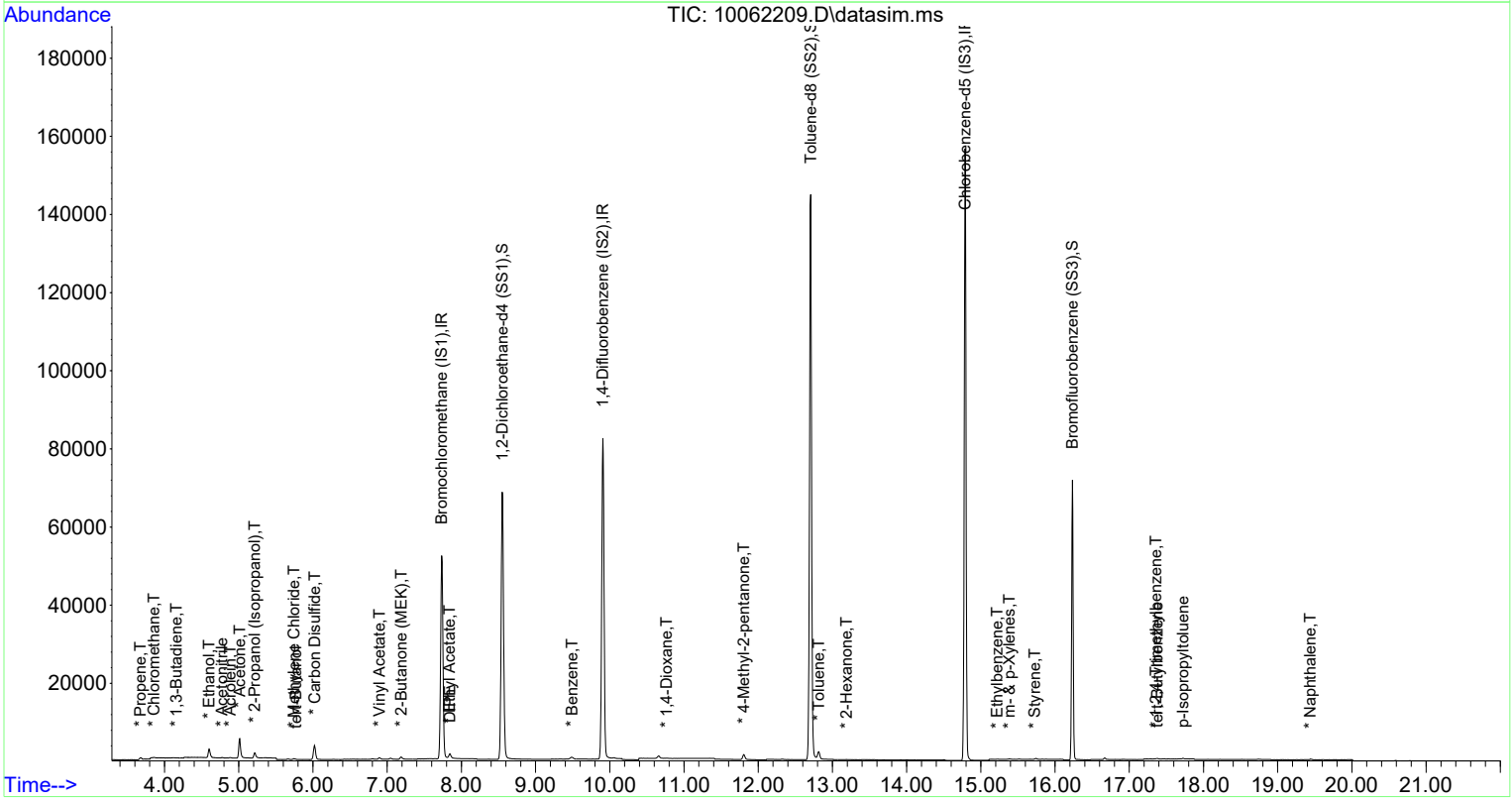
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.734	130	65173	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.907	114	144844	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	28146	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.550	65	102068	1019.73	pg		0.00
Spiked Amount 1000.000			Recovery = 101.97%				
57) Toluene-d8 (SS2)	12.708	98	159187	951.10	pg		0.00
Spiked Amount 1000.000			Recovery = 95.11%				
74) Bromofluorobenzene (SS3)	16.233	174	51949	769.10	pg		0.00
Spiked Amount 1000.000			Recovery = 76.91%				
Target Compounds							Qvalue
2] * Propene	3.673	42	295	5.406	pg	#	65
4] * Chloromethane	3.856	50	132	4.145	pg	#	40
7] * 1,3-Butadiene	4.157	54	5	0.193	pg	#	8
10] * Ethanol	4.601	45	2479	65.693	pg		99
11] * Acetonitrile	4.773	41	151	1.203	pg		94
12] * Acrolein	4.884	56	145	4.338	pg		100
13] * Acetone	5.014	58	2357	45.527	pg		90
15] * 2-Propanol (Isopropa...	5.213	45	1403	11.353	pg	#	53
18] tert-Butanol	5.769	59	134	1.280	pg	#	46
19] * Methylene Chloride	5.744	84	222	2.856	pg		96
22] * Carbon Disulfide	6.021	76	6910	23.324	pg		98
26] * Vinyl Acetate	6.898	86	121	11.671	pg	#	23
27] * 2-Butanone (MEK)	7.189	72	240	6.303	pg		80
29] DIPE	7.844	45	239	1.461	pg	#	46
30] * Ethyl Acetate	7.838	61	253	12.090	pg		98
39] * Benzene	9.490	78	442	3.103	pg		98
48] * 1,4-Dioxane	10.764	88	71	1.814	pg		95
53] * 4-Methyl-2-pentanone	11.804	58	667	21.576	pg		93
58] * Toluene	12.816	91	2052	10.262	pg		98
59] * 2-Hexanone	13.190	58	62	1.628	pg	#	53
66] * Ethylbenzene	15.220	91	50	0.334	pg	#	43
67] * m- & p-Xylenes	15.381	91	103	0.874	pg		99
70] * Styrene	15.727	104	64	0.801	pg	#	30
83] tert-Butylbenzene	17.379	134	57	2.224	pg	#	1
84] * 1,2,4-Trimethylbenzene	17.357	105	52	0.469	pg	#	24
91] p-Isopropyltoluene	17.724	119	122	0.956	pg	#	49
98] * Naphthalene	19.439	128	194	1.516	pg	#	68

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS21\DATA\2022 10\06\
Data File : 10062209.D
Acq On : 6 Oct 2022 17:57
Operator : KM
Sample : 100622 AC02425 30045
Misc : SIM + TICS (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 04:47:35 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 30046

Batch Started By: **on 10/6/22 0709**
Finished Cleaning By: **on 10/6/22 0710**

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS00369	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/11/22 0858		
AC02291	10/6/22	10/6/22	Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/14/22 1041		ms21-10/06/22
AC00655	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/13/22 0857		
AC01122	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/13/22 0857		
AC02391	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/11/22 0858		
AC00442	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/11/22 0242		
AC02267	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/11/22 0858		
AC02109	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/13/22 0857		
AC02249	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/11/22 0858		
AC02373	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/11/22 0858		
AC02443	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/13/22 0857		
AS00702	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/13/22 0857		
AC01786	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/11/22 0242		
AC02408	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/13/22 0857		
AC01909	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/11/22 0858		
AC02091	10/6/22		Pass w/ Conditions	-14.3	10/6/22 0710		-14.0	10/11/22 0242		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 10\06\
Data File : 10062210.D
Acq On : 6 Oct 2022 18:42
Operator : KM
Sample : 100622 AC02291 30046
Misc : SIM + TICS (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

AR 10/7/22

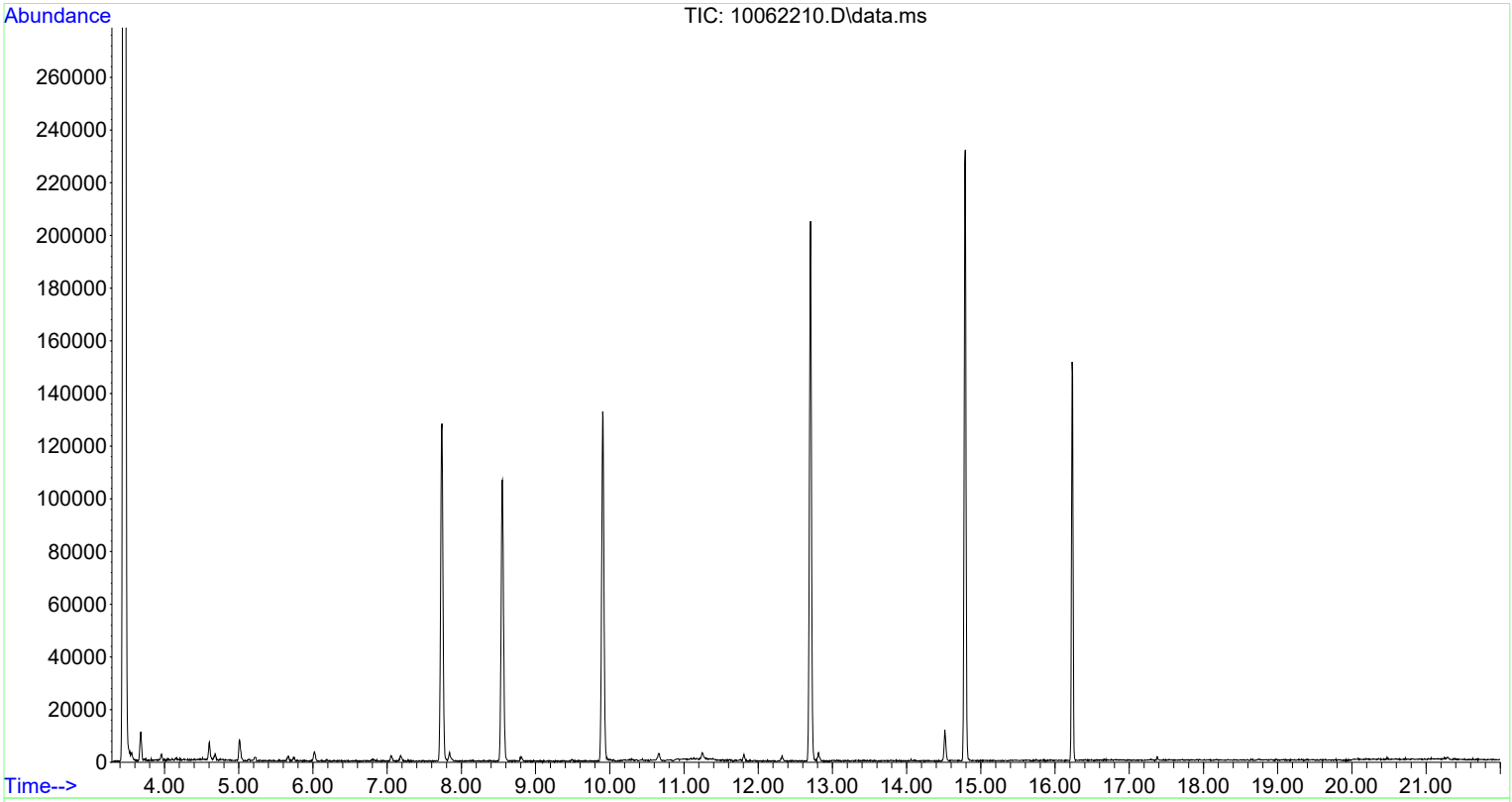
Quant Time: Oct 07 04:56:03 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

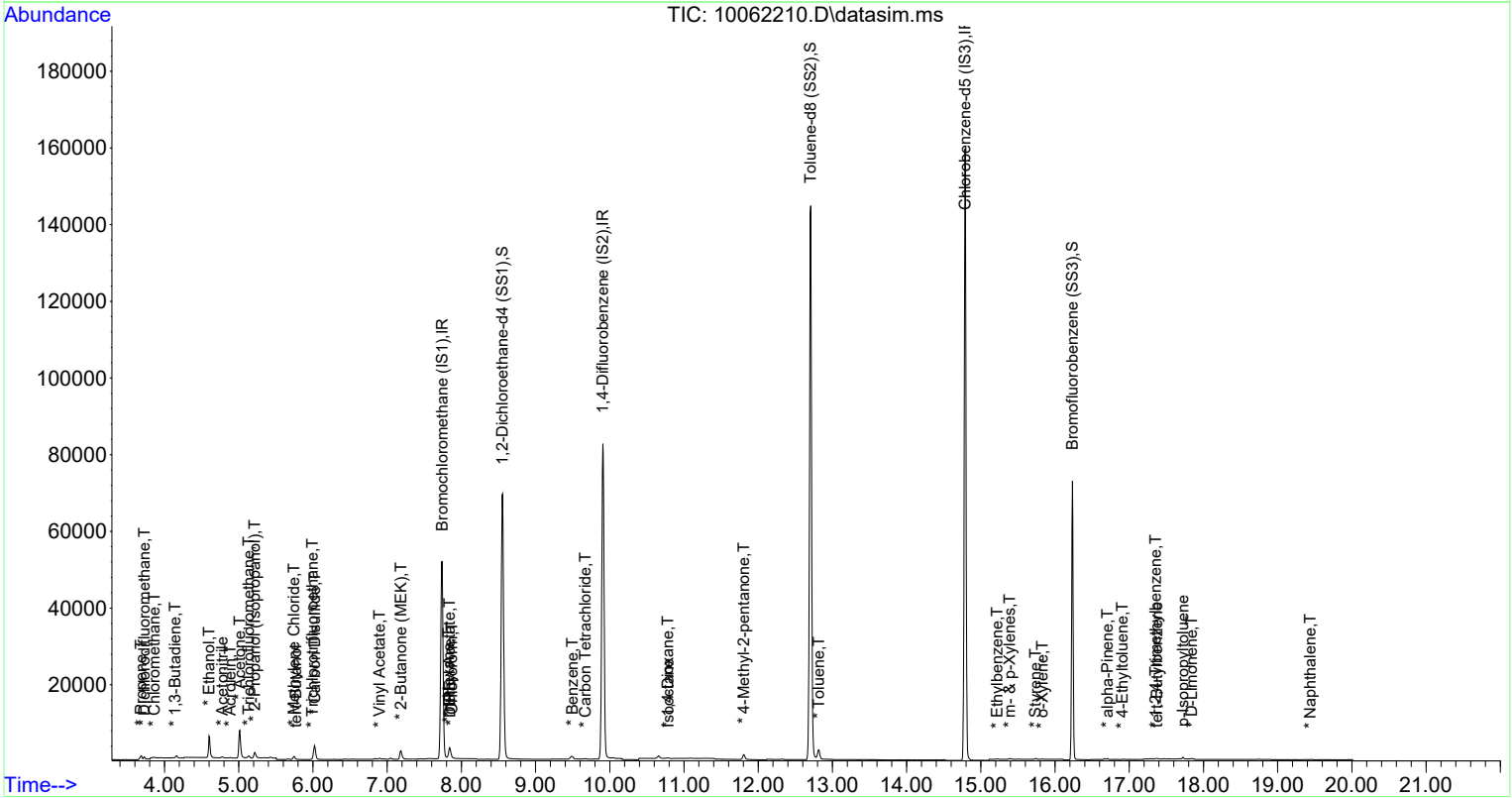
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.741	130	65079	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.906	114	146116	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	28624	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.550	65	103235	1032.88	pg		0.00
Spiked Amount 1000.000			Recovery = 103.29%				
57) Toluene-d8 (SS2)	12.702	98	160397	942.32	pg		0.00
Spiked Amount 1000.000			Recovery = 94.23%				
74) Bromofluorobenzene (SS3)	16.233	174	52027	757.39	pg		0.00
Spiked Amount 1000.000			Recovery = 75.74%				
Target Compounds							Qvalue
2] * Propene	3.682	42	472	8.663	pg	#	30
3] * Dichlorodifluoromethane	3.725	85	632	5.649	pg		98
4] * Chloromethane	3.861	50	219	6.888	pg		95
7] * 1,3-Butadiene	4.142	54	7	0.270	pg	#	8
10] * Ethanol	4.601	45	4910	130.301	pg		100
11] * Acetonitrile	4.778	41	363	2.897	pg		86
12] * Acrolein	4.884	56	146	4.374	pg		97
13] * Acetone	5.014	58	3167	61.261	pg		99
14] * Trichlorofluoromethane	5.132	101	551	3.599	pg		99
15] * 2-Propanol (Isopropa...	5.213	45	1554	12.593	pg	#	63
18] tert-Butanol	5.769	59	126	1.205	pg	#	46
19] * Methylene Chloride	5.744	84	927	11.942	pg		100
21] * Trichlorotrifluoroet...	5.992	151	93	1.251	pg		93
22] * Carbon Disulfide	6.021	76	6826	23.074	pg		99
26] * Vinyl Acetate	6.898	86	61	5.892	pg	#	54
27] * 2-Butanone (MEK)	7.184	72	900	23.671	pg		84
29] DIPE	7.844	45	580	3.551	pg	#	46
30] * Ethyl Acetate	7.838	61	631	30.197	pg		96
31] * n-Hexane	7.825	57	70	0.973	pg	#	55
32] * Chloroform	7.870	83	52	0.384	pg	#	17
39] * Benzene	9.495	78	822	5.720	pg		97
42] * Carbon Tetrachloride	9.672	117	107	1.657	pg		89
48] * 1,4-Dioxane	10.778	88	58	1.469	pg	#	6
49] Isooctane	10.786	56	64	1.211	pg		79
53] * 4-Methyl-2-pentanone	11.804	58	682	21.869	pg		95
58] * Toluene	12.816	91	2792	13.730	pg		98
66] * Ethylbenzene	15.220	91	120	0.789	pg	#	43
67] * m- & p-Xylenes	15.387	91	236	1.970	pg	#	84
70] * Styrene	15.733	104	65	0.800	pg	#	30
71] * o-Xylene	15.828	91	90	0.760	pg	#	29
76] * alpha-Pinene	16.705	93	171	2.370	pg		91
79] * 4-Ethyltoluene	16.904	105	53	0.395	pg	#	45
83] tert-Butylbenzene	17.373	134	63	2.417	pg	#	1
84] * 1,2,4-Trimethylbenzene	17.357	105	73	0.648	pg	#	24
91] p-Isopropyltoluene	17.724	119	330	2.542	pg		95
93] * D-Limonene	17.843	68	65	1.745	pg		87
98] * Naphthalene	19.435	128	75	0.576	pg	#	68

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS21\DATA\2022 10\06\
Data File : 10062210.D
Acq On : 6 Oct 2022 18:42
Operator : KM
Sample : 100622 AC02291 30046
Misc : SIM + TICS (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 07 04:56:03 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

March 2, 2023

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Your report P2204818 has been amended for the samples submitted to our laboratory on October 26, 2022. The sample ID referenced for P2204818-005 was corrected to match the chain of custody documentation. The change has been indicated by the "Revised Report" footer located at the bottom right corner of each page.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

By Sue Anderson at 5:14 pm, Mar 02, 2023

For Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2204818
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on October 26, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The analyte Vinyl Acetate could not be reported for this data set, due to a vendor anomaly found in the new standard being used. Once the issue has been resolved subsequent reports will include the compound in question.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2204818

Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 10/26/2022

Time Received: 13:54

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_102622_S	P2204818-001	Air	10/26/2022	11:00	AS01140	-1.45	4.18	X
DOE-2_102622_S	P2204818-002	Air	10/26/2022	11:15	AS01168	-1.78	3.75	X
DOE-3_102622_S	P2204818-003	Air	10/26/2022	11:30	AC01763	-1.67	4.12	X
DOE-4_102622_S	P2204818-004	Air	10/26/2022	11:45	AS01531	-2.31	3.80	X
DOE-2_102622_D	P2204818-005	Air	10/26/2022	11:16	AC02427	-2.34	3.65	X

Revised Report

Air - Chain of Custody Record & Analytical Service Request

P2204818

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No.

Company Name & Address (Reporting Information)	North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304
Project Name	DOE Perimeter Air
Project Number	080153.015.15
P.O. # / Billing Information	PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Project Manager	Trina Cesnik
Phone	805-587-0691
Fax	
Email Address for Result Reporting	cchristensen@northwindgrp.com; denise.gonzalez@northwindg
Sampler (Print & Sign)	T. Stewart Williford
ALS Contact:	Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_102622_S	1	10/26/2022	1100	AS01140	SFC00301	-30.0	-3.5		X		
DOE-2_102622_S	2	10/26/2022	1115	AS01168	SFC00220	-29.0	-3.0		X		
DOE-3_102622_S	3	10/26/2022	1130	AC01763	SFC00341	-30.0	-3.0		X		
DOE-4_102622_S	4	10/26/2022	1145	AS01531	SFC00275	-30.0	-4.0		X		
DOE-2_102622_D	5	10/26/2022	1116	AC02427	SFC00512	-29.0	-3.5		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries) X
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Data Validation Package) 10% Surcharge ____

EDD required Yes / No
Type: EQuIS Units: ____

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date: 10/26/22	Time: 1354	Received by: (Signature)	Date: 10/26/22	Time: 1354
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

Revised Report

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2204818

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 10/26/22 Date opened: 10/26/22 by: KYLE.WOODIN

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2204818-001.01	6.0 L Silonite Can					
P2204818-002.01	6.0 L Silonite Can					
P2204818-003.01	6.0 L Ambient Can					
P2204818-004.01	6.0 L Silonite Can					
P2204818-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

Revised Report

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_102622_S** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-001

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01140

Initial Pressure (psig): -1.45 Final Pressure (psig): 4.18

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	0.75	**0.41**	0.15	
74-87-3	Chloromethane	ND	0.72	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.33	
74-83-9	Bromomethane	ND	0.72	ND	0.19	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.74	**0.18**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.75	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.1	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**14**	3.0	**3.9**	0.83	
110-54-3	n-Hexane	ND	0.75	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_102622_S** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-001

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01140

Initial Pressure (psig): -1.45 Final Pressure (psig): 4.18

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.48	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.71	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.71	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.71	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.20	
142-82-5	n-Heptane	ND	0.75	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	**0.77**	0.74	**0.20**	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.75	ND	0.088	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.096	
111-65-9	n-Octane	ND	0.75	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_102622_S** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-001

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01140

Initial Pressure (psig): -1.45 Final Pressure (psig): 4.18

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.071	
100-42-5	Styrene	ND	0.71	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.75	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	**2.3**	0.74	**0.45**	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.069	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.75	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_102622_S** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-002

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01168

Initial Pressure (psig): -1.78 Final Pressure (psig): 3.75

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.76	**0.45**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.74	**0.19**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.8**	1.4	**0.73**	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.2	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**21**	3.0	**5.9**	0.83	
110-54-3	n-Hexane	ND	0.76	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_102622_S** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-002

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01168

Initial Pressure (psig): -1.78 Final Pressure (psig): 3.75

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	**0.98**	0.74	**0.26**	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.089	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_102622_S** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-002

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01168

Initial Pressure (psig): -1.78 Final Pressure (psig): 3.75

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.76	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_102622_S** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-003

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01763

Initial Pressure (psig): -1.67 Final Pressure (psig): 4.12

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.6**	0.76	**0.52**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.78	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.63	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.75	**0.21**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.59	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.75	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.2	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	**8.0**	3.0	**2.2**	0.84	
110-54-3	n-Hexane	ND	0.76	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_102622_S** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-003

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01763

Initial Pressure (psig): -1.67 Final Pressure (psig): 4.12

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.78	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.75	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.75	ND	0.14	
108-88-3	Toluene	ND	0.75	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.75	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.75	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_102622_S** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-003

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01763

Initial Pressure (psig): -1.67 Final Pressure (psig): 4.12

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.75	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.75	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.75	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.75	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.75	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.75	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.75	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.75	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.76	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_102622_S** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-004

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01531

Initial Pressure (psig): -2.31 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	0.79	**0.41**	0.16	
74-87-3	Chloromethane	ND	0.76	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.76	ND	0.20	
75-00-3	Chloroethane	ND	0.76	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.65	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.77	**0.19**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.69	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.80	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.79	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.79	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.79	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.5	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.20	
141-78-6	Ethyl Acetate	**21**	3.1	**5.8**	0.87	
110-54-3	n-Hexane	ND	0.79	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_102622_S** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-004

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01531

Initial Pressure (psig): -2.31 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.79	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.75	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.75	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	0.75	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.79	ND	0.12	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.22	
142-82-5	n-Heptane	ND	0.79	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.75	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.40	
10061-02-6	trans-1,3-Dichloropropene	ND	0.76	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	**1.0**	0.77	**0.27**	0.21	
591-78-6	2-Hexanone	ND	1.6	ND	0.40	
124-48-1	Dibromochloromethane	ND	0.79	ND	0.093	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
111-65-9	n-Octane	ND	0.79	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.77	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_102622_S** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-004

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01531

Initial Pressure (psig): -2.31 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.77	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.38	
75-25-2	Bromoform	ND	0.77	ND	0.075	
100-42-5	Styrene	ND	0.75	ND	0.18	
95-47-6	o-Xylene	ND	0.77	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.79	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.79	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.77	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.77	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.79	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.77	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.073	
104-51-8	n-Butylbenzene	ND	0.77	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.79	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_102622_D** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-005

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02427

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	0.78	**0.50**	0.16	
74-87-3	Chloromethane	ND	0.75	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.75	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.65	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.77	**0.20**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.60	
107-13-1	Acrylonitrile	ND	1.5	ND	0.68	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.80	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.78	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.4	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.19	
141-78-6	Ethyl Acetate	**4.0**	3.1	**1.1**	0.86	
110-54-3	n-Hexane	ND	0.78	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_102622_D** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-005

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02427

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.50	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.74	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.21	
142-82-5	n-Heptane	ND	0.78	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.74	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.40	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	ND	0.77	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.40	
124-48-1	Dibromochloromethane	ND	0.78	ND	0.092	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
111-65-9	n-Octane	ND	0.78	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.77	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_102622_D** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-005

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02427

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.77	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.77	ND	0.074	
100-42-5	Styrene	ND	0.74	ND	0.17	
95-47-6	o-Xylene	ND	0.77	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.78	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.78	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.77	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.77	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.78	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.77	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.072	
104-51-8	n-Butylbenzene	ND	0.77	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.78	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221102-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 11/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P2204818

Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221102-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA

Analyst: Simon Cao Date Analyzed: 11/2/22

Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

Client: **North Wind, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P2204818

Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221102-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA

Analyst: Simon Cao Date Analyzed: 11/2/22

Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Revised Report

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2204818

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 10/26/22
Analyst: Simon Cao Date(s) Received: 10/26/22
Sample Type: 6.0 L Silonite Canister(s) / 6.0 L Summa Canister(s) Date(s) Analyzed: 11/2 - 11/3/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P221102-MB	**106**	**110**	**92**	70-130	
Lab Control Sample	P221102-LCS	**95**	**107**	**91**	70-130	
Duplicate Lab Control Sample	P221102-DLCS	**97**	**108**	**93**	70-130	
DOE-1_102622_S	P2204818-001	**98**	**106**	**91**	70-130	
DOE-2_102622_S	P2204818-002	**103**	**105**	**92**	70-130	
DOE-3_102622_S	P2204818-003	**115**	**105**	**91**	70-130	
DOE-4_102622_S	P2204818-004	**98**	**106**	**91**	70-130	
DOE-2_102622_D	P2204818-005	**107**	**106**	**91**	70-130	
DOE-2_102622_D	P2204818-005DUP	**112**	**106**	**91**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Revised Report

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221102-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 11/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	212	166	169	**78**	**80**	71-112	3	25	
74-87-3	Chloromethane	206	193	197	**94**	**96**	53-126	2	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	176	180	**85**	**87**	62-121	2	25	
75-01-4	Vinyl Chloride	204	192	196	**94**	**96**	63-123	2	25	
106-99-0	1,3-Butadiene	212	243	249	**115**	**117**	63-135	2	25	
74-83-9	Bromomethane	206	177	182	**86**	**88**	71-112	2	25	
75-00-3	Chloroethane	208	185	190	**89**	**91**	66-117	2	25	
107-02-8	Acrolein	388	358	370	**92**	**95**	71-123	3	25	
75-69-4	Trichlorofluoromethane (CFC 11)	210	167	170	**80**	**81**	71-114	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	412	334	338	**81**	**82**	61-124	1	25	
107-13-1	Acrylonitrile	412	398	411	**97**	**100**	65-130	3	25	
75-35-4	1,1-Dichloroethene	216	186	192	**86**	**89**	74-114	3	25	
75-09-2	Methylene Chloride	212	182	186	**86**	**88**	75-112	2	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	191	195	**88**	**90**	73-114	2	25	
75-15-0	Carbon Disulfide	426	376	383	**88**	**90**	70-113	2	25	
156-60-5	trans-1,2-Dichloroethene	216	195	201	**90**	**93**	76-119	3	25	
75-34-3	1,1-Dichloroethane	216	194	199	**90**	**92**	70-114	2	25	
1634-04-4	Methyl tert-Butyl Ether	214	186	190	**87**	**89**	72-118	2	25	
108-05-4	Vinyl Acetate	564	622	630	**110**	**112**	56-137	2	25	
78-93-3	2-Butanone (MEK)	418	370	382	**89**	**91**	74-121	2	25	
156-59-2	cis-1,2-Dichloroethene	214	189	194	**88**	**91**	73-117	3	25	
141-78-6	Ethyl Acetate	856	538	552	**63**	**64**	59-161	2	25	
110-54-3	n-Hexane	212	198	202	**93**	**95**	55-130	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Revised Report

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221102-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 11/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	212	178	182	**84**	**86**	71-114	2	25	
109-99-9	Tetrahydrofuran (THF)	412	377	383	**92**	**93**	73-114	1	25	
107-06-2	1,2-Dichloroethane	216	188	192	**87**	**89**	71-119	2	25	
71-55-6	1,1,1-Trichloroethane	210	187	187	**89**	**89**	73-119	0	25	
71-43-2	Benzene	216	191	192	**88**	**89**	72-113	1	25	
56-23-5	Carbon Tetrachloride	206	174	175	**84**	**85**	67-123	1	25	
110-82-7	Cyclohexane	422	392	396	**93**	**94**	70-119	1	25	
78-87-5	1,2-Dichloropropane	212	198	201	**93**	**95**	70-118	2	25	
75-27-4	Bromodichloromethane	216	196	197	**91**	**91**	74-119	0	25	
79-01-6	Trichloroethene	212	197	199	**93**	**94**	74-115	1	25	
123-91-1	1,4-Dioxane	212	198	200	**93**	**94**	77-124	1	25	
142-82-5	n-Heptane	212	199	202	**94**	**95**	70-119	1	25	
10061-01-5	cis-1,3-Dichloropropene	216	213	215	**99**	**100**	81-126	1	25	
108-10-1	4-Methyl-2-pentanone	432	395	397	**91**	**92**	73-129	1	25	
10061-02-6	trans-1,3-Dichloropropene	206	201	202	**98**	**98**	80-127	0	25	
79-00-5	1,1,2-Trichloroethane	212	193	194	**91**	**92**	78-117	1	25	
108-88-3	Toluene	212	201	209	**95**	**99**	70-118	4	25	
591-78-6	2-Hexanone	426	354	369	**83**	**87**	74-132	5	25	
124-48-1	Dibromochloromethane	216	217	225	**100**	**104**	69-137	4	25	
106-93-4	1,2-Dibromoethane	208	198	206	**95**	**99**	76-128	4	25	
111-65-9	n-Octane	214	223	230	**104**	**107**	68-120	3	25	
127-18-4	Tetrachloroethene	212	213	219	**100**	**103**	63-130	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Revised Report

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221102-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 11/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	210	205	213	**98**	**101**	71-123	3	25	
179601-23-1	m,p-Xylenes	420	411	425	**98**	**101**	67-127	3	25	
75-25-2	Bromoform	214	223	232	**104**	**108**	65-149	4	25	
100-42-5	Styrene	212	209	216	**99**	**102**	76-132	3	25	
95-47-6	o-Xylene	212	205	214	**97**	**101**	69-124	4	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	202	211	**95**	**100**	69-128	5	25	
98-82-8	Cumene	212	207	214	**98**	**101**	69-125	3	25	
103-65-1	n-Propylbenzene	214	198	206	**93**	**96**	70-127	3	25	
622-96-8	4-Ethyltoluene	216	210	222	**97**	**103**	69-127	6	25	
108-67-8	1,3,5-Trimethylbenzene	210	211	218	**100**	**104**	66-129	4	25	
95-63-6	1,2,4-Trimethylbenzene	208	209	217	**100**	**104**	63-142	4	25	
100-44-7	Benzyl Chloride	420	367	390	**87**	**93**	73-145	7	25	
541-73-1	1,3-Dichlorobenzene	210	197	205	**94**	**98**	67-136	4	25	
106-46-7	1,4-Dichlorobenzene	212	186	193	**88**	**91**	63-134	3	25	
135-98-8	sec-Butylbenzene	210	196	204	**93**	**97**	68-130	4	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	210	194	201	**92**	**96**	60-139	4	25	
95-50-1	1,2-Dichlorobenzene	212	198	205	**93**	**97**	64-139	4	25	
120-82-1	1,2,4-Trichlorobenzene	412	361	388	**88**	**94**	62-154	7	25	
91-20-3	Naphthalene	216	163	182	**75**	**84**	62-156	11	25	
87-68-3	Hexachlorobutadiene	210	185	197	**88**	**94**	55-142	7	25	
104-51-8	n-Butylbenzene	210	187	195	**89**	**93**	70-131	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Revised Report

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_102622_D** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-005DUP

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02427

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.48

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Dichlorodifluoromethane (CFC 12)	2.46	0.498	2.58	0.522	2.52	**5**	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Trichlorofluoromethane	1.12	0.200	1.18	0.211	1.15	**5**	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	ND	ND	-	-	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Vinyl Acetate	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Ethyl Acetate	3.99	1.11	4.13	1.15	4.06	**3**	25	
n-Hexane	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Revised Report

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_102622_D** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-005DUP

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02427

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.48

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Chloroform	ND	ND	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Trichloroethene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	ND	ND	ND	ND	-	-	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Octane	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Revised Report

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_102622_D** ALS Project ID: P2204818
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2204818-005DUP

Test Code: EPA TO-15 Date Collected: 10/26/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/26/22
Analyst: Simon Cao Date Analyzed: 11/3/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02427

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.48

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
sec-Butylbenzene	ND	ND	ND	ND	-	-	25	
4-Isopropyltoluene (p-Cymene)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	
n-Butylbenzene	ND	ND	ND	ND	-	-	25	
Xylenes, Total	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Revised Report

Client: **North Wind, Inc.** ALS Project ID: P2204818

Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 11022236.D

Analyst: Simon Cao Date Analyzed: 11/2/22

Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 21:37

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	132171	7.24	584362	9.29	111983	14.81
	Upper Limit	185039	7.57	818107	9.62	156776	15.14
	Lower Limit	79303	6.91	350617	8.96	67190	14.48
	Client Sample ID						
01	Method Blank	111070	7.20	536382	9.26	101748	14.81
02	Lab Control Sample	138970	7.24	569617	9.29	110868	14.81
03	Duplicate Lab Control Sample	136402	7.24	567784	9.29	107462	14.81
04	DOE-1_102622_S	130313	7.20	535296	9.26	106563	14.81
05	DOE-2_102622_S	117450	7.20	530762	9.27	104915	14.81
06	DOE-3_102622_S	101737	7.20	527656	9.26	105853	14.81
07	DOE-4_102622_S	128671	7.20	535605	9.27	105495	14.81
08	DOE-2_102622_D	107187	7.20	531130	9.26	104550	14.81
09	DOE-2_102622_D (Lab Duplicate)	100776	7.20	524049	9.26	103206	14.81
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022258.D Vial: 12
Acq On : 3 Nov 2022 17:24 Operator: SC
Sample : P2204818-001 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 04 07:26:02 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	130313	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	535296	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	106563	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	226643	12.216	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%			
57) Toluene-d8 (SS2)	12.39	98	597183	13.206	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%			
73) Bromofluorobenzene (SS3)	16.79	174	221884	11.364	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%			
Target Compounds						Qvalue
2) Propene	3.28	42	5540	N.D.		
3) Dichlorodifluoromethan...	3.35	85	35236	1.435	ng	99
4) Chloromethane	3.49	50	3627	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	847	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.01	94	281	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.26	45	24892	2.912	ng	90
11) Acetonitrile	4.43	41	1272	N.D.		
12) Acrolein	4.52	56	456	N.D.		
13) Acetone	4.61	58	30449	4.345	ng	97
14) Trichlorofluoromethane	4.73	101	17104	0.718	ng	99
15) 2-Propanol (Isopropanol)	4.83	45	8236	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.31	59	250	N.D.		
19) Methylene Chloride	5.33	84	1854	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.55	151	3967	N.D.		
22) Carbon Disulfide	5.59	76	1105	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	6.28	63	288	N.D.		
25) Methyl tert-Butyl Ether	6.27	73	1416	N.D.		
26) Vinyl Acetate	6.41	86	273	N.D.		
27) 2-Butanone (MEK)	6.65	72	2903	0.487	ng	98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	7.24	87	151	N.D.		
30) Ethyl Acetate	7.25	61	39929	10.013	ng	96
31) n-Hexane	7.27	57	2297	N.D.		
32) Chloroform	7.32	83	1060	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.08	62	324	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.27	61	15604	No Calib	#	
40) 1-Butanol	8.82	56	818	No Calib	#	
41) Benzene	8.87	78	8290	N.D.		
42) Carbon Tetrachloride	9.03	117	5054	N.D.		
43) Cyclohexane	9.18	84	558	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.11	130	178	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.20	57	6095	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022258.D Vial: 12
Acq On : 3 Nov 2022 17:24 Operator: SC
Sample : P2204818-001 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 04 07:26:02 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.53	71	456	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	21543	0.542 ng	100
59) 2-Hexanone	12.92	43	461	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.75	43	2278	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.00	166	105	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.37	91	3827	N.D.	
67) m- & p-Xylenes	15.60	91	9272	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	718	N.D.	
70) o-Xylene	16.21	91	3841	N.D.	
71) n-Nonane	16.57	43	886	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.00	105	123	N.D.	
75) alpha-Pinene	17.49	93	3912	N.D.	
76) n-Propylbenzene	17.65	91	771	N.D.	
77) 3-Ethyltoluene	17.00	105	123	No Calib	#
78) 4-Ethyltoluene	17.83	105	998	N.D.	
79) 1,3,5-Trimethylbenzene	17.92	105	521	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.00	105	123	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	2568	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	461	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	461	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	3313	N.D.	
89) 1,2,3-Trimethylbenzene	17.00	105	123	No Calib	#
90) 1,2-Dichlorobenzene	19.01	146	236	N.D.	
91) d-Limonene	19.06	68	608	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	68111	1.644 ng	100
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.41	119	306	N.D.	
100) n-Butylbenzene	19.36	91	3088	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

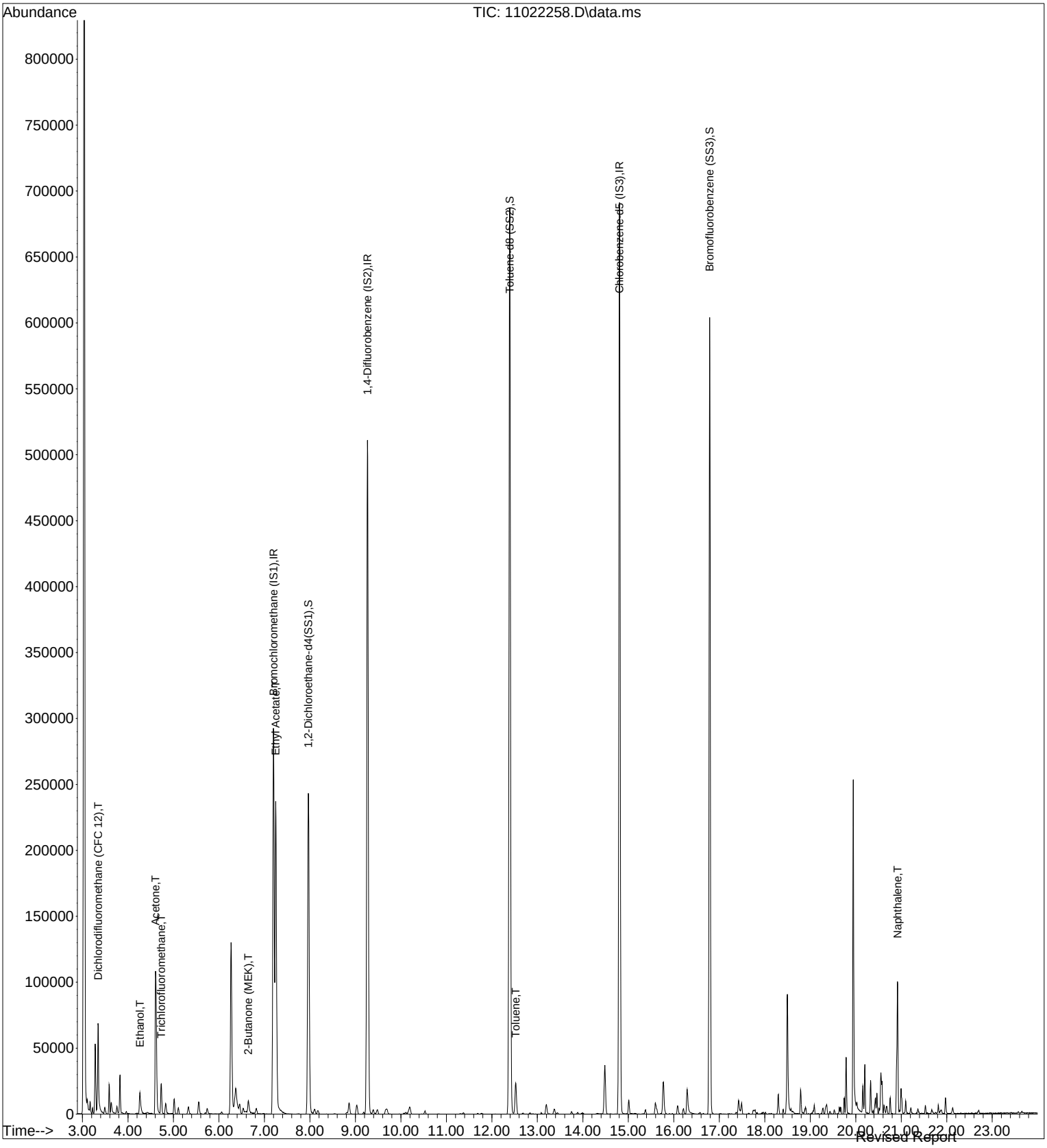
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022258.D Vial: 12
Acq On : 3 Nov 2022 17:24 Operator: SC
Sample : P2204818-001 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 04 07:26:02 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022258.D Vial: 12
Acq On : 3 Nov 2022 17:24 Operator: SC
Sample : P2204818-001 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 04 07:26:02 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	130313	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	535296	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	106563	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	226643	12.216	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%			
57) Toluene-d8 (SS2)	12.39	98	597183	13.206	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%			
73) Bromofluorobenzene (SS3)	16.79	174	221884	11.364	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.35	85	35236	1.435	ng	99
10) Ethanol	4.26	45	24892	2.912	ng	90
13) Acetone	4.61	58	30449	4.345	ng	97
14) Trichlorofluoromethane	4.73	101	17104	0.718	ng	99
27) 2-Butanone (MEK)	6.65	72	2903	0.487	ng	98
30) Ethyl Acetate	7.25	61	39929	10.013	ng	96
58) Toluene	12.52	91	21543	0.542	ng	100
95) Naphthalene	20.92	128	68111	1.644	ng	100

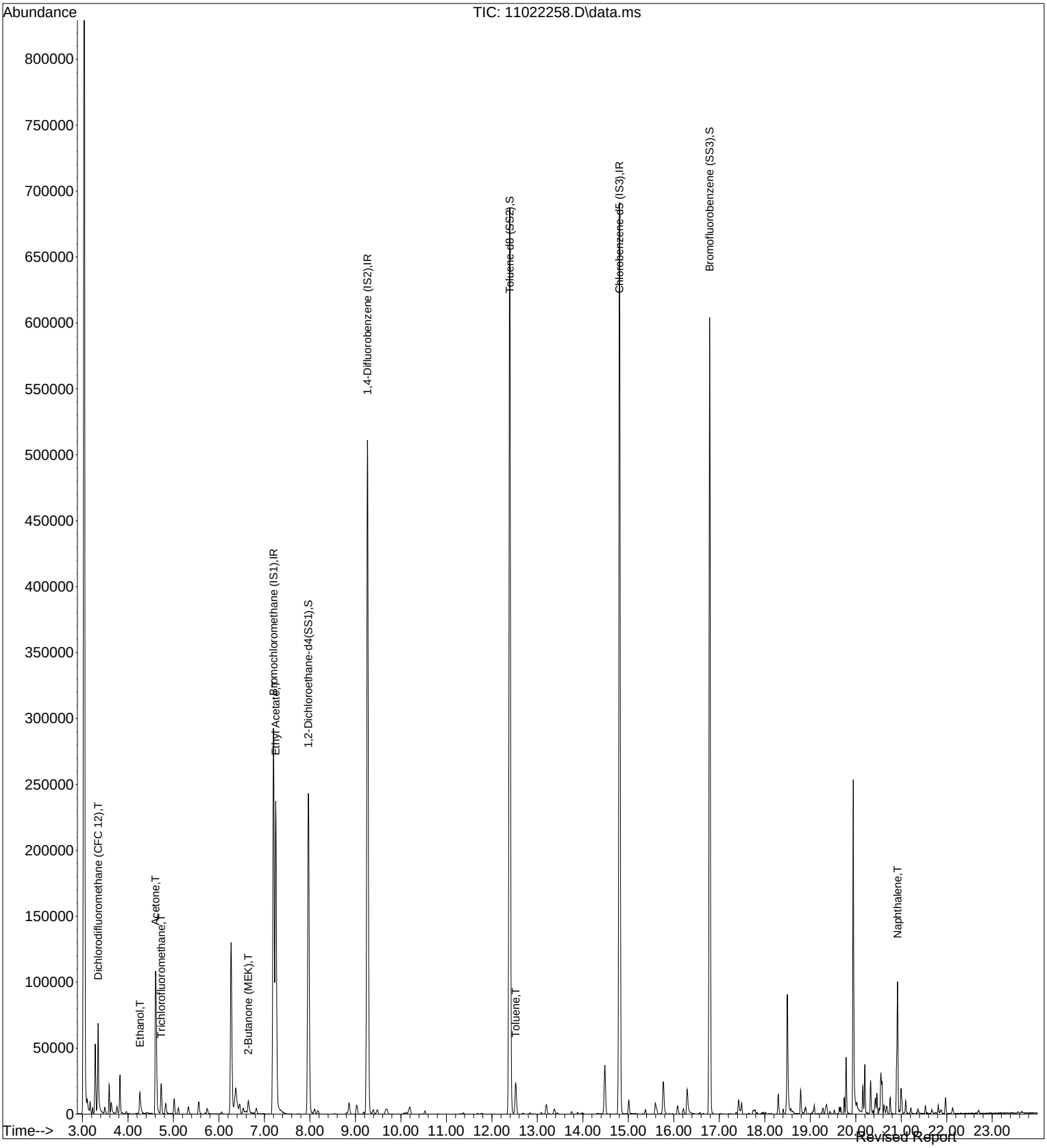
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

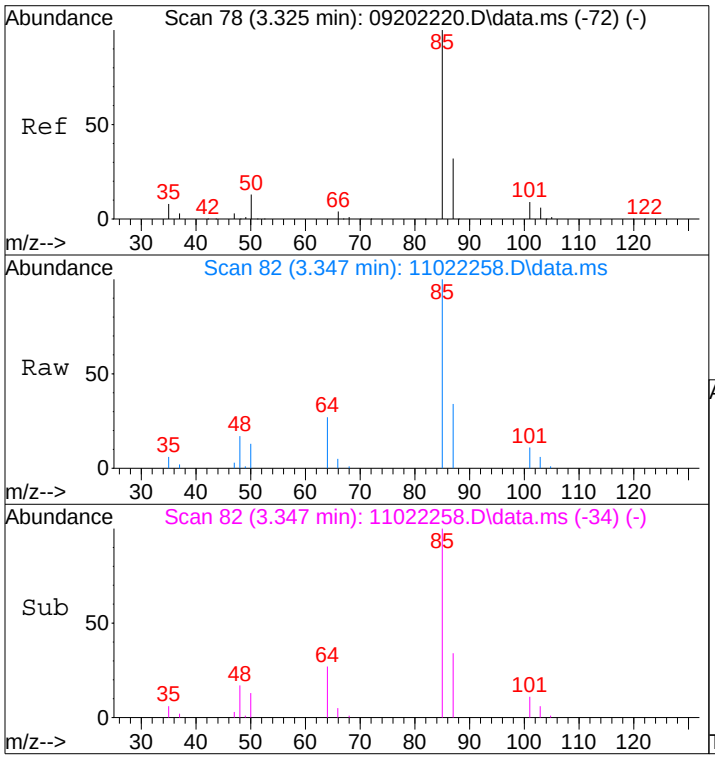
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022258.D Vial: 12
Acq On : 3 Nov 2022 17:24 Operator: SC
Sample : P2204818-001 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 04 07:26:02 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



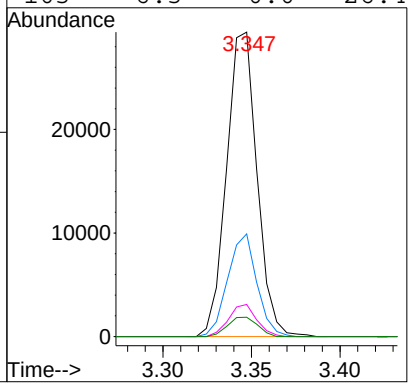
Revised Report

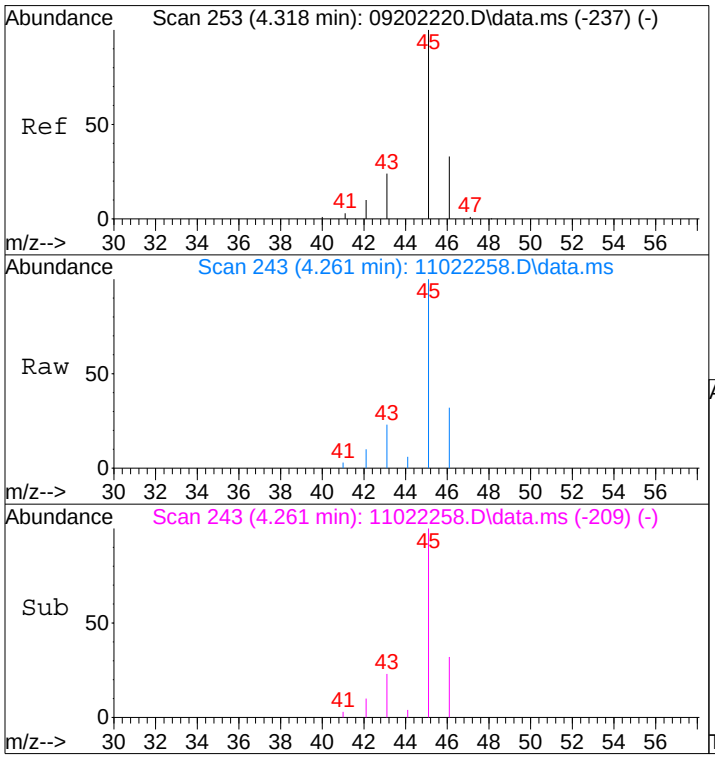


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.44 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.023 min
Lab File: 11022258.D
Acq: 3 Nov 2022 17:24

Tgt Ion: 85 Resp: 35236

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.6	52.6
101	9.8	0.0	29.6
103	6.3	0.0	26.4

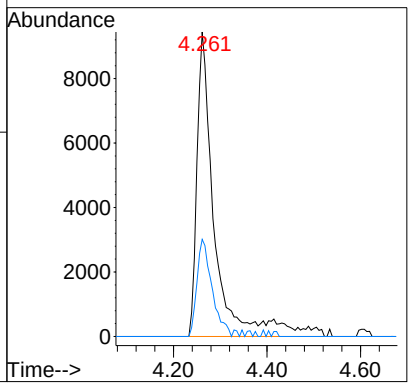


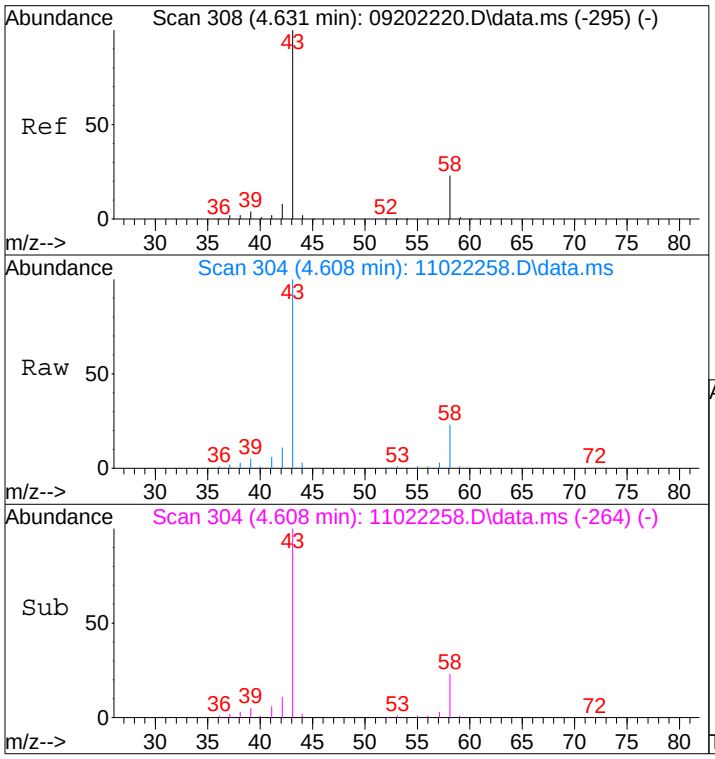


#10
Ethanol
Concen: 2.91 ng
RT: 4.26 min Scan# 243
Delta R.T. -0.057 min
Lab File: 11022258.D
Acq: 3 Nov 2022 17:24

Tgt Ion: 45 Resp: 24892

Ion	Ratio	Lower	Upper
45	100		
46	27.0	12.8	52.8

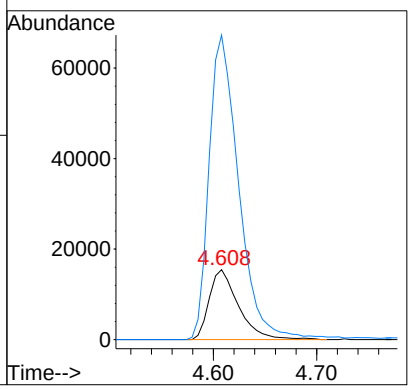


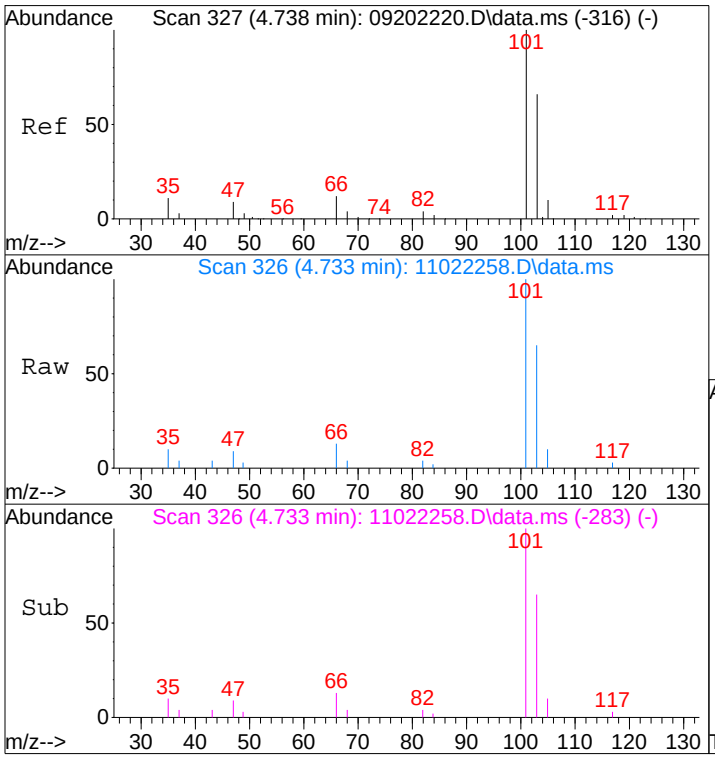


#13
Acetone
Concen: 4.35 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.023 min
Lab File: 11022258.D
Acq: 3 Nov 2022 17:24

Tgt Ion: 58 Resp: 30449

Ion	Ratio	Lower	Upper
58	100		
43	442.7	405.4	465.4

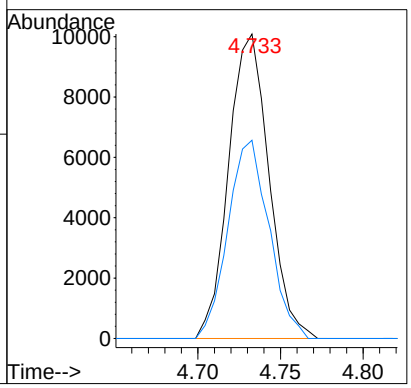


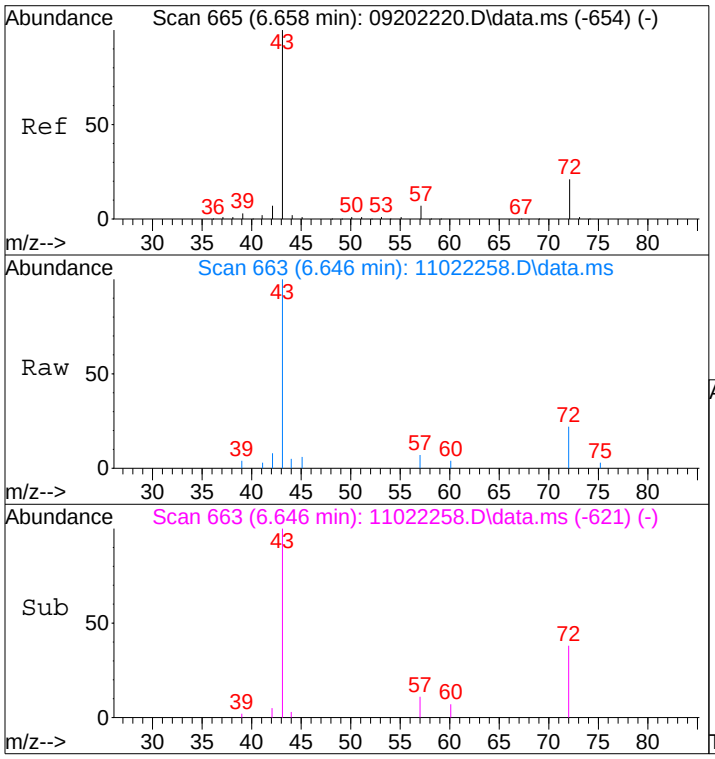


#14
Trichlorofluoromethane
Concen: 0.72 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.006 min
Lab File: 11022258.D
Acq: 3 Nov 2022 17:24

Tgt Ion:101 Resp: 17104

Ion	Ratio	Lower	Upper
101	100		
103	66.3	45.4	85.4

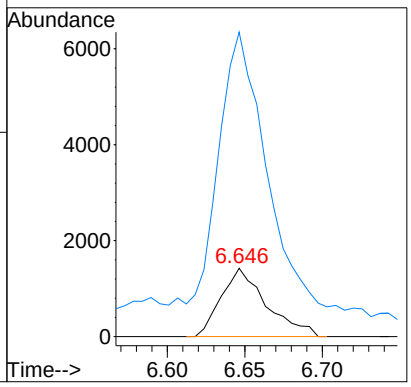


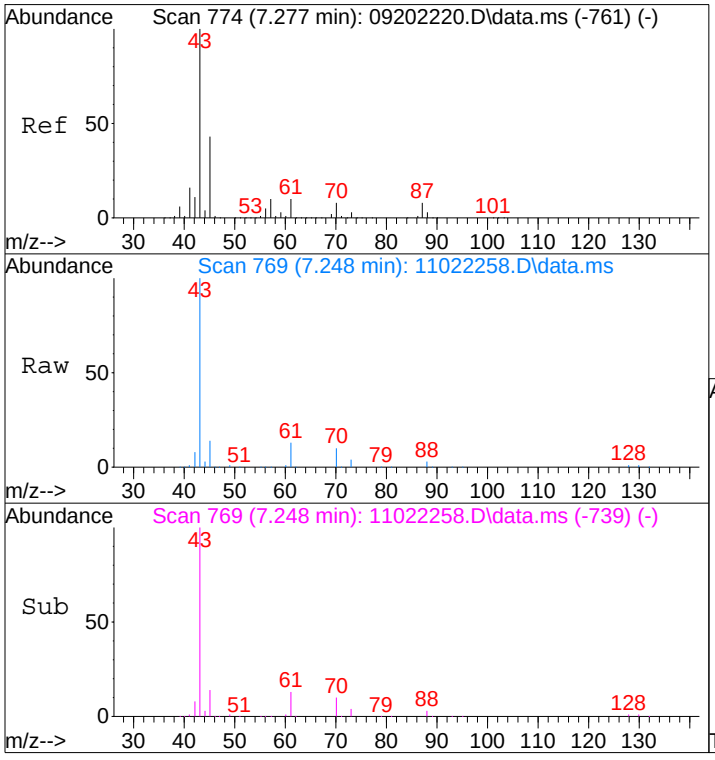


#27
2-Butanone (MEK)
Concen: 0.49 ng
RT: 6.65 min Scan# 663
Delta R.T. -0.011 min
Lab File: 11022258.D
Acq: 3 Nov 2022 17:24

Tgt Ion: 72 Resp: 2903

Ion	Ratio	Lower	Upper
72	100		
43	482.9	467.6	507.6

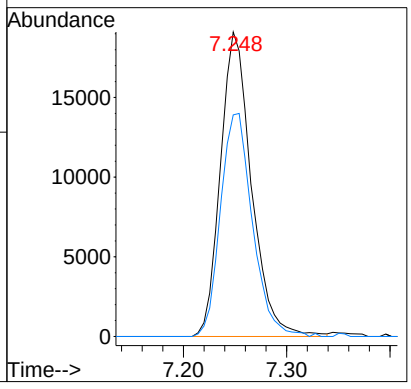


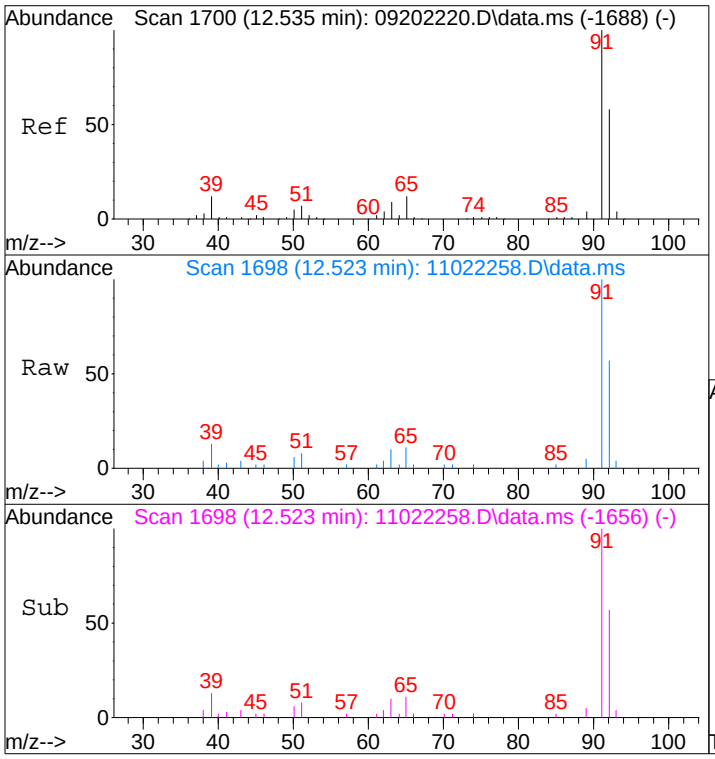


#30
Ethyl Acetate
Concen: 10.01 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.028 min
Lab File: 11022258.D
Acq: 3 Nov 2022 17:24

Tgt Ion: 61 Resp: 39929

Ion	Ratio	Lower	Upper
61	100		
70	75.4	58.9	98.9

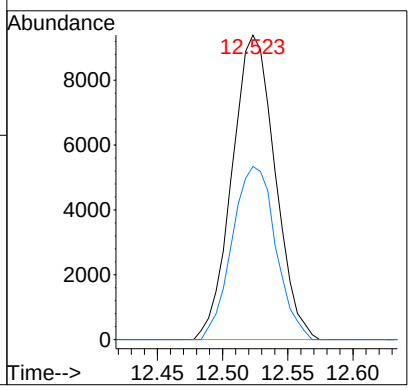


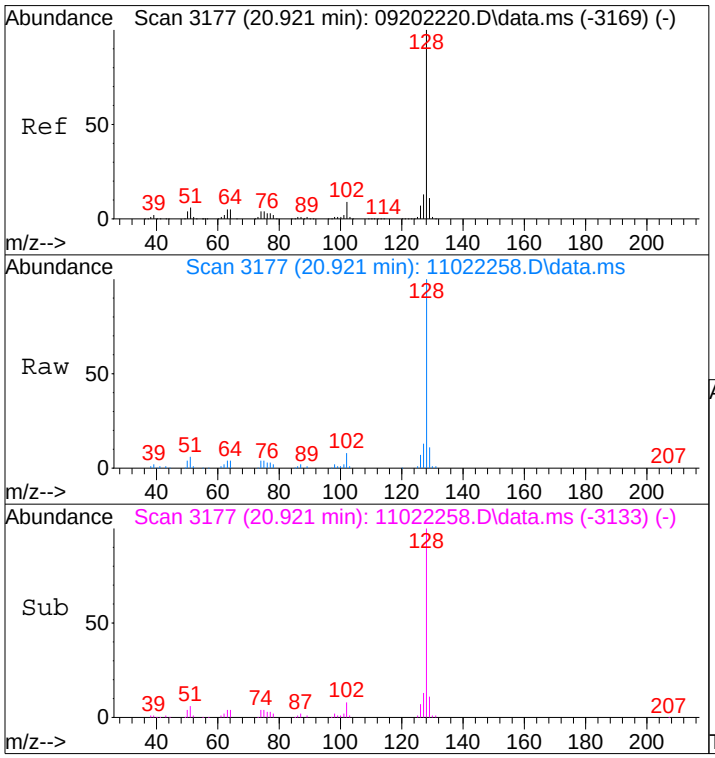


#58
Toluene
Concen: 0.54 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.011 min
Lab File: 11022258.D
Acq: 3 Nov 2022 17:24

Tgt Ion: 91 Resp: 21543

Ion	Ratio	Lower	Upper
91	100		
92	57.6	37.7	77.7

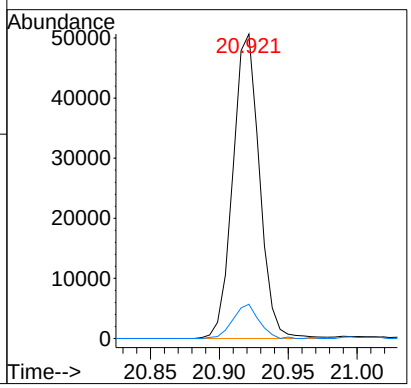




#95
Naphthalene
Concen: 1.64 ng
RT: 20.92 min Scan# 3177
Delta R.T. -0.000 min
Lab File: 11022258.D
Acq: 3 Nov 2022 17:24

Tgt Ion:128 Resp: 68111

Ion	Ratio	Lower	Upper
128	100		
129	11.0	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022259.D Vial: 13
Acq On : 3 Nov 2022 17:56 Operator: SC
Sample : P2204818-002 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:27:05 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	117450	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.27	114	530762	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	104915	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	214364	12.820	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
57) Toluene-d8 (SS2)	12.39	98	586759	13.180	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%				
73) Bromofluorobenzene (SS3)	16.79	174	220683	11.480	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%				
Target Compounds							Qvalue
2) Propene	3.28	42	11373	0.957	ng	#	72
3) Dichlorodifluoromethan...	3.35	85	34271	1.549	ng		99
4) Chloromethane	3.43	50	181	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	815	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.74	54	332	N.D.			
8) Bromomethane	3.99	94	193	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.31	45	745515	96.773	ng		100
11) Acetonitrile	4.43	41	2232	N.D.			
12) Acrolein	4.51	56	514	N.D.			
13) Acetone	4.61	58	63046	9.982	ng		97
14) Trichlorofluoromethane	4.72	101	16364	0.763	ng		98
15) 2-Propanol (Isopropanol)	4.86	45	29141	1.247	ng		81
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.33	84	1787	N.D.			
20) 3-Chloro-1-propene (Al...	5.43	41	824	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3593	N.D.			
22) Carbon Disulfide	5.57	76	18856	0.597	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.65	72	4955	0.922	ng	#	81
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.25	87	625	N.D.			
30) Ethyl Acetate	7.25	61	53607	14.915	ng		98
31) n-Hexane	7.27	57	2291	N.D.			
32) Chloroform	7.33	83	972	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	373	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.27	61	15749	No Calib		#	
40) 1-Butanol	8.79	56	13958	No Calib		#	
41) Benzene	8.86	78	9689	N.D.			
42) Carbon Tetrachloride	9.03	117	5198	N.D.			
43) Cyclohexane	9.18	84	616	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	6083	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022259.D Vial: 13
Acq On : 3 Nov 2022 17:56 Operator: SC
Sample : P2204818-002 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:27:05 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.53	71	495	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.30	58	489	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	26831	0.686 ng	99
59) 2-Hexanone	12.90	43	1178	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.74	43	4310	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.37	91	4002	N.D.	
67) m- & p-Xylenes	15.60	91	10713	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	448	N.D.	
70) o-Xylene	16.21	91	3708	N.D.	
71) n-Nonane	16.57	43	920	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.00	105	111	N.D.	
75) alpha-Pinene	17.49	93	601	N.D.	
76) n-Propylbenzene	17.65	91	760	N.D.	
77) 3-Ethyltoluene	17.00	105	111	No Calib	#
78) 4-Ethyltoluene	17.83	105	1035	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	724	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.00	105	111	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	2588	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.64	146	386	N.D.	
86) 1,4-Dichlorobenzene	18.64	146	386	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	5814	N.D.	
89) 1,2,3-Trimethylbenzene	17.00	105	111	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.09	68	470	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.93	128	2174	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.41	119	264	N.D.	
100) n-Butylbenzene	19.36	91	608	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

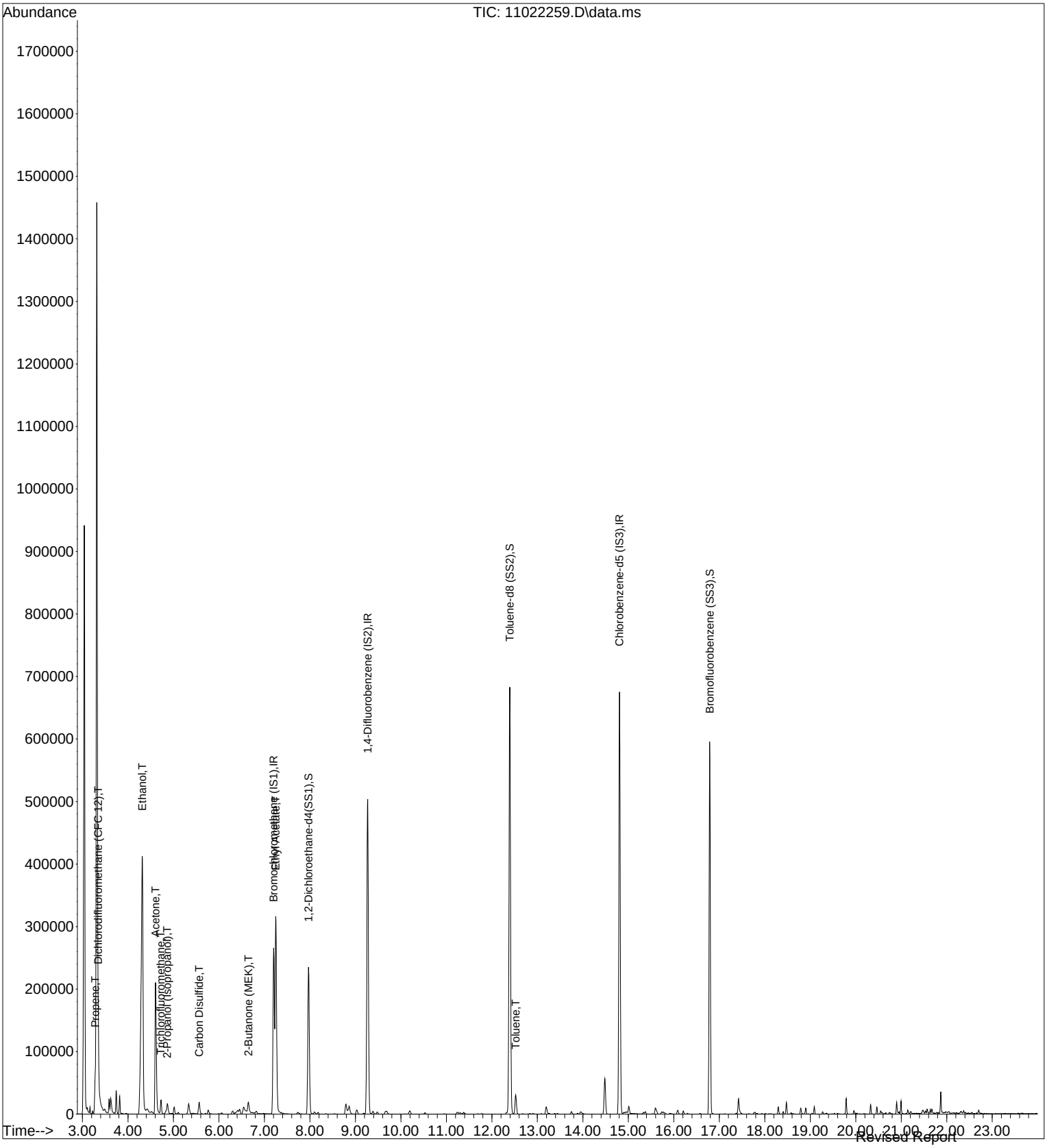
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022259.D Vial: 13
Acq On : 3 Nov 2022 17:56 Operator: SC
Sample : P2204818-002 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:27:05 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022259.D Vial: 13
Acq On : 3 Nov 2022 17:56 Operator: SC
Sample : P2204818-002 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:27:05 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	117450	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.27	114	530762	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	104915	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	214364	12.820	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
57) Toluene-d8 (SS2)	12.39	98	586759	13.180	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%				
73) Bromofluorobenzene (SS3)	16.79	174	220683	11.480	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%				
Target Compounds							Qvalue
2) Propene	3.28	42	11373	0.957	ng	#	72
3) Dichlorodifluoromethan...	3.35	85	34271	1.549	ng		99
10) Ethanol	4.31	45	745515	96.773	ng		100
13) Acetone	4.61	58	63046	9.982	ng		97
14) Trichlorofluoromethane	4.72	101	16364	0.763	ng		98
15) 2-Propanol (Isopropanol)	4.86	45	29141	1.247	ng		81
22) Carbon Disulfide	5.57	76	18856	0.597	ng		98
27) 2-Butanone (MEK)	6.65	72	4955	0.922	ng	#	81
30) Ethyl Acetate	7.25	61	53607	14.915	ng		98
58) Toluene	12.52	91	26831	0.686	ng		99

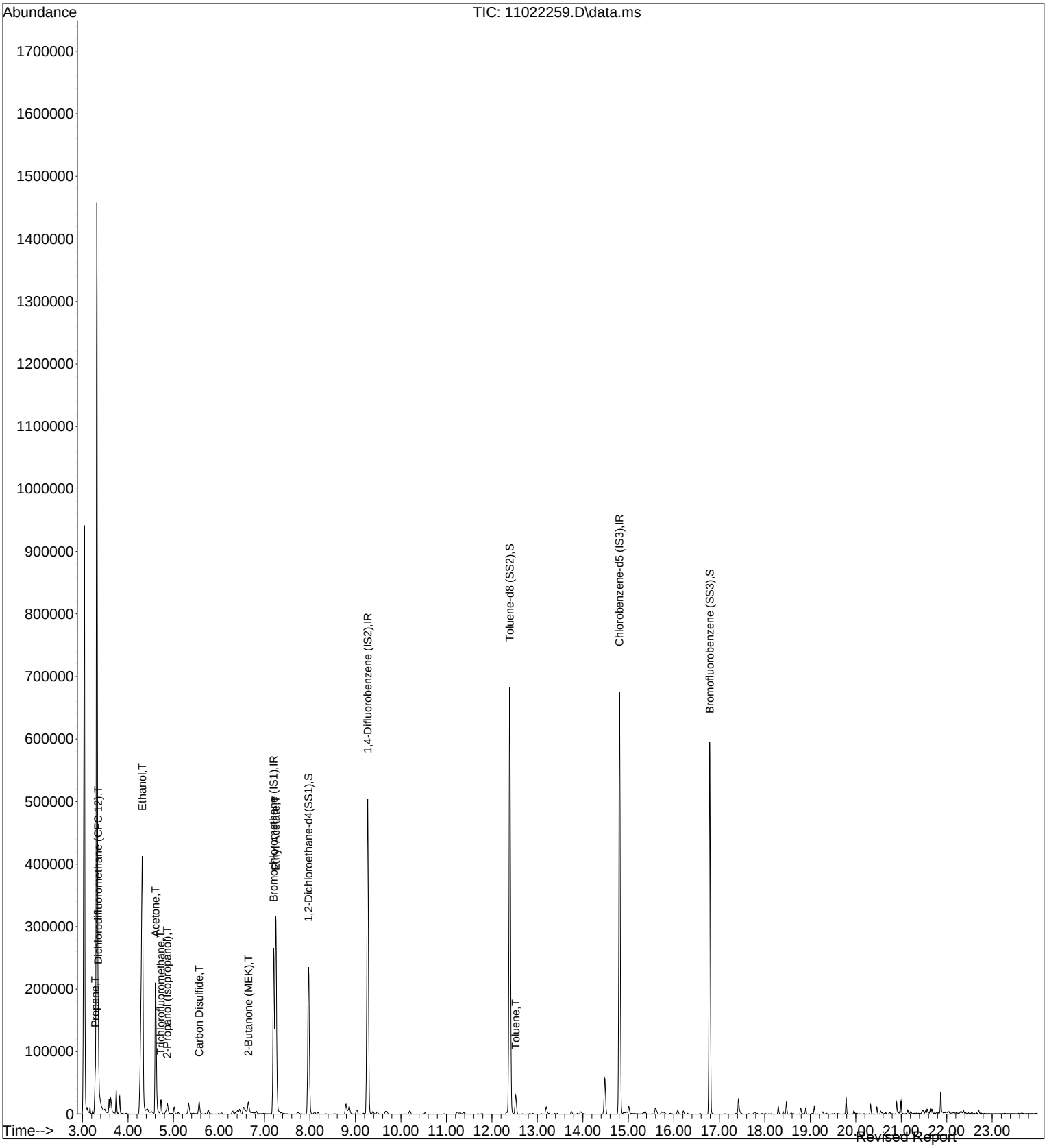
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

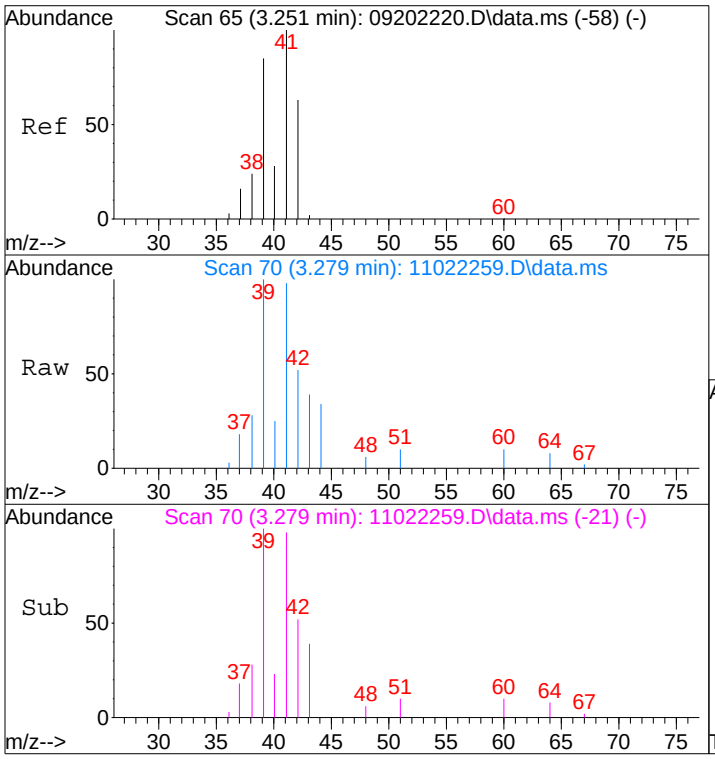
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022259.D Vial: 13
Acq On : 3 Nov 2022 17:56 Operator: SC
Sample : P2204818-002 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:27:05 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



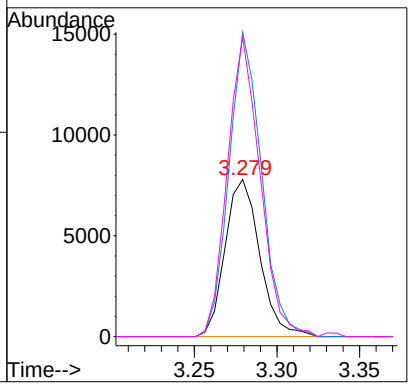
Revised Report

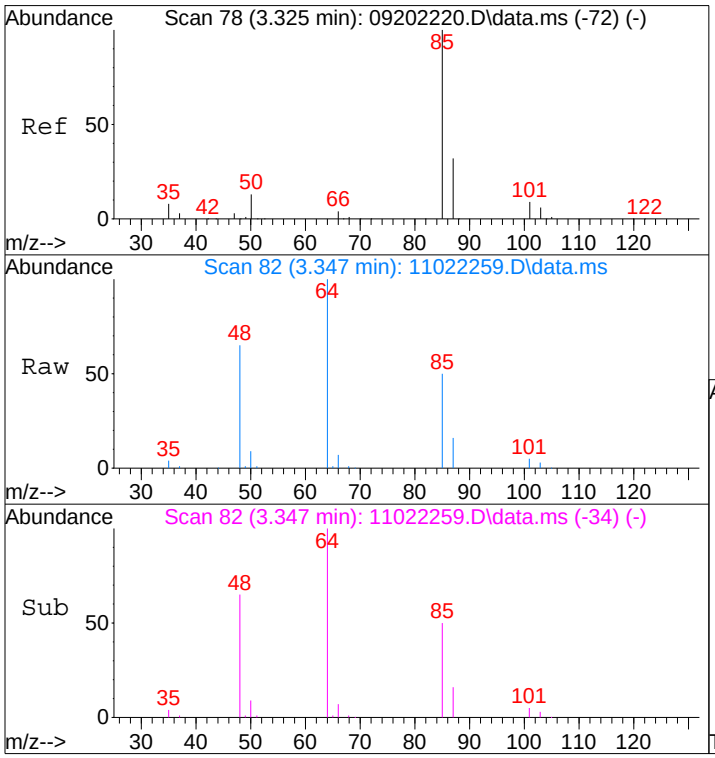


#2
Propene
Concen: 0.96 ng
RT: 3.28 min Scan# 70
Delta R.T. 0.028 min
Lab File: 11022259.D
Acq: 3 Nov 2022 17:56

Tgt Ion: 42 Resp: 11373

Ion	Ratio	Lower	Upper
42	100		
39	182.2	113.8	153.8#
41	179.9	137.0	177.0#

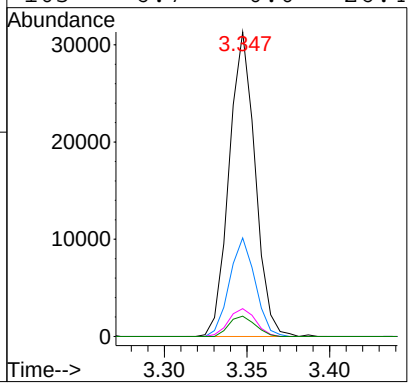




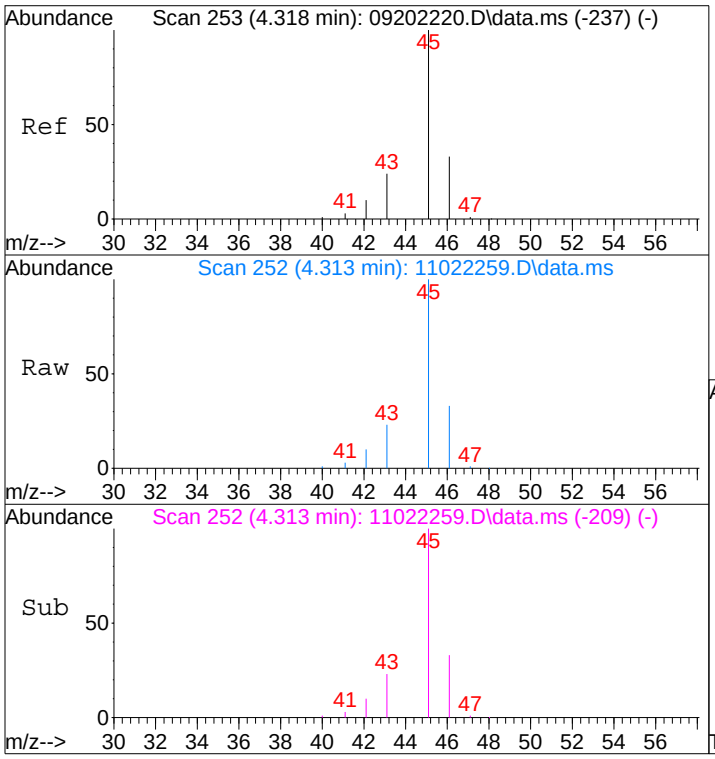
#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.55 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.023 min
Lab File: 11022259.D
Acq: 3 Nov 2022 17:56

Tgt Ion: 85 Resp: 34271

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.6	52.6
101	9.5	0.0	29.6
103	6.7	0.0	26.4



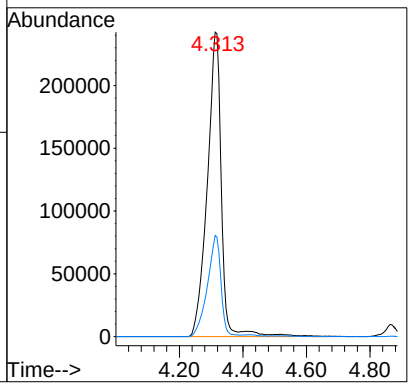
Revised Report

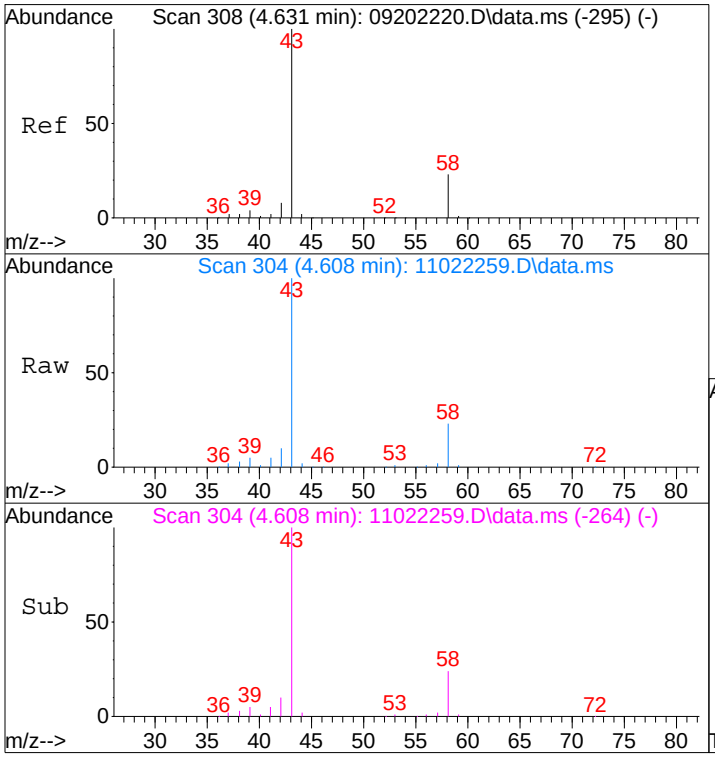


#10
Ethanol
Concen: 96.77 ng
RT: 4.31 min Scan# 252
Delta R.T. -0.006 min
Lab File: 11022259.D
Acq: 3 Nov 2022 17:56

Tgt Ion: 45 Resp: 745515

Ion	Ratio	Lower	Upper
45	100		
46	32.9	12.8	52.8

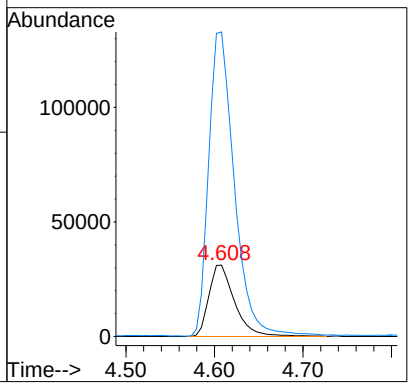


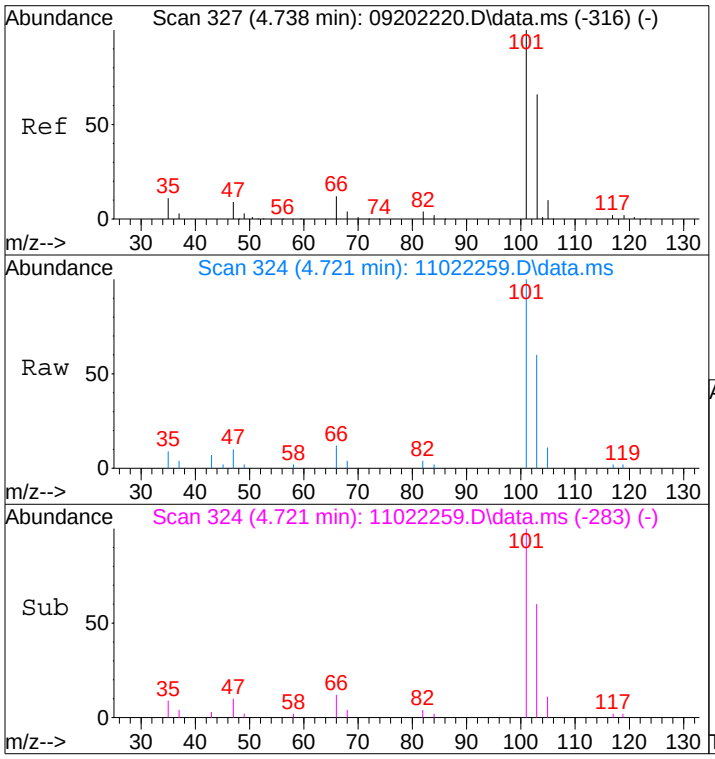


#13
Acetone
Concen: 9.98 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.023 min
Lab File: 11022259.D
Acq: 3 Nov 2022 17:56

Tgt Ion: 58 Resp: 63046

Ion	Ratio	Lower	Upper
58	100		
43	427.1	405.4	465.4

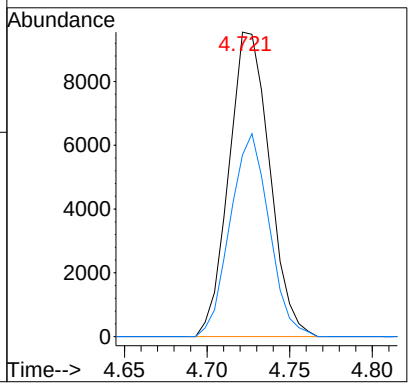


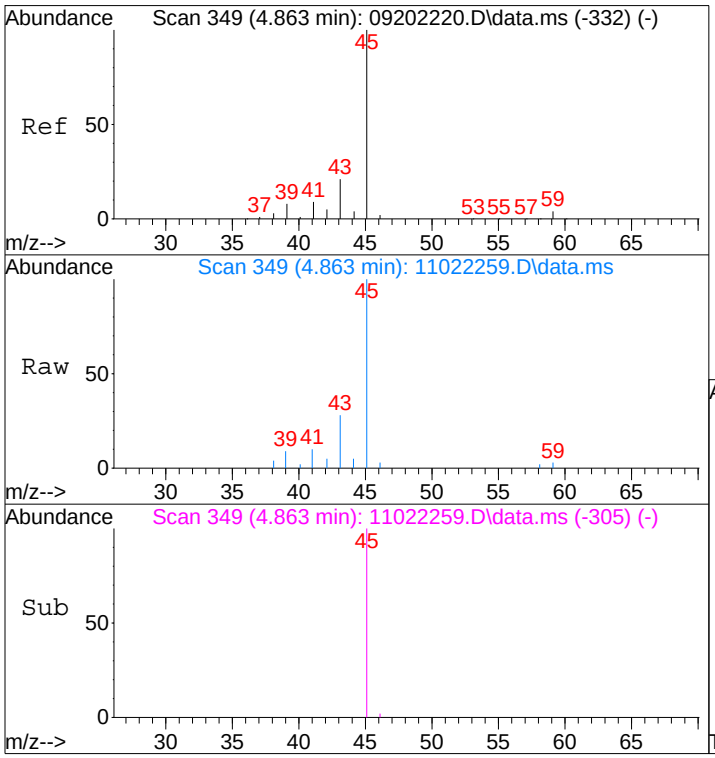


#14
Trichlorofluoromethane
Concen: 0.76 ng
RT: 4.72 min Scan# 324
Delta R.T. -0.017 min
Lab File: 11022259.D
Acq: 3 Nov 2022 17:56

Tgt Ion:101 Resp: 16364

Ion	Ratio	Lower	Upper
101	100		
103	63.7	45.4	85.4

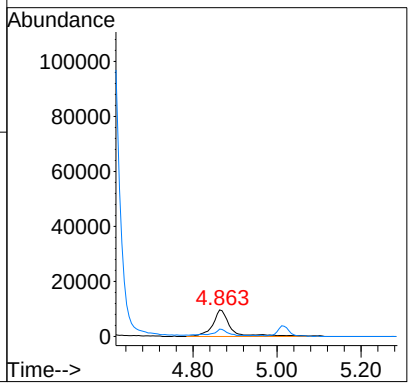


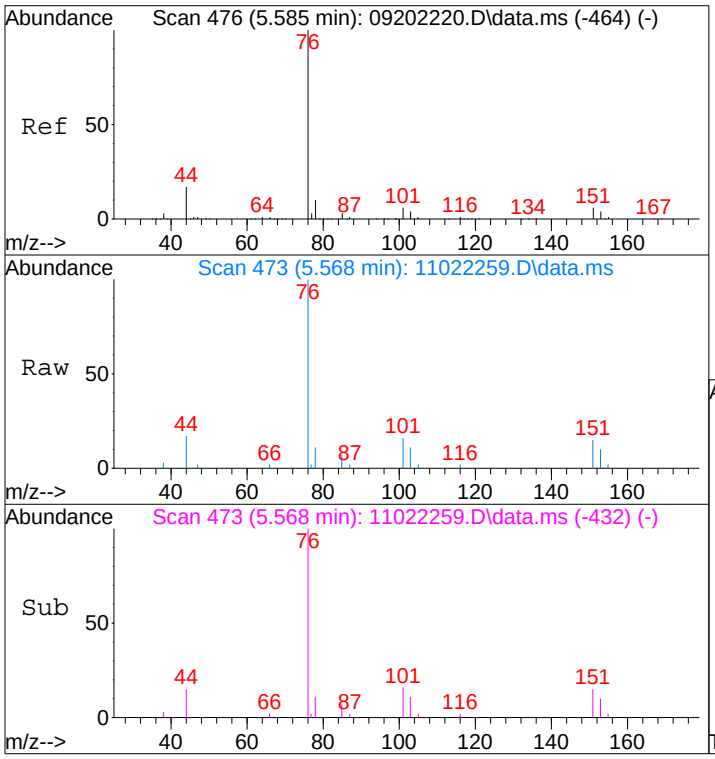


#15
2-Propanol (Isopropanol)
Concen: 1.25 ng
RT: 4.86 min Scan# 349
Delta R.T. 0.000 min
Lab File: 11022259.D
Acq: 3 Nov 2022 17:56

Tgt Ion: 45 Resp: 29141

Ion	Ratio	Lower	Upper
45	100		
43	13.6	2.7	42.7

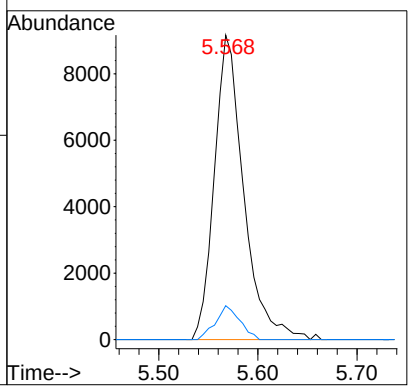


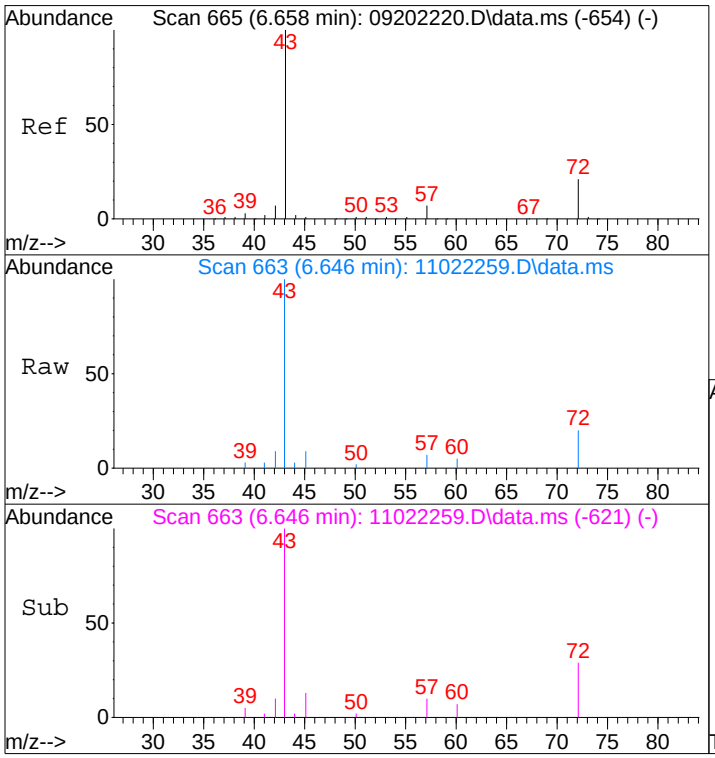


#22
Carbon Disulfide
Concen: 0.60 ng
RT: 5.57 min Scan# 473
Delta R.T. -0.017 min
Lab File: 11022259.D
Acq: 3 Nov 2022 17:56

Tgt Ion: 76 Resp: 18856

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	30.0

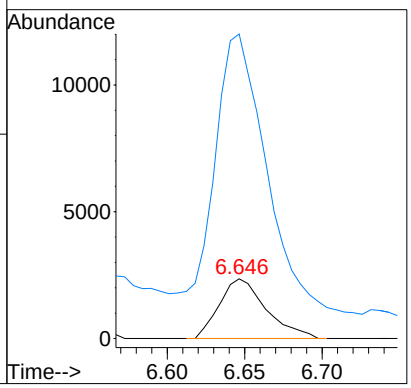


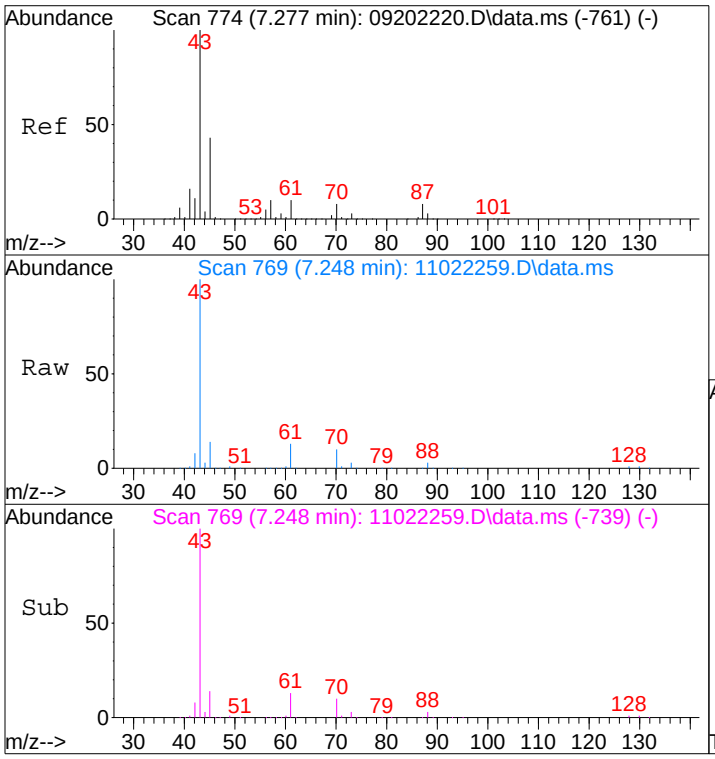


#27
2-Butanone (MEK)
Concen: 0.92 ng
RT: 6.65 min Scan# 663
Delta R.T. -0.011 min
Lab File: 11022259.D
Acq: 3 Nov 2022 17:56

Tgt Ion: 72 Resp: 4955

Ion	Ratio	Lower	Upper
72	100		
43	539.5	467.6	507.6#

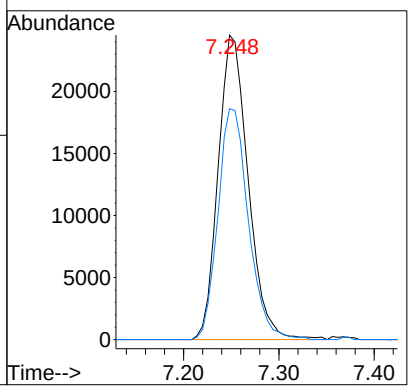


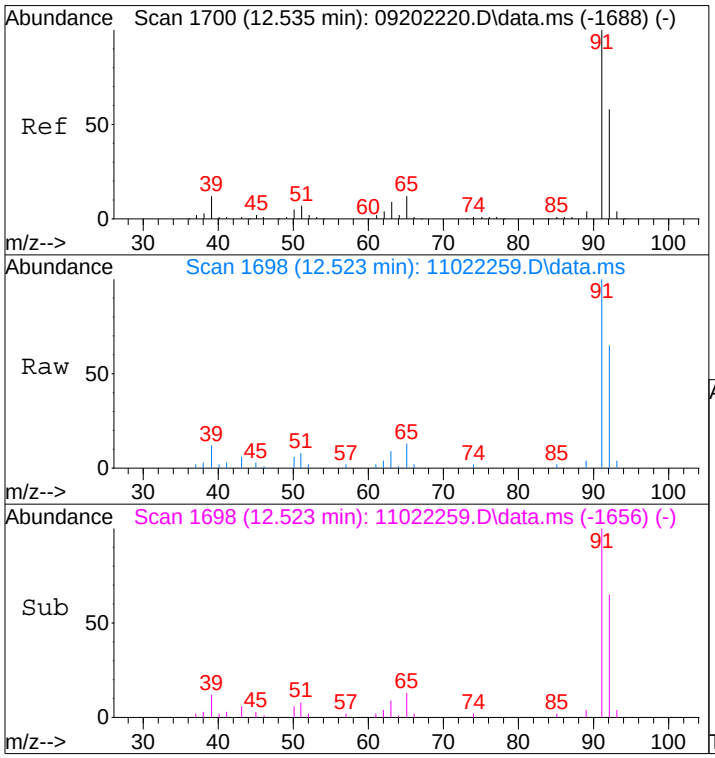


#30
Ethyl Acetate
Concen: 14.91 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.028 min
Lab File: 11022259.D
Acq: 3 Nov 2022 17:56

Tgt Ion: 61 Resp: 53607

Ion	Ratio	Lower	Upper
61	100		
70	77.0	58.9	98.9

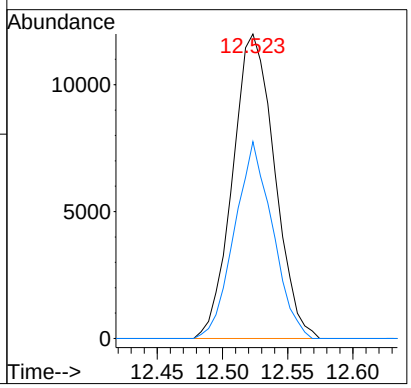




#58
Toluene
Concen: 0.69 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.011 min
Lab File: 11022259.D
Acq: 3 Nov 2022 17:56

Tgt Ion: 91 Resp: 26831

Ion	Ratio	Lower	Upper
91	100		
92	58.8	37.7	77.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022260.D Vial: 14
Acq On : 3 Nov 2022 18:28 Operator: SC
Sample : P2204818-003 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:28:20 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	101737	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	527656	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	105853	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	209019	14.431	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.44%				
57) Toluene-d8 (SS2)	12.39	98	586863	13.065	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%				
73) Bromofluorobenzene (SS3)	16.79	174	220615	11.375	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.35	85	34044	1.776	ng		99
4) Chloromethane	3.49	50	3869	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	807	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	18831	2.822	ng		95
11) Acetonitrile	4.43	41	1336	N.D.			
12) Acrolein	4.53	56	535	N.D.			
13) Acetone	4.61	58	25231	4.612	ng		99
14) Trichlorofluoromethane	4.73	101	15052	0.810	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	6498	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.32	59	405	N.D.			
19) Methylene Chloride	5.33	84	1616	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3299	N.D.			
22) Carbon Disulfide	5.60	76	109	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.41	86	346	N.D.			
27) 2-Butanone (MEK)	6.64	72	3180	0.683	ng	#	66
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.25	61	17229	5.534	ng		96
31) n-Hexane	7.27	57	2158	N.D.			
32) Chloroform	7.33	83	1016	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.09	62	431	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	15356	No Calib		#	
40) 1-Butanol	8.80	56	1797	No Calib		#	
41) Benzene	8.86	78	7198	N.D.			
42) Carbon Tetrachloride	9.03	117	4831	N.D.			
43) Cyclohexane	9.17	84	335	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	5709	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Revised Report

Data File : I:\MS09\DATA\2022 11\02\11022260.D Vial: 14
Acq On : 3 Nov 2022 18:28 Operator: SC
Sample : P2204818-003 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:28:20 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	441	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	17695	N.D.	
59) 2-Hexanone	12.89	43	699	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.76	43	1726	N.D.	
63) n-Octane	13.89	57	211	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.37	91	3071	N.D.	
67) m- & p-Xylenes	15.60	91	6498	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	438	N.D.	
70) o-Xylene	16.21	91	2419	N.D.	
71) n-Nonane	16.58	43	994	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	17.49	93	890	N.D.	
76) n-Propylbenzene	17.65	91	719	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.83	105	806	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	450	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.41	105	2048	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.64	146	139	N.D.	
86) 1,4-Dichlorobenzene	18.64	146	139	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	3130	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.09	68	900	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.90	128	842	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.40	119	138	N.D.	
100) n-Butylbenzene	19.36	91	435	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

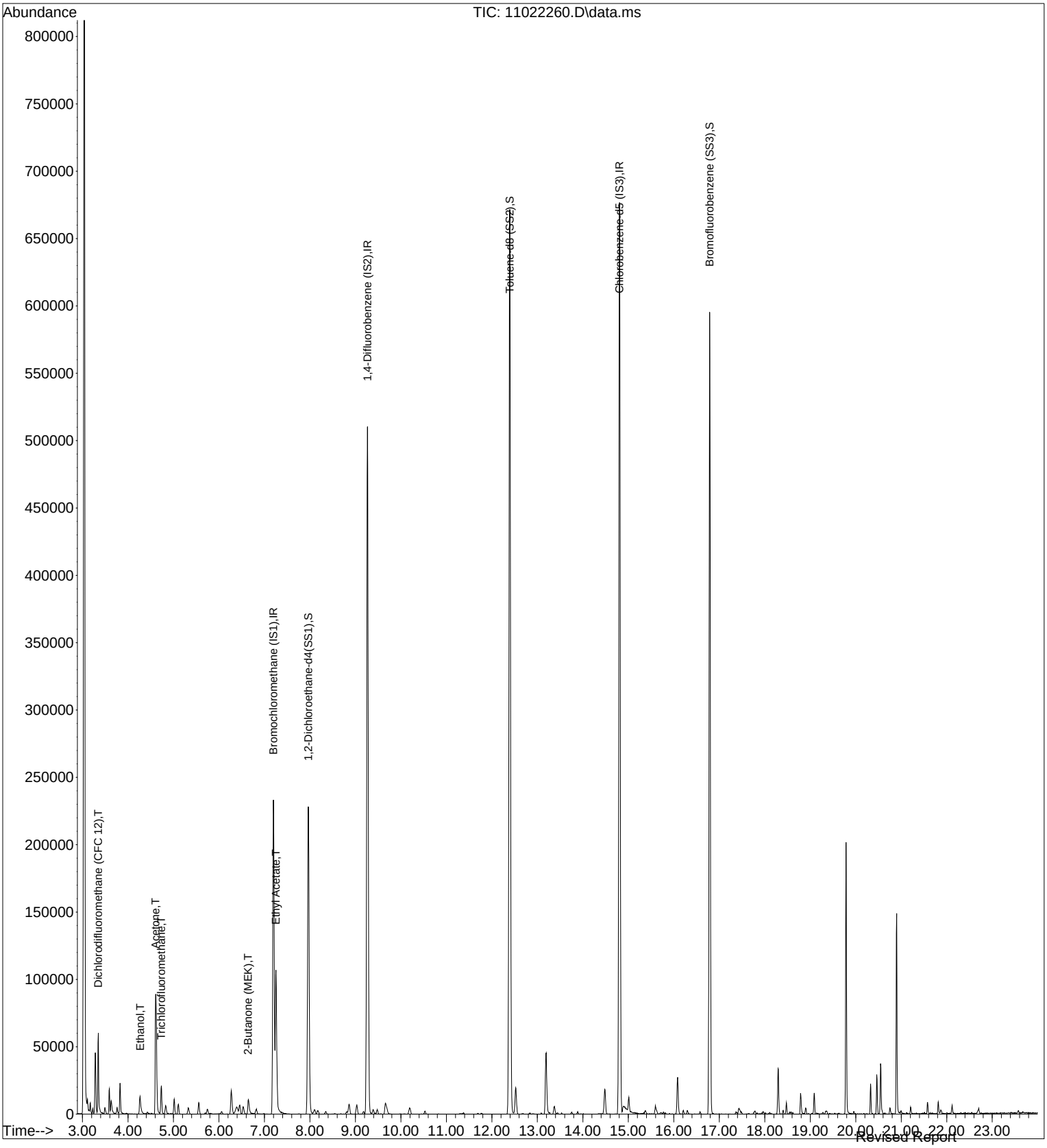
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022260.D Vial: 14
Acq On : 3 Nov 2022 18:28 Operator: SC
Sample : P2204818-003 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:28:20 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022260.D Vial: 14
Acq On : 3 Nov 2022 18:28 Operator: SC
Sample : P2204818-003 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:28:20 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	101737	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	527656	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	105853	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	209019	14.431	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.44%				
57) Toluene-d8 (SS2)	12.39	98	586863	13.065	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%				
73) Bromofluorobenzene (SS3)	16.79	174	220615	11.375	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	34044	1.776	ng		99
10) Ethanol	4.27	45	18831	2.822	ng		95
13) Acetone	4.61	58	25231	4.612	ng		99
14) Trichlorofluoromethane	4.73	101	15052	0.810	ng		99
27) 2-Butanone (MEK)	6.64	72	3180	0.683	ng	#	66
30) Ethyl Acetate	7.25	61	17229	5.534	ng		96

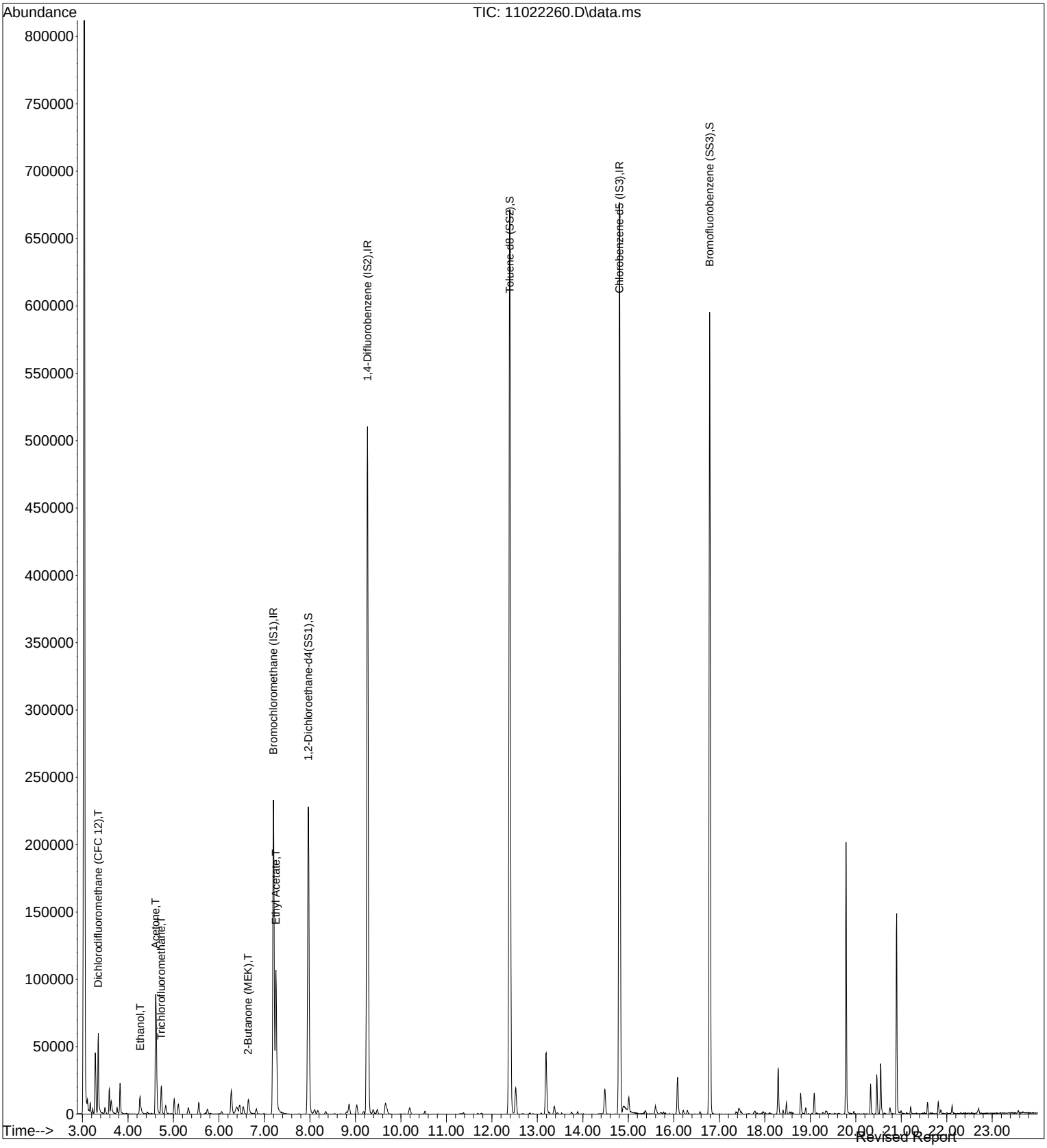
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

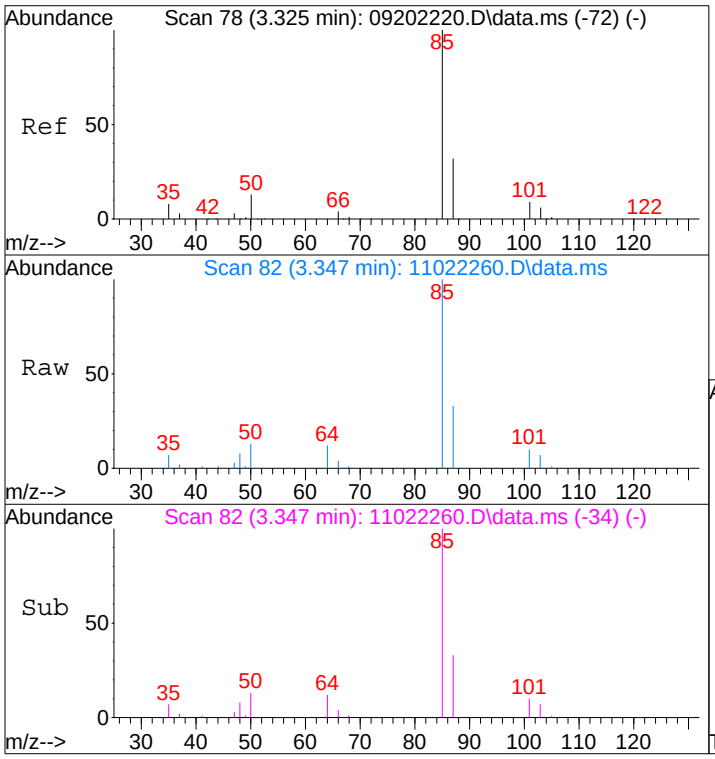
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022260.D Vial: 14
Acq On : 3 Nov 2022 18:28 Operator: SC
Sample : P2204818-003 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:28:20 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



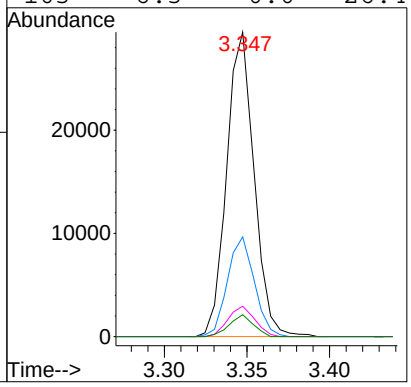
Revised Report

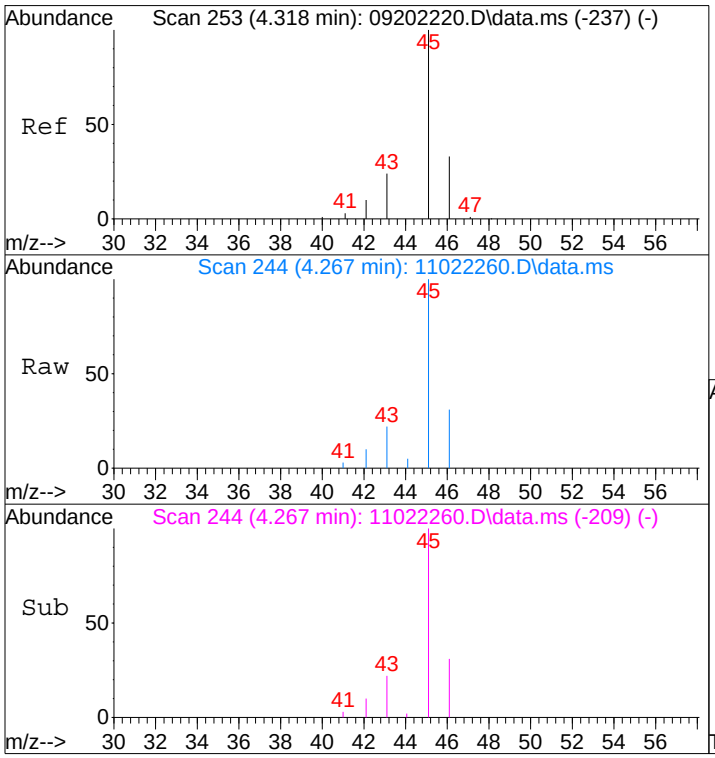


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.78 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.023 min
Lab File: 11022260.D
Acq: 3 Nov 2022 18:28

Tgt Ion: 85 Resp: 34044

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.6	52.6
101	9.7	0.0	29.6
103	6.3	0.0	26.4

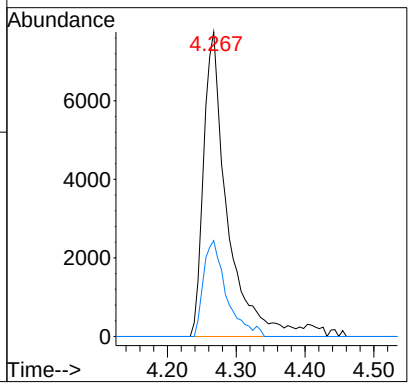




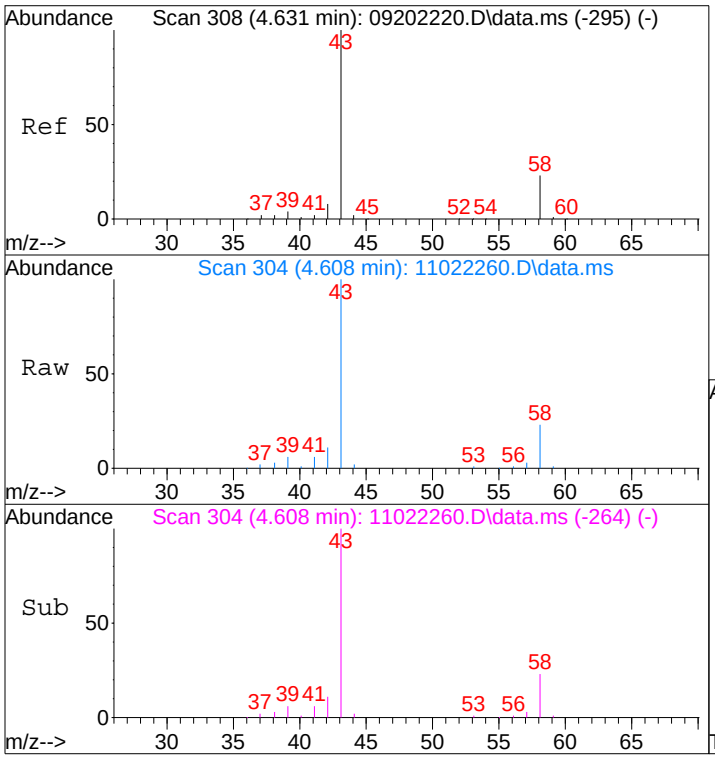
#10
Ethanol
Concen: 2.82 ng
RT: 4.27 min Scan# 244
Delta R.T. -0.051 min
Lab File: 11022260.D
Acq: 3 Nov 2022 18:28

Tgt Ion: 45 Resp: 18831

Ion	Ratio	Lower	Upper
45	100		
46	30.0	12.8	52.8



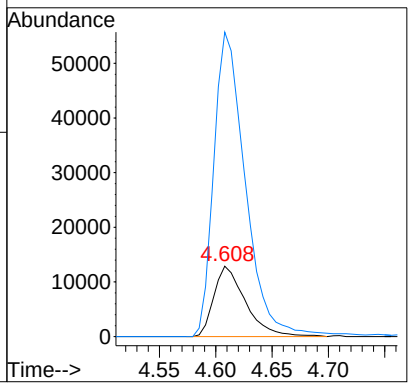
Revised Report

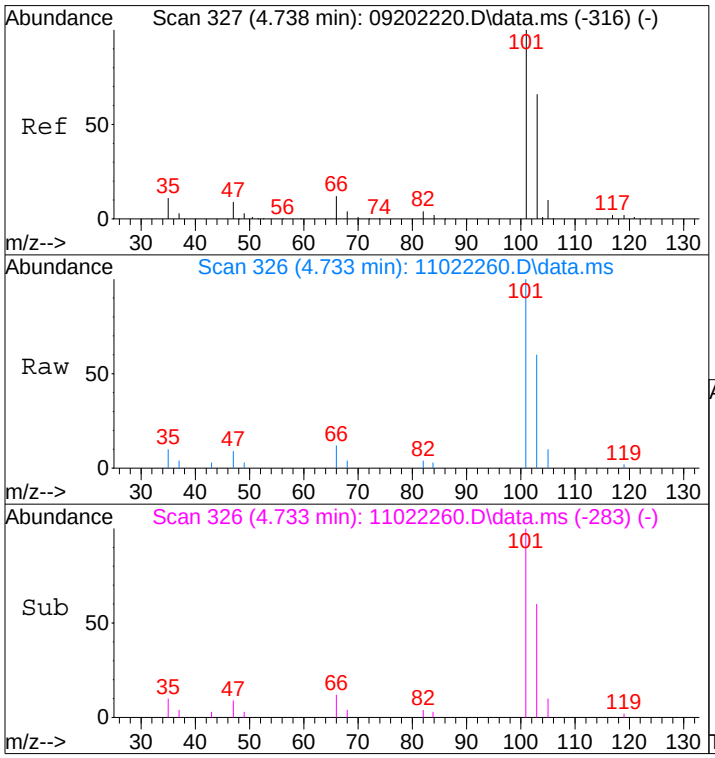


#13
Acetone
Concen: 4.61 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.023 min
Lab File: 11022260.D
Acq: 3 Nov 2022 18:28

Tgt Ion: 58 Resp: 25231

Ion	Ratio	Lower	Upper
58	100		
43	433.2	405.4	465.4

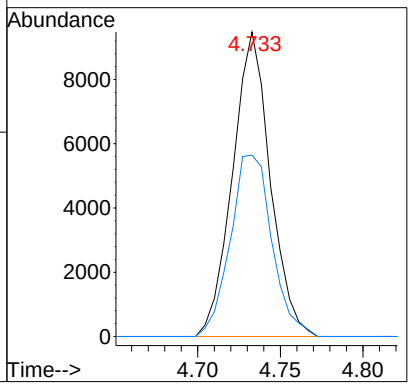


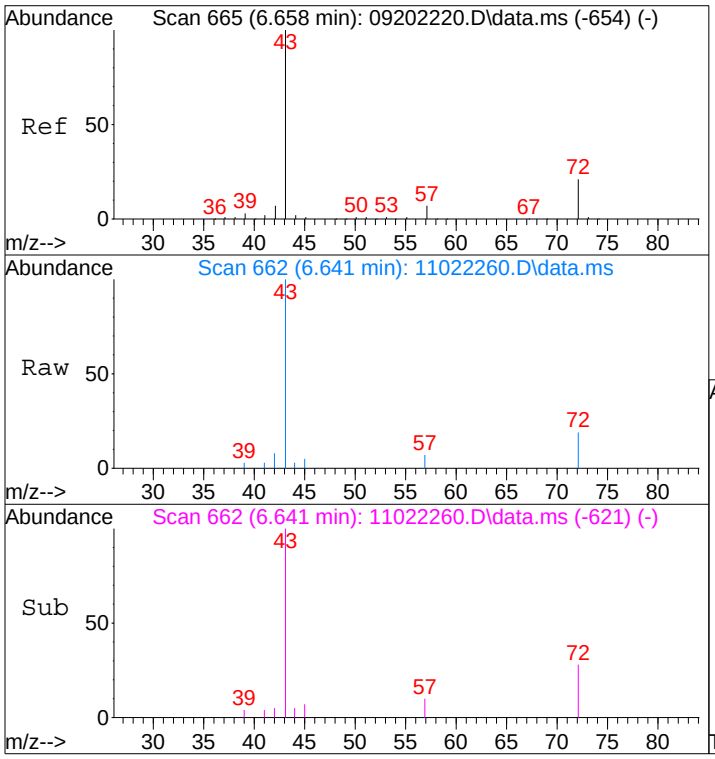


#14
Trichlorofluoromethane
Concen: 0.81 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.006 min
Lab File: 11022260.D
Acq: 3 Nov 2022 18:28

Tgt Ion:101 Resp: 15052

Ion	Ratio	Lower	Upper
101	100		
103	65.8	45.4	85.4

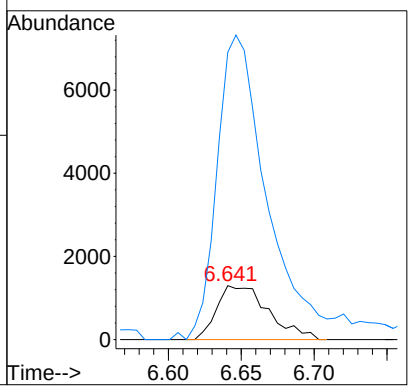


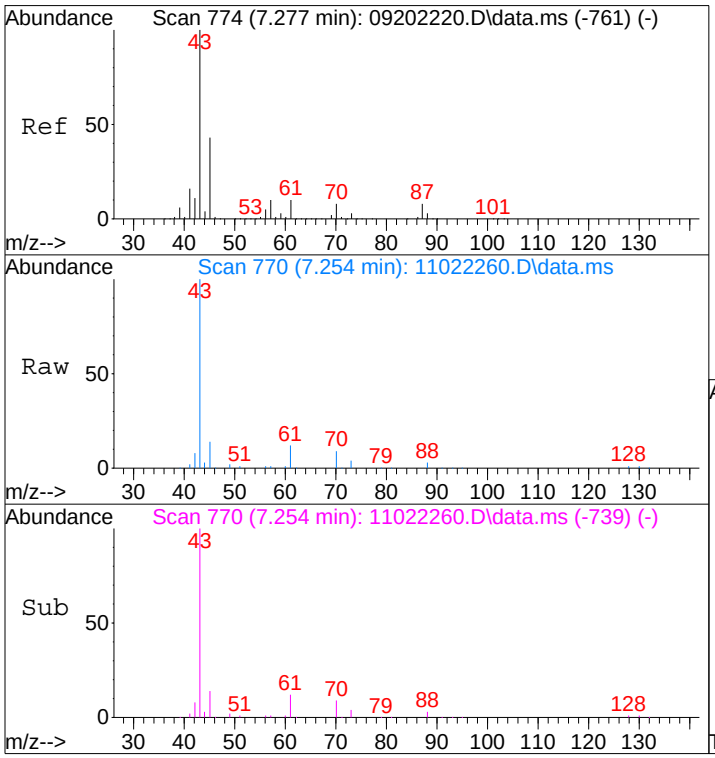


#27
2-Butanone (MEK)
Concen: 0.68 ng
RT: 6.64 min Scan# 662
Delta R.T. -0.017 min
Lab File: 11022260.D
Acq: 3 Nov 2022 18:28

Tgt Ion: 72 Resp: 3180

Ion	Ratio	Lower	Upper
72	100		
43	579.5	467.6	507.6#

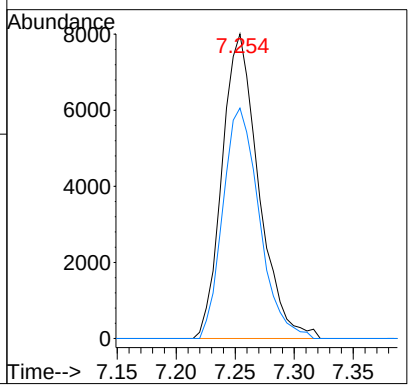




#30
Ethyl Acetate
Concen: 5.53 ng
RT: 7.25 min Scan# 770
Delta R.T. -0.023 min
Lab File: 11022260.D
Acq: 3 Nov 2022 18:28

Tgt Ion: 61 Resp: 17229

Ion	Ratio	Lower	Upper
61	100		
70	75.4	58.9	98.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022261.D Vial: 15
Acq On : 3 Nov 2022 19:00 Operator: SC
Sample : P2204818-004 (1000mL) Inst : MS09
Misc : S35-10282201

11/7/22

Quant Time: Nov 04 07:26:29 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	128671	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	535605	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	105495	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	225168	12.292	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
57) Toluene-d8 (SS2)	12.39	98	592050	13.225	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
73) Bromofluorobenzene (SS3)	16.79	174	220392	11.402	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%				
Target Compounds							Qvalue
2) Propene	3.28	42	4893	N.D.			
3) Dichlorodifluoromethan...	3.35	85	33096	1.365	ng		99
4) Chloromethane	3.50	50	3272	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	729	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.02	94	141	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	23444	2.778	ng		95
11) Acetonitrile	4.43	41	1265	N.D.			
12) Acrolein	4.52	56	598	N.D.			
13) Acetone	4.61	58	30920	4.469	ng		97
14) Trichlorofluoromethane	4.73	101	16701	0.710	ng		98
15) 2-Propanol (Isopropanol)	4.82	45	8568	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.32	59	301	N.D.			
19) Methylene Chloride	5.33	84	1839	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3484	N.D.			
22) Carbon Disulfide	5.60	76	385	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.42	86	688	N.D.			
27) 2-Butanone (MEK)	6.65	72	3223	0.547	ng	#	38
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.24	87	306	N.D.			
30) Ethyl Acetate	7.25	61	55617	14.125	ng		95
31) n-Hexane	7.27	57	2084	N.D.			
32) Chloroform	7.32	83	1001	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	380	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	15540	No Calib		#	
40) 1-Butanol	8.82	56	2053	No Calib		#	
41) Benzene	8.86	78	9121	N.D.			
42) Carbon Tetrachloride	9.03	117	4808	N.D.			
43) Cyclohexane	9.18	84	520	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	5570	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022261.D Vial: 15
Acq On : 3 Nov 2022 19:00 Operator: SC
Sample : P2204818-004 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 04 07:26:29 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	617	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	26501	0.674 ng	99
59) 2-Hexanone	12.90	43	935	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.75	43	2430	N.D.	
63) n-Octane	13.87	57	275	N.D.	
64) Tetrachloroethene	14.01	166	113	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.37	91	3027	N.D.	
67) m- & p-Xylenes	15.60	91	6477	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	501	N.D.	
70) o-Xylene	16.21	91	2699	N.D.	
71) n-Nonane	16.57	43	802	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	17.49	93	2761	N.D.	
76) n-Propylbenzene	17.65	91	865	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.83	105	901	N.D.	
79) 1,3,5-Trimethylbenzene	17.92	105	435	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.41	105	2132	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	242	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	242	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	2702	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	420	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.96	58	131	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	2227	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.41	119	111	N.D.	
100) n-Butylbenzene	19.35	91	633	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

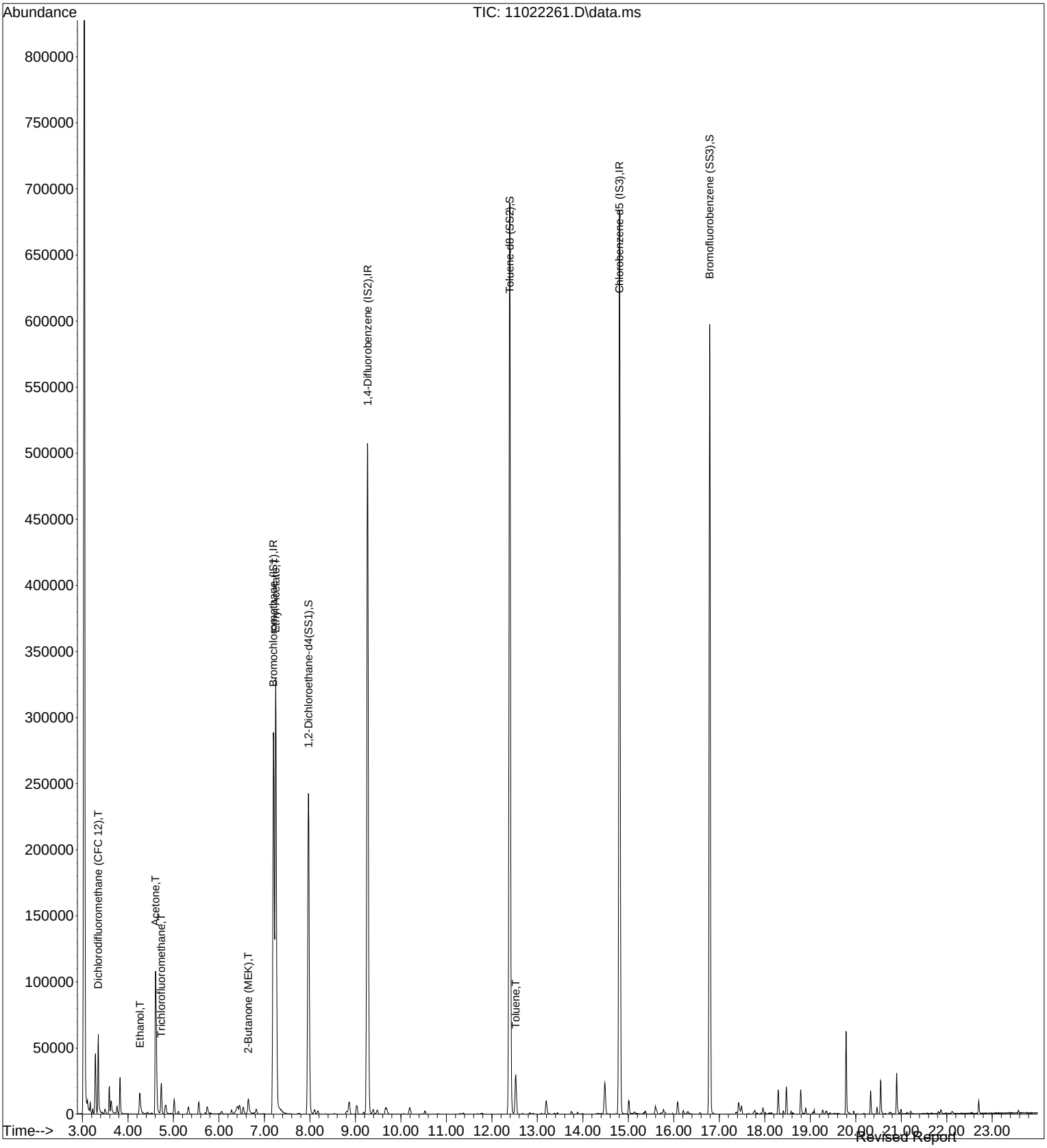
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022261.D Vial: 15
Acq On : 3 Nov 2022 19:00 Operator: SC
Sample : P2204818-004 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 04 07:26:29 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022261.D Vial: 15
Acq On : 3 Nov 2022 19:00 Operator: SC
Sample : P2204818-004 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 04 07:26:29 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	128671	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	535605	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	105495	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	225168	12.292	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
57) Toluene-d8 (SS2)	12.39	98	592050	13.225	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
73) Bromofluorobenzene (SS3)	16.79	174	220392	11.402	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	33096	1.365	ng		99
10) Ethanol	4.26	45	23444	2.778	ng		95
13) Acetone	4.61	58	30920	4.469	ng		97
14) Trichlorofluoromethane	4.73	101	16701	0.710	ng		98
27) 2-Butanone (MEK)	6.65	72	3223	0.547	ng	#	38
30) Ethyl Acetate	7.25	61	55617	14.125	ng		95
58) Toluene	12.52	91	26501	0.674	ng		99

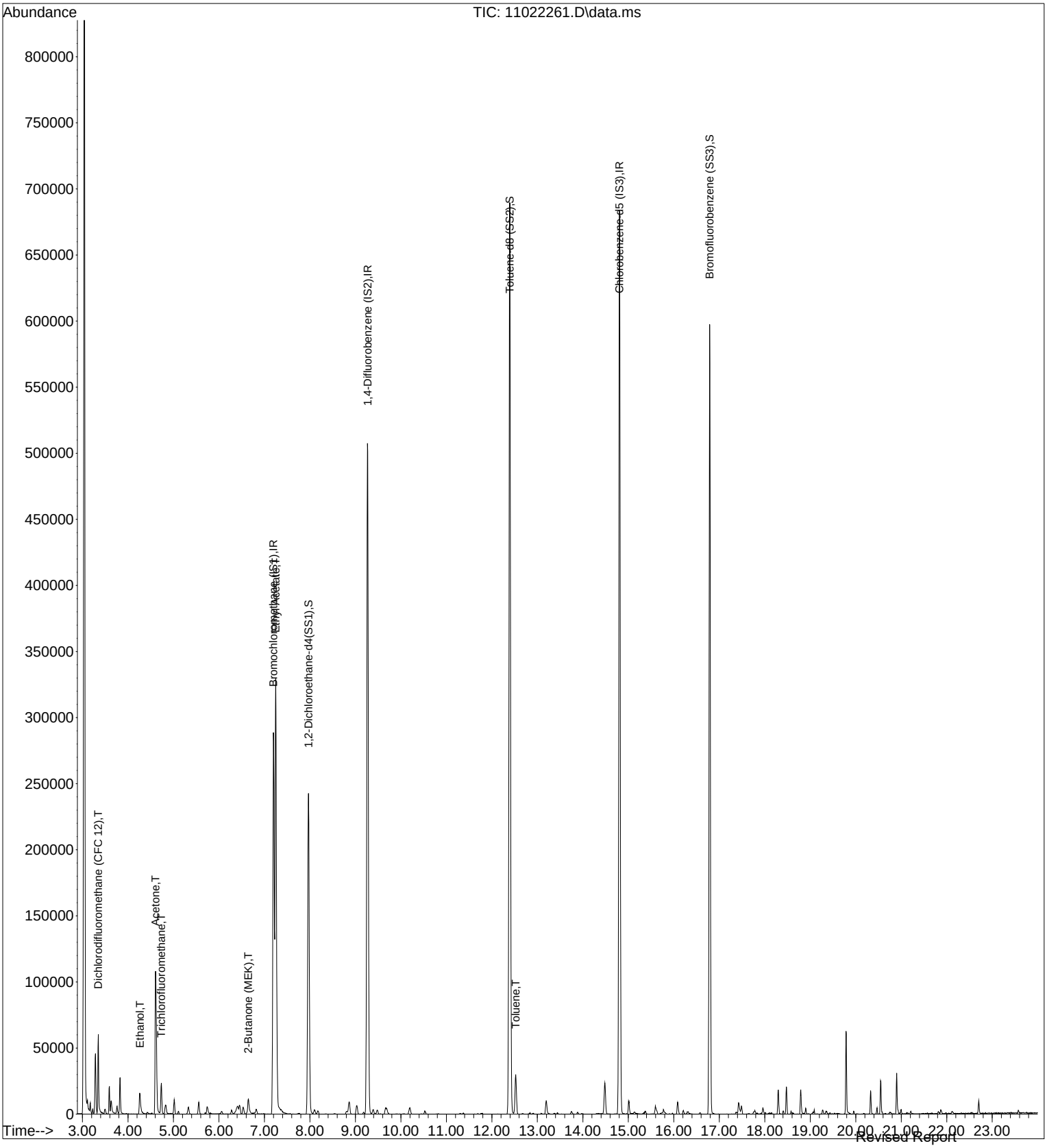
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

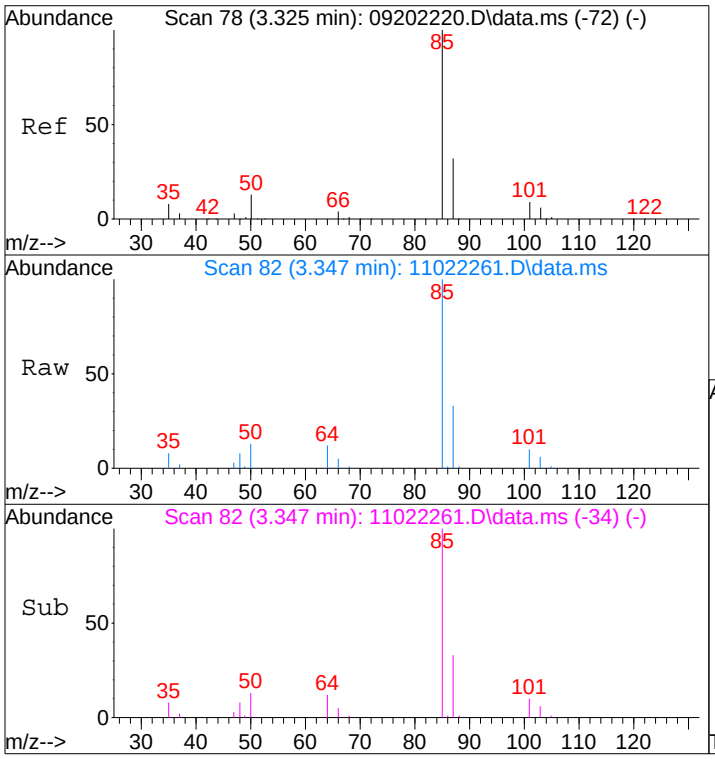
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022261.D Vial: 15
Acq On : 3 Nov 2022 19:00 Operator: SC
Sample : P2204818-004 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 04 07:26:29 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



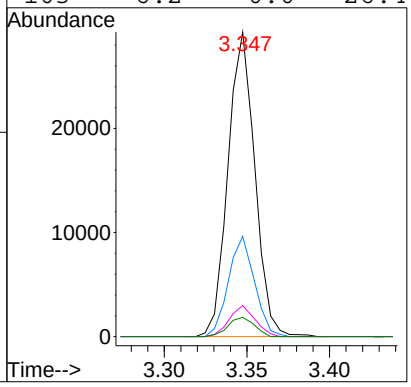
Revised Report

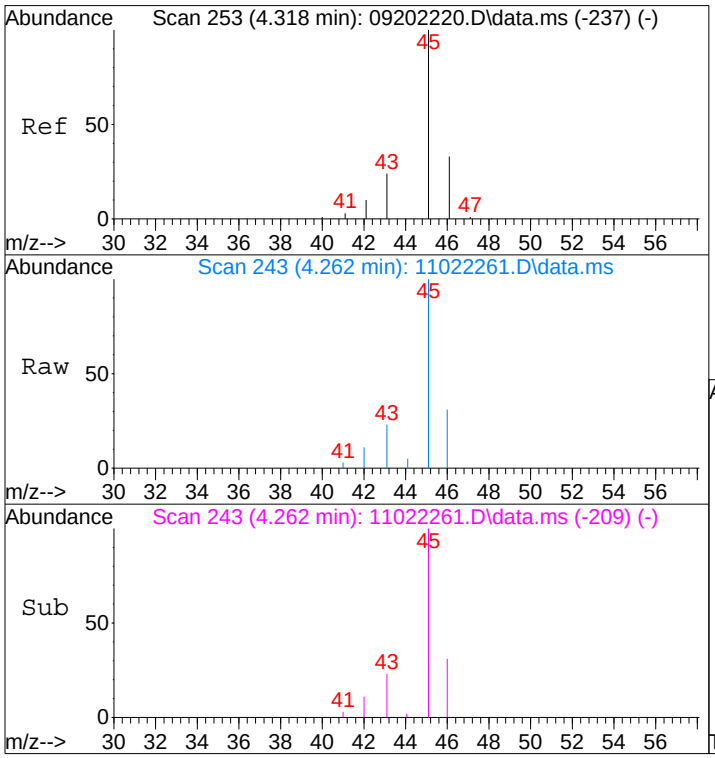


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.37 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.023 min
Lab File: 11022261.D
Acq: 3 Nov 2022 19:00

Tgt Ion: 85 Resp: 33096

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.6	52.6
101	9.8	0.0	29.6
103	6.2	0.0	26.4

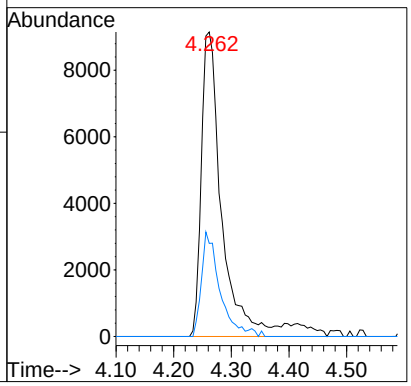


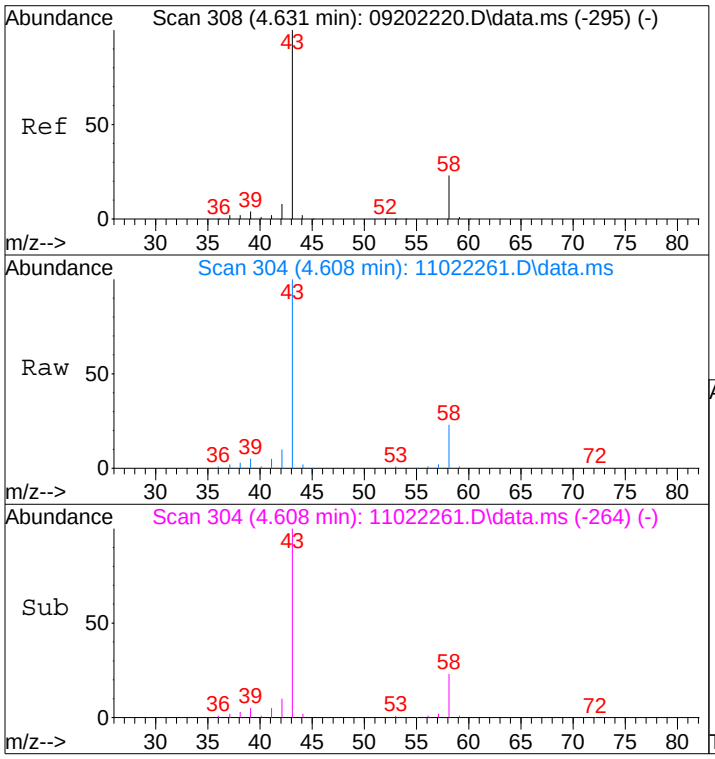


#10
Ethanol
Concen: 2.78 ng
RT: 4.26 min Scan# 243
Delta R.T. -0.057 min
Lab File: 11022261.D
Acq: 3 Nov 2022 19:00

Tgt Ion: 45 Resp: 23444

Ion	Ratio	Lower	Upper
45	100		
46	29.9	12.8	52.8

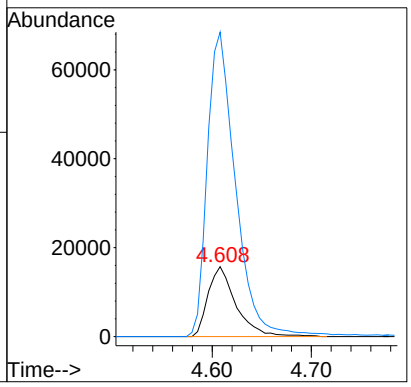


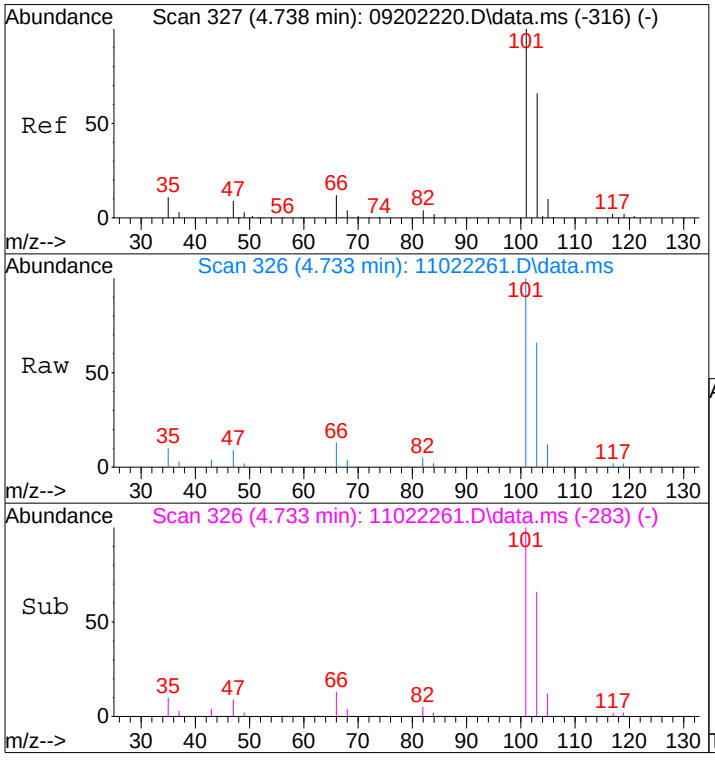


#13
Acetone
Concen: 4.47 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.023 min
Lab File: 11022261.D
Acq: 3 Nov 2022 19:00

Tgt Ion: 58 Resp: 30920

Ion	Ratio	Lower	Upper
58	100		
43	442.7	405.4	465.4

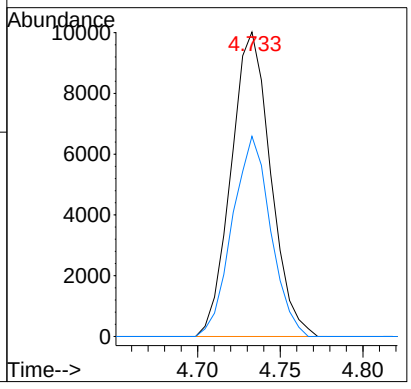


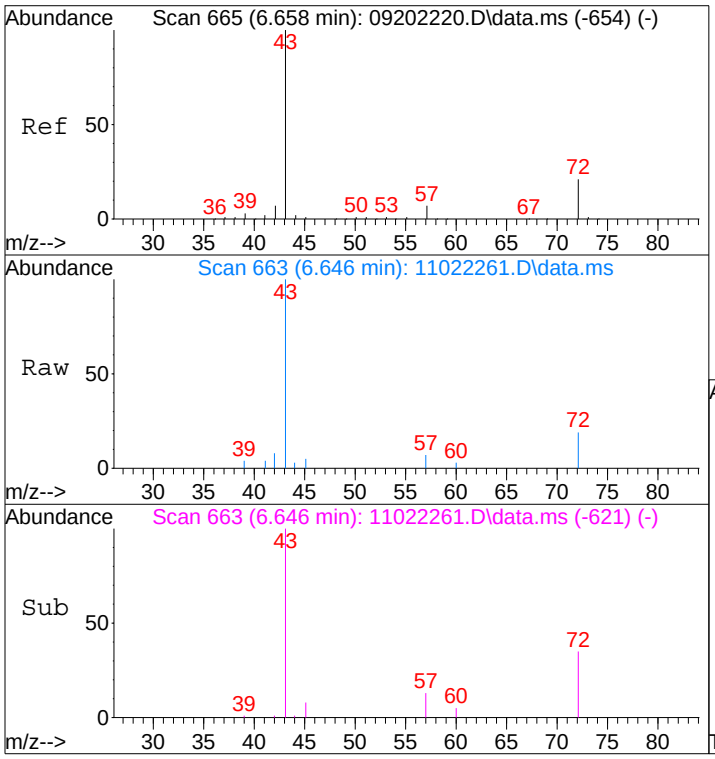


#14
Trichlorofluoromethane
Concen: 0.71 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.006 min
Lab File: 11022261.D
Acq: 3 Nov 2022 19:00

Tgt Ion:101 Resp: 16701

Ion	Ratio	Lower	Upper
101	100		
103	63.7	45.4	85.4

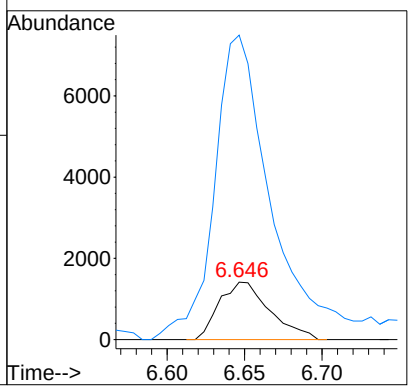


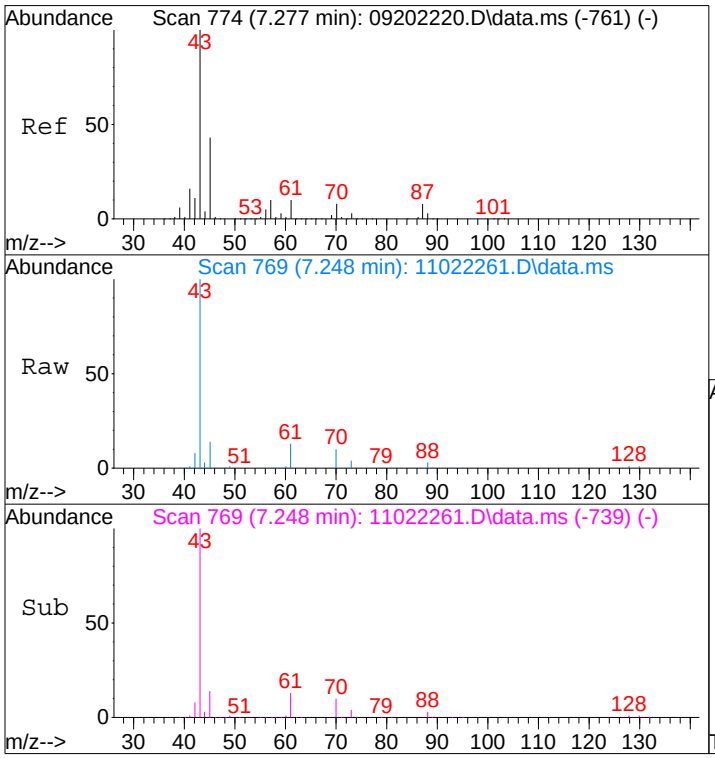


#27
2-Butanone (MEK)
Concen: 0.55 ng
RT: 6.65 min Scan# 663
Delta R.T. -0.011 min
Lab File: 11022261.D
Acq: 3 Nov 2022 19:00

Tgt Ion: 72 Resp: 3223

Ion	Ratio	Lower	Upper
72	100		
43	656.2	467.6	507.6#

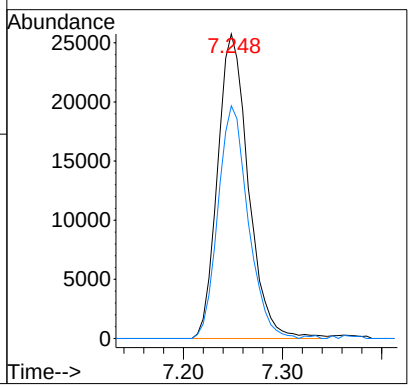


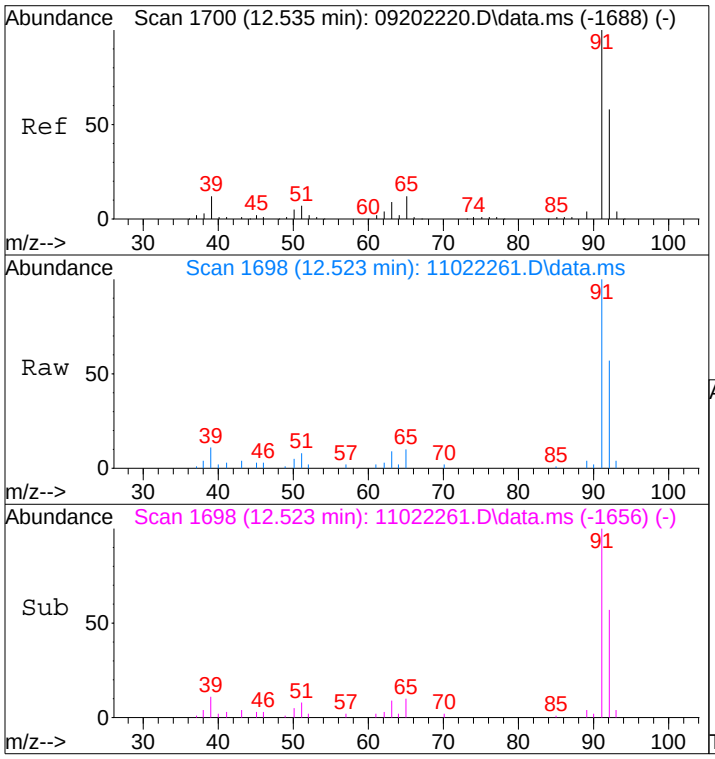


#30
Ethyl Acetate
Concen: 14.12 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.028 min
Lab File: 11022261.D
Acq: 3 Nov 2022 19:00

Tgt Ion: 61 Resp: 55617

Ion	Ratio	Lower	Upper
61	100		
70	74.6	58.9	98.9

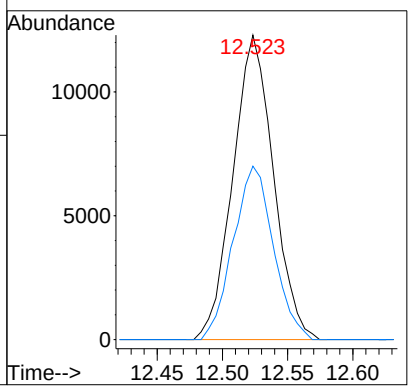




#58
Toluene
Concen: 0.67 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.011 min
Lab File: 11022261.D
Acq: 3 Nov 2022 19:00

Tgt Ion: 91 Resp: 26501

Ion	Ratio	Lower	Upper
91	100		
92	56.6	37.7	77.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022262.D Vial: 16
Acq On : 3 Nov 2022 19:32 Operator: SC
Sample : P2204818-005 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:37:10 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	107187	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	531130	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	104550	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	204805	13.421	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.36%				
57) Toluene-d8 (SS2)	12.39	98	588922	13.274	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
73) Bromofluorobenzene (SS3)	16.79	174	219069	11.436	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.52%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.35	85	33569	1.663	ng		98
4) Chloromethane	3.49	50	2851	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	679	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	17369	2.471	ng		97
11) Acetonitrile	4.43	41	1351	N.D.			
12) Acrolein	4.52	56	474	N.D.			
13) Acetone	4.61	58	24359	4.226	ng		91
14) Trichlorofluoromethane	4.73	101	14882	0.760	ng		100
15) 2-Propanol (Isopropanol)	4.82	45	5729	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.32	59	296	N.D.			
19) Methylene Chloride	5.33	84	1633	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3112	N.D.			
22) Carbon Disulfide	0.00	76	0	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.65	72	3359	0.685	ng	#	64
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.25	61	8832	2.693	ng		97
31) n-Hexane	7.27	57	2399	N.D.			
32) Chloroform	7.32	83	909	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	297	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	15300	No Calib		#	
40) 1-Butanol	8.80	56	2184	No Calib		#	
41) Benzene	8.86	78	6670	N.D.			
42) Carbon Tetrachloride	9.03	117	4547	N.D.			
43) Cyclohexane	9.19	84	448	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.11	130	124	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	5813	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Revised Report

Data File : I:\MS09\DATA\2022 11\02\11022262.D Vial: 16
Acq On : 3 Nov 2022 19:32 Operator: SC
Sample : P2204818-005 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:37:10 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.53	71	679	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.52	91	16951	N.D.		
59) 2-Hexanone	12.89	43	223	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.75	43	1701	N.D.		
63) n-Octane	13.89	57	284	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.37	91	3141	N.D.		
67) m- & p-Xylenes	15.60	91	6705	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.08	104	563	N.D.		
70) o-Xylene	16.21	91	2716	N.D.		
71) n-Nonane	16.58	43	1161	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	17.49	93	1551	N.D.		
76) n-Propylbenzene	17.65	91	756	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.83	105	848	N.D.		
79) 1,3,5-Trimethylbenzene	17.93	105	514	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.41	105	1942	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.63	146	139	N.D.		
86) 1,4-Dichlorobenzene	18.63	146	139	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	18.90	119	2593	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.06	68	449	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.90	128	263	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.41	119	173	N.D.		
100) n-Butylbenzene	19.36	91	440	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

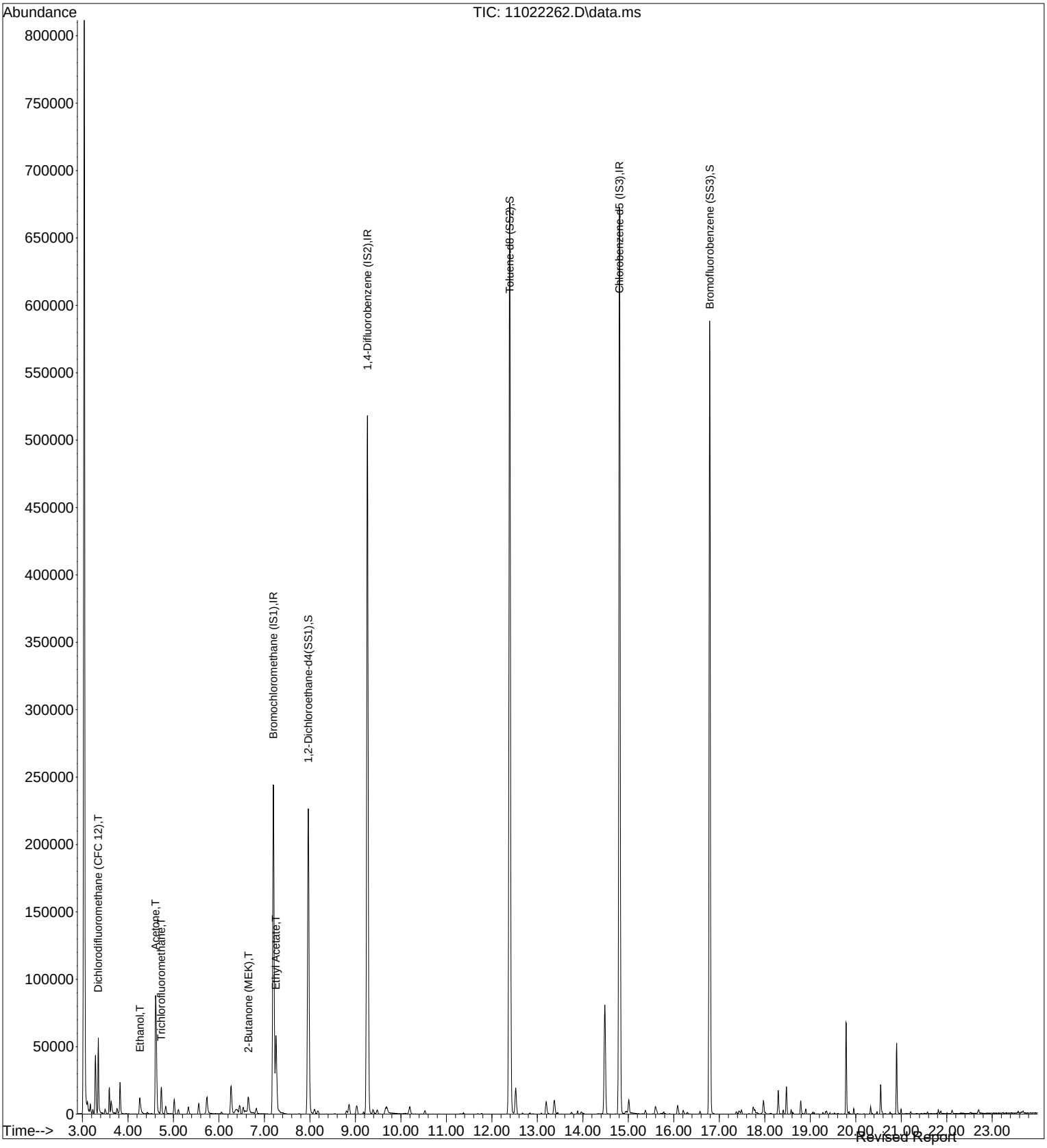
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022262.D Vial: 16
Acq On : 3 Nov 2022 19:32 Operator: SC
Sample : P2204818-005 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:37:10 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022262.D Vial: 16
Acq On : 3 Nov 2022 19:32 Operator: SC
Sample : P2204818-005 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:37:10 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	107187	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	531130	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	104550	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	204805	13.421	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.36%				
57) Toluene-d8 (SS2)	12.39	98	588922	13.274	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
73) Bromofluorobenzene (SS3)	16.79	174	219069	11.436	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.52%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	33569	1.663	ng		98
10) Ethanol	4.26	45	17369	2.471	ng		97
13) Acetone	4.61	58	24359	4.226	ng		91
14) Trichlorofluoromethane	4.73	101	14882	0.760	ng		100
27) 2-Butanone (MEK)	6.65	72	3359	0.685	ng	#	64
30) Ethyl Acetate	7.25	61	8832	2.693	ng		97

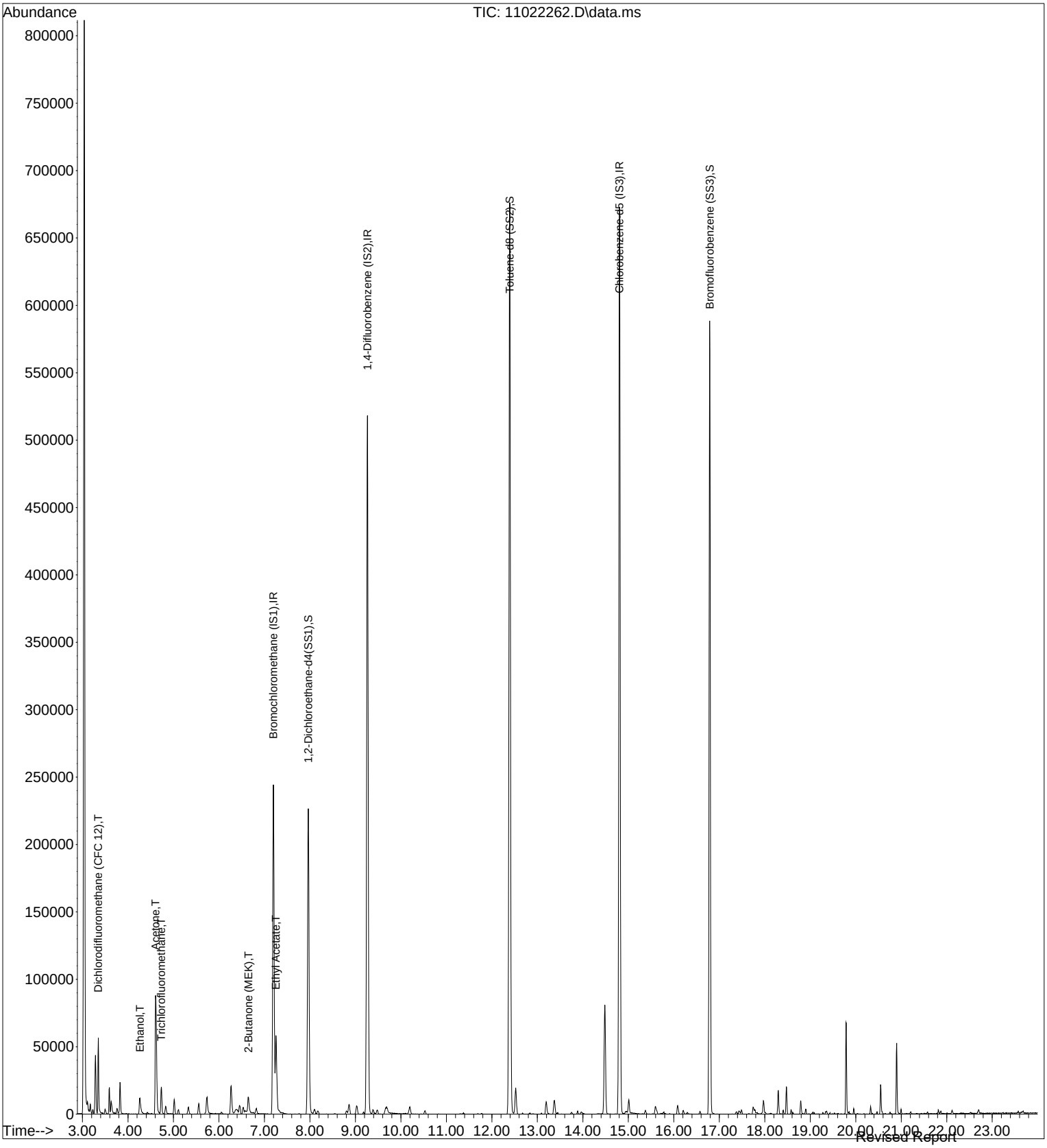
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

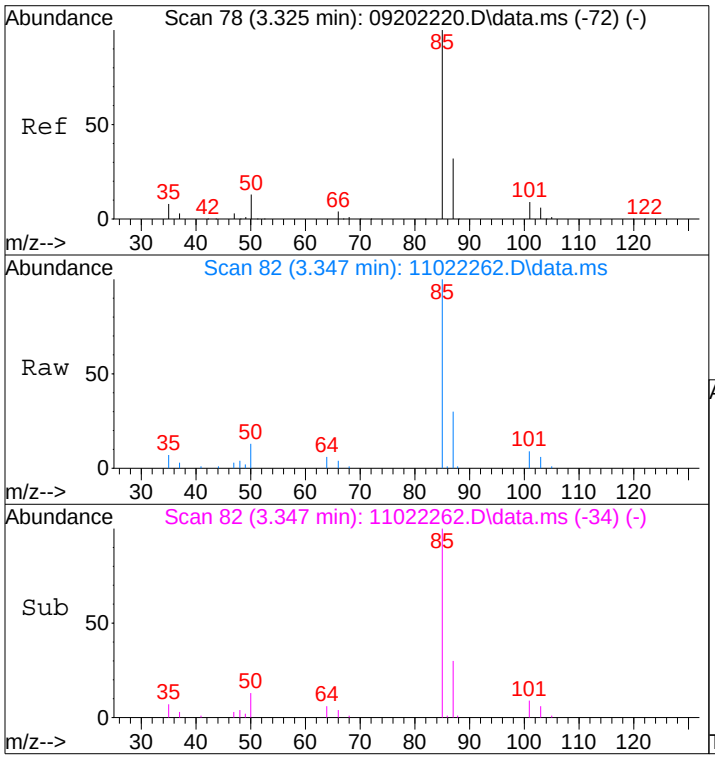
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022262.D Vial: 16
Acq On : 3 Nov 2022 19:32 Operator: SC
Sample : P2204818-005 (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:37:10 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



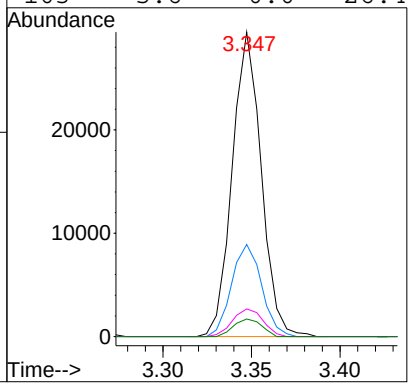
Revised Report

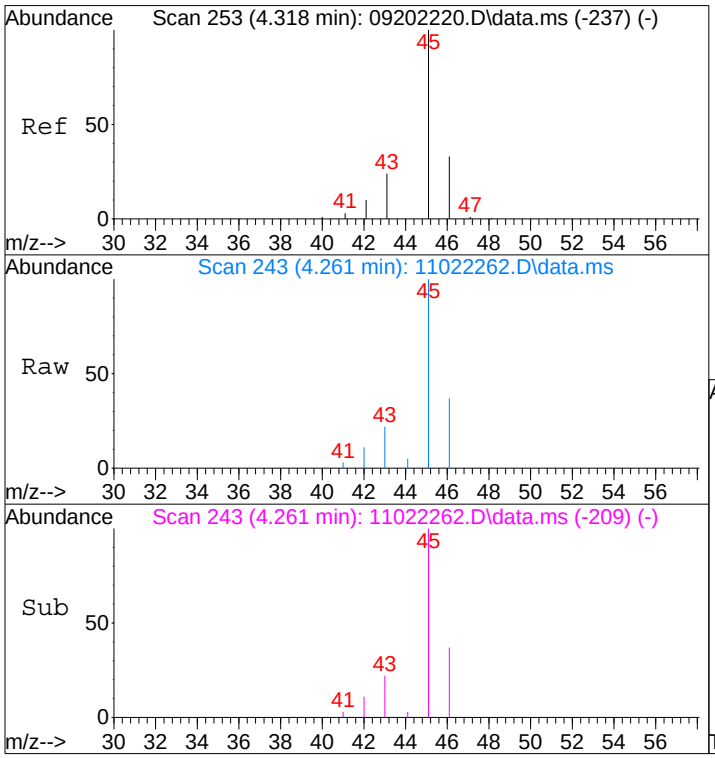


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.66 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.023 min
Lab File: 11022262.D
Acq: 3 Nov 2022 19:32

Tgt Ion: 85 Resp: 33569

Ion	Ratio	Lower	Upper
85	100		
87	31.3	12.6	52.6
101	9.6	0.0	29.6
103	5.6	0.0	26.4

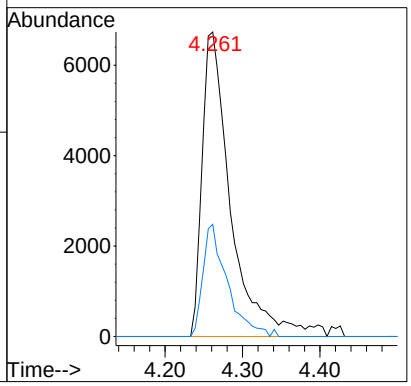


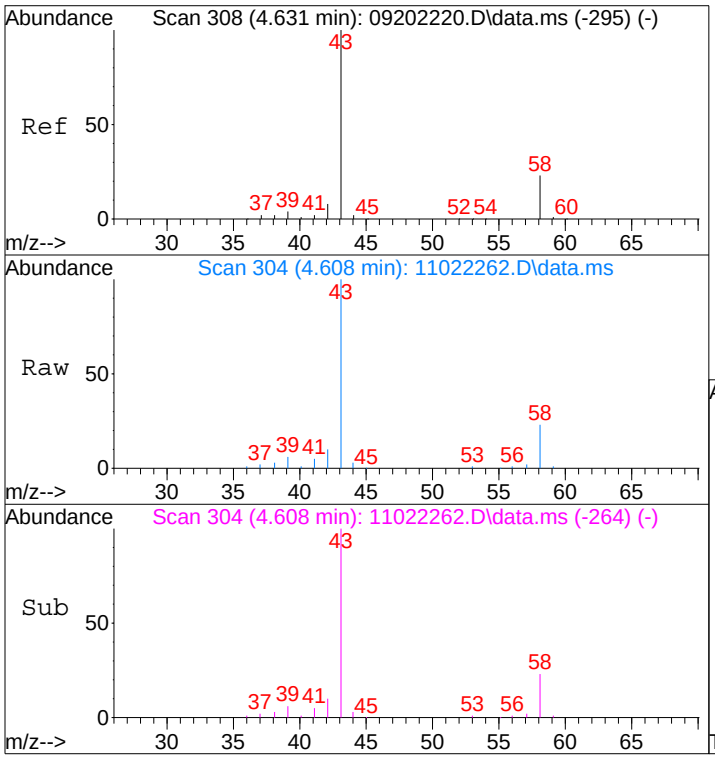


#10
Ethanol
Concen: 2.47 ng
RT: 4.26 min Scan# 243
Delta R.T. -0.057 min
Lab File: 11022262.D
Acq: 3 Nov 2022 19:32

Tgt Ion: 45 Resp: 17369

Ion	Ratio	Lower	Upper
45	100		
46	31.2	12.8	52.8

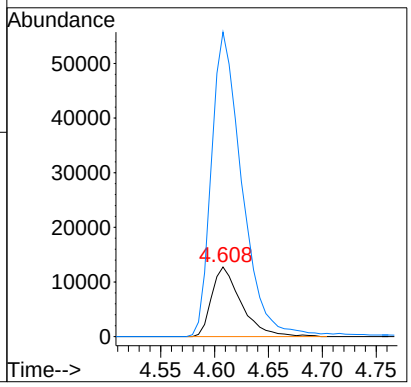


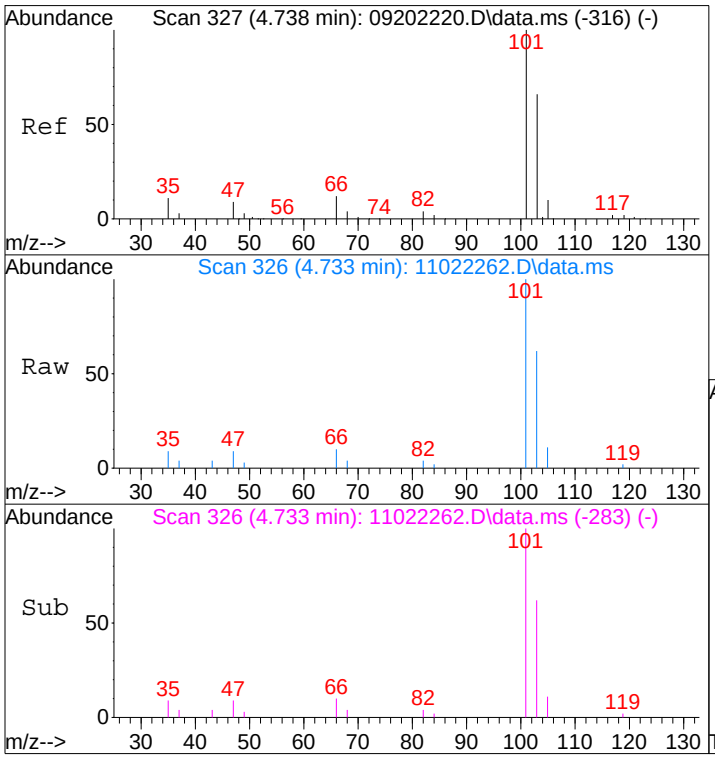


#13
Acetone
Concen: 4.23 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.023 min
Lab File: 11022262.D
Acq: 3 Nov 2022 19:32

Tgt Ion: 58 Resp: 24359

Ion	Ratio	Lower	Upper
58	100		
43	458.8	405.4	465.4

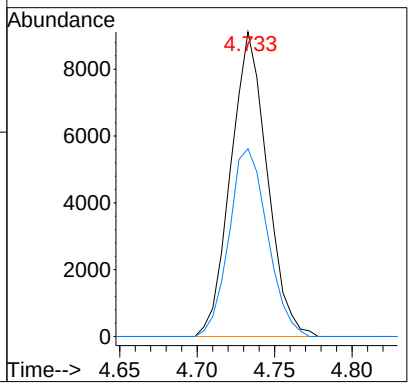


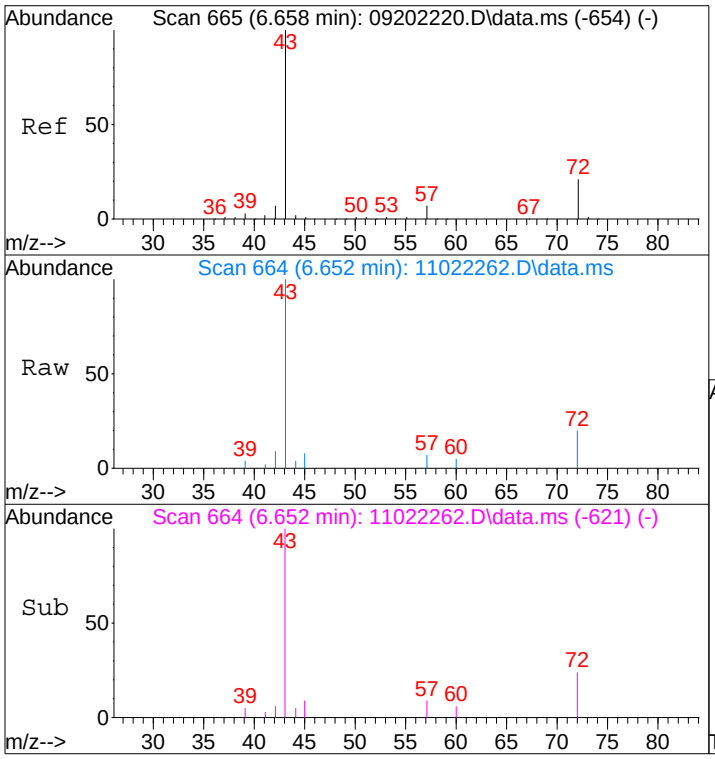


#14
Trichlorofluoromethane
Concen: 0.76 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.006 min
Lab File: 11022262.D
Acq: 3 Nov 2022 19:32

Tgt Ion:101 Resp: 14882

Ion	Ratio	Lower	Upper
101	100		
103	65.2	45.4	85.4

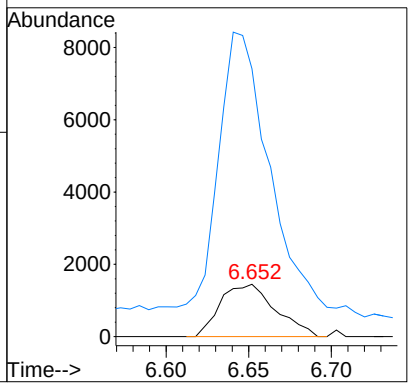


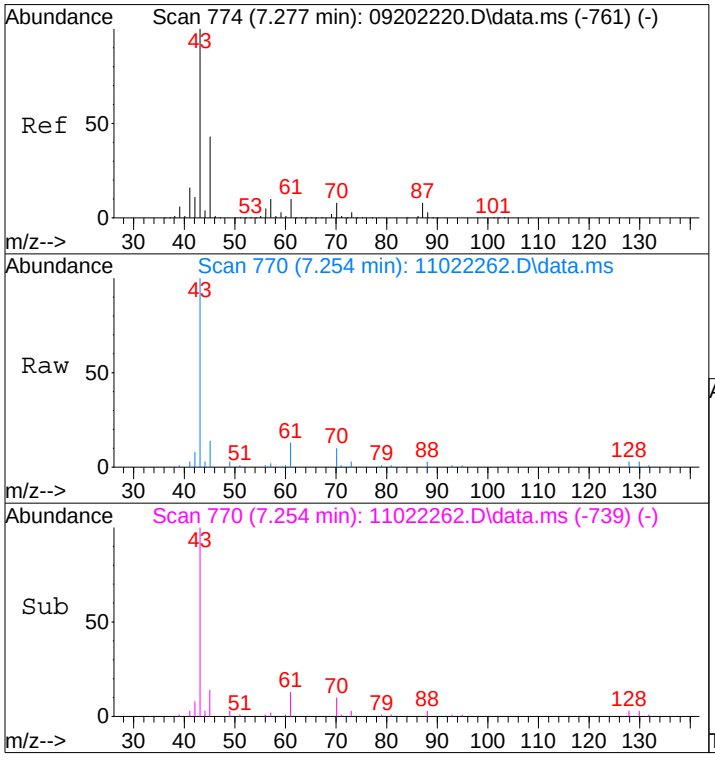


#27
2-Butanone (MEK)
Concen: 0.68 ng
RT: 6.65 min Scan# 664
Delta R.T. -0.006 min
Lab File: 11022262.D
Acq: 3 Nov 2022 19:32

Tgt Ion: 72 Resp: 3359

Ion	Ratio	Lower	Upper
72	100		
43	585.7	467.6	507.6#

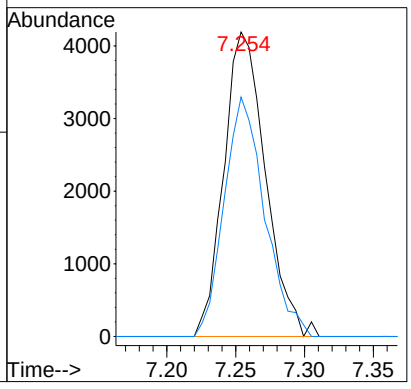




#30
Ethyl Acetate
Concen: 2.69 ng
RT: 7.25 min Scan# 770
Delta R.T. -0.023 min
Lab File: 11022262.D
Acq: 3 Nov 2022 19:32

Tgt Ion: 61 Resp: 8832

Ion	Ratio	Lower	Upper
61	100		
70	76.4	58.9	98.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022238.D Vial: 2
Acq On : 2 Nov 2022 22:41 Operator: SC
Sample : MB2 R9110222_1000mL Inst : MS09
Misc : S35-10282201

Quant Time: Nov 03 08:24:49 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/3/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	111070	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	536382	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	101748	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	210415	13.307	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.48%				
57) Toluene-d8 (SS2)	12.39	98	591248	13.694	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.52%				
73) Bromofluorobenzene (SS3)	16.79	174	213797	11.468	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%				
Target Compounds							Qvalue
2) Propene	3.30	42	692	0.062	ng		90
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.81	54	112	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D. d			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D. d			
13) Acetone	4.63	58	3444	0.577	ng	#	70
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	4.86	45	53	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.61	76	346	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.68	72	240	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	15192	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.87	78	731	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.26	84	168	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Revised Report

Data File : I:\MS09\DATA\2022 11\02\11022238.D Vial: 2
Acq On : 2 Nov 2022 22:41 Operator: SC
Sample : MB2 R9110222_1000mL Inst : MS09
Misc : S35-10282201

Quant Time: Nov 03 08:24:49 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0			N.D.
52) cis-1,3-Dichloropropene	0.00	75	0			N.D.
53) 4-Methyl-2-pentanone	0.00	58	0			N.D.
54) trans-1,3-Dichloropropene	0.00	75	0			N.D.
55) 1,1,2-Trichloroethane	0.00	97	0			N.D.
58) Toluene	12.53	91	105			N.D.
59) 2-Hexanone	12.93	43	112			N.D.
60) Dibromochloromethane	0.00	129	0			N.D.
61) 1,2-Dibromoethane	0.00	107	0			N.D.
62) n-Butyl Acetate	0.00	43	0			N.D.
63) n-Octane	0.00	57	0			N.D.
64) Tetrachloroethene	0.00	166	0			N.D.
65) Chlorobenzene	0.00	112	0			N.D.
66) Ethylbenzene	0.00	91	0			N.D.
67) m- & p-Xylenes	15.61	91	107			N.D.
68) Bromoform	0.00	173	0			N.D.
69) Styrene	0.00	104	0			N.D.
70) o-Xylene	0.00	91	0			N.D.
71) n-Nonane	0.00	43	0			N.D.
72) 1,1,2,2-Tetrachloroethane	0.00	83	0			N.D.
74) Cumene	0.00	105	0			N.D.
75) alpha-Pinene	0.00	93	0			N.D.
76) n-Propylbenzene	0.00	91	0			N.D.
77) 3-Ethyltoluene	0.00	105	0			N.D.
78) 4-Ethyltoluene	0.00	105	0			N.D.
79) 1,3,5-Trimethylbenzene	0.00	105	0			N.D.
80) alpha-Methylstyrene	0.00	118	0			N.D.
81) 2-Ethyltoluene	0.00	105	0			N.D.
82) 1,2,4-Trimethylbenzene	0.00	105	0			N.D.
83) n-Decane	0.00	58	0			N.D.
84) Benzyl Chloride	0.00	91	0			N.D.
85) 1,3-Dichlorobenzene	18.64	146	117			N.D.
86) 1,4-Dichlorobenzene	18.64	146	117			N.D.
87) sec-Butylbenzene	0.00	105	0			N.D.
88) 4-Isopropyltoluene (p-...	18.91	119	895			N.D.
89) 1,2,3-Trimethylbenzene	0.00	105	0			N.D.
90) 1,2-Dichlorobenzene	0.00	146	0			N.D.
91) d-Limonene	0.00	68	0			N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0			N.D.
93) n-Undecane	0.00	58	0			N.D.
94) 1,2,4-Trichlorobenzene	20.83	180	237			N.D.
95) Naphthalene	20.94	128	514			N.D.
96) n-Dodecane	0.00	58	0			N.D.
97) Hexachlorobutadiene	0.00	225	0			N.D.
98) Cyclohexanone	0.00	55	0			N.D.
99) tert-Butylbenzene	0.00	119	0			N.D.
100) n-Butylbenzene	0.00	91	0			N.D.
101) 1,1,1,2-Tetrachloroethane	0.00	131	0			N.D.

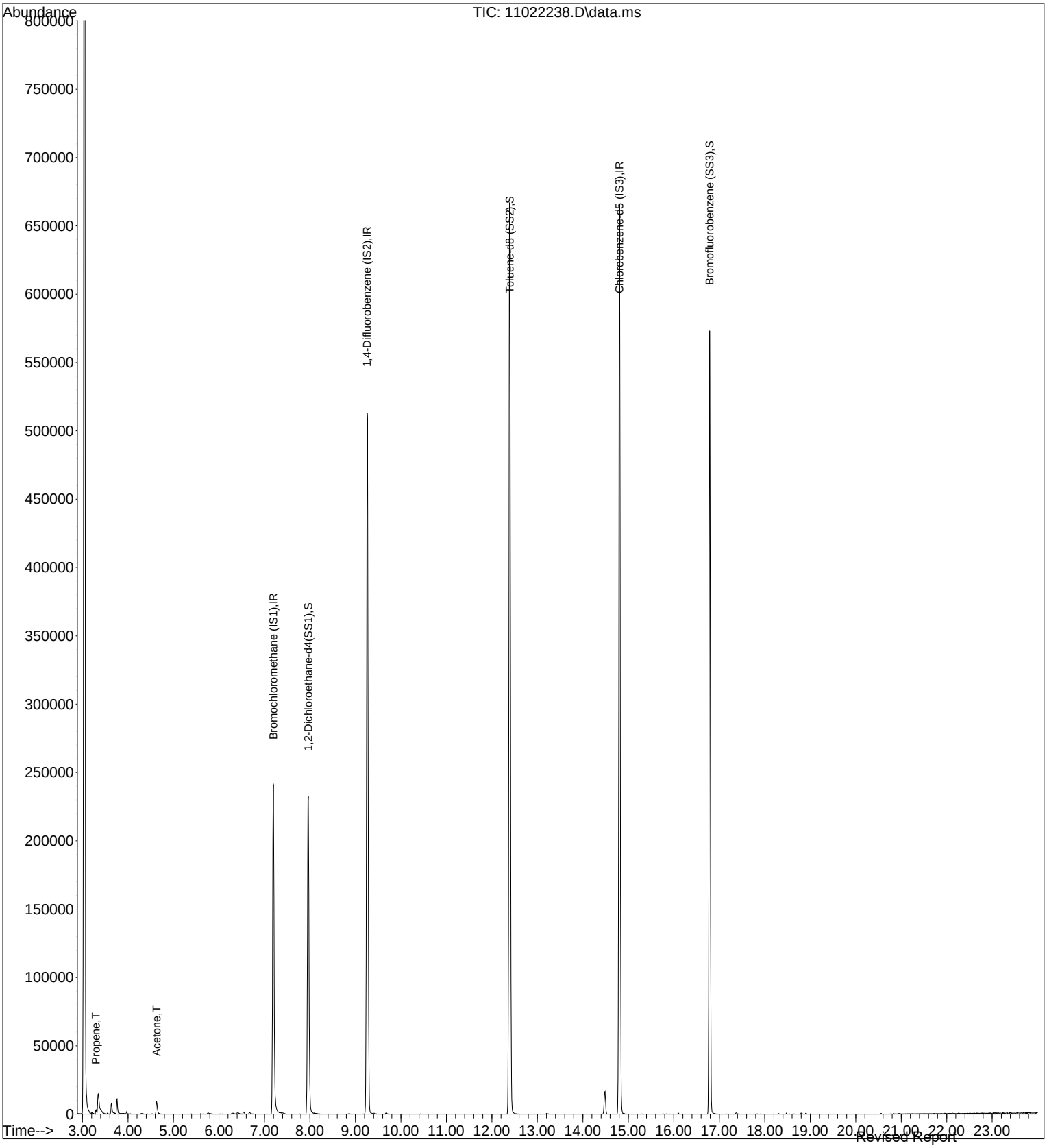
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022238.D Vial: 2
Acq On : 2 Nov 2022 22:41 Operator: SC
Sample : MB2 R9110222_1000mL Inst : MS09
Misc : S35-10282201

Quant Time: Nov 03 08:24:49 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022239.D Vial: 2
Acq On : 2 Nov 2022 23:13 Operator: SC
Sample : LCS2 R9110222 25ng Inst : MS09
Misc : S35-10282201/S35-10062205 (11/5)

Quant Time: Nov 03 08:25:17 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/3/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	138970	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	569617	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	110868	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	235321	11.894	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
57) Toluene-d8 (SS2)	12.40	98	629582	13.382	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%				
73) Bromofluorobenzene (SS3)	16.79	174	231681	11.405	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%				
Target Compounds							Qvalue
2) Propene	3.25	42	313175	22.281	ng		97
3) Dichlorodifluoromethan...	3.33	85	544243	20.790	ng		100
4) Chloromethane	3.47	50	332189	24.156	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	293650	21.966	ng		100
6) Vinyl Chloride	3.66	62	365428	23.941	ng		100
7) 1,3-Butadiene	3.77	54	322094	30.384	ng		94
8) Bromomethane	3.99	94	214029	22.137	ng		98
9) Chloroethane	4.14	64	152902	23.133	ng		99
10) Ethanol	4.32	45	833291	91.417	ng		100
11) Acetonitrile	4.44	41	438138	18.859	ng		100
12) Acrolein	4.52	56	286481	44.775	ng		100
13) Acetone	4.62	58	873289	116.855	ng	#	84
14) Trichlorofluoromethane	4.73	101	530451	20.891	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	1153010	41.711	ng		98
16) Acrylonitrile	5.00	53	631492	49.802	ng		99
17) 1,1-Dichloroethene	5.24	96	250628	23.280	ng		95
18) 2-Methyl-2-Propanol (t...	5.33	59	1308860	50.835	ng		98
19) Methylene Chloride	5.36	84	254494	22.786	ng		94
20) 3-Chloro-1-propene (Al...	5.44	41	379874	17.354	ng		93
21) Trichlorotrifluoroethane	5.56	151	274092	23.932	ng		98
22) Carbon Disulfide	5.58	76	1756819	47.039	ng		99
23) trans-1,2-Dichloroethene	6.14	61	383104	24.391	ng		97
24) 1,1-Dichloroethane	6.32	63	463562	24.277	ng		98
25) Methyl tert-Butyl Ether	6.35	73	787978	23.206	ng		96
26) Vinyl Acetate	6.44	86	138237	77.722	ng	#	94
27) 2-Butanone (MEK)	6.65	72	294223	46.264	ng		96
28) cis-1,2-Dichloroethene	7.08	61	367949	23.592	ng		97
29) Diisopropyl Ether	7.27	87	406534	46.172	ng	#	61
30) Ethyl Acetate	7.27	61	285938	67.236	ng		100
31) n-Hexane	7.28	57	427057	24.800	ng		99
32) Chloroform	7.36	83	481916	22.204	ng		100
34) Tetrahydrofuran (THF)	7.73	72	290234	47.074	ng	#	90
35) Ethyl tert-Butyl Ether	7.80	87	608741	46.707	ng		91
36) 1,2-Dichloroethane	8.11	62	418500	23.445	ng		100
38) 1,1,1-Trichloroethane	8.38	97	473074	23.341	ng		99
39) Isopropyl Acetate	9.19	61	1359	No Calib		#	
40) 1-Butanol	8.79	56	20512	No Calib		#	
41) Benzene	8.88	78	945041	23.866	ng		99
42) Carbon Tetrachloride	9.05	117	387512	21.811	ng		100
43) Cyclohexane	9.20	84	724913	49.044	ng		96
44) tert-Amyl Methyl Ether	9.57	73	1411853	47.295	ng		98
45) 1,2-Dichloropropane	9.84	63	235173	24.787	ng		99
46) Bromodichloromethane	10.06	83	393230	24.523	ng		100
47) Trichloroethene	10.13	130	312474	24.635	ng		100
48) 1,4-Dioxane	10.09	88	193942	24.795	ng		96
49) 2,2,4-Trimethylpentane...	10.21	57	1011612	25.136	ng		94
50) Methyl Methacrylate	10.38	100	196294	51.562	ng		95

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022239.D Vial: 2
Acq On : 2 Nov 2022 23:13 Operator: SC
Sample : LCS2 R9110222 25ng Inst : MS09
Misc : S35-10282201/S35-10062205 (11/5)

Quant Time: Nov 03 08:25:17 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.54	71	222237	24.936 ng	95
52) cis-1,3-Dichloropropene	11.24	75	409635	26.585 ng	98
53) 4-Methyl-2-pentanone	11.29	58	415192	49.338 ng	88
54) trans-1,3-Dichloropropene	11.93	75	375784	25.069 ng	99
55) 1,1,2-Trichloroethane	12.15	97	253600	24.142 ng	99
58) Toluene	12.53	91	1040125	25.169 ng	100
59) 2-Hexanone	12.88	43	1015405	44.274 ng	94
60) Dibromochloromethane	13.05	129	361746	27.085 ng	98
61) 1,2-Dibromoethane	13.37	107	298915	24.717 ng	99
62) n-Butyl Acetate	13.74	43	1032787	41.188 ng	96
63) n-Octane	13.89	57	213417	27.913 ng	95
64) Tetrachloroethene	14.00	166	352832	26.682 ng	99
65) Chlorobenzene	14.87	112	731314	26.165 ng	99
66) Ethylbenzene	15.38	91	1215704	25.665 ng	100
67) m- & p-Xylenes	15.63	91	1999456	51.329 ng	99
68) Bromoform	15.65	173	322900	27.904 ng	99
69) Styrene	16.07	104	696124	26.144 ng	99
70) o-Xylene	16.21	91	986005	25.617 ng	99
71) n-Nonane	16.58	43	519010	25.651 ng	94
72) 1,1,2,2-Tetrachloroethane	16.18	83	410376	25.271 ng	100
74) Cumene	17.00	105	1232914	25.924 ng	98
75) alpha-Pinene	17.49	93	638329	27.725 ng	97
76) n-Propylbenzene	17.65	91	1402816	24.710 ng	99
77) 3-Ethyltoluene	17.00	105	1232914	No Calib	
78) 4-Ethyltoluene	17.83	105	1166748	26.192 ng	99
79) 1,3,5-Trimethylbenzene	17.93	105	1036635	26.322 ng	98
80) alpha-Methylstyrene	17.00	118	2281	No Calib #	
81) 2-Ethyltoluene	17.00	105	1232914	No Calib	
82) 1,2,4-Trimethylbenzene	18.41	105	1052225	26.148 ng	98
83) n-Decane	17.00	58	10192	No Calib	
84) Benzyl Chloride	18.54	91	1219802	45.931 ng	99
85) 1,3-Dichlorobenzene	18.55	146	600450	24.634 ng	99
86) 1,4-Dichlorobenzene	18.63	146	563831	23.210 ng	99
87) sec-Butylbenzene	18.72	105	1289139	24.531 ng	99
88) 4-Isopropyltoluene (p-...	18.91	119	1140760	24.298 ng	98
89) 1,2,3-Trimethylbenzene	17.00	105	1232914	No Calib	
90) 1,2-Dichlorobenzene	19.01	146	593469	24.724 ng	98
91) d-Limonene	19.06	68	336205	26.448 ng	99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	427660	48.113 ng	96
93) n-Undecane	17.93	58	17563	No Calib	
94) 1,2,4-Trichlorobenzene	20.82	180	767525	45.075 ng	99
95) Naphthalene	20.92	128	876991	20.341 ng	99
96) n-Dodecane	18.91	58	23004	No Calib	
97) Hexachlorobutadiene	21.28	225	304841	23.079 ng	100
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.40	119	1006509	25.220 ng	99
100) n-Butylbenzene	19.37	91	974597	23.332 ng	99
101) 1,1,1,2-Tetrachloroethane	14.85	131	294781	26.123 ng	99

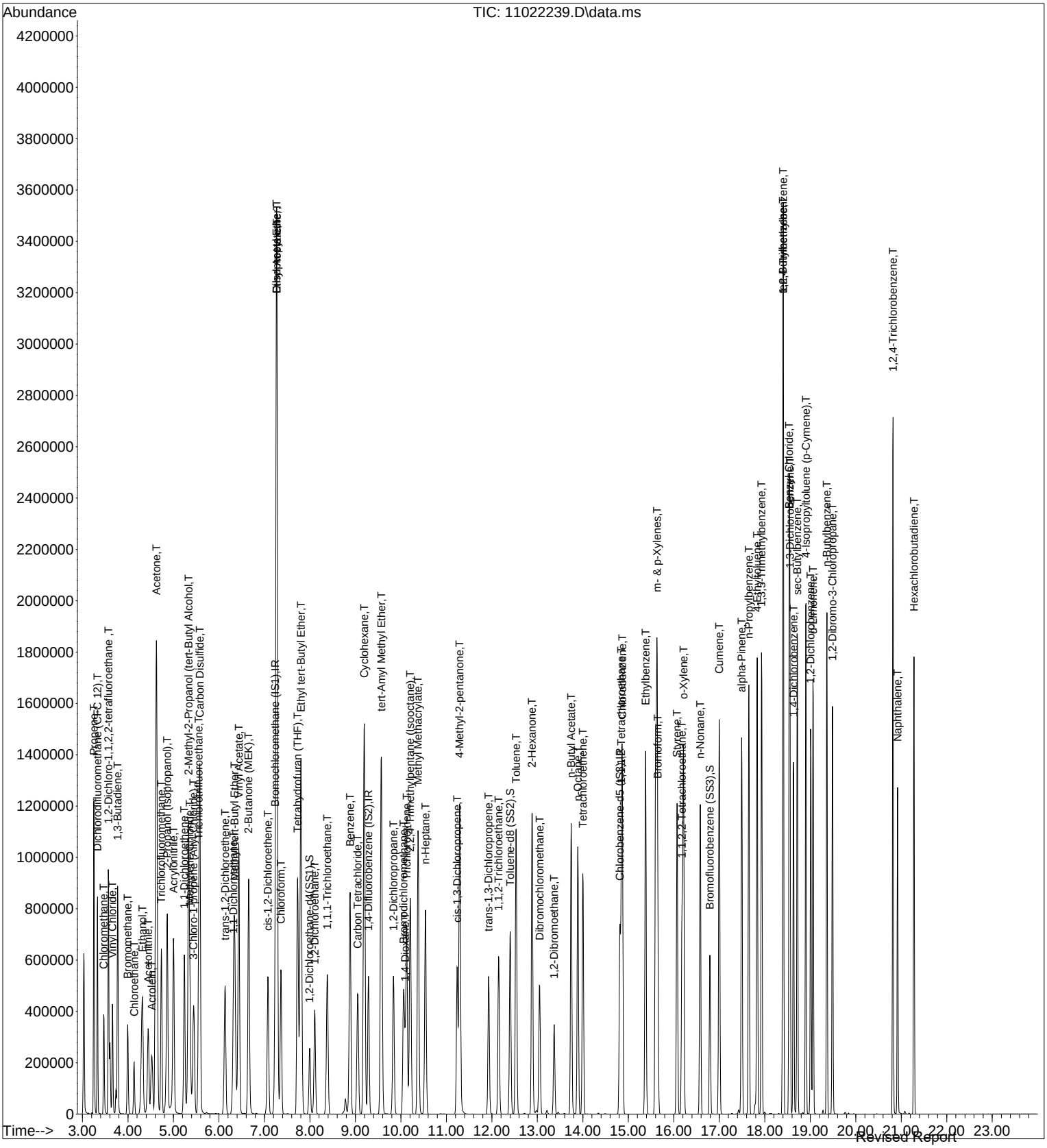
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022239.D Vial: 2
Acq On : 2 Nov 2022 23:13 Operator: SC
Sample : LCS2 R9110222 25ng Inst : MS09
Misc : S35-10282201/S35-10062205 (11/5)

Quant Time: Nov 03 08:25:17 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022240.D Vial: 2
Acq On : 2 Nov 2022 23:45 Operator: SC
Sample : LCSD2 R9110222 25ng Inst : MS09
Misc : S35-10282201/S35-10062205 (11/5)

Quant Time: Nov 03 08:27:25 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/3/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	136402	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	567784	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	107462	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	235199	12.112	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	12.40	98	618227	13.557	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.48%				
73) Bromofluorobenzene (SS3)	16.79	174	228497	11.605	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
Target Compounds							Qvalue
2) Propene	3.25	42	321035	23.270	ng		97
3) Dichlorodifluoromethan...	3.32	85	543928	21.169	ng		100
4) Chloromethane	3.47	50	332862	24.660	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	295081	22.489	ng		100
6) Vinyl Chloride	3.66	62	367521	24.531	ng		100
7) 1,3-Butadiene	3.77	54	323819	31.122	ng		90
8) Bromomethane	3.99	94	215503	22.710	ng		98
9) Chloroethane	4.13	64	153741	23.697	ng		98
10) Ethanol	4.32	45	839404	93.822	ng		100
11) Acetonitrile	4.45	41	441881	19.379	ng		99
12) Acrolein	4.52	56	290078	46.191	ng		100
13) Acetone	4.63	58	878200	119.724	ng	#	84
14) Trichlorofluoromethane	4.73	101	531066	21.309	ng		99
15) 2-Propanol (Isopropanol)	4.87	45	1144806	42.194	ng		98
16) Acrylonitrile	5.01	53	639113	51.352	ng		99
17) 1,1-Dichloroethene	5.24	96	253343	23.976	ng		96
18) 2-Methyl-2-Propanol (t...	5.33	59	1307056	51.721	ng		97
19) Methylene Chloride	5.36	84	254239	23.191	ng		93
20) 3-Chloro-1-propene (Al...	5.45	41	399575	18.597	ng		95
21) Trichlorotrifluoroethane	5.56	151	274115	24.385	ng		97
22) Carbon Disulfide	5.58	76	1756084	47.905	ng		99
23) trans-1,2-Dichloroethene	6.14	61	387034	25.105	ng		97
24) 1,1-Dichloroethane	6.32	63	466589	24.895	ng		98
25) Methyl tert-Butyl Ether	6.35	73	793337	23.804	ng		96
26) Vinyl Acetate	6.44	86	137465	78.743	ng		98
27) 2-Butanone (MEK)	6.65	72	298208	47.773	ng		94
28) cis-1,2-Dichloroethene	7.08	61	372052	24.305	ng		96
29) Diisopropyl Ether	7.27	87	407667	47.172	ng	#	62
30) Ethyl Acetate	7.27	61	287774	68.942	ng		100
31) n-Hexane	7.28	57	427599	25.299	ng		99
32) Chloroform	7.37	83	485846	22.806	ng		100
34) Tetrahydrofuran (THF)	7.73	72	289354	47.814	ng		97
35) Ethyl tert-Butyl Ether	7.80	87	612800	47.904	ng		91
36) 1,2-Dichloroethane	8.11	62	420514	24.001	ng		100
38) 1,1,1-Trichloroethane	8.38	97	473495	23.437	ng		99
39) Isopropyl Acetate	9.19	61	1488	No Calib		#	
40) 1-Butanol	8.79	56	20836	No Calib		#	
41) Benzene	8.88	78	947891	24.015	ng		99
42) Carbon Tetrachloride	9.05	117	388325	21.927	ng		99
43) Cyclohexane	9.20	84	729543	49.516	ng		97
44) tert-Amyl Methyl Ether	9.57	73	1424607	47.876	ng		98
45) 1,2-Dichloropropane	9.84	63	237859	25.151	ng		99
46) Bromodichloromethane	10.06	83	394114	24.658	ng		100
47) Trichloroethene	10.13	130	313951	24.832	ng		100
48) 1,4-Dioxane	10.09	88	194650	24.966	ng		94
49) 2,2,4-Trimethylpentane...	10.21	57	1015374	25.311	ng		94
50) Methyl Methacrylate	10.38	100	198876	52.409	ng		95

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022240.D Vial: 2
Acq On : 2 Nov 2022 23:45 Operator: SC
Sample : LCSD2 R9110222 25ng Inst : MS09
Misc : S35-10282201/S35-10062205 (11/5)

Quant Time: Nov 03 08:27:25 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	224799	25.305 ng		95
52) cis-1,3-Dichloropropene	11.24	75	412156	26.835 ng		98
53) 4-Methyl-2-pentanone	11.30	58	416349	49.636 ng		88
54) trans-1,3-Dichloropropene	11.93	75	376642	25.207 ng		99
55) 1,1,2-Trichloroethane	12.15	97	253560	24.216 ng		100
58) Toluene	12.53	91	1045374	26.098 ng		100
59) 2-Hexanone	12.89	43	1024049	46.066 ng		94
60) Dibromochloromethane	13.05	129	364254	28.137 ng		98
61) 1,2-Dibromoethane	13.37	107	301858	25.751 ng		100
62) n-Butyl Acetate	13.74	43	1037306	42.680 ng		96
63) n-Octane	13.89	57	213517	28.811 ng		96
64) Tetrachloroethene	14.01	166	351328	27.411 ng		100
65) Chlorobenzene	14.87	112	730527	26.965 ng		99
66) Ethylbenzene	15.38	91	1223258	26.643 ng		100
67) m- & p-Xylenes	15.63	91	2007286	53.163 ng		99
68) Bromoform	15.65	173	325179	28.991 ng		100
69) Styrene	16.07	104	698045	27.047 ng		99
70) o-Xylene	16.21	91	999363	26.787 ng		100
71) n-Nonane	16.58	43	526953	26.869 ng		94
72) 1,1,2,2-Tetrachloroethane	16.18	83	415854	26.420 ng		100
74) Cumene	17.00	105	1235582	26.803 ng		99
75) alpha-Pinene	17.49	93	642945	28.811 ng		97
76) n-Propylbenzene	17.65	91	1413777	25.692 ng		99
77) 3-Ethyltoluene	17.00	105	1235582	No Calib		
78) 4-Ethyltoluene	17.83	105	1200117	27.795 ng		97
79) 1,3,5-Trimethylbenzene	17.93	105	1038285	27.200 ng		99
80) alpha-Methylstyrene	17.00	118	2043	No Calib	#	
81) 2-Ethyltoluene	17.00	105	1235582	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1059697	27.168 ng		98
83) n-Decane	17.00	58	7949	No Calib		
84) Benzyl Chloride	18.54	91	1253572	48.699 ng		100
85) 1,3-Dichlorobenzene	18.55	146	605227	25.617 ng		98
86) 1,4-Dichlorobenzene	18.63	146	568357	24.138 ng		98
87) sec-Butylbenzene	18.72	105	1299642	25.514 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	1144369	25.147 ng		98
89) 1,2,3-Trimethylbenzene	17.00	105	1235582	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	597019	25.660 ng		98
91) d-Limonene	19.06	68	340373	27.625 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	442292	51.336 ng		96
93) n-Undecane	17.93	58	17613	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	801253	48.547 ng		99
95) Naphthalene	20.92	128	949015	22.709 ng		100
96) n-Dodecane	18.89	58	25970	No Calib	#	
97) Hexachlorobutadiene	21.28	225	316065	24.687 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	1013437	26.199 ng		100
100) n-Butylbenzene	19.37	91	985069	24.330 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	296317	27.091 ng		99

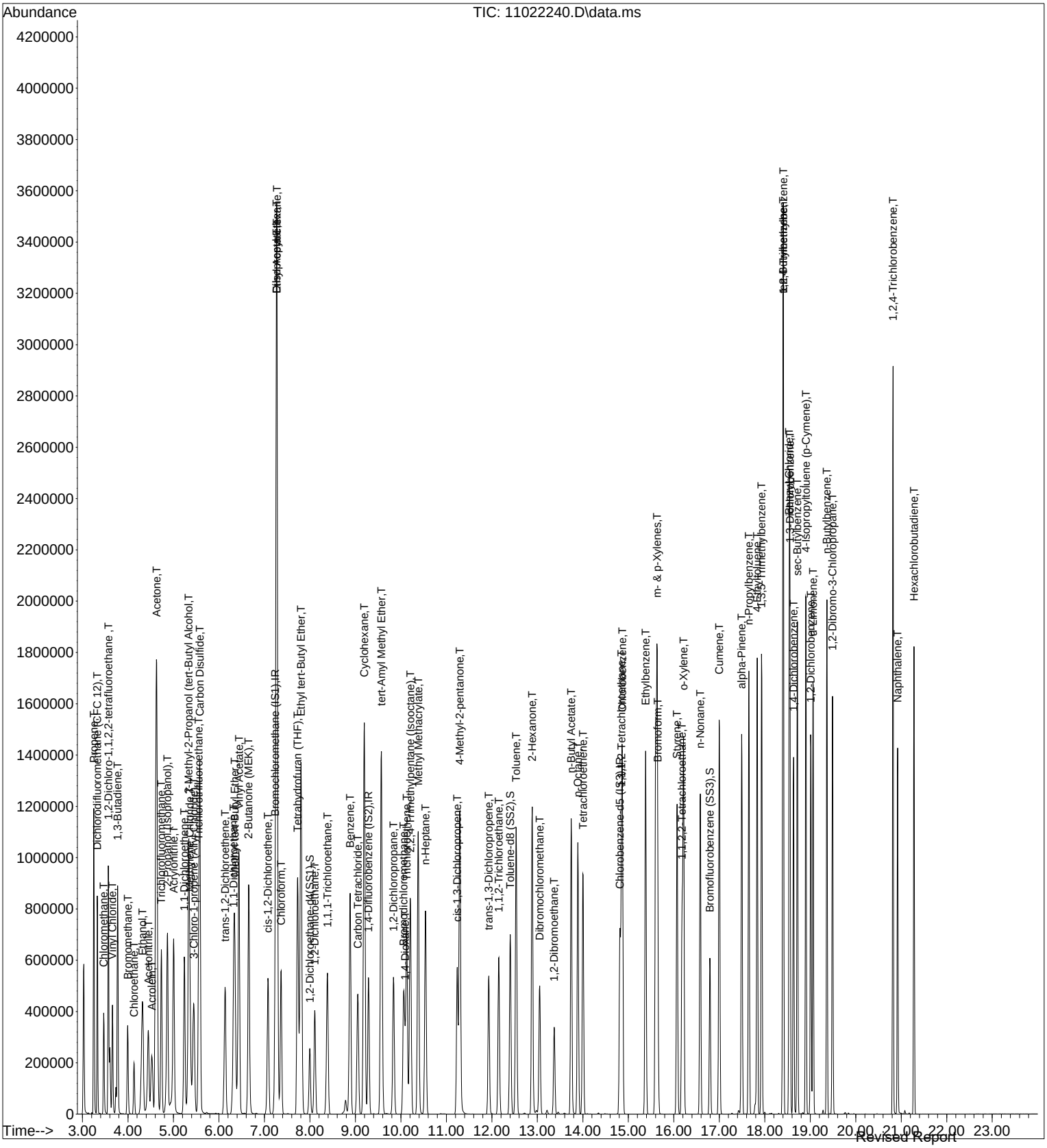
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022240.D Vial: 2
Acq On : 2 Nov 2022 23:45 Operator: SC
Sample : LCSD2 R9110222 25ng Inst : MS09
Misc : S35-10282201/S35-10062205 (11/5)

Quant Time: Nov 03 08:27:25 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022263.D Vial: 16
Acq On : 3 Nov 2022 20:04 Operator: SC
Sample : P2204818-005dup (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:40:41 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/7/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	100776	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	524049	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	103206	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	201287	14.030	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.24%				
57) Toluene-d8 (SS2)	12.39	98	579373	13.229	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
73) Bromofluorobenzene (SS3)	16.79	174	215354	11.388	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.35	85	33086	1.743	ng		99
4) Chloromethane	3.50	50	2387	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	730	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.01	94	108	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	16977	2.568	ng		95
11) Acetonitrile	4.44	41	1262	N.D.			
12) Acrolein	4.52	56	448	N.D.			
13) Acetone	4.61	58	23754	4.383	ng		90
14) Trichlorofluoromethane	4.73	101	14715	0.799	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	5831	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.31	59	354	N.D.			
19) Methylene Chloride	5.33	84	1851	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3038	N.D.			
22) Carbon Disulfide	0.00	76	0	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.65	72	3620	0.785	ng	#	78
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.25	61	8610	2.792	ng		94
31) n-Hexane	7.27	57	2360	N.D.			
32) Chloroform	7.33	83	989	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.07	62	262	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	15397	No Calib		#	
40) 1-Butanol	8.80	56	2078	No Calib		#	
41) Benzene	8.87	78	6822	N.D.			
42) Carbon Tetrachloride	9.03	117	4759	N.D.			
43) Cyclohexane	9.18	84	556	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.10	130	168	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	6030	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Revised Report

Data File : I:\MS09\DATA\2022 11\02\11022263.D Vial: 16
Acq On : 3 Nov 2022 20:04 Operator: SC
Sample : P2204818-005dup (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:40:41 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.52	71	559	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.52	91	16753	N.D.		
59) 2-Hexanone	12.91	43	635	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.76	43	1719	N.D.		
63) n-Octane	13.88	57	323	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.38	91	3140	N.D.		
67) m- & p-Xylenes	15.60	91	6727	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.08	104	590	N.D.		
70) o-Xylene	16.21	91	2549	N.D.		
71) n-Nonane	16.58	43	1059	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	17.49	93	1564	N.D.		
76) n-Propylbenzene	17.65	91	632	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.83	105	725	N.D.		
79) 1,3,5-Trimethylbenzene	17.94	105	563	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.40	105	1982	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.63	146	126	N.D.		
86) 1,4-Dichlorobenzene	18.63	146	126	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	18.91	119	2627	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.06	68	343	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.93	128	300	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	177	N.D.		
100) n-Butylbenzene	19.36	91	375	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

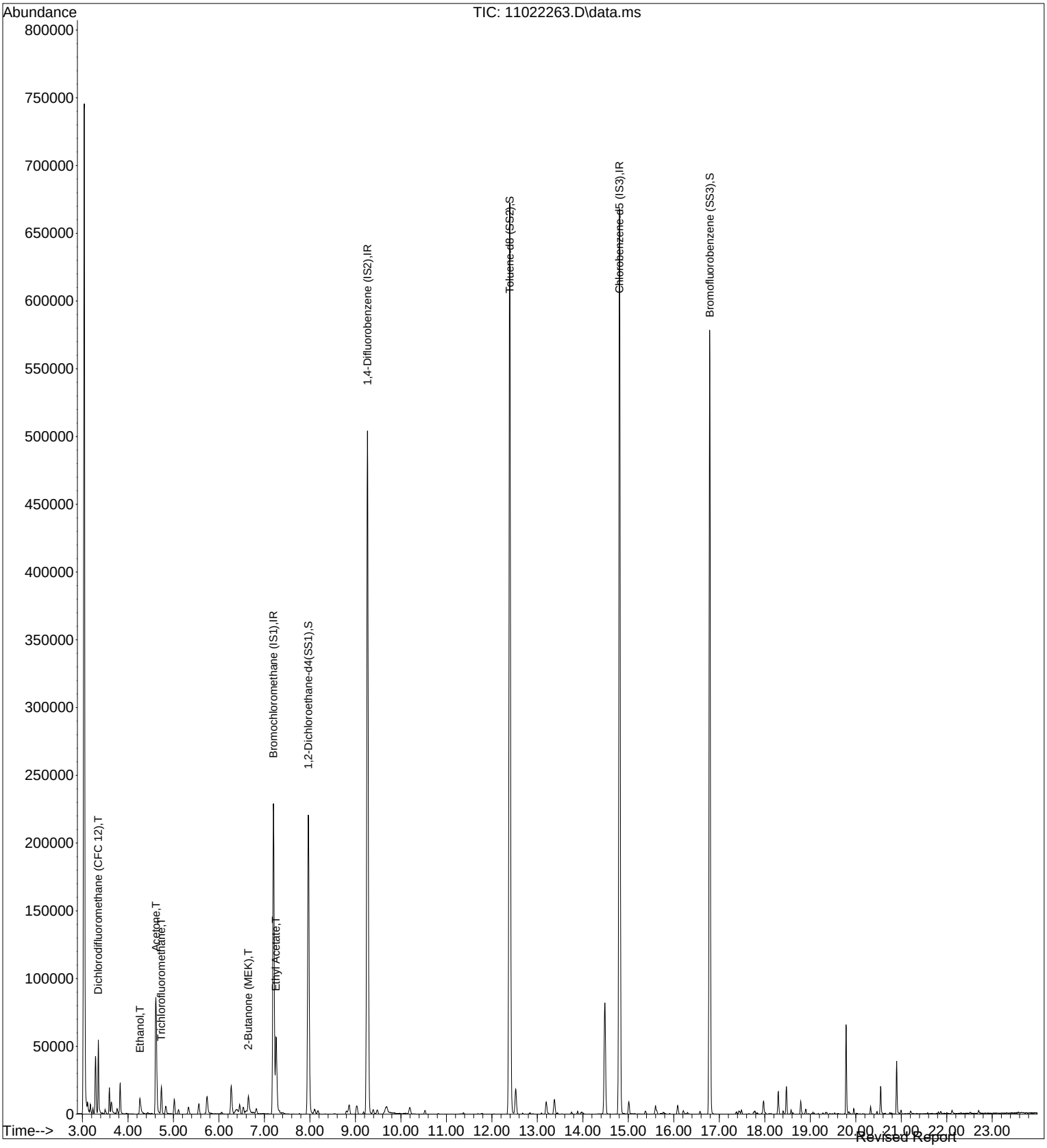
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022263.D Vial: 16
Acq On : 3 Nov 2022 20:04 Operator: SC
Sample : P2204818-005dup (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:40:41 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022263.D Vial: 16
Acq On : 3 Nov 2022 20:04 Operator: SC
Sample : P2204818-005dup (1000mL) Inst : MS09
Misc : S35-10282201

11/7/22

Quant Time: Nov 07 09:40:41 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	100776	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	524049	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	103206	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	201287	14.030	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.24%				
57) Toluene-d8 (SS2)	12.39	98	579373	13.229	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
73) Bromofluorobenzene (SS3)	16.79	174	215354	11.388	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	33086	1.743	ng		99
10) Ethanol	4.26	45	16977	2.568	ng		95
13) Acetone	4.61	58	23754	4.383	ng		90
14) Trichlorofluoromethane	4.73	101	14715	0.799	ng		99
27) 2-Butanone (MEK)	6.65	72	3620	0.785	ng	#	78
30) Ethyl Acetate	7.25	61	8610	2.792	ng		94

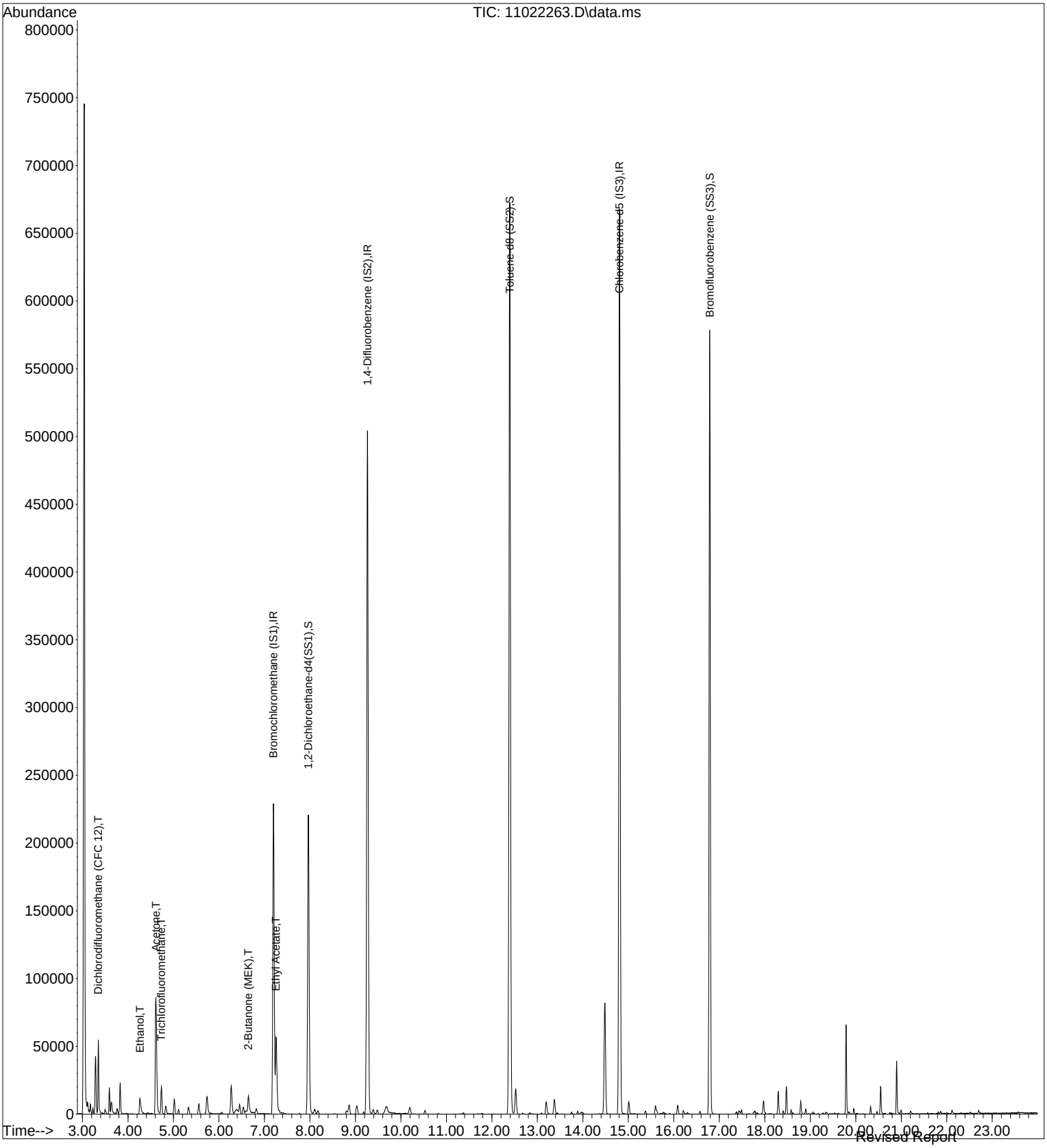
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

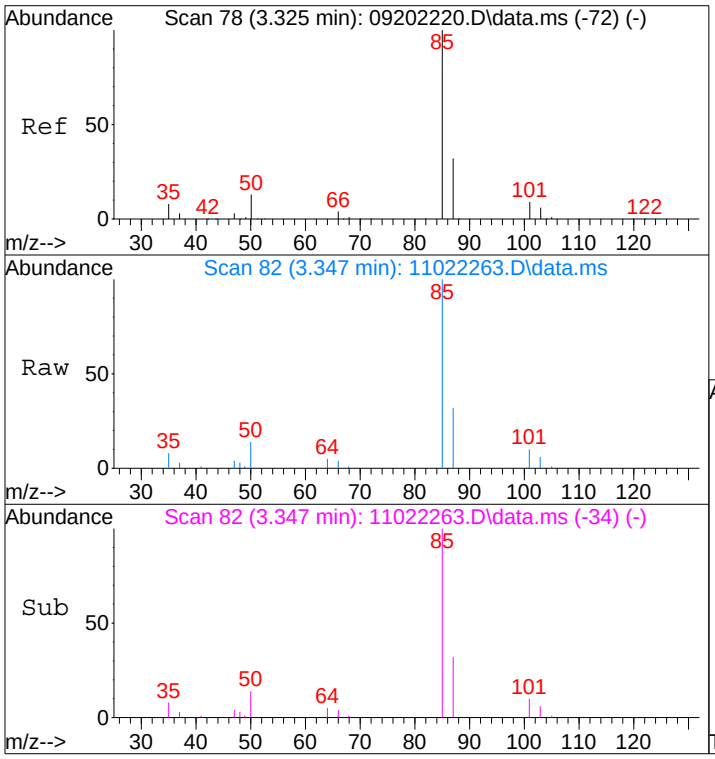
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022263.D Vial: 16
Acq On : 3 Nov 2022 20:04 Operator: SC
Sample : P2204818-005dup (1000mL) Inst : MS09
Misc : S35-10282201

Quant Time: Nov 07 09:40:41 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



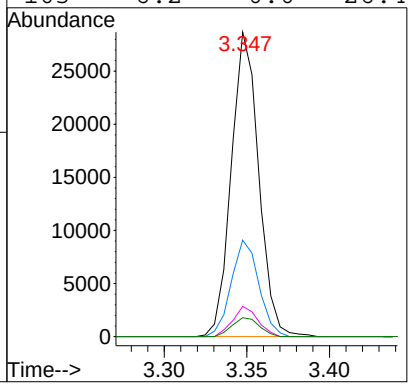
Revised Report

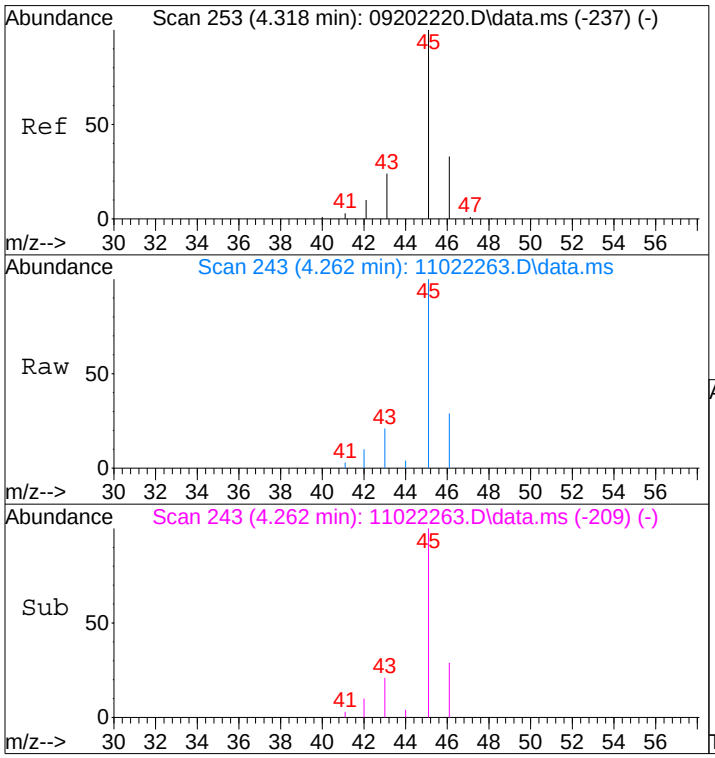


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.74 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.023 min
Lab File: 11022263.D
Acq: 3 Nov 2022 20:04

Tgt Ion: 85 Resp: 33086

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.6	52.6
101	9.1	0.0	29.6
103	6.2	0.0	26.4

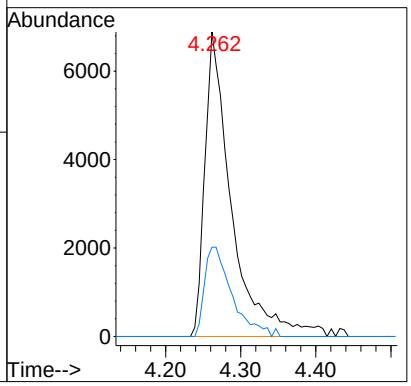


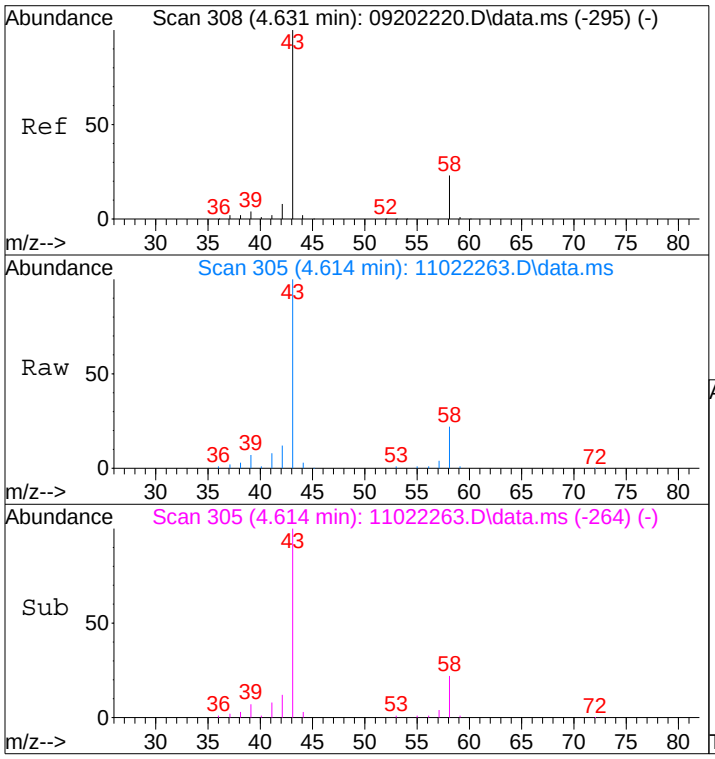


#10
Ethanol
Concen: 2.57 ng
RT: 4.26 min Scan# 243
Delta R.T. -0.057 min
Lab File: 11022263.D
Acq: 3 Nov 2022 20:04

Tgt Ion: 45 Resp: 16977

Ion	Ratio	Lower	Upper
45	100		
46	30.2	12.8	52.8

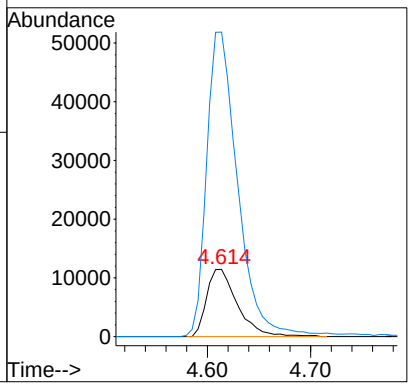


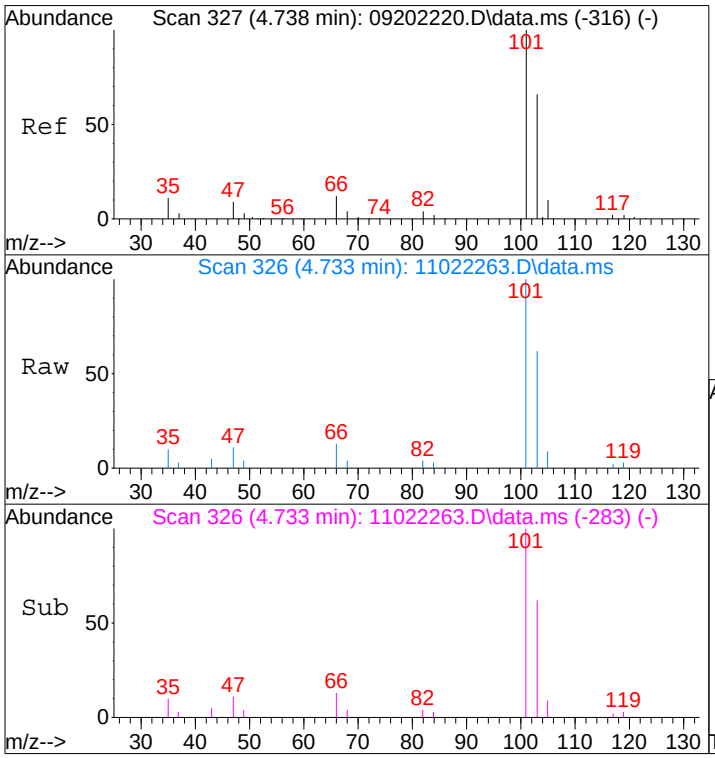


#13
Acetone
Concen: 4.38 ng
RT: 4.61 min Scan# 305
Delta R.T. -0.017 min
Lab File: 11022263.D
Acq: 3 Nov 2022 20:04

Tgt Ion: 58 Resp: 23754

Ion	Ratio	Lower	Upper
58	100		
43	460.3	405.4	465.4

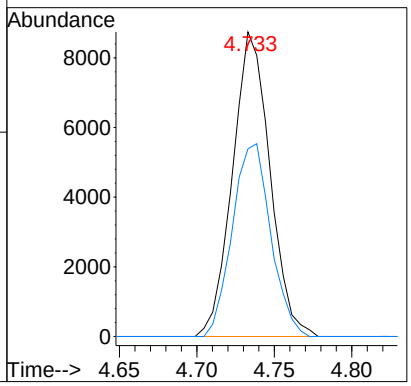


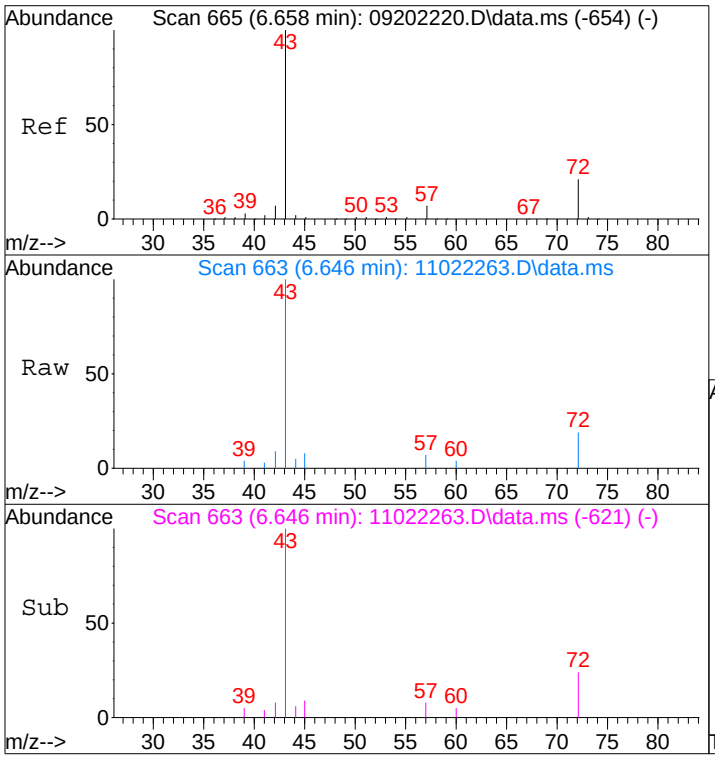


#14
Trichlorofluoromethane
Concen: 0.80 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.006 min
Lab File: 11022263.D
Acq: 3 Nov 2022 20:04

Tgt Ion:101 Resp: 14715

Ion	Ratio	Lower	Upper
101	100		
103	64.9	45.4	85.4

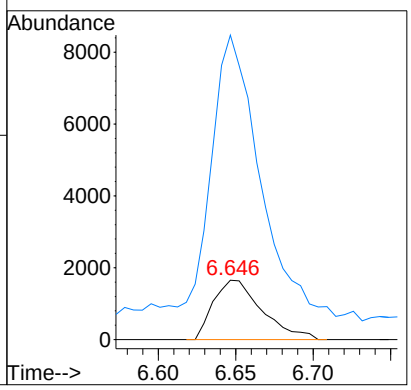


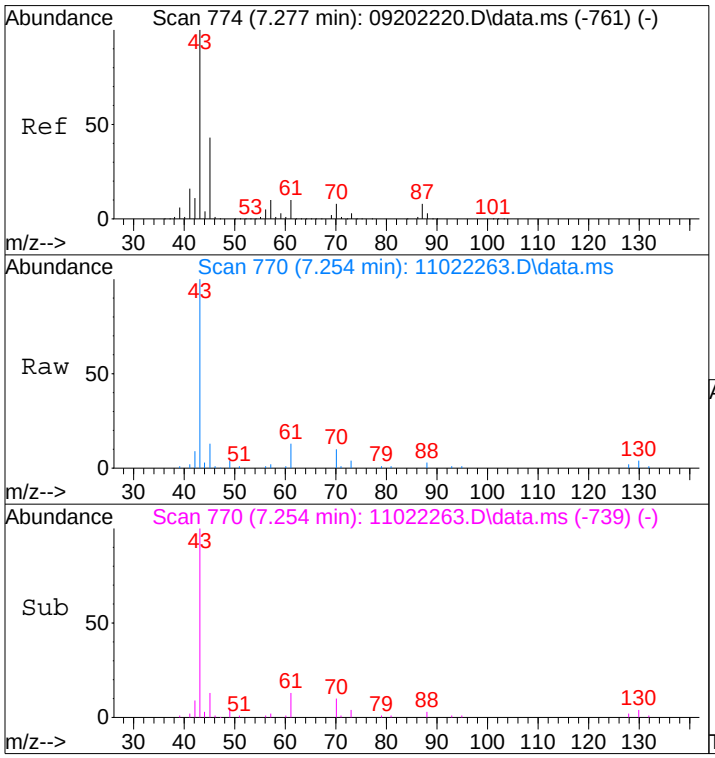


#27
2-Butanone (MEK)
Concen: 0.78 ng
RT: 6.65 min Scan# 663
Delta R.T. -0.011 min
Lab File: 11022263.D
Acq: 3 Nov 2022 20:04

Tgt Ion: 72 Resp: 3620

Ion	Ratio	Lower	Upper
72	100		
43	546.7	467.6	507.6#

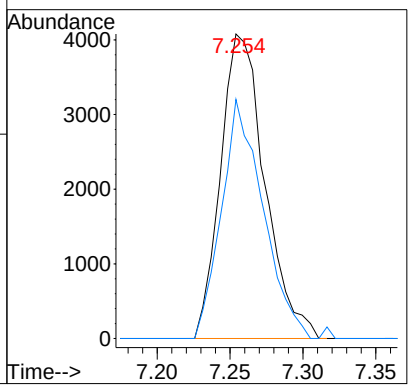




#30
Ethyl Acetate
Concen: 2.79 ng
RT: 7.25 min Scan# 770
Delta R.T. -0.023 min
Lab File: 11022263.D
Acq: 3 Nov 2022 20:04

Tgt Ion: 61 Resp: 8610

Ion	Ratio	Lower	Upper
61	100		
70	73.6	58.9	98.9



Response Factor Report MS09

Method Path : I:\MS09\METHODS\
Method File : R9092022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Sep 20 20:44:12 2022
Response Via : Initial Calibration

9/21/22

Calibration Files
0.1 =09202215.D 0.2 =09202216.D 0.5 =09202217.D 1.0 =09202218.D 5.0 =09202219.D 25 =09202
100 =09202222.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene	1.265	1.076	1.208	1.132	1.432	1.181	1.356	1.464	1.264	11.16
3)	T	Dichlorodifluo...	2.672	2.390	2.723	2.449	2.247	2.213	2.096	2.047	2.355	10.63
4)	T	Chloromethane	1.466	1.407	1.557	1.373	1.096	1.174	1.034	0.789	1.237	20.90
5)	T	1,2-Dichloro-1...	1.260	1.234	1.340	1.270	1.171	1.169	1.102	1.074	1.202	7.48
6)	T	Vinyl Chloride	1.485	1.333	1.549	1.454	1.330	1.326	1.267	1.240	1.373	8.03
7)	T	1,3-Butadiene	0.909	0.860	1.013	0.965	0.945	0.974	0.971	0.990	0.954	5.11
8)	T	Bromomethane	0.941	0.852	0.966	0.917	0.829	0.850	0.807	0.795	0.870	7.36
9)	T	Chloroethane	0.615	0.610	0.676	0.620	0.571	0.565	0.548	0.551	0.595	7.35
10)	T	Ethanol	0.668	0.915	0.980	0.894	0.827	0.770	0.749	0.756	0.820	12.60
11)	T	Acetonitrile	2.091	2.096	2.344	2.183	2.079	1.982	1.956	1.987	2.090	6.10
12)	T	Acrolein	0.560	0.512	0.637	0.611	0.570	0.575	0.566	0.573	0.576	6.40
13)	T	Acetone	0.828	0.774	0.740	0.672	0.603	0.598	0.581	0.582	0.672	14.45
14)	T	Trichlorofluor...	2.619	2.406	2.545	2.359	2.162	2.140	2.047	1.993	2.284	10.17
15)	T	2-Propanol (Is...	3.002	2.881	3.200	2.891	1.977	2.393	1.891	1.655	2.486	23.59
16)	T	Acrylonitrile	0.949	1.016	1.301	1.255	1.178	1.161	1.131	1.134	1.141	10.11
17)	T	1,1-Dichloroet...	0.995	0.931	1.100	0.999	0.931	0.949	0.915	0.928	0.968	6.37
18)	T	2-Methyl-2-Pro...	2.644	2.525	2.864	2.641	2.209	2.612	2.057	0.975	2.316	25.92
19)	T	Methylene Chlo...	1.128	1.002	1.085	1.032	0.961	0.967	0.936	0.927	1.005	7.20
20)	T	3-Chloro-1-pro...	2.261	2.163	2.252	2.322	1.885	1.707	1.602	1.561	1.969	16.12
21)	T	Trichlorotrifl...	1.116	1.075	1.150	1.055	0.977	0.993	0.951	0.925	1.030	7.88
22)	T	Carbon Disulfide	3.543	3.353	3.710	3.428	3.236	3.325	3.181	3.098	3.359	5.93
23)	T	trans-1,2-Dich...	1.374	1.372	1.560	1.467	1.404	1.409	1.360	1.357	1.413	4.92
24)	T	1,1-Dichloroet...	1.989	1.715	1.889	1.747	1.631	1.625	1.575	1.570	1.718	8.87
25)	T	Methyl tert-Bu...	3.283	3.069	3.408	3.176	3.029	3.097	2.902	2.469	3.054	9.27
26)	T	Vinyl Acetate		0.118	0.151	0.159	0.167	0.179	0.174	0.171	0.160	12.98
27)	T	2-Butanone (MEK)	0.514	0.585	0.643	0.600	0.575	0.579	0.560	0.519	0.572	7.35
28)	T	cis-1,2-Dichlo...	1.488	1.383	1.554	1.433	1.357	1.367	1.320	1.322	1.403	5.92
29)	T	Diisopropyl Ether	0.831	0.826	0.898	0.795	0.747	0.766	0.742	0.731	0.792	7.21
30)	T	Ethyl Acetate	0.374	0.371	0.413	0.388	0.377	0.382	0.375	0.379	0.383	3.47
31)	T	n-Hexane	1.721	1.556	1.737	1.562	1.463	1.479	1.439	1.434	1.549	7.82
32)	T	Chloroform	2.065	2.006	2.188	2.034	1.875	1.876	1.800	1.773	1.952	7.37
33)	S	1,2-Dichloroet...	1.765	1.775	1.783	1.782	1.771	1.763	1.771	1.827	1.780	1.15
34)	T	Tetrahydrofura...	0.551	0.558	0.614	0.576	0.547	0.549	0.526	0.514	0.555	5.54
35)	T	Ethyl tert-But...	1.250	1.127	1.255	1.208	1.139	1.165	1.122	1.113	1.172	4.94
36)	T	1,2-Dichloroet...	1.739	1.603	1.787	1.666	1.563	1.550	1.480	1.456	1.606	7.35
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.488	0.447	0.498	0.460	0.433	0.436	0.409	0.386	0.445	8.48
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.030	0.910	0.968	0.874	0.817	0.821	0.778	0.753	0.869	11.01
42)	T	Carbon Tetrach...	0.409	0.377	0.436	0.404	0.383	0.392	0.369	0.351	0.390	6.78
43)	T	Cyclohexane	0.344	0.333	0.367	0.334	0.313	0.316	0.300	0.288	0.324	7.86
44)	T	tert-Amyl Meth...	0.705	0.643	0.714	0.654	0.633	0.661	0.629	0.602	0.655	5.79
45)	T	1,2-Dichloropr...	0.235	0.214	0.225	0.214	0.201	0.198	0.193	0.187	0.208	7.84
46)	T	Bromodichlorom...	0.360	0.336	0.386	0.364	0.347	0.356	0.339	0.327	0.352	5.30
47)	T	Trichloroethene	0.302	0.283	0.308	0.287	0.268	0.273	0.258	0.247	0.278	7.53
48)	T	1,4-Dioxane	0.145	0.152	0.185	0.185	0.181	0.182	0.175	0.170	0.172	8.92
49)	T	2,2,4-Trimethy...	1.010	0.924	0.981	0.905	0.842	0.838	0.797	0.770	0.883	9.73
50)	T	Methyl Methacr...	0.067	0.073	0.093	0.087	0.088	0.090	0.087	0.084	0.084	10.78
51)	T	n-Heptane	0.180	0.190	0.223	0.209	0.194	0.198	0.187	0.183	0.196	7.32
52)	T	cis-1,3-Dichlo...	0.331	0.304	0.369	0.336	0.340	0.353	0.341	0.331	0.338	5.57
53)	T	4-Methyl-2-pen...	0.171	0.170	0.199	0.195	0.188	0.191	0.184	0.180	0.185	5.72
54)	T	trans-1,3-Dich...	0.256	0.300	0.337	0.330	0.347	0.366	0.352	0.344	0.329	10.73

55)	T	1,1,2-Trichlor...	0.234	0.238	0.255	0.239	0.225	0.228	0.216	0.209	0.231	6.29
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	5.360	5.347	5.323	5.326	5.298	5.324	5.248	5.209	5.304	0.97
58)	T	Toluene	5.449	4.863	5.168	4.724	4.437	4.482	4.191	3.961	4.659	10.62
59)	T	2-Hexanone	2.542	2.477	2.781	2.699	2.637	2.653	2.505	2.394	2.586	4.95
60)	T	Dibromochlorom...	1.432	1.457	1.613	1.519	1.532	1.584	1.489	1.421	1.506	4.60
61)	T	1,2-Dibromoethane	1.420	1.340	1.459	1.402	1.364	1.381	1.298	1.245	1.364	5.03
62)	T	n-Butyl Acetate	2.740	2.687	3.013	2.939	2.936	2.922	2.758	2.623	2.827	5.03
63)	T	n-Octane	0.926	0.845	0.970	0.883	0.830	0.847	0.807	0.788	0.862	7.09
64)	T	Tetrachloroethene	1.610	1.551	1.642	1.544	1.445	1.469	1.372	1.295	1.491	7.97
65)	T	Chlorobenzene	3.651	3.232	3.471	3.242	3.012	3.049	2.856	2.698	3.151	9.96
66)	T	Ethylbenzene	5.776	5.296	5.858	5.523	5.282	5.345	4.961	4.684	5.341	7.32
67)	T	m- & p-Xylenes	4.726	4.416	4.788	4.492	4.289	4.420	4.136	3.868	4.392	6.83
68)	T	Bromoform	1.204	1.152	1.397	1.332	1.352	1.414	1.342	1.245	1.305	7.22
69)	T	Styrene	2.992	2.806	3.159	3.030	3.047	3.176	2.982	2.826	3.002	4.50
70)	T	o-Xylene	4.733	4.390	4.762	4.450	4.258	4.311	4.026	3.787	4.340	7.59
71)	T	n-Nonane	2.495	2.181	2.502	2.366	2.233	2.276	2.140	2.058	2.281	7.10
72)	T	1,1,2,2-Tetrac...	1.801	1.830	2.053	1.869	1.797	1.855	1.750	1.691	1.831	5.82
73)	S	Bromofluoroben...	2.272	2.292	2.288	2.320	2.287	2.315	2.294	2.255	2.290	0.93
74)	T	Cumene	5.957	5.489	5.958	5.493	5.227	5.308	4.911	4.553	5.362	8.98
75)	T	alpha-Pinene	2.749	2.531	2.727	2.602	2.524	2.696	2.532	2.405	2.596	4.62
76)	T	n-Propylbenzene	6.938	6.391	7.123	6.585	6.305	6.420	5.952	5.492	6.401	8.10
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	5.093	4.846	5.625	5.192	5.116	5.117	4.742	4.448	5.022	6.96
79)	T	1,3,5-Trimethy...	4.706	4.370	4.826	4.593	4.427	4.536	4.189	3.875	4.440	6.81
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	4.744	4.509	4.954	4.652	4.534	4.690	4.330	3.884	4.537	7.09
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	2.275	2.266	2.724	2.840	3.249	3.767	3.601	3.232	2.994	18.86
85)	T	1,3-Dichlorobe...	2.928	2.827	3.010	2.800	2.723	2.809	2.581	2.308	2.748	7.97
86)	T	1,4-Dichlorobe...	2.994	2.791	2.980	2.777	2.670	2.771	2.565	2.364	2.739	7.60
87)	T	sec-Butylbenzene	6.374	6.054	6.487	6.128	5.915	5.979	5.494	4.969	5.925	8.27
88)	T	4-Isopropyltol...	5.666	5.402	5.849	5.539	5.252	5.364	4.899	4.376	5.293	8.82
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	3.022	2.701	2.949	2.798	2.643	2.722	2.507	2.309	2.706	8.48
91)	T	d-Limonene	1.360	1.225	1.462	1.466	1.458	1.571	1.487	1.436	1.433	7.13
92)	T	1,2-Dibromo-3-...	0.940	0.938	1.034	1.016	1.058	1.089	1.012	0.930	1.002	5.99
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.032	1.783	1.937	1.903	1.928	2.147	1.950	1.678	1.920	7.44
95)	T	Naphthalene	4.846	4.374	4.540	4.635	4.884	5.649	5.249	4.711	4.861	8.47
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.738	1.529	1.573	1.493	1.424	1.503	1.395	1.258	1.489	9.39
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	4.914	4.616	4.981	4.676	4.485	4.532	4.127	3.666	4.500	9.52
100)	T	n-Butylbenzene	4.882	4.666	5.052	4.892	4.723	4.875	4.494	4.093	4.710	6.40
101)	T	1,1,1,2-Tetrac...	1.323	1.255	1.374	1.334	1.259	1.295	1.207	1.130	1.272	6.11

(#) = Out of Range

R9092022.M Wed Sep 21 08:49:24 2022

Primary Source Standards Concentrations (Working & Initial Calibration)

9/21/22

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-09162201 | 200ng/L Std. ID: S35-09142202
20ng/L Std. ID: S35-08082202 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Freon-114	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Vinyl Chloride	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Ethanol	3.45	3450	690	138.0	69.0	13.80	3.45		0.345	0.690	1.725	3.45	17.25	86.25	172.5	345
Acetonitrile	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Acrolein	1.93	1930	386	77.2	38.6	7.72	1.93		0.193	0.386	0.965	1.93	9.65	48.25	96.5	193
Acetone	5.27	5270	1054	210.8	105.4	21.08	5.27		0.527	1.054	2.635	5.27	26.35	131.75	263.5	527
Trichlorofluoromethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isopropanol	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Acrylonitrile	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.13	2130	426	85.2	42.6	8.52	2.13		0.213	0.426	1.065	2.13	10.65	53.25	106.5	213
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl tert-Butyl Ether	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Vinyl Acetate	2.80	2800	560	112.0	56.0	11.20	2.80		0.280	0.560	1.400	2.80	14.00	70.00	140.0	280
2-Butanone	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.22	4220	844	168.8	84.4	16.88	4.22		0.422	0.844	2.110	4.22	21.10	105.50	211.0	422
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrahydrofuran	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Ethyl tert-Butyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Carbon Tetrachloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cyclohexane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
tert-Amyl Methyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Bromodichloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Trichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,4-Dioxane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isooctane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Methyl Methacrylate	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
n-Heptane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S35-09162201
20ng/L Std. ID: S35-08082202
40ng/L Std. ID:
200ng/L Std. ID: S35-09142202
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
4-Methyl-2-pentanone	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
trans-1,3-Dichloropropene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,1,2-Trichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Toluene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
2-Hexanone	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Dibromochloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
n-Octane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrachloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Ethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
m-&p-Xylene	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Nonane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cumene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
alpha-Pinene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Propylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
4-Ethyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2,4-Trimethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzyl Chloride	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,3-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,4-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
sec-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
p-Isopropyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromo-3-chloropropane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2,4-Trichlorobenzene	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Naphthalene	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
tert-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,1,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Calibration Status Report MS09

Method : I:\MS09\METHODS\R9092022.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration

9/21/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\DATA\2022_09\20\09202215.D
2	0.2	0	13	I:\MS09\DATA\2022_09\20\09202216.D
3	0.5	1	13	I:\MS09\DATA\2022_09\20\09202217.D
4	1.0	1	13	I:\MS09\DATA\2022_09\20\09202218.D
5	5.0	5	13	I:\MS09\DATA\2022_09\20\09202219.D
6	25	26	13	I:\MS09\DATA\2022_09\20\09202220.D
7	50	53	13	I:\MS09\DATA\2022_09\20\09202221.D
8	100	105	13	I:\MS09\DATA\2022_09\20\09202222.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Sep 20 17:31 2022	Sep 20 16:36 2022	20 Sep 2022 13:24
2	0.2	Sep 20 17:32 2022	Sep 20 16:35 2022	20 Sep 2022 13:56
3	0.5	Sep 20 17:32 2022	Sep 20 16:33 2022	20 Sep 2022 14:28
4	1.0	Sep 20 17:32 2022	Sep 20 16:31 2022	20 Sep 2022 15:00
5	5.0	Sep 20 17:32 2022	Sep 20 16:30 2022	20 Sep 2022 15:32
6	25	Sep 20 20:44 2022	Sep 20 16:29 2022	20 Sep 2022 16:04
7	50	Sep 20 17:33 2022	Sep 20 17:01 2022	20 Sep 2022 16:37
8	100	Sep 20 17:33 2022	Sep 20 17:30 2022	20 Sep 2022 17:09

R9092022.M Wed Sep 21 08:55:51 2022

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202215.D Vial: 5
Acq On : 20 Sep 2022 13:24 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09162201 (10/15)

Quant Time: Sep 20 16:36:45 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	149767	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	640562	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	134720	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	264298	11.826	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
57) Toluene-d8 (SS2)	12.39	98	722089	12.641	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
73) Bromofluorobenzene (SS3)	16.79	174	306021	13.979	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.84%				
Target Compounds							Qvalue
2) Propene	3.30	42	1591	0.112	ng		98
3) Dichlorodifluoromethan...	3.37	85	3393	0.145	ng	#	93
4) Chloromethane	3.52	50	1809m	0.140	ng		
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	1570	0.137	ng		94
6) Vinyl Chloride	3.70	62	1797	0.132	ng		96
7) 1,3-Butadiene	3.81	54	1154	0.122	ng	#	86
8) Bromomethane	4.03	94	1150	0.131	ng		94
9) Chloroethane	4.16	64	759	0.122	ng	#	42
10) Ethanol	4.29	45	2760	0.318	ng		89
11) Acetonitrile	4.45	41	2280	0.097	ng	#	64
12) Acrolein	4.53	56	1294	0.209	ng		90
13) Acetone	4.62	58	5226	0.731	ng		96
14) Trichlorofluoromethane	4.75	101	3264	0.146	ng		95
15) 2-Propanol (Isopropanol)	4.86	45	7374	0.284	ng		86
16) Acrylonitrile	4.98	53	2330	0.191	ng		95
17) 1,1-Dichloroethene	5.26	96	1287	0.134	ng		88
18) 2-Methyl-2-Propanol (t...	5.37	59	6685	0.275	ng	#	62
19) Methylene Chloride	5.33	84	1433	0.140	ng		98
20) 3-Chloro-1-propene (Al...	5.44	41	2871	0.132	ng		76
21) Trichlorotrifluoroethane	5.56	151	1444	0.150	ng		99
22) Carbon Disulfide	5.60	76	9042	0.261	ng		92
23) trans-1,2-Dichloroethene	6.12	61	1778	0.122	ng		97
24) 1,1-Dichloroethane	6.29	63	2550	0.142	ng		94
25) Methyl tert-Butyl Ether	6.37	73	4209	0.134	ng		90
26) Vinyl Acetate	6.43	86	252	0.166	ng	#	1
27) 2-Butanone (MEK)	6.66	72	1287	0.211	ng	#	35
28) cis-1,2-Dichloroethene	7.05	61	1890	0.130	ng		95
29) Diisopropyl Ether	7.28	87	2112	0.269	ng	#	81
30) Ethyl Acetate	7.27	61	1892	0.482	ng		95
31) n-Hexane	7.28	57	2165	0.133	ng	#	90
32) Chloroform	7.33	83	2623	0.133	ng		97
34) Tetrahydrofuran (THF)	7.76	72	1346	0.233	ng	#	79
35) Ethyl tert-Butyl Ether	7.80	87	3176	0.274	ng		99
36) 1,2-Dichloroethane	8.08	62	2250	0.139	ng		98
38) 1,1,1-Trichloroethane	8.37	97	2628	0.139	ng		93
39) Isopropyl Acetate	9.26	61	18364	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.87	78	5649	0.149	ng		96
42) Carbon Tetrachloride	9.03	117	2182	0.132	ng		99
43) Cyclohexane	9.18	84	3703	0.262	ng		92
44) tert-Amyl Methyl Ether	9.58	73	7658	0.270	ng		98
45) 1,2-Dichloropropane	9.82	63	1262	0.133	ng		86
46) Bromodichloromethane	10.04	83	1974	0.130	ng		95
47) Trichloroethene	10.12	130	1624	0.143	ng		98
48) 1,4-Dioxane	10.14	88	786	0.108	ng		77
49) 2,2,4-Trimethylpentane...	10.20	57	5589	0.139	ng		92
50) Methyl Methacrylate	10.39	100	727	0.196	ng	#	72

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202215.D Vial: 5
Acq On : 20 Sep 2022 13:24 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09162201 (10/15)

Quant Time: Sep 20 16:36:45 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.53	71	979	0.110	ng		86
52) cis-1,3-Dichloropropene	11.24	75	1830	0.126	ng		73
53) 4-Methyl-2-pentanone	11.31	58	1880	0.226	ng		87
54) trans-1,3-Dichloropropene	11.94	75	1337	0.093	ng		85
55) 1,1,2-Trichloroethane	12.15	97	1271	0.129	ng		95
58) Toluene	12.53	91	6166	0.149	ng		98
59) 2-Hexanone	12.91	43	5808	0.237	ng		90
60) Dibromochloromethane	13.04	129	1667	0.128	ng		94
61) 1,2-Dibromoethane	13.37	107	1592	0.137	ng		96
62) n-Butyl Acetate	13.76	43	6054	0.225	ng		91
63) n-Octane	13.89	57	1068	0.131	ng	#	91
64) Tetrachloroethene	14.00	166	1839	0.148	ng		97
65) Chlorobenzene	14.87	112	4171	0.153	ng		93
66) Ethylbenzene	15.38	91	6536	0.139	ng		99
67) m- & p-Xylenes	15.63	91	10697	0.279	ng		95
68) Bromoform	15.65	173	1388	0.134	ng		93
69) Styrene	16.07	104	3418	0.135	ng		94
70) o-Xylene	16.21	91	5407	0.143	ng		100
71) n-Nonane	16.58	43	2850	0.129	ng		92
72) 1,1,2,2-Tetrachloroethane	16.18	83	2058	0.125	ng		97
74) Cumene	17.00	105	6870	0.149	ng		99
75) alpha-Pinene	17.49	93	3229	0.141	ng		90
76) n-Propylbenzene	17.65	91	8001	0.143	ng		95
77) 3-Ethyltoluene	17.00	105	6870	No Calib			
78) 4-Ethyltoluene	17.83	105	5983	0.138	ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	5376	0.142	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.00	105	6870	No Calib			
82) 1,2,4-Trimethylbenzene	18.41	105	5369	0.139	ng		98
83) n-Decane	0.00	58	0	N.D.			
84) Benzyl Chloride	18.54	91	5197	0.195	ng		94
85) 1,3-Dichlorobenzene	18.56	146	3345	0.151	ng		100
86) 1,4-Dichlorobenzene	18.64	146	3420	0.158	ng		98
87) sec-Butylbenzene	18.72	105	7282	0.143	ng		97
88) 4-Isopropyltoluene (p-...	18.91	119	6473	0.146	ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	6870	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	3485	0.157	ng		97
91) d-Limonene	19.06	68	1568	0.121	ng		97
92) 1,2-Dibromo-3-Chloropr...	19.50	157	2127	0.263	ng		92
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	20.82	180	4578	0.317	ng		96
95) Naphthalene	20.93	128	5745	0.161	ng		88
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	21.28	225	1985	0.169	ng		93
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.40	119	5614	0.148	ng		98
100) n-Butylbenzene	19.37	91	5630	0.139	ng		93
101) 1,1,1,2-Tetrachloroethane	14.85	131	1512	0.139	ng	#	97

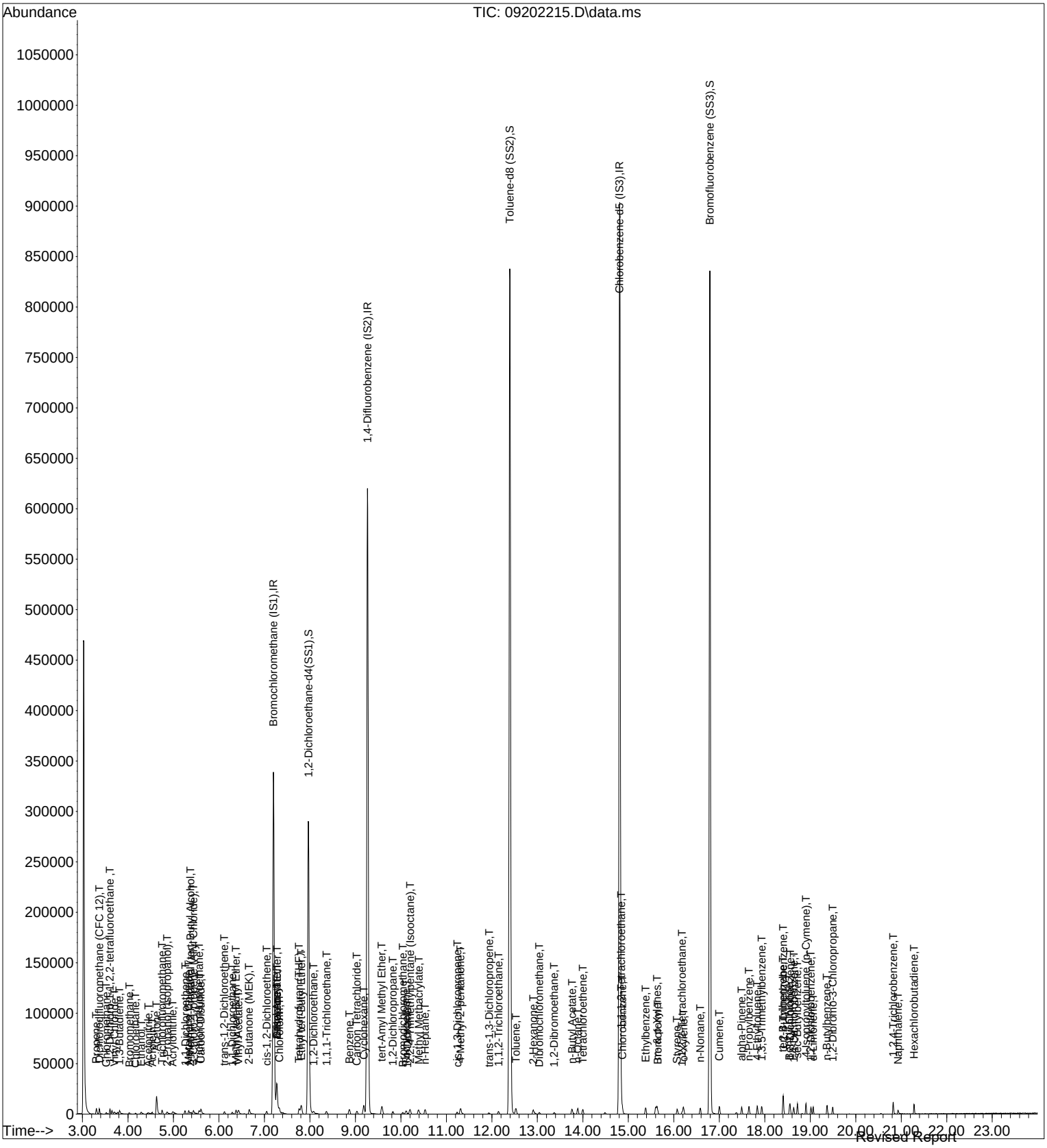
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202215.D Vial: 5
Acq On : 20 Sep 2022 13:24 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09162201 (10/15)

Quant Time: Sep 20 16:36:45 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

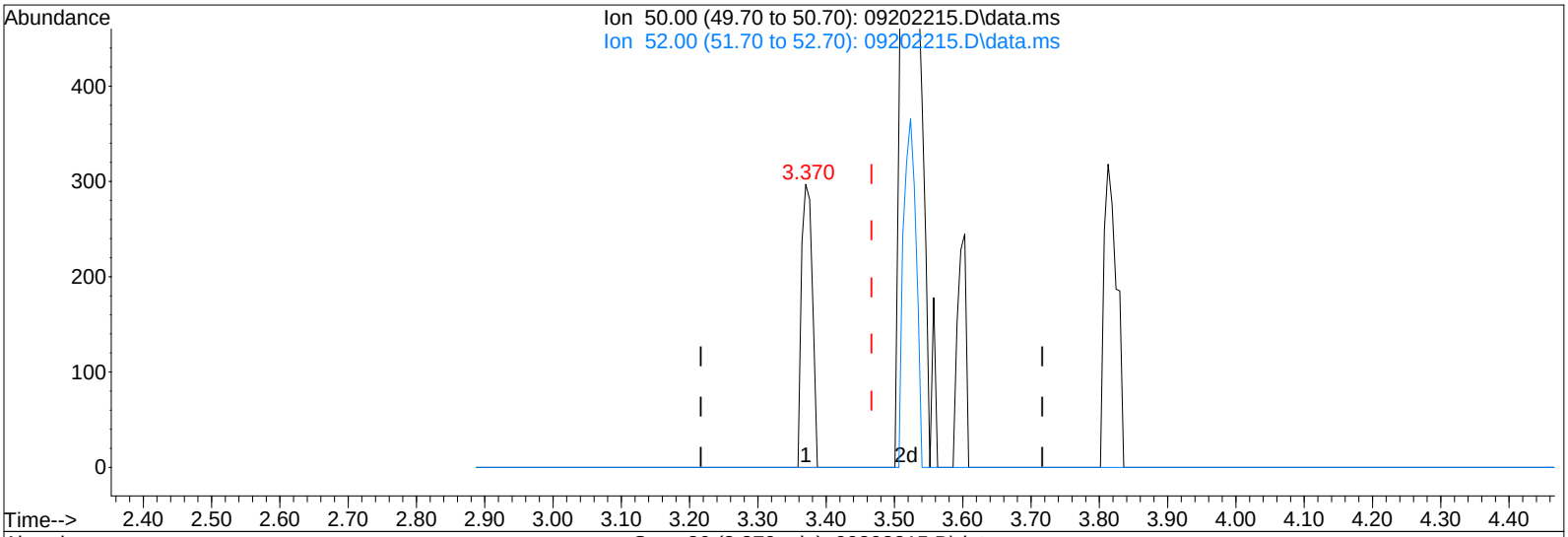


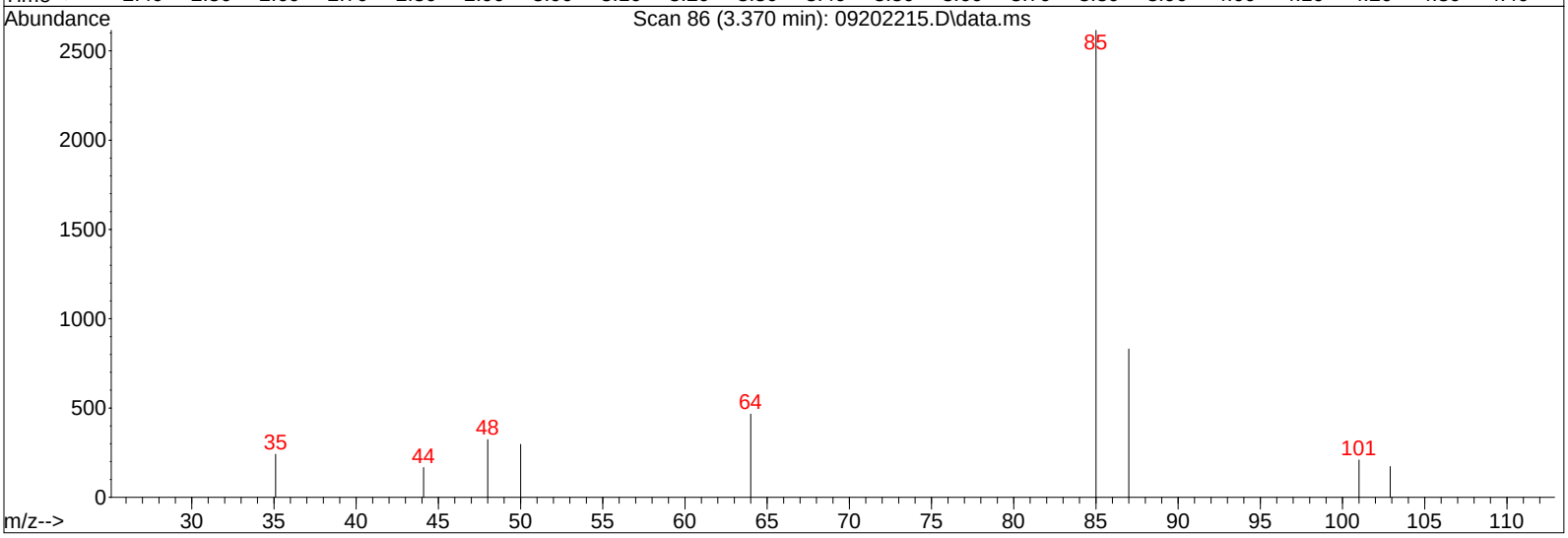
Revised Report

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 09\20\09202215.D Vial: 5
Acq On : 20 Sep 2022 13:24 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09162201 (10/15)

Quant Time: Sep 20 16:36:23 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 09202215.D\data.ms

(4) Chloromethane (T)

3.370min (-0.097) 0.03ng

response 329

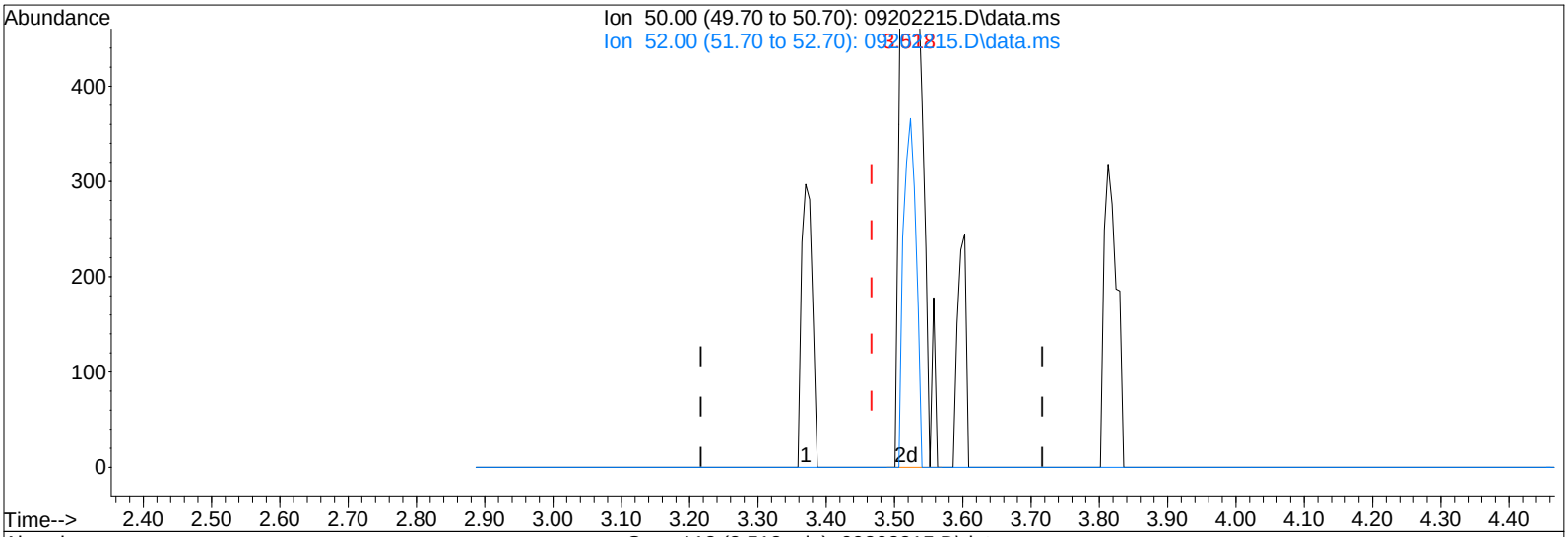
Ion	Exp%	Act%
50.00	100	100
52.00	32.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

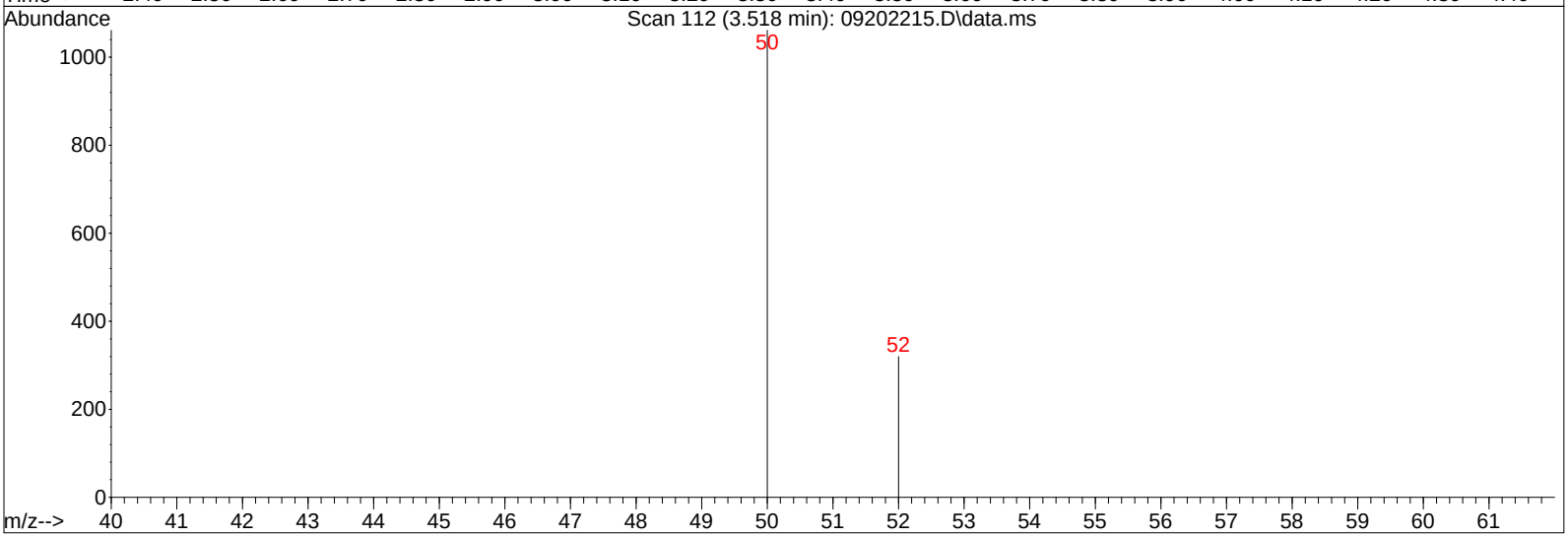
Revised Report

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 09\20\09202215.D Vial: 5
Acq On : 20 Sep 2022 13:24 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09162201 (10/15)

Quant Time: Sep 20 16:36:23 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 09202215.D\data.ms

(4) Chloromethane (T)

3.518min (+0.051) 0.14ng m

response 1809

Ion	Exp%	Act%
50.00	100	100
52.00	32.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

WP

9/20/22

9/22/22

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202216.D Vial: 5
Acq On : 20 Sep 2022 13:56 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09162201 (10/15)

Quant Time: Sep 20 16:35:00 2022 9/20/22
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	147766	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.27	114	632402	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	133323	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	262350	11.898	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	12.40	98	712842	12.610	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	16.79	174	305573	14.104	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.80%				
Target Compounds							Qvalue
2) Propene	3.30	42	2671	0.191	ng		98
3) Dichlorodifluoromethan...	3.37	85	5989	0.260	ng		98
4) Chloromethane	3.52	50	3426	0.269	ng		92
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	3033	0.269	ng		96
6) Vinyl Chloride	3.70	62	3182	0.237	ng		97
7) 1,3-Butadiene	3.81	54	2155	0.230	ng		93
8) Bromomethane	4.02	94	2054	0.238	ng		98
9) Chloroethane	4.16	64	1486	0.242	ng		91
10) Ethanol	4.28	45	7460	0.872	ng		76
11) Acetonitrile	4.44	41	4509	0.195	ng		73
12) Acrolein	4.53	56	2338	0.382	ng		92
13) Acetone	4.62	58	9645	1.366	ng		97
14) Trichlorofluoromethane	4.75	101	5916	0.269	ng		97
15) 2-Propanol (Isopropanol)	4.84	45	13963	0.545	ng		86
16) Acrylonitrile	4.99	53	4923	0.409	ng		96
17) 1,1-Dichloroethene	5.26	96	2376	0.250	ng		96
18) 2-Methyl-2-Propanol (t...	5.37	59	12598	0.525	ng		79
19) Methylene Chloride	5.33	84	2511	0.248	ng		98
20) 3-Chloro-1-propene (Al...	5.44	41	5420	0.253	ng		80
21) Trichlorotrifluoroethane	5.56	151	2744	0.289	ng		99
22) Carbon Disulfide	5.60	76	16884	0.494	ng		93
23) trans-1,2-Dichloroethene	6.12	61	3502	0.244	ng		99
24) 1,1-Dichloroethane	6.29	63	4339	0.246	ng		96
25) Methyl tert-Butyl Ether	6.37	73	7765	0.250	ng		98
26) Vinyl Acetate	6.43	86	781	0.522	ng	#	27
27) 2-Butanone (MEK)	6.66	72	2892	0.480	ng	#	77
28) cis-1,2-Dichloroethene	7.05	61	3465	0.242	ng		97
29) Diisopropyl Ether	7.27	87	4138	0.535	ng		99
30) Ethyl Acetate	7.27	61	3706	0.957	ng		94
31) n-Hexane	7.28	57	3863	0.240	ng	#	96
32) Chloroform	7.33	83	5028	0.258	ng		98
34) Tetrahydrofuran (THF)	7.76	72	2693	0.472	ng		92
35) Ethyl tert-Butyl Ether	7.81	87	5647	0.494	ng		97
36) 1,2-Dichloroethane	8.08	62	4093	0.256	ng		98
38) 1,1,1-Trichloroethane	8.37	97	4753	0.255	ng		98
39) Isopropyl Acetate	9.26	61	18136	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.87	78	9850	0.263	ng		96
42) Carbon Tetrachloride	9.04	117	3963	0.244	ng		95
43) Cyclohexane	9.18	84	7080	0.508	ng		98
44) tert-Amyl Methyl Ether	9.58	73	13786	0.493	ng		97
45) 1,2-Dichloropropane	9.83	63	2271	0.242	ng		100
46) Bromodichloromethane	10.05	83	3633	0.242	ng		96
47) Trichloroethene	10.11	130	3012	0.269	ng		100
48) 1,4-Dioxane	10.12	88	1630	0.228	ng		100
49) 2,2,4-Trimethylpentane...	10.20	57	10092	0.254	ng		98
50) Methyl Methacrylate	10.38	100	1556	0.425	ng		90

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202216.D Vial: 5
Acq On : 20 Sep 2022 13:56 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09162201 (10/15)

Quant Time: Sep 20 16:35:00 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.54	71	2034	0.231 ng	90
52) cis-1,3-Dichloropropene	11.23	75	3318	0.231 ng	99
53) 4-Methyl-2-pentanone	11.30	58	3700	0.450 ng	87
54) trans-1,3-Dichloropropene	11.93	75	3093	0.219 ng	90
55) 1,1,2-Trichloroethane	12.14	97	2552	0.262 ng	97
58) Toluene	12.53	91	10892	0.266 ng	98
59) 2-Hexanone	12.90	43	11203	0.462 ng	94
60) Dibromochloromethane	13.04	129	3357	0.261 ng	96
61) 1,2-Dibromoethane	13.37	107	2972	0.258 ng	98
62) n-Butyl Acetate	13.76	43	11752	0.441 ng	94
63) n-Octane	13.89	57	1928	0.238 ng	96
64) Tetrachloroethene	14.00	166	3507	0.286 ng	100
65) Chlorobenzene	14.87	112	7309	0.272 ng	98
66) Ethylbenzene	15.39	91	11863	0.254 ng	100
67) m- & p-Xylenes	15.61	91	19783	0.521 ng	99
68) Bromoform	15.65	173	2629	0.256 ng	96
69) Styrene	16.07	104	6344	0.253 ng	95
70) o-Xylene	16.21	91	9927	0.266 ng	99
71) n-Nonane	16.58	43	4931	0.226 ng	98
72) 1,1,2,2-Tetrachloroethane	16.19	83	4137	0.253 ng	99
74) Cumene	17.00	105	12529	0.274 ng	97
75) alpha-Pinene	17.49	93	5884	0.260 ng	93
76) n-Propylbenzene	17.65	91	14587	0.264 ng	99
77) 3-Ethyltoluene	17.00	105	12529	No Calib	
78) 4-Ethyltoluene	17.83	105	11267	0.262 ng	99
79) 1,3,5-Trimethylbenzene	17.93	105	9881	0.263 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.00	105	12529	No Calib	
82) 1,2,4-Trimethylbenzene	18.41	105	10099	0.264 ng	96
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.54	91	10249	0.389 ng	95
85) 1,3-Dichlorobenzene	18.56	146	6393	0.292 ng	99
86) 1,4-Dichlorobenzene	18.63	146	6310	0.295 ng	99
87) sec-Butylbenzene	18.72	105	13690	0.271 ng	99
88) 4-Isopropyltoluene (p-...	18.91	119	12214	0.278 ng	98
89) 1,2,3-Trimethylbenzene	17.00	105	12529	No Calib	
90) 1,2-Dichlorobenzene	19.01	146	6166	0.281 ng	99
91) d-Limonene	19.06	68	2797	0.218 ng	88
92) 1,2-Dibromo-3-Chloropr...	19.50	157	4201	0.526 ng	91
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.82	180	7951	0.557 ng	94
95) Naphthalene	20.93	128	10263	0.291 ng	90
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.28	225	3458	0.297 ng	98
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.40	119	10438	0.277 ng	98
100) n-Butylbenzene	19.37	91	10651	0.265 ng	97
101) 1,1,1,2-Tetrachloroethane	14.85	131	2838	0.264 ng	97

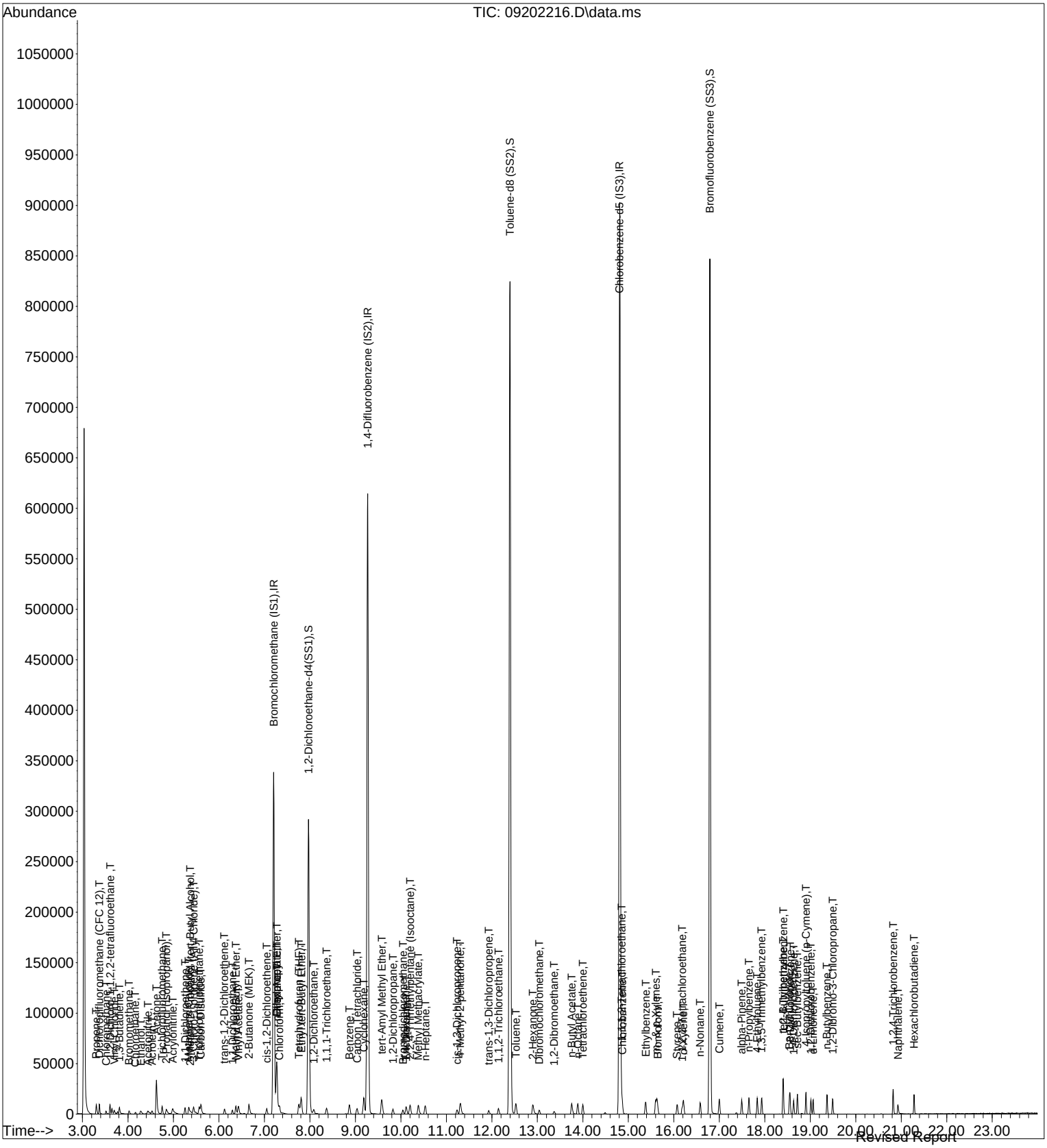
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202216.D Vial: 5
Acq On : 20 Sep 2022 13:56 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09162201 (10/15)

Quant Time: Sep 20 16:35:00 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202217.D Vial: 6
Acq On : 20 Sep 2022 14:28 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09082202 (10/7)

Quant Time: Sep 20 16:33:46 2022 9/20/22
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	147685	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	635262	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	134205	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	263295	11.947	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
57) Toluene-d8 (SS2)	12.39	98	714403	12.555	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
73) Bromofluorobenzene (SS3)	16.79	174	306998	14.077	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.64%				
Target Compounds							Qvalue
2) Propene	3.28	42	7496	0.536	ng		97
3) Dichlorodifluoromethan...	3.35	85	17048	0.741	ng		98
4) Chloromethane	3.49	50	9474	0.744	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	8233	0.729	ng		99
6) Vinyl Chloride	3.68	62	9245	0.689	ng		97
7) 1,3-Butadiene	3.79	54	6343	0.678	ng		98
8) Bromomethane	4.01	94	5823	0.674	ng		93
9) Chloroethane	4.14	64	4112	0.669	ng		98
10) Ethanol	4.26	45	19967	2.335	ng		81
11) Acetonitrile	4.42	41	12600	0.546	ng		91
12) Acrolein	4.51	56	7267	1.188	ng		96
13) Acetone	4.61	58	23052	3.268	ng		96
14) Trichlorofluoromethane	4.74	101	15634	0.710	ng		100
15) 2-Propanol (Isopropanol)	4.81	45	38751	1.512	ng		87
16) Acrylonitrile	4.97	53	15752	1.309	ng		98
17) 1,1-Dichloroethene	5.24	96	7018	0.739	ng		100
18) 2-Methyl-2-Propanol (t...	5.30	59	35697	1.487	ng		92
19) Methylene Chloride	5.32	84	6791	0.670	ng		93
20) 3-Chloro-1-propene (Al...	5.43	41	14103	0.658	ng		88
21) Trichlorotrifluoroethane	5.56	151	7340	0.773	ng		97
22) Carbon Disulfide	5.58	76	46687	1.368	ng		98
23) trans-1,2-Dichloroethene	6.11	61	9953	0.693	ng		97
24) 1,1-Dichloroethane	6.29	63	11941	0.677	ng		98
25) Methyl tert-Butyl Ether	6.36	73	21541	0.695	ng		99
26) Vinyl Acetate	6.41	86	2499	1.671	ng	#	62
27) 2-Butanone (MEK)	6.64	72	7941	1.319	ng		93
28) cis-1,2-Dichloroethene	7.05	61	9730	0.680	ng		98
29) Diisopropyl Ether	7.25	87	11246	1.454	ng	#	96
30) Ethyl Acetate	7.25	61	10291	2.660	ng		98
31) n-Hexane	7.27	57	10775	0.670	ng		98
32) Chloroform	7.33	83	13701	0.703	ng		100
34) Tetrahydrofuran (THF)	7.74	72	7405	1.300	ng		95
35) Ethyl tert-Butyl Ether	7.80	87	15713	1.376	ng		95
36) 1,2-Dichloroethane	8.08	62	11404	0.715	ng		99
38) 1,1,1-Trichloroethane	8.36	97	13298	0.711	ng		99
39) Isopropyl Acetate	9.26	61	18467	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.87	78	26311	0.700	ng		98
42) Carbon Tetrachloride	9.04	117	11512	0.704	ng		97
43) Cyclohexane	9.18	84	19606	1.400	ng		99
44) tert-Amyl Methyl Ether	9.57	73	38452	1.369	ng		99
45) 1,2-Dichloropropane	9.82	63	5990	0.636	ng		95
46) Bromodichloromethane	10.04	83	10490	0.697	ng		99
47) Trichloroethene	10.12	130	8222	0.732	ng		97
48) 1,4-Dioxane	10.10	88	4970	0.691	ng		100
49) 2,2,4-Trimethylpentane...	10.20	57	26911	0.675	ng		99
50) Methyl Methacrylate	10.38	100	4995	1.359	ng		97

Revised Report

Data File : I:\MS09\DATA\2022 09\20\09202217.D Vial: 6
Acq On : 20 Sep 2022 14:28 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09082202 (10/7)

Quant Time: Sep 20 16:33:46 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	6007	0.678 ng		96
52) cis-1,3-Dichloropropene	11.23	75	10116	0.701 ng		99
53) 4-Methyl-2-pentanone	11.29	58	10853	1.315 ng		91
54) trans-1,3-Dichloropropene	11.93	75	8725	0.614 ng		98
55) 1,1,2-Trichloroethane	12.14	97	6878	0.702 ng		97
58) Toluene	12.52	91	29131	0.707 ng		98
59) 2-Hexanone	12.89	43	31647	1.298 ng		98
60) Dibromochloromethane	13.04	129	9350	0.723 ng		99
61) 1,2-Dibromoethane	13.37	107	8144	0.701 ng		97
62) n-Butyl Acetate	13.75	43	33155	1.235 ng		98
63) n-Octane	13.89	57	5569	0.684 ng		96
64) Tetrachloroethene	13.99	166	9343	0.756 ng		100
65) Chlorobenzene	14.87	112	19751	0.730 ng		99
66) Ethylbenzene	15.38	91	33021	0.703 ng		100
67) m- & p-Xylenes	15.63	91	53978	1.413 ng		100
68) Bromoform	15.65	173	8023	0.775 ng		96
69) Styrene	16.07	104	17973	0.712 ng		98
70) o-Xylene	16.21	91	27098	0.720 ng		100
71) n-Nonane	16.58	43	14235	0.649 ng		98
72) 1,1,2,2-Tetrachloroethane	16.18	83	11684	0.710 ng		97
74) Cumene	17.00	105	34225	0.744 ng		98
75) alpha-Pinene	17.49	93	15958	0.700 ng		98
76) n-Propylbenzene	17.65	91	40914	0.735 ng		98
77) 3-Ethyltoluene	17.00	105	34225	No Calib		
78) 4-Ethyltoluene	17.83	105	32916	0.761 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	27461	0.726 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.00	105	34225	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	27923	0.726 ng		99
83) n-Decane	17.00	58	104	No Calib	#	
84) Benzyl Chloride	18.54	91	30998	1.169 ng		97
85) 1,3-Dichlorobenzene	18.55	146	17126	0.777 ng		98
86) 1,4-Dichlorobenzene	18.63	146	16956	0.787 ng		96
87) sec-Butylbenzene	18.72	105	36914	0.727 ng		98
88) 4-Isopropyltoluene (p-...	18.91	119	33283	0.753 ng		100
89) 1,2,3-Trimethylbenzene	17.00	105	34225	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	16937	0.766 ng		99
91) d-Limonene	19.06	68	8399	0.651 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.49	157	11661	1.450 ng		94
93) n-Undecane	17.93	58	293	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	21733	1.511 ng		99
95) Naphthalene	20.92	128	26811	0.756 ng		96
96) n-Dodecane	18.91	58	1071	No Calib	#	
97) Hexachlorobutadiene	21.28	225	8950	0.763 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	28343	0.748 ng		99
100) n-Butylbenzene	19.37	91	29019	0.718 ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	7817	0.723 ng		98

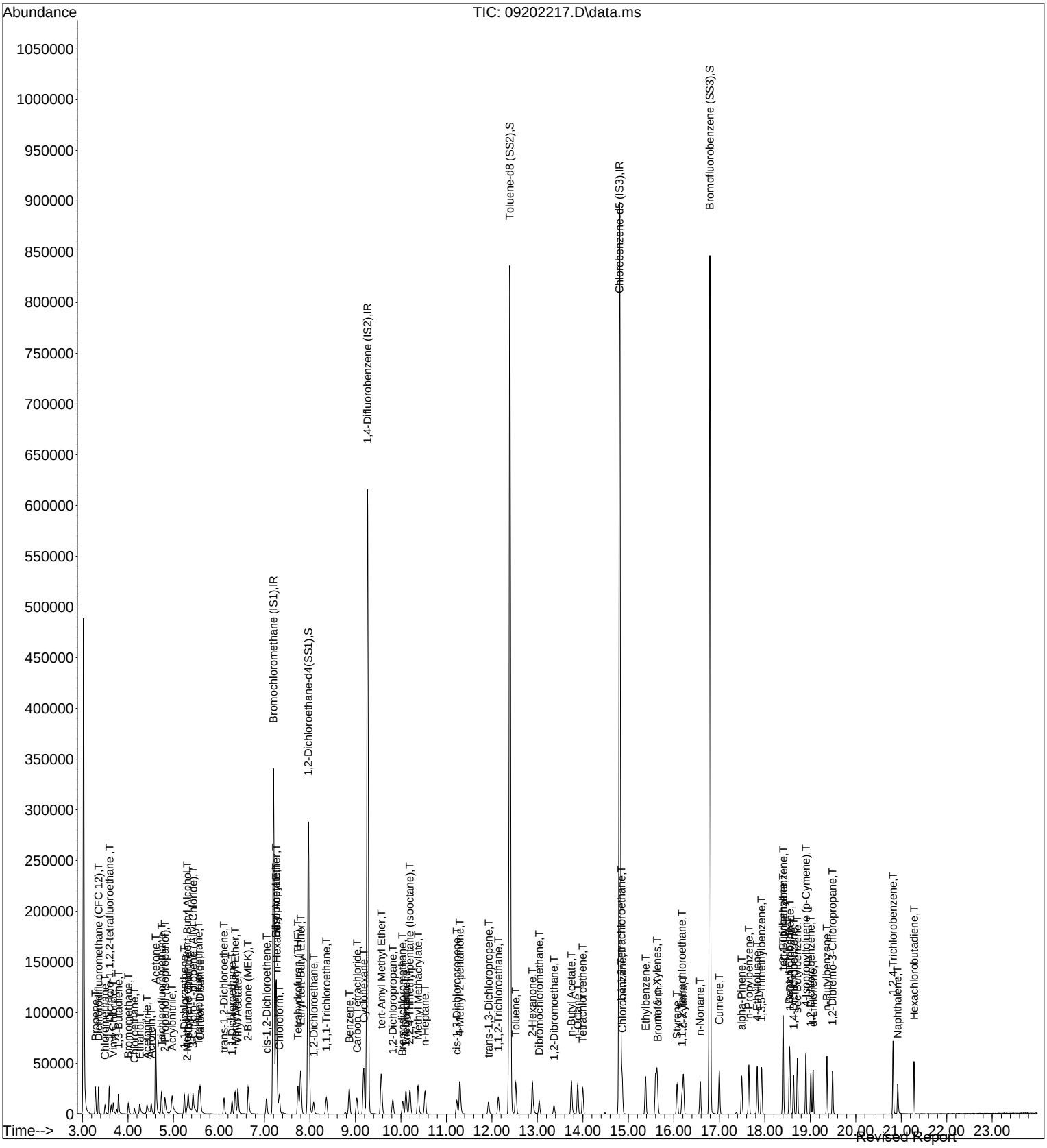
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202217.D Vial: 6
Acq On : 20 Sep 2022 14:28 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09082202 (10/7)

Quant Time: Sep 20 16:33:46 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202218.D Vial: 6
Acq On : 20 Sep 2022 15:00 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09082202 (10/7)

Quant Time: Sep 20 16:31:56 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	144873	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	627478	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	130865	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	258209	11.944	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
57) Toluene-d8 (SS2)	12.40	98	697003	12.561	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
73) Bromofluorobenzene (SS3)	16.79	174	303633	14.278	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.24%				
Target Compounds							Qvalue
2) Propene	3.28	42	13778	1.004	ng		99
3) Dichlorodifluoromethan...	3.35	85	30087	1.333	ng		99
4) Chloromethane	3.49	50	16388	1.311	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	15313	1.383	ng		99
6) Vinyl Chloride	3.68	62	17020	1.292	ng		99
7) 1,3-Butadiene	3.79	54	11859	1.293	ng		99
8) Bromomethane	4.01	94	10846	1.281	ng		100
9) Chloroethane	4.14	64	7402	1.229	ng		98
10) Ethanol	4.27	45	35752	4.263	ng		99
11) Acetonitrile	4.42	41	23025	1.017	ng		96
12) Acrolein	4.51	56	13677	2.279	ng		99
13) Acetone	4.61	58	41057	5.933	ng		95
14) Trichlorofluoromethane	4.74	101	28430	1.316	ng		100
15) 2-Propanol (Isopropanol)	4.81	45	68698	2.733	ng		89
16) Acrylonitrile	4.97	53	29813	2.526	ng		96
17) 1,1-Dichloroethene	5.24	96	12506	1.342	ng		97
18) 2-Methyl-2-Propanol (t...	5.29	59	64588	2.743	ng		92
19) Methylene Chloride	5.33	84	12679	1.276	ng		98
20) 3-Chloro-1-propene (Al...	5.43	41	28528	1.358	ng		85
21) Trichlorotrifluoroethane	5.56	151	13206	1.418	ng		98
22) Carbon Disulfide	5.58	76	84617	2.527	ng		99
23) trans-1,2-Dichloroethene	6.11	61	18361	1.304	ng		99
24) 1,1-Dichloroethane	6.29	63	21663	1.251	ng		99
25) Methyl tert-Butyl Ether	6.35	73	39392	1.296	ng		99
26) Vinyl Acetate	6.42	86	5172	3.526	ng	#	86
27) 2-Butanone (MEK)	6.64	72	14538	2.461	ng	#	85
28) cis-1,2-Dichloroethene	7.05	61	17599	1.254	ng		100
29) Diisopropyl Ether	7.26	87	19524	2.573	ng	#	88
30) Ethyl Acetate	7.25	61	18961	4.995	ng		99
31) n-Hexane	7.27	57	19009	1.205	ng		99
32) Chloroform	7.33	83	24985	1.307	ng		100
34) Tetrahydrofuran (THF)	7.73	72	13619	2.437	ng		95
35) Ethyl tert-Butyl Ether	7.79	87	29680	2.650	ng		100
36) 1,2-Dichloroethane	8.08	62	20855	1.332	ng		99
38) 1,1,1-Trichloroethane	8.36	97	24231	1.312	ng		99
39) Isopropyl Acetate	9.26	61	18076	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.87	78	46944	1.264	ng		99
42) Carbon Tetrachloride	9.04	117	21072	1.305	ng		99
43) Cyclohexane	9.19	84	35179	2.543	ng		100
44) tert-Amyl Methyl Ether	9.56	73	69621	2.510	ng		99
45) 1,2-Dichloropropane	9.83	63	11273	1.212	ng		99
46) Bromodichloromethane	10.04	83	19571	1.316	ng		98
47) Trichloroethene	10.12	130	15133	1.365	ng		99
48) 1,4-Dioxane	10.10	88	9825	1.383	ng		93
49) 2,2,4-Trimethylpentane...	10.20	57	49051	1.245	ng		100
50) Methyl Methacrylate	10.38	100	9260	2.552	ng		99

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202218.D Vial: 6
Acq On : 20 Sep 2022 15:00 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09082202 (10/7)

Quant Time: Sep 20 16:31:56 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	11127	1.271 ng		100
52) cis-1,3-Dichloropropene	11.23	75	18241	1.280 ng		99
53) 4-Methyl-2-pentanone	11.29	58	21018	2.579 ng		98
54) trans-1,3-Dichloropropene	11.93	75	16922	1.205 ng		99
55) 1,1,2-Trichloroethane	12.14	97	12725	1.315 ng		98
58) Toluene	12.53	91	51928	1.293 ng		99
59) 2-Hexanone	12.89	43	59895	2.519 ng		97
60) Dibromochloromethane	13.04	129	17171	1.361 ng		98
61) 1,2-Dibromoethane	13.36	107	15268	1.348 ng		99
62) n-Butyl Acetate	13.74	43	63067	2.410 ng		99
63) n-Octane	13.89	57	9894	1.246 ng		98
64) Tetrachloroethene	14.00	166	17139	1.422 ng		99
65) Chlorobenzene	14.87	112	35973	1.363 ng		99
66) Ethylbenzene	15.38	91	60709	1.325 ng		98
67) m- & p-Xylenes	15.63	91	98754	2.651 ng		99
68) Bromoform	15.65	173	14925	1.479 ng		98
69) Styrene	16.07	104	33620	1.366 ng		99
70) o-Xylene	16.21	91	49380	1.346 ng		100
71) n-Nonane	16.58	43	26261	1.227 ng		98
72) 1,1,2,2-Tetrachloroethane	16.18	83	20740	1.292 ng		98
74) Cumene	17.00	105	61537	1.371 ng		100
75) alpha-Pinene	17.49	93	29692	1.337 ng		98
76) n-Propylbenzene	17.65	91	73768	1.360 ng		99
77) 3-Ethyltoluene	17.00	105	61537	No Calib		
78) 4-Ethyltoluene	17.83	105	59253	1.406 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	50970	1.382 ng		100
80) alpha-Methylstyrene	17.00	118	109	No Calib	#	
81) 2-Ethyltoluene	17.00	105	61537	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	51139	1.364 ng		98
83) n-Decane	16.99	58	272	No Calib	#	
84) Benzyl Chloride	18.54	91	63030	2.439 ng		98
85) 1,3-Dichlorobenzene	18.55	146	31072	1.446 ng		99
86) 1,4-Dichlorobenzene	18.63	146	30818	1.468 ng		98
87) sec-Butylbenzene	18.72	105	68002	1.373 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	61472	1.426 ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	61537	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	31341	1.454 ng		98
91) d-Limonene	19.06	68	16417	1.306 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	22328	2.847 ng		96
93) n-Undecane	17.93	58	747	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	41647	2.970 ng		100
95) Naphthalene	20.92	128	53377	1.544 ng		98
96) n-Dodecane	18.90	58	1408	No Calib	#	
97) Hexachlorobutadiene	21.28	225	16570	1.449 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	51892	1.404 ng		99
100) n-Butylbenzene	19.37	91	54802	1.391 ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	14809	1.405 ng		99

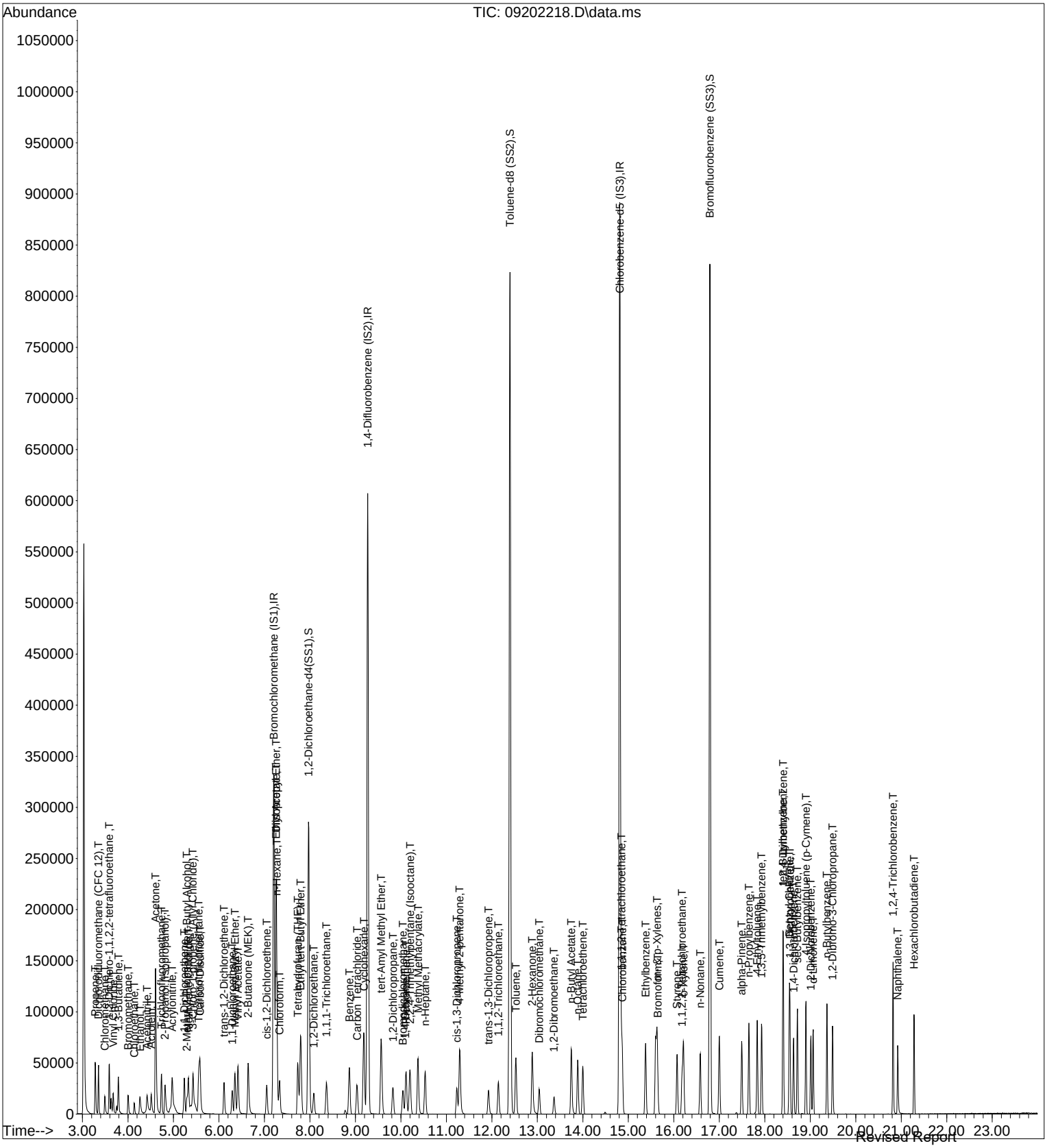
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202218.D Vial: 6
Acq On : 20 Sep 2022 15:00 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09082202 (10/7)

Quant Time: Sep 20 16:31:56 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202219.D Vial: 6
Acq On : 20 Sep 2022 15:32 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09082202 (10/7)

Quant Time: Sep 20 16:30:35 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	143113	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.28	114	615887	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	128978	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	253411	11.866	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
57) Toluene-d8 (SS2)	12.40	98	683320	12.495	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
73) Bromofluorobenzene (SS3)	16.79	174	295006	14.075	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.64%				
Target Compounds							Qvalue
2) Propene	3.26	42	86069	6.349	ng		99
3) Dichlorodifluoromethan...	3.34	85	136360	6.115	ng		99
4) Chloromethane	3.47	50	64617	5.235	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	69700	6.372	ng		100
6) Vinyl Chloride	3.66	62	76903	5.910	ng		100
7) 1,3-Butadiene	3.77	54	57351	6.329	ng		99
8) Bromomethane	3.99	94	48390	5.784	ng		99
9) Chloroethane	4.13	64	33639	5.652	ng		99
10) Ethanol	4.27	45	163378	19.720	ng		99
11) Acetonitrile	4.43	41	108276	4.839	ng		99
12) Acrolein	4.51	56	62944	10.616	ng		100
13) Acetone	4.61	58	181837	26.600	ng		98
14) Trichlorofluoromethane	4.73	101	128716	6.033	ng		99
15) 2-Propanol (Isopropanol)	4.82	45	232035	9.344	ng		91
16) Acrylonitrile	4.98	53	138201	11.852	ng		100
17) 1,1-Dichloroethene	5.23	96	57569	6.255	ng		98
18) 2-Methyl-2-Propanol (t...	5.29	59	266837	11.472	ng		95
19) Methylene Chloride	5.33	84	58321	5.942	ng		99
20) 3-Chloro-1-propene (Al...	5.43	41	114373	5.511	ng		92
21) Trichlorotrifluoroethane	5.56	151	60401	6.564	ng		98
22) Carbon Disulfide	5.57	76	394629	11.930	ng		100
23) trans-1,2-Dichloroethene	6.12	61	86776	6.238	ng		99
24) 1,1-Dichloroethane	6.30	63	99887	5.840	ng		99
25) Methyl tert-Butyl Ether	6.34	73	185518	6.178	ng		100
26) Vinyl Acetate	6.42	86	26718	18.440	ng	#	95
27) 2-Butanone (MEK)	6.64	72	68843	11.799	ng		96
28) cis-1,2-Dichloroethene	7.06	61	82355	5.942	ng		100
29) Diisopropyl Ether	7.25	87	90681	12.099	ng	#	91
30) Ethyl Acetate	7.25	61	91180	24.316	ng		98
31) n-Hexane	7.27	57	87928	5.644	ng		100
32) Chloroform	7.34	83	113757	6.026	ng		100
34) Tetrahydrofuran (THF)	7.72	72	63927	11.579	ng		99
35) Ethyl tert-Butyl Ether	7.79	87	138197	12.492	ng		99
36) 1,2-Dichloroethane	8.09	62	96637	6.250	ng		100
38) 1,1,1-Trichloroethane	8.37	97	111961	6.174	ng		99
39) Isopropyl Acetate	9.28	61	17670	No Calib		#	
40) 1-Butanol	8.82	56	3057	No Calib		#	
41) Benzene	8.87	78	215446	5.909	ng		99
42) Carbon Tetrachloride	9.04	117	98048	6.186	ng		99
43) Cyclohexane	9.19	84	162129	11.943	ng		99
44) tert-Amyl Methyl Ether	9.56	73	330356	12.132	ng		99
45) 1,2-Dichloropropane	9.83	63	51970	5.693	ng		98
46) Bromodichloromethane	10.05	83	91371	6.258	ng		100
47) Trichloroethene	10.12	130	69279	6.365	ng		100
48) 1,4-Dioxane	10.09	88	47204	6.768	ng		95
49) 2,2,4-Trimethylpentane...	10.20	57	223989	5.791	ng		100
50) Methyl Methacrylate	10.37	100	45811	12.861	ng		100

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202219.D Vial: 6
Acq On : 20 Sep 2022 15:32 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09082202 (10/7)

Quant Time: Sep 20 16:30:35 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	50745	5.908	ng		99
52) cis-1,3-Dichloropropene	11.23	75	90388	6.464	ng		99
53) 4-Methyl-2-pentanone	11.29	58	99457	12.433	ng		99
54) trans-1,3-Dichloropropene	11.93	75	87173	6.325	ng		100
55) 1,1,2-Trichloroethane	12.14	97	58801	6.191	ng		100
58) Toluene	12.53	91	240375	6.071	ng		99
59) 2-Hexanone	12.88	43	288396	12.305	ng		98
60) Dibromochloromethane	13.05	129	85375	6.865	ng		100
61) 1,2-Dibromoethane	13.37	107	73176	6.557	ng		100
62) n-Butyl Acetate	13.74	43	310467	12.038	ng		99
63) n-Octane	13.89	57	45814	5.852	ng		99
64) Tetrachloroethene	14.00	166	79040	6.656	ng		99
65) Chlorobenzene	14.87	112	164743	6.332	ng		100
66) Ethylbenzene	15.38	91	286118	6.338	ng		99
67) m- & p-Xylenes	15.62	91	464702	12.659	ng		100
68) Bromoform	15.65	173	74616	7.501	ng		99
69) Styrene	16.07	104	166631	6.867	ng		99
70) o-Xylene	16.21	91	232874	6.440	ng		99
71) n-Nonane	16.58	43	122136	5.790	ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	98263	6.210	ng		98
74) Cumene	17.00	105	288540	6.523	ng		100
75) alpha-Pinene	17.50	93	141951	6.483	ng		99
76) n-Propylbenzene	17.65	91	348076	6.510	ng		100
77) 3-Ethyltoluene	17.00	105	288540	No Calib			
78) 4-Ethyltoluene	17.83	105	287684	6.924	ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	242104	6.659	ng		100
80) alpha-Methylstyrene	16.99	118	729	No Calib		#	
81) 2-Ethyltoluene	17.00	105	288540	No Calib			
82) 1,2,4-Trimethylbenzene	18.41	105	245590	6.644	ng		99
83) n-Decane	17.00	58	2074	No Calib		#	
84) Benzyl Chloride	18.54	91	355404	13.952	ng		99
85) 1,3-Dichlorobenzene	18.55	146	148937	7.032	ng		100
86) 1,4-Dichlorobenzene	18.63	146	146018	7.056	ng		100
87) sec-Butylbenzene	18.72	105	323482	6.625	ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	287236	6.758	ng		100
89) 1,2,3-Trimethylbenzene	17.00	105	288540	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	145899	6.866	ng		99
91) d-Limonene	19.06	68	80508	6.497	ng		98
92) 1,2-Dibromo-3-Chloropr...	19.49	157	114642	14.830	ng		99
93) n-Undecane	17.93	58	3779	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	207846	15.041	ng		99
95) Naphthalene	20.92	128	277153	8.136	ng		99
96) n-Dodecane	18.91	58	5895	No Calib		#	
97) Hexachlorobutadiene	21.28	225	77898	6.914	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.40	119	245253	6.734	ng		100
100) n-Butylbenzene	19.37	91	260732	6.713	ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	68877	6.632	ng		99

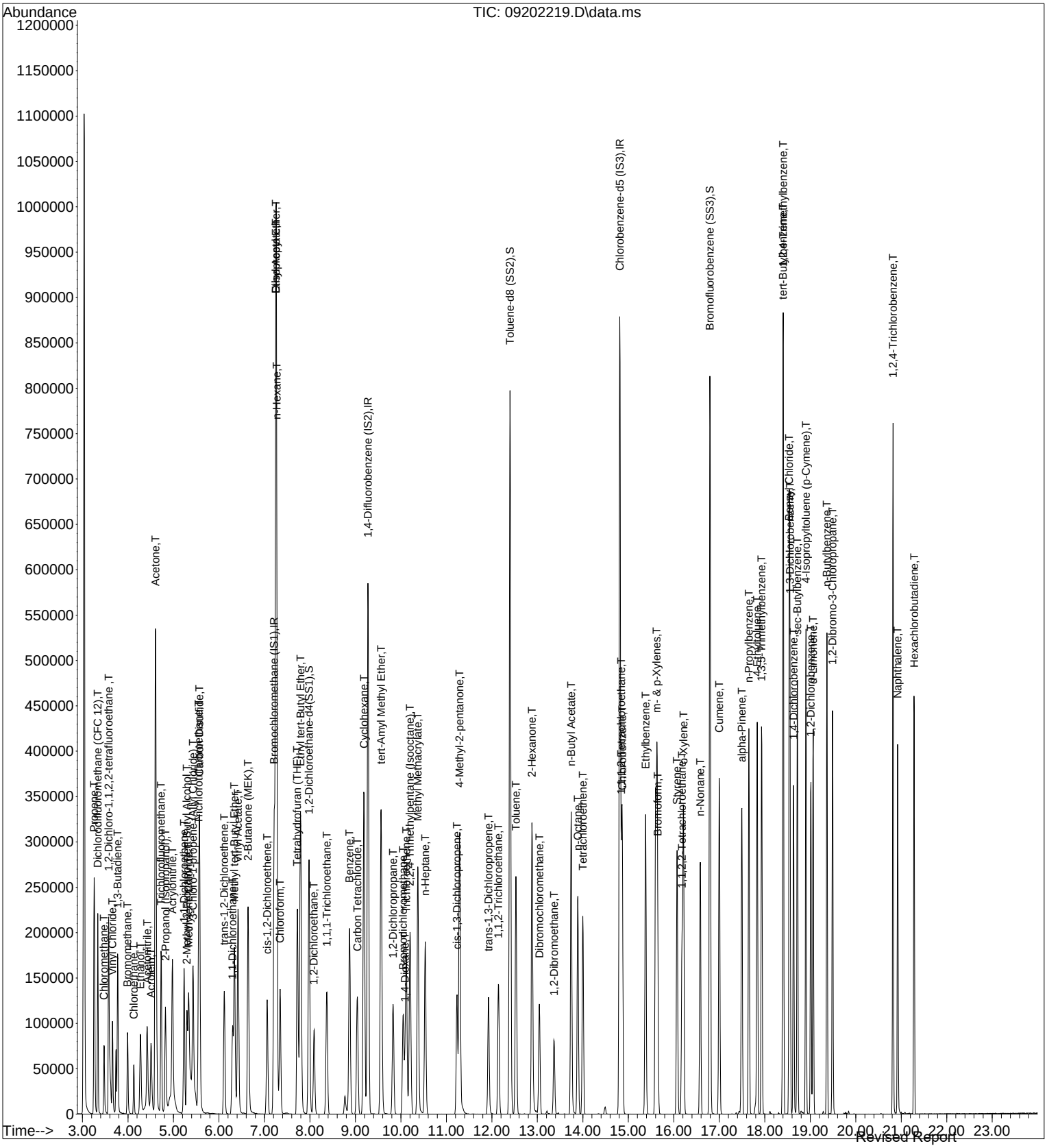
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202219.D Vial: 6
Acq On : 20 Sep 2022 15:32 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09082202 (10/7)

Quant Time: Sep 20 16:30:35 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202220.D Vial: 2
Acq On : 20 Sep 2022 16:04 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09142202 (10/13)

Quant Time: Sep 20 16:29:55 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	152007	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	651219	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	136534	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	267964	11.813	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%			
57) Toluene-d8 (SS2)	12.41	98	726866	12.556	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%			
73) Bromofluorobenzene (SS3)	16.80	174	316118	14.248	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.00%			
Target Compounds						Qvalue
2) Propene	3.25	42	376992	26.181	ng	100
3) Dichlorodifluoromethan...	3.32	85	713228	30.114	ng	100
4) Chloromethane	3.47	50	367612	28.038	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	369647	31.816	ng	100
6) Vinyl Chloride	3.66	62	407236	29.467	ng	100
7) 1,3-Butadiene	3.77	54	313962	32.618	ng	100
8) Bromomethane	3.99	94	263622	29.665	ng	100
9) Chloroethane	4.14	64	176968	27.994	ng	100
10) Ethanol	4.32	45	807838	91.802	ng	100
11) Acetonitrile	4.45	41	548250	23.071	ng	100
12) Acrolein	4.53	56	337532	53.598	ng	100
13) Acetone	4.63	58	957843	131.918	ng	100
14) Trichlorofluoromethane	4.74	101	676652	29.859	ng	100
15) 2-Propanol (Isopropanol)	4.86	45	1491486	56.550	ng	100
16) Acrylonitrile	5.01	53	723818	58.442	ng	100
17) 1,1-Dichloroethene	5.24	96	311433	31.856	ng	100
18) 2-Methyl-2-Propanol (t...	5.33	59	1675416	67.816	ng	100
19) Methylene Chloride	5.36	84	311526	29.881	ng	100
20) 3-Chloro-1-propene (Al...	5.45	41	549937	24.946	ng	100
21) Trichlorotrifluoroethane	5.56	151	325935	33.347	ng	100
22) Carbon Disulfide	5.58	76	2153138	61.281	ng	100
23) trans-1,2-Dichloroethene	6.14	61	462759	31.318	ng	100
24) 1,1-Dichloroethane	6.32	63	528658	29.100	ng	100
25) Methyl tert-Butyl Ether	6.35	73	1007346	31.583	ng	100
26) Vinyl Acetate	6.44	86	152408	99.034	ng	100
27) 2-Butanone (MEK)	6.66	72	368009	59.381	ng	100
28) cis-1,2-Dichloroethene	7.08	61	440370	29.914	ng	100
29) Diisopropyl Ether	7.27	87	493941	62.046	ng	100
30) Ethyl Acetate	7.28	61	490675	123.200	ng	100
31) n-Hexane	7.28	57	472125	28.531	ng	100
32) Chloroform	7.37	83	604699	30.158	ng	100
34) Tetrahydrofuran (THF)	7.73	72	340758	58.112	ng	100
35) Ethyl tert-Butyl Ether	7.80	87	751128	63.925	ng	100
36) 1,2-Dichloroethane	8.11	62	509028	30.995	ng	100
38) 1,1,1-Trichloroethane	8.38	97	596570	31.113	ng	100
39) Isopropyl Acetate	9.20	61	1751	No Calib	#	
40) 1-Butanol	8.80	56	13985	No Calib		
41) Benzene	8.89	78	1144617	29.689	ng	100
42) Carbon Tetrachloride	9.05	117	530826	31.676	ng	100
43) Cyclohexane	9.20	84	863305	60.142	ng	100
44) tert-Amyl Methyl Ether	9.57	73	1825630	63.407	ng	100
45) 1,2-Dichloropropane	9.84	63	271328	28.110	ng	100
46) Bromodichloromethane	10.06	83	495860	32.120	ng	100
47) Trichloroethene	10.13	130	373722	32.471	ng	100
48) 1,4-Dioxane	10.10	88	250750	34.000	ng	100
49) 2,2,4-Trimethylpentane...	10.21	57	1178874	28.825	ng	100
50) Methyl Methacrylate	10.38	100	249071	66.128	ng	100

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202220.D Vial: 2
Acq On : 20 Sep 2022 16:04 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09142202 (10/13)

Quant Time: Sep 20 16:29:55 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.55	71	273174	30.077 ng	100
52) cis-1,3-Dichloropropene	11.24	75	497219	33.630 ng	100
53) 4-Methyl-2-pentanone	11.30	58	535246	63.279 ng	100
54) trans-1,3-Dichloropropene	11.93	75	485805	33.337 ng	100
55) 1,1,2-Trichloroethane	12.15	97	314160	31.280 ng	100
58) Toluene	12.53	91	1285010	30.660 ng	100
59) 2-Hexanone	12.89	43	1535580	61.894 ng	100
60) Dibromochloromethane	13.05	129	467046	35.477 ng	100
61) 1,2-Dibromoethane	13.38	107	392062	33.189 ng	100
62) n-Butyl Acetate	13.75	43	1635655	59.911 ng	100
63) n-Octane	13.89	57	247591	29.874 ng	100
64) Tetrachloroethene	14.01	166	425064	33.812 ng	100
65) Chlorobenzene	14.87	112	882476	32.044 ng	100
66) Ethylbenzene	15.39	91	1532419	32.065 ng	100
67) m- & p-Xylenes	15.63	91	2534394	65.219 ng	100
68) Bromoform	15.65	173	413258	39.245 ng	100
69) Styrene	16.07	104	919191	35.785 ng	100
70) o-Xylene	16.21	91	1247942	32.604 ng	100
71) n-Nonane	16.58	43	658719	29.500 ng	100
72) 1,1,2,2-Tetrachloroethane	16.19	83	537040	32.060 ng	100
74) Cumene	17.00	105	1550934	33.120 ng	100
75) alpha-Pinene	17.50	93	802552	34.625 ng	100
76) n-Propylbenzene	17.65	91	1875759	33.139 ng	100
77) 3-Ethyltoluene	17.00	105	1550934	No Calib	
78) 4-Ethyltoluene	17.84	105	1523154	34.632 ng	100
79) 1,3,5-Trimethylbenzene	17.93	105	1313091	34.119 ng	100
80) alpha-Methylstyrene	17.00	118	3092	No Calib	
81) 2-Ethyltoluene	17.00	105	1550934	No Calib	
82) 1,2,4-Trimethylbenzene	18.41	105	1344637	34.364 ng	100
83) n-Decane	17.00	58	9608	No Calib	
84) Benzyl Chloride	18.54	91	2180690	80.868 ng	100
85) 1,3-Dichlorobenzene	18.56	146	812997	36.260 ng	100
86) 1,4-Dichlorobenzene	18.63	146	801991	36.610 ng	100
87) sec-Butylbenzene	18.72	105	1730701	33.485 ng	100
88) 4-Isopropyltoluene (p-...	18.91	119	1552548	34.508 ng	100
89) 1,2,3-Trimethylbenzene	17.00	105	1550934	No Calib	
90) 1,2-Dichlorobenzene	19.01	146	795315	35.358 ng	100
91) d-Limonene	19.06	68	459140	35.002 ng	100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	624513	76.316 ng	100
93) n-Undecane	17.93	58	21539	No Calib	
94) 1,2,4-Trichlorobenzene	20.82	180	1225268	83.758 ng	100
95) Naphthalene	20.92	128	1696881	47.056 ng	100
96) n-Dodecane	18.91	58	29307	No Calib #	
97) Hexachlorobutadiene	21.28	225	435170	36.485 ng	100
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.41	119	1311732	34.023 ng	100
100) n-Butylbenzene	19.37	91	1424284	34.642 ng	100
101) 1,1,1,2-Tetrachloroethane	14.85	131	374809	34.091 ng	100

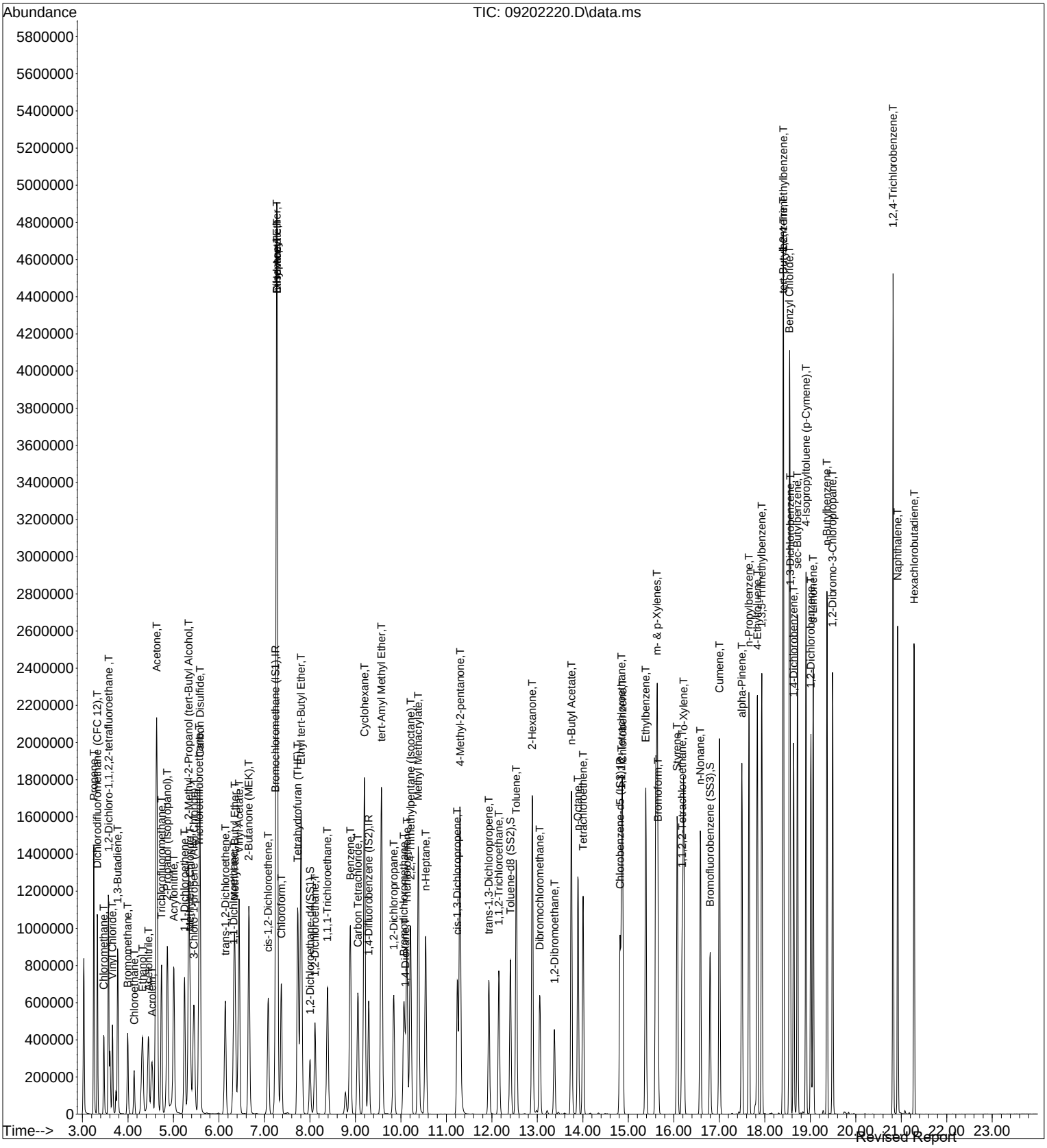
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202220.D Vial: 2
Acq On : 20 Sep 2022 16:04 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09142202 (10/13)

Quant Time: Sep 20 16:29:55 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:29:44 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202221.D Vial: 2
Acq On : 20 Sep 2022 16:37 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09142202 (10/13)

Quant Time: Sep 20 17:01:38 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:38:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	154593	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	670374	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.82	54	142198	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	273814	11.869	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
57) Toluene-d8 (SS2)	12.42	98	746203	12.376	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	16.80	174	326222	14.118	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.96%				
Target Compounds							Qvalue
2) Propene	3.26	42	880688	60.138	ng		100
3) Dichlorodifluoromethan...	3.33	85	1374123	57.049	ng		100
4) Chloromethane	3.48	50	658577	49.390	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	708589	59.969	ng		100
6) Vinyl Chloride	3.67	62	791028	56.280	ng		100
7) 1,3-Butadiene	3.78	54	636792	65.051	ng		95
8) Bromomethane	4.01	94	508727	56.289	ng		99
9) Chloroethane	4.15	64	349218	54.317	ng		100
10) Ethanol	4.34	45	1598417	178.605	ng		100
11) Acetonitrile	4.47	41	1100626	45.540	ng		100
12) Acrolein	4.54	56	674963	105.387	ng		100
13) Acetone	4.65	58	1892862	256.332	ng		97
14) Trichlorofluoromethane	4.74	101	1316305	57.113	ng		100
15) 2-Propanol (Isopropanol)	4.89	45	2397157	89.368	ng		98
16) Acrylonitrile	5.03	53	1433721	113.824	ng		100
17) 1,1-Dichloroethene	5.25	96	610984	61.452	ng		99
18) 2-Methyl-2-Propanol (t...	5.36	59	2683414	106.800	ng		99
19) Methylene Chloride	5.37	84	613272	57.840	ng		99
20) 3-Chloro-1-propene (Al...	5.47	41	1050057	46.835	ng		97
21) Trichlorotrifluoroethane	5.57	151	634974	63.880	ng		100
22) Carbon Disulfide	5.60	76	4189747	117.251	ng		100
23) trans-1,2-Dichloroethene	6.15	61	907938	60.418	ng		100
24) 1,1-Dichloroethane	6.34	63	1041795	56.387	ng		100
25) Methyl tert-Butyl Ether	6.36	73	1920363	59.202	ng		100
26) Vinyl Acetate	6.46	86	301898	192.891	ng		98
27) 2-Butanone (MEK)	6.67	72	723276	114.754	ng		98
28) cis-1,2-Dichloroethene	7.09	61	864964	57.773	ng		100
29) Diisopropyl Ether	7.28	87	972283	120.089	ng	#	96
30) Ethyl Acetate	7.29	61	978432	241.558	ng		100
31) n-Hexane	7.29	57	934422	55.524	ng		100
32) Chloroform	7.38	83	1180109	57.870	ng		100
34) Tetrahydrofuran (THF)	7.74	72	663859	111.319	ng		99
35) Ethyl tert-Butyl Ether	7.82	87	1470552	123.059	ng		100
36) 1,2-Dichloroethane	8.12	62	988476	59.181	ng		100
38) 1,1,1-Trichloroethane	8.40	97	1152633	58.396	ng		100
39) Isopropyl Acetate	9.21	61	3432	No Calib		#	
40) 1-Butanol	8.80	56	28430	No Calib			
41) Benzene	8.89	78	2233131	56.268	ng		100
42) Carbon Tetrachloride	9.07	117	1028331	59.609	ng		100
43) Cyclohexane	9.21	84	1687639	114.209	ng		100
44) tert-Amyl Methyl Ether	9.58	73	3576538	120.669	ng		100
45) 1,2-Dichloropropane	9.85	63	542477	54.596	ng		99
46) Bromodichloromethane	10.08	83	973748	61.274	ng		100
47) Trichloroethene	10.14	130	727064	61.366	ng		100
48) 1,4-Dioxane	10.10	88	496239	65.365	ng		99
49) 2,2,4-Trimethylpentane...	10.22	57	2307395	54.806	ng		100
50) Methyl Methacrylate	10.39	100	493746	127.343	ng		99

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202221.D Vial: 2
Acq On : 20 Sep 2022 16:37 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09142202 (10/13)

Quant Time: Sep 20 17:01:38 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:38:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.55	71	531390	56.835	ng		99
52) cis-1,3-Dichloropropene	11.25	75	988909	64.975	ng		100
53) 4-Methyl-2-pentanone	11.31	58	1063328	122.118	ng		97
54) trans-1,3-Dichloropropene	11.94	75	963827	64.250	ng		100
55) 1,1,2-Trichloroethane	12.16	97	614460	59.432	ng		100
58) Toluene	12.55	91	2502741	57.336	ng		100
59) 2-Hexanone	12.90	43	3020124	116.882	ng		99
60) Dibromochloromethane	13.06	129	914822	66.723	ng		99
61) 1,2-Dibromoethane	13.38	107	767590	62.390	ng		100
62) n-Butyl Acetate	13.76	43	3215847	113.098	ng		100
63) n-Octane	13.90	57	491227	56.910	ng		100
64) Tetrachloroethene	14.01	166	827039	63.168	ng		100
65) Chlorobenzene	14.88	112	1721770	60.029	ng		100
66) Ethylbenzene	15.38	91	2962747	59.524	ng		100
67) m- & p-Xylenes	15.63	91	4940331	122.069	ng		100
68) Bromoform	15.66	173	816830	74.481	ng		100
69) Styrene	16.08	104	1798074	67.212	ng		99
70) o-Xylene	16.22	91	2427086	60.884	ng		100
71) n-Nonane	16.59	43	1290039	55.471	ng		100
72) 1,1,2,2-Tetrachloroethane	16.19	83	1055397	60.494	ng		100
74) Cumene	17.01	105	2989015	61.288	ng		100
75) alpha-Pinene	17.50	93	1570077	65.041	ng		99
76) n-Propylbenzene	17.66	91	3622545	61.449	ng		100
77) 3-Ethyltoluene	17.01	105	2989015	No Calib			
78) 4-Ethyltoluene	17.84	105	2939851	64.182	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	2525703	63.014	ng		100
80) alpha-Methylstyrene	17.00	118	5383	No Calib		#	
81) 2-Ethyltoluene	17.01	105	2989015	No Calib			
82) 1,2,4-Trimethylbenzene	18.41	105	2586193	63.461	ng		99
83) n-Decane	17.01	58	18747	No Calib			
84) Benzyl Chloride	18.55	91	4342104	154.607	ng		100
85) 1,3-Dichlorobenzene	18.56	146	1555951	66.632	ng		100
86) 1,4-Dichlorobenzene	18.64	146	1546361	67.777	ng		100
87) sec-Butylbenzene	18.72	105	3312238	61.532	ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	2953433	63.031	ng		99
89) 1,2,3-Trimethylbenzene	17.01	105	2989015	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	1525977	65.140	ng		100
91) d-Limonene	19.06	68	904813	66.229	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.50	157	1208965	141.852	ng		99
93) n-Undecane	17.93	58	42082	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	2318318	152.166	ng		100
95) Naphthalene	20.93	128	3284341	87.451	ng		99
96) n-Dodecane	18.91	58	57559	No Calib		#	
97) Hexachlorobutadiene	21.28	225	841011	67.703	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.41	119	2488411	61.973	ng		100
100) n-Butylbenzene	19.37	91	2734893	63.869	ng		100
101) 1,1,1,2-Tetrachloroethane	14.86	131	727621	63.545	ng		100

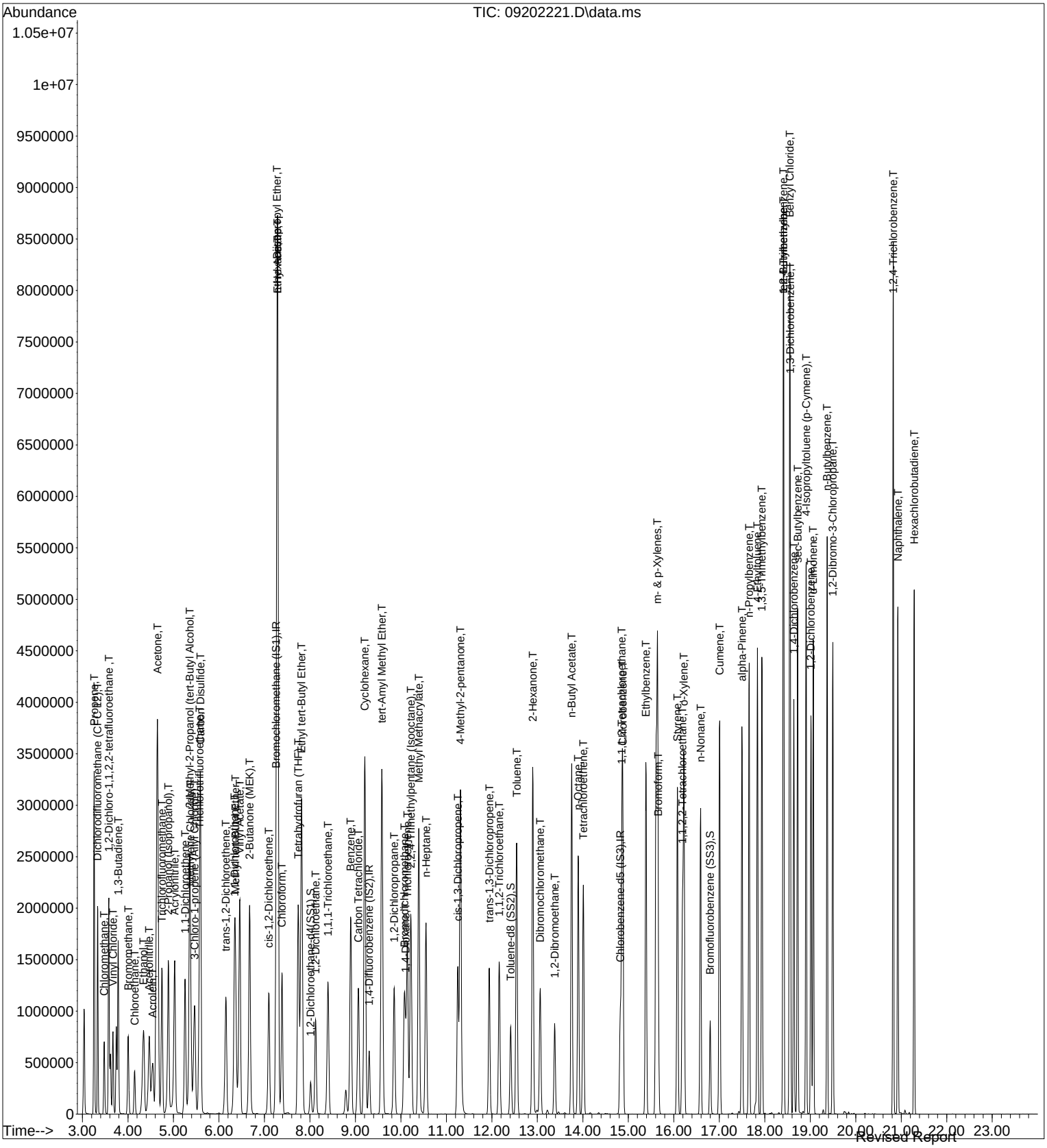
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202221.D Vial: 2
Acq On : 20 Sep 2022 16:37 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09142202 (10/13)

Quant Time: Sep 20 17:01:38 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:38:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202222.D Vial: 2
Acq On : 20 Sep 2022 17:09 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09142202 (10/13)

Quant Time: Sep 20 17:30:32 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:38:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	154447	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	686230	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.82	54	146899	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.02	65	282144	12.242	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
57) Toluene-d8 (SS2)	12.42	98	765200	12.285	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	16.80	174	331243	13.876	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.04%				
Target Compounds							Qvalue
2) Propene	3.26	42	1898705	129.775	ng		99
3) Dichlorodifluoromethan...	3.34	85	2681407	111.428	ng		100
4) Chloromethane	3.48	50	1004437	75.399	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	1379892	116.893	ng		100
6) Vinyl Chloride	3.68	62	1546812	110.157	ng		100
7) 1,3-Butadiene	3.80	54	1297057	132.626	ng		87
8) Bromomethane	4.01	94	1001939	110.967	ng		100
9) Chloroethane	4.15	64	701513	109.216	ng		100
10) Ethanol	4.36	45	3223952	360.581	ng		100
11) Acetonitrile	4.48	41	2234181	92.530	ng		91
12) Acrolein	4.55	56	1365651	213.430	ng		100
13) Acetone	4.66	58	3788249	513.491	ng		90
14) Trichlorofluoromethane	4.76	101	2561257	111.235	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	4192326	156.441	ng		98
16) Acrylonitrile	5.04	53	2873198	228.320	ng		100
17) 1,1-Dichloroethene	5.27	96	1238238	124.658	ng		100
18) 2-Methyl-2-Propanol (t...	5.37	59	2541695	101.256	ng		96
19) Methylene Chloride	5.39	84	1213828	114.590	ng		99
20) 3-Chloro-1-propene (Al...	5.48	41	2044038	91.255	ng		95
21) Trichlorotrifluoroethane	5.58	151	1233945	124.254	ng		99
22) Carbon Disulfide	5.60	76	8154249	228.413	ng		99
23) trans-1,2-Dichloroethene	6.16	61	1811164	120.636	ng		100
24) 1,1-Dichloroethane	6.35	63	2075032	112.417	ng		100
25) Methyl tert-Butyl Ether	6.37	73	3264339	100.730	ng		99
26) Vinyl Acetate	6.47	86	592781	379.101	ng	#	92
27) 2-Butanone (MEK)	6.69	72	1341451	213.034	ng		95
28) cis-1,2-Dichloroethene	7.11	61	1731585	115.766	ng		99
29) Diisopropyl Ether	7.29	87	1914522	236.691	ng	#	87
30) Ethyl Acetate	7.30	61	1977272	488.615	ng		100
31) n-Hexane	7.29	57	1860338	110.647	ng		100
32) Chloroform	7.40	83	2322059	113.977	ng		100
34) Tetrahydrofuran (THF)	7.75	72	1295435	217.429	ng		98
35) Ethyl tert-Butyl Ether	7.83	87	2915091	244.172	ng		99
36) 1,2-Dichloroethane	8.13	62	1942891	116.433	ng		100
38) 1,1,1-Trichloroethane	8.41	97	2223823	110.063	ng		100
39) Isopropyl Acetate	9.21	61	6966	No Calib		#	
40) 1-Butanol	8.81	56	57649	No Calib			
41) Benzene	8.91	78	4423128	108.873	ng		99
42) Carbon Tetrachloride	9.07	117	2001347	113.332	ng		100
43) Cyclohexane	9.21	84	3317354	219.310	ng		98
44) tert-Amyl Methyl Ether	9.59	73	7010045	231.047	ng		99
45) 1,2-Dichloropropane	9.86	63	1077804	105.967	ng		99
46) Bromodichloromethane	10.08	83	1923629	118.249	ng		100
47) Trichloroethene	10.15	130	1422841	117.317	ng		100
48) 1,4-Dioxane	10.12	88	991361	127.565	ng		98
49) 2,2,4-Trimethylpentane...	10.22	57	4565483	105.936	ng		100
50) Methyl Methacrylate	10.41	100	981920	247.398	ng		99

Revised Report

Data File : I:\MS09\DATA\2022 09\20\09202222.D Vial: 2
Acq On : 20 Sep 2022 17:09 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09142202 (10/13)

Quant Time: Sep 20 17:30:32 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:38:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.56	71	1067471	111.533	ng		99
52) cis-1,3-Dichloropropene	11.26	75	1962501	125.964	ng		100
53) 4-Methyl-2-pentanone	11.33	58	2123072	238.192	ng		96
54) trans-1,3-Dichloropropene	11.95	75	1926379	125.448	ng		99
55) 1,1,2-Trichloroethane	12.17	97	1215201	114.822	ng		99
58) Toluene	12.55	91	4888128	108.401	ng		99
59) 2-Hexanone	12.92	43	5964364	223.440	ng		98
60) Dibromochloromethane	13.07	129	1803477	127.328	ng		99
61) 1,2-Dibromoethane	13.39	107	1521938	119.744	ng		100
62) n-Butyl Acetate	13.77	43	6318177	215.093	ng		98
63) n-Octane	13.90	57	991146	111.153	ng		99
64) Tetrachloroethene	14.02	166	1612603	119.226	ng		100
65) Chlorobenzene	14.89	112	3360548	113.416	ng		99
66) Ethylbenzene	15.39	91	5780144	112.412	ng		99
67) m- & p-Xylenes	15.65	91	9545780	228.316	ng		99
68) Bromoform	15.66	173	1565316	138.162	ng		100
69) Styrene	16.08	104	3520162	127.373	ng		98
70) o-Xylene	16.23	91	4717592	114.555	ng		100
71) n-Nonane	16.59	43	2563382	106.697	ng		99
72) 1,1,2,2-Tetrachloroethane	16.20	83	2106409	116.873	ng		99
74) Cumene	17.01	105	5724757	113.627	ng		99
75) alpha-Pinene	17.50	93	3080978	123.547	ng		99
76) n-Propylbenzene	17.66	91	6906130	113.400	ng		99
77) 3-Ethyltoluene	17.01	105	5724757	No Calib			
78) 4-Ethyltoluene	17.84	105	5697348	120.402	ng		100
79) 1,3,5-Trimethylbenzene	17.94	105	4826539	116.564	ng		100
80) alpha-Methylstyrene	17.01	118	9891	No Calib		#	
81) 2-Ethyltoluene	17.01	105	5724757	No Calib			
82) 1,2,4-Trimethylbenzene	18.42	105	4792246	113.831	ng		99
83) n-Decane	17.01	58	38253	No Calib			
84) Benzyl Chloride	18.55	91	8052779	277.556	ng		98
85) 1,3-Dichlorobenzene	18.57	146	2874891	119.175	ng		100
86) 1,4-Dichlorobenzene	18.64	146	2944999	124.949	ng		100
87) sec-Butylbenzene	18.72	105	6189774	111.308	ng		98
88) 4-Isopropyltoluene (p-...	18.91	119	5451059	112.611	ng		97
89) 1,2,3-Trimethylbenzene	17.01	105	5724757	No Calib			
90) 1,2-Dichlorobenzene	19.02	146	2902987	119.956	ng		100
91) d-Limonene	19.07	68	1806023	127.964	ng		97
92) 1,2-Dibromo-3-Chloropr...	19.50	157	2296114	260.789	ng		98
93) n-Undecane	17.94	58	89169	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	4120891	261.824	ng		100
95) Naphthalene	20.93	128	6089510	156.954	ng		98
96) n-Dodecane	18.91	58	119564	No Calib		#	
97) Hexachlorobutadiene	21.28	225	1567270	122.131	ng		99
98) Cyclohexanone	15.18	55	1012	No Calib		#	
99) tert-Butylbenzene	18.41	119	4566560	110.089	ng		99
100) n-Butylbenzene	19.38	91	5146268	116.336	ng		99
101) 1,1,1,2-Tetrachloroethane	14.86	131	1407846	119.016	ng		100

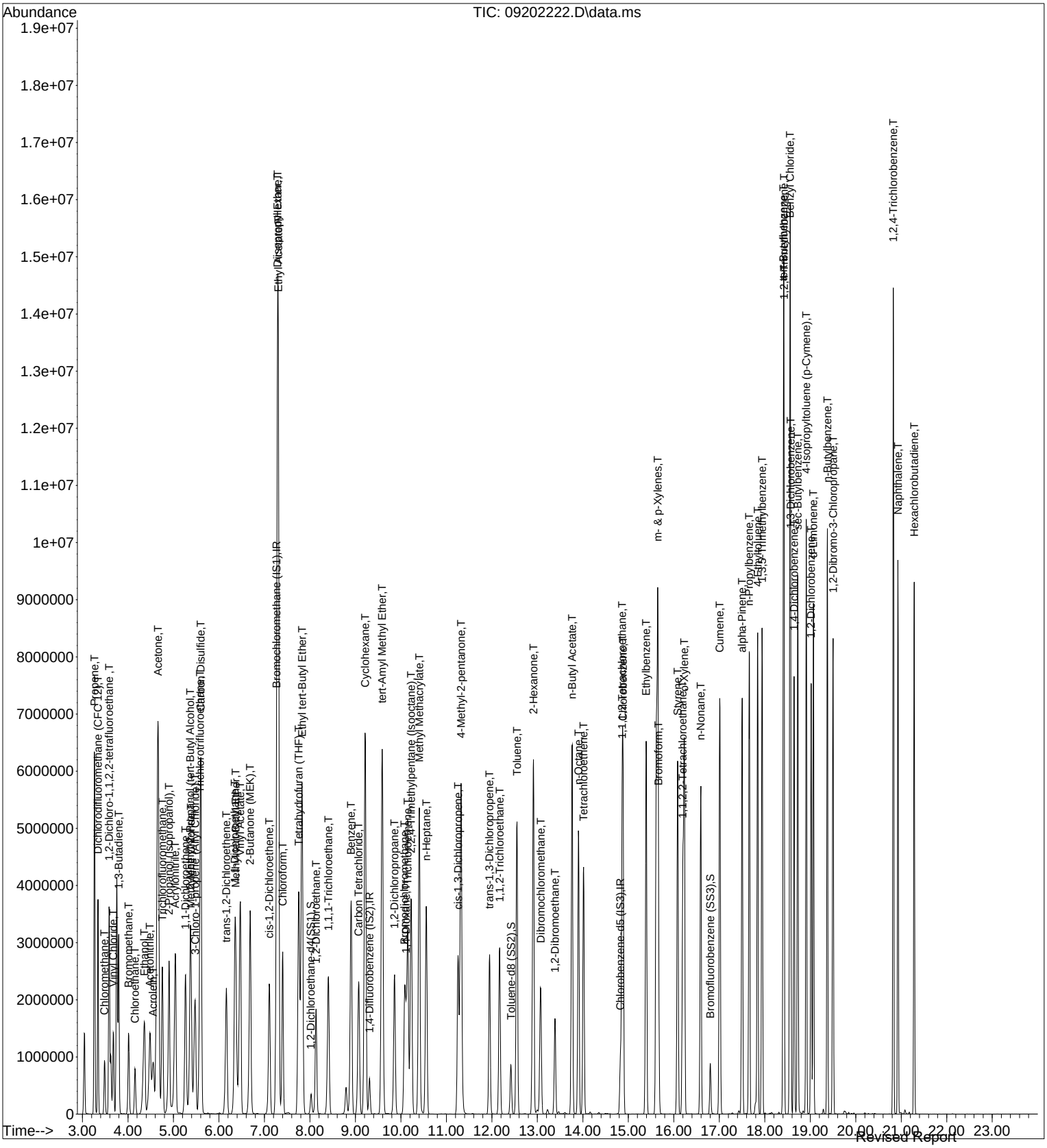
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202222.D Vial: 2
Acq On : 20 Sep 2022 17:09 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-09062202/S35-09142202 (10/13)

Quant Time: Sep 20 17:30:32 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 16:38:46 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202224.D Vial: 2
Acq On : 20 Sep 2022 18:13 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-09062202/S35-09072204 (10/6)

Quant Time: Sep 20 20:41:20 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 17:33:36 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	153476	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.29	114	662889	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.82	54	137234	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	270851	12.396	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
57) Toluene-d8 (SS2)	12.40	98	736410	12.646	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
73) Bromofluorobenzene (SS3)	16.80	174	313959	12.486	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
Target Compounds							Qvalue
2) Propene	3.25	42	421950	27.183	ng		99
3) Dichlorodifluoromethan...	3.33	85	701762	24.274	ng		100
4) Chloromethane	3.47	50	355455	23.404	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	355890	24.106	ng		100
6) Vinyl Chloride	3.66	62	404653	24.005	ng		100
7) 1,3-Butadiene	3.78	54	299671	25.597	ng		98
8) Bromomethane	3.99	94	266294	24.940	ng		100
9) Chloroethane	4.14	64	184787	25.314	ng		99
10) Ethanol	4.31	45	1036748	102.988	ng		99
11) Acetonitrile	4.45	41	583913	22.759	ng		100
12) Acrolein	4.53	56	369820	52.338	ng		99
13) Acetone	4.63	58	981933	118.973	ng		97
14) Trichlorofluoromethane	4.74	101	662031	23.609	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	1470170	48.158	ng		99
16) Acrylonitrile	5.01	53	746517	53.309	ng		100
17) 1,1-Dichloroethene	5.24	96	312566	26.290	ng		99
18) 2-Methyl-2-Propanol (t...	5.33	59	1598738	56.225	ng		100
19) Methylene Chloride	5.36	84	313329	25.402	ng		99
20) 3-Chloro-1-propene (Al...	5.45	41	518480	21.447	ng		100
21) Trichlorotrifluoroethane	5.56	151	320169	25.313	ng		99
22) Carbon Disulfide	5.58	76	2116190	51.306	ng		100
23) trans-1,2-Dichloroethene	6.14	61	462612	26.669	ng		99
24) 1,1-Dichloroethane	6.32	63	546802	25.930	ng		100
25) Methyl tert-Butyl Ether	6.35	73	976473	26.039	ng		100
26) Vinyl Acetate	6.44	86	245698	125.084	ng		99
27) 2-Butanone (MEK)	6.66	72	370772	52.790	ng		99
28) cis-1,2-Dichloroethene	7.08	61	445956	25.892	ng		99
29) Diisopropyl Ether	7.27	87	487313	50.115	ng	#	68
30) Ethyl Acetate	7.27	61	349044	74.317	ng		100
31) n-Hexane	7.28	57	476507	25.056	ng		100
32) Chloroform	7.37	83	604296	25.211	ng		100
34) Tetrahydrofuran (THF)	7.73	72	356675	52.382	ng		99
35) Ethyl tert-Butyl Ether	7.80	87	740502	51.447	ng		98
36) 1,2-Dichloroethane	8.11	62	505765	25.655	ng		100
38) 1,1,1-Trichloroethane	8.38	97	584810	24.794	ng		100
39) Isopropyl Acetate	9.20	61	1726	No Calib		#	
40) 1-Butanol	8.80	56	7914	No Calib		#	
41) Benzene	8.88	78	1180206	25.611	ng		100
42) Carbon Tetrachloride	9.05	117	493835	23.884	ng		100
43) Cyclohexane	9.20	84	869274	50.535	ng		99
44) tert-Amyl Methyl Ether	9.57	73	1814604	52.233	ng		100
45) 1,2-Dichloropropane	9.84	63	282799	25.613	ng		100
46) Bromodichloromethane	10.06	83	497586	26.665	ng		100
47) Trichloroethene	10.13	130	376157	25.483	ng		100
48) 1,4-Dioxane	10.09	88	248556	27.306	ng		99
49) 2,2,4-Trimethylpentane...	10.21	57	1177238	25.135	ng		99
50) Methyl Methacrylate	10.38	100	250878	56.628	ng		99

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202224.D Vial: 2
Acq On : 20 Sep 2022 18:13 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-09062202/S35-09072204 (10/6)

Quant Time: Sep 20 20:41:20 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 17:33:36 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	270414	26.073	ng		98
52) cis-1,3-Dichloropropene	11.24	75	510508	28.470	ng		100
53) 4-Methyl-2-pentanone	11.30	58	536530	54.786	ng		99
54) trans-1,3-Dichloropropene	11.93	75	496396	28.456	ng		100
55) 1,1,2-Trichloroethane	12.15	97	317508	25.973	ng		99
58) Toluene	12.53	91	1298002	25.375	ng		100
59) 2-Hexanone	12.89	43	1543063	54.354	ng		100
60) Dibromochloromethane	13.05	129	445931	26.973	ng		100
61) 1,2-Dibromoethane	13.38	107	390273	26.071	ng		100
62) n-Butyl Acetate	13.74	43	1699072	54.742	ng		100
63) n-Octane	13.89	57	249199	26.331	ng		98
64) Tetrachloroethene	14.01	166	420555	25.694	ng		100
65) Chlorobenzene	14.87	112	884856	25.576	ng		100
66) Ethylbenzene	15.39	91	1544619	26.344	ng		100
67) m- & p-Xylenes	15.63	91	2560767	53.109	ng		100
68) Bromoform	15.65	173	400107	27.933	ng		100
69) Styrene	16.07	104	932028	28.279	ng		100
70) o-Xylene	16.21	91	1254676	26.334	ng		100
71) n-Nonane	16.58	43	669908	26.748	ng		100
72) 1,1,2,2-Tetrachloroethane	16.19	83	543276	27.028	ng		99
74) Cumene	17.00	105	1534828	26.072	ng		100
75) alpha-Pinene	17.50	93	782433	27.455	ng		100
76) n-Propylbenzene	17.65	91	1860550	26.476	ng		100
77) 3-Ethyltoluene	17.00	105	1534828	No Calib			
78) 4-Ethyltoluene	17.84	105	1500268	27.209	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1318992	27.057	ng		100
80) alpha-Methylstyrene	17.00	118	2725	No Calib		#	
81) 2-Ethyltoluene	17.00	105	1534828	No Calib			
82) 1,2,4-Trimethylbenzene	18.41	105	1360179	27.307	ng		99
83) n-Decane	17.00	58	9475	No Calib			
84) Benzyl Chloride	18.54	91	2370317	72.105	ng		99
85) 1,3-Dichlorobenzene	18.56	146	834158	27.647	ng		100
86) 1,4-Dichlorobenzene	18.63	146	831096	27.640	ng		100
87) sec-Butylbenzene	18.72	105	1699218	26.122	ng		100
88) 4-Isopropyltoluene (p-...	18.91	119	1524307	26.230	ng		100
89) 1,2,3-Trimethylbenzene	17.00	105	1534828	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	796540	26.808	ng		100
91) d-Limonene	19.06	68	465174	29.563	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.50	157	635870	57.793	ng		99
93) n-Undecane	17.93	58	22325	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	1360009	64.525	ng		100
95) Naphthalene	20.92	128	1995967	37.400	ng		100
96) n-Dodecane	18.91	58	30056	No Calib		#	
97) Hexachlorobutadiene	21.28	225	429190	26.251	ng		100
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.41	119	1295521	26.225	ng		100
100) n-Butylbenzene	19.37	91	1448044	28.006	ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	363507	26.024	ng		100

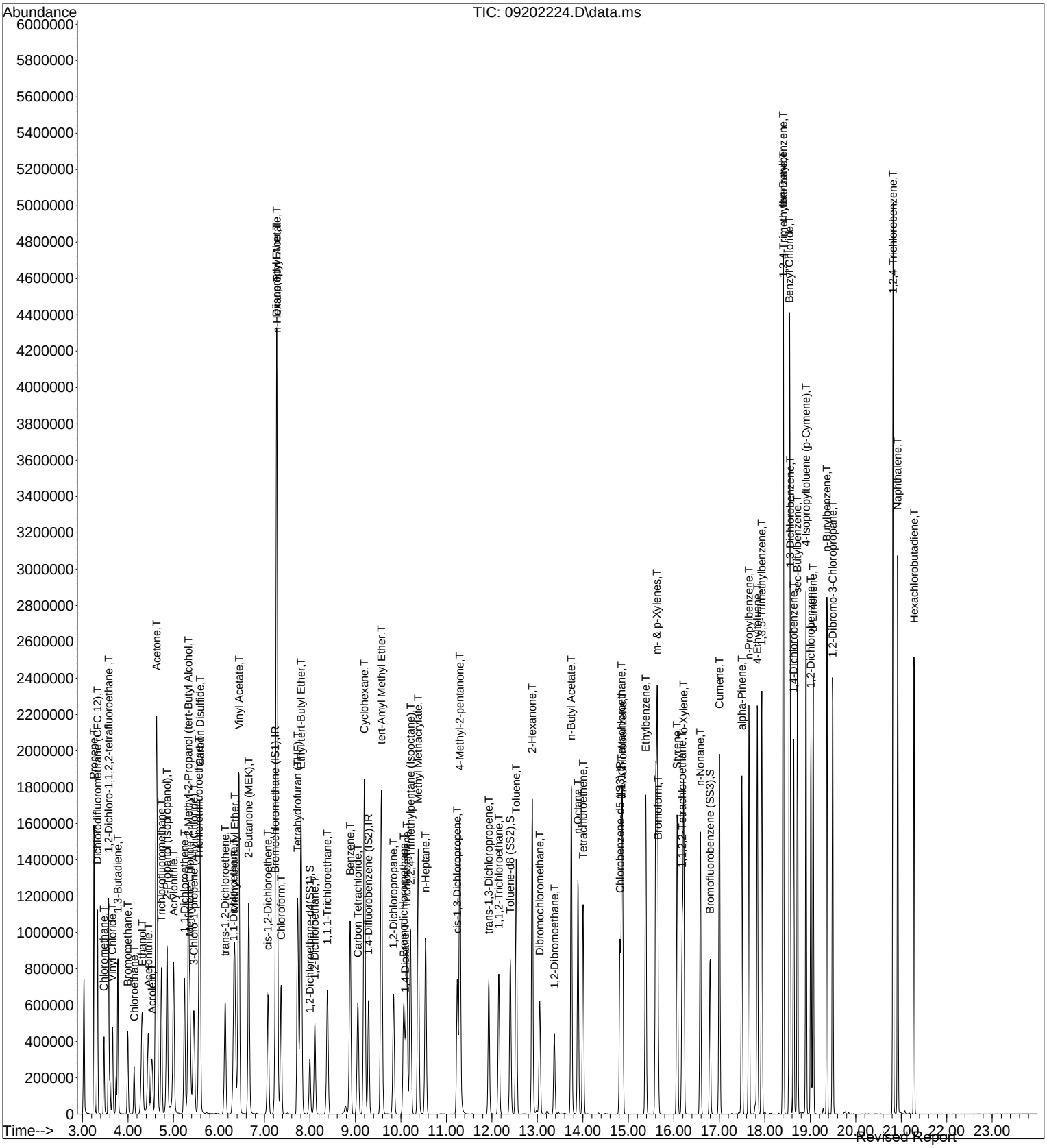
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 09\20\09202224.D Vial: 2
Acq On : 20 Sep 2022 18:13 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-09062202/S35-09072204 (10/6)

Quant Time: Sep 20 20:41:20 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 17:33:36 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental

LCS Acceptance Criteria

25ng TO-15 ICV STD

9/21/22

	RT
Bromochloromethane (IS1)	7.24
1,4-Difluorobenzene (IS2)	9.29
Chlorobenzene-d5 (IS3)	14.82

Datafile: 09202224.D
Instrument: MS-09
Date: 9/20/2022

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
115-07-1	Propene	27.183	26.5	103	56-128	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	24.274	26.5	92	71-112	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	23.404	25.8	91	53-126	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	24.106	25.8	93	62-121	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	24.005	25.5	94	63-123	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	25.597	26.5	97	63-135	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	24.940	25.8	97	71-112	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	25.314	26.0	97	66-117	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	102.988	88.3	117	57-117	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	22.759	22.8	100	59-131	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	52.338	48.5	108	71-123	ok	70-130	ok	62-126	ok
67-64-1	Acetone	118.973	133	89	60-117	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	23.609	26.3	90	71-114	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	48.158	51.5	94	61-124	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	53.309	51.5	104	65-130	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	26.290	27.0	97	74-114	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	56.225	53.3	105	56-135	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	25.402	26.5	96	75-112	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	21.447	26.8	80	57-127	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	25.313	27.0	94	73-114	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	51.306	53.3	96	70-113	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	26.669	27.0	99	76-119	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	25.930	27.0	96	70-114	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	26.039	26.8	97	72-118	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	125.084	70.5	177	56-137	FAIL	70-130	FAIL	56-139	FAIL
78-93-3	2-Butanone	52.790	52.3	101	74-121	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	25.892	26.8	97	73-117	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	50.115	52.5	95	58-124	ok	70-130	ok	70-117	ok
141-78-6	Ethyl Acetate	74.317	107	69	59-161	ok	70-130	FAIL	65-128	ok
110-54-3	n-Hexane	25.056	26.5	95	55-130	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	25.211	26.5	95	71-114	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	52.382	51.5	102	73-114	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	51.447	53.5	96	76-119	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	25.655	27.0	95	71-119	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	24.794	26.3	94	73-119	ok	70-130	ok	68-125	ok
108-21-4	Isopropyl Acetate	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	65-129	#N/A
71-36-3	1-Butanol	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-133	#N/A
71-43-2	Benzene	25.611	27.0	95	72-113	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	23.884	25.8	93	67-123	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	50.535	52.8	96	70-119	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	52.233	53.5	98	74-120	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	25.613	26.5	97	70-118	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	26.665	27.0	99	74-119	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	25.483	26.5	96	74-115	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	27.306	26.5	103	77-124	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	25.135	27.0	93	65-120	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	56.628	53.3	106	78-126	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	26.073	26.5	98	70-119	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	28.470	27.0	105	81-126	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	54.786	54.0	101	73-129	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

25ng TO-15 ICV STD

	RT
Bromochloromethane (IS1)	7.24
1,4-Difluorobenzene (IS2)	9.29
Chlorobenzene-d5 (IS3)	14.82

Datafile: 09202224.D
Instrument: MS-09
Date: 9/20/2022

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
10061-02-6	trans-1,3-Dichloropropene	28.456	25.8	110	80-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	25.973	26.5	98	78-117	ok	70-130	ok	73-119	ok
108-88-3	Toluene	25.375	26.5	96	70-118	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	54.354	53.3	102	74-132	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	26.973	27.0	100	69-137	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	26.071	26.0	100	76-128	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	54.742	51.3	107	75-134	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	26.331	26.8	98	68-120	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	25.694	26.5	97	63-130	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	25.576	26.5	97	70-118	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	26.344	26.3	100	71-123	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	53.109	52.5	101	67-127	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	27.933	26.8	104	65-149	ok	70-130	ok	66-139	ok
100-42-5	Styrene	28.279	26.5	107	76-132	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	26.334	26.5	99	69-124	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	26.748	26.5	101	64-127	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	27.028	26.5	102	69-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	26.072	26.5	98	69-125	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	27.455	27.3	101	68-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	26.476	26.8	99	70-127	ok	70-130	ok	69-123	ok
620-14-4	3-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-123	#N/A
622-96-8	4-Ethyltoluene	27.209	27.0	101	69-127	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	27.057	26.3	103	66-129	ok	70-130	ok	67-130	ok
98-83-9	alpha-Methylstyrene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	67-128	#N/A
611-14-3	2-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	66-121	#N/A
95-63-6	1,2,4-Trimethylbenzene	27.307	26.0	105	63-142	ok	70-130	ok	66-132	ok
124-18-5	n-Decane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	70-118	#N/A
100-44-7	Benzyl Chloride	72.105	52.5	137	73-145	ok	70-130	FAIL	50-147	ok
541-73-1	1,3-Dichlorobenzene	27.647	26.3	105	67-136	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	27.640	26.5	104	63-134	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	26.122	26.3	99	68-130	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	26.230	26.3	100	60-139	ok	70-130	ok	67-130	ok
526-73-8	1,2,3-Trimethylbenzene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	60-134	#N/A
95-50-1	1,2-Dichlorobenzene	26.808	26.5	101	64-139	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	29.563	26.3	112	63-137	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	57.793	52.0	111	72-145	ok	70-130	ok	73-133	ok
1120-21-4	n-Undecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	69-123	#N/A
120-82-1	1,2,4-Trichlorobenzene	64.525	51.5	125	62-154	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	37.400	27.0	139	62-156	ok	70-130	FAIL	57-138	FAIL
112-40-3	n-Dodecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-147	#N/A
87-68-3	Hexachloro-1,3-butadiene	26.251	26.3	100	55-142	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	61-132	#N/A
98-06-6	tert-Butylbenzene	26.225	26.3	100	61-140	ok	70-130	ok	65-124	ok
104-51-8	n-Butylbenzene	28.006	26.3	106	70-131	ok	70-130	ok	66-130	ok

ICV/LCS Standard Concentrations (Secondary Source)

9/21/22

4ng/L Working Std. ID:	
20ng/L Working Std. ID:	
200ng/L Working Std. ID:	S35-09072204
1000ng/L Working Std. ID:	

Dilution Factor:	1	5	50	250
Working Std. Conc. Utilized:	200			
Working Std. Injection Amounts (L):				

Compounds	mg/m^3	Secondary Working Std. Conc. 1000ng/L	200ng/L	20ng/L	4ng/L	0.025 ICV / LCS Actual Conc.(ng)
Propene	1.06	1060	212	21.2	4.24	5.30
Dichlorodifluoromethane(12)	1.06	1060	212	21.2	4.24	5.30
Chloromethane	1.03	1030	206	20.6	4.12	5.15
Freon-114	1.03	1030	206	20.6	4.12	5.15
Vinyl Chloride	1.02	1020	204	20.4	4.08	5.10
1,3-Butadiene	1.06	1060	212	21.2	4.24	5.30
Bromomethane	1.03	1030	206	20.6	4.12	5.15
Chloroethane	1.04	1040	208	20.8	4.16	5.20
Ethanol	3.53	3530	706	70.6	14.12	17.65
Acetonitrile	0.91	910	182	18.2	3.64	4.55
Acrolein	1.94	1940	388	38.8	7.76	9.70
Acetone	5.30	5300	1060	106.0	21.20	26.50
Trichlorofluoromethane(11)	1.05	1050	210	21.0	4.20	5.25
Isopropanol	2.06	2060	412	41.2	8.24	10.30
Acrylonitrile	2.06	2060	412	41.2	8.24	10.30
1,1-Dichloroethene	1.08	1080	216	21.6	4.32	5.40
tert-Butanol	2.13	2130	426	42.6	8.52	10.65
Methylene Chloride	1.06	1060	212	21.2	4.24	5.30
Allyl Chloride	1.07	1070	214	21.4	4.28	5.35
Trichlorotrifluoroethane(113)	1.08	1080	216	21.6	4.32	5.40
Carbon Disulfide	2.13	2130	426	42.6	8.52	10.65
trans-1,2-Dichloroethene	1.08	1080	216	21.6	4.32	5.40
1,1-Dichloroethane	1.08	1080	216	21.6	4.32	5.40
Methyl tert-Butyl Ether	1.07	1070	214	21.4	4.28	5.35
Vinyl Acetate	2.82	2820	564	56.4	11.28	14.10
2-Butanone	2.09	2090	418	41.8	8.36	10.45
cis-1,2-Dichloroethene	1.07	1070	214	21.4	4.28	5.35
Diisopropyl Ether	2.10	2100	420	42.0	8.40	10.50
Ethyl Acetate	4.28	4280	856	85.6	17.12	21.40
n-Hexane	1.06	1060	212	21.2	4.24	5.30
Chloroform	1.06	1060	212	21.2	4.24	5.30
Tetrahydrofuran	2.06	2060	412	41.2	8.24	10.30
Ethyl tert-Butyl Ether	2.14	2140	428	42.8	8.56	10.70
1,2-Dichloroethane	1.08	1080	216	21.6	4.32	5.40
1,1,1-Trichloroethane	1.05	1050	210	21.0	4.20	5.25
Benzene	1.08	1080	216	21.6	4.32	5.40
Carbon Tetrachloride	1.03	1030	206	20.6	4.12	5.15
Cyclohexane	2.11	2110	422	42.2	8.44	10.55
tert-Amyl Methyl Ether	2.14	2140	428	42.8	8.56	10.70
1,2-Dichloropropane	1.06	1060	212	21.2	4.24	5.30
Bromodichloromethane	1.08	1080	216	21.6	4.32	5.40
Trichloroethene	1.06	1060	212	21.2	4.24	5.30
1,4-Dioxane	1.06	1060	212	21.2	4.24	5.30
Isooctane	1.08	1080	216	21.6	4.32	5.40

Compounds	mg/m^3	Secondary Working Std. Conc. 1000ng/L	200ng/L	20ng/L	4ng/L	0.025 ICV / LCS Actual Conc.(ng)
Methyl Methacrylate	2.13	2130	426	42.6	8.52	10.65
n-Heptane	1.06	1060	212	21.2	4.24	5.30
cis-1,3-Dichloropropene	1.08	1080	216	21.6	4.32	5.40
4-Methyl-2-pentanone	2.16	2160	432	43.2	8.64	10.80
trans-1,3-Dichloropropene	1.03	1030	206	20.6	4.12	5.15
1,1,2-Trichloroethane	1.06	1060	212	21.2	4.24	5.30
Toluene	1.06	1060	212	21.2	4.24	5.30
2-Hexanone	2.13	2130	426	42.6	8.52	10.65
Dibromochloromethane	1.08	1080	216	21.6	4.32	5.40
1,2-Dibromoethane	1.04	1040	208	20.8	4.16	5.20
n-Butyl Acetate	2.05	2050	410	41.0	8.20	10.25
n-Octane	1.07	1070	214	21.4	4.28	5.35
Tetrachloroethene	1.06	1060	212	21.2	4.24	5.30
Chlorobenzene	1.06	1060	212	21.2	4.24	5.30
Ethylbenzene	1.05	1050	210	21.0	4.20	5.25
m-,p-Xylene	2.10	2100	420	42.0	8.40	10.50
Bromoform	1.07	1070	214	21.4	4.28	5.35
Styrene	1.06	1060	212	21.2	4.24	5.30
o-Xylene	1.06	1060	212	21.2	4.24	5.30
n-Nonane	1.06	1060	212	21.2	4.24	5.30
1,1,2,2-Tetrachloroethane	1.06	1060	212	21.2	4.24	5.30
Cumene	1.06	1060	212	21.2	4.24	5.30
alpha-Pinene	1.09	1090	218	21.8	4.36	5.45
n-Propylbenzene	1.07	1070	214	21.4	4.28	5.35
4-Ethyltoluene	1.08	1080	216	21.6	4.32	5.40
1,3,5-Trimethylbenzene	1.05	1050	210	21.0	4.20	5.25
1,2,4-Trimethylbenzene	1.04	1040	208	20.8	4.16	5.20
Benzyl Chloride	2.10	2100	420	42.0	8.40	10.50
1,3-Dichlorobenzene	1.05	1050	210	21.0	4.20	5.25
1,4-Dichlorobenzene	1.06	1060	212	21.2	4.24	5.30
sec-Butylbenzene	1.05	1050	210	21.0	4.20	5.25
p-Isopropyltoluene	1.05	1050	210	21.0	4.20	5.25
1,2-Dichlorobenzene	1.06	1060	212	21.2	4.24	5.30
d-Limonene	1.05	1050	210	21.0	4.20	5.25
1,2-Dibromo-3-chloropropane	2.08	2080	416	41.6	8.32	10.40
1,2,4-Trichlorobenzene	2.06	2060	412	41.2	8.24	10.30
Naphthalene	1.08	1080	216	21.6	4.32	5.40
Hexachloro-1,3-butadiene	1.05	1050	210	21.0	4.20	5.25
tert-Butylbenzene	1.05	1050	210	21.0	4.20	5.25
n-Butylbenzene	1.05	1050	210	21.0	4.20	5.25
1,1,1,2-Tetrachloroethane	1.06	1060	212	21.2	4.24	5.30

***Enter Information in the Solid Shaded Areas ONLY.**

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 11\02\11022236.D Vial: 2
Acq On : 2 Nov 2022 21:37 Operator: SC
Sample : CCV2 R9110222 25ng Inst : MS09
Misc : S35-10282201/S35-10062203 (11/5)

Quant Time: Nov 03 08:22:42 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/3/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	87	0.00
2	T	Propene	1.264	1.130	10.6	83	0.00
3	T	Dichlorodifluoromethane (CF	2.355	1.921	18.4	75	0.00
4	T	Chloromethane	1.237	1.215	1.8	90	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.202	1.026	14.6	76	0.00
6	T	Vinyl Chloride	1.373	1.337	2.6	88	0.00
7	T	1,3-Butadiene	0.954	0.962	-0.8	86	0.00
8	T	Bromomethane	0.870	0.785	9.8	80	0.00
9	T	Chloroethane	0.595	0.541	9.1	83	0.00
10	T	Ethanol	0.820	0.672	18.0	76	0.00
11	T	Acetonitrile	2.090	1.811	13.3	79	0.00
12	T	Acrolein	0.576	0.559	3.0	84	0.00
13	T	Acetone	0.672	0.604	10.1	88	0.00
14	T	Trichlorofluoromethane	2.284	1.815	20.5	74	0.00
15	T	2-Propanol (Isopropanol)	2.486	2.191	11.9	80	0.00
16	T	Acrylonitrile	1.141	1.161	-1.8	87	0.00
17	T	1,1-Dichloroethene	0.968	0.811	16.2	74	0.00
18	T	2-Methyl-2-Propanol (tert-B	2.316	2.633	-13.7	88	0.00
19	T	Methylene Chloride	1.005	0.872	13.2	78	0.00
20	T	3-Chloro-1-propene (Allyl C	1.969	1.432	27.3	73	0.00
21	T	Trichlorotrifluoroethane	1.030	0.961	6.7	84	0.00
22	T	Carbon Disulfide	3.359	2.913	13.3	76	0.00
23	T	trans-1,2-Dichloroethene	1.413	1.364	3.5	84	0.00
24	T	1,1-Dichloroethane	1.718	1.572	8.5	84	0.00
25	T	Methyl tert-Butyl Ether	3.054	2.862	6.3	80	0.00
26	T	Vinyl Acetate	0.160	0.168	-5.0	82	0.00
27	T	2-Butanone (MEK)	0.572	0.555	3.0	83	0.00
28	T	cis-1,2-Dichloroethene	1.403	1.307	6.8	83	0.00
29	T	Diisopropyl Ether	0.792	0.748	5.6	85	0.00
30	T	Ethyl Acetate	0.383	0.390	-1.8	89	0.00
31	T	n-Hexane	1.549	1.567	-1.2	92	0.00
32	T	Chloroform	1.952	1.711	12.3	79	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.780	1.821	-2.3	90	0.00
34	T	Tetrahydrofuran (THF)	0.555	0.520	6.3	82	0.00
35	T	Ethyl tert-Butyl Ether	1.172	1.102	6.0	82	0.00
36	T	1,2-Dichloroethane	1.606	1.475	8.2	83	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	90	0.00
38	T	1,1,1-Trichloroethane	0.445	0.382	14.2	79	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	79	0.00
40	T	1-Butanol	0.000	0.000	0.0	91	0.00
41	T	Benzene	0.869	0.740	14.8	81	0.00
42	T	Carbon Tetrachloride	0.390	0.347	11.0	79	0.00
43	T	Cyclohexane	0.324	0.295	9.0	84	0.00
44	T	tert-Amyl Methyl Ether	0.655	0.585	10.7	79	0.00
45	T	1,2-Dichloropropane	0.208	0.192	7.7	87	0.00
46	T	Bromodichloromethane	0.352	0.315	10.5	79	0.00
47	T	Trichloroethene	0.278	0.254	8.6	83	0.00
48	T	1,4-Dioxane	0.172	0.161	6.4	79	0.00
49	T	2,2,4-Trimethylpentane (Iso	0.883	0.819	7.2	88	0.00
50	T	Methyl Methacrylate	0.084	0.084	0.0	83	0.00
51	T	n-Heptane	0.196	0.182	7.1	83	0.00
52	T	cis-1,3-Dichloropropene	0.338	0.334	1.2	85	0.00
53	T	4-Methyl-2-pentanone	0.185	0.184	0.5	86	0.00
54	T	trans-1,3-Dichloropropene	0.329	0.343	-4.3	84	0.00
55	T	1,1,2-Trichloroethane	0.231	0.208	10.0	82	0.00

Revised Report

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 11\02\11022236.D Vial: 2
Acq On : 2 Nov 2022 21:37 Operator: SC
Sample : CCV2 R9110222 25ng Inst : MS09
Misc : S35-10282201/S35-10062203 (11/5)

Quant Time: Nov 03 08:22:42 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	82	0.00
57	S	Toluene-d8 (SS2)	5.304	5.763	-8.7	89	0.00
58	T	Toluene	4.659	4.438	4.7	81	0.00
59	T	2-Hexanone	2.586	2.537	1.9	78	0.00
60	T	Dibromochloromethane	1.506	1.559	-3.5	81	0.00
61	T	1,2-Dibromoethane	1.364	1.351	1.0	80	0.00
62	T	n-Butyl Acetate	2.827	2.831	-0.1	79	0.00
63	T	n-Octane	0.862	0.913	-5.9	88	0.00
64	T	Tetrachloroethene	1.491	1.485	0.4	83	0.00
65	T	Chlorobenzene	3.151	3.186	-1.1	86	0.00
66	T	Ethylbenzene	5.341	5.241	1.9	80	0.00
67	T	m- & p-Xylenes	4.392	4.310	1.9	80	0.00
68	T	Bromoform	1.305	1.414	-8.4	82	0.00
69	T	Styrene	3.002	3.253	-8.4	84	0.00
70	T	o-Xylene	4.340	4.243	2.2	81	0.00
71	T	n-Nonane	2.281	2.232	2.1	80	0.00
72	T	1,1,2,2-Tetrachloroethane	1.831	1.813	1.0	80	0.00
73	S	Bromofluorobenzene (SS3)	2.290	2.129	7.0	75	0.00
74	T	Cumene	5.362	5.376	-0.3	83	0.00
75	T	alpha-Pinene	2.596	2.726	-5.0	83	0.00
76	T	n-Propylbenzene	6.401	6.288	1.8	80	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	83	0.00
78	T	4-Ethyltoluene	5.022	5.334	-6.2	85	0.00
79	T	1,3,5-Trimethylbenzene	4.440	4.576	-3.1	83	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	76	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	83	0.00
82	T	1,2,4-Trimethylbenzene	4.537	4.800	-5.8	84	0.00
83	T	n-Decane	0.000	0.000	0.0	87	0.00
84	T	Benzyl Chloride	2.994	3.983	-33.0#	87	0.00
85	T	1,3-Dichlorobenzene	2.748	2.856	-3.9	83	0.00
86	T	1,4-Dichlorobenzene	2.739	2.833	-3.4	84	0.00
87	T	sec-Butylbenzene	5.925	6.066	-2.4	83	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.293	5.461	-3.2	84	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	83	0.00
90	T	1,2-Dichlorobenzene	2.706	2.744	-1.4	83	0.00
91	T	d-Limonene	1.433	1.580	-10.3	82	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.002	1.134	-13.2	85	0.00
93	T	n-Undecane	0.000	0.000	0.0	93	0.00
94	T	1,2,4-Trichlorobenzene	1.920	2.332	-21.5	89	0.00
95	T	Naphthalene	4.861	6.222	-28.0	90	0.00
96	T	n-Dodecane	0.000	0.000	0.0	91	0.00
97	T	Hexachlorobutadiene	1.489	1.574	-5.7	86	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-15.18#
99	T	tert-Butylbenzene	4.500	4.613	-2.5	83	0.00
100	T	n-Butylbenzene	4.710	4.837	-2.7	81	0.00
101	T	1,1,1,2-Tetrachloroethane	1.272	1.277	-0.4	81	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022236.D Vial: 2
Acq On : 2 Nov 2022 21:37 Operator: SC
Sample : CCV2 R9110222 25ng Inst : MS09
Misc : S35-10282201/S35-10062203 (11/5)

Quant Time: Nov 03 08:22:42 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/3/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	132171	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	584362	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	111983	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	240659	12.789	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
57) Toluene-d8 (SS2)	12.40	98	645323	13.580	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.64%				
73) Bromofluorobenzene (SS3)	16.79	174	238440	11.621	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
Target Compounds							Qvalue
2) Propene	3.25	42	313533	23.454	ng		97
3) Dichlorodifluoromethan...	3.33	85	538208	21.617	ng		100
4) Chloromethane	3.47	50	330722	25.286	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	281999	22.180	ng		100
6) Vinyl Chloride	3.66	62	356984	24.591	ng		100
7) 1,3-Butadiene	3.77	54	269689	26.749	ng		90
8) Bromomethane	3.99	94	211687	23.022	ng		98
9) Chloroethane	4.14	64	147273	23.427	ng		99
10) Ethanol	4.31	45	612695	70.674	ng		100
11) Acetonitrile	4.45	41	435567	19.713	ng		100
12) Acrolein	4.53	56	285082	46.849	ng		100
13) Acetone	4.63	58	842100	118.478	ng	#	85
14) Trichlorofluoromethane	4.74	101	498962	20.662	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	1187316	45.162	ng		98
16) Acrylonitrile	5.01	53	629168	52.171	ng		99
17) 1,1-Dichloroethene	5.24	96	231662	22.626	ng		96
18) 2-Methyl-2-Propanol (t...	5.33	59	1468515	59.970	ng		97
19) Methylene Chloride	5.36	84	244322	23.000	ng		94
20) 3-Chloro-1-propene (Al...	5.45	41	401357	19.278	ng		95
21) Trichlorotrifluoroethane	5.56	151	274366	25.188	ng		97
22) Carbon Disulfide	5.58	76	1640076	46.173	ng		99
23) trans-1,2-Dichloroethene	6.14	61	389426	26.069	ng		96
24) 1,1-Dichloroethane	6.32	63	444624	24.483	ng		98
25) Methyl tert-Butyl Ether	6.35	73	809368	25.062	ng		96
26) Vinyl Acetate	6.44	86	124422	73.553	ng	#	96
27) 2-Butanone (MEK)	6.66	72	306389	50.655	ng		94
28) cis-1,2-Dichloroethene	7.08	61	366230	24.690	ng		97
29) Diisopropyl Ether	7.27	87	419406	50.084	ng		98
30) Ethyl Acetate	7.27	61	435332	107.630	ng		99
31) n-Hexane	7.28	57	434812	26.549	ng		99
32) Chloroform	7.37	83	479307	23.220	ng		100
34) Tetrahydrofuran (THF)	7.73	72	280527	47.840	ng	#	90
35) Ethyl tert-Butyl Ether	7.80	87	617583	49.823	ng		91
36) 1,2-Dichloroethane	8.11	62	421090	24.803	ng		100
38) 1,1,1-Trichloroethane	8.38	97	468938	22.553	ng		99
39) Isopropyl Acetate	9.20	61	1389	No Calib		#	
40) 1-Butanol	8.79	56	12764	No Calib		#	
41) Benzene	8.88	78	925677	22.787	ng		99
42) Carbon Tetrachloride	9.05	117	421387	23.119	ng		99
43) Cyclohexane	9.20	84	723797	47.733	ng		96
44) tert-Amyl Methyl Ether	9.57	73	1449541	47.332	ng		98
45) 1,2-Dichloropropane	9.84	63	235754	24.221	ng		99
46) Bromodichloromethane	10.06	83	393772	23.937	ng		100
47) Trichloroethene	10.13	130	311295	23.923	ng		99
48) 1,4-Dioxane	10.09	88	199073	24.809	ng		94
49) 2,2,4-Trimethylpentane...	10.21	57	1034202	25.049	ng		94
50) Methyl Methacrylate	10.38	100	207143	53.039	ng		96

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022236.D Vial: 2
Acq On : 2 Nov 2022 21:37 Operator: SC
Sample : CCV2 R9110222 25ng Inst : MS09
Misc : S35-10282201/S35-10062203 (11/5)

Quant Time: Nov 03 08:22:42 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	225708	24.687 ng		95
52) cis-1,3-Dichloropropene	11.24	75	422084	26.702 ng		98
53) 4-Methyl-2-pentanone	11.30	58	462265	53.546 ng		88
54) trans-1,3-Dichloropropene	11.93	75	409061	26.600 ng		98
55) 1,1,2-Trichloroethane	12.15	97	257263	23.873 ng		98
58) Toluene	12.53	91	1043602	25.002 ng		100
59) 2-Hexanone	12.89	43	1204583	51.999 ng		94
60) Dibromochloromethane	13.05	129	377215	27.962 ng		98
61) 1,2-Dibromoethane	13.37	107	314618	25.756 ng		98
62) n-Butyl Acetate	13.74	43	1299674	51.316 ng		96
63) n-Octane	13.89	57	218713	28.321 ng		95
64) Tetrachloroethene	14.01	166	352504	26.392 ng		99
65) Chlorobenzene	14.87	112	756320	26.790 ng		99
66) Ethylbenzene	15.38	91	1232391	25.758 ng		100
67) m- & p-Xylenes	15.63	91	2027322	51.526 ng		99
68) Bromoform	15.65	173	338880	28.993 ng		100
69) Styrene	16.07	104	772325	28.717 ng		99
70) o-Xylene	16.21	91	1007404	25.912 ng		100
71) n-Nonane	16.58	43	529975	25.932 ng		94
72) 1,1,2,2-Tetrachloroethane	16.18	83	430432	26.243 ng		99
74) Cumene	17.00	105	1288338	26.819 ng		98
75) alpha-Pinene	17.49	93	665470	28.616 ng		97
76) n-Propylbenzene	17.65	91	1506888	26.279 ng		99
77) 3-Ethyltoluene	17.00	105	1288338	No Calib		
78) 4-Ethyltoluene	17.83	105	1302269	28.943 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	1086426	27.312 ng		99
80) alpha-Methylstyrene	17.00	118	2341	No Calib	#	
81) 2-Ethyltoluene	17.00	105	1288338	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1128868	27.773 ng		99
83) n-Decane	17.00	58	8352	No Calib		
84) Benzyl Chloride	18.54	91	1891081	70.499 ng		99
85) 1,3-Dichlorobenzene	18.55	146	678138	27.544 ng		99
86) 1,4-Dichlorobenzene	18.63	146	672512	27.409 ng		98
87) sec-Butylbenzene	18.72	105	1440117	27.131 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	1296472	27.340 ng		98
89) 1,2,3-Trimethylbenzene	17.00	105	1288338	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	657668	27.126 ng		98
91) d-Limonene	19.06	68	378598	29.487 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	533428	59.415 ng		96
93) n-Undecane	17.93	58	20063	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1091478	63.461 ng		98
95) Naphthalene	20.92	128	1532983	35.202 ng		100
96) n-Dodecane	18.90	58	26642	No Calib	#	
97) Hexachlorobutadiene	21.28	225	373744	28.014 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	1095100	27.167 ng		99
100) n-Butylbenzene	19.37	91	1159194	27.475 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	303108	26.593 ng		99

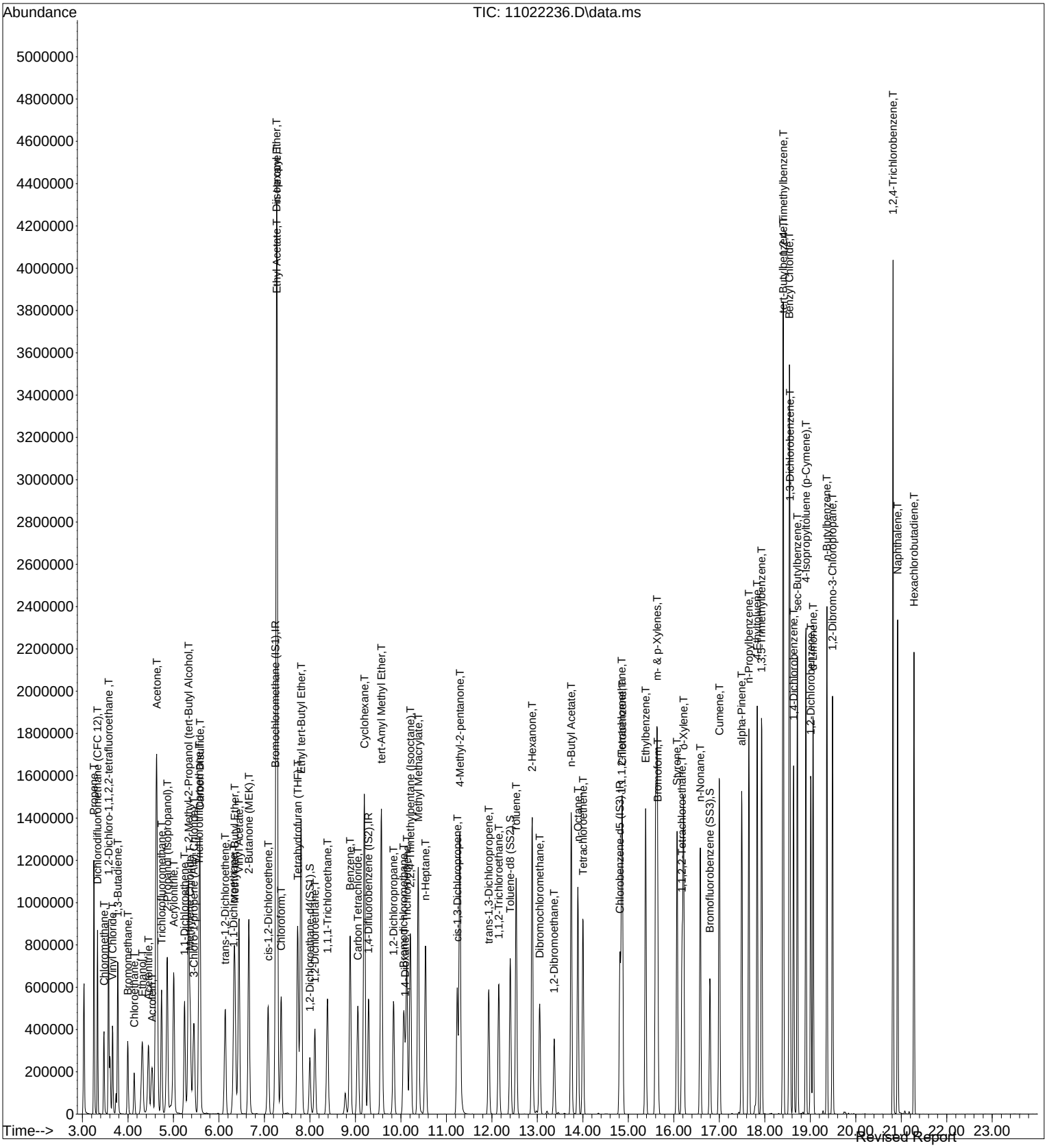
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\02\11022236.D Vial: 2
Acq On : 2 Nov 2022 21:37 Operator: SC
Sample : CCV2 R9110222 25ng Inst : MS09
Misc : S35-10282201/S35-10062203 (11/5)

Quant Time: Nov 03 08:22:42 2022
Quant Method : I:\MS09\METHODS\R9092022.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 20 20:44:12 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

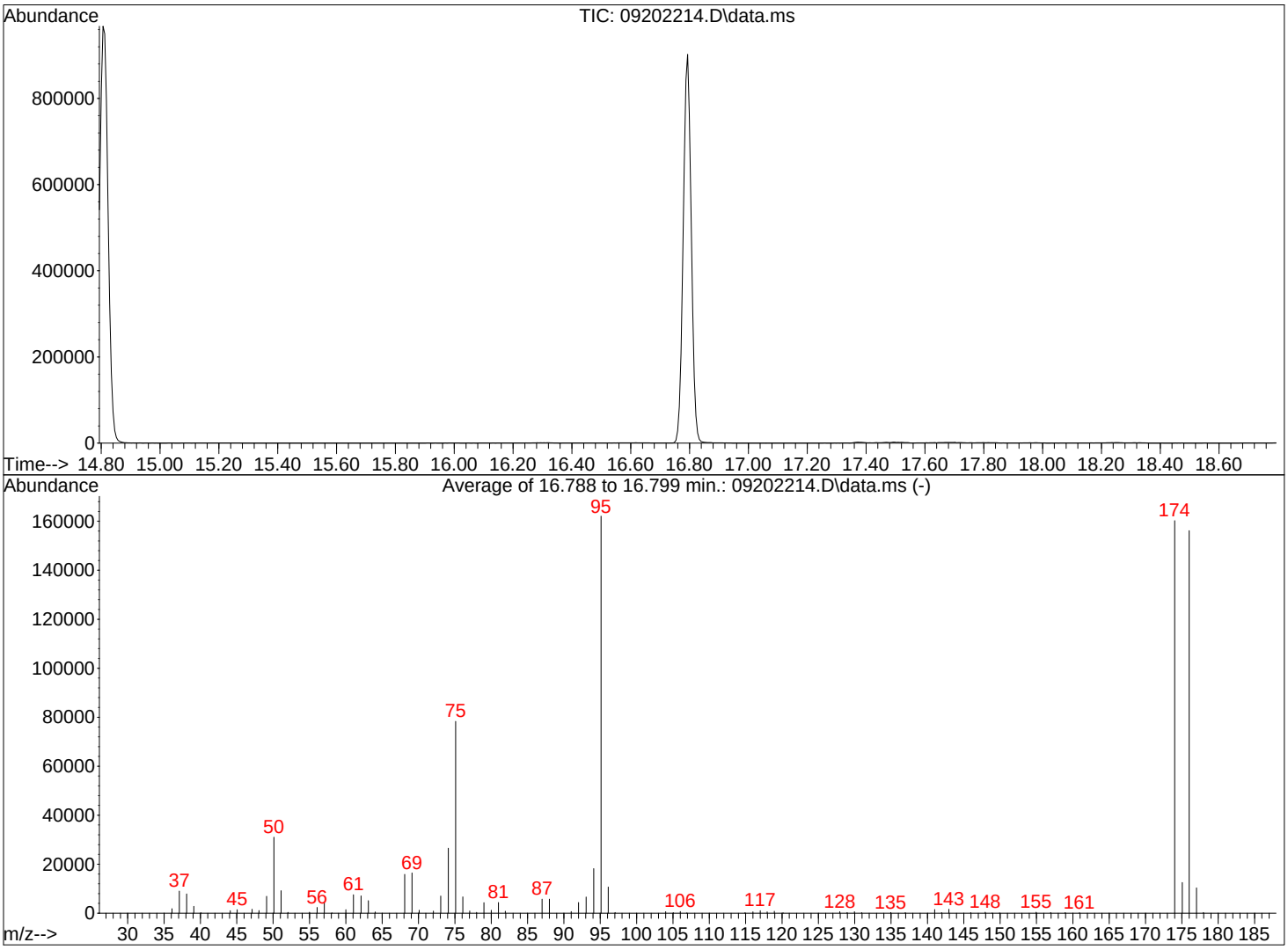


Data Path : I:\MS09\DATA\2022 09\20\
Data File : 09202214.D
Acq On : 20 Sep 2022 12:52
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S35-09062202
ALS Vial : 2 Sample Multiplier: 1

9/20/22

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R9092022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Sep 20 16:29:44 2022



AutoFind: Scans 2449, 2450, 2451; Background Corrected with Scan 2440

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.1	31021	PASS
75	95	30	66	48.3	78317	PASS
95	95	100	100	100.0	162091	PASS
96	95	5	9	6.6	10677	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	98.9	160277	PASS
175	174	4	9	7.8	12534	PASS
176	174	93	101	97.4	156181	PASS
177	176	5	9	6.6	10326	PASS

Revised Report

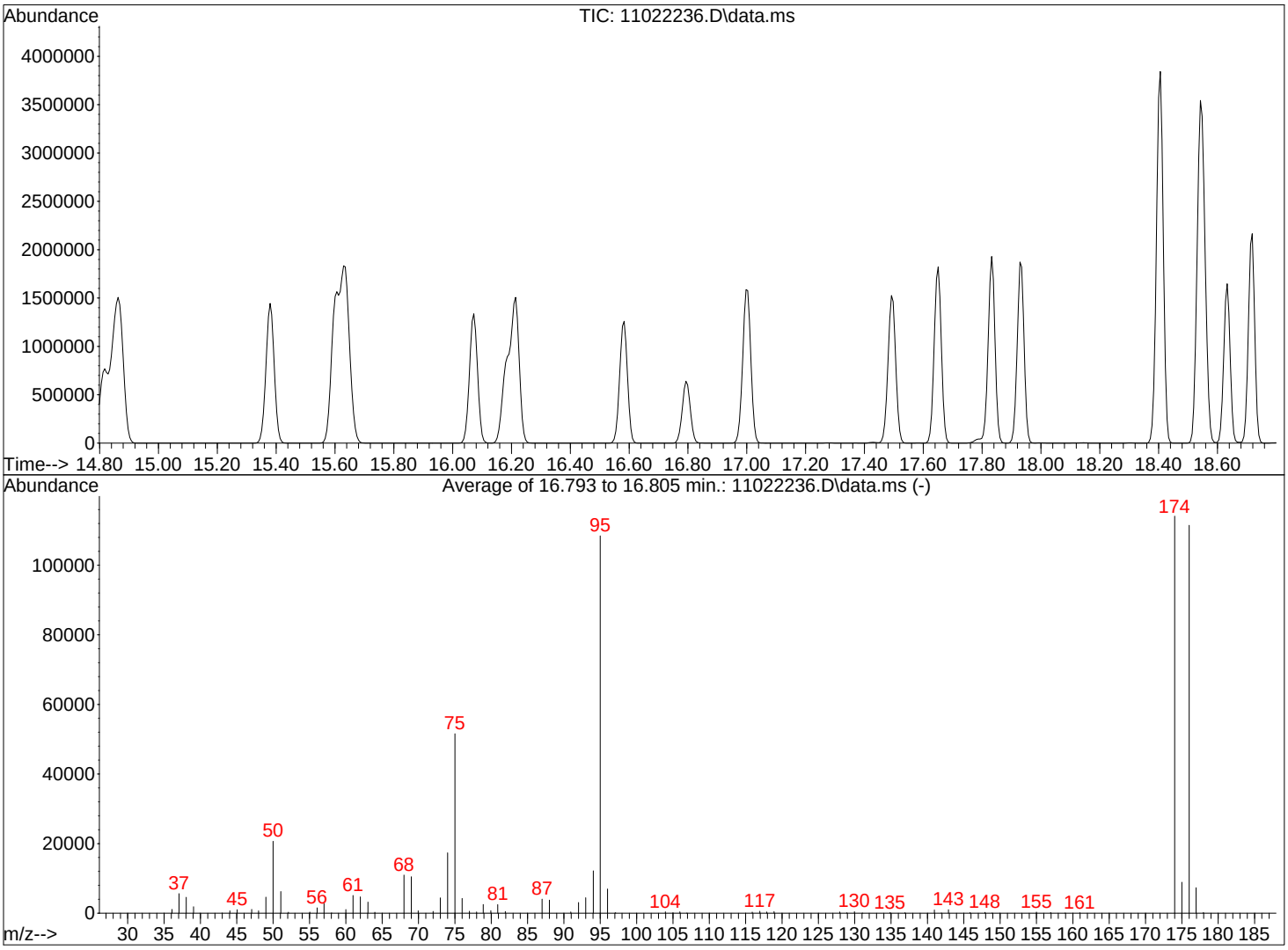
BFB

Data Path : I:\MS09\DATA\2022 11\02\
Data File : 11022236.D
Acq On : 2 Nov 2022 21:37
Operator : SC
Sample : CCV2 R9110222 25ng
Misc : S35-10282201/S35-10062203 (11/5)
ALS Vial : 2 Sample Multiplier: 1

11/3/22

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R9092022.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Sep 20 20:44:12 2022



AutoFind: Scans 2450, 2451, 2452; Background Corrected with Scan 2441

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.1	20673	PASS
75	95	30	66	47.5	51552	PASS
95	95	100	100	100.0	108435	PASS
96	95	5	9	6.4	6948	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	105.2	114093	PASS
175	174	4	9	7.8	8918	PASS
176	174	93	101	97.7	111456	PASS
177	176	5	9	6.6	7334	PASS

Revised Report

Injection Log

Directory: J:\MS09\DATA\2022_09\20\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
14	9/20/22 12:52	09202214.D	12.5ng TO-15 BFB STD	S35-09062202	SC	2	pass
15	9/20/22 13:24	09202215.D	0.1ng TO-15 ICAL STD	S35-09062202/S35-09162201 (10/15)	SC	5	
16	9/20/22 13:56	09202216.D	0.2ng TO-15 ICAL STD	S35-09062202/S35-09162201 (10/15)	SC	5	
17	9/20/22 14:28	09202217.D	0.5ng TO-15 ICAL STD	S35-09062202/S35-09082202 (10/7)	SC	6	
18	9/20/22 15:00	09202218.D	1.0ng TO-15 ICAL STD	S35-09062202/S35-09082202 (10/7)	SC	6	
19	9/20/22 15:32	09202219.D	5.0ng TO-15 ICAL STD	S35-09062202/S35-09082202 (10/7)	SC	6	
20	9/20/22 16:04	09202220.D	25ng TO-15 ICAL STD	S35-09062202/S35-09142202 (10/13)	SC	2	
21	9/20/22 16:37	09202221.D	50ng TO-15 ICAL STD	S35-09062202/S35-09142202 (10/13)	SC	2	
22	9/20/22 17:09	09202222.D	100ng TO-15 ICAL STD	S35-09062202/S35-09142202 (10/13)	SC	2	
23	9/20/22 17:41	09202223.D	Blank	S35-09062202	SC	1	
24	9/20/22 18:13	09202224.D	25ng TO-15 ICV STD	S35-09062202/S35-09072204 (10/6)	SC	2	pass
25	9/20/22 18:45	09202225.D	5.0ng TO-15 ICV STD	S35-09062202/S35-09072204 (10/6)	SC	2	pass

9/21/22

Injection Log

Directory: I:\MS09\DATA\2022_11\02\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	11/2/22 21:05	11022235.D	CCV2 C9110222_25ng	S35-09282206/S35-10262203 (11/25)	SC	3	pass
2	11/2/22 21:37	11022236.D	CCV2 R9110222_25ng	S35-10282201/S35-10062203 (11/5)	SC	2	pass
3	11/2/22 22:09	11022237.D	Blank	S35-10282201	SC	1	
4	11/2/22 22:41	11022238.D	MB2 R9110222_1000mL	S35-10282201	SC	2	pass
5	11/2/22 23:13	11022239.D	LCS2 R9110222_25ng	S35-10282201/S35-10062205 (11/5)	SC	2	pass
6	11/2/22 23:45	11022240.D	LCSD2 R9110222_25ng	S35-10282201/S35-10062205 (11/5)	SC	2	pass
7	11/3/22 0:17	11022241.D	RL R9110222_0.5ng	S35-10282201/S35-10142201 (11/13)	SC	4	pass
8	11/3/22 8:43	11022242.D	P2204913-001Dil (5.0mL)	S35-10282201	SC	1	
9	11/3/22 9:15	11022243.D	P2204913-002Dil (5.0mL)	S35-10282201	SC	1	
10	11/3/22 9:47	11022244.D	P2204913-004Dil (5.0mL)	S35-10282201	SC	1	
11	11/3/22 10:19	11022245.D	P2204913-009 (50mL)	S35-10282201	SC	16	
12	11/3/22 10:51	11022246.D	P2204849-005 (10mL)	S35-10282201	SC	1	
13	11/3/22 11:23	11022247.D	P2204849-005 Dil (0.5mL)	S35-10282201	SC	1	
14	11/3/22 11:55	11022248.D	P2204794-013 (0.1mL)	S35-10282201	SC	1	
15	11/3/22 12:28	11022249.D	P2204794-014 (1.0mL)	S35-10282201	SC	1	
16	11/3/22 13:00	11022250.D	P2204794-014Dil (0.1mL)	S35-10282201	SC	1	
17	11/3/22 13:38	11022251.D	P2204794-015 (0.9mL)	S35-10282201	SC	1	
18	11/3/22 14:10	11022252.D	P2204794-016 (6.0mL)	S35-10282201	SC	1	
19	11/3/22 14:42	11022253.D	P2204794-016Dil (1.0mL)	S35-10282201	SC	1	
20	11/3/22 15:14	11022254.D	P2204794-017 (14mL)	S35-10282201	SC	1	
21	11/3/22 15:46	11022255.D	P2204794-017Dil (2.0mL)	S35-10282201	SC	1	
22	11/3/22 16:18	11022256.D	P2204794-018Dil (5.0mL)	S35-10282201	SC	1	
23	11/3/22 16:52	11022257.D	P2204794-018 (15mL)	S35-10282201	SC	1	
24	11/3/22 17:24	11022258.D	P2204818-001 (1000mL)	S35-10282201	SC	12	
25	11/3/22 17:56	11022259.D	P2204818-002 (1000mL)	S35-10282201	SC	13	
26	11/3/22 18:28	11022260.D	P2204818-003 (1000mL)	S35-10282201	SC	14	
27	11/3/22 19:00	11022261.D	P2204818-004 (1000mL)	S35-10282201	SC	15	
28	11/3/22 19:32	11022262.D	P2204818-005 (1000mL)	S35-10282201	SC	16	
29	11/3/22 20:04	11022263.D	P2204818-005dup (1000mL)	S35-10282201	SC	16	pass
							11/4/22

Revised Report

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 30072

Batch Started By: **on 10/11/22 0344**
Finished Cleaning By: **on 10/28/22 1043**

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS00715	10/11/22	10/12/22	Pass w/ Conditions	-14.3	10/28/22 1043					ms21-10/12/22
AS01338	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1043		-14.0	10/20/22 0911		
AS01140	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1043		-14.0	10/24/22 0231		
AS01760	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1044		-14.0	10/28/22 1044		
AS01643	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1044		-14.0	10/17/22 1227		
AC01763	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1044		-14.0	10/24/22 0231		
AS01292	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1044		-14.0	10/28/22 1044		
AS01438	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1044		-14.0	10/18/22 1025		
AS01765	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1044		-14.0	10/28/22 1044		
AS01056	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1044		-14.0	10/18/22 1025		
AS01024	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1044		-14.0	10/18/22 1025		
AS01115	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1044					
AS01719	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1044		-14.0	10/18/22 1025		
AS01560	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1044					
AC02351	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1044		-14.0	10/28/22 1044		
AS01629	10/11/22		Pass w/ Conditions	-14.3	10/28/22 1044		-14.0	10/18/22 1025		

Passed For: TO-15 (75 Comp 0.1 ug/m3)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Revised Report

Batch Comment:

*** QC Canister**

Revised Report

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 10\12\
Data File : 10122207.D
Acq On : 12 Oct 2022 18:17
Operator : KM
Sample : 101222 AS00715 30072
Misc : SIM (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 3 Sample Multiplier: 1

10/13/22

Quant Time: Oct 13 04:53:06 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

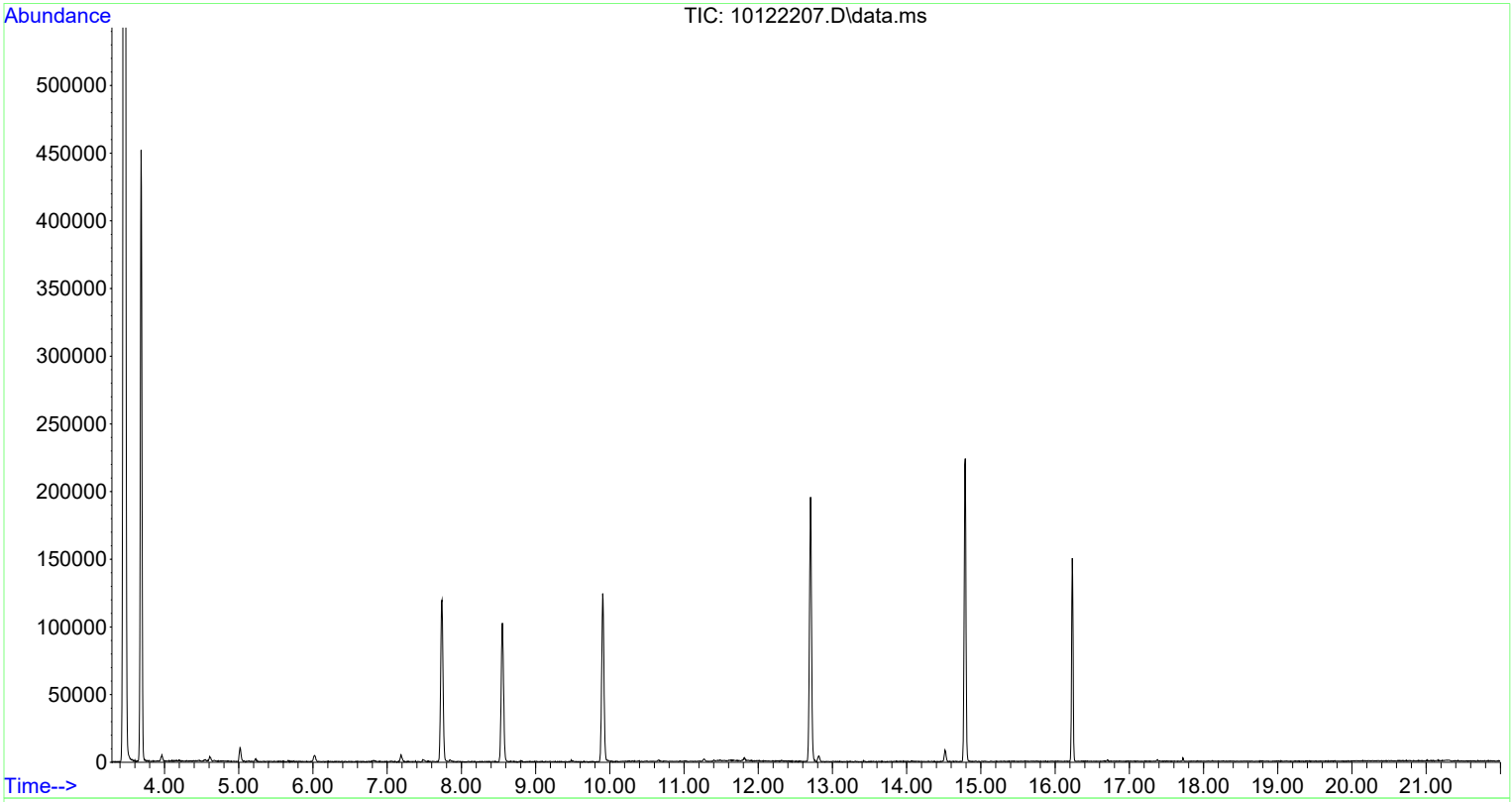
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.741	130	60957	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.907	114	133681	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	27678	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.555	65	99981	1067.97	pg		0.00
Spiked Amount 1000.000			Recovery = 106.80%				
57) Toluene-d8 (SS2)	12.708	98	153014	929.67	pg		0.00
Spiked Amount 1000.000			Recovery = 92.97%				
74) Bromofluorobenzene (SS3)	16.233	174	49715	748.47	pg		0.00
Spiked Amount 1000.000			Recovery = 74.85%				
Target Compounds							Qvalue
3] * Dichlorodifluoromethane	3.725	85	647	6.174	pg		94
4] * Chloromethane	3.856	50	166	5.574	pg		93
7] * 1,3-Butadiene	4.147	54	7	0.288	pg	#	8
10] * Ethanol	4.612	45	2361	66.893	pg		99
11] * Acetonitrile	4.783	41	295	2.513	pg	#	63
12] * Acrolein	4.890	56	135	4.318	pg		90
13] * Acetone	5.021	58	3614	74.635	pg		93
14] * Trichlorofluoromethane	5.138	101	543	3.787	pg		96
15] * 2-Propanol (Isopropa...	5.225	45	1538	13.306	pg	#	53
18] tert-Butanol	5.788	59	116	1.185	pg	#	46
19] * Methylene Chloride	5.744	84	436	5.997	pg		96
21] * Trichlorotrifluoroet...	6.002	151	106	1.522	pg		99
22] * Carbon Disulfide	6.021	76	9426	34.017	pg		99
26] * Vinyl Acetate	6.903	86	63	6.497	pg	#	14
27] * 2-Butanone (MEK)	7.189	72	1756	49.309	pg		79
29] DIPE	7.851	45	252	1.647	pg	#	46
30] * Ethyl Acetate	7.851	61	311	15.889	pg		87
31] * n-Hexane	7.825	57	63	0.935	pg	#	55
32] * Chloroform	7.877	83	125	0.987	pg		85
39] * Benzene	9.495	78	1177	8.953	pg		97
42] * Carbon Tetrachloride	9.662	117	107	1.812	pg		92
48] * 1,4-Dioxane	10.786	88	60	1.661	pg	#	6
49] Isooctane	10.793	56	101	2.088	pg	#	59
53] * 4-Methyl-2-pentanone	11.809	58	756	26.497	pg		95
58] * Toluene	12.816	91	4493	22.850	pg		97
66] * Ethylbenzene	15.226	91	123	0.836	pg	#	85
67] * m- & p-Xylenes	15.381	91	267	2.304	pg		89
70] * Styrene	15.727	104	90	1.146	pg	#	86
71] * o-Xylene	15.828	91	106	0.926	pg		95
76] * alpha-Pinene	16.705	93	679	9.731	pg		89
79] * 4-Ethyltoluene	16.909	105	56	0.432	pg	#	45
83] tert-Butylbenzene	17.379	134	61	2.420	pg	#	1
84] * 1,2,4-Trimethylbenzene	17.352	105	91	0.835	pg	#	24
91] p-Isopropyltoluene	17.724	119	1531	12.195	pg		100
93] * D-Limonene	17.843	68	85	2.360	pg		97

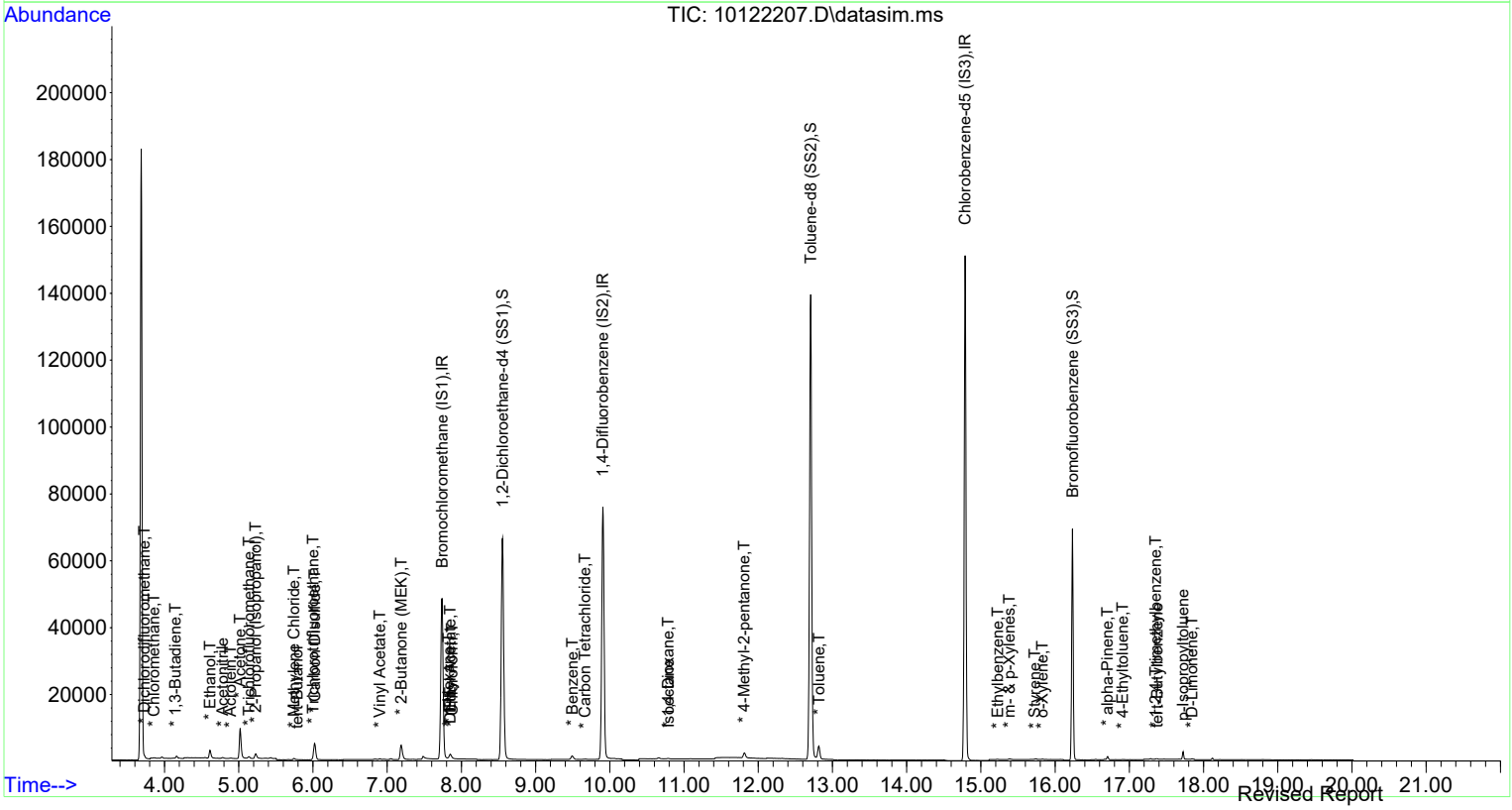
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Data Path : I:\MS21\DATA\2022 10\12\
Data File : 10122207.D
Acq On : 12 Oct 2022 18:17
Operator : KM
Sample : 101222 AS00715 30072
Misc : SIM (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 13 04:53:06 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration





Revised Report

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 30106

Batch Started By: on 10/18/22 0344
Finished Cleaning By: ALESAICHERRE on 10/20/22 0436

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC01241	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE				ms21-10/19/22
AS01724	10/18/22		Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE	-14.0	10/25/22 0834		
AS01462	10/18/22		Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE	-14.0	10/24/22 1015		
AS00411	10/18/22		Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE	-14.0	10/24/22 1015		
AS00220	10/18/22		Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE	-14.0	10/24/22 1015		
AS01497	10/18/22		Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE	-14.0	10/25/22 0834		
AS01730	10/18/22		Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE	-14.0	10/24/22 1015		
AS00851	10/18/22		Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE	-14.0	10/28/22 1040		
AS01461	10/18/22		Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE	-14.0	10/24/22 1015		
AS01531	10/18/22		Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE	-14.0	10/24/22 0231		
AS01168	10/18/22		Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE	-14.0	10/24/22 0231		
AS00315	10/18/22		Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE	-14.0	10/25/22 0834		
AS00569	10/18/22		Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE	-14.0	10/24/22 1015		
AC01504	10/18/22		Pass w/ Conditions	-14.3	10/20/22 0436	ALESAICHERRE	-14.0	10/24/22 0857		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Revised Report

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 10\19\
Data File : 10192205.D
Acq On : 19 Oct 2022 15:45
Operator : KM
Sample : 101922 AC01241 30106
Misc : LL + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

AR 10/20/22

Quant Time: Oct 20 04:12:58 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

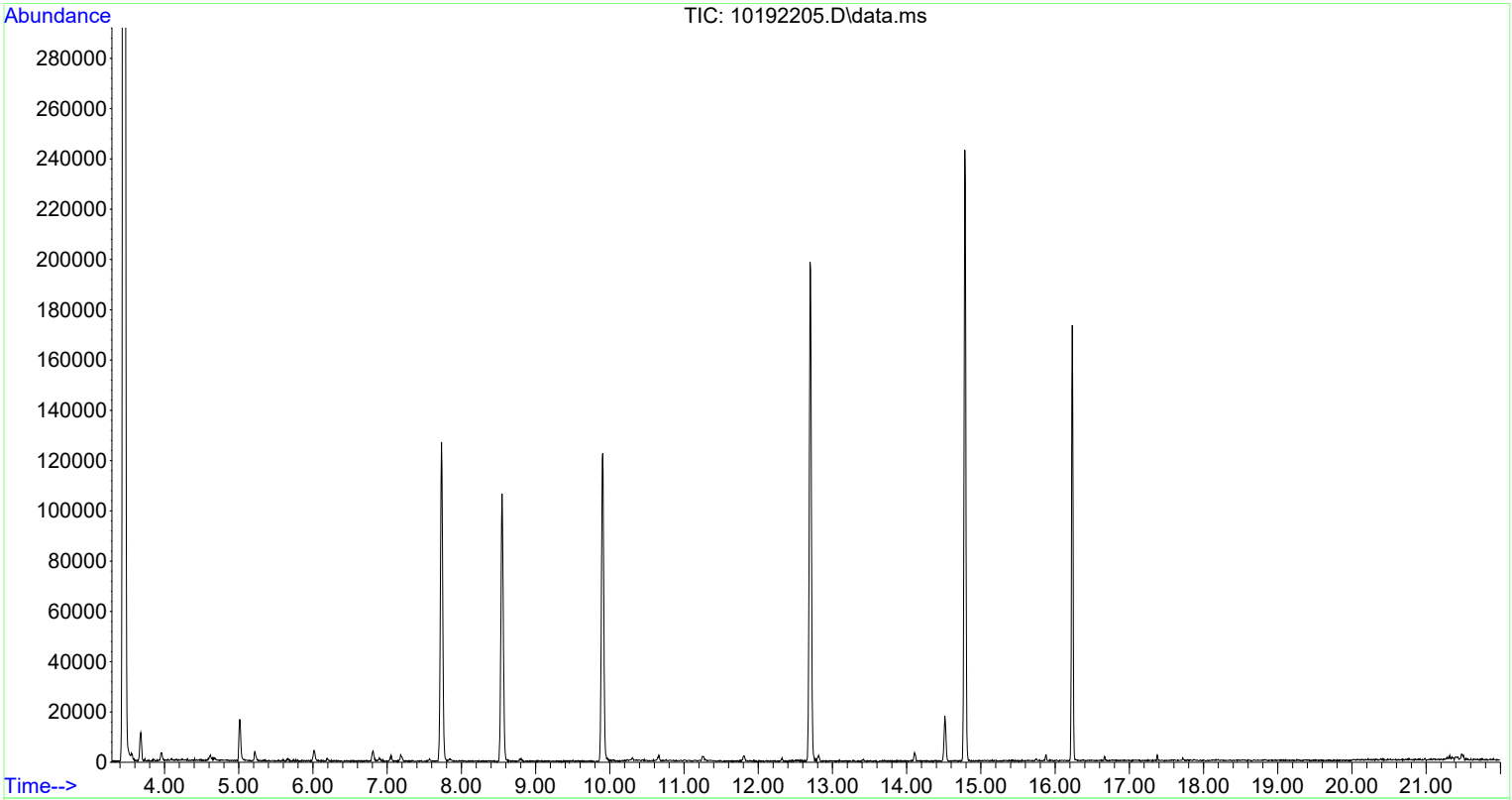
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.734	130	61698	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.906	114	138782	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	30353	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.550	65	102598	1082.76	pg		0.00
Spiked Amount 1000.000			Recovery = 108.28%				
57) Toluene-d8 (SS2)	12.702	98	162219	898.74	pg		0.00
Spiked Amount 1000.000			Recovery = 89.87%				
74) Bromofluorobenzene (SS3)	16.233	174	58988	809.81	pg		0.00
Spiked Amount 1000.000			Recovery = 80.98%				
Target Compounds							Qvalue
2] * Propene	3.686	42	715	13.842	pg	#	12
3] * Dichlorodifluoromethane	3.720	85	314	2.960	pg	#	85
4] * Chloromethane	3.856	50	153	5.076	pg	#	40
7] * 1,3-Butadiene	4.157	54	20	0.814	pg	#	8
10] * Ethanol	4.612	45	1470	41.149	pg		97
11] * Acetonitrile	4.778	41	159	1.338	pg	#	53
12] * Acrolein	4.890	56	241	7.617	pg		94
13] * Acetone	5.014	58	7065	144.151	pg		86
14] * Trichlorofluoromethane	5.132	101	188	1.295	pg		97
15] * 2-Propanol (Isopropa...	5.219	45	2729	23.326	pg	#	49
16] * Acrylonitrile	5.362	53	61	0.908	pg	#	8
18] tert-Butanol	5.778	59	265	2.674	pg	#	87
19] * Methylene Chloride	5.739	84	344	4.674	pg		98
22] * Carbon Disulfide	6.016	76	8027	28.620	pg		98
26] * Vinyl Acetate	6.898	86	360	36.678	pg	#	18
27] * 2-Butanone (MEK)	7.189	72	986	27.354	pg		81
28] * cis-1,2-Dichloroethene	7.572	96	690	11.373	pg		96
29] DIPE	7.844	45	164	1.059	pg	#	46
30] * Ethyl Acetate	7.844	61	204	10.297	pg		82
31] * n-Hexane	7.825	57	52	0.762	pg	#	55
39] * Benzene	9.495	78	474	3.473	pg		94
47] * Trichloroethene	10.699	130	285	5.715	pg		95
49] Isooctane	10.786	56	52	1.036	pg		70
53] * 4-Methyl-2-pentanone	11.804	58	768	25.928	pg		94
58] * Toluene	12.810	91	2587	11.997	pg		98
59] * 2-Hexanone	13.189	58	107	2.606	pg	#	53
64] * Tetrachloroethene	14.109	166	1572	23.916	pg		99
66] * Ethylbenzene	15.220	91	136	0.843	pg	#	43
67] * m- & p-Xylenes	15.387	91	381	2.998	pg		99
70] * Styrene	15.727	104	105	1.219	pg	#	30
71] * o-Xylene	15.828	91	132	1.051	pg		98
72] * n-Nonane	16.067	57	80	1.845	pg	#	33
76] * alpha-Pinene	16.705	93	135	1.764	pg		98
77] * n-Propylbenzene	16.816	91	77	0.391	pg	#	53
79] * 4-Ethyltoluene	16.933	105	56	0.394	pg	#	45
83] tert-Butylbenzene	17.373	134	75	2.713	pg	#	1
84] * 1,2,4-Trimethylbenzene	17.357	105	134	1.121	pg		91
91] p-Isopropyltoluene	17.724	119	764	5.549	pg		97
93] * D-Limonene	17.843	68	95	2.405	pg		88
98] * Naphthalene	19.434	128	136	0.985	pg	#	68

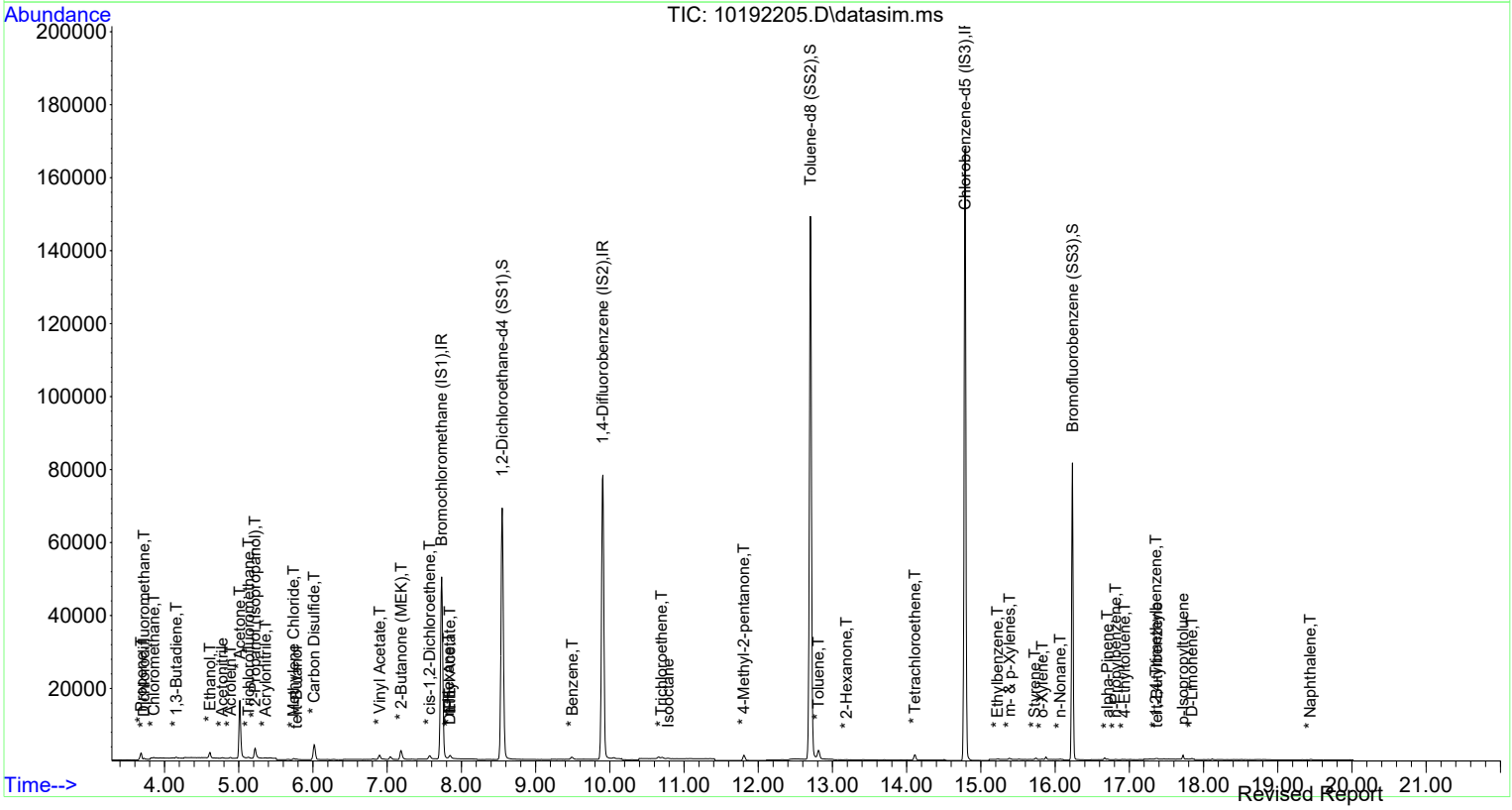
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Data Path : I:\MS21\DATA\2022 10\19\
Data File : 10192205.D
Acq On : 19 Oct 2022 15:45
Operator : KM
Sample : 101922 AC01241 30106
Misc : LL + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 20 04:12:58 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration





Revised Report

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 30107

Batch Started By: on 10/18/22 0358
Finished Cleaning By: ALESAICHERRE on 10/20/22 0437

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02523	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/25/22 0834		
AC02349	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/21/22 0851		
AC02129	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/21/22 0851		
AC02066	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/21/22 0851		
AS00608	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE				ms21-10/19/22_ms21-10/25/22
AC01940	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/24/22 0857		
AC02288	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/21/22 0851		
AC02427	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/24/22 0231		
AC02449	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/24/22 0857		
AS00377	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/21/22 0851		
AS01746	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/21/22 0851		
AC02024	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/21/22 0851		
AC02314	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/21/22 0851		
AS01240	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/21/22 0851		
AS01053	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/21/22 0851		
AC02262	10/18/22	10/19/22	Pass w/ Conditions	-14.3	10/20/22 0437	ALESAICHERRE	-14.0	10/21/22 0851		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Revised Report

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 10\19\
Data File : 10192206.D
Acq On : 19 Oct 2022 16:30
Operator : KM
Sample : 101922 AS00608 30107
Misc : SIM + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

10/20/22

Quant Time: Oct 20 04:16:28 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.734	130	59979	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.906	114	131064	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	29115	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.550	65	99691	1082.23	pg		0.00
Spiked Amount 1000.000			Recovery = 108.22%				
57) Toluene-d8 (SS2)	12.702	98	161771	934.37	pg		0.00
Spiked Amount 1000.000			Recovery = 93.44%				
74) Bromofluorobenzene (SS3)	16.233	174	55720	797.47	pg		0.00
Spiked Amount 1000.000			Recovery = 79.75%				
Target Compounds							Qvalue
3] * Dichlorodifluoromethane	3.725	85	883	8.563	pg		99
4] * Chloromethane	3.856	50	171	5.835	pg	#	83
7] * 1,3-Butadiene	4.152	54	18	0.753	pg	#	8
10] * Ethanol	4.606	45	7661	220.594	pg		99
11] * Acetonitrile	4.778	41	274	2.373	pg	#	81
12] * Acrolein	4.884	56	129	4.194	pg		93
13] * Acetone	5.014	58	6735	141.356	pg		95
14] * Trichlorofluoromethane	5.132	101	555	3.934	pg		99
15] * 2-Propanol (Isopropa...	5.219	45	3827	33.649	pg	#	48
16] * Acrylonitrile	5.362	53	58	0.888	pg	#	8
18] tert-Butanol	5.783	59	122	1.266	pg	#	46
19] * Methylene Chloride	5.744	84	657	9.183	pg		100
21] * Trichlorotrifluoroet...	5.992	151	120	1.751	pg		94
22] * Carbon Disulfide	6.021	76	7423	27.225	pg		99
26] * Vinyl Acetate	6.903	86	95	9.956	pg	#	20
27] * 2-Butanone (MEK)	7.184	72	1940	55.364	pg		85
29] DIPE	7.844	45	583	3.873	pg	#	46
30] * Ethyl Acetate	7.844	61	575	29.857	pg		94
31] * n-Hexane	7.825	57	150	2.261	pg	#	55
32] * Chloroform	7.870	83	88	0.706	pg		100
39] * Benzene	9.490	78	1061	8.231	pg		99
42] * Carbon Tetrachloride	9.662	117	132	2.279	pg		95
49] Isooctane	10.786	56	202	4.260	pg	#	63
51] * n-Heptane	11.083	71	64	2.068	pg	#	43
53] * 4-Methyl-2-pentanone	11.804	58	781	27.920	pg		94
58] * Toluene	12.816	91	3553	17.178	pg		96
59] * 2-Hexanone	13.189	58	61	1.549	pg	#	53
62] * n-Butyl Acetate	13.917	56	93	3.169	pg	#	85
65] * Chlorobenzene	14.826	112	80	0.573	pg	#	42
66] * Ethylbenzene	15.220	91	215	1.390	pg		99
67] * m- & p-Xylenes	15.381	91	513	4.209	pg		98
70] * Styrene	15.727	104	97	1.174	pg		87
71] * o-Xylene	15.828	91	196	1.627	pg		96
76] * alpha-Pinene	16.705	93	332	4.523	pg		88
77] * n-Propylbenzene	16.812	91	77	0.408	pg	#	53
79] * 4-Ethyltoluene	16.943	105	75	0.550	pg	#	45
80] * 1,3,5-Trimethylbenzene	17.006	105	63	0.528	pg	#	28
84] * 1,2,4-Trimethylbenzene	17.357	105	186	1.622	pg		86
86] * 1,3-Dichlorobenzene	17.476	146	71	0.634	pg		92
87] * 1,4-Dichlorobenzene	17.476	146	71	0.672	pg		92
91] p-Isopropyltoluene	17.724	119	810	6.133	pg		98
93] * D-Limonene	17.848	68	90	2.376	pg		89
98] * Naphthalene	19.439	128	102	0.770	pg	#	68

Revised Report

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 10\19\
Data File : 10192206.D
Acq On : 19 Oct 2022 16:30
Operator : KM
Sample : 101922 AS00608 30107
Misc : SIM + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 20 04:16:28 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

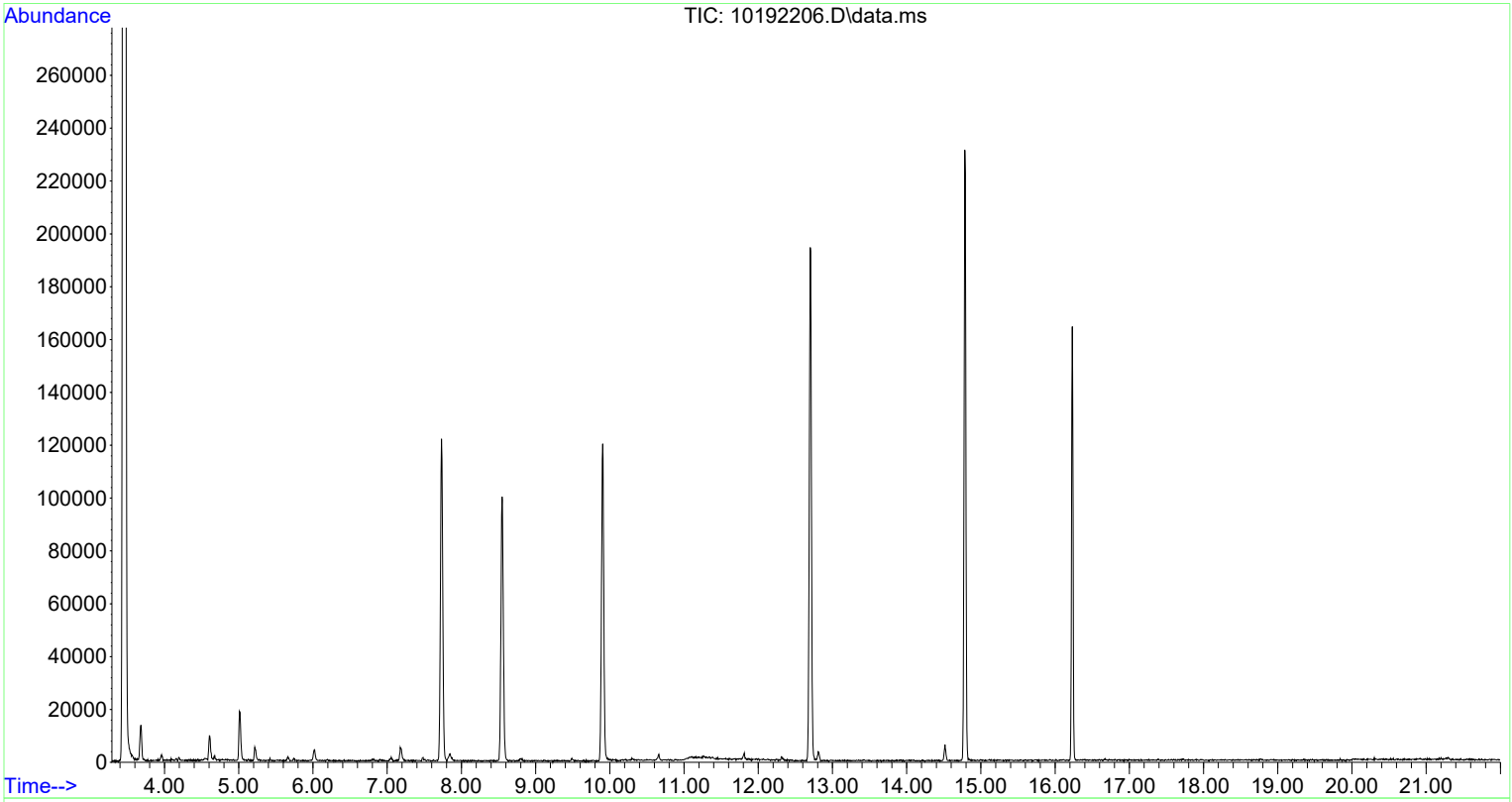
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

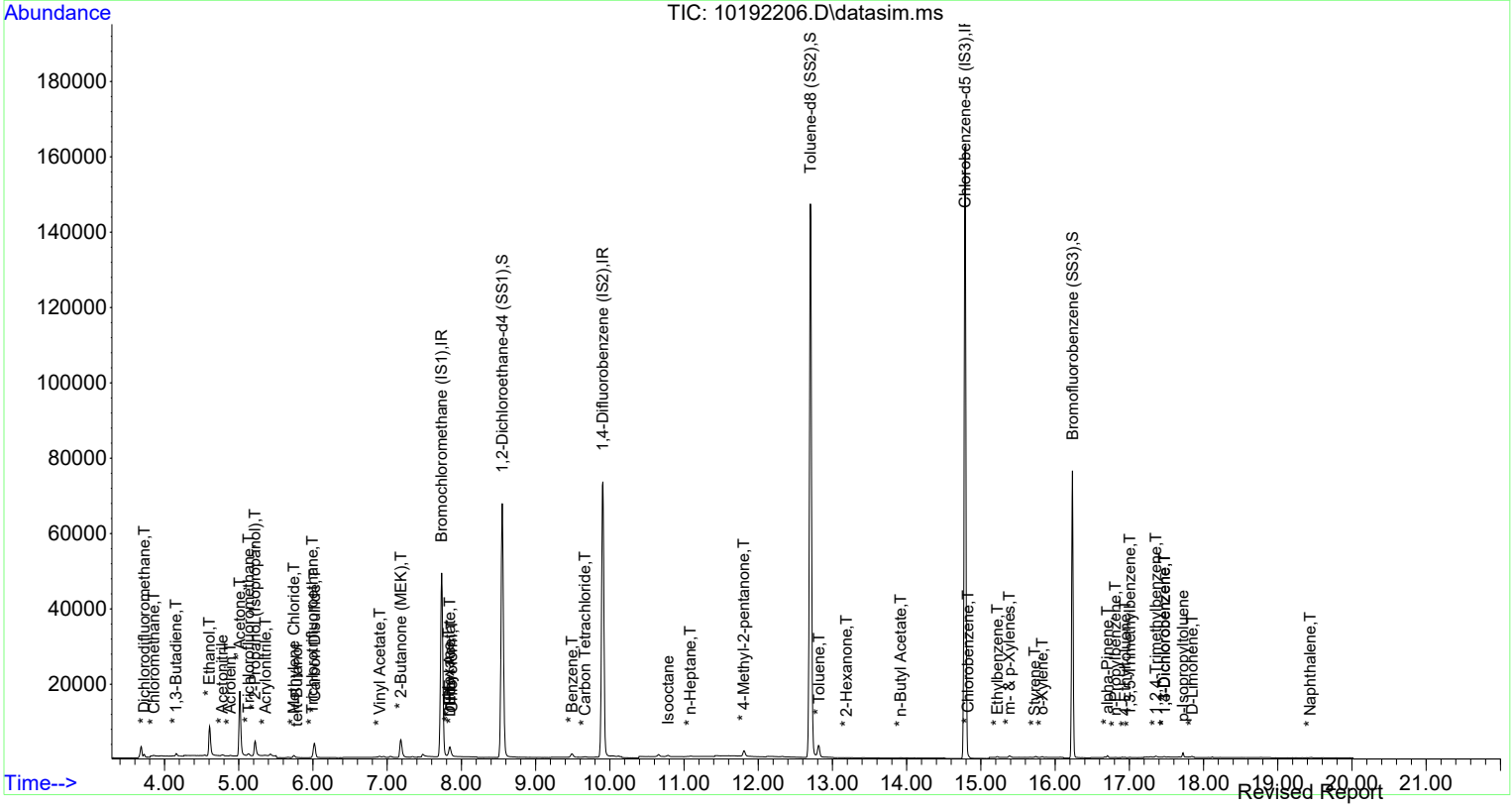
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Revised Report

Data Path : I:\MS21\DATA\2022 10\19\
Data File : 10192206.D
Acq On : 19 Oct 2022 16:30
Operator : KM
Sample : 101922 AS00608 30107
Misc : SIM + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 20 04:16:28 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration





Revised Report

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

December 2, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.015.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on November 11, 2022. For your reference, these analyses have been assigned our service request number P2205132.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 5:05 pm, Dec 02, 2022

Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2205132
Project: DOE Perimeter Air / 080153.015.15

CASE NARRATIVE

The samples were received intact under chain of custody on November 11, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The analyte Vinyl Acetate could not be reported for this data set, due to a vendor anomaly found in the new standard being used. Once the issue has been resolved subsequent reports will include the compound in question.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2205132
Project ID: DOE Perimeter Air / 080153.015.15

Date Received: 11/11/2022
Time Received: 13:00

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_111122_S	P2205132-001	Air	11/11/2022	10:00	AC02062	-2.80	3.86	X
DOE-2_111122_S	P2205132-002	Air	11/11/2022	10:15	AS00918	-7.26	3.80	X
DOE-3_111122_S	P2205132-003	Air	11/11/2022	10:30	AC02318	-1.94	4.14	X
DOE-4_111122_S	P2205132-004	Air	11/11/2022	10:45	AS01458	-1.27	3.87	X
DOE-3_111122_D	P2205132-005	Air	11/11/2022	10:31	AS01665	-1.58	3.82	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

P2205132

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No.

Company Name & Address (Reporting Information)	Project Name	ALS Contact: Hayden Akers
North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304	DOE Perimeter Air	**Analysis Method**
Project Manager: Trina Cesnik	Project Number: 080153.015.15	
Phone: 805-587-0691 / Fax:	P.O. # / Billing Information: PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com	
Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg	Sampler (Print & Sign): T. Stewart Williford	

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_111122_S	1	11/11/2022	1000	AC02062	FCR00294	-29.5	-5.0		X		
DOE-2_111122_S	2	11/11/2022	1015	AS00918	FCR00327	-29.5	-13.81		X		
DOE-3_111122_S	3	11/11/2022	1030	AC02318	FCR00301	-29.5	-4.0		X		
DOE-4_111122_S	4	11/11/2022	1045	AS01458	FCR00579	-29.5	-1.0		X		
DOE-3_111122_D	5	11/11/2022	1031	AS01665	FCR00029	-29.0	-3.0		X		

Page 5 of 181

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) X Tier IV (Data Validation Package) 10% Surcharge ____

EDD required: Yes / No
Type: EQuIS Units:

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
T. Stewart Williford	11/11/22	1300		11-11-22	1300
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2205132

Project: DOE Perimeter Air / 080153.015.15

Sample(s) received on: 11/11/22 Date opened: 11/11/22 by: KYLE.WOODIN

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2205132-001.01	6.0 L Ambient Can					
P2205132-002.01	6.0 L Silonite Can					
P2205132-003.01	6.0 L Ambient Can					
P2205132-004.01	6.0 L Silonite Can					
P2205132-005.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_111122_S** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-001

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02062

Initial Pressure (psig): -2.80 Final Pressure (psig): 3.86

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.8**	0.83	**0.57**	0.17	
74-87-3	Chloromethane	ND	0.80	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.84	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.81	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.81	ND	0.37	
74-83-9	Bromomethane	ND	0.80	ND	0.20	
75-00-3	Chloroethane	ND	0.80	ND	0.30	
107-02-8	Acrolein	ND	1.6	ND	0.68	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.81	**0.22**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.63	
107-13-1	Acrylonitrile	ND	1.6	ND	0.72	
75-35-4	1,1-Dichloroethene	ND	0.84	ND	0.21	
75-09-2	Methylene Chloride	ND	0.81	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.84	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.55	
156-60-5	trans-1,2-Dichloroethene	ND	0.83	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.83	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.83	ND	0.23	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.53	
156-59-2	cis-1,2-Dichloroethene	ND	0.81	ND	0.20	
141-78-6	Ethyl Acetate	**10**	3.3	**2.9**	0.91	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_111122_S** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-001

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02062

Initial Pressure (psig): -2.80 Final Pressure (psig): 3.86

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.83	ND	0.23	
67-66-3	Chloroform	ND	0.84	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.53	
107-06-2	1,2-Dichloroethane	ND	0.83	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.81	ND	0.15	
71-43-2	Benzene	ND	0.78	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.78	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.50	
78-87-5	1,2-Dichloropropane	ND	0.78	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.83	ND	0.12	
79-01-6	Trichloroethene	ND	0.81	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.81	ND	0.23	
142-82-5	n-Heptane	ND	0.83	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.78	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.42	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.81	ND	0.15	
108-88-3	Toluene	ND	0.81	ND	0.22	
591-78-6	2-Hexanone	ND	1.7	ND	0.42	
124-48-1	Dibromochloromethane	ND	0.83	ND	0.097	
106-93-4	1,2-Dibromoethane	ND	0.81	ND	0.11	
111-65-9	n-Octane	ND	0.83	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_111122_S** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-001

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02062

Initial Pressure (psig): -2.80 Final Pressure (psig): 3.86

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.81	ND	0.12	
100-41-4	Ethylbenzene	ND	0.81	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.40	
75-25-2	Bromoform	ND	0.81	ND	0.078	
100-42-5	Styrene	ND	0.78	ND	0.18	
95-47-6	o-Xylene	ND	0.81	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.81	ND	0.12	
98-82-8	Cumene	ND	0.81	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.83	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.83	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.81	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.81	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.81	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.81	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.81	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.81	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.83	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.81	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.81	ND	0.076	
104-51-8	n-Butylbenzene	ND	0.81	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_111122_S** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-002

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00918

Initial Pressure (psig): -7.26 Final Pressure (psig): 3.80

Canister Dilution Factor: 2.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.0**	1.3	**0.60**	0.27	
74-87-3	Chloromethane	ND	1.3	ND	0.62	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.3	ND	0.19	
75-01-4	Vinyl Chloride	ND	1.3	ND	0.51	
106-99-0	1,3-Butadiene	ND	1.3	ND	0.59	
74-83-9	Bromomethane	ND	1.3	ND	0.33	
75-00-3	Chloroethane	ND	1.3	ND	0.48	
107-02-8	Acrolein	ND	2.5	ND	1.1	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	1.3	ND	0.23	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.5	ND	1.0	
107-13-1	Acrylonitrile	ND	2.5	ND	1.1	
75-35-4	1,1-Dichloroethene	ND	1.3	ND	0.34	
75-09-2	Methylene Chloride	ND	1.3	ND	0.37	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	1.3	ND	0.18	
75-15-0	Carbon Disulfide	ND	2.7	ND	0.88	
156-60-5	trans-1,2-Dichloroethene	ND	1.3	ND	0.33	
75-34-3	1,1-Dichloroethane	ND	1.3	ND	0.33	
1634-04-4	Methyl tert-Butyl Ether	ND	1.3	ND	0.37	
78-93-3	2-Butanone (MEK)	ND	2.5	ND	0.84	
156-59-2	cis-1,2-Dichloroethene	ND	1.3	ND	0.33	
141-78-6	Ethyl Acetate	**10**	5.2	**2.9**	1.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_111122_S** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-002

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00918

Initial Pressure (psig): -7.26 Final Pressure (psig): 3.80

Canister Dilution Factor: 2.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	1.3	ND	0.37	
67-66-3	Chloroform	ND	1.3	ND	0.28	
109-99-9	Tetrahydrofuran (THF)	ND	2.5	ND	0.84	
107-06-2	1,2-Dichloroethane	ND	1.3	ND	0.33	
71-55-6	1,1,1-Trichloroethane	ND	1.3	ND	0.24	
71-43-2	Benzene	ND	1.2	ND	0.39	
56-23-5	Carbon Tetrachloride	ND	1.2	ND	0.20	
110-82-7	Cyclohexane	ND	2.7	ND	0.80	
78-87-5	1,2-Dichloropropane	ND	1.2	ND	0.27	
75-27-4	Bromodichloromethane	ND	1.3	ND	0.20	
79-01-6	Trichloroethene	ND	1.3	ND	0.24	
123-91-1	1,4-Dioxane	ND	1.3	ND	0.36	
142-82-5	n-Heptane	ND	1.3	ND	0.32	
10061-01-5	cis-1,3-Dichloropropene	ND	1.2	ND	0.27	
108-10-1	4-Methyl-2-pentanone	ND	2.7	ND	0.67	
10061-02-6	trans-1,3-Dichloropropene	ND	1.3	ND	0.28	
79-00-5	1,1,2-Trichloroethane	ND	1.3	ND	0.24	
108-88-3	Toluene	ND	1.3	ND	0.34	
591-78-6	2-Hexanone	ND	2.7	ND	0.67	
124-48-1	Dibromochloromethane	ND	1.3	ND	0.15	
106-93-4	1,2-Dibromoethane	ND	1.3	ND	0.17	
111-65-9	n-Octane	ND	1.3	ND	0.28	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_111122_S** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-002

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00918

Initial Pressure (psig): -7.26 Final Pressure (psig): 3.80

Canister Dilution Factor: 2.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	1.3	ND	0.19	
100-41-4	Ethylbenzene	ND	1.3	ND	0.30	
179601-23-1	m,p-Xylenes	ND	2.7	ND	0.63	
75-25-2	Bromoform	ND	1.3	ND	0.13	
100-42-5	Styrene	ND	1.2	ND	0.29	
95-47-6	o-Xylene	ND	1.3	ND	0.30	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.3	ND	0.19	
98-82-8	Cumene	ND	1.3	ND	0.26	
103-65-1	n-Propylbenzene	ND	1.3	ND	0.27	
622-96-8	4-Ethyltoluene	ND	1.3	ND	0.27	
108-67-8	1,3,5-Trimethylbenzene	ND	1.3	ND	0.26	
95-63-6	1,2,4-Trimethylbenzene	ND	1.3	ND	0.26	
100-44-7	Benzyl Chloride	ND	2.7	ND	0.53	
541-73-1	1,3-Dichlorobenzene	ND	1.3	ND	0.22	
106-46-7	1,4-Dichlorobenzene	ND	1.3	ND	0.22	
135-98-8	sec-Butylbenzene	ND	1.3	ND	0.24	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	1.3	ND	0.24	
95-50-1	1,2-Dichlorobenzene	ND	1.3	ND	0.22	
120-82-1	1,2,4-Trichlorobenzene	ND	2.7	ND	0.37	
91-20-3	Naphthalene	ND	1.3	ND	0.25	
87-68-3	Hexachlorobutadiene	ND	1.3	ND	0.12	
104-51-8	n-Butylbenzene	ND	1.3	ND	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_111122_S** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-003

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02318

Initial Pressure (psig): -1.94 Final Pressure (psig): 4.14

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.8**	0.78	**0.57**	0.16	
74-87-3	Chloromethane	ND	0.75	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.75	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.65	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.77	**0.21**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.60	
107-13-1	Acrylonitrile	ND	1.5	ND	0.68	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.80	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.78	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.19	
141-78-6	Ethyl Acetate	**14**	3.1	**3.8**	0.86	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_111122_S** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-003

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02318

Initial Pressure (psig): -1.94 Final Pressure (psig): 4.14

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.78	ND	0.22	
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.50	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.74	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.21	
142-82-5	n-Heptane	ND	0.78	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.74	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.40	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	ND	0.77	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.40	
124-48-1	Dibromochloromethane	ND	0.78	ND	0.092	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
111-65-9	n-Octane	ND	0.78	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_111122_S** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-003

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02318

Initial Pressure (psig): -1.94 Final Pressure (psig): 4.14

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.77	ND	0.11	
100-41-4	Ethylbenzene	ND	0.77	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.77	ND	0.074	
100-42-5	Styrene	ND	0.74	ND	0.17	
95-47-6	o-Xylene	ND	0.77	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.78	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.78	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.77	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.77	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.78	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.77	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.072	
104-51-8	n-Butylbenzene	ND	0.77	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_111122_S** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-004

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01458

Initial Pressure (psig): -1.27 Final Pressure (psig): 3.87

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.73	ND	0.15	
74-87-3	Chloromethane	ND	0.70	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.75	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.72	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.72	ND	0.32	
74-83-9	Bromomethane	ND	0.70	ND	0.18	
75-00-3	Chloroethane	ND	0.70	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.60	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.72	**0.22**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.56	
107-13-1	Acrylonitrile	ND	1.4	ND	0.64	
75-35-4	1,1-Dichloroethene	ND	0.75	ND	0.19	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.75	ND	0.097	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.73	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.73	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.73	ND	0.20	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.47	
156-59-2	cis-1,2-Dichloroethene	ND	0.72	ND	0.18	
141-78-6	Ethyl Acetate	**5.5**	2.9	**1.5**	0.80	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_111122_S** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-004

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01458

Initial Pressure (psig): -1.27 Final Pressure (psig): 3.87

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.73	ND	0.21	
67-66-3	Chloroform	ND	0.75	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.47	
107-06-2	1,2-Dichloroethane	ND	0.73	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.72	ND	0.13	
71-43-2	Benzene	ND	0.69	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.69	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.69	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.73	ND	0.11	
79-01-6	Trichloroethene	ND	0.72	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.72	ND	0.20	
142-82-5	n-Heptane	ND	0.73	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.69	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.70	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.72	ND	0.13	
108-88-3	Toluene	ND	0.72	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.73	ND	0.086	
106-93-4	1,2-Dibromoethane	ND	0.72	ND	0.093	
111-65-9	n-Octane	ND	0.73	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_111122_S** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-004

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01458

Initial Pressure (psig): -1.27 Final Pressure (psig): 3.87

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.72	ND	0.11	
100-41-4	Ethylbenzene	ND	0.72	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.72	ND	0.069	
100-42-5	Styrene	ND	0.69	ND	0.16	
95-47-6	o-Xylene	ND	0.72	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.72	ND	0.10	
98-82-8	Cumene	ND	0.72	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.73	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.73	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.72	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.72	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.72	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.72	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.72	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.72	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.73	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.72	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.72	ND	0.067	
104-51-8	n-Butylbenzene	ND	0.72	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_111122_D** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-005

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01665

Initial Pressure (psig): -1.58 Final Pressure (psig): 3.82

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	0.75	**0.40**	0.15	
74-87-3	Chloromethane	ND	0.72	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.76	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.72	ND	0.19	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.73	**0.19**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.75	ND	0.21	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.19	
141-78-6	Ethyl Acetate	**20**	3.0	**5.4**	0.82	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_111122_D** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-005

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01665

Initial Pressure (psig): -1.58 Final Pressure (psig): 3.82

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.75	ND	0.21	
67-66-3	Chloroform	ND	0.76	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.48	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	ND	0.71	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.71	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.71	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.73	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	
142-82-5	n-Heptane	ND	0.75	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	ND	0.73	ND	0.19	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.75	ND	0.088	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.095	
111-65-9	n-Octane	ND	0.75	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_111122_D** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P2205132-005

Test Code: EPA TO-15 Date Collected: 11/11/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/11/22
Analyst: Simon Cao Date Analyzed: 11/20/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01665

Initial Pressure (psig): -1.58 Final Pressure (psig): 3.82

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.73	ND	0.11	
100-41-4	Ethylbenzene	ND	0.73	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.73	ND	0.071	
100-42-5	Styrene	ND	0.71	ND	0.17	
95-47-6	o-Xylene	ND	0.73	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.73	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.73	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.75	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.069	
104-51-8	n-Butylbenzene	ND	0.73	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221120-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Chase Griffin Date Analyzed: 11/20/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221120-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Chase Griffin Date Analyzed: 11/20/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
110-54-3	n-Hexane	ND	0.53	ND	0.15	
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221120-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Chase Griffin Date Analyzed: 11/20/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Project ID: P2205132

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 11/11/22
Analyst: Chase Griffin Date(s) Received: 11/11/22
Sample Type: 6.0 L Summa Canister(s) Date(s) Analyzed: 11/20/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P221120-MB	**130**	**100**	**95**	70-130	
Lab Control Sample	P221120-LCS	**101**	**99**	**98**	70-130	
Duplicate Lab Control Sample	P221120-DLCS	**109**	**100**	**99**	70-130	
DOE-1_111122_S	P2205132-001	**114**	**96**	**97**	70-130	
DOE-2_111122_S	P2205132-002	**121**	**96**	**97**	70-130	
DOE-3_111122_S	P2205132-003	**117**	**95**	**97**	70-130	
DOE-4_111122_S	P2205132-004	**119**	**96**	**95**	70-130	
DOE-3_111122_D	P2205132-005	**92**	**96**	**96**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221120-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Chase Griffin Date Analyzed: 11/20/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	212	181	196	**85**	**92**	71-112	8	25	
74-87-3	Chloromethane	206	173	181	**84**	**88**	53-126	5	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	175	186	**85**	**90**	62-121	6	25	
75-01-4	Vinyl Chloride	204	183	199	**90**	**98**	63-123	9	25	
106-99-0	1,3-Butadiene	212	158	155	**75**	**73**	63-135	3	25	
74-83-9	Bromomethane	206	182	199	**88**	**97**	71-112	10	25	
75-00-3	Chloroethane	208	179	194	**86**	**93**	66-117	8	25	
107-02-8	Acrolein	388	294	300	**76**	**77**	71-123	1	25	
75-69-4	Trichlorofluoromethane (CFC 11)	210	174	180	**83**	**86**	71-114	4	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	412	320	334	**78**	**81**	61-124	4	25	
107-13-1	Acrylonitrile	412	335	353	**81**	**86**	65-130	6	25	
75-35-4	1,1-Dichloroethene	216	177	179	**82**	**83**	74-114	1	25	
75-09-2	Methylene Chloride	212	179	191	**84**	**90**	75-112	7	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	184	200	**85**	**93**	73-114	9	25	
75-15-0	Carbon Disulfide	426	358	371	**84**	**87**	70-113	4	25	
156-60-5	trans-1,2-Dichloroethene	216	186	201	**86**	**93**	76-119	8	25	
75-34-3	1,1-Dichloroethane	216	181	191	**84**	**88**	70-114	5	25	
1634-04-4	Methyl tert-Butyl Ether	214	178	193	**83**	**90**	72-118	8	25	
78-93-3	2-Butanone (MEK)	418	370	402	**89**	**96**	74-121	8	25	
156-59-2	cis-1,2-Dichloroethene	214	181	195	**85**	**91**	73-117	7	25	
141-78-6	Ethyl Acetate	856	576	623	**67**	**73**	59-161	9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221120-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Chase Griffin Date Analyzed: 11/20/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-54-3	n-Hexane	212	193	206	**91**	**97**	55-130	6	25	
67-66-3	Chloroform	212	182	196	**86**	**92**	71-114	7	25	
109-99-9	Tetrahydrofuran (THF)	412	365	396	**89**	**96**	73-114	8	25	
107-06-2	1,2-Dichloroethane	216	187	203	**87**	**94**	71-119	8	25	
71-55-6	1,1,1-Trichloroethane	210	184	185	**88**	**88**	73-119	0	25	
71-43-2	Benzene	216	184	185	**85**	**86**	72-113	1	25	
56-23-5	Carbon Tetrachloride	206	176	178	**85**	**86**	67-123	1	25	
110-82-7	Cyclohexane	422	362	362	**86**	**86**	70-119	0	25	
78-87-5	1,2-Dichloropropane	212	182	181	**86**	**85**	70-118	1	25	
75-27-4	Bromodichloromethane	216	193	193	**89**	**89**	74-119	0	25	
79-01-6	Trichloroethene	212	185	186	**87**	**88**	74-115	1	25	
123-91-1	1,4-Dioxane	212	193	193	**91**	**91**	77-124	0	25	
142-82-5	n-Heptane	212	178	179	**84**	**84**	70-119	0	25	
10061-01-5	cis-1,3-Dichloropropene	216	196	196	**91**	**91**	81-126	0	25	
108-10-1	4-Methyl-2-pentanone	432	386	384	**89**	**89**	73-129	0	25	
10061-02-6	trans-1,3-Dichloropropene	206	194	195	**94**	**95**	80-127	1	25	
79-00-5	1,1,2-Trichloroethane	212	184	184	**87**	**87**	78-117	0	25	
108-88-3	Toluene	212	179	182	**84**	**86**	70-118	2	25	
591-78-6	2-Hexanone	426	382	382	**90**	**90**	74-132	0	25	
124-48-1	Dibromochloromethane	216	191	194	**88**	**90**	69-137	2	25	
106-93-4	1,2-Dibromoethane	208	182	184	**88**	**88**	76-128	0	25	
111-65-9	n-Octane	214	179	179	**84**	**84**	68-120	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15** ALS Sample ID: P221120-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Chase Griffin Date Analyzed: 11/20/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
127-18-4	Tetrachloroethene	212	181	184	**85**	**87**	63-130	2	25	
100-41-4	Ethylbenzene	210	182	185	**87**	**88**	71-123	1	25	
179601-23-1	m,p-Xylenes	420	375	379	**89**	**90**	67-127	1	25	
75-25-2	Bromoform	214	205	209	**96**	**98**	65-149	2	25	
100-42-5	Styrene	212	187	189	**88**	**89**	76-132	1	25	
95-47-6	o-Xylene	212	186	188	**88**	**89**	69-124	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	188	190	**89**	**90**	69-128	1	25	
98-82-8	Cumene	212	184	186	**87**	**88**	69-125	1	25	
103-65-1	n-Propylbenzene	214	186	188	**87**	**88**	70-127	1	25	
622-96-8	4-Ethyltoluene	216	189	191	**88**	**88**	69-127	0	25	
108-67-8	1,3,5-Trimethylbenzene	210	187	188	**89**	**90**	66-129	1	25	
95-63-6	1,2,4-Trimethylbenzene	208	195	197	**94**	**95**	63-142	1	25	
100-44-7	Benzyl Chloride	420	462	472	**110**	**112**	73-145	2	25	
541-73-1	1,3-Dichlorobenzene	210	198	200	**94**	**95**	67-136	1	25	
106-46-7	1,4-Dichlorobenzene	212	190	193	**90**	**91**	63-134	1	25	
135-98-8	sec-Butylbenzene	210	185	187	**88**	**89**	68-130	1	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	210	180	182	**86**	**87**	60-139	1	25	
95-50-1	1,2-Dichlorobenzene	212	188	191	**89**	**90**	64-139	1	25	
120-82-1	1,2,4-Trichlorobenzene	412	382	389	**93**	**94**	62-154	1	25	
91-20-3	Naphthalene	216	192	196	**89**	**91**	62-156	2	25	
87-68-3	Hexachlorobutadiene	210	180	184	**86**	**88**	55-142	2	25	
104-51-8	n-Butylbenzene	210	191	193	**91**	**92**	70-131	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2205132
Client Project ID: **DOE Perimeter Air / 080153.015.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 11202201.D
Analyst: Chase Griffin Date Analyzed: 11/20/22
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 01:35
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	150627	7.24	740585	9.29	184909	14.81
	Upper Limit	210878	7.57	1036819	9.62	258873	15.14
	Lower Limit	90376	6.91	444351	8.96	110945	14.48
	Client Sample ID						
01	Method Blank	102396	7.20	678296	9.26	167747	14.80
02	Lab Control Sample	145670	7.24	721375	9.29	180250	14.81
03	Duplicate Lab Control Sample	135662	7.24	726912	9.29	179471	14.81
04	DOE-1_111122_S	106313	7.20	676371	9.26	176248	14.81
05	DOE-2_111122_S	95807	7.20	664961	9.26	173109	14.81
06	DOE-3_111122_S	103547	7.20	668732	9.27	174046	14.81
07	DOE-4_111122_S	101828	7.20	660361	9.26	172901	14.81
08	DOE-3_111122_D	150731	7.20	661155	9.27	172189	14.81
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202220.D Vial: 12
Acq On : 20 Nov 2022 16:15 Operator: SC
Sample : P2205132-001 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 21 10:39:54 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	106313	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	676371	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	176248	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	262915	14.228	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.84%			
57) Toluene-d8 (SS2)	12.39	98	771920	12.014	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%			
73) Bromofluorobenzene (SS3)	16.79	174	273373	12.168	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%			
Target Compounds						Qvalue
2) Propene	3.28	42	3598	N.D.		
3) Dichlorodifluoromethan...	3.34	85	44207	1.808	ng	99
4) Chloromethane	3.42	50	110	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	935	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.01	94	323	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.27	45	12942	1.087	ng	91
11) Acetonitrile	4.44	41	3405	N.D.		
12) Acrolein	4.53	56	2214	N.D.		
13) Acetone	4.61	58	29332	2.726	ng	99
14) Trichlorofluoromethane	4.73	101	16500	0.785	ng	98
15) 2-Propanol (Isopropanol)	4.83	45	4824	N.D.		
16) Acrylonitrile	4.99	53	108	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.33	59	1422	N.D.		
19) Methylene Chloride	5.34	84	2262	N.D.		
20) 3-Chloro-1-propene (Al...	5.38	41	197	N.D.		
21) Trichlorotrifluoroethane	5.56	151	3374	N.D.		
22) Carbon Disulfide	5.59	76	3535	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.65	72	6431	0.819	ng	99
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	7.26	87	450	N.D.		
30) Ethyl Acetate	7.25	61	39081	6.628	ng	95
31) n-Hexane	7.27	57	840	N.D.		
32) Chloroform	7.33	83	910	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.08	62	554	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	22499	No Calib	#	
40) 1-Butanol	8.83	56	3197	No Calib	#	
41) Benzene	8.87	78	5900	N.D.		
42) Carbon Tetrachloride	9.03	117	4344	N.D.		
43) Cyclohexane	9.17	84	106	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.10	130	109	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.20	57	1764	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202220.D Vial: 12
Acq On : 20 Nov 2022 16:15 Operator: SC
Sample : P2205132-001 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 21 10:39:54 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

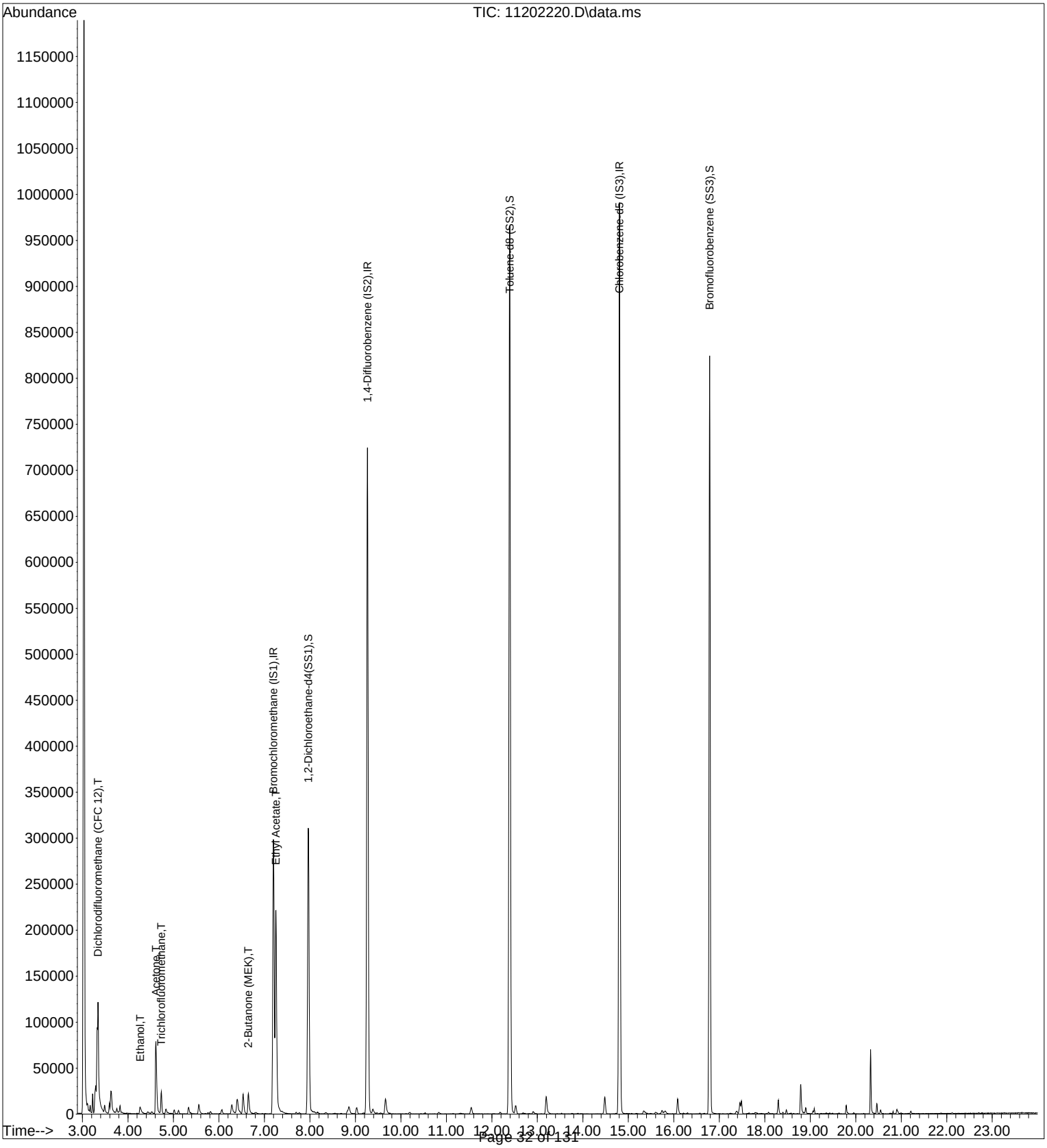
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	8326	N.D.	
59) 2-Hexanone	12.90	43	3471	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	1104	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.38	91	1060	N.D.	
67) m- & p-Xylenes	15.60	91	2368	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	542	N.D.	
70) o-Xylene	16.21	91	842	N.D.	
71) n-Nonane	16.58	43	585	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.00	105	581	N.D.	
75) alpha-Pinene	17.49	93	5538	N.D.	
76) n-Propylbenzene	17.65	91	764	N.D.	
77) 3-Ethyltoluene	17.00	105	581	No Calib	#
78) 4-Ethyltoluene	17.83	105	682	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	282	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.00	105	581	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	873	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.54	91	257	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	266	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	266	N.D.	
87) sec-Butylbenzene	18.71	105	155	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	3624	N.D.	
89) 1,2,3-Trimethylbenzene	17.00	105	581	No Calib	#
90) 1,2-Dichlorobenzene	19.01	146	181	N.D.	
91) d-Limonene	19.06	68	982	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.82	180	853	N.D.	
95) Naphthalene	20.93	128	2424	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.28	225	119	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	19.37	91	401	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202220.D Vial: 12
Acq On : 20 Nov 2022 16:15 Operator: SC
Sample : P2205132-001 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 21 10:39:54 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202220.D Vial: 12
Acq On : 20 Nov 2022 16:15 Operator: SC
Sample : P2205132-001 (1000mL) Inst : MS09
Misc : S35-11152201

11/21/22

Quant Time: Nov 21 10:39:54 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

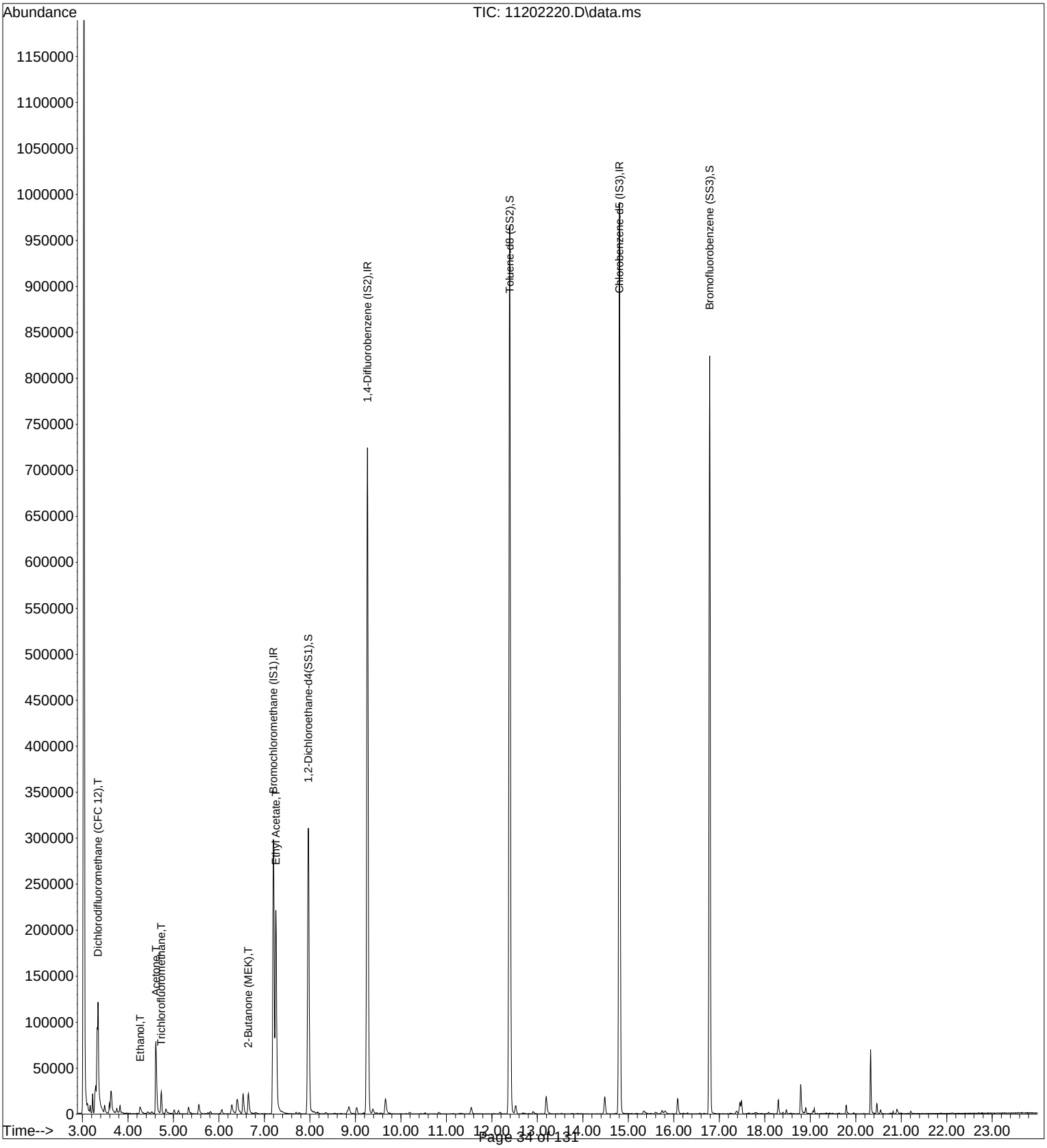
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	106313	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	676371	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	176248	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	262915	14.228	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.84%			
57) Toluene-d8 (SS2)	12.39	98	771920	12.014	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%			
73) Bromofluorobenzene (SS3)	16.79	174	273373	12.168	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.34	85	44207	1.808	ng	99
10) Ethanol	4.27	45	12942	1.087	ng	91
13) Acetone	4.61	58	29332	2.726	ng	99
14) Trichlorofluoromethane	4.73	101	16500	0.785	ng	98
27) 2-Butanone (MEK)	6.65	72	6431	0.819	ng	99
30) Ethyl Acetate	7.25	61	39081	6.628	ng	95

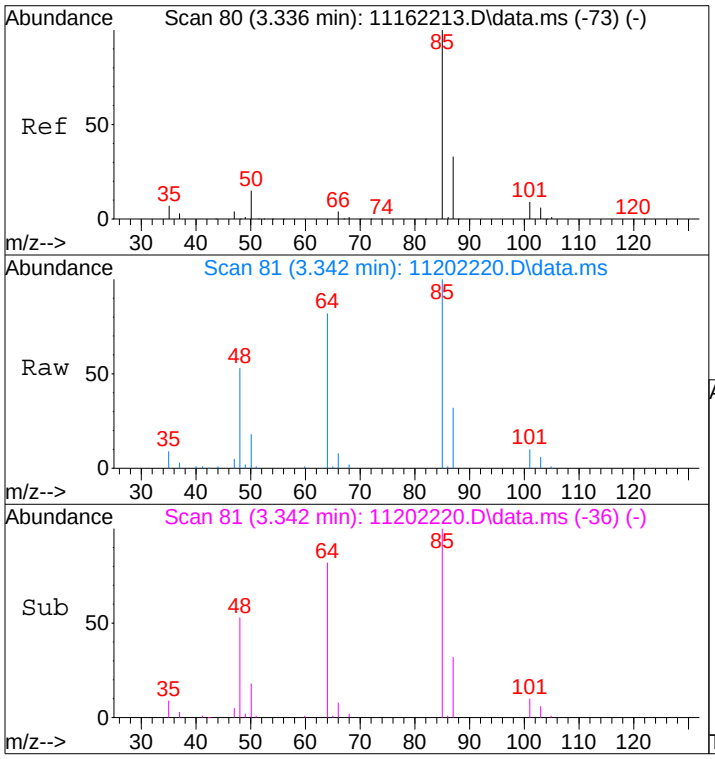
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202220.D Vial: 12
Acq On : 20 Nov 2022 16:15 Operator: SC
Sample : P2205132-001 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 21 10:39:54 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

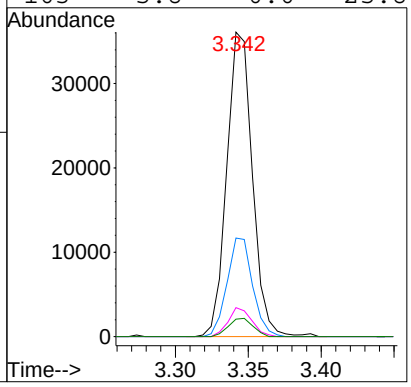


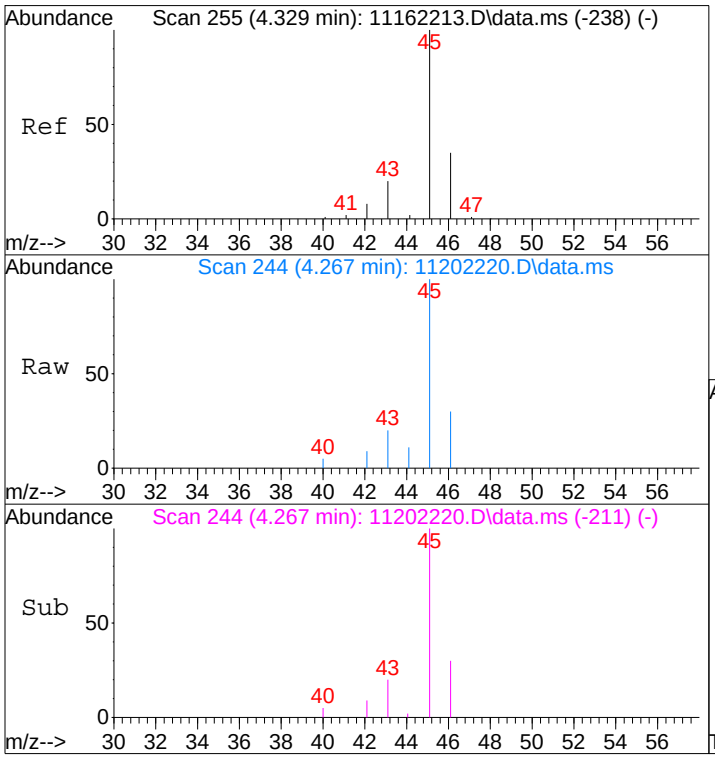


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.81 ng
RT: 3.34 min Scan# 81
Delta R.T. 0.006 min
Lab File: 11202220.D
Acq: 20 Nov 2022 16:15

Tgt Ion: 85 Resp: 44207

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.6	52.6
101	8.7	0.0	29.1
103	5.8	0.0	25.8

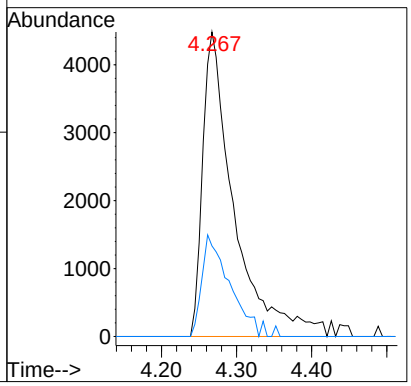


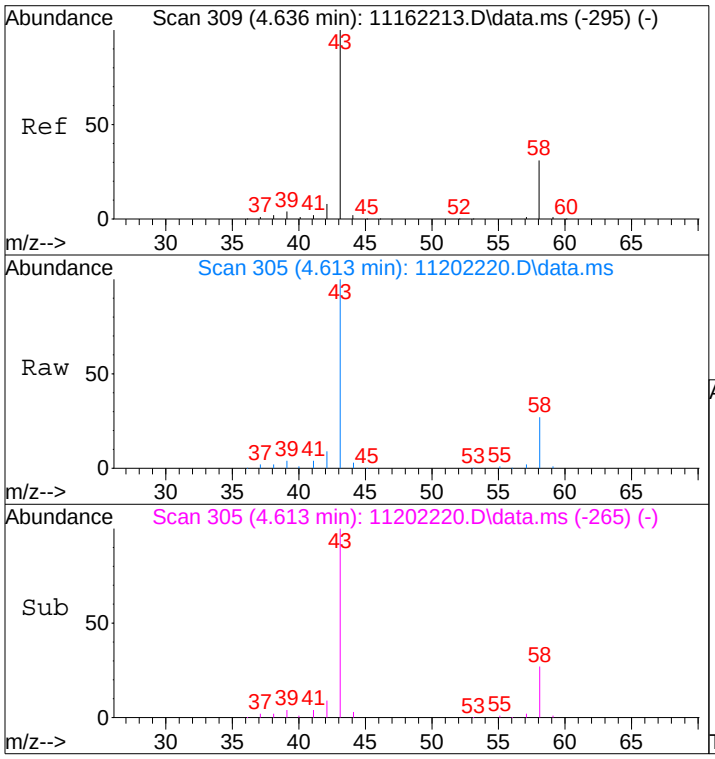


#10
Ethanol
Concen: 1.09 ng
RT: 4.27 min Scan# 244
Delta R.T. -0.062 min
Lab File: 11202220.D
Acq: 20 Nov 2022 16:15

Tgt Ion: 45 Resp: 12942

Ion	Ratio	Lower	Upper
45	100		
46	29.8	14.9	54.9

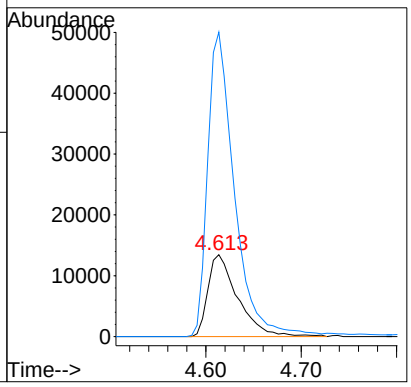


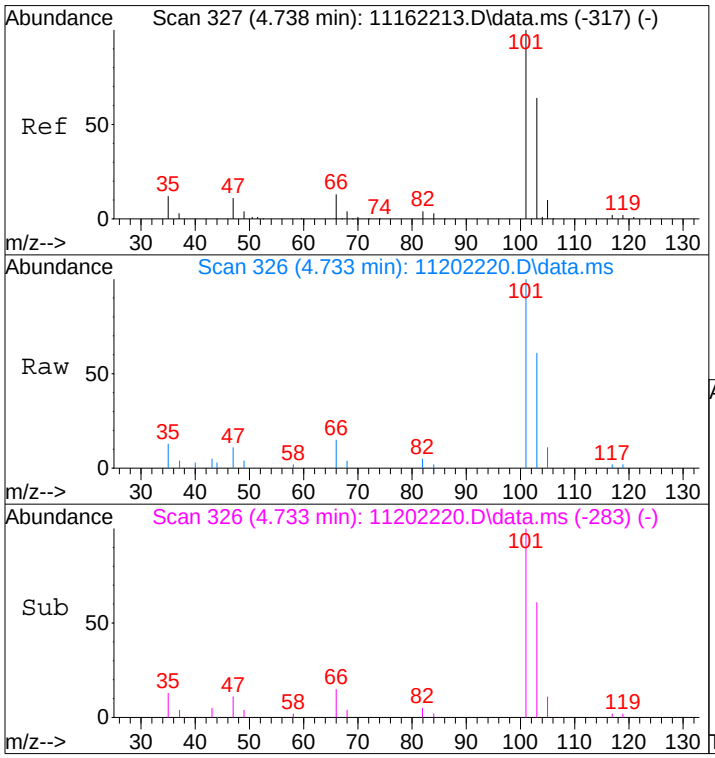


#13
Acetone
Concen: 2.73 ng
RT: 4.61 min Scan# 305
Delta R.T. -0.023 min
Lab File: 11202220.D
Acq: 20 Nov 2022 16:15

Tgt Ion: 58 Resp: 29332

Ion	Ratio	Lower	Upper
58	100		
43	338.4	306.3	366.3

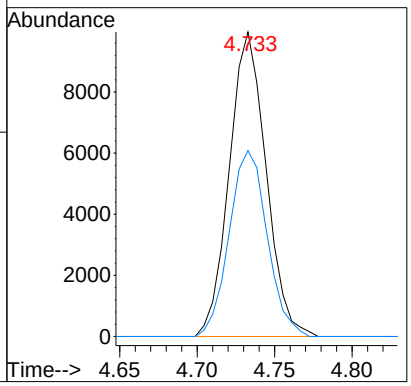


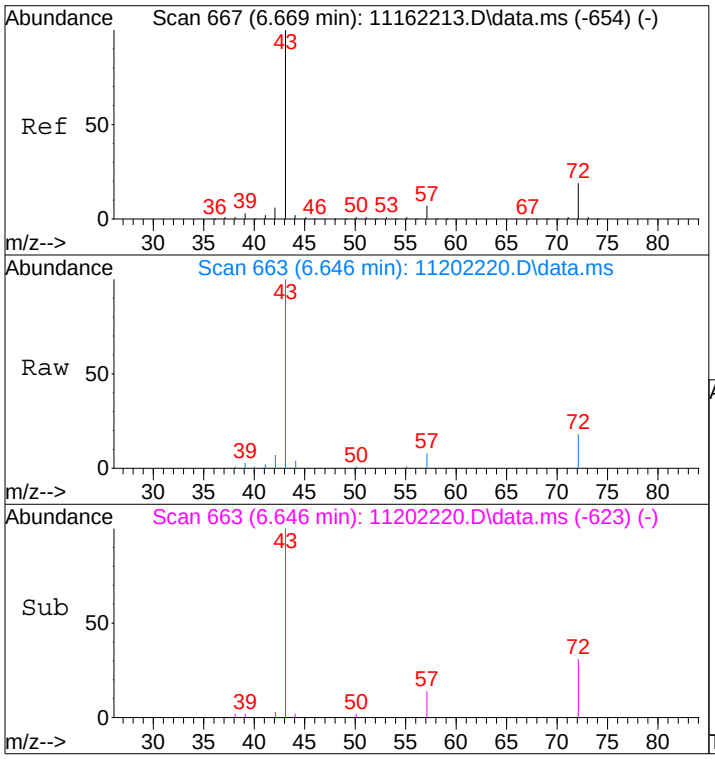


#14
Trichlorofluoromethane
Concen: 0.79 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.006 min
Lab File: 11202220.D
Acq: 20 Nov 2022 16:15

Tgt Ion:101 Resp: 16500

Ion	Ratio	Lower	Upper
101	100		
103	63.0	44.5	84.5

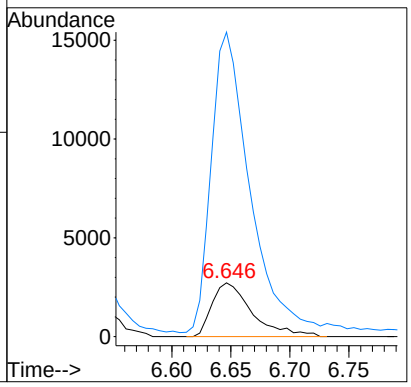


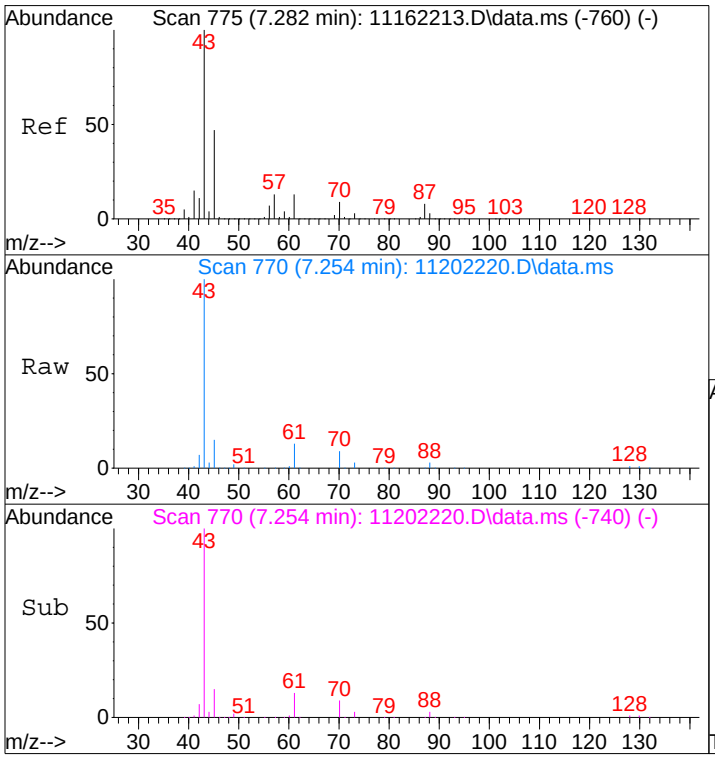


#27
2-Butanone (MEK)
Concen: 0.82 ng
RT: 6.65 min Scan# 663
Delta R.T. -0.023 min
Lab File: 11202220.D
Acq: 20 Nov 2022 16:15

Tgt Ion: 72 Resp: 6431

Ion	Ratio	Lower	Upper
72	100		
43	549.1	526.5	566.5

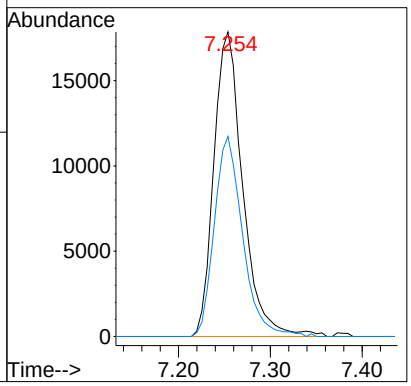




#30
Ethyl Acetate
Concen: 6.63 ng
RT: 7.25 min Scan# 770
Delta R.T. -0.028 min
Lab File: 11202220.D
Acq: 20 Nov 2022 16:15

Tgt Ion: 61 Resp: 39081

Ion	Ratio	Lower	Upper
61	100		
70	64.5	48.2	88.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202221.D Vial: 13
Acq On : 20 Nov 2022 16:47 Operator: SC
Sample : P2205132-002 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:02 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	95807	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	664961	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	173109	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	252471	15.161	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 121.28%				
57) Toluene-d8 (SS2)	12.39	98	759217	12.031	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
73) Bromofluorobenzene (SS3)	16.79	174	267311	12.114	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
Target Compounds							Qvalue
2) Propene	3.30	42	2832	N.D.			
3) Dichlorodifluoromethan...	3.35	85	26381	1.197	ng		98
4) Chloromethane	3.50	50	3932	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	606	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	13009	1.213	ng		93
11) Acetonitrile	4.45	41	1885	N.D.			
12) Acrolein	4.53	56	73	N.D.			
13) Acetone	4.63	58	9895	1.021	ng	#	80
14) Trichlorofluoromethane	4.74	101	9368	0.495	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	4973	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.36	59	53	N.D.			
19) Methylene Chloride	5.34	84	1123	N.D.			
20) 3-Chloro-1-propene (Al...	5.38	41	117	N.D.			
21) Trichlorotrifluoroethane	5.57	151	2043	N.D.			
22) Carbon Disulfide	5.60	76	5049	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.67	72	1472	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.25	61	22004	4.141	ng		95
31) n-Hexane	7.27	57	1129	N.D.			
32) Chloroform	7.32	83	486	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	265	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	21656	No Calib		#	
40) 1-Butanol	8.86	56	1092	No Calib		#	
41) Benzene	8.86	78	3538	N.D.			
42) Carbon Tetrachloride	9.03	117	3177	N.D.			
43) Cyclohexane	9.25	84	400	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.19	57	1067	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202221.D Vial: 13
Acq On : 20 Nov 2022 16:47 Operator: SC
Sample : P2205132-002 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:02 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

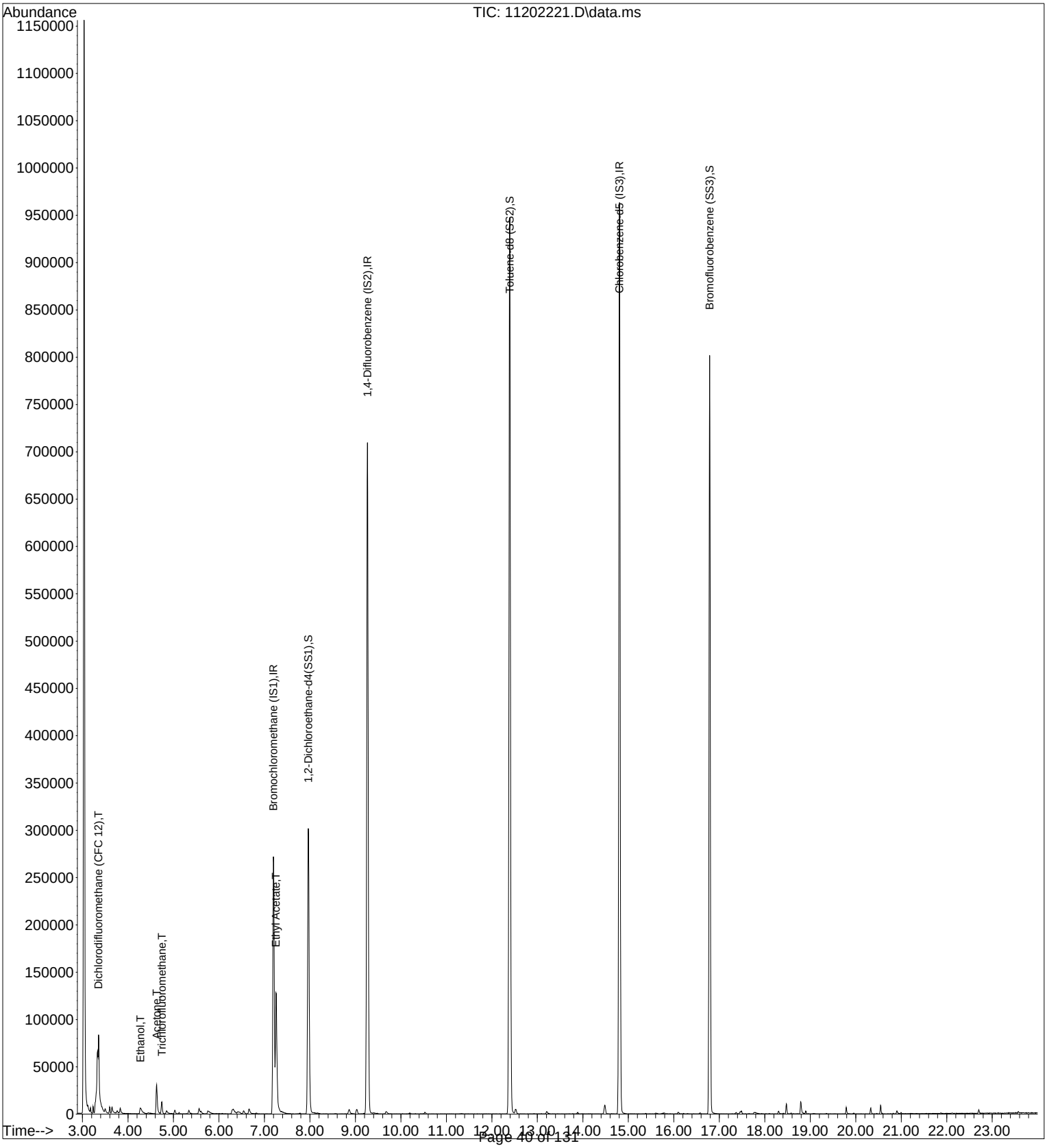
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.53	71	306	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.53	91	5101	N.D.		
59) 2-Hexanone	12.84	43	117	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	218	N.D.		
63) n-Octane	13.89	57	241	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.37	91	497	N.D.		
67) m- & p-Xylenes	15.60	91	1267	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.21	91	372	N.D.		
71) n-Nonane	16.58	43	757	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	17.49	93	1176	N.D.		
76) n-Propylbenzene	17.65	91	307	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.84	105	384	N.D.		
79) 1,3,5-Trimethylbenzene	17.93	105	204	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.41	105	471	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.64	146	120	N.D.		
86) 1,4-Dichlorobenzene	18.64	146	120	N.D.		
87) sec-Butylbenzene	18.71	105	257	N.D.		
88) 4-Isopropyltoluene (p-...	18.91	119	1993	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.82	180	233	N.D.		
95) Naphthalene	20.93	128	367	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	111	N.D.		
100) n-Butylbenzene	19.36	91	250	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202221.D Vial: 13
Acq On : 20 Nov 2022 16:47 Operator: SC
Sample : P2205132-002 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:02 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202221.D Vial: 13
Acq On : 20 Nov 2022 16:47 Operator: SC
Sample : P2205132-002 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:02 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/21/22

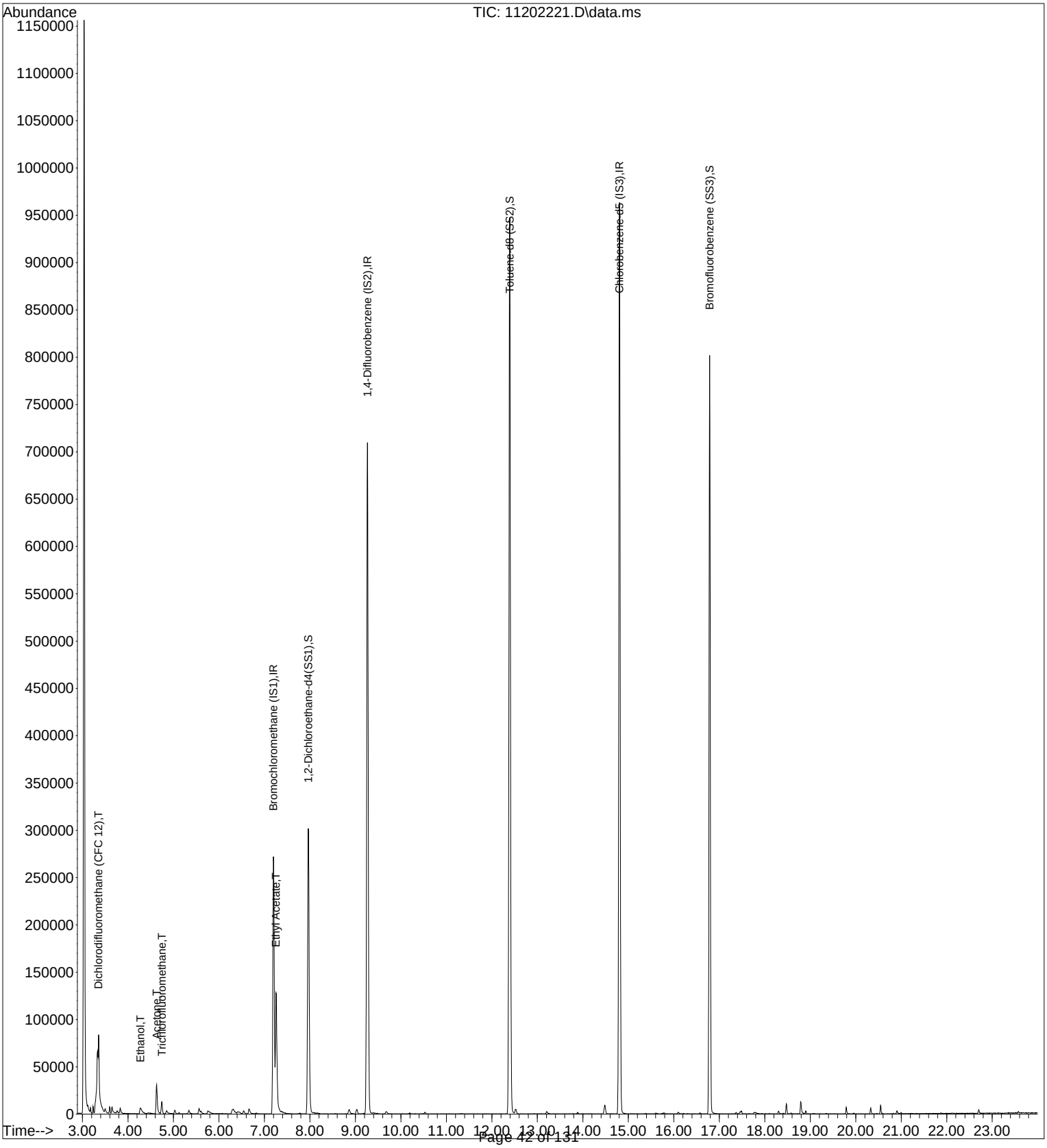
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	95807	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	664961	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	173109	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	252471	15.161	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 121.28%				
57) Toluene-d8 (SS2)	12.39	98	759217	12.031	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
73) Bromofluorobenzene (SS3)	16.79	174	267311	12.114	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	26381	1.197	ng		98
10) Ethanol	4.27	45	13009	1.213	ng		93
13) Acetone	4.63	58	9895	1.021	ng	#	80
14) Trichlorofluoromethane	4.74	101	9368	0.495	ng		100
30) Ethyl Acetate	7.25	61	22004	4.141	ng		95

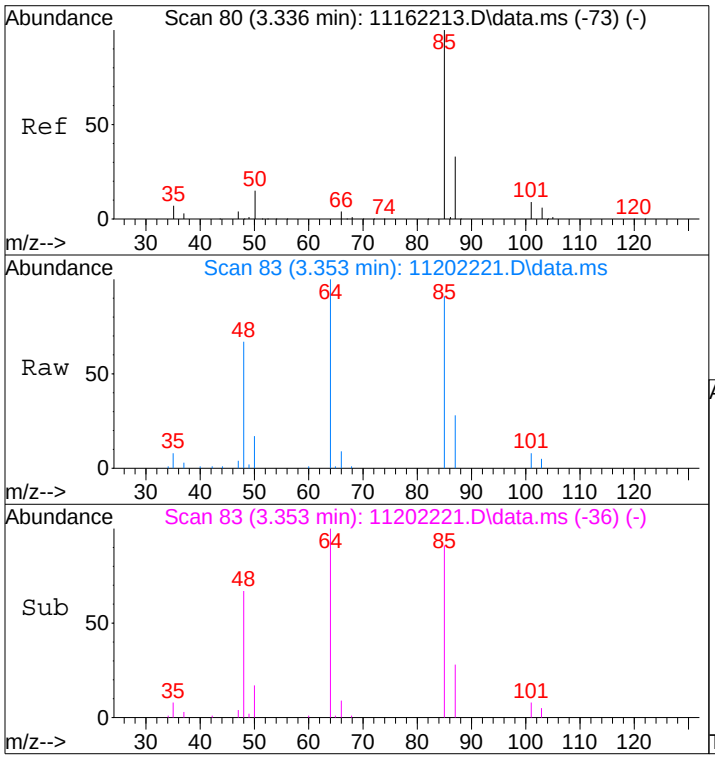
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202221.D Vial: 13
Acq On : 20 Nov 2022 16:47 Operator: SC
Sample : P2205132-002 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:02 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

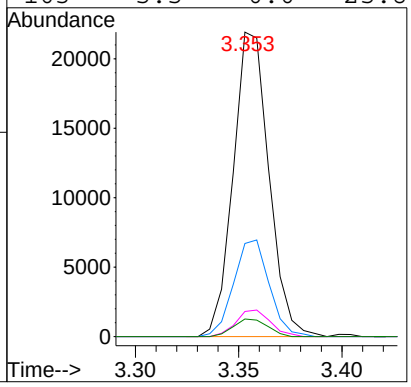


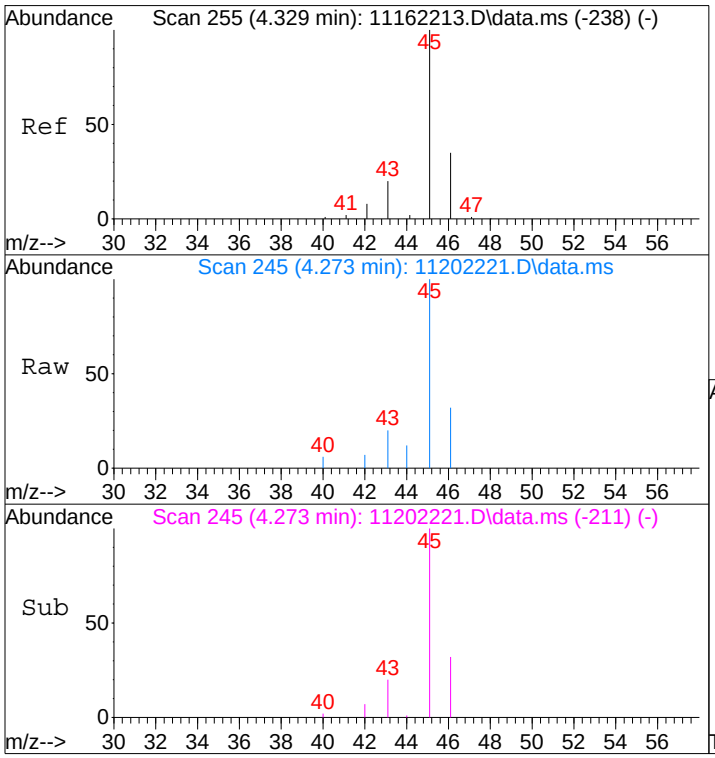


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.20 ng
RT: 3.35 min Scan# 83
Delta R.T. 0.017 min
Lab File: 11202221.D
Acq: 20 Nov 2022 16:47

Tgt Ion: 85 Resp: 26381

Ion	Ratio	Lower	Upper
85	100		
87	31.6	12.6	52.6
101	8.5	0.0	29.1
103	5.5	0.0	25.8

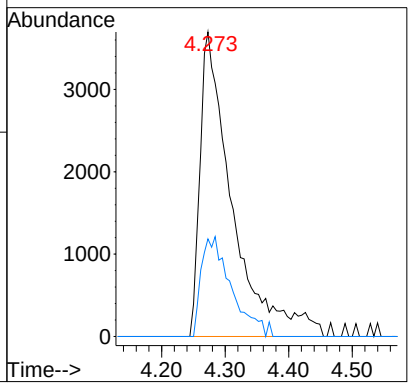


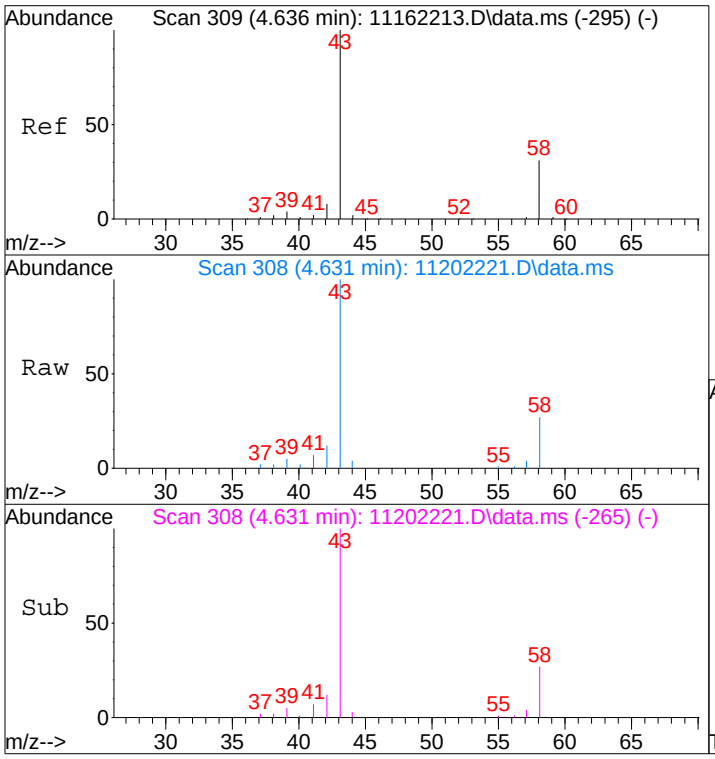


#10
Ethanol
Concen: 1.21 ng
RT: 4.27 min Scan# 245
Delta R.T. -0.057 min
Lab File: 11202221.D
Acq: 20 Nov 2022 16:47

Tgt Ion: 45 Resp: 13009

Ion	Ratio	Lower	Upper
45	100		
46	30.8	14.9	54.9

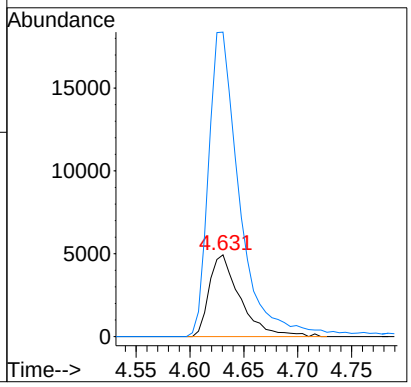


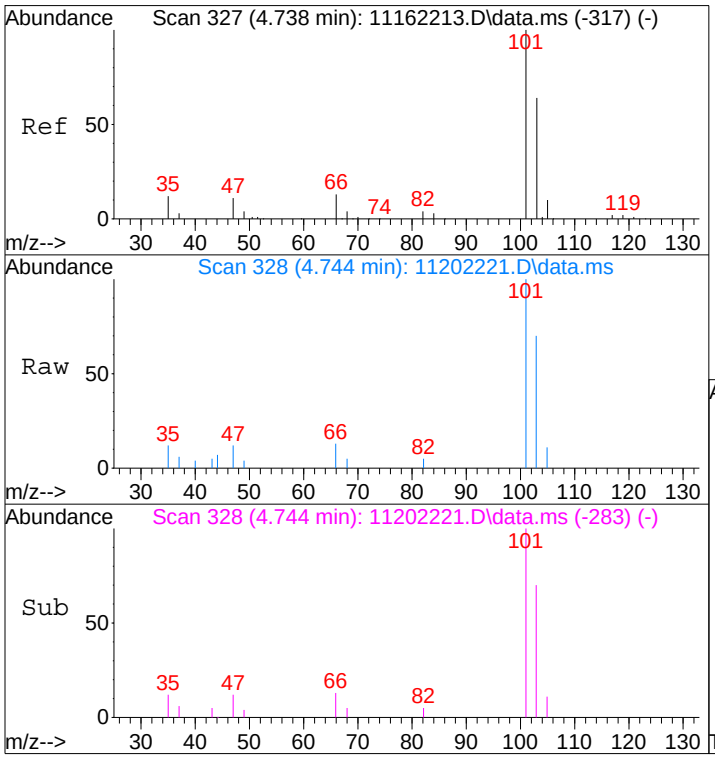


#13
Acetone
Concen: 1.02 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.005 min
Lab File: 11202221.D
Acq: 20 Nov 2022 16:47

Tgt Ion: 58 Resp: 9895

Ion	Ratio	Lower	Upper
58	100		
43	378.7	306.3	366.3#

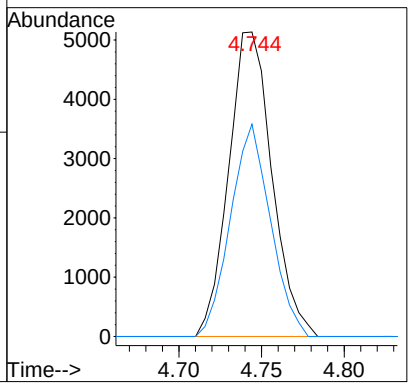


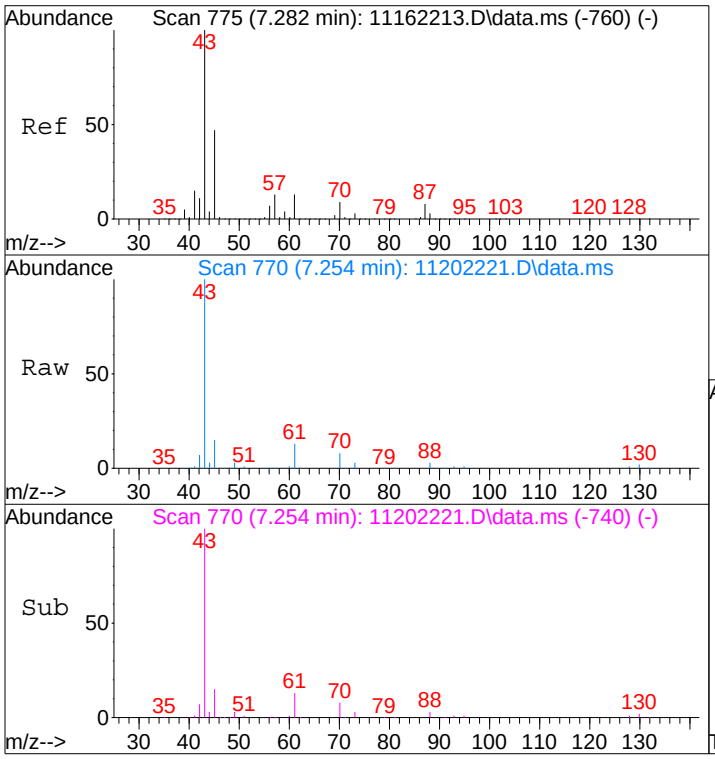


#14
Trichlorofluoromethane
Concen: 0.49 ng
RT: 4.74 min Scan# 328
Delta R.T. 0.006 min
Lab File: 11202221.D
Acq: 20 Nov 2022 16:47

Tgt Ion:101 Resp: 9368

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.5	84.5

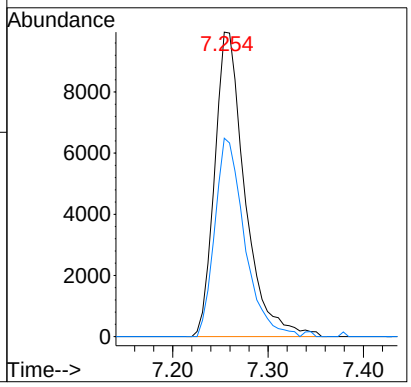




#30
Ethyl Acetate
Concen: 4.14 ng
RT: 7.25 min Scan# 770
Delta R.T. -0.028 min
Lab File: 11202221.D
Acq: 20 Nov 2022 16:47

Tgt Ion: 61 Resp: 22004

Ion	Ratio	Lower	Upper
61	100		
70	63.9	48.2	88.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202222.D Vial: 14
Acq On : 20 Nov 2022 17:19 Operator: SC
Sample : P2205132-003 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:04 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

V 11/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	103547	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	668732	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	174046	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	263955	14.666	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.36%				
57) Toluene-d8 (SS2)	12.39	98	757124	11.933	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
73) Bromofluorobenzene (SS3)	16.79	174	267925	12.076	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
Target Compounds							Qvalue
2) Propene	3.30	42	2608	N.D.			
3) Dichlorodifluoromethan...	3.35	85	45547	1.912	ng		99
4) Chloromethane	3.50	50	6590	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	891	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.01	94	177	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	11592	1.000	ng		94
11) Acetonitrile	4.45	41	2572	N.D.			
12) Acrolein	4.53	56	409	N.D.			
13) Acetone	4.62	58	15004	1.432	ng	#	63
14) Trichlorofluoromethane	4.74	101	16618	0.812	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	3466	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.37	59	941	N.D.			
19) Methylene Chloride	5.34	84	2096	N.D.			
20) 3-Chloro-1-propene (Al...	5.39	41	118	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3659	N.D.			
22) Carbon Disulfide	5.61	76	2467	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.66	72	1532	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.26	87	610	N.D.			
30) Ethyl Acetate	7.25	61	52758	9.187	ng		94
31) n-Hexane	7.28	57	697	N.D.			
32) Chloroform	7.33	83	1025	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	613	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.27	61	21878	No Calib		#	
40) 1-Butanol	8.85	56	365	No Calib		#	
41) Benzene	8.87	78	5257	N.D.			
42) Carbon Tetrachloride	9.03	117	5583	N.D.			
43) Cyclohexane	9.27	84	365	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	1759	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202222.D Vial: 14
Acq On : 20 Nov 2022 17:19 Operator: SC
Sample : P2205132-003 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:04 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

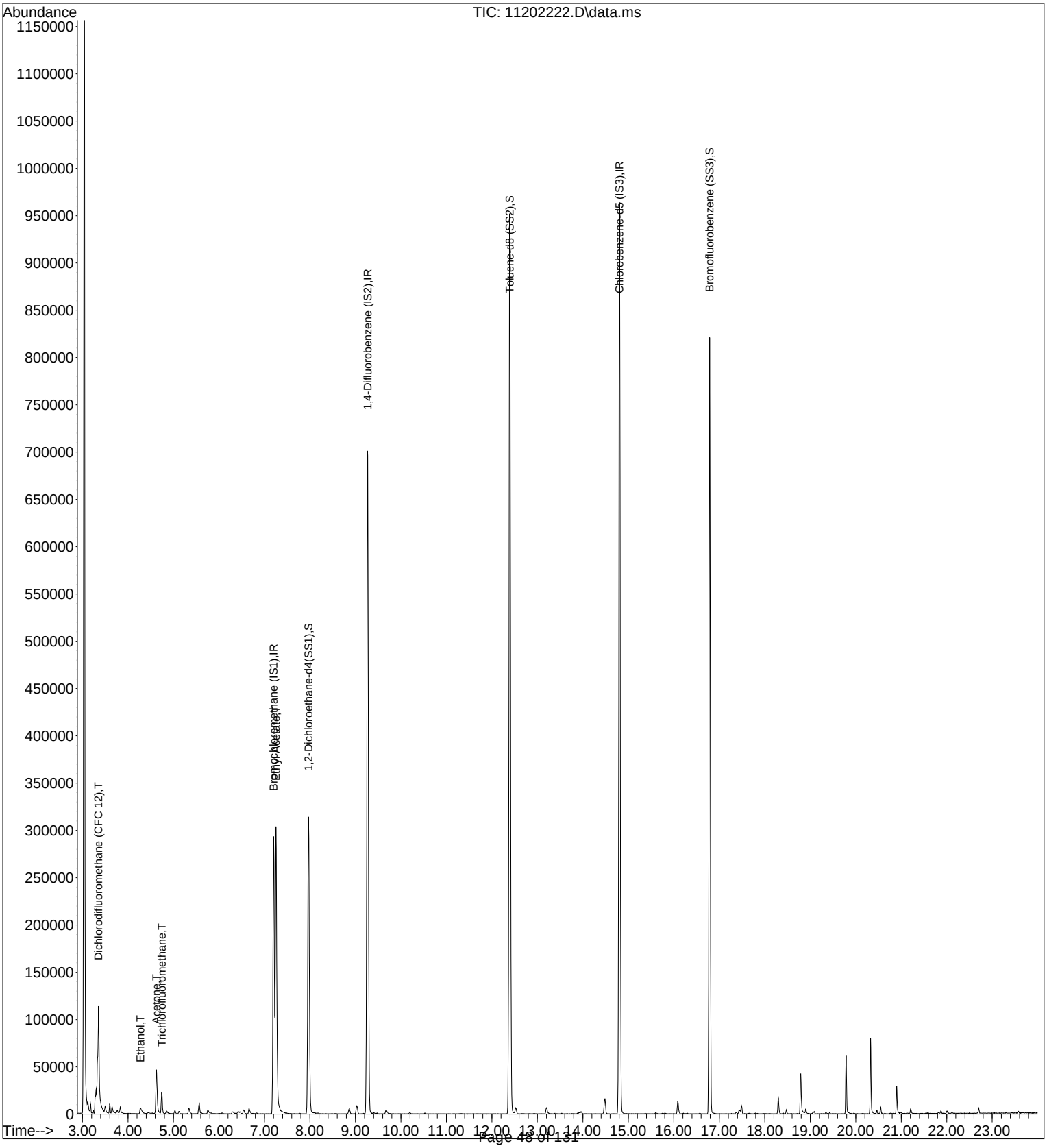
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.53	91	6119	N.D.		
59) 2-Hexanone	12.84	43	176	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	602	N.D.		
63) n-Octane	13.89	57	105	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.38	91	725	N.D.		
67) m- & p-Xylenes	15.60	91	1006	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.21	91	529	N.D.		
71) n-Nonane	16.58	43	475	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	17.49	93	3494	N.D.		
76) n-Propylbenzene	17.64	91	326	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.83	105	303	N.D.		
79) 1,3,5-Trimethylbenzene	17.83	105	303	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.41	105	531	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.63	146	116	N.D.		
86) 1,4-Dichlorobenzene	18.63	146	116	N.D.		
87) sec-Butylbenzene	18.71	105	194	N.D.		
88) 4-Isopropyltoluene (p-...	18.90	119	2747	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.05	68	528	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.82	180	197	N.D.		
95) Naphthalene	20.93	128	536	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	128	N.D.		
100) n-Butylbenzene	19.37	91	324	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202222.D Vial: 14
Acq On : 20 Nov 2022 17:19 Operator: SC
Sample : P2205132-003 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:04 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202222.D Vial: 14
Acq On : 20 Nov 2022 17:19 Operator: SC
Sample : P2205132-003 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:04 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/21/22

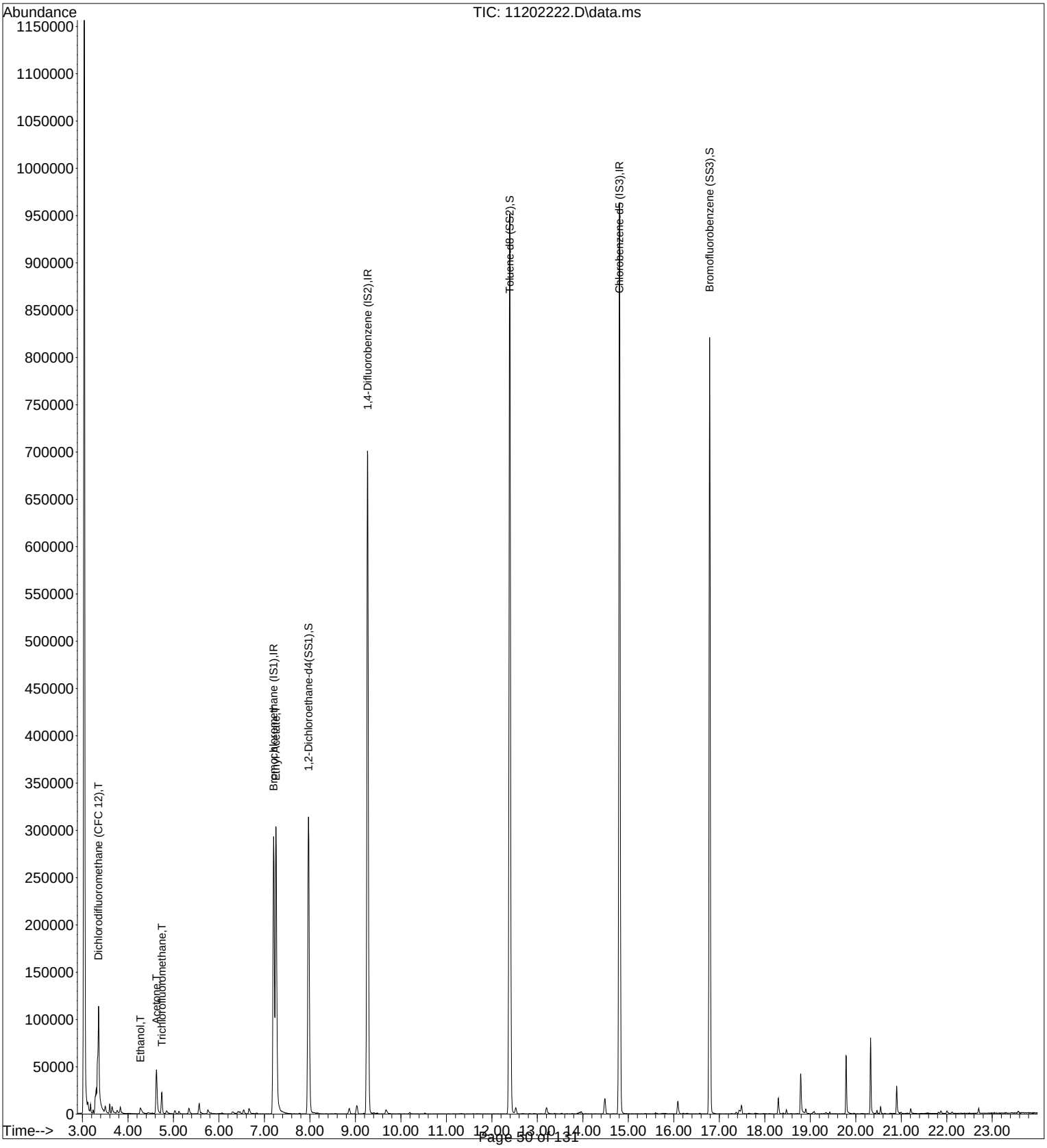
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	103547	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	668732	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	174046	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	263955	14.666	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.36%				
57) Toluene-d8 (SS2)	12.39	98	757124	11.933	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
73) Bromofluorobenzene (SS3)	16.79	174	267925	12.076	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	45547	1.912	ng		99
10) Ethanol	4.27	45	11592	1.000	ng		94
13) Acetone	4.62	58	15004	1.432	ng	#	63
14) Trichlorofluoromethane	4.74	101	16618	0.812	ng		100
30) Ethyl Acetate	7.25	61	52758	9.187	ng		94

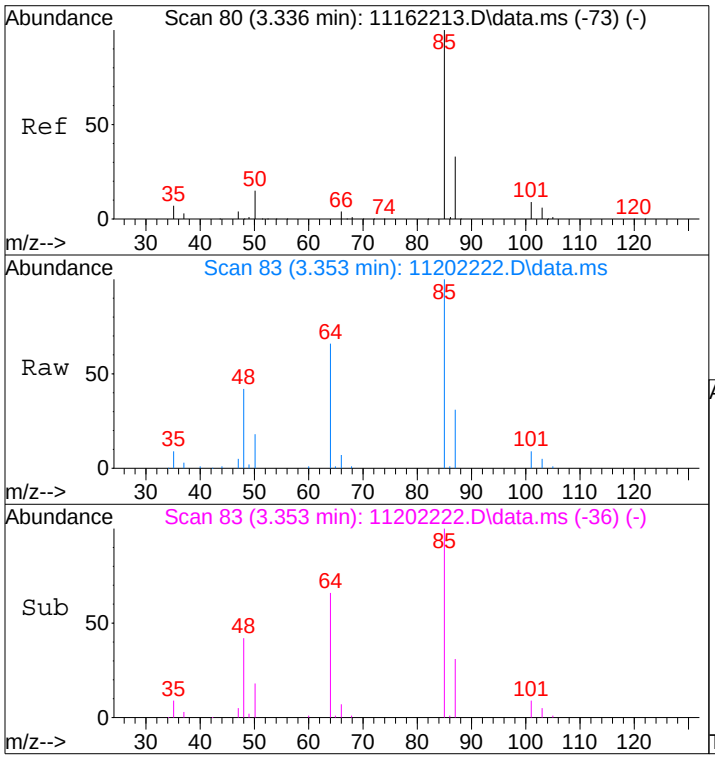
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202222.D Vial: 14
Acq On : 20 Nov 2022 17:19 Operator: SC
Sample : P2205132-003 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:04 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

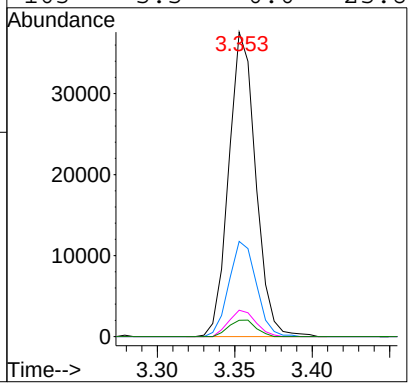


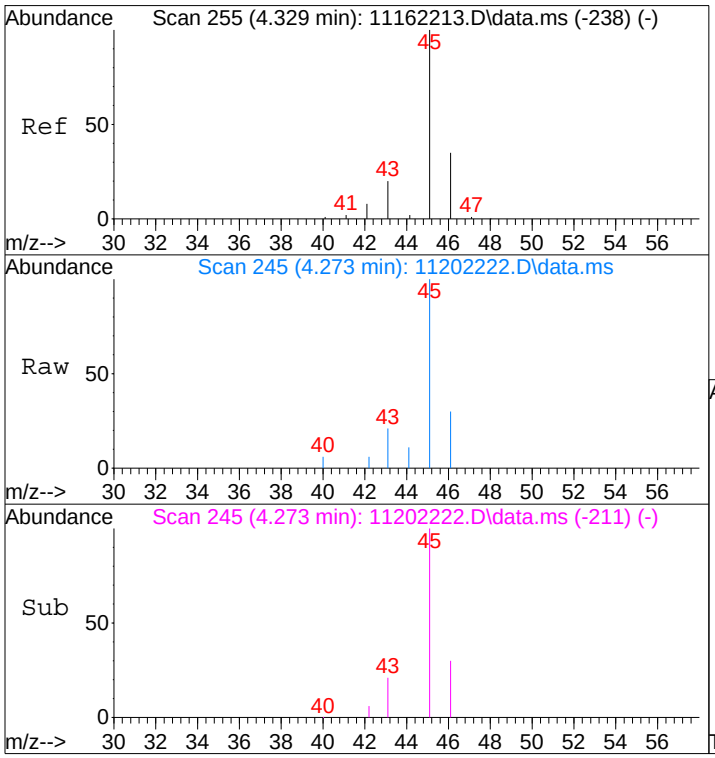


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.91 ng
RT: 3.35 min Scan# 83
Delta R.T. 0.017 min
Lab File: 11202222.D
Acq: 20 Nov 2022 17:19

Tgt Ion: 85 Resp: 45547

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.6	52.6
101	8.7	0.0	29.1
103	5.5	0.0	25.8

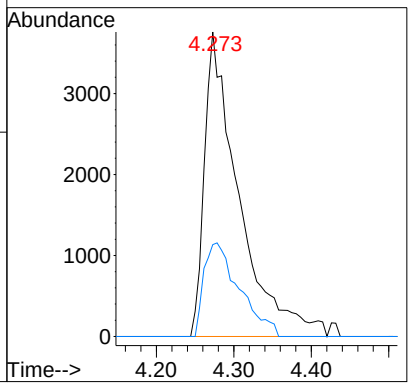


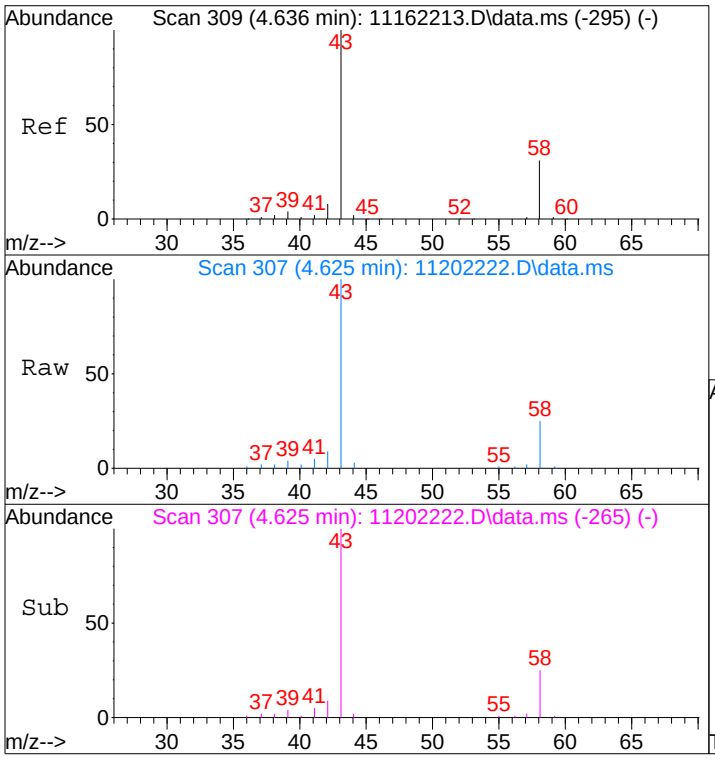


#10
Ethanol
Concen: 1.00 ng
RT: 4.27 min Scan# 245
Delta R.T. -0.057 min
Lab File: 11202222.D
Acq: 20 Nov 2022 17:19

Tgt Ion: 45 Resp: 11592

Ion	Ratio	Lower	Upper
45	100		
46	31.7	14.9	54.9

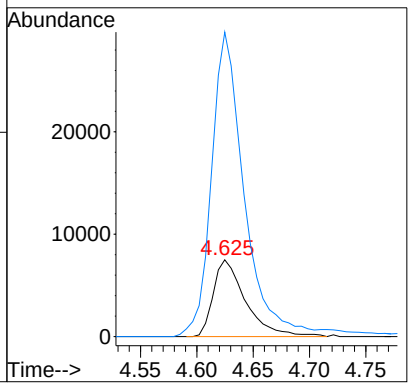


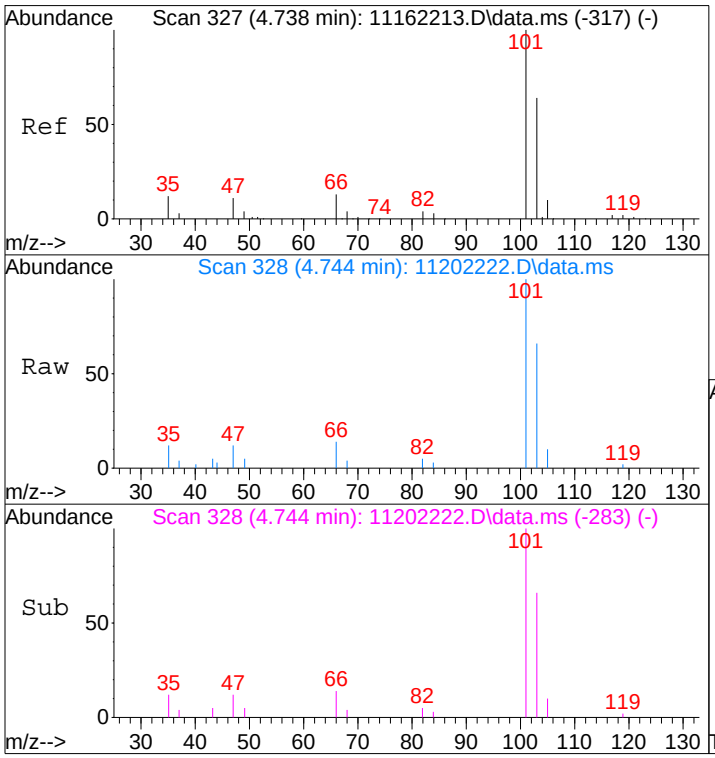


#13
Acetone
Concen: 1.43 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.011 min
Lab File: 11202222.D
Acq: 20 Nov 2022 17:19

Tgt Ion: 58 Resp: 15004

Ion	Ratio	Lower	Upper
58	100		
43	414.7	306.3	366.3#

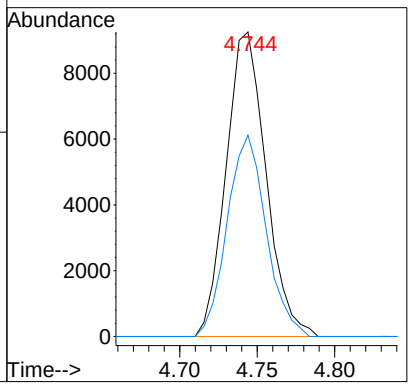


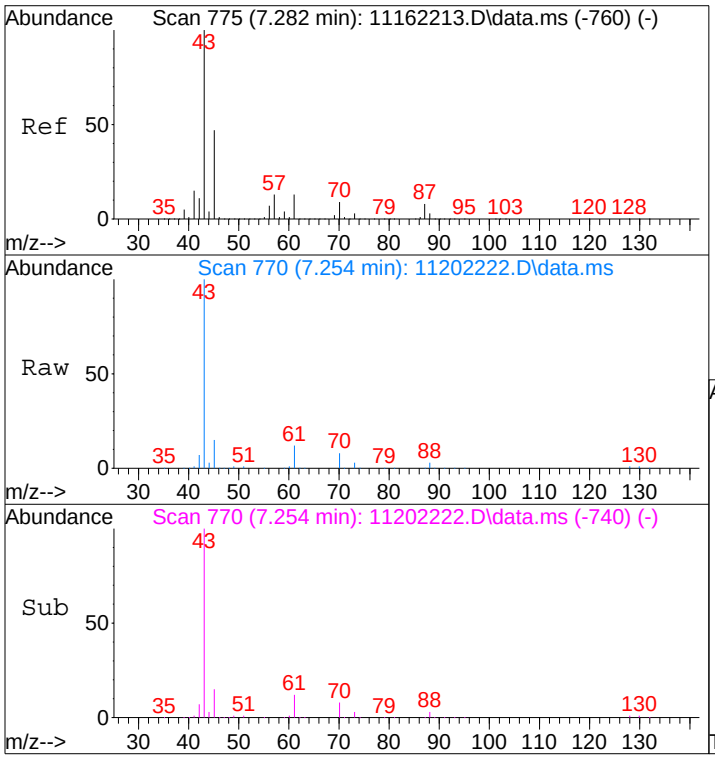


#14
Trichlorofluoromethane
Concen: 0.81 ng
RT: 4.74 min Scan# 328
Delta R.T. 0.006 min
Lab File: 11202222.D
Acq: 20 Nov 2022 17:19

Tgt Ion:101 Resp: 16618

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.5	84.5

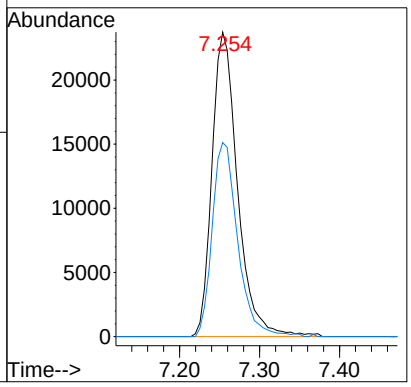




#30
Ethyl Acetate
Concen: 9.19 ng
RT: 7.25 min Scan# 770
Delta R.T. -0.028 min
Lab File: 11202222.D
Acq: 20 Nov 2022 17:19

Tgt Ion: 61 Resp: 52758

Ion	Ratio	Lower	Upper
61	100		
70	63.6	48.2	88.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202223.D Vial: 15
Acq On : 20 Nov 2022 17:51 Operator: SC
Sample : P2205132-004 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:06 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	101828	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	660361	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	172901	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	262951	14.857	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.88%				
57) Toluene-d8 (SS2)	12.39	98	753902	11.961	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	16.79	174	261726	11.875	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
Target Compounds							Qvalue
2) Propene	3.30	42	2617	N.D.			
3) Dichlorodifluoromethan...	3.28	85	118	N.D.			
4) Chloromethane	3.42	50	122	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	997	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.01	94	228	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	7002	0.614	ng		90
11) Acetonitrile	4.44	41	3671	N.D.			
12) Acrolein	4.53	56	421	N.D.			
13) Acetone	4.62	58	18469	1.792	ng	#	66
14) Trichlorofluoromethane	4.74	101	17756	0.882	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	2527	N.D.			
16) Acrylonitrile	5.00	53	567	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.39	59	772	N.D.			
19) Methylene Chloride	5.33	84	2186	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3677	N.D.			
22) Carbon Disulfide	5.60	76	3285	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.42	86	451	N.D.			
27) 2-Butanone (MEK)	6.66	72	1724	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.25	61	22375	3.962	ng		95
31) n-Hexane	7.28	57	700	N.D.			
32) Chloroform	7.33	83	1076	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	750	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	21778	No Calib		#	
40) 1-Butanol	8.84	56	768	No Calib		#	
41) Benzene	8.87	78	5582	N.D.			
42) Carbon Tetrachloride	9.03	117	5988	N.D.			
43) Cyclohexane	9.26	84	360	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	1575	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202223.D Vial: 15
Acq On : 20 Nov 2022 17:51 Operator: SC
Sample : P2205132-004 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:06 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

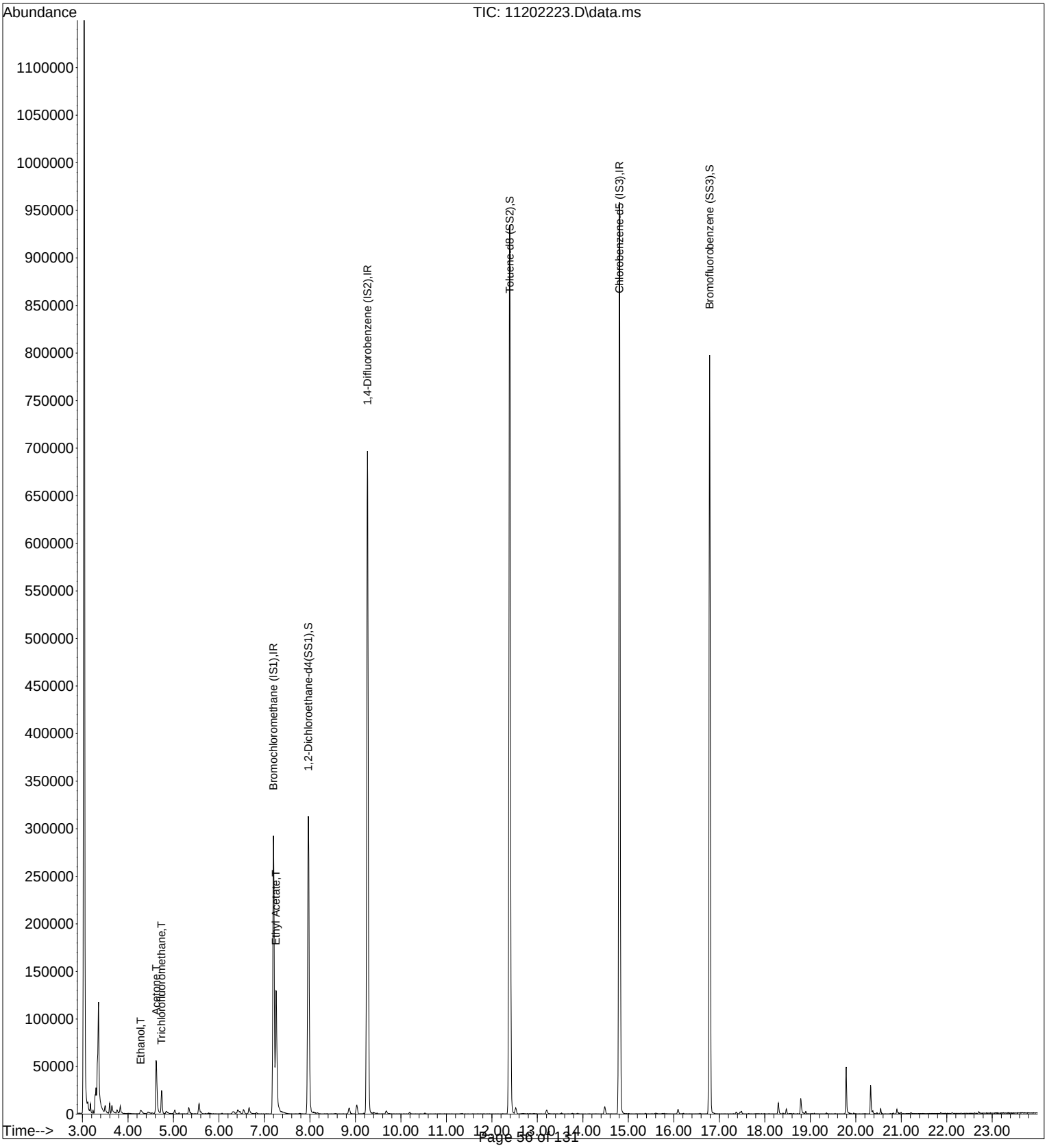
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	5698	N.D.	
59) 2-Hexanone	12.82	43	133	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	675	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	14.86	112	358	N.D.	
66) Ethylbenzene	15.37	91	716	N.D.	
67) m- & p-Xylenes	15.61	91	1495	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.21	91	549	N.D.	
71) n-Nonane	16.57	43	464	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.00	105	121	N.D.	
75) alpha-Pinene	17.49	93	1344	N.D.	
76) n-Propylbenzene	17.65	91	326	N.D.	
77) 3-Ethyltoluene	17.00	105	121	No Calib	#
78) 4-Ethyltoluene	17.83	105	199	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	120	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.00	105	121	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	451	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.54	91	200	N.D.	
85) 1,3-Dichlorobenzene	18.56	146	172	N.D.	
86) 1,4-Dichlorobenzene	18.64	146	288	N.D.	
87) sec-Butylbenzene	18.72	105	129	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	1743	N.D.	
89) 1,2,3-Trimethylbenzene	17.00	105	121	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.82	180	396	N.D.	
95) Naphthalene	20.93	128	570	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.40	119	123	N.D.	
100) n-Butylbenzene	19.37	91	477	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202223.D Vial: 15
Acq On : 20 Nov 2022 17:51 Operator: SC
Sample : P2205132-004 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:06 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202223.D Vial: 15
Acq On : 20 Nov 2022 17:51 Operator: SC
Sample : P2205132-004 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:06 2022 11/21/22
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

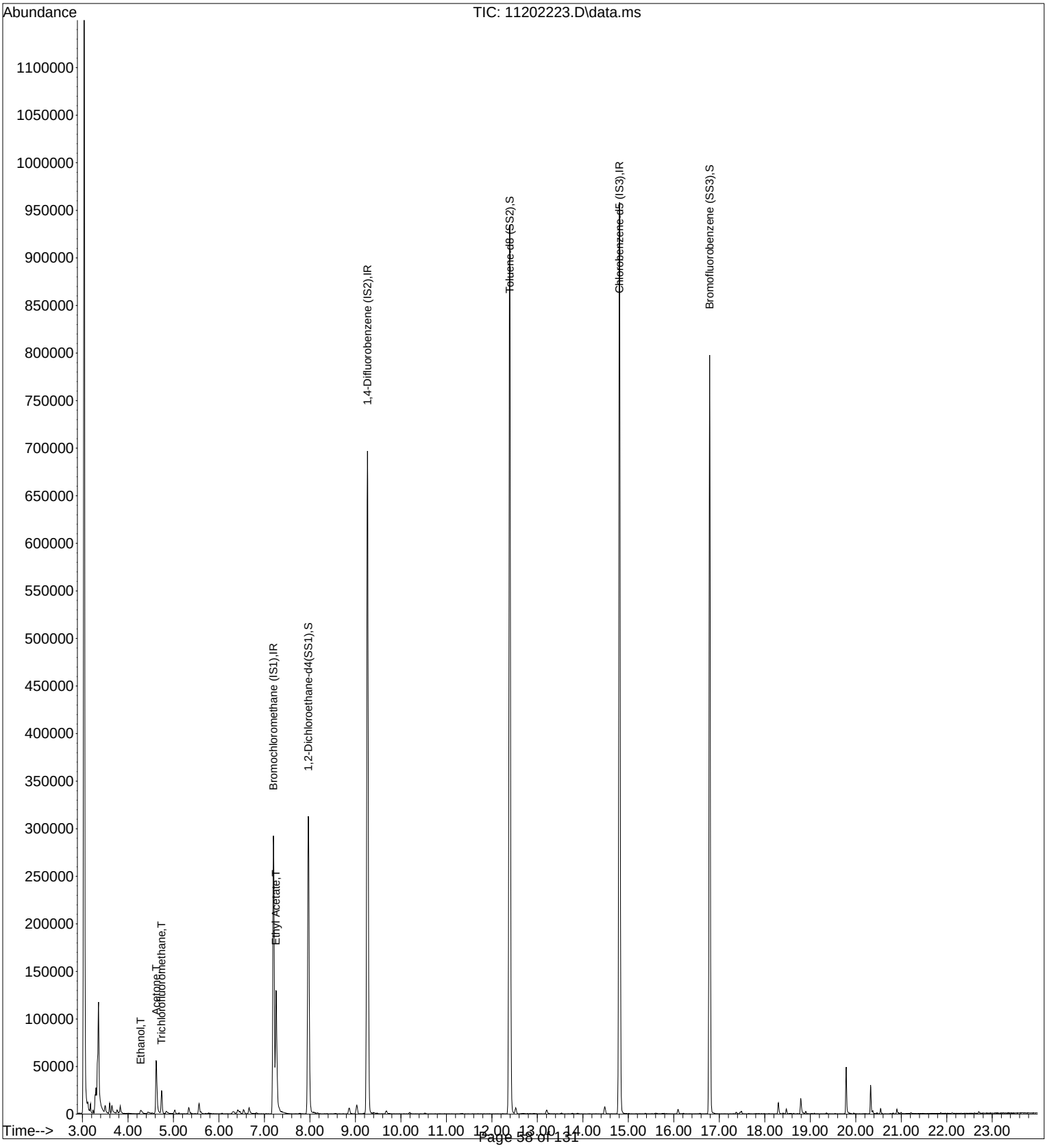
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	101828	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	660361	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	172901	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	262951	14.857	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.88%				
57) Toluene-d8 (SS2)	12.39	98	753902	11.961	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	16.79	174	261726	11.875	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
Target Compounds							Qvalue
10) Ethanol	4.28	45	7002	0.614	ng		90
13) Acetone	4.62	58	18469	1.792	ng	#	66
14) Trichlorofluoromethane	4.74	101	17756	0.882	ng		100
30) Ethyl Acetate	7.25	61	22375	3.962	ng		95

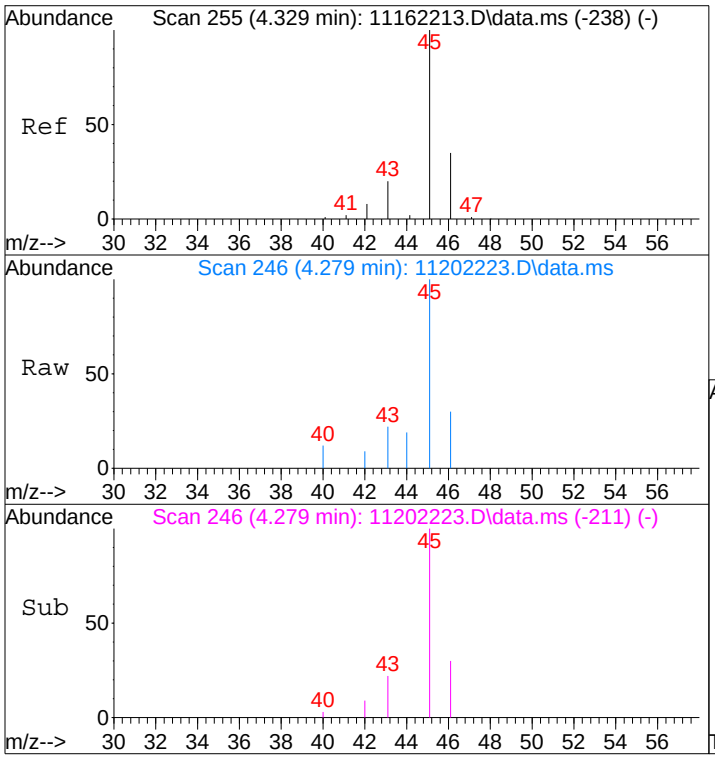
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202223.D Vial: 15
Acq On : 20 Nov 2022 17:51 Operator: SC
Sample : P2205132-004 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:06 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

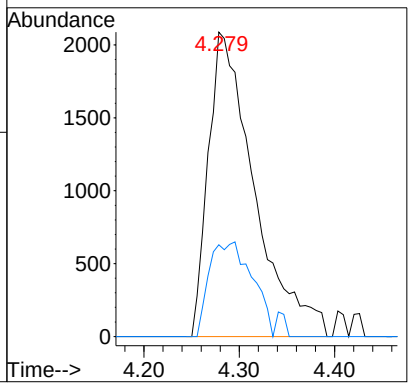


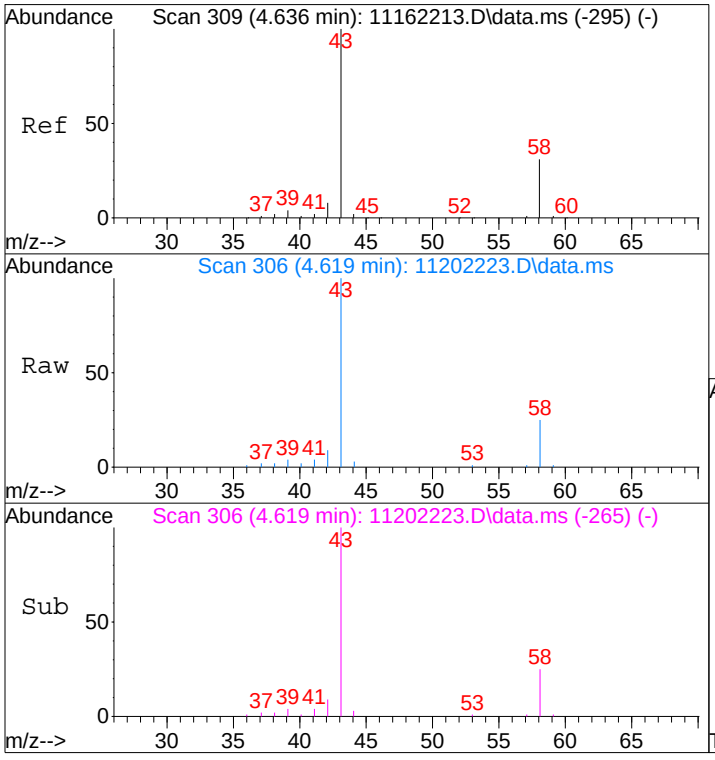


#10
Ethanol
Concen: 0.61 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.051 min
Lab File: 11202223.D
Acq: 20 Nov 2022 17:51

Tgt Ion: 45 Resp: 7002

Ion	Ratio	Lower	Upper
45	100		
46	29.0	14.9	54.9

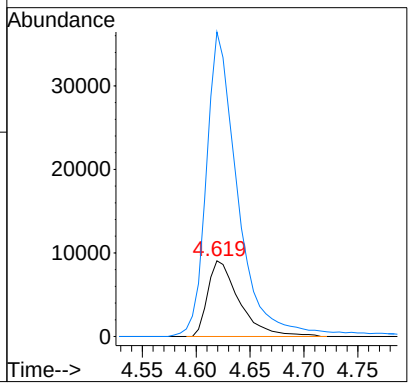


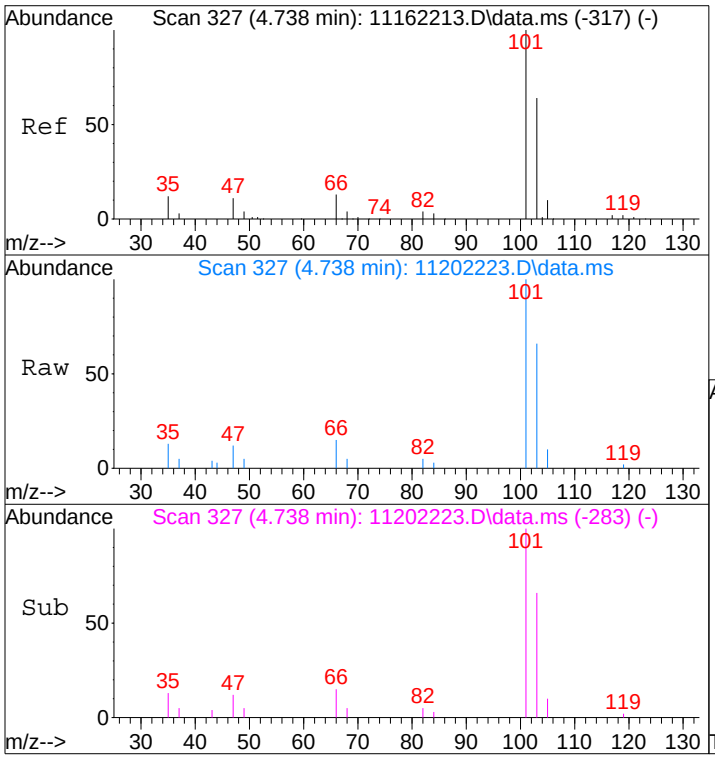


#13
Acetone
Concen: 1.79 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.017 min
Lab File: 11202223.D
Acq: 20 Nov 2022 17:51

Tgt Ion: 58 Resp: 18469

Ion	Ratio	Lower	Upper
58	100		
43	407.4	306.3	366.3#

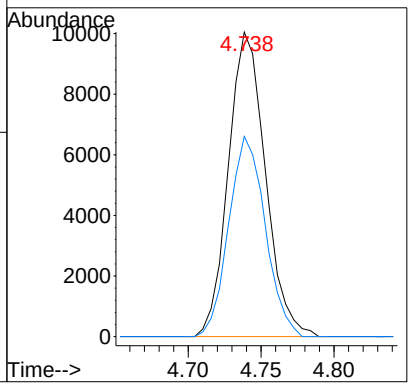


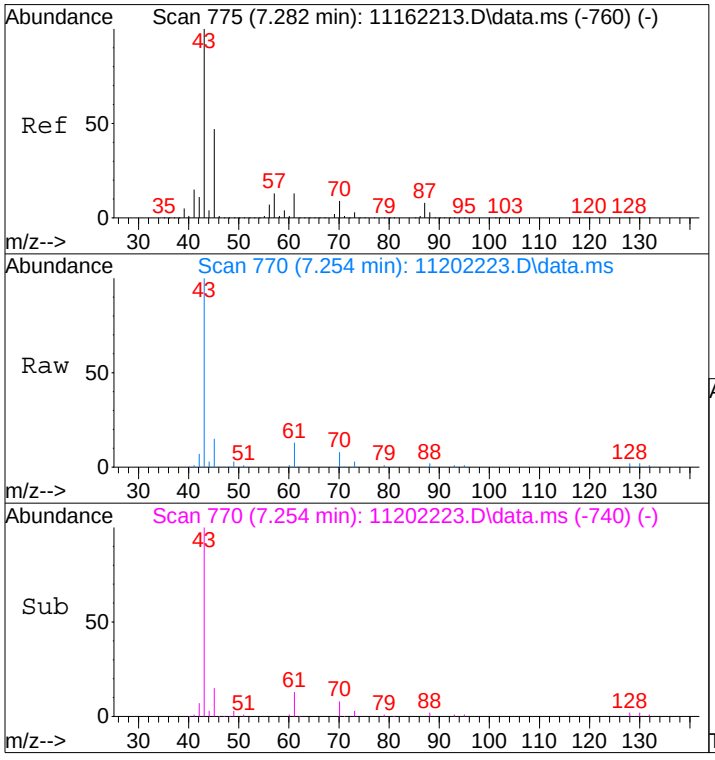


#14
Trichlorofluoromethane
Concen: 0.88 ng
RT: 4.74 min Scan# 327
Delta R.T. 0.000 min
Lab File: 11202223.D
Acq: 20 Nov 2022 17:51

Tgt Ion:101 Resp: 17756

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.5	84.5

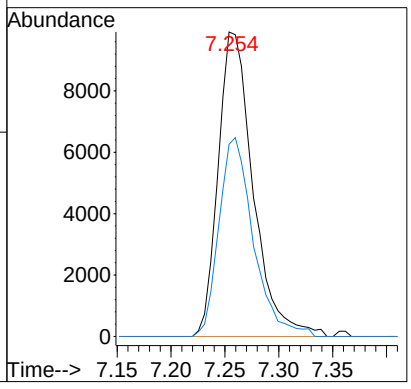




#30
Ethyl Acetate
Concen: 3.96 ng
RT: 7.25 min Scan# 770
Delta R.T. -0.028 min
Lab File: 11202223.D
Acq: 20 Nov 2022 17:51

Tgt Ion: 61 Resp: 22375

Ion	Ratio	Lower	Upper
61	100		
70	64.4	48.2	88.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202224.D Vial: 16
Acq On : 20 Nov 2022 18:23 Operator: SC
Sample : P2205132-005 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:08 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/21/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150731	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	661155	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	172189	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.97	65	301419	11.505	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%			
57) Toluene-d8 (SS2)	12.39	98	749458	11.940	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%			
73) Bromofluorobenzene (SS3)	16.79	174	262655	11.967	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%			
Target Compounds						Qvalue
2) Propene	3.29	42	3423	N.D.		
3) Dichlorodifluoromethan...	3.35	85	48176	1.389	ng	99
4) Chloromethane	3.49	50	7276	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	1220	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.01	94	233	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.28	45	24257	1.437	ng	92
11) Acetonitrile	4.43	41	4822	N.D.		
12) Acrolein	4.52	56	1519	N.D.		
13) Acetone	4.61	58	32690	2.143	ng	94
14) Trichlorofluoromethane	4.74	101	22296	0.748	ng	100
15) 2-Propanol (Isopropanol)	4.85	45	6913	N.D.		
16) Acrylonitrile	4.98	53	1147	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.34	59	120	N.D.		
19) Methylene Chloride	5.33	84	3324	N.D.		
20) 3-Chloro-1-propene (Al...	5.33	41	122	N.D.		
21) Trichlorotrifluoroethane	5.56	151	4266	N.D.		
22) Carbon Disulfide	5.60	76	5100	N.D.		
23) trans-1,2-Dichloroethene	6.12	61	191	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.41	86	912	N.D.		
27) 2-Butanone (MEK)	6.65	72	3990	N.D.		
28) cis-1,2-Dichloroethene	7.05	61	196	N.D.		
29) Diisopropyl Ether	7.25	87	1326	N.D.		
30) Ethyl Acetate	7.25	61	115704	13.841	ng	94
31) n-Hexane	7.27	57	1203	N.D.		
32) Chloroform	7.33	83	1377	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.08	62	971	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.27	61	21829	No Calib	#	
40) 1-Butanol	8.84	56	2502	No Calib	#	
41) Benzene	8.87	78	8775	N.D.		
42) Carbon Tetrachloride	9.03	117	5672	N.D.		
43) Cyclohexane	9.18	84	231	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.20	57	1951	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202224.D Vial: 16
Acq On : 20 Nov 2022 18:23 Operator: SC
Sample : P2205132-005 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:08 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

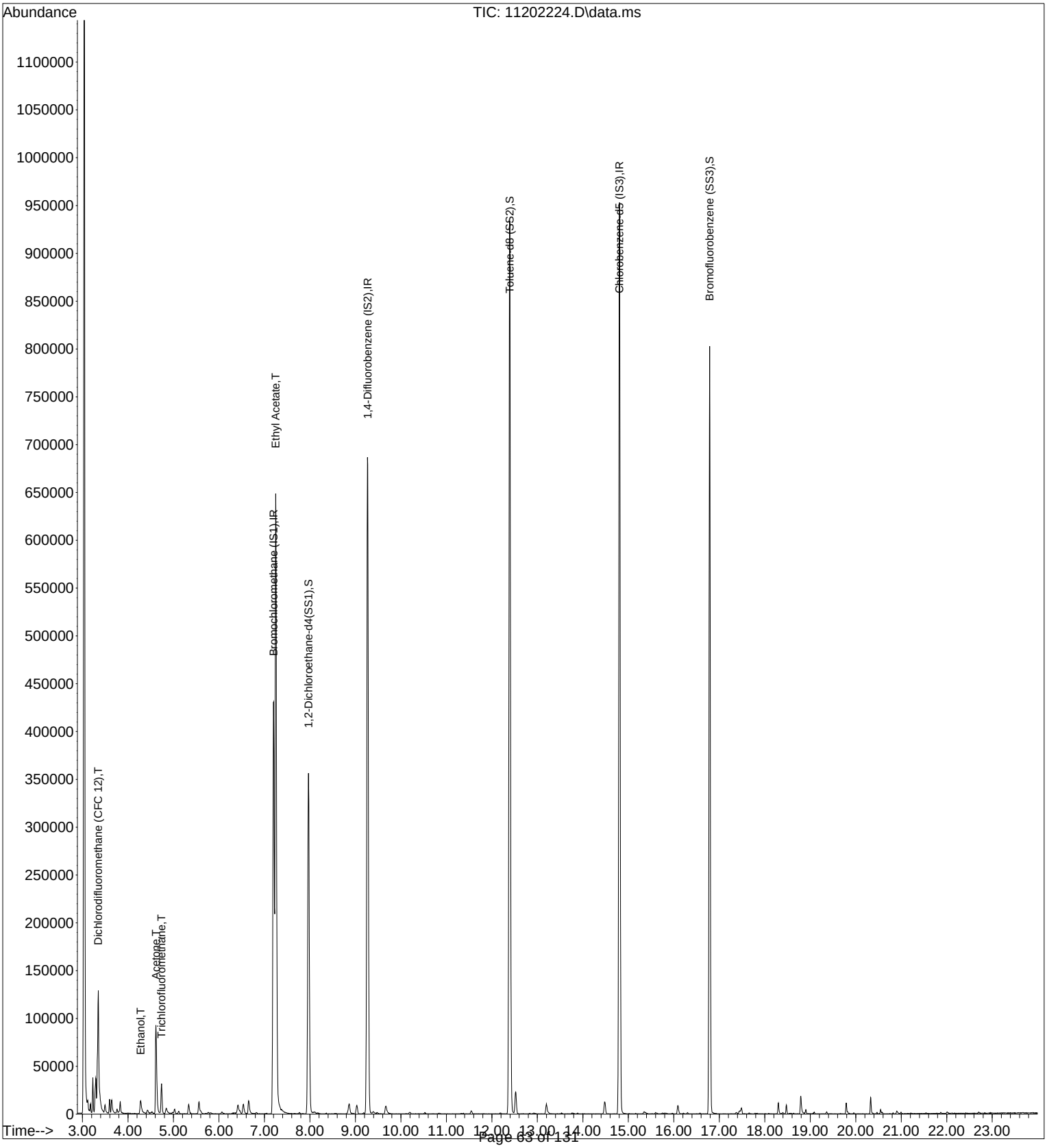
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	20413	N.D.	
59) 2-Hexanone	12.93	43	1265	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.76	43	1577	N.D.	
63) n-Octane	13.88	57	120	N.D.	
64) Tetrachloroethene	14.00	166	117	N.D.	
65) Chlorobenzene	14.87	112	431	N.D.	
66) Ethylbenzene	15.37	91	1173	N.D.	
67) m- & p-Xylenes	15.60	91	1881	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.08	104	330	N.D.	
70) o-Xylene	16.21	91	697	N.D.	
71) n-Nonane	16.58	43	512	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.00	105	138	N.D.	
75) alpha-Pinene	17.49	93	2658	N.D.	
76) n-Propylbenzene	17.65	91	718	N.D.	
77) 3-Ethyltoluene	17.00	105	138	No Calib	#
78) 4-Ethyltoluene	17.83	105	416	N.D.	
79) 1,3,5-Trimethylbenzene	17.83	105	416	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.00	105	138	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	625	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.54	91	409	N.D.	
85) 1,3-Dichlorobenzene	18.55	146	275	N.D.	
86) 1,4-Dichlorobenzene	18.64	146	473	N.D.	
87) sec-Butylbenzene	18.71	105	122	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	2738	N.D.	
89) 1,2,3-Trimethylbenzene	17.00	105	138	No Calib	#
90) 1,2-Dichlorobenzene	19.02	146	183	N.D.	
91) d-Limonene	19.06	68	131	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.82	180	448	N.D.	
95) Naphthalene	20.93	128	955	N.D.	
96) n-Dodecane	18.80	58	346	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.48	119	167	N.D.	
100) n-Butylbenzene	19.37	91	876	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202224.D Vial: 16
Acq On : 20 Nov 2022 18:23 Operator: SC
Sample : P2205132-005 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:08 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202224.D Vial: 16
Acq On : 20 Nov 2022 18:23 Operator: SC
Sample : P2205132-005 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:08 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/21/22

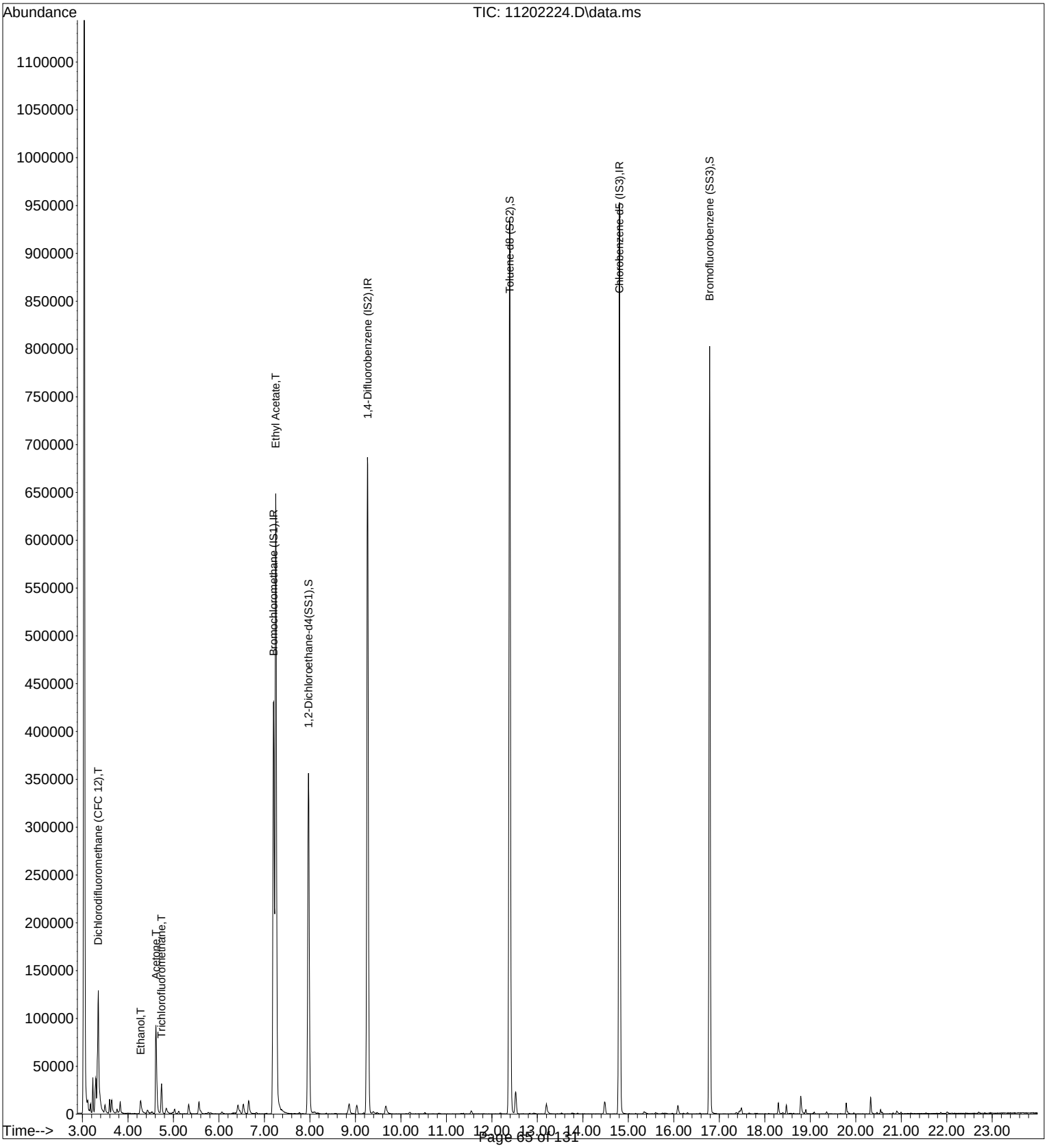
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150731	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	661155	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	172189	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.97	65	301419	11.505	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%			
57) Toluene-d8 (SS2)	12.39	98	749458	11.940	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%			
73) Bromofluorobenzene (SS3)	16.79	174	262655	11.967	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.35	85	48176	1.389	ng	99
10) Ethanol	4.28	45	24257	1.437	ng	92
13) Acetone	4.61	58	32690	2.143	ng	94
14) Trichlorofluoromethane	4.74	101	22296	0.748	ng	100
30) Ethyl Acetate	7.25	61	115704	13.841	ng	94

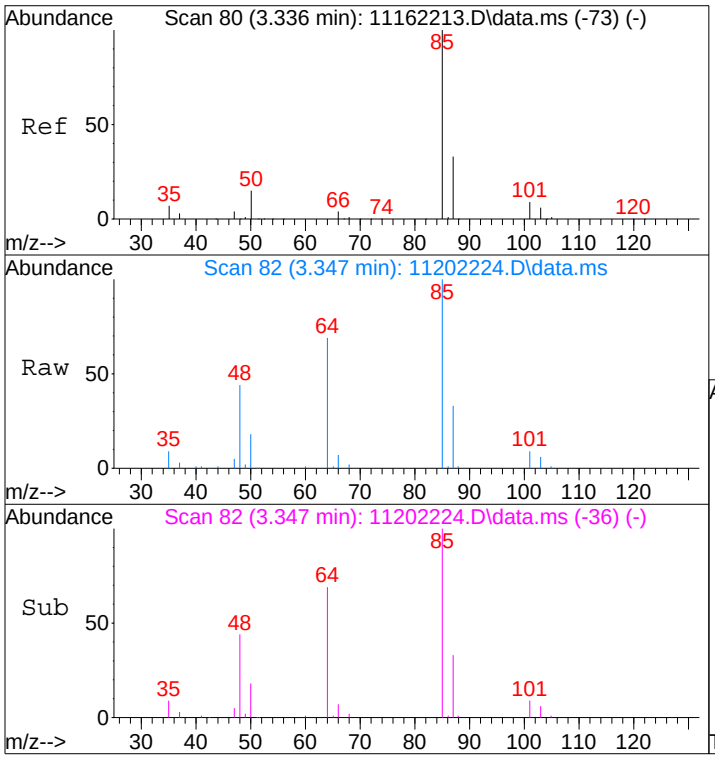
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202224.D Vial: 16
Acq On : 20 Nov 2022 18:23 Operator: SC
Sample : P2205132-005 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 20:39:08 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

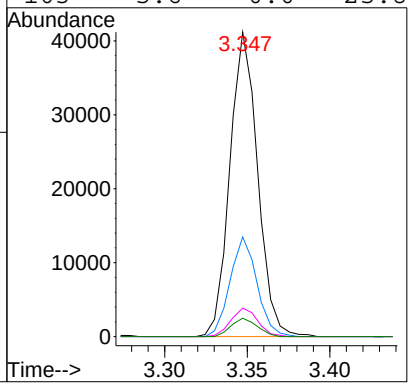


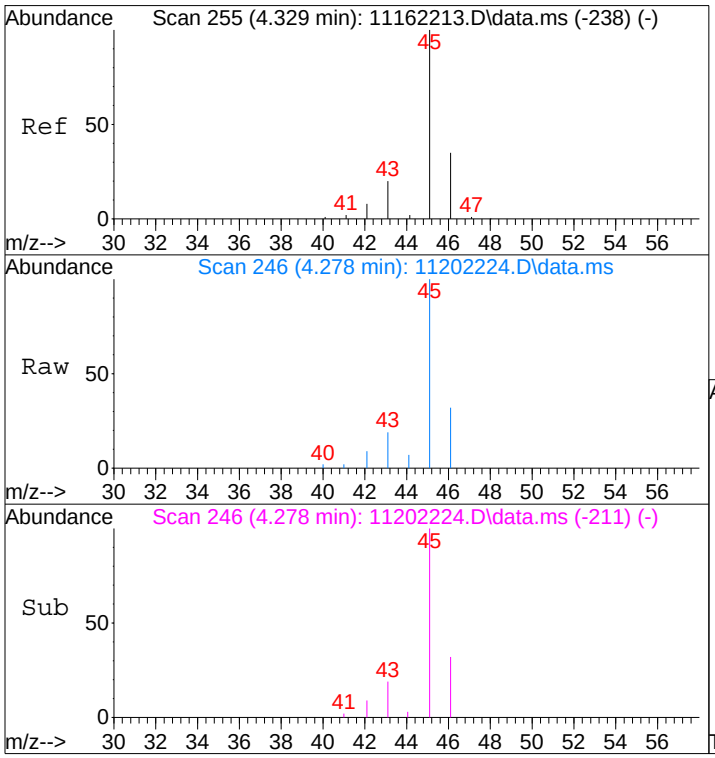


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.39 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.011 min
Lab File: 11202224.D
Acq: 20 Nov 2022 18:23

Tgt Ion: 85 Resp: 48176

Ion	Ratio	Lower	Upper
85	100		
87	31.6	12.6	52.6
101	9.1	0.0	29.1
103	5.6	0.0	25.8

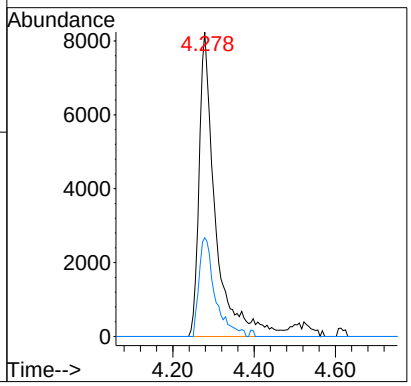


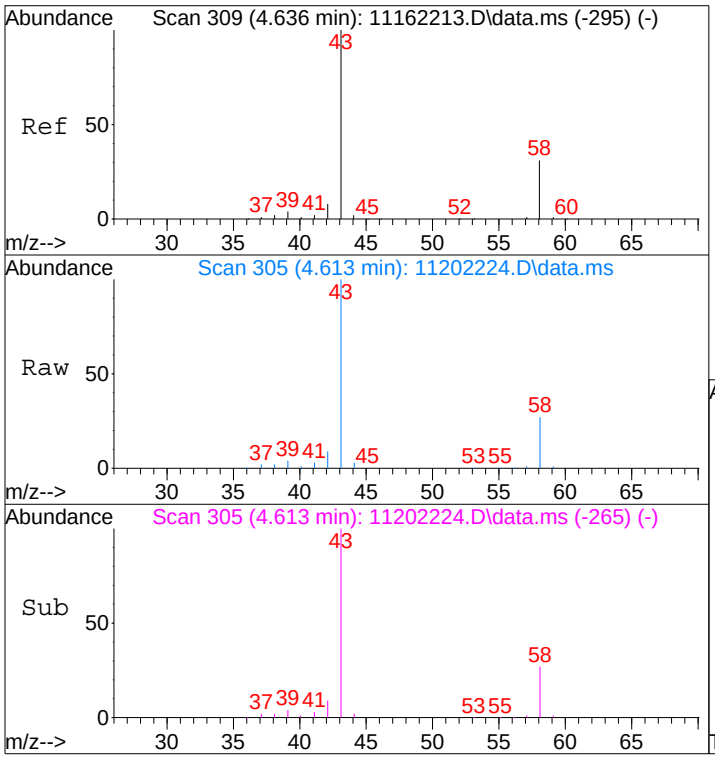


#10
Ethanol
Concen: 1.44 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.051 min
Lab File: 11202224.D
Acq: 20 Nov 2022 18:23

Tgt Ion: 45 Resp: 24257

Ion	Ratio	Lower	Upper
45	100		
46	30.2	14.9	54.9

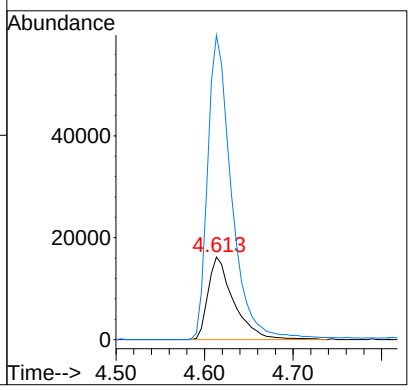


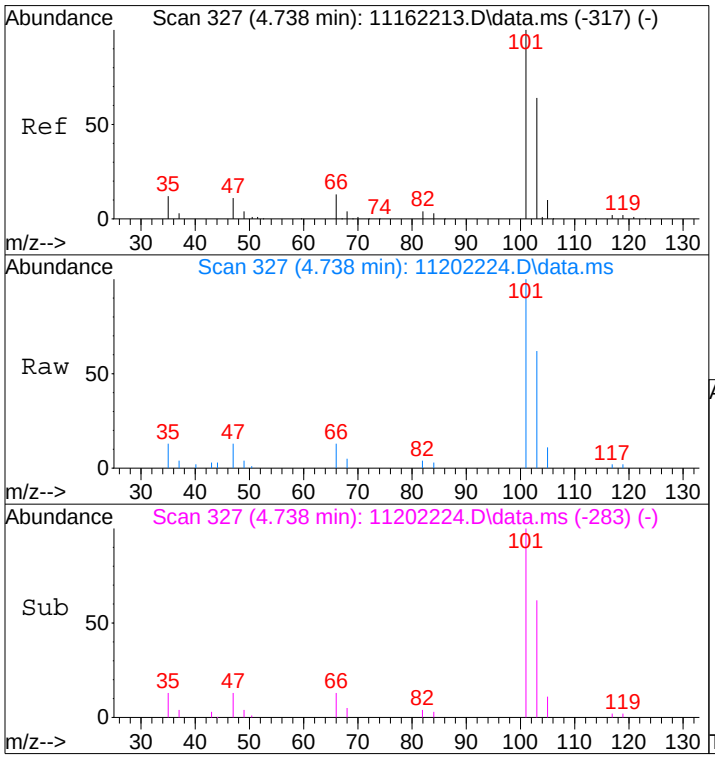


#13
Acetone
Concen: 2.14 ng
RT: 4.61 min Scan# 305
Delta R.T. -0.023 min
Lab File: 11202224.D
Acq: 20 Nov 2022 18:23

Tgt Ion: 58 Resp: 32690

Ion	Ratio	Lower	Upper
58	100		
43	348.8	306.3	366.3

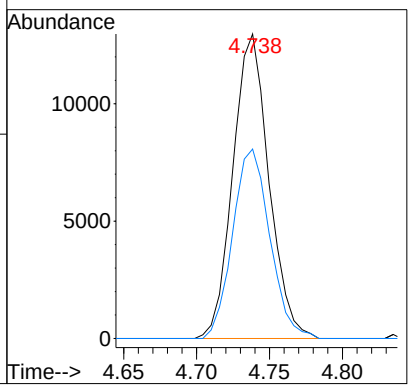


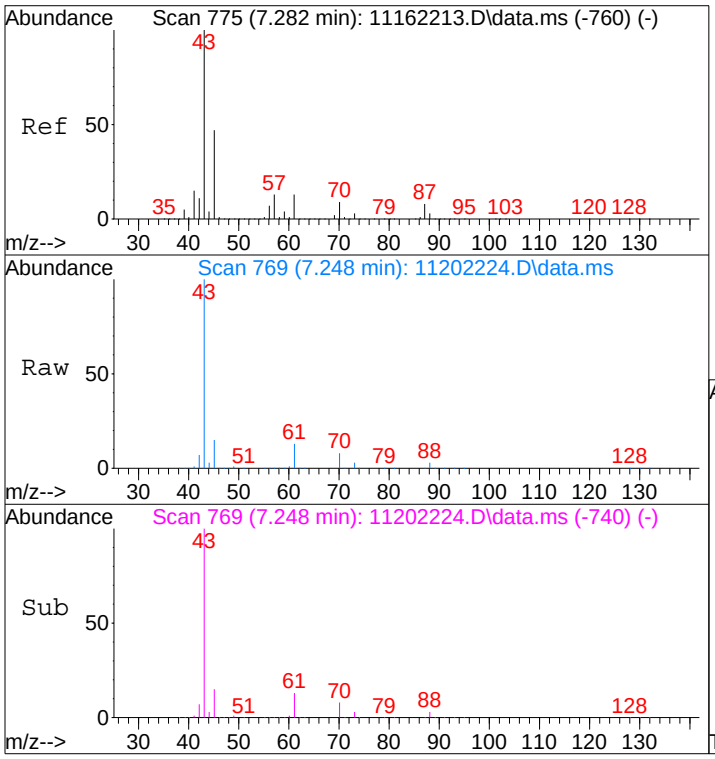


#14
Trichlorofluoromethane
Concen: 0.75 ng
RT: 4.74 min Scan# 327
Delta R.T. 0.000 min
Lab File: 11202224.D
Acq: 20 Nov 2022 18:23

Tgt Ion:101 Resp: 22296

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.5	84.5

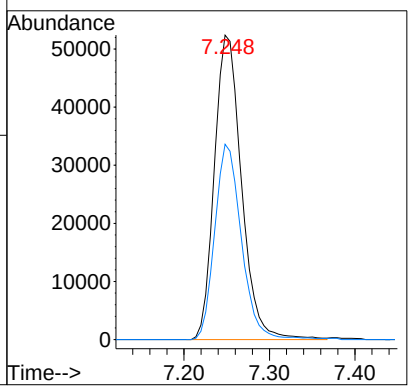




#30
Ethyl Acetate
Concen: 13.84 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.034 min
Lab File: 11202224.D
Acq: 20 Nov 2022 18:23

Tgt Ion: 61 Resp: 115704

Ion	Ratio	Lower	Upper
61	100		
70	63.0	48.2	88.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202203.D Vial: 2
Acq On : 20 Nov 2022 2:39 Operator: CG
Sample : MB R9112022 1000mL Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 07:48:49 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	102396	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	678296	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.80	54	167747	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	288586	16.215	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 129.68%				
57) Toluene-d8 (SS2)	12.39	98	762338	12.466	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	16.79	174	254695	11.911	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
Target Compounds							Qvalue
2) Propene	3.31	42	316	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	3.36	50	773	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.03	94	116	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.31	45	1151	0.100	ng	#	56
11) Acetonitrile	4.48	41	1001	N.D.			
12) Acrolein	4.54	56	197	N.D.			
13) Acetone	4.64	58	2791	0.269	ng		93
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	4.90	45	467	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.62	76	306	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	172	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	21888	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.87	78	305	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.26	84	277	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS09\DATA\2022 11\20\11202203.D Vial: 2
Acq On : 20 Nov 2022 2:39 Operator: CG
Sample : MB R9112022 1000mL Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 07:48:49 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

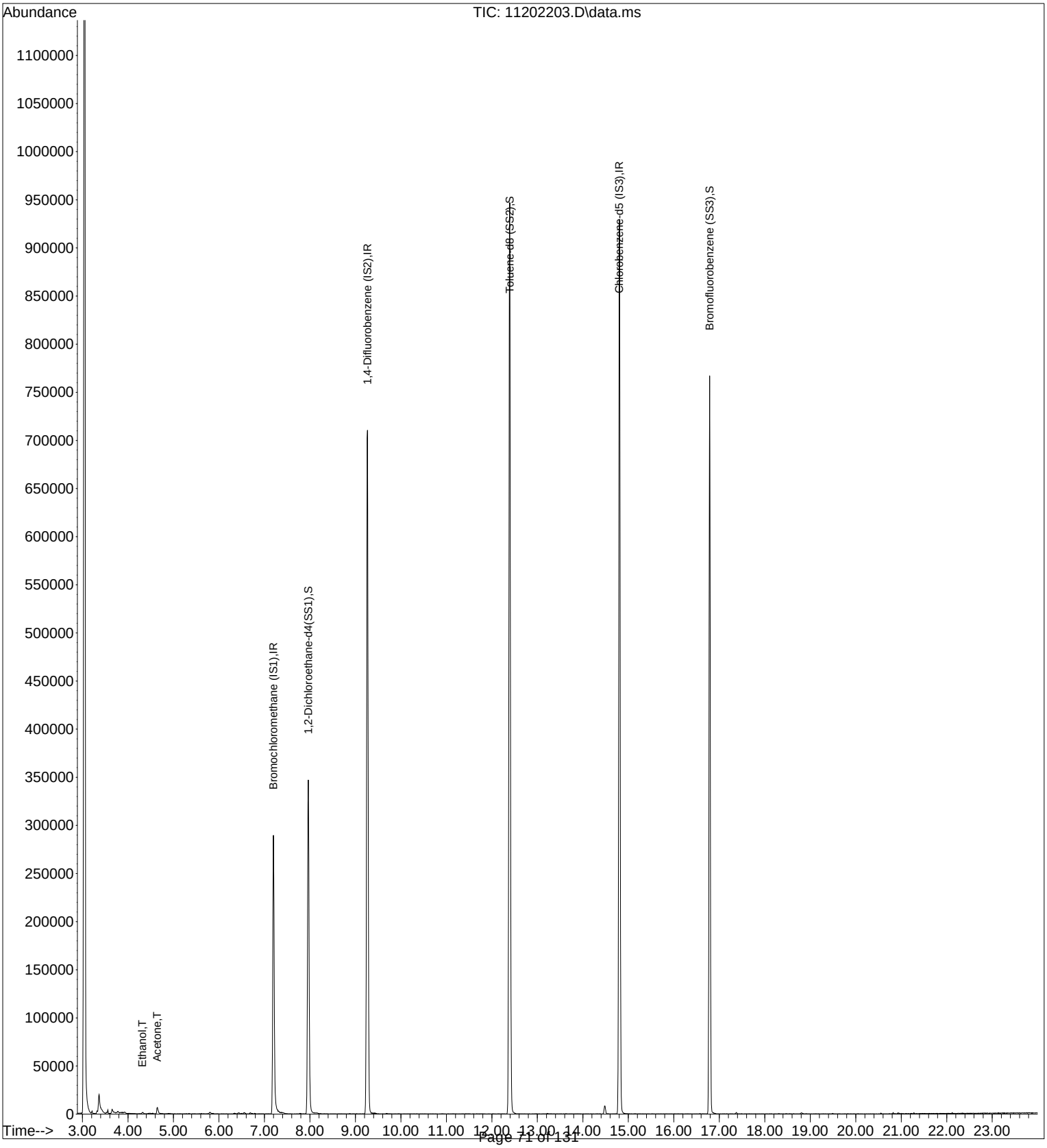
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0		N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0		N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0		N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0		N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0		N.D.	
58) Toluene	0.00	91	0		N.D.	
59) 2-Hexanone	12.95	43	366		N.D.	
60) Dibromochloromethane	0.00	129	0		N.D.	
61) 1,2-Dibromoethane	0.00	107	0		N.D.	
62) n-Butyl Acetate	0.00	43	0		N.D.	
63) n-Octane	0.00	57	0		N.D.	
64) Tetrachloroethene	0.00	166	0		N.D.	
65) Chlorobenzene	0.00	112	0		N.D.	
66) Ethylbenzene	0.00	91	0		N.D.	
67) m- & p-Xylenes	0.00	91	0		N.D.	
68) Bromoform	0.00	173	0		N.D.	
69) Styrene	0.00	104	0		N.D.	
70) o-Xylene	0.00	91	0		N.D.	
71) n-Nonane	16.57	43	192		N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0		N.D.	
74) Cumene	0.00	105	0		N.D.	
75) alpha-Pinene	0.00	93	0		N.D.	
76) n-Propylbenzene	0.00	91	0		N.D.	
77) 3-Ethyltoluene	0.00	105	0		N.D.	
78) 4-Ethyltoluene	0.00	105	0		N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0		N.D.	
80) alpha-Methylstyrene	0.00	118	0		N.D.	
81) 2-Ethyltoluene	0.00	105	0		N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0		N.D.	
83) n-Decane	0.00	58	0		N.D.	
84) Benzyl Chloride	18.55	91	181		N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0		N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0		N.D.	
87) sec-Butylbenzene	0.00	105	0		N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	199		N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0		N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0		N.D.	
91) d-Limonene	0.00	68	0		N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0		N.D.	
93) n-Undecane	0.00	58	0		N.D.	
94) 1,2,4-Trichlorobenzene	20.82	180	716		N.D.	
95) Naphthalene	20.93	128	2067		N.D.	
96) n-Dodecane	0.00	58	0		N.D.	
97) Hexachlorobutadiene	21.27	225	406		N.D.	
98) Cyclohexanone	0.00	55	0		N.D.	
99) tert-Butylbenzene	0.00	119	0		N.D.	
100) n-Butylbenzene	0.00	91	0		N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0		N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202203.D Vial: 2
Acq On : 20 Nov 2022 2:39 Operator: CG
Sample : MB R9112022 1000mL Inst : MS09
Misc : S35-11152201

Quant Time: Nov 20 07:48:49 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202204.D Vial: 2
Acq On : 20 Nov 2022 3:11 Operator: CG
Sample : LCS R9112022 25ng Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 20 07:49:46 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	145670	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.29	114	721375	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.81	54	180250	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	319648	12.625	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
57) Toluene-d8 (SS2)	12.40	98	809965	12.327	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
73) Bromofluorobenzene (SS3)	16.79	174	281848	12.267	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
Target Compounds							Qvalue
2) Propene	3.24	42	642967	24.679	ng		100
3) Dichlorodifluoromethan...	3.32	85	758596	22.639	ng		100
4) Chloromethane	3.46	50	698265	21.580	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	347107	21.813	ng		99
6) Vinyl Chloride	3.65	62	649118	22.935	ng		100
7) 1,3-Butadiene	3.77	54	280851	19.757	ng		98
8) Bromomethane	3.98	94	283093	22.693	ng		100
9) Chloroethane	4.13	64	258867	22.407	ng		100
10) Ethanol	4.32	45	1282502	78.639	ng		100
11) Acetonitrile	4.45	41	845437	18.016	ng		100
12) Acrolein	4.52	56	493241	36.743	ng		99
13) Acetone	4.62	58	1513782	102.686	ng		100
14) Trichlorofluoromethane	4.73	101	625368	21.722	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	2195949	39.962	ng		99
16) Acrylonitrile	5.01	53	1187870	41.875	ng		100
17) 1,1-Dichloroethene	5.24	96	312550	22.085	ng		100
18) 2-Methyl-2-Propanol (t...	5.34	59	2243192	46.915	ng		98
19) Methylene Chloride	5.36	84	356579	22.345	ng		99
20) 3-Chloro-1-propene (Al...	5.44	41	614817	18.243	ng		100
21) Trichlorotrifluoroethane	5.56	151	346163	23.004	ng		99
22) Carbon Disulfide	5.57	76	2256263	44.760	ng		100
23) trans-1,2-Dichloroethene	6.14	61	640609	23.263	ng		99
24) 1,1-Dichloroethane	6.32	63	716598	22.642	ng		100
25) Methyl tert-Butyl Ether	6.35	73	1086048	22.243	ng		99
26) Vinyl Acetate	6.44	86	324211	107.086	ng	#	89
27) 2-Butanone (MEK)	6.66	72	497760	46.259	ng		97
28) cis-1,2-Dichloroethene	7.08	61	603138	22.622	ng		100
29) Diisopropyl Ether	7.27	87	621165	46.924	ng	#	69
30) Ethyl Acetate	7.27	61	581228	71.943	ng		100
31) n-Hexane	7.27	57	810903	24.128	ng		100
32) Chloroform	7.37	83	700507	22.710	ng		100
34) Tetrahydrofuran (THF)	7.73	72	472164	45.621	ng		98
35) Ethyl tert-Butyl Ether	7.80	87	881443	46.575	ng		100
36) 1,2-Dichloroethane	8.11	62	615687	23.363	ng		99
38) 1,1,1-Trichloroethane	8.38	97	640531	23.006	ng		100
39) Isopropyl Acetate	9.20	61	1788	No Calib		#	
40) 1-Butanol	8.80	56	12258	No Calib		#	
41) Benzene	8.88	78	1416686	22.984	ng		100
42) Carbon Tetrachloride	9.05	117	505255	22.024	ng		100
43) Cyclohexane	9.19	84	1094936	45.309	ng		99
44) tert-Amyl Methyl Ether	9.57	73	2148488	48.752	ng		98
45) 1,2-Dichloropropane	9.84	63	414118	22.697	ng		100
46) Bromodichloromethane	10.06	83	578042	24.137	ng		99
47) Trichloroethene	10.13	130	391077	23.134	ng		100
48) 1,4-Dioxane	10.09	88	306230	24.095	ng		100
49) 2,2,4-Trimethylpentane...	10.21	57	1856227	22.212	ng		100
50) Methyl Methacrylate	10.38	100	293469	49.846	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202204.D Vial: 2
Acq On : 20 Nov 2022 3:11 Operator: CG
Sample : LCS R9112022 25ng Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 20 07:49:46 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

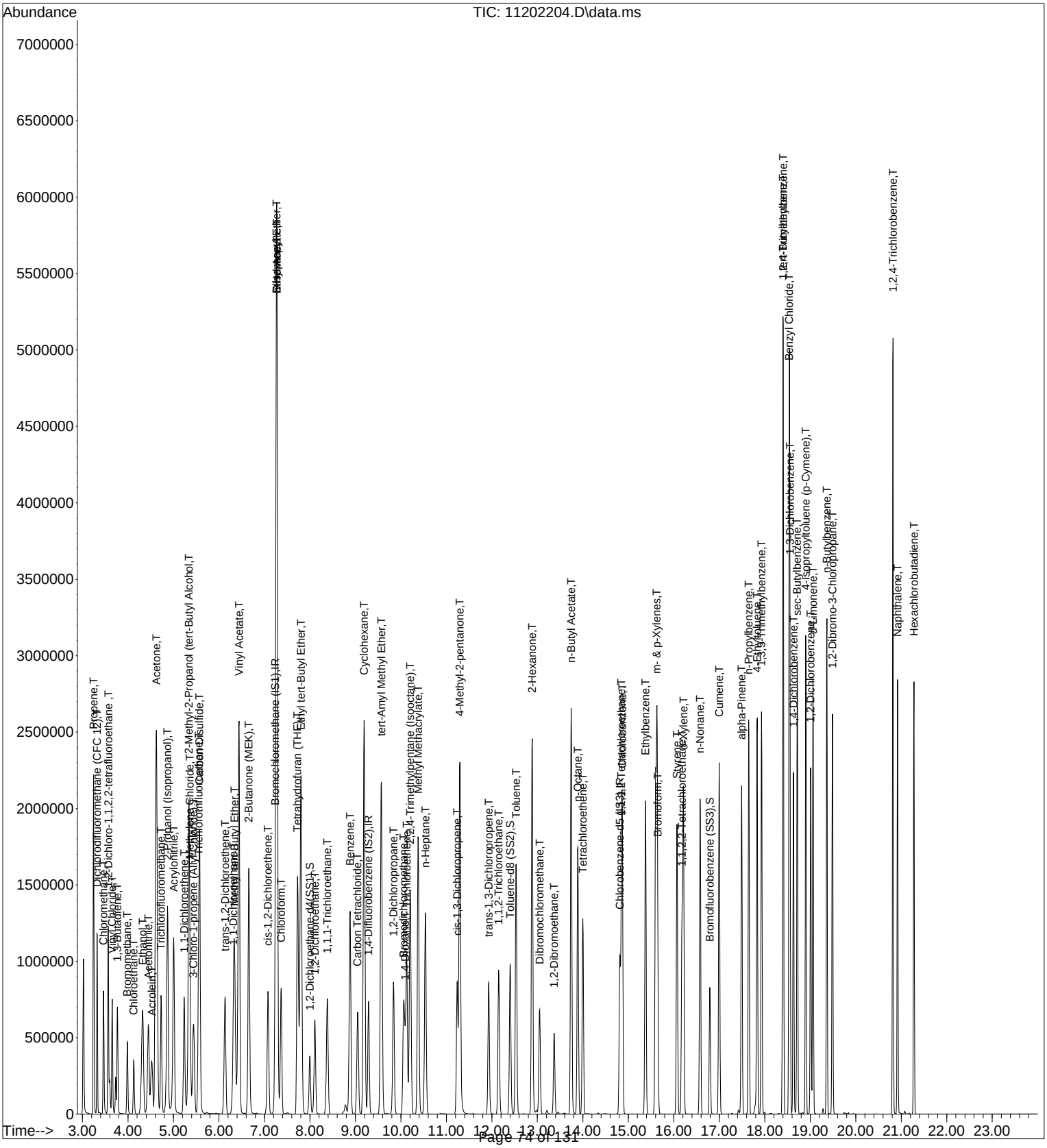
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.54	71	353019	22.224 ng	100
52) cis-1,3-Dichloropropene	11.24	75	606889	24.439 ng	100
53) 4-Methyl-2-pentanone	11.30	58	885914	48.258 ng	100
54) trans-1,3-Dichloropropene	11.93	75	565228	24.265 ng	100
55) 1,1,2-Trichloroethane	12.15	97	372620	22.962 ng	99
58) Toluene	12.53	91	1460358	22.327 ng	100
59) 2-Hexanone	12.89	43	2227642	47.694 ng	100
60) Dibromochloromethane	13.05	129	455169	23.820 ng	100
61) 1,2-Dibromoethane	13.37	107	451141	22.724 ng	100
62) n-Butyl Acetate	13.74	43	2491726	48.527 ng	100
63) n-Octane	13.89	57	395454	22.372 ng	100
64) Tetrachloroethene	14.00	166	437590	22.574 ng	100
65) Chlorobenzene	14.87	112	1003862	22.752 ng	100
66) Ethylbenzene	15.38	91	1716220	22.724 ng	100
67) m- & p-Xylenes	15.62	91	2863391	46.850 ng	100
68) Bromoform	15.65	173	434216	25.644 ng	100
69) Styrene	16.07	104	1036324	23.376 ng	100
70) o-Xylene	16.21	91	1401199	23.229 ng	99
71) n-Nonane	16.58	43	962312	22.298 ng	100
72) 1,1,2,2-Tetrachloroethane	16.18	83	698797	23.464 ng	99
74) Cumene	17.00	105	1670913	22.969 ng	100
75) alpha-Pinene	17.49	93	890006	23.515 ng	99
76) n-Propylbenzene	17.64	91	2098614	23.211 ng	100
77) 3-Ethyltoluene	17.00	105	1670913	No Calib	
78) 4-Ethyltoluene	17.83	105	1653327	23.645 ng	100
79) 1,3,5-Trimethylbenzene	17.93	105	1434462	23.407 ng	99
80) alpha-Methylstyrene	16.99	118	2929	No Calib #	
81) 2-Ethyltoluene	17.00	105	1670913	No Calib	
82) 1,2,4-Trimethylbenzene	18.41	105	1507938	24.344 ng	99
83) n-Decane	17.00	58	16152	No Calib	
84) Benzyl Chloride	18.54	91	2625580	57.771 ng	99
85) 1,3-Dichlorobenzene	18.55	146	894086	24.707 ng	100
86) 1,4-Dichlorobenzene	18.63	146	871440	23.804 ng	100
87) sec-Butylbenzene	18.71	105	1883255	23.073 ng	100
88) 4-Isopropyltoluene (p-...	18.90	119	1648357	22.557 ng	99
89) 1,2,3-Trimethylbenzene	17.00	105	1670913	No Calib	
90) 1,2-Dichlorobenzene	19.01	146	829855	23.519 ng	100
91) d-Limonene	19.06	68	584361	23.902 ng	100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	661087	49.679 ng	98
93) n-Undecane	17.93	58	37314	No Calib	
94) 1,2,4-Trichlorobenzene	20.82	180	1375814	47.801 ng	100
95) Naphthalene	20.92	128	1765814	23.949 ng	100
96) n-Dodecane	18.90	58	45480	No Calib #	
97) Hexachlorobutadiene	21.28	225	458619	22.489 ng	100
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.40	119	1447762	23.580 ng	100
100) n-Butylbenzene	19.37	91	1595507	23.906 ng	99
101) 1,1,1,2-Tetrachloroethane	14.85	131	388321	23.246 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202204.D Vial: 2
Acq On : 20 Nov 2022 3:11 Operator: CG
Sample : LCS R9112022 25ng Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 20 07:49:46 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202205.D Vial: 2
Acq On : 20 Nov 2022 3:43 Operator: CG
Sample : LCSD R9112022 25ng Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 20 07:54:46 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	135662	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	726912	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	179471	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	319946	13.569	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.56%				
57) Toluene-d8 (SS2)	12.40	98	815723	12.468	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	16.79	174	284463	12.434	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
Target Compounds							Qvalue
2) Propene	3.26	42	653479	26.933	ng		100
3) Dichlorodifluoromethan...	3.33	85	765443	24.528	ng		100
4) Chloromethane	3.47	50	683365	22.678	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	344409	23.241	ng		100
6) Vinyl Chloride	3.67	62	656524	24.908	ng		100
7) 1,3-Butadiene	3.78	54	255701	19.315	ng		98
8) Bromomethane	3.99	94	289124	24.887	ng		100
9) Chloroethane	4.14	64	260412	24.203	ng		99
10) Ethanol	4.33	45	1211441	79.762	ng		100
11) Acetonitrile	4.46	41	843068	19.291	ng		100
12) Acrolein	4.53	56	469048	37.518	ng		100
13) Acetone	4.63	58	1473809	107.350	ng		98
14) Trichlorofluoromethane	4.74	101	603211	22.498	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	2135417	41.727	ng		100
16) Acrylonitrile	5.01	53	1166586	44.158	ng		100
17) 1,1-Dichloroethene	5.24	96	295595	22.427	ng		100
18) 2-Methyl-2-Propanol (t...	5.35	59	2233127	50.150	ng		98
19) Methylene Chloride	5.37	84	354981	23.886	ng		97
20) 3-Chloro-1-propene (Al...	5.45	41	586978	18.701	ng		99
21) Trichlorotrifluoroethane	5.56	151	351127	25.055	ng		100
22) Carbon Disulfide	5.58	76	2174430	46.319	ng		100
23) trans-1,2-Dichloroethene	6.14	61	644468	25.130	ng		99
24) 1,1-Dichloroethane	6.33	63	703764	23.877	ng		100
25) Methyl tert-Butyl Ether	6.35	73	1096162	24.107	ng		99
26) Vinyl Acetate	6.45	86	331429	117.545	ng	#	84
27) 2-Butanone (MEK)	6.66	72	504181	50.312	ng		95
28) cis-1,2-Dichloroethene	7.08	61	606476	24.425	ng		100
29) Diisopropyl Ether	7.27	87	627758	50.920	ng	#	66
30) Ethyl Acetate	7.28	61	585525	77.821	ng		99
31) n-Hexane	7.28	57	806051	25.753	ng		100
32) Chloroform	7.37	83	703523	24.490	ng		100
34) Tetrahydrofuran (THF)	7.73	72	476660	49.453	ng		97
35) Ethyl tert-Butyl Ether	7.81	87	893467	50.693	ng		99
36) 1,2-Dichloroethane	8.11	62	621447	25.321	ng		99
38) 1,1,1-Trichloroethane	8.39	97	650388	23.182	ng		100
39) Isopropyl Acetate	9.20	61	1879	No Calib		#	
40) 1-Butanol	8.80	56	12487	No Calib		#	
41) Benzene	8.89	78	1437095	23.137	ng		100
42) Carbon Tetrachloride	9.05	117	513971	22.234	ng		99
43) Cyclohexane	9.20	84	1102808	45.287	ng		98
44) tert-Amyl Methyl Ether	9.57	73	2172968	48.932	ng		98
45) 1,2-Dichloropropane	9.84	63	415223	22.584	ng		100
46) Bromodichloromethane	10.06	83	582846	24.152	ng		100
47) Trichloroethene	10.13	130	396404	23.271	ng		99
48) 1,4-Dioxane	10.09	88	309622	24.176	ng		99
49) 2,2,4-Trimethylpentane...	10.21	57	1858938	22.075	ng		100
50) Methyl Methacrylate	10.38	100	296893	50.044	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202205.D Vial: 2
Acq On : 20 Nov 2022 3:43 Operator: CG
Sample : LCSD R9112022 25ng Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 20 07:54:46 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

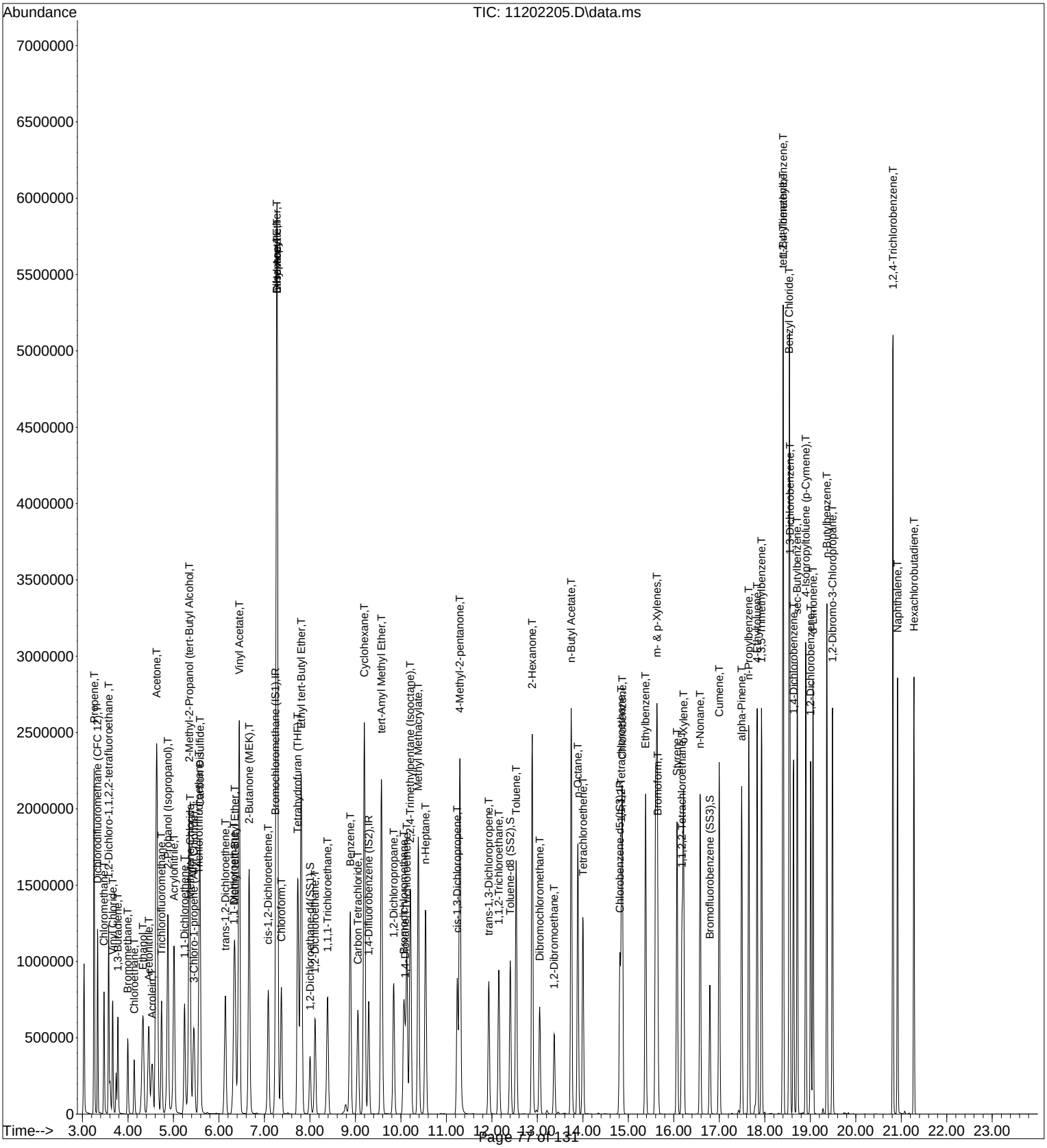
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	358715	22.411 ng		99
52) cis-1,3-Dichloropropene	11.24	75	612930	24.495 ng		100
53) 4-Methyl-2-pentanone	11.30	58	887031	47.950 ng		99
54) trans-1,3-Dichloropropene	11.93	75	572846	24.404 ng		100
55) 1,1,2-Trichloroethane	12.15	97	376428	23.020 ng		100
58) Toluene	12.53	91	1480087	22.726 ng		99
59) 2-Hexanone	12.89	43	2221759	47.775 ng		100
60) Dibromochloromethane	13.05	129	460917	24.226 ng		99
61) 1,2-Dibromoethane	13.37	107	454175	22.976 ng		100
62) n-Butyl Acetate	13.74	43	2479064	48.490 ng		100
63) n-Octane	13.89	57	394337	22.406 ng		100
64) Tetrachloroethene	14.01	166	445025	23.057 ng		100
65) Chlorobenzene	14.87	112	1011225	23.018 ng		100
66) Ethylbenzene	15.38	91	1737104	23.100 ng		100
67) m- & p-Xylenes	15.63	91	2885080	47.409 ng		100
68) Bromoform	15.65	173	439785	26.086 ng		100
69) Styrene	16.07	104	1042045	23.607 ng		100
70) o-Xylene	16.21	91	1408061	23.444 ng		100
71) n-Nonane	16.58	43	958382	22.303 ng		99
72) 1,1,2,2-Tetrachloroethane	16.18	83	703101	23.711 ng		100
74) Cumene	17.00	105	1688303	23.308 ng		100
75) alpha-Pinene	17.49	93	892570	23.686 ng		99
76) n-Propylbenzene	17.65	91	2113745	23.480 ng		100
77) 3-Ethyltoluene	17.00	105	1688303	No Calib		
78) 4-Ethyltoluene	17.83	105	1659701	23.840 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1437047	23.551 ng		100
80) alpha-Methylstyrene	17.00	118	2965	No Calib	#	
81) 2-Ethyltoluene	17.00	105	1688303	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1518805	24.626 ng		99
83) n-Decane	17.00	58	16204	No Calib		
84) Benzyl Chloride	18.54	91	2669339	58.988 ng		99
85) 1,3-Dichlorobenzene	18.55	146	900891	25.003 ng		100
86) 1,4-Dichlorobenzene	18.63	146	881649	24.187 ng		100
87) sec-Butylbenzene	18.71	105	1896081	23.331 ng		100
88) 4-Isopropyltoluene (p-...	18.90	119	1657826	22.785 ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	1688303	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	840411	23.922 ng		100
91) d-Limonene	19.06	68	587546	24.137 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	669639	50.540 ng		99
93) n-Undecane	17.93	58	36598	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1392881	48.604 ng		100
95) Naphthalene	20.92	128	1801722	24.542 ng		100
96) n-Dodecane	18.90	58	45711	No Calib	#	
97) Hexachlorobutadiene	21.28	225	467397	23.019 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	1458780	23.863 ng		100
100) n-Butylbenzene	19.37	91	1600994	24.092 ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	393522	23.659 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202205.D Vial: 2
Acq On : 20 Nov 2022 3:43 Operator: CG
Sample : LCSD R9112022 25ng Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 20 07:54:46 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report MS09

Method Path : I:\MS09\METHODS\
Method File : R9111622.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Nov 17 07:45:06 2022
Response Via : Initial Calibration

11/17/22

Calibration Files
0.1 =11162208.D 0.2 =11162209.D 0.5 =11162210.D 1.0 =11162211.D 5.0 =11162212.D 25 =11162
100 =11162215.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	2.169	2.172	2.516	2.044	2.246	2.265	2.634	1.839	2.236	11.22
3)	T	Dichlorodifluo...	3.149	2.909	3.574	2.938	2.619	2.839	2.861	2.115	2.875	14.48
4)	T	Chloromethane	3.204	3.000	3.569	2.925	2.465	2.810	2.704	1.535	2.777	21.64
5)	T	1,2-Dichloro-1...	1.590	1.338	1.638	1.366	1.208	1.307	1.314	1.161	1.365	12.31
6)	T	Vinyl Chloride	2.453	2.361	3.024	2.531	2.308	2.512	2.484	1.756	2.429	14.32
7)	T	1,3-Butadiene	1.843	1.193	1.321	1.165	1.009	1.089	0.989	1.149	1.220	22.37
8)	T	Bromomethane	1.246	1.030	1.284	1.032	0.870	1.076	1.137	0.890	1.070	13.97
9)	T	Chloroethane	1.023	0.970	1.221	0.995	0.897	1.004	1.009	0.812	0.991	11.80
10)	T	Ethanol	1.845	1.416	1.719	1.426	1.117	1.250	1.231	1.192	1.399	18.63
11)	T	Acetonitrile		4.753	4.805	4.002	3.536	3.893	3.888	3.311	4.027	14.06
12)	T	Acrolein	1.316	1.194	1.494	1.259	1.005	1.026	0.964	0.959	1.152	16.96
13)	T	Acetone	1.472	1.422	1.603	1.313	1.083	1.205	1.094	0.927	1.265	18.03
14)	T	Trichlorofluor...	2.905	2.548	2.916	2.461	2.201	2.348	2.285	2.100	2.470	12.35
15)	T	2-Propanol (Is...	5.494	5.262	6.404	5.258	3.909	4.759	3.915	2.722	4.715	24.47
16)	T	Acrylonitrile	2.376	2.489	3.152	2.568	2.257	2.375	2.317	1.940	2.434	14.17
17)	T	1,1-Dichloroet...	1.493	1.174	1.424	1.244	1.056	1.128	1.098	1.100	1.214	13.31
18)	T	2-Methyl-2-Pro...	4.363	4.245	5.238	4.344	3.850	4.482	4.274	2.028	4.103	22.52
19)	T	Methylene Chlo...	1.654	1.357	1.577	1.324	1.180	1.345	1.353	1.164	1.369	12.50
20)	T	3-Chloro-1-pro...		3.075	3.909	3.234	2.938	2.585	2.435	2.067	2.892	20.80
21)	T	Trichlorotrifl...	1.281	1.356	1.556	1.287	1.139	1.301	1.359	1.051	1.291	11.71
22)	T	Carbon Disulfide	5.340	4.129	4.917	4.212	3.763	4.325	4.135	3.783	4.326	12.59
23)	T	trans-1,2-Dich...	2.300	2.373	2.930	2.357	2.181	2.438	2.474	1.851	2.363	12.78
24)	T	1,1-Dichloroet...	2.929	2.722	3.332	2.777	2.442	2.703	2.684	2.136	2.716	12.76
25)	T	Methyl tert-Bu...	4.195	4.199	5.120	4.141	3.824	4.296	4.420	3.322	4.190	12.16
26)	T	Vinyl Acetate			0.275	0.236	0.231	0.283	0.300	0.234	0.260	11.49
27)	T	2-Butanone (MEK)	0.898	0.909	1.082	0.911	0.841	0.969	1.009	0.766	0.923	10.61
28)	T	cis-1,2-Dichlo...	2.353	2.283	2.820	2.316	2.101	2.328	2.332	1.769	2.288	12.76
29)	T	Diisopropyl Ether	1.272	1.158	1.361	1.122	1.029	1.198	1.174	0.772	1.136	15.57
30)	T	Ethyl Acetate	0.651	0.699	0.860	0.700	0.672	0.793	0.737	0.433	0.693	18.06
31)	T	n-Hexane	3.199	3.145	3.608	2.969	2.737	3.102	2.767	1.545	2.884	21.03
32)	T	Chloroform	2.815	2.704	3.265	2.640	2.372	2.655	2.688	2.038	2.647	13.26
33)	S	1,2-Dichloroet...	1.925	2.218	2.221	2.118	2.269	2.297	2.461	1.870	2.173	9.01
34)	T	Tetrahydrofura...	0.912	0.909	1.053	0.874	0.791	0.910	0.943	0.713	0.888	11.42
35)	T	Ethyl tert-But...	1.676	1.591	1.952	1.568	1.461	1.681	1.750	1.312	1.624	11.80
36)	T	1,2-Dichloroet...	2.309	2.312	2.822	2.310	2.071	2.289	2.292	1.687	2.261	13.88
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.555	0.482	0.575	0.489	0.424	0.468	0.439	0.428	0.482	11.72
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.277	1.080	1.285	1.084	0.917	1.014	0.955	0.933	1.068	13.60
42)	T	Carbon Tetrach...	0.438	0.379	0.476	0.401	0.350	0.394	0.374	0.368	0.398	10.33
43)	T	Cyclohexane	0.493	0.417	0.502	0.418	0.360	0.407	0.385	0.369	0.419	12.70
44)	T	tert-Amyl Meth...	0.861	0.721	0.896	0.763	0.682	0.770	0.727	0.686	0.764	10.25
45)	T	1,2-Dichloropr...	0.372	0.313	0.376	0.321	0.276	0.305	0.286	0.279	0.316	12.38
46)	T	Bromodichlorom...	0.469	0.394	0.488	0.419	0.366	0.413	0.391	0.380	0.415	10.39
47)	T	Trichloroethene	0.341	0.282	0.346	0.290	0.252	0.284	0.274	0.275	0.293	11.34
48)	T	1,4-Dioxane	0.220	0.202	0.257	0.222	0.196	0.228	0.219	0.217	0.220	8.37
49)	T	2,2,4-Trimethy...	1.771	1.437	1.755	1.499	1.271	1.384	1.275	1.193	1.448	15.04
50)	T	Methyl Methacr...	0.100	0.089	0.117	0.101	0.092	0.109	0.105	0.104	0.102	8.72
51)	T	n-Heptane	0.306	0.274	0.336	0.282	0.239	0.265	0.252	0.247	0.275	11.85
52)	T	cis-1,3-Dichlo...	0.460	0.394	0.502	0.432	0.386	0.442	0.417	0.409	0.430	8.79
53)	T	4-Methyl-2-pen...	0.345	0.295	0.374	0.326	0.289	0.329	0.306	0.281	0.318	9.94
54)	T	trans-1,3-Dich...	0.370	0.360	0.460	0.410	0.374	0.437	0.414	0.404	0.404	8.59

55)	T	1,1,2-Trichlor...	0.316	0.275	0.334	0.288	0.245	0.274	0.260	0.256	0.281	10.84
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	4.715	4.596	4.530	4.473	4.431	4.502	4.547	4.660	4.557	2.10
58)	T	Toluene	5.550	4.640	5.368	4.509	3.767	4.251	4.104	4.099	4.536	13.90
59)	T	2-Hexanone	3.751	3.320	3.789	3.269	2.853	3.347	2.989	2.595	3.239	12.84
60)	T	Dibromochlorom...	1.528	1.209	1.522	1.281	1.124	1.323	1.288	1.325	1.325	10.56
61)	T	1,2-Dibromoethane	1.528	1.295	1.622	1.400	1.178	1.347	1.308	1.336	1.377	10.16
62)	T	n-Butyl Acetate	4.112	3.493	4.100	3.548	3.144	3.789	3.383	2.917	3.561	11.97
63)	T	n-Octane	1.456	1.250	1.491	1.238	1.035	1.160	1.104	1.072	1.226	13.92
64)	T	Tetrachloroethene	1.664	1.315	1.576	1.290	1.098	1.273	1.250	1.288	1.344	13.70
65)	T	Chlorobenzene	3.795	2.993	3.551	2.905	2.516	2.950	2.890	2.879	3.060	13.42
66)	T	Ethylbenzene	6.193	5.312	6.295	5.184	4.396	5.017	4.810	4.694	5.238	13.06
67)	T	m- & p-Xylenes	5.107	4.291	5.004	4.172	3.552	4.149	3.954	3.680	4.238	13.29
68)	T	Bromoform	1.273	1.022	1.241	1.082	0.997	1.266	1.256	1.256	1.174	10.15
69)	T	Styrene	3.404	2.994	3.500	3.015	2.603	3.083	3.007	2.990	3.074	8.98
70)	T	o-Xylene	5.036	4.139	5.000	4.125	3.514	4.012	3.867	3.772	4.183	13.24
71)	T	n-Nonane	3.712	3.163	3.656	3.123	2.598	2.839	2.576	2.276	2.993	17.27
72)	T	1,1,2,2-Tetrac...	2.375	2.029	2.396	2.061	1.751	2.010	1.950	1.950	2.065	10.60
73)	S	Bromofluoroben...	1.630	1.593	1.551	1.525	1.537	1.587	1.625	1.698	1.593	3.59
74)	T	Cumene	6.105	5.034	5.967	4.971	4.268	4.868	4.657	4.489	5.045	13.14
75)	T	alpha-Pinene	3.068	2.569	3.019	2.575	2.240	2.577	2.500	2.450	2.625	10.72
76)	T	n-Propylbenzene	7.704	6.196	7.401	6.254	5.308	6.103	5.786	5.408	6.270	13.84
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	5.924	4.667	5.648	4.809	4.028	4.776	4.626	4.312	4.849	13.15
79)	T	1,3,5-Trimethy...	5.107	4.233	4.988	4.157	3.592	4.163	3.976	3.783	4.250	12.65
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	5.063	4.263	5.085	4.250	3.721	4.423	4.051	3.509	4.296	13.17
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride			3.094	2.773	2.827	3.831	3.509	2.877	3.152	13.58
85)	T	1,3-Dichlorobe...	2.914	2.492	2.890	2.400	2.103	2.607	2.467	2.203	2.510	11.58
86)	T	1,4-Dichlorobe...	3.103	2.475	2.845	2.367	2.052	2.550	2.480	2.439	2.539	12.43
87)	T	sec-Butylbenzene	6.913	5.592	6.761	5.572	4.794	5.567	5.247	4.838	5.660	14.01
88)	T	4-Isopropyltol...	6.385	5.145	5.973	4.896	4.246	4.931	4.661	4.305	5.068	14.98
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.910	2.343	2.779	2.354	2.030	2.441	2.373	2.346	2.447	11.29
91)	T	d-Limonene	1.867	1.674	1.971	1.680	1.459	1.729	1.649	1.534	1.695	9.74
92)	T	1,2-Dibromo-3-...	0.956	0.846	1.011	0.853	0.798	0.997	0.973	0.949	0.923	8.59
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.214	1.891	2.196	1.874	1.691	2.225	2.090	1.787	1.996	10.56
95)	T	Naphthalene	5.392	4.651	5.613	4.873	4.389	5.609	5.404	4.976	5.113	8.97
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.681	1.334	1.594	1.320	1.161	1.431	1.413	1.381	1.414	11.47
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	5.065	4.381	5.128	4.258	3.652	4.239	3.906	3.434	4.258	14.30
100)	T	n-Butylbenzene	5.484	4.559	5.439	4.524	3.954	4.672	4.397	3.998	4.628	12.42
101)	T	1,1,1,2-Tetrac...	1.351	1.097	1.342	1.118	0.984	1.141	1.117	1.117	1.158	10.85

(#) = Out of Range

R9111622.M Thu Nov 17 10:52:55 2022

Primary Source Standards Concentrations (Working & Initial Calibration)

11/17/22

1ng/L Std. ID:
4ng/L Std. ID: S35-11152210
20ng/L Std. ID: S35-11152209
40ng/L Std. ID:
200ng/L Std. ID: S35-11152208
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Freon-114	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Vinyl Chloride	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Ethanol	3.45	3450	690	138.0	69.0	13.80	3.45		0.345	0.690	1.725	3.45	17.25	86.25	172.5	345
Acetonitrile	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Acrolein	1.93	1930	386	77.2	38.6	7.72	1.93		0.193	0.386	0.965	1.93	9.65	48.25	96.5	193
Acetone	5.27	5270	1054	210.8	105.4	21.08	5.27		0.527	1.054	2.635	5.27	26.35	131.75	263.5	527
Trichlorofluoromethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isopropanol	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Acrylonitrile	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.13	2130	426	85.2	42.6	8.52	2.13		0.213	0.426	1.065	2.13	10.65	53.25	106.5	213
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl tert-Butyl Ether	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Vinyl Acetate	2.80	2800	560	112.0	56.0	11.20	2.80		0.280	0.560	1.400	2.80	14.00	70.00	140.0	280
2-Butanone	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.22	4220	844	168.8	84.4	16.88	4.22		0.422	0.844	2.110	4.22	21.10	105.50	211.0	422
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrahydrofuran	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Ethyl tert-Butyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Carbon Tetrachloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cyclohexane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
tert-Amyl Methyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Bromodichloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Trichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,4-Dioxane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isooctane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Methyl Methacrylate	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
n-Heptane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Page 1 of 2

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S35-11152210**	**200ng/L Std. ID:**	**S35-11152208**
20ng/L Std. ID:	**S35-11152209**	**1000ng/L Std. ID:**	

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**20**	**20**	**20**	**200**	**200**	**200**
	Source Std.			**Primary Working Standards**				**Injection (L):**	**0.025**	**0.050**	**0.0250**	**0.050**	**0.25**	**0.125**	**0.25**	**0.50**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
4-Methyl-2-pentanone	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
trans-1,3-Dichloropropene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,1,2-Trichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Toluene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
2-Hexanone	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Dibromochloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
n-Octane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrachloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Ethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
m-&p-Xylene	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Nonane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cumene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
alpha-Pinene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Propylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
4-Ethyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2,4-Trimethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzyl Chloride	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,3-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,4-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
sec-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
p-Isopropyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromo-3-chloropropane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2,4-Trichlorobenzene	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Naphthalene	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
tert-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,1,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Last Updated: 09/19/20

Calibration Status Report MS09

Method   : I:\MS09\METHODS\R9111622.M (RTE Integrator)
Title   : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration

11/17/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\DATA\2022_11\16\11162208.D
2	0.2	0	13	I:\MS09\DATA\2022_11\16\11162209.D
3	0.5	1	13	I:\MS09\DATA\2022_11\16\11162210.D
4	1.0	1	13	I:\MS09\DATA\2022_11\16\11162211.D
5	5.0	5	13	I:\MS09\DATA\2022_11\16\11162212.D
6	25	26	13	I:\MS09\DATA\2022_11\16\11162213.D
7	50	53	13	I:\MS09\DATA\2022_11\16\11162214.D
8	100	105	13	I:\MS09\DATA\2022_11\16\11162215.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Nov 17 07:43 2022	Nov 16 16:47 2022	16 Nov 2022 13:36
2	0.2	Nov 17 07:43 2022	Nov 16 16:46 2022	16 Nov 2022 14:08
3	0.5	Nov 17 07:43 2022	Nov 16 16:45 2022	16 Nov 2022 14:40
4	1.0	Nov 17 07:44 2022	Nov 16 16:43 2022	16 Nov 2022 15:12
5	5.0	Nov 17 07:44 2022	Nov 16 16:41 2022	16 Nov 2022 15:44
6	25	Nov 17 07:44 2022	Nov 16 16:40 2022	16 Nov 2022 16:16
7	50	Nov 17 07:44 2022	Nov 16 17:09 2022	16 Nov 2022 16:48
8	100	Nov 17 07:44 2022	Nov 17 07:39 2022	16 Nov 2022 17:20

R9111622.M Thu Nov 17 10:53:48 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162208.D Vial: 13
Acq On : 16 Nov 2022 13:36 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:47:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	164856	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	736430	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	175396	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	317381	13.523	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.16%				
57) Toluene-d8 (SS2)	12.39	98	827042	11.112	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.88%				
73) Bromofluorobenzene (SS3)	16.79	174	285840	8.894	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 71.12%				
Target Compounds							Qvalue
2) Propene	3.30	42	3004	0.180	ng		94
3) Dichlorodifluoromethan...	3.37	85	4402	0.142	ng		96
4) Chloromethane	3.52	50	4352	0.267	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	2181	0.138	ng		89
6) Vinyl Chloride	3.71	62	3268	0.180	ng		89
7) 1,3-Butadiene	3.82	54	2576	0.205	ng	#	84
8) Bromomethane	4.02	94	1676	0.146	ng		98
9) Chloroethane	4.16	64	1389	0.177	ng		97
10) Ethanol	4.28	45	8396	0.776	ng		91
11) Acetonitrile	4.44	41	8326	0.302	ng		77
12) Acrolein	4.53	56	3349	0.441	ng		99
13) Acetone	4.63	58	10232	1.154	ng	#	84
14) Trichlorofluoromethane	4.75	101	3984	0.132	ng		98
15) 2-Propanol (Isopropanol)	4.86	45	14854	0.453	ng		67
16) Acrylonitrile	4.99	53	6425	0.427	ng		94
17) 1,1-Dichloroethene	5.26	96	2126	0.166	ng		97
18) 2-Methyl-2-Propanol (t...	5.39	59	12142	0.398	ng		90
19) Methylene Chloride	5.34	84	2312	0.174	ng		97
20) 3-Chloro-1-propene (Al...	5.39	41	2581	0.099	ng	#	49
21) Trichlorotrifluoroethane	5.57	151	1825	0.134	ng		89
22) Carbon Disulfide	5.60	76	15000	0.339	ng		93
23) trans-1,2-Dichloroethene	6.12	61	3276	0.176	ng		100
24) 1,1-Dichloroethane	6.29	63	4133	0.182	ng		99
25) Methyl tert-Butyl Ether	6.37	73	5920	0.147	ng		97
26) Vinyl Acetate	6.44	86	564	0.267	ng	#	1
27) 2-Butanone (MEK)	6.66	72	2476	0.328	ng	#	91
28) cis-1,2-Dichloroethene	7.05	61	3290	0.178	ng		98
29) Diisopropyl Ether	7.27	87	3556	0.340	ng	#	94
30) Ethyl Acetate	7.27	61	3625	0.719	ng		95
31) n-Hexane	7.28	57	4430	0.217	ng	#	98
32) Chloroform	7.32	83	3936	0.153	ng		99
34) Tetrahydrofuran (THF)	7.76	72	2453	0.335	ng	#	83
35) Ethyl tert-Butyl Ether	7.80	87	4686	0.303	ng		96
36) 1,2-Dichloroethane	8.08	62	3289	0.155	ng		100
38) 1,1,1-Trichloroethane	8.36	97	3431	0.131	ng		99
39) Isopropyl Acetate	9.26	61	22745	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.86	78	8048	0.157	ng		98
42) Carbon Tetrachloride	9.03	117	2686	0.117	ng		99
43) Cyclohexane	9.18	84	6105	0.319	ng		100
44) tert-Amyl Methyl Ether	9.58	73	10758	0.279	ng		95
45) 1,2-Dichloropropane	9.83	63	2304	0.188	ng		95
46) Bromodichloromethane	10.04	83	2959	0.143	ng		95
47) Trichloroethene	10.10	130	2108	0.129	ng		98
48) 1,4-Dioxane	10.13	88	1377	0.136	ng		89
49) 2,2,4-Trimethylpentane...	10.20	57	11270	0.217	ng		97
50) Methyl Methacrylate	10.39	100	1251	0.254	ng	#	80

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162208.D Vial: 13
Acq On : 16 Nov 2022 13:36 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:47:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

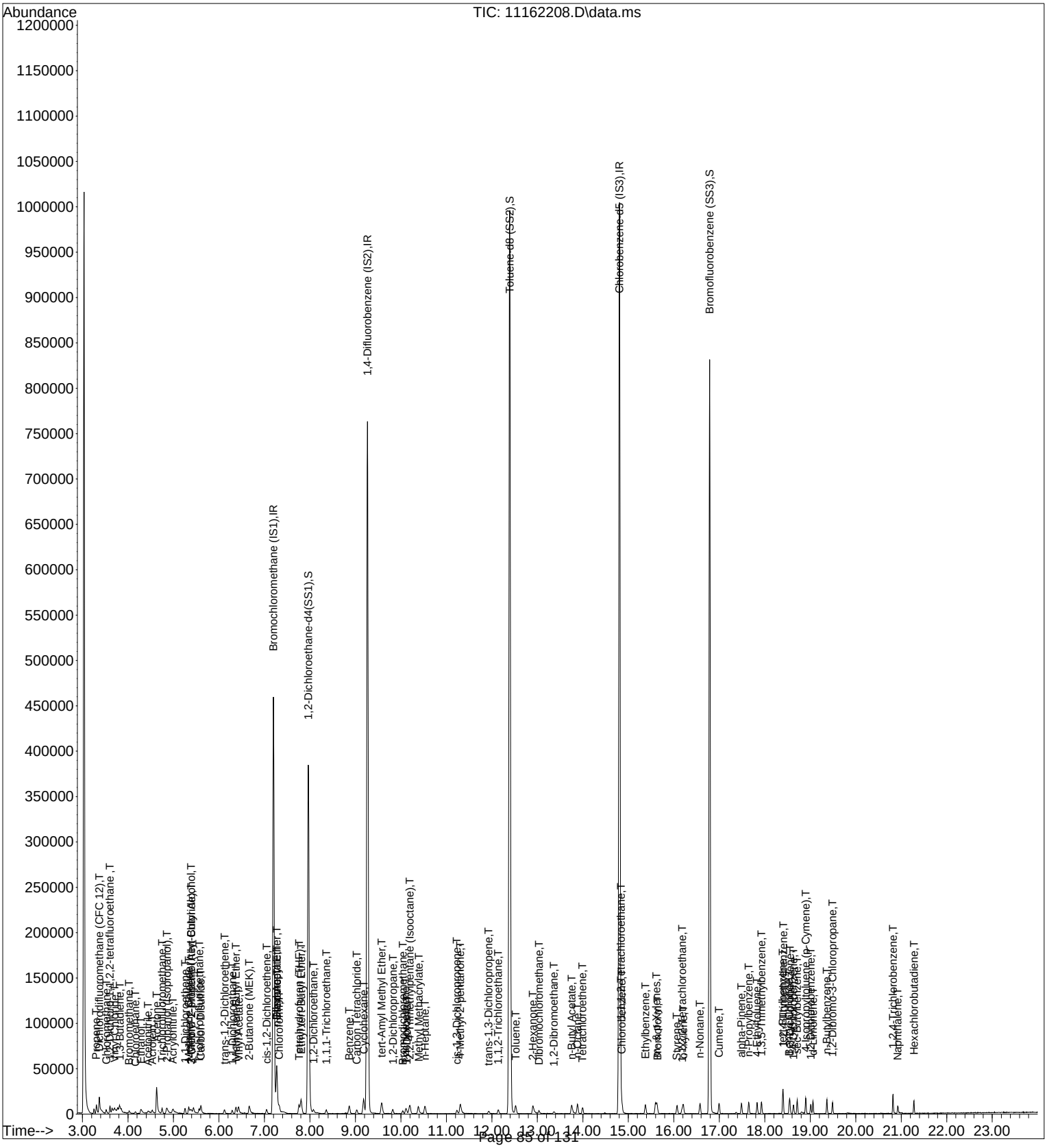
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	1912	0.166 ng		93
52) cis-1,3-Dichloropropene	11.23	75	2924	0.147 ng		96
53) 4-Methyl-2-pentanone	11.30	58	4375	0.402 ng		82
54) trans-1,3-Dichloropropene	11.93	75	2224	0.115 ng		93
55) 1,1,2-Trichloroethane	12.14	97	1976	0.145 ng		90
58) Toluene	12.52	91	8177	0.125 ng		98
59) 2-Hexanone	12.90	43	11158	0.308 ng		95
60) Dibromochloromethane	13.03	129	2316	0.110 ng		98
61) 1,2-Dibromoethane	13.36	107	2230	0.117 ng		100
62) n-Butyl Acetate	13.76	43	11829	0.298 ng		98
63) n-Octane	13.88	57	2186	0.181 ng		97
64) Tetrachloroethene	13.99	166	2475	0.118 ng		95
65) Chlorobenzene	14.86	112	5645	0.128 ng		96
66) Ethylbenzene	15.37	91	9124	0.122 ng		99
67) m- & p-Xylenes	15.62	91	15050	0.244 ng		100
68) Bromoform	15.64	173	1912	0.104 ng		88
69) Styrene	16.07	104	5063	0.120 ng		99
70) o-Xylene	16.21	91	7491	0.123 ng		100
71) n-Nonane	16.57	43	5521	0.172 ng		96
72) 1,1,2,2-Tetrachloroethane	16.19	83	3533	0.138 ng		99
74) Cumene	16.99	105	9166	0.122 ng		98
75) alpha-Pinene	17.49	93	4692	0.129 ng		91
76) n-Propylbenzene	17.65	91	11567	0.129 ng		98
77) 3-Ethyltoluene	16.99	105	9166	No Calib		
78) 4-Ethyltoluene	17.83	105	9061	0.129 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	7596	0.122 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	16.99	105	9166	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	7460	0.117 ng		98
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.54	91	7956	0.189 ng		94
85) 1,3-Dichlorobenzene	18.55	146	4334	0.112 ng		97
86) 1,4-Dichlorobenzene	18.63	146	4616	0.120 ng		97
87) sec-Butylbenzene	18.71	105	10282	0.124 ng		99
88) 4-Isopropyltoluene (p-...	18.90	119	9497	0.128 ng		98
89) 1,2,3-Trimethylbenzene	16.99	105	9166	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	4369	0.115 ng		93
91) d-Limonene	19.06	68	2803	0.139 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.49	157	2817	0.200 ng	#	74
93) n-Undecane	17.93	58	104	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	6493	0.241 ng		99
95) Naphthalene	20.92	128	8322	0.122 ng		92
96) n-Dodecane	18.90	58	313	No Calib	#	
97) Hexachlorobutadiene	21.28	225	2500	0.120 ng		97
98) Cyclohexanone	15.18	55	115	No Calib	#	
99) tert-Butylbenzene	18.39	119	7533	0.119 ng		98
100) n-Butylbenzene	19.37	91	8233	0.125 ng		96
101) 1,1,1,2-Tetrachloroethane	14.84	131	2010	0.113 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162208.D Vial: 13
Acq On : 16 Nov 2022 13:36 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:47:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162209.D Vial: 13
Acq On : 16 Nov 2022 14:08 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:46:42 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	144396	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	743200	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	181377	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	320294	15.580	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 124.64%				
57) Toluene-d8 (SS2)	12.39	98	833689	10.832	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.64%				
73) Bromofluorobenzene (SS3)	16.79	174	288971	8.695	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 69.60%#				
Target Compounds							Qvalue
2) Propene	3.30	42	5269	0.361	ng		95
3) Dichlorodifluoromethan...	3.37	85	7123	0.262	ng		97
4) Chloromethane	3.52	50	7139	0.500	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	3216	0.232	ng		99
6) Vinyl Chloride	3.70	62	5510	0.347	ng		97
7) 1,3-Butadiene	3.81	54	2922	0.265	ng		93
8) Bromomethane	4.02	94	2428	0.242	ng		99
9) Chloroethane	4.16	64	2309	0.336	ng		93
10) Ethanol	4.28	45	11284	1.191	ng		92
11) Acetonitrile	4.44	41	9993	0.414	ng		90
12) Acrolein	4.53	56	5323	0.801	ng		90
13) Acetone	4.62	58	17309	2.229	ng		88
14) Trichlorofluoromethane	4.75	101	6122	0.232	ng		95
15) 2-Propanol (Isopropanol)	4.83	45	24921	0.868	ng		81
16) Acrylonitrile	4.99	53	11788	0.895	ng		95
17) 1,1-Dichloroethene	5.25	96	2929	0.262	ng		98
18) 2-Methyl-2-Propanol (t...	5.38	59	20695	0.774	ng		94
19) Methylene Chloride	5.34	84	3324	0.286	ng		99
20) 3-Chloro-1-propene (Al...	5.44	41	7531	0.331	ng		86
21) Trichlorotrifluoroethane	5.56	151	3384	0.284	ng		95
22) Carbon Disulfide	5.60	76	20319	0.524	ng		96
23) trans-1,2-Dichloroethene	6.12	61	5920	0.363	ng		100
24) 1,1-Dichloroethane	6.29	63	6730	0.339	ng		100
25) Methyl tert-Butyl Ether	6.37	73	10381	0.294	ng		99
26) Vinyl Acetate	6.43	86	1201	0.650	ng	#	53
27) 2-Butanone (MEK)	6.66	72	4389	0.664	ng		98
28) cis-1,2-Dichloroethene	7.05	61	5592	0.345	ng		99
29) Diisopropyl Ether	7.27	87	5673	0.620	ng	#	77
30) Ethyl Acetate	7.27	61	6817	1.543	ng		98
31) n-Hexane	7.27	57	7629	0.426	ng		99
32) Chloroform	7.33	83	6621	0.294	ng		99
34) Tetrahydrofuran (THF)	7.75	72	4282	0.668	ng	#	92
35) Ethyl tert-Butyl Ether	7.80	87	7794	0.576	ng		98
36) 1,2-Dichloroethane	8.08	62	5769	0.311	ng		100
38) 1,1,1-Trichloroethane	8.36	97	6018	0.228	ng		98
39) Isopropyl Acetate	9.26	61	23160	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.87	78	13746	0.266	ng		98
42) Carbon Tetrachloride	9.03	117	4683	0.202	ng		99
43) Cyclohexane	9.18	84	10410	0.540	ng		99
44) tert-Amyl Methyl Ether	9.57	73	18183	0.467	ng		94
45) 1,2-Dichloropropane	9.83	63	3903	0.315	ng		98
46) Bromodichloromethane	10.04	83	5009	0.239	ng		97
47) Trichloroethene	10.11	130	3516	0.212	ng		99
48) 1,4-Dioxane	10.12	88	2548	0.250	ng		95
49) 2,2,4-Trimethylpentane...	10.20	57	18453	0.351	ng		96
50) Methyl Methacrylate	10.38	100	2246	0.452	ng	#	84

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162209.D Vial: 13
Acq On : 16 Nov 2022 14:08 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:46:42 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

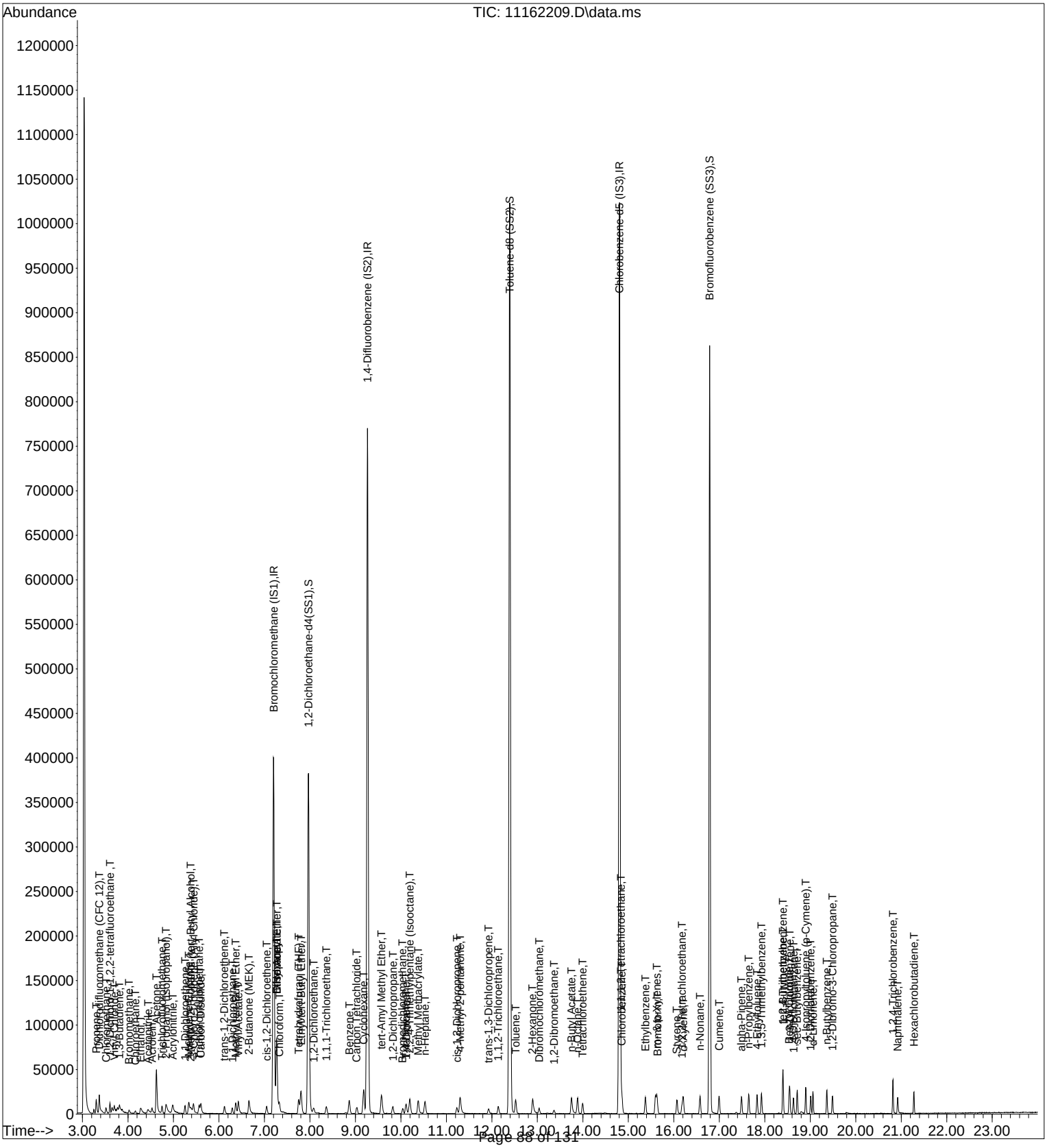
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	3451	0.297 ng		97
52) cis-1,3-Dichloropropene	11.23	75	5057	0.252 ng		97
53) 4-Methyl-2-pentanone	11.30	58	7533	0.686 ng		84
54) trans-1,3-Dichloropropene	11.93	75	4361	0.223 ng		94
55) 1,1,2-Trichloroethane	12.14	97	3462	0.253 ng		99
58) Toluene	12.52	91	14138	0.209 ng		97
59) 2-Hexanone	12.89	43	20427	0.544 ng		93
60) Dibromochloromethane	13.04	129	3790	0.173 ng		94
61) 1,2-Dibromoethane	13.37	107	3908	0.198 ng		99
62) n-Butyl Acetate	13.75	43	20781	0.507 ng		96
63) n-Octane	13.88	57	3883	0.310 ng		98
64) Tetrachloroethene	13.99	166	4045	0.187 ng		100
65) Chlorobenzene	14.86	112	9208	0.201 ng		99
66) Ethylbenzene	15.37	91	16187	0.209 ng		98
67) m- & p-Xylenes	15.62	91	26149	0.410 ng		98
68) Bromoform	15.64	173	3173	0.168 ng		93
69) Styrene	16.07	104	9210	0.211 ng		98
70) o-Xylene	16.21	91	12733	0.202 ng		99
71) n-Nonane	16.58	43	9731	0.294 ng		93
72) 1,1,2,2-Tetrachloroethane	16.18	83	6241	0.235 ng		98
74) Cumene	17.00	105	15632	0.201 ng		97
75) alpha-Pinene	17.49	93	8127	0.216 ng		96
76) n-Propylbenzene	17.64	91	19241	0.207 ng		99
77) 3-Ethyltoluene	17.00	105	15632	No Calib		
78) 4-Ethyltoluene	17.83	105	14763	0.203 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	13021	0.202 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.00	105	15632	No Calib		
82) 1,2,4-Trimethylbenzene	18.40	105	12991	0.197 ng		100
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.54	91	14445	0.332 ng		95
85) 1,3-Dichlorobenzene	18.55	146	7667	0.192 ng		98
86) 1,4-Dichlorobenzene	18.63	146	7612	0.192 ng		98
87) sec-Butylbenzene	18.71	105	17201	0.200 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	15826	0.206 ng		100
89) 1,2,3-Trimethylbenzene	17.00	105	15632	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	7275	0.185 ng		98
91) d-Limonene	19.06	68	5198	0.250 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.49	157	5155	0.355 ng	#	81
93) n-Undecane	17.92	58	309	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	11469	0.412 ng		98
95) Naphthalene	20.92	128	14847	0.210 ng		95
96) n-Dodecane	18.90	58	429	No Calib	#	
97) Hexachlorobutadiene	21.28	225	4105	0.190 ng		100
98) Cyclohexanone	15.19	55	109	No Calib	#	
99) tert-Butylbenzene	18.40	119	13477	0.206 ng		96
100) n-Butylbenzene	19.37	91	14158	0.207 ng		97
101) 1,1,1,2-Tetrachloroethane	14.84	131	3375	0.183 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162209.D Vial: 13
Acq On : 16 Nov 2022 14:08 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:46:42 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162210.D Vial: 14
Acq On : 16 Nov 2022 14:40 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:45:27 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	144934	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	734427	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	181354	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	321893	15.600	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 124.80%				
57) Toluene-d8 (SS2)	12.39	98	821469	10.674	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.36%				
73) Bromofluorobenzene (SS3)	16.79	174	281284	8.465	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 67.68%#				
Target Compounds							Qvalue
2) Propene	3.28	42	15313	1.045	ng		98
3) Dichlorodifluoromethan...	3.35	85	21963	0.804	ng		99
4) Chloromethane	3.50	50	21311	1.486	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	9875	0.708	ng		99
6) Vinyl Chloride	3.68	62	17706	1.112	ng		98
7) 1,3-Butadiene	3.80	54	8115	0.734	ng	#	87
8) Bromomethane	4.01	94	7590	0.753	ng		100
9) Chloroethane	4.15	64	7291	1.058	ng		97
10) Ethanol	4.27	45	34387	3.617	ng		96
11) Acetonitrile	4.43	41	25348	1.046	ng		100
12) Acrolein	4.52	56	16714	2.505	ng		96
13) Acetone	4.61	58	48983	6.285	ng		89
14) Trichlorofluoromethane	4.74	101	17579	0.664	ng		98
15) 2-Propanol (Isopropanol)	4.82	45	76105	2.640	ng		84
16) Acrylonitrile	4.98	53	37460	2.833	ng		99
17) 1,1-Dichloroethene	5.24	96	8914	0.794	ng		98
18) 2-Methyl-2-Propanol (t...	5.30	59	64078	2.386	ng		93
19) Methylene Chloride	5.33	84	9693	0.832	ng		98
20) 3-Chloro-1-propene (Al...	5.43	41	24024	1.052	ng		88
21) Trichlorotrifluoroethane	5.56	151	9740	0.815	ng		97
22) Carbon Disulfide	5.59	76	60723	1.559	ng		99
23) trans-1,2-Dichloroethene	6.11	61	18343	1.120	ng		98
24) 1,1-Dichloroethane	6.29	63	20671	1.038	ng		100
25) Methyl tert-Butyl Ether	6.36	73	31760	0.897	ng		100
26) Vinyl Acetate	6.42	86	4459	2.404	ng	#	86
27) 2-Butanone (MEK)	6.65	72	13116	1.978	ng	#	88
28) cis-1,2-Dichloroethene	7.05	61	17328	1.065	ng		100
29) Diisopropyl Ether	7.26	87	16731	1.822	ng	#	71
30) Ethyl Acetate	7.26	61	21050	4.746	ng		98
31) n-Hexane	7.27	57	21960	1.223	ng		100
32) Chloroform	7.33	83	20062	0.886	ng		100
34) Tetrahydrofuran (THF)	7.74	72	12453	1.937	ng		95
35) Ethyl tert-Butyl Ether	7.79	87	23989	1.765	ng		99
36) 1,2-Dichloroethane	8.08	62	17668	0.949	ng		100
38) 1,1,1-Trichloroethane	8.36	97	17743	0.679	ng		99
39) Isopropyl Acetate	9.26	61	23388	No Calib	#		
40) 1-Butanol	8.87	56	389	No Calib	#		
41) Benzene	8.87	78	40383	0.791	ng		99
42) Carbon Tetrachloride	9.03	117	14535	0.635	ng		99
43) Cyclohexane	9.18	84	30960	1.625	ng		99
44) tert-Amyl Methyl Ether	9.56	73	55822	1.450	ng		96
45) 1,2-Dichloropropane	9.82	63	11589	0.947	ng		99
46) Bromodichloromethane	10.04	83	15349	0.742	ng		100
47) Trichloroethene	10.11	130	10682	0.653	ng		99
48) 1,4-Dioxane	10.10	88	8017	0.795	ng		95
49) 2,2,4-Trimethylpentane...	10.20	57	55681	1.073	ng		98
50) Methyl Methacrylate	10.38	100	7296	1.486	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162210.D Vial: 14
Acq On : 16 Nov 2022 14:40 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:45:27 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

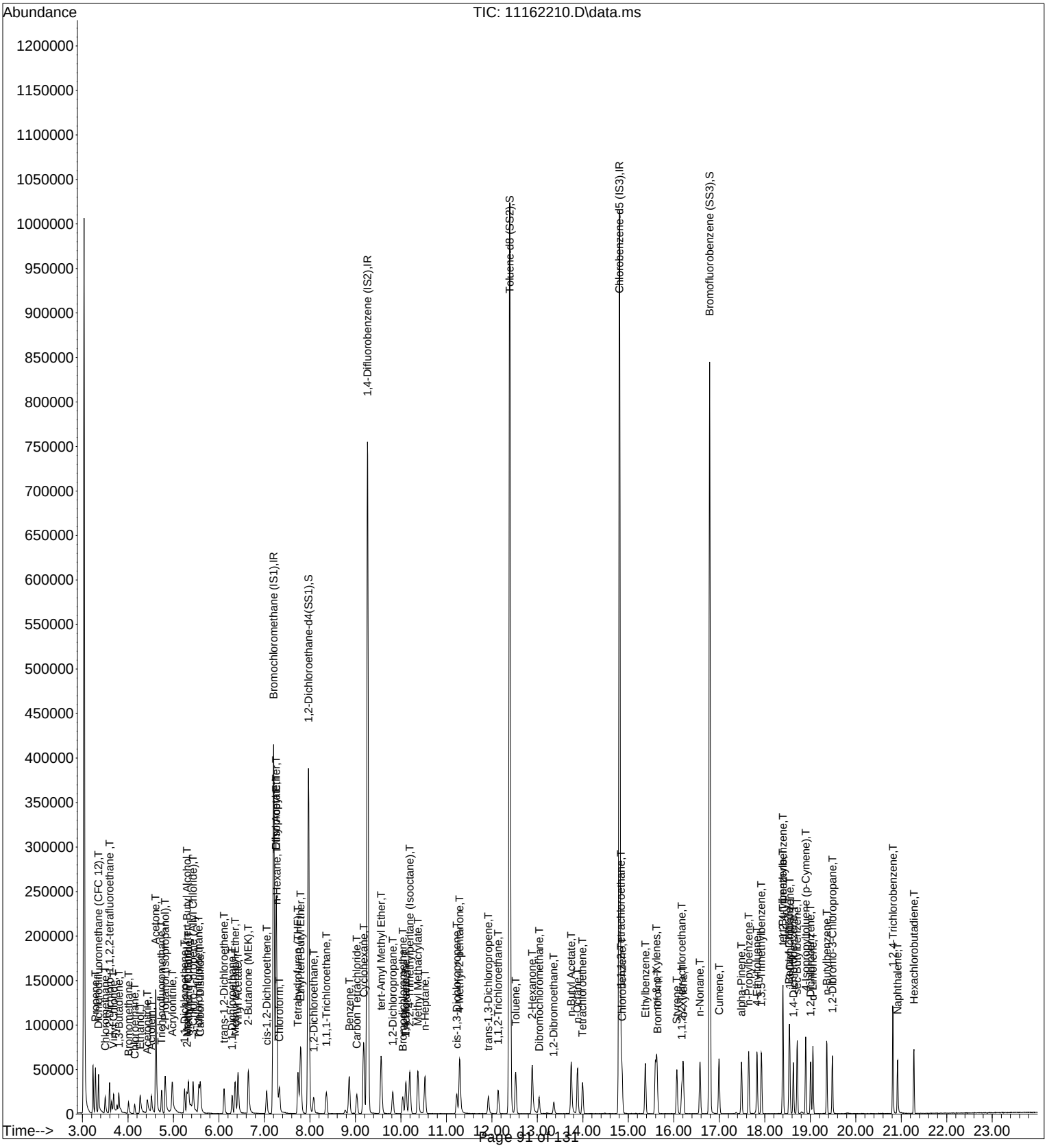
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	10468	0.911 ng		99
52) cis-1,3-Dichloropropene	11.23	75	15932	0.802 ng		100
53) 4-Methyl-2-pentanone	11.29	58	23630	2.178 ng		91
54) trans-1,3-Dichloropropene	11.92	75	13794	0.714 ng		100
55) 1,1,2-Trichloroethane	12.14	97	10400	0.768 ng		99
58) Toluene	12.52	91	40891	0.605 ng		100
59) 2-Hexanone	12.89	43	58275	1.553 ng		95
60) Dibromochloromethane	13.04	129	11923	0.546 ng		99
61) 1,2-Dibromoethane	13.36	107	12237	0.619 ng		99
62) n-Butyl Acetate	13.74	43	60976	1.487 ng		98
63) n-Octane	13.88	57	11576	0.926 ng		97
64) Tetrachloroethene	13.99	166	12118	0.560 ng		100
65) Chlorobenzene	14.86	112	27302	0.597 ng		99
66) Ethylbenzene	15.37	91	47949	0.619 ng		99
67) m- & p-Xylenes	15.62	91	76230	1.196 ng		100
68) Bromoform	15.64	173	9635	0.509 ng		97
69) Styrene	16.07	104	26910	0.618 ng		99
70) o-Xylene	16.21	91	38446	0.611 ng		100
71) n-Nonane	16.57	43	28109	0.849 ng		97
72) 1,1,2,2-Tetrachloroethane	16.17	83	18423	0.694 ng		99
74) Cumene	17.00	105	46318	0.595 ng		100
75) alpha-Pinene	17.49	93	23874	0.634 ng		96
76) n-Propylbenzene	17.65	91	57450	0.619 ng		99
77) 3-Ethyltoluene	17.00	105	46318	No Calib		
78) 4-Ethyltoluene	17.83	105	44662	0.613 ng		99
79) 1,3,5-Trimethylbenzene	17.92	105	38357	0.595 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.00	105	46318	No Calib		
82) 1,2,4-Trimethylbenzene	18.40	105	38729	0.588 ng		99
83) n-Decane	17.00	58	333	No Calib	#	
84) Benzyl Chloride	18.54	91	47583	1.095 ng		96
85) 1,3-Dichlorobenzene	18.55	146	22223	0.557 ng		98
86) 1,4-Dichlorobenzene	18.63	146	21875	0.551 ng		98
87) sec-Butylbenzene	18.71	105	51990	0.605 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	45931	0.598 ng		98
89) 1,2,3-Trimethylbenzene	17.00	105	46318	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	21568	0.549 ng		100
91) d-Limonene	19.06	68	15298	0.736 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	15402	1.059 ng	#	84
93) n-Undecane	17.93	58	1159	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	33287	1.195 ng		99
95) Naphthalene	20.92	128	44789	0.635 ng		97
96) n-Dodecane	18.89	58	1594	No Calib	#	
97) Hexachlorobutadiene	21.28	225	12254	0.567 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.39	119	39430	0.604 ng		98
100) n-Butylbenzene	19.36	91	42216	0.618 ng		97
101) 1,1,1,2-Tetrachloroethane	14.84	131	10319	0.559 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162210.D Vial: 14
Acq On : 16 Nov 2022 14:40 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:45:27 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162211.D Vial: 14
Acq On : 16 Nov 2022 15:12 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:43:56 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150993	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	731952	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	184448	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	319874	14.880	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 119.04%				
57) Toluene-d8 (SS2)	12.39	98	824972	10.540	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.32%				
73) Bromofluorobenzene (SS3)	16.79	174	281371	8.326	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 66.64%#				
Target Compounds							Qvalue
2) Propene	3.28	42	25929	1.698	ng		100
3) Dichlorodifluoromethan...	3.35	85	37616	1.323	ng		99
4) Chloromethane	3.49	50	36387	2.435	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	17165	1.182	ng		99
6) Vinyl Chloride	3.68	62	30883	1.862	ng		98
7) 1,3-Butadiene	3.79	54	14916	1.295	ng		94
8) Bromomethane	4.01	94	12711	1.210	ng		100
9) Chloroethane	4.14	64	12384	1.724	ng		99
10) Ethanol	4.27	45	59435	6.001	ng		96
11) Acetonitrile	4.43	41	43986	1.743	ng		98
12) Acrolein	4.51	56	29349	4.222	ng		100
13) Acetone	4.61	58	83595	10.295	ng		90
14) Trichlorofluoromethane	4.74	101	30918	1.121	ng		100
15) 2-Propanol (Isopropanol)	4.82	45	130204	4.335	ng		89
16) Acrylonitrile	4.98	53	63586	4.615	ng		100
17) 1,1-Dichloroethene	5.24	96	16223	1.387	ng		97
18) 2-Methyl-2-Propanol (t...	5.29	59	110712	3.958	ng		94
19) Methylene Chloride	5.33	84	16956	1.397	ng		97
20) 3-Chloro-1-propene (Al...	5.43	41	41412	1.741	ng		88
21) Trichlorotrifluoroethane	5.56	151	16795	1.350	ng		99
22) Carbon Disulfide	5.58	76	108376	2.671	ng		98
23) trans-1,2-Dichloroethene	6.11	61	30745	1.802	ng		100
24) 1,1-Dichloroethane	6.29	63	35895	1.730	ng		98
25) Methyl tert-Butyl Ether	6.35	73	53519	1.451	ng		100
26) Vinyl Acetate	6.42	86	7974	4.126	ng	#	88
27) 2-Butanone (MEK)	6.64	72	23005	3.329	ng		95
28) cis-1,2-Dichloroethene	7.05	61	29655	1.750	ng		99
29) Diisopropyl Ether	7.26	87	28738	3.004	ng	#	70
30) Ethyl Acetate	7.26	61	35665	7.719	ng		99
31) n-Hexane	7.27	57	37663	2.013	ng		99
32) Chloroform	7.33	83	33803	1.433	ng		100
34) Tetrahydrofuran (THF)	7.73	72	21546	3.216	ng		95
35) Ethyl tert-Butyl Ether	7.79	87	40156	2.836	ng		96
36) 1,2-Dichloroethane	8.08	62	30133	1.554	ng		99
38) 1,1,1-Trichloroethane	8.37	97	30066	1.154	ng		99
39) Isopropyl Acetate	9.27	61	23250	No Calib		#	
40) 1-Butanol	8.86	56	578	No Calib		#	
41) Benzene	8.87	78	67948	1.335	ng		98
42) Carbon Tetrachloride	9.03	117	24416	1.069	ng		100
43) Cyclohexane	9.18	84	51394	2.706	ng		98
44) tert-Amyl Methyl Ether	9.56	73	94764	2.470	ng		96
45) 1,2-Dichloropropane	9.82	63	19767	1.621	ng		98
46) Bromodichloromethane	10.04	83	26225	1.273	ng		100
47) Trichloroethene	10.11	130	17826	1.094	ng		100
48) 1,4-Dioxane	10.10	88	13786	1.372	ng		98
49) 2,2,4-Trimethylpentane...	10.20	57	94783	1.833	ng		98
50) Methyl Methacrylate	10.37	100	12531	2.562	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162211.D Vial: 14
Acq On : 16 Nov 2022 15:12 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:43:56 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

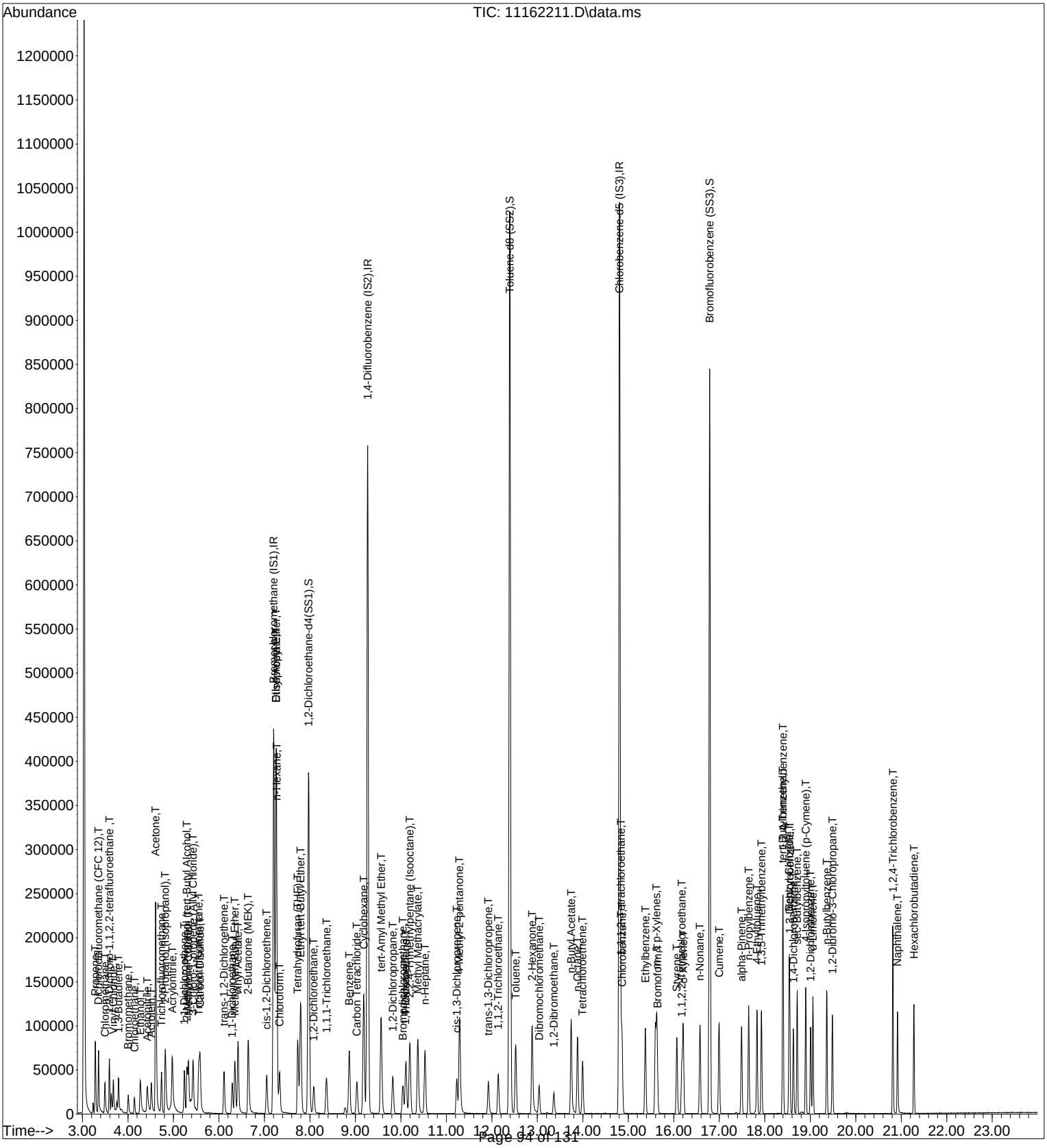
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	17524	1.530 ng		99
52) cis-1,3-Dichloropropene	11.23	75	27339	1.381 ng		98
53) 4-Methyl-2-pentanone	11.29	58	40998	3.791 ng		90
54) trans-1,3-Dichloropropene	11.92	75	24494	1.272 ng		100
55) 1,1,2-Trichloroethane	12.14	97	17893	1.326 ng		100
58) Toluene	12.52	91	69867	1.016 ng		98
59) 2-Hexanone	12.89	43	102249	2.680 ng		95
60) Dibromochloromethane	13.04	129	20422	0.919 ng		100
61) 1,2-Dibromoethane	13.36	107	21480	1.068 ng		98
62) n-Butyl Acetate	13.74	43	107323	2.573 ng		98
63) n-Octane	13.88	57	19547	1.537 ng		97
64) Tetrachloroethene	13.99	166	20184	0.917 ng		99
65) Chlorobenzene	14.86	112	45437	0.977 ng		99
66) Ethylbenzene	15.37	91	80312	1.019 ng		99
67) m- & p-Xylenes	15.62	91	129268	1.995 ng		98
68) Bromoform	15.64	173	17078	0.887 ng		98
69) Styrene	16.07	104	47163	1.065 ng		99
70) o-Xylene	16.21	91	64519	1.008 ng		100
71) n-Nonane	16.57	43	48848	1.451 ng		95
72) 1,1,2,2-Tetrachloroethane	16.17	83	32236	1.193 ng		100
74) Cumene	17.00	105	78482	0.992 ng		100
75) alpha-Pinene	17.49	93	41412	1.081 ng		99
76) n-Propylbenzene	17.64	91	98745	1.045 ng		99
77) 3-Ethyltoluene	17.00	105	78482	No Calib		
78) 4-Ethyltoluene	17.83	105	77353	1.044 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	65017	0.992 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.00	105	78482	No Calib		
82) 1,2,4-Trimethylbenzene	18.40	105	65851	0.984 ng		99
83) n-Decane	16.98	58	780	No Calib	#	
84) Benzyl Chloride	18.54	91	86740	1.963 ng		96
85) 1,3-Dichlorobenzene	18.55	146	37540	0.926 ng		100
86) 1,4-Dichlorobenzene	18.63	146	37015	0.916 ng		99
87) sec-Butylbenzene	18.71	105	87148	0.997 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	76573	0.980 ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	78482	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	37172	0.931 ng		99
91) d-Limonene	19.06	68	26519	1.254 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	26417	1.786 ng	#	84
93) n-Undecane	17.93	58	1761	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	57800	2.040 ng		98
95) Naphthalene	20.92	128	79093	1.103 ng		98
96) n-Dodecane	18.89	58	2548	No Calib	#	
97) Hexachlorobutadiene	21.28	225	20645	0.939 ng		98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.39	119	66597	1.003 ng		99
100) n-Butylbenzene	19.36	91	71422	1.028 ng		99
101) 1,1,1,2-Tetrachloroethane	14.84	131	17492	0.932 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162211.D Vial: 14
Acq On : 16 Nov 2022 15:12 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:43:56 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162212.D Vial: 14
Acq On : 16 Nov 2022 15:44 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:41:55 2022 11/16/22
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	143526	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.28	114	738402	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	188144	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	325708	15.940	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 127.52%				
57) Toluene-d8 (SS2)	12.40	98	833658	10.442	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.52%				
73) Bromofluorobenzene (SS3)	16.79	174	289226	8.390	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 67.12%#				
Target Compounds							Qvalue
2) Propene	3.26	42	135400	9.327	ng		99
3) Dichlorodifluoromethan...	3.34	85	159369	5.895	ng		99
4) Chloromethane	3.47	50	145769	10.263	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	72108	5.223	ng		99
6) Vinyl Chloride	3.66	62	133802	8.488	ng		100
7) 1,3-Butadiene	3.78	54	61405	5.609	ng		96
8) Bromomethane	3.99	94	50953	5.103	ng		100
9) Chloroethane	4.13	64	53043	7.770	ng		100
10) Ethanol	4.28	45	221169	23.493	ng		100
11) Acetonitrile	4.43	41	184711	7.698	ng		99
12) Acrolein	4.51	56	111390	16.857	ng		100
13) Acetone	4.61	58	327698	42.457	ng		90
14) Trichlorofluoromethane	4.73	101	131416	5.011	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	460090	16.116	ng		96
16) Acrylonitrile	4.98	53	265593	20.281	ng		99
17) 1,1-Dichloroethene	5.23	96	65456	5.887	ng		97
18) 2-Methyl-2-Propanol (t...	5.31	59	466378	17.539	ng		97
19) Methylene Chloride	5.34	84	71834	6.227	ng		97
20) 3-Chloro-1-propene (Al...	5.43	41	178800	7.909	ng		88
21) Trichlorotrifluoroethane	5.56	151	70642	5.972	ng		99
22) Carbon Disulfide	5.57	76	460156	11.930	ng		100
23) trans-1,2-Dichloroethene	6.12	61	135223	8.336	ng		99
24) 1,1-Dichloroethane	6.30	63	150039	7.608	ng		100
25) Methyl tert-Butyl Ether	6.34	73	234917	6.699	ng		99
26) Vinyl Acetate	6.42	86	37176	20.238	ng	#	91
27) 2-Butanone (MEK)	6.65	72	100932	15.367	ng	#	92
28) cis-1,2-Dichloroethene	7.06	61	127864	7.938	ng		98
29) Diisopropyl Ether	7.26	87	125264	13.775	ng	#	69
30) Ethyl Acetate	7.26	61	162797	37.065	ng		98
31) n-Hexane	7.27	57	164976	9.276	ng		98
32) Chloroform	7.34	83	144334	6.439	ng		99
34) Tetrahydrofuran (THF)	7.73	72	92690	14.556	ng		96
35) Ethyl tert-Butyl Ether	7.79	87	177853	13.213	ng		96
36) 1,2-Dichloroethane	8.09	62	128398	6.965	ng		100
38) 1,1,1-Trichloroethane	8.37	97	131363	5.000	ng		99
39) Isopropyl Acetate	9.18	61	184	No Calib		#	
40) 1-Butanol	8.81	56	5446	No Calib			
41) Benzene	8.87	78	289685	5.643	ng		100
42) Carbon Tetrachloride	9.04	117	107650	4.674	ng		100
43) Cyclohexane	9.18	84	223095	11.643	ng		99
44) tert-Amyl Methyl Ether	9.56	73	427312	11.042	ng		98
45) 1,2-Dichloropropane	9.83	63	85740	6.971	ng		99
46) Bromodichloromethane	10.05	83	115669	5.565	ng		100
47) Trichloroethene	10.12	130	78131	4.752	ng		99
48) 1,4-Dioxane	10.09	88	61336	6.049	ng		98
49) 2,2,4-Trimethylpentane...	10.20	57	405445	7.771	ng		99
50) Methyl Methacrylate	10.37	100	57594	11.671	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162212.D Vial: 14
Acq On : 16 Nov 2022 15:44 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:41:55 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

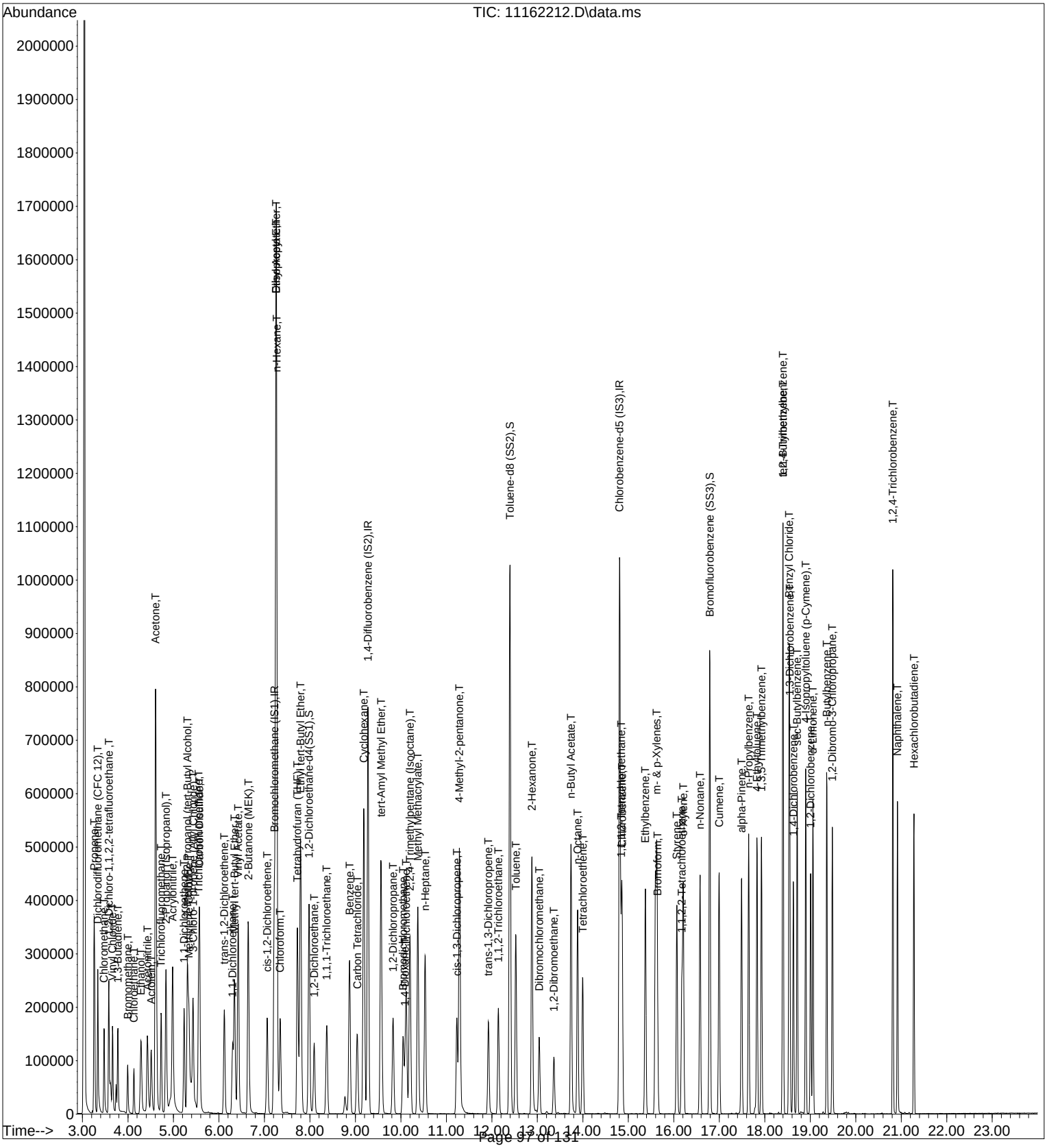
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	74931	6.486	ng		100
52) cis-1,3-Dichloropropene	11.23	75	123281	6.172	ng		100
53) 4-Methyl-2-pentanone	11.29	58	183274	16.801	ng		94
54) trans-1,3-Dichloropropene	11.92	75	112625	5.796	ng		100
55) 1,1,2-Trichloroethane	12.14	97	76856	5.644	ng		100
58) Toluene	12.53	91	297631	4.244	ng		99
59) 2-Hexanone	12.88	43	455150	11.694	ng		96
60) Dibromochloromethane	13.04	129	91389	4.032	ng		99
61) 1,2-Dibromoethane	13.36	107	92197	4.492	ng		100
62) n-Butyl Acetate	13.74	43	485048	11.399	ng		98
63) n-Octane	13.89	57	83310	6.421	ng		99
64) Tetrachloroethene	14.00	166	87596	3.904	ng		100
65) Chlorobenzene	14.86	112	200686	4.231	ng		100
66) Ethylbenzene	15.37	91	347379	4.322	ng		99
67) m- & p-Xylenes	15.62	91	561293	8.491	ng		99
68) Bromoform	15.64	173	80272	4.088	ng		100
69) Styrene	16.07	104	207622	4.595	ng		100
70) o-Xylene	16.21	91	280291	4.291	ng		99
71) n-Nonane	16.58	43	207285	6.037	ng		97
72) 1,1,2,2-Tetrachloroethane	16.17	83	139662	5.068	ng		100
74) Cumene	17.00	105	343712	4.259	ng		99
75) alpha-Pinene	17.49	93	183712	4.702	ng		98
76) n-Propylbenzene	17.65	91	427415	4.436	ng		99
77) 3-Ethyltoluene	17.00	105	343712	No Calib			
78) 4-Ethyltoluene	17.83	105	330433	4.371	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	286568	4.288	ng		99
80) alpha-Methylstyrene	16.99	118	532	No Calib		#	
81) 2-Ethyltoluene	17.00	105	343712	No Calib			
82) 1,2,4-Trimethylbenzene	18.40	105	294002	4.305	ng		100
83) n-Decane	17.00	58	3381	No Calib			
84) Benzyl Chloride	18.54	91	451094	10.009	ng		97
85) 1,3-Dichlorobenzene	18.55	146	167769	4.056	ng		99
86) 1,4-Dichlorobenzene	18.63	146	163698	3.971	ng		100
87) sec-Butylbenzene	18.71	105	382399	4.288	ng		99
88) 4-Isopropyltoluene (p-...	18.90	119	338723	4.251	ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	343712	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	163429	4.012	ng		100
91) d-Limonene	19.06	68	117513	5.447	ng		100
92) 1,2-Dibromo-3-Chloropr...	19.48	157	126141	8.363	ng		90
93) n-Undecane	17.92	58	7581	No Calib			
94) 1,2,4-Trichlorobenzene	20.81	180	266010	9.206	ng		99
95) Naphthalene	20.92	128	363332	4.966	ng		99
96) n-Dodecane	18.90	58	9470	No Calib		#	
97) Hexachlorobutadiene	21.28	225	92595	4.131	ng		100
98) Cyclohexanone	15.17	55	305	No Calib		#	
99) tert-Butylbenzene	18.40	119	291304	4.301	ng		98
100) n-Butylbenzene	19.36	91	318385	4.491	ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	78480	4.098	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162212.D Vial: 14
Acq On : 16 Nov 2022 15:44 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:41:55 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162213.D Vial: 15
Acq On : 16 Nov 2022 16:16 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 16:40:21 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:40:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	141414	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	736255	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	185679	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	324883	16.137	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 129.12%			
57) Toluene-d8 (SS2)	12.40	98	835936	10.609	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.88%			
73) Bromofluorobenzene (SS3)	16.79	174	294695	8.662	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 69.28%#			
Target Compounds						Qvalue
2) Propene	3.26	42	672523	47.020	ng	100
3) Dichlorodifluoromethan...	3.34	85	851101	31.950	ng	100
4) Chloromethane	3.47	50	818711	58.505	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	384587	28.272	ng	100
6) Vinyl Chloride	3.67	62	717484	46.194	ng	100
7) 1,3-Butadiene	3.78	54	326628	30.279	ng	100
8) Bromomethane	4.00	94	310309	31.541	ng	100
9) Chloroethane	4.14	64	292429	43.477	ng	100
10) Ethanol	4.33	45	1219910	131.519	ng	100
11) Acetonitrile	4.46	41	1001989	42.385	ng	100
12) Acrolein	4.53	56	559813	85.983	ng	100
13) Acetone	4.64	58	1796599	236.248	ng	100
14) Trichlorofluoromethane	4.74	101	690645	26.730	ng	100
15) 2-Propanol (Isopropanol)	4.88	45	2759351	98.098	ng	100
16) Acrylonitrile	5.02	53	1376962	106.716	ng	100
17) 1,1-Dichloroethene	5.25	96	344527	31.449	ng	100
18) 2-Methyl-2-Propanol (t...	5.35	59	2674413	102.076	ng	100
19) Methylene Chloride	5.37	84	403187	35.474	ng	100
20) 3-Chloro-1-propene (Al...	5.45	41	774988	34.792	ng	100
21) Trichlorotrifluoroethane	5.56	151	397309	34.091	ng	100
22) Carbon Disulfide	5.58	76	2605599	68.560	ng	100
23) trans-1,2-Dichloroethene	6.15	61	744831	46.602	ng	100
24) 1,1-Dichloroethane	6.33	63	817973	42.097	ng	100
25) Methyl tert-Butyl Ether	6.36	73	1300147	37.628	ng	100
26) Vinyl Acetate	6.45	86	224287	123.923	ng	100
27) 2-Butanone (MEK)	6.67	72	572718	88.498	ng	100
28) cis-1,2-Dichloroethene	7.09	61	697950	43.978	ng	100
29) Diisopropyl Ether	7.27	87	718439	80.186	ng	100
30) Ethyl Acetate	7.28	61	947043	218.841	ng	100
31) n-Hexane	7.28	57	921280	52.576	ng	100
32) Chloroform	7.38	83	795847	36.034	ng	100
34) Tetrahydrofuran (THF)	7.74	72	524965	83.674	ng	100
35) Ethyl tert-Butyl Ether	7.81	87	1007943	76.000	ng	100
36) 1,2-Dichloroethane	8.12	62	699100	38.487	ng	100
38) 1,1,1-Trichloroethane	8.39	97	723782	27.629	ng	100
39) Isopropyl Acetate	9.20	61	2285	No Calib	#	
40) 1-Butanol	8.80	56	28607	No Calib		
41) Benzene	8.89	78	1597495	31.212	ng	100
42) Carbon Tetrachloride	9.06	117	603050	26.260	ng	100
43) Cyclohexane	9.20	84	1258049	65.849	ng	100
44) tert-Amyl Methyl Ether	9.58	73	2405211	62.335	ng	100
45) 1,2-Dichloropropane	9.84	63	472042	38.492	ng	100
46) Bromodichloromethane	10.06	83	650710	31.396	ng	100
47) Trichloroethene	10.13	130	439417	26.803	ng	100
48) 1,4-Dioxane	10.10	88	355829	35.196	ng	100
49) 2,2,4-Trimethylpentane...	10.21	57	2200994	42.311	ng	100
50) Methyl Methacrylate	10.39	100	338893	68.872	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162213.D Vial: 15
Acq On : 16 Nov 2022 16:16 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 16:40:21 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:40:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

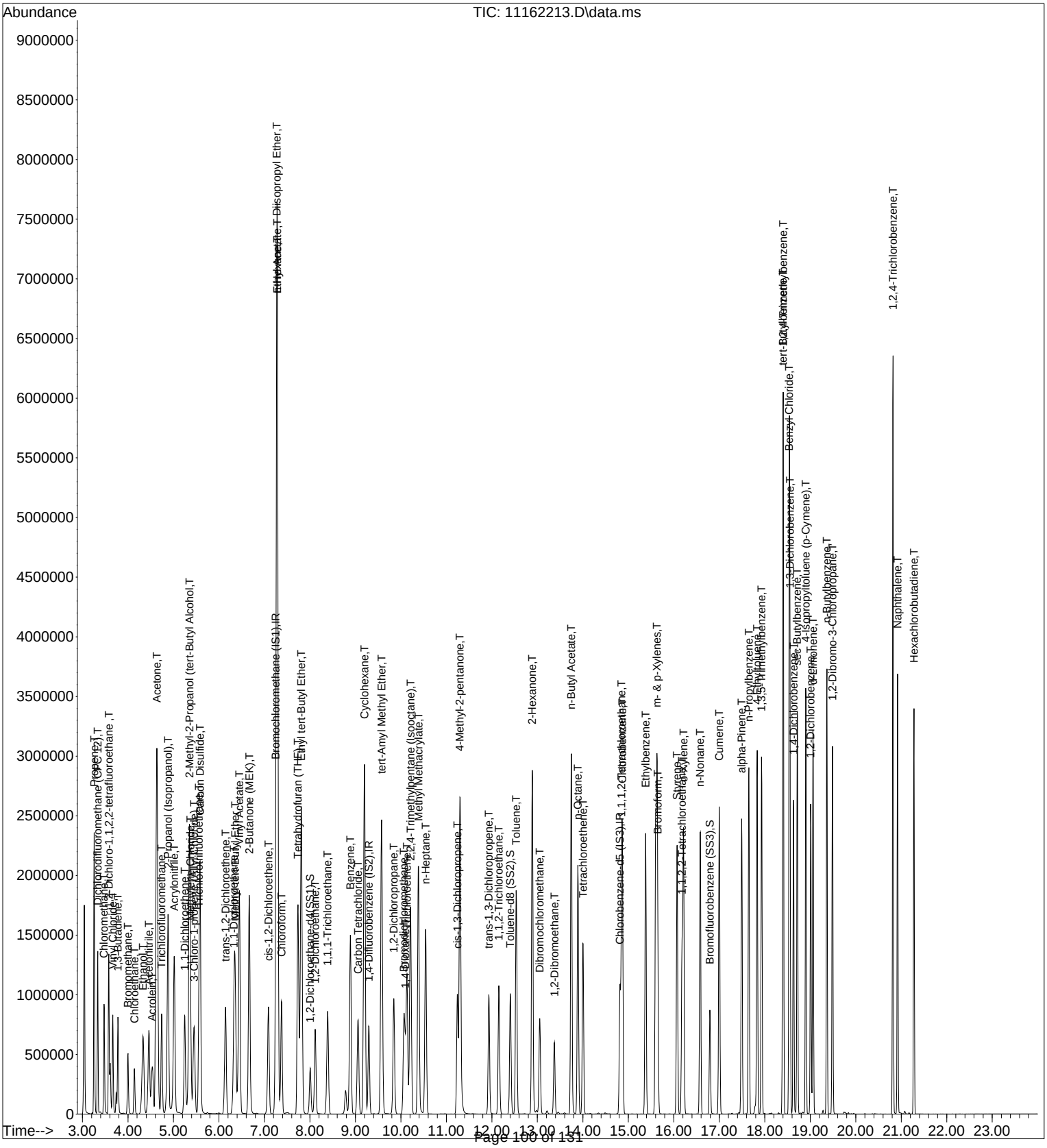
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.55	71	413841	35.926 ng		100
52) cis-1,3-Dichloropropene	11.25	75	702453	35.271 ng		100
53) 4-Methyl-2-pentanone	11.30	58	1042229	95.820 ng		100
54) trans-1,3-Dichloropropene	11.93	75	655789	33.847 ng		100
55) 1,1,2-Trichloroethane	12.15	97	427777	31.506 ng		100
58) Toluene	12.53	91	1657383	23.947 ng		100
59) 2-Hexanone	12.89	43	2635329	68.609 ng		100
60) Dibromochloromethane	13.05	129	530807	23.730 ng		100
61) 1,2-Dibromoethane	13.37	107	520391	25.693 ng		100
62) n-Butyl Acetate	13.74	43	2884868	68.696 ng		100
63) n-Octane	13.89	57	461025	36.004 ng		100
64) Tetrachloroethene	14.01	166	501044	22.624 ng		100
65) Chlorobenzene	14.87	112	1161221	24.807 ng		100
66) Ethylbenzene	15.38	91	1956293	24.660 ng		100
67) m- & p-Xylenes	15.63	91	3235642	49.597 ng		100
68) Bromoform	15.65	173	503204	25.965 ng		100
69) Styrene	16.07	104	1213480	27.212 ng		100
70) o-Xylene	16.21	91	1579369	24.500 ng		100
71) n-Nonane	16.58	43	1117414	32.975 ng		100
72) 1,1,2,2-Tetrachloroethane	16.18	83	791340	29.097 ng		100
74) Cumene	17.00	105	1934239	24.284 ng		100
75) alpha-Pinene	17.49	93	1043183	27.054 ng		100
76) n-Propylbenzene	17.65	91	2425050	25.505 ng		100
77) 3-Ethyltoluene	17.00	105	1934239	No Calib		
78) 4-Ethyltoluene	17.83	105	1933371	25.915 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1638566	24.843 ng		100
80) alpha-Methylstyrene	17.00	118	3323	No Calib	#	
81) 2-Ethyltoluene	17.00	105	1934239	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1724525	25.588 ng		100
83) n-Decane	17.00	58	18684	No Calib		
84) Benzyl Chloride	18.54	91	3015887	67.807 ng		100
85) 1,3-Dichlorobenzene	18.55	146	1026112	25.136 ng		100
86) 1,4-Dichlorobenzene	18.63	146	1003752	24.672 ng		100
87) sec-Butylbenzene	18.71	105	2191457	24.899 ng		100
88) 4-Isopropyltoluene (p-...	18.90	119	1940915	24.685 ng		100
89) 1,2,3-Trimethylbenzene	17.00	105	1934239	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	969873	24.126 ng		100
91) d-Limonene	19.06	68	687022	32.271 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	777665	52.240 ng		100
93) n-Undecane	17.93	58	42774	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1726725	60.549 ng		100
95) Naphthalene	20.92	128	2291167	31.731 ng		100
96) n-Dodecane	18.90	58	55252	No Calib	#	
97) Hexachlorobutadiene	21.28	225	563252	25.462 ng		100
98) Cyclohexanone	15.18	55	372	No Calib	#	
99) tert-Butylbenzene	18.40	119	1668615	24.965 ng		100
100) n-Butylbenzene	19.37	91	1856615	26.539 ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	448990	23.758 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162213.D Vial: 15
Acq On : 16 Nov 2022 16:16 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 16:40:21 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:40:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162214.D Vial: 15
Acq On : 16 Nov 2022 16:48 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 17:09:57 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.26	130	133289	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	758786	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	187336	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	328089	17.290	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 138.32%#				
57) Toluene-d8 (SS2)	12.41	98	851808	10.715	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.76%				
73) Bromofluorobenzene (SS3)	16.79	174	304410	8.868	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 70.96%				
Target Compounds							Qvalue
2) Propene	3.26	42	1474585	109.382	ng		99
3) Dichlorodifluoromethan...	3.34	85	1616730	64.392	ng		100
4) Chloromethane	3.48	50	1484943	112.582	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	728811	56.842	ng		100
6) Vinyl Chloride	3.67	62	1337418	91.356	ng		100
7) 1,3-Butadiene	3.78	54	559180	54.998	ng		99
8) Bromomethane	4.00	94	618198	66.667	ng		100
9) Chloroethane	4.15	64	554168	87.413	ng		99
10) Ethanol	4.35	45	2263537	258.908	ng		100
11) Acetonitrile	4.48	41	1886434	84.661	ng		100
12) Acrolein	4.55	56	991751	161.611	ng		100
13) Acetone	4.65	58	3075011	429.004	ng		92
14) Trichlorofluoromethane	4.74	101	1266838	52.019	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	4279017	161.396	ng		100
16) Acrylonitrile	5.03	53	2532530	208.239	ng		100
17) 1,1-Dichloroethene	5.26	96	632336	61.240	ng		98
18) 2-Methyl-2-Propanol (t...	5.37	59	4807607	194.681	ng		99
19) Methylene Chloride	5.39	84	764658	71.380	ng		96
20) 3-Chloro-1-propene (Al...	5.47	41	1376281	65.552	ng		98
21) Trichlorotrifluoroethane	5.57	151	782639	71.248	ng		99
22) Carbon Disulfide	5.59	76	4695597	131.085	ng		100
23) trans-1,2-Dichloroethene	6.15	61	1424780	94.578	ng		98
24) 1,1-Dichloroethane	6.34	63	1531307	83.613	ng		100
25) Methyl tert-Butyl Ether	6.36	73	2521736	77.431	ng		99
26) Vinyl Acetate	6.46	86	447855	262.532	ng	#	83
27) 2-Butanone (MEK)	6.68	72	1124800	184.403	ng	#	89
28) cis-1,2-Dichloroethene	7.10	61	1318062	88.115	ng		98
29) Diisopropyl Ether	7.28	87	1327047	157.141	ng	#	70
30) Ethyl Acetate	7.30	61	1657820	406.438	ng		96
31) n-Hexane	7.29	57	1549073	93.792	ng		99
32) Chloroform	7.39	83	1518944	72.967	ng		100
34) Tetrahydrofuran (THF)	7.75	72	1025961	173.495	ng		94
35) Ethyl tert-Butyl Ether	7.82	87	1978142	158.246	ng		96
36) 1,2-Dichloroethane	8.13	62	1319568	77.074	ng		100
38) 1,1,1-Trichloroethane	8.40	97	1397980	51.780	ng		99
39) Isopropyl Acetate	9.21	61	4082	No Calib		#	
40) 1-Butanol	8.80	56	56182	No Calib			
41) Benzene	8.89	78	3100771	58.784	ng		100
42) Carbon Tetrachloride	9.07	117	1180750	49.889	ng		100
43) Cyclohexane	9.21	84	2452427	124.554	ng		97
44) tert-Amyl Methyl Ether	9.58	73	4680500	117.701	ng		98
45) 1,2-Dichloropropane	9.85	63	911977	72.158	ng		100
46) Bromodichloromethane	10.08	83	1270249	59.468	ng		100
47) Trichloroethene	10.14	130	873038	51.670	ng		99
48) 1,4-Dioxane	10.10	88	703599	67.528	ng		98
49) 2,2,4-Trimethylpentane...	10.22	57	4180681	77.981	ng		98
50) Methyl Methacrylate	10.39	100	673163	132.742	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162214.D Vial: 15
Acq On : 16 Nov 2022 16:48 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 17:09:57 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

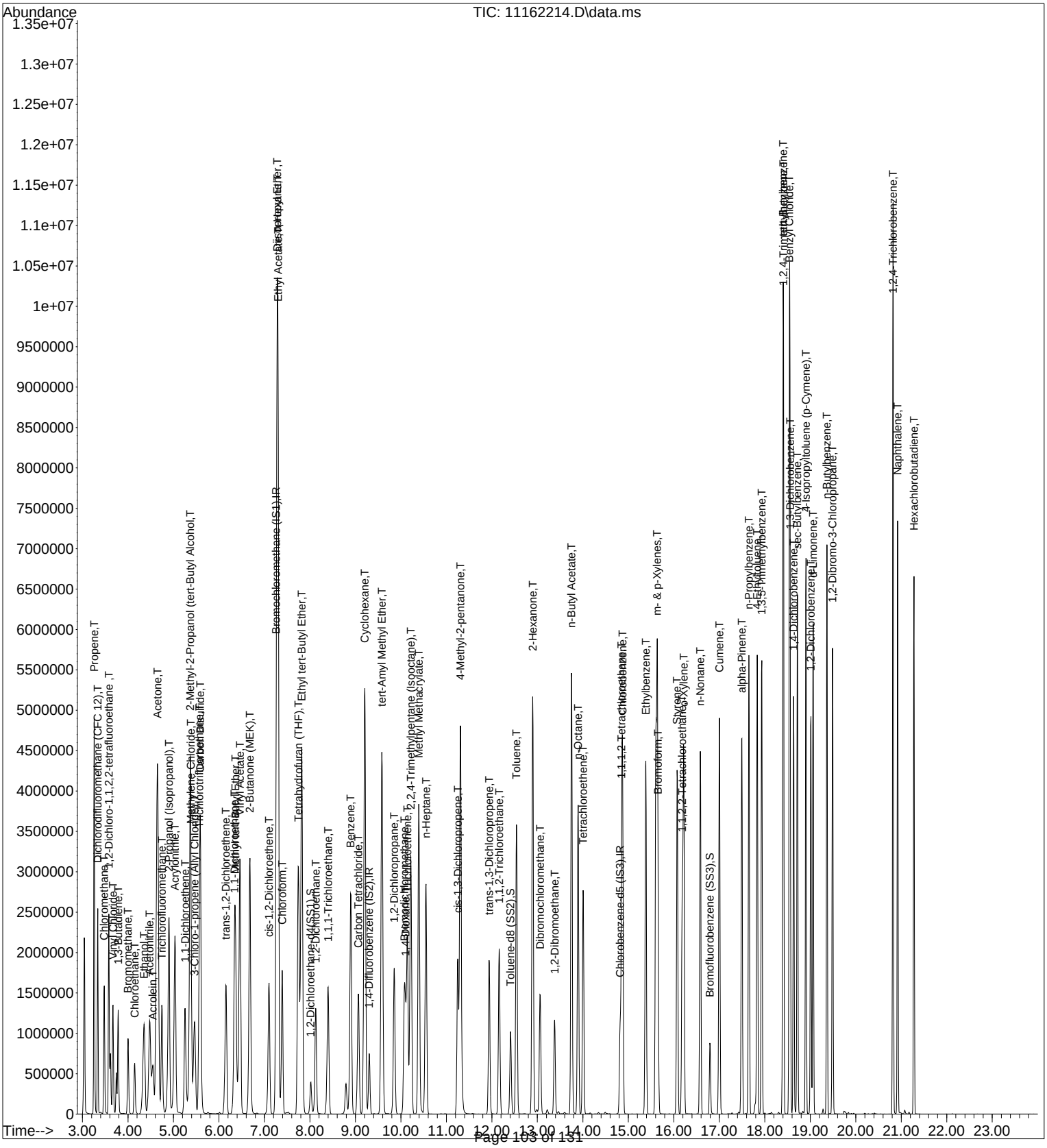
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.55	71	809517	68.188 ng		98
52) cis-1,3-Dichloropropene	11.25	75	1367623	66.631 ng		100
53) 4-Methyl-2-pentanone	11.31	58	1997907	178.228 ng		93
54) trans-1,3-Dichloropropene	11.94	75	1282625	64.233 ng		100
55) 1,1,2-Trichloroethane	12.16	97	838018	59.888 ng		100
58) Toluene	12.54	91	3228942	46.241 ng		100
59) 2-Hexanone	12.90	43	4747570	122.507 ng		96
60) Dibromochloromethane	13.06	129	1042319	46.186 ng		99
61) 1,2-Dibromoethane	13.38	107	1019475	49.889 ng		100
62) n-Butyl Acetate	13.75	43	5196121	122.638 ng		97
63) n-Octane	13.90	57	885149	68.515 ng		98
64) Tetrachloroethene	14.01	166	992903	44.437 ng		99
65) Chlorobenzene	14.87	112	2295307	48.600 ng		100
66) Ethylbenzene	15.39	91	3784329	47.281 ng		99
67) m- & p-Xylenes	15.63	91	6221463	94.521 ng		99
68) Bromoform	15.65	173	1007290	51.515 ng		100
69) Styrene	16.07	104	2388512	53.088 ng		100
70) o-Xylene	16.22	91	3071663	47.229 ng		99
71) n-Nonane	16.58	43	2045773	59.837 ng		96
72) 1,1,2,2-Tetrachloroethane	16.19	83	1549003	56.453 ng		100
74) Cumene	17.00	105	3734044	46.465 ng		99
75) alpha-Pinene	17.50	93	2041965	52.488 ng		99
76) n-Propylbenzene	17.65	91	4639586	48.365 ng		99
77) 3-Ethyltoluene	17.00	105	3734044	No Calib		
78) 4-Ethyltoluene	17.83	105	3778120	50.194 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	3158138	47.459 ng		99
80) alpha-Methylstyrene	17.00	118	5848	No Calib	#	
81) 2-Ethyltoluene	17.00	105	3734044	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	3187296	46.874 ng		99
83) n-Decane	17.00	58	36444	No Calib		
84) Benzyl Chloride	18.54	91	5574333	124.221 ng		98
85) 1,3-Dichlorobenzene	18.56	146	1959820	47.583 ng		100
86) 1,4-Dichlorobenzene	18.63	146	1970024	47.995 ng		99
87) sec-Butylbenzene	18.72	105	4167709	46.935 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	3702421	46.671 ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	3734044	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	1902991	46.918 ng		99
91) d-Limonene	19.06	68	1322427	61.568 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	1531355	101.959 ng		94
93) n-Undecane	17.93	58	81558	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	3273852	113.784 ng		100
95) Naphthalene	20.92	128	4454308	61.143 ng		99
96) n-Dodecane	18.91	58	99724	No Calib	#	
97) Hexachlorobutadiene	21.28	225	1122056	50.274 ng		100
98) Cyclohexanone	15.18	55	1250	No Calib	#	
99) tert-Butylbenzene	18.41	119	3102833	46.012 ng		99
100) n-Butylbenzene	19.37	91	3525686	49.952 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	887284	46.534 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162214.D Vial: 15
Acq On : 16 Nov 2022 16:48 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 17:09:57 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162215.D Vial: 15
Acq On : 16 Nov 2022 17:20 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 17 07:39:05 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	173715	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.32	114	764235	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.82	54	181973	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.03	65	324858	13.135	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%				
57) Toluene-d8 (SS2)	12.42	98	848070	10.983	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.84%				
73) Bromofluorobenzene (SS3)	16.80	174	309064	9.269	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 74.16%				
Target Compounds							Qvalue
2) Propene	3.26	42	2683845	152.754	ng		98
3) Dichlorodifluoromethan...	3.34	85	3116249	95.232	ng		99
4) Chloromethane	3.48	50	2197829	127.852	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	1678464	100.443	ng		99
6) Vinyl Chloride	3.68	62	2465400	129.215	ng		99
7) 1,3-Butadiene	3.80	54	1693051	127.767	ng		91
8) Bromomethane	4.01	94	1261213	104.358	ng		100
9) Chloroethane	4.15	64	1162004	140.638	ng		99
10) Ethanol	4.38	45	5713999	501.482	ng		100
11) Acetonitrile	4.50	41	4187100	144.183	ng		98
12) Acrolein	4.56	56	2570968	321.457	ng		99
13) Acetone	4.67	58	6788448	726.678	ng	#	76
14) Trichlorofluoromethane	4.76	101	3035757	95.646	ng		100
15) 2-Propanol (Isopropanol)	4.93	45	7754293	224.413	ng		99
16) Acrylonitrile	5.06	53	5526270	348.655	ng		99
17) 1,1-Dichloroethene	5.27	96	1650850	122.674	ng		92
18) 2-Methyl-2-Propanol (t...	5.39	59	5945962	184.746	ng		99
19) Methylene Chloride	5.40	84	1714660	122.813	ng		87
20) 3-Chloro-1-propene (Al...	5.48	41	3044514	111.264	ng		94
21) Trichlorotrifluoroethane	5.58	151	1576878	110.146	ng		96
22) Carbon Disulfide	5.60	76	11197813	239.857	ng		99
23) trans-1,2-Dichloroethene	6.17	61	2778484	141.516	ng		96
24) 1,1-Dichloroethane	6.36	63	3176653	133.088	ng		99
25) Methyl tert-Butyl Ether	6.37	73	4940345	116.393	ng		99
26) Vinyl Acetate	6.48	86	909949	409.279	ng	#	55
27) 2-Butanone (MEK)	6.70	72	2225801	279.986	ng	#	73
28) cis-1,2-Dichloroethene	7.11	61	2605281	133.636	ng		95
29) Diisopropyl Ether	7.29	87	2275590	206.755	ng	#	42
30) Ethyl Acetate	7.32	61	2540878	477.966	ng		89
31) n-Hexane	7.29	57	2253888	104.709	ng	#	98
32) Chloroform	7.41	83	3001515	110.632	ng		99
34) Tetrahydrofuran (THF)	7.76	72	2020557	262.171	ng	#	84
35) Ethyl tert-Butyl Ether	7.83	87	3866166	237.309	ng	#	87
36) 1,2-Dichloroethane	8.14	62	2531792	113.465	ng		100
38) 1,1,1-Trichloroethane	8.41	97	2749514	101.113	ng		98
39) Isopropyl Acetate	9.21	61	7566	No Calib	#		
40) 1-Butanol	8.82	56	108839	No Calib	#		
41) Benzene	8.91	78	6104337	114.901	ng		99
42) Carbon Tetrachloride	9.08	117	2340624	98.191	ng		99
43) Cyclohexane	9.21	84	4732641	238.647	ng		90
44) tert-Amyl Methyl Ether	9.59	73	8897423	222.149	ng		94
45) 1,2-Dichloropropane	9.87	63	1791713	140.754	ng		100
46) Bromodichloromethane	10.09	83	2484348	115.478	ng		100
47) Trichloroethene	10.16	130	1763594	103.633	ng		99
48) 1,4-Dioxane	10.12	88	1406707	134.046	ng		95
49) 2,2,4-Trimethylpentane...	10.23	57	7874391	145.831	ng		96
50) Methyl Methacrylate	10.41	100	1343390	263.015	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162215.D Vial: 15
Acq On : 16 Nov 2022 17:20 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 17 07:39:05 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

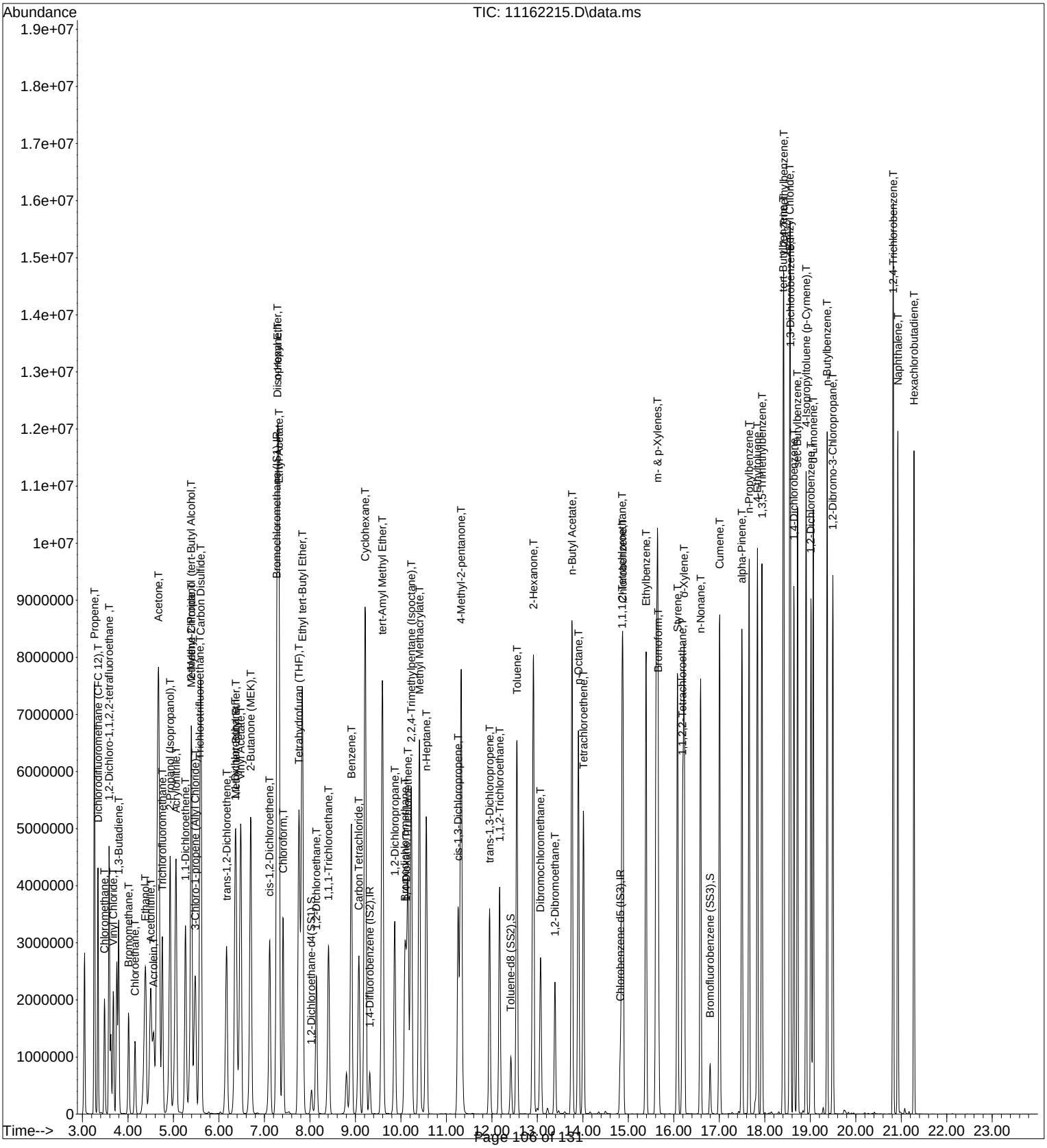
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.56	71	1603361	134.093 ng		96
52) cis-1,3-Dichloropropene	11.26	75	2701869	130.697 ng		99
53) 4-Methyl-2-pentanone	11.33	58	3694583	327.233 ng		84
54) trans-1,3-Dichloropropene	11.95	75	2521327	125.367 ng		99
55) 1,1,2-Trichloroethane	12.17	97	1660049	117.787 ng		100
58) Toluene	12.55	91	6266340	92.383 ng		99
59) 2-Hexanone	12.92	43	8007384	212.714 ng		90
60) Dibromochloromethane	13.07	129	2082475	94.995 ng		99
61) 1,2-Dibromoethane	13.39	107	2022869	101.908 ng		100
62) n-Butyl Acetate	13.76	43	8705988	211.534 ng		92
63) n-Octane	13.90	57	1669409	133.028 ng		94
64) Tetrachloroethene	14.02	166	1987756	91.584 ng		99
65) Chlorobenzene	14.88	112	4442515	96.836 ng		99
66) Ethylbenzene	15.39	91	7175484	92.293 ng		98
67) m- & p-Xylenes	15.64	91	11249096	175.941 ng		98
68) Bromoform	15.66	173	1956283	102.997 ng		99
69) Styrene	16.08	104	4613751	105.570 ng		99
70) o-Xylene	16.23	91	5820341	92.129 ng		98
71) n-Nonane	16.59	43	3512664	105.771 ng		89
72) 1,1,2,2-Tetrachloroethane	16.19	83	3009355	112.907 ng		100
74) Cumene	17.01	105	6992149	89.573 ng		97
75) alpha-Pinene	17.50	93	3886931	102.857 ng		99
76) n-Propylbenzene	17.66	91	8423694	90.400 ng		97
77) 3-Ethyltoluene	17.01	105	6992149	No Calib		
78) 4-Ethyltoluene	17.84	105	6842642	93.587 ng		97
79) 1,3,5-Trimethylbenzene	17.94	105	5837472	90.307 ng		97
80) alpha-Methylstyrene	17.01	118	10985	No Calib	#	
81) 2-Ethyltoluene	17.01	105	6992149	No Calib		
82) 1,2,4-Trimethylbenzene	18.42	105	5364101	81.213 ng		99
83) n-Decane	17.01	58	67719	No Calib		
84) Benzyl Chloride	18.55	91	8877902	203.669 ng		94
85) 1,3-Dichlorobenzene	18.56	146	3399020	84.959 ng		99
86) 1,4-Dichlorobenzene	18.64	146	3763344	94.386 ng		99
87) sec-Butylbenzene	18.72	105	7465597	86.551 ng		97
88) 4-Isopropyltoluene (p-...	18.91	119	6643365	86.211 ng		97
89) 1,2,3-Trimethylbenzene	17.01	105	6992149	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	3653844	92.740 ng		99
91) d-Limonene	19.06	68	2389968	114.548 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.50	157	2900162	198.787 ng		86
93) n-Undecane	17.93	58	144437	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	5436640	194.522 ng		99
95) Naphthalene	20.93	128	7967669	112.592 ng		97
96) n-Dodecane	18.91	58	168613	No Calib	#	
97) Hexachlorobutadiene	21.28	225	2130774	98.284 ng		99
98) Cyclohexanone	15.19	55	1447	No Calib	#	
99) tert-Butylbenzene	18.41	119	5298958	80.894 ng		98
100) n-Butylbenzene	19.37	91	6227180	90.826 ng		97
101) 1,1,1,2-Tetrachloroethane	14.86	131	1724347	93.100 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162215.D Vial: 15
Acq On : 16 Nov 2022 17:20 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 17 07:39:05 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162217.D Vial: 16
Acq On : 16 Nov 2022 18:24 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 17 07:54:22 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	156411	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	762080	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	178143	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	321886	11.840	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
57) Toluene-d8 (SS2)	12.40	98	844724	13.008	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
73) Bromofluorobenzene (SS3)	16.79	174	305995	13.475	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
Target Compounds							Qvalue
2) Propene	3.25	42	604715	21.617	ng		100
3) Dichlorodifluoromethan...	3.32	85	856777	23.813	ng		100
4) Chloromethane	3.47	50	783486	22.551	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	411020	24.056	ng		100
6) Vinyl Chloride	3.65	62	717092	23.597	ng		100
7) 1,3-Butadiene	3.77	54	341645	22.383	ng		99
8) Bromomethane	3.99	94	332608	24.832	ng		100
9) Chloroethane	4.13	64	296006	23.862	ng		99
10) Ethanol	4.32	45	1493362	85.280	ng		100
11) Acetonitrile	4.45	41	934430	18.545	ng		100
12) Acrolein	4.53	56	575772	39.946	ng		99
13) Acetone	4.63	58	1761213	111.266	ng		94
14) Trichlorofluoromethane	4.73	101	726989	23.518	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	2732992	46.320	ng		100
16) Acrylonitrile	5.01	53	1318832	43.299	ng		100
17) 1,1-Dichloroethene	5.24	96	370539	24.384	ng		95
18) 2-Methyl-2-Propanol (t...	5.35	59	2579709	50.248	ng		97
19) Methylene Chloride	5.36	84	417523	24.367	ng		91
20) 3-Chloro-1-propene (Al...	5.44	41	717583	19.830	ng		98
21) Trichlorotrifluoroethane	5.56	151	415612	25.722	ng		97
22) Carbon Disulfide	5.58	76	2651924	48.996	ng		100
23) trans-1,2-Dichloroethene	6.14	61	723789	24.479	ng		97
24) 1,1-Dichloroethane	6.32	63	832253	24.490	ng		100
25) Methyl tert-Butyl Ether	6.35	73	1277066	24.359	ng		98
26) Vinyl Acetate	6.44	86	374381	115.165	ng	#	71
27) 2-Butanone (MEK)	6.66	72	572340	49.537	ng	#	86
28) cis-1,2-Dichloroethene	7.08	61	685941	23.961	ng		97
29) Diisopropyl Ether	7.27	87	713230	50.179	ng	#	54
30) Ethyl Acetate	7.28	61	642416	74.056	ng		98
31) n-Hexane	7.28	57	881660	24.432	ng		100
32) Chloroform	7.37	83	808507	24.411	ng		100
34) Tetrahydrofuran (THF)	7.73	72	544582	49.005	ng	#	92
35) Ethyl tert-Butyl Ether	7.80	87	1011742	49.789	ng		94
36) 1,2-Dichloroethane	8.11	62	688931	24.347	ng		100
38) 1,1,1-Trichloroethane	8.38	97	739488	25.142	ng		99
39) Isopropyl Acetate	9.20	61	2068	No Calib		#	
40) 1-Butanol	8.80	56	13451	No Calib		#	
41) Benzene	8.88	78	1637981	25.154	ng		100
42) Carbon Tetrachloride	9.05	117	589846	24.338	ng		100
43) Cyclohexane	9.20	84	1264773	49.541	ng		95
44) tert-Amyl Methyl Ether	9.57	73	2386435	51.259	ng		97
45) 1,2-Dichloropropane	9.84	63	468119	24.286	ng		99
46) Bromodichloromethane	10.06	83	660219	26.096	ng		100
47) Trichloroethene	10.13	130	463778	25.969	ng		100
48) 1,4-Dioxane	10.09	88	358202	26.678	ng		96
49) 2,2,4-Trimethylpentane...	10.21	57	2077542	23.532	ng		98
50) Methyl Methacrylate	10.38	100	345652	55.574	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162217.D Vial: 16
Acq On : 16 Nov 2022 18:24 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 17 07:54:22 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

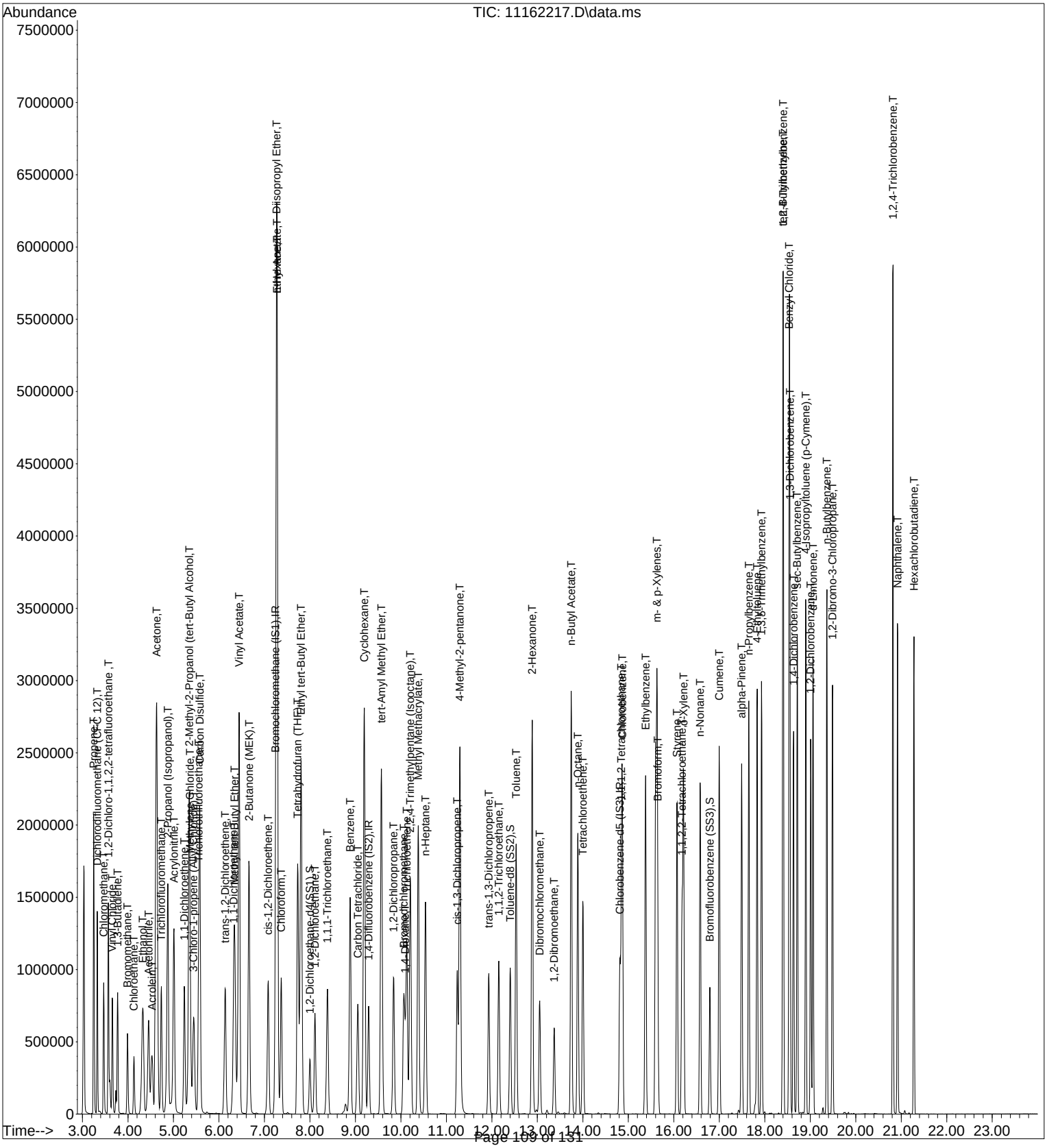
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	406856	24.246 ng		96
52) cis-1,3-Dichloropropene	11.24	75	702922	26.795 ng		100
53) 4-Methyl-2-pentanone	11.30	58	988404	50.965 ng		96
54) trans-1,3-Dichloropropene	11.93	75	651442	26.472 ng		100
55) 1,1,2-Trichloroethane	12.15	97	435331	25.394 ng		100
58) Toluene	12.53	91	1686998	26.097 ng		100
59) 2-Hexanone	12.89	43	2413074	52.275 ng		98
60) Dibromochloromethane	13.05	129	530063	28.067 ng		100
61) 1,2-Dibromoethane	13.37	107	523073	26.658 ng		100
62) n-Butyl Acetate	13.74	43	2701607	53.236 ng		98
63) n-Octane	13.89	57	438287	25.089 ng		97
64) Tetrachloroethene	14.00	166	525728	27.441 ng		99
65) Chlorobenzene	14.87	112	1177570	27.004 ng		100
66) Ethylbenzene	15.38	91	1980873	26.538 ng		100
67) m- & p-Xylenes	15.63	91	3273838	54.199 ng		99
68) Bromoform	15.65	173	515721	30.818 ng		100
69) Styrene	16.07	104	1214250	27.713 ng		99
70) o-Xylene	16.21	91	1597973	26.804 ng		99
71) n-Nonane	16.58	43	1035575	24.279 ng		97
72) 1,1,2,2-Tetrachloroethane	16.18	83	793079	26.945 ng		100
74) Cumene	17.00	105	1934972	26.913 ng		99
75) alpha-Pinene	17.49	93	1028560	27.498 ng		99
76) n-Propylbenzene	17.65	91	2391841	26.767 ng		99
77) 3-Ethyltoluene	17.00	105	1934972	No Calib		
78) 4-Ethyltoluene	17.83	105	1900725	27.505 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1643988	27.144 ng		99
80) alpha-Methylstyrene	17.00	118	3334	No Calib	#	
81) 2-Ethyltoluene	17.00	105	1934972	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1723588	28.155 ng		100
83) n-Decane	17.00	58	17578	No Calib		
84) Benzyl Chloride	18.54	91	2996339	66.708 ng		99
85) 1,3-Dichlorobenzene	18.55	146	1055472	29.512 ng		100
86) 1,4-Dichlorobenzene	18.63	146	1030503	28.482 ng		100
87) sec-Butylbenzene	18.71	105	2156797	26.736 ng		100
88) 4-Isopropyltoluene (p-...	18.90	119	1908170	26.421 ng		100
89) 1,2,3-Trimethylbenzene	17.00	105	1934972	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	979177	28.079 ng		100
91) d-Limonene	19.06	68	662516	27.420 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	785635	59.737 ng		95
93) n-Undecane	17.93	58	40727	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1668439	58.653 ng		100
95) Naphthalene	20.92	128	2147967	29.476 ng		100
96) n-Dodecane	18.90	58	52122	No Calib	#	
97) Hexachlorobutadiene	21.28	225	562605	27.914 ng		100
98) Cyclohexanone	15.16	55	187	No Calib	#	
99) tert-Butylbenzene	18.40	119	1677965	27.653 ng		100
100) n-Butylbenzene	19.37	91	1807602	27.404 ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	456803	27.669 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162217.D Vial: 16
Acq On : 16 Nov 2022 18:24 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 17 07:54:22 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental

LCS Acceptance Criteria

25ng TO-15 ICV STD

	RT
Bromochloromethane (IS1)	7.24
1,4-Difluorobenzene (IS2)	9.29
Chlorobenzene-d5 (IS3)	14.81

Datafile: 11162217.D
Instrument: MS-09
Date: ##########

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
115-07-1	Propene	21.617	26.5	82	56-128	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	23.813	26.5	90	71-112	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	22.551	25.8	87	53-126	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	24.056	25.8	93	62-121	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	23.597	25.5	93	63-123	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	22.383	26.5	84	63-135	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	24.832	25.8	96	71-112	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	23.862	26.0	92	66-117	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	85.280	88.3	97	57-117	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	18.545	22.8	81	59-131	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	39.946	48.5	82	71-123	ok	70-130	ok	62-126	ok
67-64-1	Acetone	111.266	133	84	60-117	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	23.518	26.3	89	71-114	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	46.320	51.5	90	61-124	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	43.299	51.5	84	65-130	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	24.384	27.0	90	74-114	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	50.248	53.3	94	56-135	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	24.367	26.5	92	75-112	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	19.830	26.8	74	57-127	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	25.722	27.0	95	73-114	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	48.996	53.3	92	70-113	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	24.479	27.0	91	76-119	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	24.490	27.0	91	70-114	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	24.359	26.8	91	72-118	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	115.165	70.5	163	56-137	FAIL	70-130	FAIL	56-139	FAIL
78-93-3	2-Butanone	49.537	52.3	95	74-121	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	23.961	26.8	89	73-117	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	50.179	52.5	96	58-124	ok	70-130	ok	70-117	ok
141-78-6	Ethyl Acetate	74.056	107	69	59-161	ok	70-130	FAIL	65-128	ok
110-54-3	n-Hexane	24.432	26.5	92	55-130	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	24.411	26.5	92	71-114	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	49.005	51.5	95	73-114	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	49.789	53.5	93	76-119	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	24.347	27.0	90	71-119	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	25.142	26.3	96	73-119	ok	70-130	ok	68-125	ok
108-21-4	Isopropyl Acetate	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	65-129	#N/A
71-36-3	1-Butanol	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-133	#N/A
71-43-2	Benzene	25.154	27.0	93	72-113	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	24.338	25.8	94	67-123	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	49.541	52.8	94	70-119	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	51.259	53.5	96	74-120	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	24.286	26.5	92	70-118	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	26.096	27.0	97	74-119	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	25.969	26.5	98	74-115	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	26.678	26.5	101	77-124	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	23.532	27.0	87	65-120	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	55.574	53.3	104	78-126	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	24.246	26.5	91	70-119	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	26.795	27.0	99	81-126	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	50.965	54.0	94	73-129	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

25ng TO-15 ICV STD

	RT
Bromochloromethane (IS1)	7.24
1,4-Difluorobenzene (IS2)	9.29
Chlorobenzene-d5 (IS3)	14.81

Datafile: 11162217.D
Instrument: MS-09
Date: #########

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
10061-02-6	trans-1,3-Dichloropropene	26.472	25.8	103	80-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	25.394	26.5	96	78-117	ok	70-130	ok	73-119	ok
108-88-3	Toluene	26.097	26.5	98	70-118	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	52.275	53.3	98	74-132	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	28.067	27.0	104	69-137	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	26.658	26.0	103	76-128	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	53.236	51.3	104	75-134	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	25.089	26.8	94	68-120	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	27.441	26.5	104	63-130	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	27.004	26.5	102	70-118	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	26.538	26.3	101	71-123	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	54.199	52.5	103	67-127	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	30.818	26.8	115	65-149	ok	70-130	ok	66-139	ok
100-42-5	Styrene	27.713	26.5	105	76-132	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	26.804	26.5	101	69-124	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	24.279	26.5	92	64-127	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	26.945	26.5	102	69-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	26.913	26.5	102	69-125	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	27.498	27.3	101	68-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	26.767	26.8	100	70-127	ok	70-130	ok	69-123	ok
620-14-4	3-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-123	#N/A
622-96-8	4-Ethyltoluene	27.505	27.0	102	69-127	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	27.144	26.3	103	66-129	ok	70-130	ok	67-130	ok
98-83-9	alpha-Methylstyrene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	67-128	#N/A
611-14-3	2-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	66-121	#N/A
95-63-6	1,2,4-Trimethylbenzene	28.155	26.0	108	63-142	ok	70-130	ok	66-132	ok
124-18-5	n-Decane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	70-118	#N/A
100-44-7	Benzyl Chloride	66.708	52.5	127	73-145	ok	70-130	ok	50-147	ok
541-73-1	1,3-Dichlorobenzene	29.512	26.3	112	67-136	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	28.482	26.5	107	63-134	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	26.736	26.3	102	68-130	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	26.421	26.3	100	60-139	ok	70-130	ok	67-130	ok
526-73-8	1,2,3-Trimethylbenzene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	60-134	#N/A
95-50-1	1,2-Dichlorobenzene	28.079	26.5	106	64-139	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	27.420	26.3	104	63-137	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	59.737	52.0	115	72-145	ok	70-130	ok	73-133	ok
1120-21-4	n-Undecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	69-123	#N/A
120-82-1	1,2,4-Trichlorobenzene	58.653	51.5	114	62-154	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	29.476	27.0	109	62-156	ok	70-130	ok	57-138	ok
112-40-3	n-Dodecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-147	#N/A
87-68-3	Hexachloro-1,3-butadiene	27.914	26.3	106	55-142	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	61-132	#N/A
98-06-6	tert-Butylbenzene	27.653	26.3	105	61-140	ok	70-130	ok	65-124	ok
104-51-8	n-Butylbenzene	27.404	26.3	104	70-131	ok	70-130	ok	66-130	ok

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 11\20\11202201.D Vial: 2
Acq On : 20 Nov 2022 1:35 Operator: CG
Sample : CCV R9112022 25ng Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 20 07:46:48 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/20/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	107	0.00
2	T	Propene	2.236	1.951	12.7	92	-0.01
3	T	Dichlorodifluoromethane (CF	2.875	2.466	14.2	93	-0.01
4	T	Chloromethane	2.777	2.343	15.6	89	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.365	1.134	16.9	92	-0.01
6	T	Vinyl Chloride	2.429	2.159	11.1	92	-0.01
7	T	1,3-Butadiene	1.220	0.877	28.1	86	0.00
8	T	Bromomethane	1.070	0.926	13.5	92	-0.01
9	T	Chloroethane	0.991	0.841	15.1	89	-0.01
10	T	Ethanol	1.399	1.038	25.8	88	0.00
11	T	Acetonitrile	4.027	3.243	19.5	89	0.00
12	T	Acrolein	1.152	0.860	25.3	89	0.00
13	T	Acetone	1.265	1.025	19.0	91	0.00
14	T	Trichlorofluoromethane	2.470	2.051	17.0	93	0.00
15	T	2-Propanol (Isopropanol)	4.715	3.939	16.5	88	0.00
16	T	Acrylonitrile	2.434	2.041	16.1	92	0.00
17	T	1,1-Dichloroethene	1.214	0.973	19.9	92	-0.01
18	T	2-Methyl-2-Propanol (tert-B	4.103	3.868	5.7	92	-0.01
19	T	Methylene Chloride	1.369	1.136	17.0	90	-0.01
20	T	3-Chloro-1-propene (Allyl C	2.892	2.213	23.5	91	-0.01
21	T	Trichlorotrifluoroethane	1.291	1.104	14.5	90	0.00
22	T	Carbon Disulfide	4.326	3.582	17.2	88	0.00
23	T	trans-1,2-Dichloroethene	2.363	2.082	11.9	91	-0.01
24	T	1,1-Dichloroethane	2.716	2.297	15.4	91	0.00
25	T	Methyl tert-Butyl Ether	4.190	3.600	14.1	89	0.00
26	T	Vinyl Acetate	0.260	0.245	5.8	92	0.00
27	T	2-Butanone (MEK)	0.923	0.833	9.8	92	0.00
28	T	cis-1,2-Dichloroethene	2.288	1.979	13.5	91	0.00
29	T	Diisopropyl Ether	1.136	1.032	9.2	92	0.00
30	T	Ethyl Acetate	0.693	0.685	1.2	92	0.00
31	T	n-Hexane	2.884	2.663	7.7	91	0.00
32	T	Chloroform	2.647	2.279	13.9	91	0.00
33	S	1,2-Dichloroethane-d4(SS1)	2.173	2.200	-1.2	102	0.00
34	T	Tetrahydrofuran (THF)	0.888	0.776	12.6	91	0.00
35	T	Ethyl tert-Butyl Ether	1.624	1.452	10.6	92	0.00
36	T	1,2-Dichloroethane	2.261	1.960	13.3	91	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	101	0.00
38	T	1,1,1-Trichloroethane	0.482	0.427	11.4	92	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	80	-0.01
40	T	1-Butanol	0.000	0.000	0.0	90	0.00
41	T	Benzene	1.068	0.917	14.1	91	0.00
42	T	Carbon Tetrachloride	0.398	0.358	10.1	92	0.00
43	T	Cyclohexane	0.419	0.367	12.4	91	0.00
44	T	tert-Amyl Methyl Ether	0.764	0.723	5.4	94	0.00
45	T	1,2-Dichloropropane	0.316	0.274	13.3	90	0.00
46	T	Bromodichloromethane	0.415	0.376	9.4	92	0.00
47	T	Trichloroethene	0.293	0.257	12.3	91	0.00
48	T	1,4-Dioxane	0.220	0.204	7.3	90	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.448	1.245	14.0	90	0.00
50	T	Methyl Methacrylate	0.102	0.097	4.9	90	0.00
51	T	n-Heptane	0.275	0.238	13.5	90	0.00
52	T	cis-1,3-Dichloropropene	0.430	0.396	7.9	90	0.00
53	T	4-Methyl-2-pentanone	0.318	0.297	6.6	91	0.00
54	T	trans-1,3-Dichloropropene	0.404	0.391	3.2	90	0.00
55	T	1,1,2-Trichloroethane	0.281	0.247	12.1	91	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 11\20\11202201.D Vial: 2
Acq On : 20 Nov 2022 1:35 Operator: CG
Sample : CCV R9112022 25ng Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 20 07:46:48 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	100	0.00
57	S	Toluene-d8 (SS2)	4.557	4.511	1.0	100	0.00
58	T	Toluene	4.536	3.882	14.4	91	0.00
59	T	2-Hexanone	3.239	3.044	6.0	91	0.00
60	T	Dibromochloromethane	1.325	1.216	8.2	92	0.00
61	T	1,2-Dibromoethane	1.377	1.225	11.0	91	0.00
62	T	n-Butyl Acetate	3.561	3.456	2.9	91	0.00
63	T	n-Octane	1.226	1.054	14.0	90	0.00
64	T	Tetrachloroethene	1.344	1.149	14.5	90	0.00
65	T	Chlorobenzene	3.060	2.665	12.9	90	0.00
66	T	Ethylbenzene	5.238	4.574	12.7	91	0.00
67	T	m- & p-Xylenes	4.238	3.801	10.3	91	0.00
68	T	Bromoform	1.174	1.156	1.5	91	0.00
69	T	Styrene	3.074	2.785	9.4	90	0.00
70	T	o-Xylene	4.183	3.681	12.0	91	0.00
71	T	n-Nonane	2.993	2.585	13.6	91	0.00
72	T	1,1,2,2-Tetrachloroethane	2.065	1.837	11.0	91	0.00
73	S	Bromofluorobenzene (SS3)	1.593	1.564	1.8	98	0.00
74	T	Cumene	5.045	4.439	12.0	91	0.00
75	T	alpha-Pinene	2.625	2.352	10.4	91	0.00
76	T	n-Propylbenzene	6.270	5.594	10.8	91	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	91	0.00
78	T	4-Ethyltoluene	4.849	4.336	10.6	90	0.00
79	T	1,3,5-Trimethylbenzene	4.250	3.795	10.7	91	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	90	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	91	0.00
82	T	1,2,4-Trimethylbenzene	4.296	4.050	5.7	91	0.00
83	T	n-Decane	0.000	0.000	0.0	92	0.00
84	T	Benzyl Chloride	3.152	3.544	-12.4	92	0.00
85	T	1,3-Dichlorobenzene	2.510	2.351	6.3	90	0.00
86	T	1,4-Dichlorobenzene	2.539	2.286	10.0	89	0.00
87	T	sec-Butylbenzene	5.660	5.104	9.8	91	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.068	4.504	11.1	91	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	91	0.00
90	T	1,2-Dichlorobenzene	2.447	2.201	10.1	90	0.00
91	T	d-Limonene	1.695	1.578	6.9	91	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.923	0.906	1.8	91	0.00
93	T	n-Undecane	0.000	0.000	0.0	89	0.00
94	T	1,2,4-Trichlorobenzene	1.996	1.941	2.8	87	0.00
95	T	Naphthalene	5.113	4.884	4.5	87	0.00
96	T	n-Dodecane	0.000	0.000	0.0	90	0.00
97	T	Hexachlorobutadiene	1.414	1.267	10.4	88	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	86	-0.02
99	T	tert-Butylbenzene	4.258	3.864	9.3	91	0.00
100	T	n-Butylbenzene	4.628	4.269	7.8	91	0.00
101	T	1,1,1,2-Tetrachloroethane	1.158	1.043	9.9	91	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202201.D Vial: 2
Acq On : 20 Nov 2022 1:35 Operator: CG
Sample : CCV R9112022 25ng Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 20 07:46:48 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/20/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	150627	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	740585	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	184909	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	331345	12.656	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%			
57) Toluene-d8 (SS2)	12.40	98	834146	12.375	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
73) Bromofluorobenzene (SS3)	16.79	174	289137	12.267	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%			
Target Compounds						Qvalue
2) Propene	3.25	42	617000	22.903	ng	100
3) Dichlorodifluoromethan...	3.32	85	787455	22.727	ng	100
4) Chloromethane	3.47	50	727048	21.730	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	355379	21.598	ng	100
6) Vinyl Chloride	3.65	62	656998	22.449	ng	100
7) 1,3-Butadiene	3.77	54	280207	19.063	ng	98
8) Bromomethane	3.99	94	284478	22.054	ng	100
9) Chloroethane	4.13	64	261015	21.849	ng	100
10) Ethanol	4.32	45	1078435	63.950	ng	100
11) Acetonitrile	4.45	41	888947	18.320	ng	100
12) Acrolein	4.53	56	500035	36.023	ng	100
13) Acetone	4.63	58	1627188	106.747	ng	99
14) Trichlorofluoromethane	4.73	101	642709	21.590	ng	100
15) 2-Propanol (Isopropanol)	4.87	45	2432446	42.809	ng	100
16) Acrylonitrile	5.01	53	1260436	42.971	ng	100
17) 1,1-Dichloroethene	5.24	96	316641	21.637	ng	100
18) 2-Methyl-2-Propanol (t...	5.34	59	2458934	49.735	ng	98
19) Methylene Chloride	5.36	84	362748	21.983	ng	100
20) 3-Chloro-1-propene (Al...	5.44	41	706671	20.278	ng	99
21) Trichlorotrifluoroethane	5.56	151	359176	23.083	ng	99
22) Carbon Disulfide	5.58	76	2298320	44.094	ng	100
23) trans-1,2-Dichloroethene	6.14	61	677391	23.790	ng	100
24) 1,1-Dichloroethane	6.32	63	740483	22.627	ng	100
25) Methyl tert-Butyl Ether	6.35	73	1160311	22.982	ng	100
26) Vinyl Acetate	6.44	86	206311	65.901	ng	97
27) 2-Butanone (MEK)	6.66	72	524364	47.128	ng	98
28) cis-1,2-Dichloroethene	7.08	61	632090	22.928	ng	100
29) Diisopropyl Ether	7.27	87	659223	48.160	ng	100
30) Ethyl Acetate	7.28	61	870835	104.242	ng	99
31) n-Hexane	7.28	57	842428	24.241	ng	100
32) Chloroform	7.37	83	727635	22.813	ng	100
34) Tetrahydrofuran (THF)	7.73	72	476786	44.552	ng	99
35) Ethyl tert-Butyl Ether	7.80	87	927402	47.391	ng	99
36) 1,2-Dichloroethane	8.11	62	637700	23.402	ng	100
38) 1,1,1-Trichloroethane	8.38	97	663508	23.213	ng	100
39) Isopropyl Acetate	9.19	61	1833	No Calib	#	
40) 1-Butanol	8.80	56	25630	No Calib		
41) Benzene	8.88	78	1453891	22.975	ng	100
42) Carbon Tetrachloride	9.05	117	552097	23.442	ng	100
43) Cyclohexane	9.20	84	1142468	46.049	ng	99
44) tert-Amyl Methyl Ether	9.57	73	2271132	50.199	ng	98
45) 1,2-Dichloropropane	9.84	63	425651	22.724	ng	99
46) Bromodichloromethane	10.06	83	595955	24.239	ng	100
47) Trichloroethene	10.13	130	399808	23.037	ng	100
48) 1,4-Dioxane	10.09	88	319617	24.496	ng	100
49) 2,2,4-Trimethylpentane...	10.21	57	1991873	23.216	ng	100
50) Methyl Methacrylate	10.38	100	306139	50.649	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202201.D Vial: 2
Acq On : 20 Nov 2022 1:35 Operator: CG
Sample : CCV R9112022 25ng Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 20 07:46:48 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

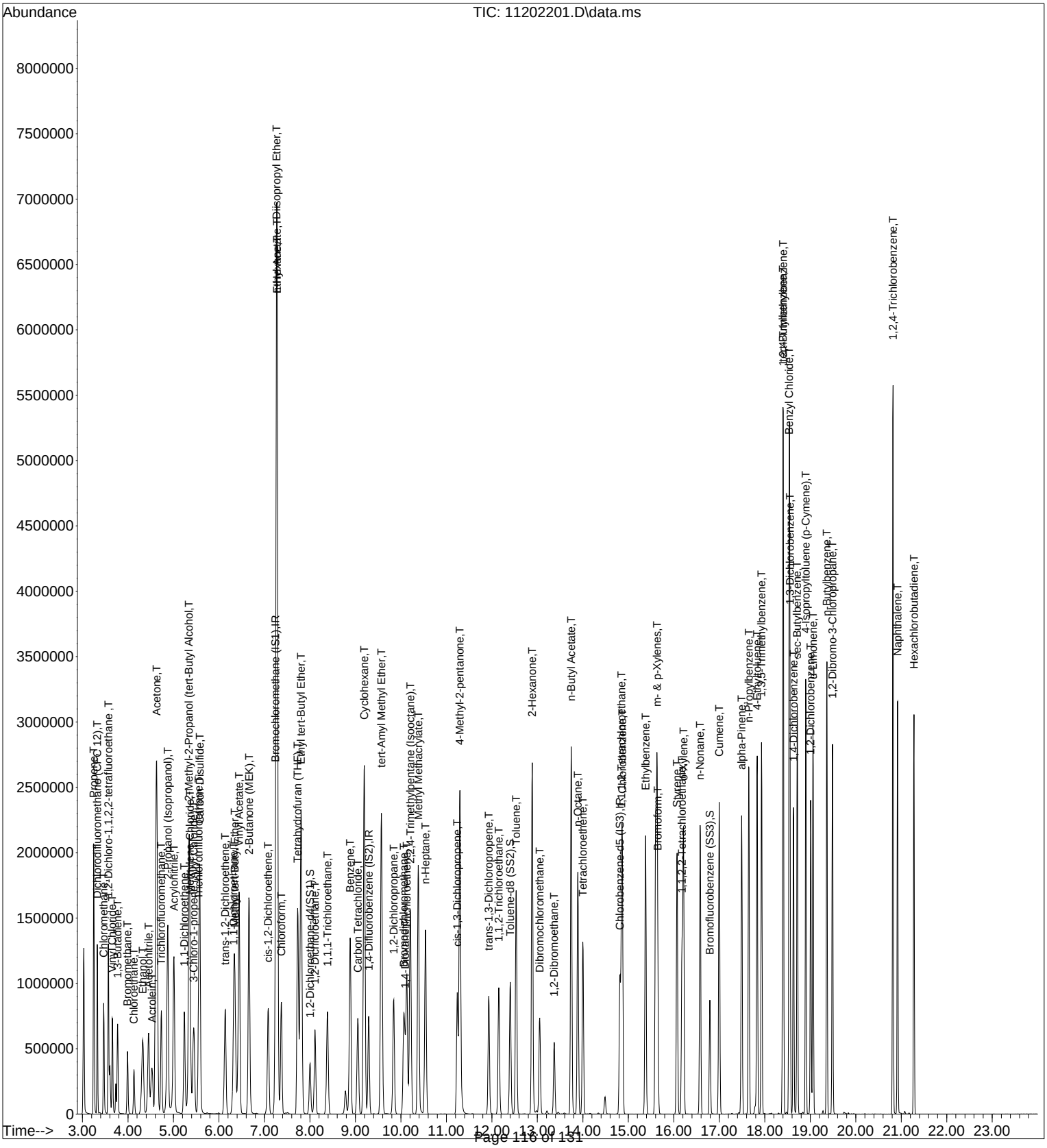
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	373810	22.923	ng		100
52) cis-1,3-Dichloropropene	11.24	75	633208	24.838	ng		100
53) 4-Methyl-2-pentanone	11.30	58	946278	50.209	ng		100
54) trans-1,3-Dichloropropene	11.93	75	591015	24.714	ng		100
55) 1,1,2-Trichloroethane	12.15	97	388043	23.293	ng		100
58) Toluene	12.53	91	1507536	22.467	ng		100
59) 2-Hexanone	12.89	43	2386698	49.812	ng		100
60) Dibromochloromethane	13.05	129	485779	24.781	ng		99
61) 1,2-Dibromoethane	13.37	107	471142	23.133	ng		100
62) n-Butyl Acetate	13.74	43	2619905	49.737	ng		100
63) n-Octane	13.89	57	417135	23.004	ng		99
64) Tetrachloroethene	14.00	166	450486	22.654	ng		100
65) Chlorobenzene	14.87	112	1044705	23.081	ng		100
66) Ethylbenzene	15.38	91	1776087	22.924	ng		100
67) m- & p-Xylenes	15.63	91	2951623	47.076	ng		100
68) Bromoform	15.65	173	457501	26.339	ng		100
69) Styrene	16.07	104	1091860	24.008	ng		100
70) o-Xylene	16.21	91	1443118	23.321	ng		100
71) n-Nonane	16.58	43	1013336	22.889	ng		100
72) 1,1,2,2-Tetrachloroethane	16.18	83	720185	23.573	ng		100
74) Cumene	17.00	105	1756549	23.537	ng		100
75) alpha-Pinene	17.49	93	948111	24.420	ng		100
76) n-Propylbenzene	17.65	91	2213700	23.867	ng		100
77) 3-Ethyltoluene	17.00	105	1756549	No Calib			
78) 4-Ethyltoluene	17.83	105	1748015	24.370	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1487659	23.664	ng		100
80) alpha-Methylstyrene	17.00	118	3001	No Calib		#	
81) 2-Ethyltoluene	17.00	105	1756549	No Calib			
82) 1,2,4-Trimethylbenzene	18.41	105	1572736	24.750	ng		99
83) n-Decane	17.00	58	17182	No Calib			
84) Benzyl Chloride	18.54	91	2778830	59.602	ng		99
85) 1,3-Dichlorobenzene	18.55	146	921524	24.824	ng		100
86) 1,4-Dichlorobenzene	18.63	146	896185	23.863	ng		100
87) sec-Butylbenzene	18.71	105	2000761	23.895	ng		100
88) 4-Isopropyltoluene (p-...	18.90	119	1765620	23.552	ng		100
89) 1,2,3-Trimethylbenzene	17.00	105	1756549	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	871044	24.064	ng		100
91) d-Limonene	19.06	68	624433	24.898	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	703858	51.561	ng		99
93) n-Undecane	17.93	58	37934	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	1499997	50.802	ng		100
95) Naphthalene	20.92	128	1986756	26.267	ng		100
96) n-Dodecane	18.90	58	49563	No Calib		#	
97) Hexachlorobutadiene	21.28	225	496693	23.742	ng		100
98) Cyclohexanone	15.16	55	321	No Calib		#	
99) tert-Butylbenzene	18.40	119	1514786	24.050	ng		100
100) n-Butylbenzene	19.37	91	1689201	24.672	ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	409019	23.868	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\20\11202201.D Vial: 2
Acq On : 20 Nov 2022 1:35 Operator: CG
Sample : CCV R9112022 25ng Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

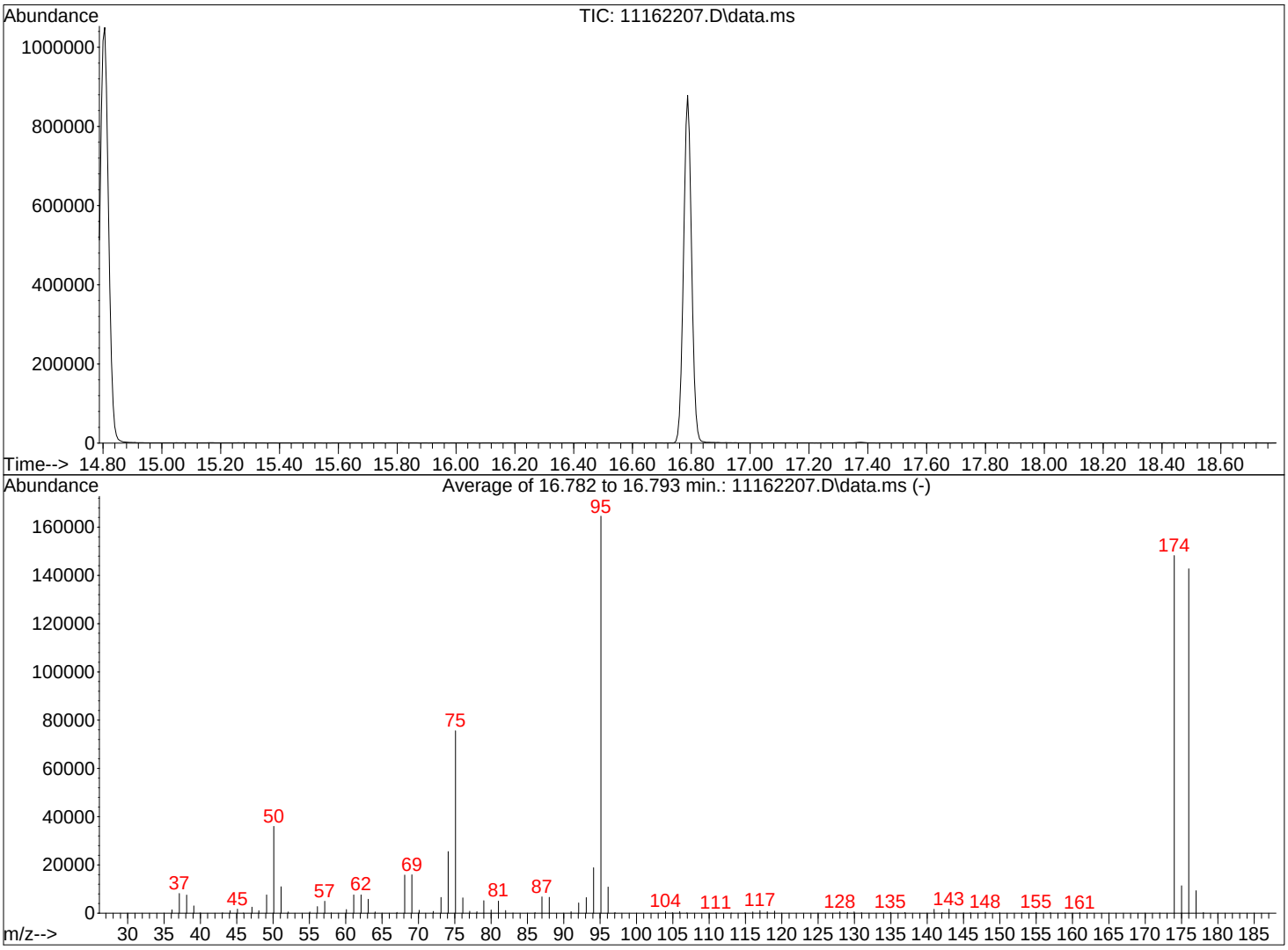
Quant Time: Nov 20 07:46:48 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS09\DATA\2022 11\16\
Data File : 11162207.D
Acq On : 16 Nov 2022 13:04
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S35-11152201
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R9111622.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Nov 16 16:41:45 2022



AutoFind: Scans 2448, 2449, 2450; Background Corrected with Scan 2439

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	21.9	35968	PASS
75	95	30	66	45.9	75581	PASS
95	95	100	100	100.0	164544	PASS
96	95	5	9	6.6	10824	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.1	148224	PASS
175	174	4	9	7.7	11388	PASS
176	174	93	101	96.3	142741	PASS
177	176	5	9	6.5	9340	PASS

11/16/22

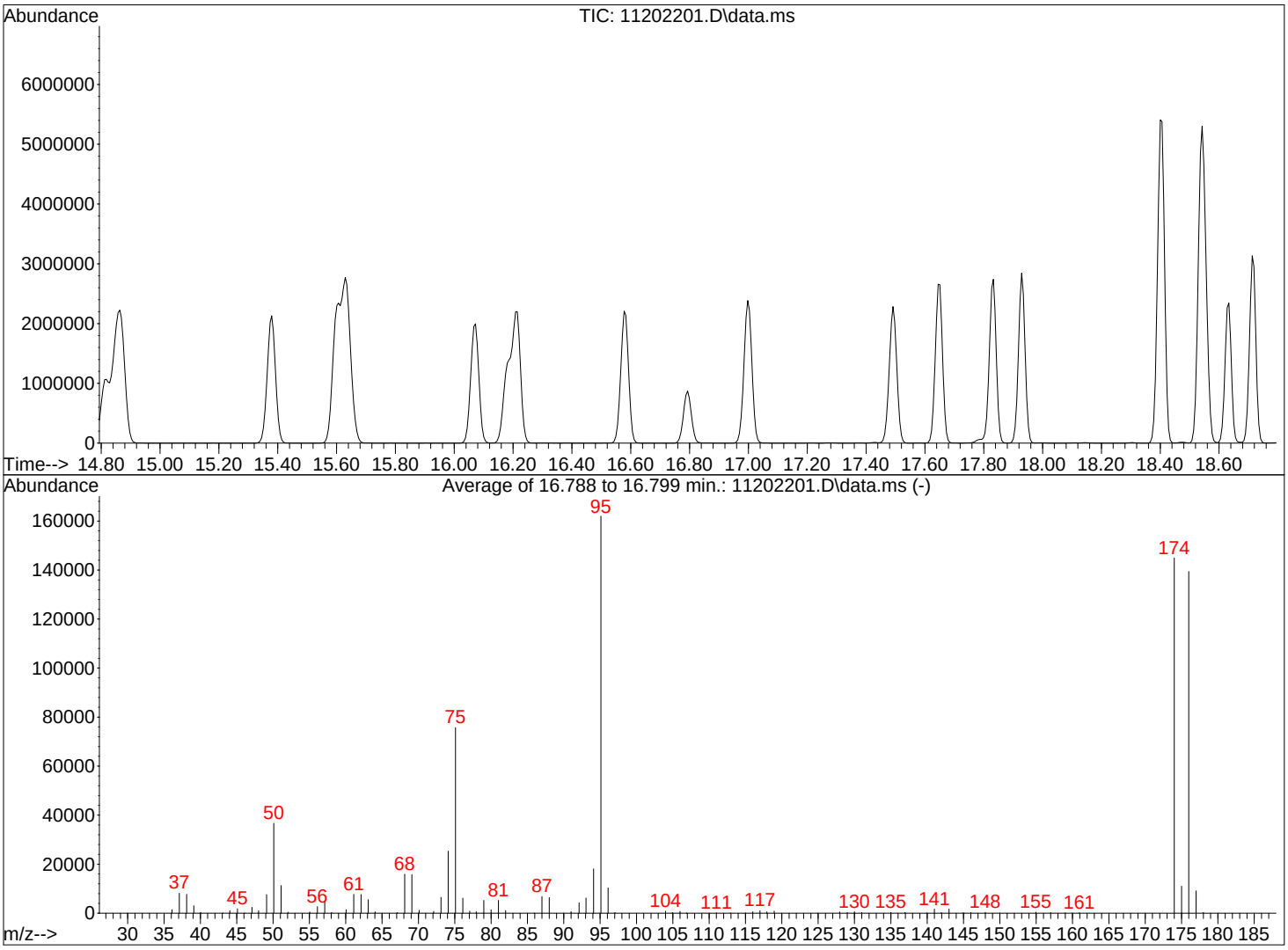
BFB

Data Path : I:\MS09\DATA\2022 11\20\
Data File : 11202201.D
Acq On : 20 Nov 2022 1:35
Operator : CG
Sample : CCV R9112022 25ng
Misc : S35-11152201/S35-11152208 (12/15)
ALS Vial : 2 Sample Multiplier: 1

11/20/22

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R9111622.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Nov 17 07:45:06 2022



AutoFind: Scans 2449, 2450, 2451; Background Corrected with Scan 2441

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	22.7	36699	PASS
75	95	30	66	46.7	75709	PASS
95	95	100	100	100.0	161984	PASS
96	95	5	9	6.4	10320	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	89.4	144853	PASS
175	174	4	9	7.6	11013	PASS
176	174	93	101	96.2	139392	PASS
177	176	5	9	6.6	9139	PASS

Injection Log

Directory: J:\MS09\DATA\2022_11\16\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
7	11/16/22 13:04	11162207.D	12.5ng TO-15 BFB STD	S35-11152201	SC	2	pass
8	11/16/22 13:36	11162208.D	0.1ng TO-15 ICAL STD	S35-11152201/S35-11152210 (12/15)	SC	13	
9	11/16/22 14:08	11162209.D	0.2ng TO-15 ICAL STD	S35-11152201/S35-11152210 (12/15)	SC	13	
10	11/16/22 14:40	11162210.D	0.5ng TO-15 ICAL STD	S35-11152201/S35-11152209 (12/15)	SC	14	
11	11/16/22 15:12	11162211.D	1.0ng TO-15 ICAL STD	S35-11152201/S35-11152209 (12/15)	SC	14	
12	11/16/22 15:44	11162212.D	5.0ng TO-15 ICAL STD	S35-11152201/S35-11152209 (12/15)	SC	14	
13	11/16/22 16:16	11162213.D	25ng TO-15 ICAL STD	S35-11152201/S35-11152208 (12/15)	SC	15	
14	11/16/22 16:48	11162214.D	50ng TO-15 ICAL STD	S35-11152201/S35-11152208 (12/15)	SC	15	
15	11/16/22 17:20	11162215.D	100ng TO-15 ICAL STD	S35-11152201/S35-11152208 (12/15)	SC	15	
16	11/16/22 17:52	11162216.D	Blank	S35-11152201	SC	2	
17	11/16/22 18:24	11162217.D	25ng TO-15 ICV STD	S35-11152201/S35-11152205 (12/15)	SC	16	pass
18	11/16/22 18:56	11162218.D	25ng TO-15 ICV STD	S35-11152201/S35-10172205 (11/16)	SC	2	not used

11/18/22

Injection Log

Directory: I:\MS09\DATA\2022_11\20\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	11/20/22 1:35	11202201.D	CCV R9112022_25ng	S35-11152201/S35-11152208 (12/15)	CG	2	pass
2	11/20/22 2:07	11202202.D	Blank	S35-11152201	CG	1	
3	11/20/22 2:39	11202203.D	MB R9112022_1000mL	S35-11152201	CG	2	pass
4	11/20/22 3:11	11202204.D	LCS R9112022_25ng	S35-11152201/S35-11152205 (12/15)	CG	2	pass
5	11/20/22 3:43	11202205.D	LCSD R9112022_25ng	S35-11152201/S35-11152205 (12/15)	CG	2	pass
6	11/20/22 7:57	11202206.D	RL Check R9112022_0.5ng	S35-11152201/S35-11152209 (12/15)	CG	3	pass
7	11/20/22 9:00	11202207.D	P2205083-048Dil (220mL)	S35-11152201	SC	6	
8	11/20/22 9:32	11202208.D	P2205083-050 (1000mL)	S35-11152201	SC	8	
9	11/20/22 10:04	11202209.D	P2205083-051Dil (100mL)	S35-11152201	SC	9	
10	11/20/22 10:36	11202210.D	P2205083-048 (450mL)	S35-11152201	SC	6	
11	11/20/22 11:08	11202211.D	P2205083-051 (1000mL)PF2	S35-11152201	SC	9	
12	11/20/22 11:57	11202212.D	P2205137-001 (8.0mL)	S35-11152201	SC	1	
13	11/20/22 12:29	11202213.D	P2205159-001 (1000mL)	S35-11152201	SC	4	
14	11/20/22 13:02	11202214.D	P2205159-002 (1000mL)	S35-11152201	SC	5	
15	11/20/22 13:34	11202215.D	P2205159-003 (1000mL)	S35-11152201	SC	6	
16	11/20/22 14:06	11202216.D	P2205159-004 (1000mL)	S35-11152201	SC	7	
17	11/20/22 14:38	11202217.D	P2205159-005 (1000mL)	S35-11152201	SC	8	
18	11/20/22 15:10	11202218.D	P2205159-005dup (1000mL)	S35-11152201	SC	8	pass
19	11/20/22 15:43	11202219.D	System	S35-11152201	SC	2	
20	11/20/22 16:15	11202220.D	P2205132-001 (1000mL)	S35-11152201	SC	12	
21	11/20/22 16:47	11202221.D	P2205132-002 (1000mL)	S35-11152201	SC	13	
22	11/20/22 17:19	11202222.D	P2205132-003 (1000mL)	S35-11152201	SC	14	
23	11/20/22 17:51	11202223.D	P2205132-004 (1000mL)	S35-11152201	SC	15	
24	11/20/22 18:23	11202224.D	P2205132-005 (1000mL)	S35-11152201	SC	16	
25	11/20/22 18:55	11202225.D	System	S35-11152201	SC	2	
							11/21/22

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-09
Cycles: 30
Batch: 30101

Batch Started By: ANAKLOWYCZ on 10/18/22 0915
Finished Cleaning By: ALESAICHERRE on 10/19/22 0558

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02062	10/18/22	10/18/22	Pass w/ Conditions	-14.3	10/19/22 0558	ALESAICHERRE	-14.0	11/4/22 0837		ms21-10/18/22
AC01149	10/18/22		Pass w/ Conditions	-14.3	10/19/22 0558	ALESAICHERRE	-14.0	10/21/22 0851		
AC02387	10/18/22		Pass w/ Conditions	-14.3	10/19/22 0558	ALESAICHERRE	-14.0	10/21/22 1050		
AC02467	10/18/22		Pass w/ Conditions	-14.3	10/19/22 0558	ALESAICHERRE	-14.0	10/21/22 1050		
AC02306	10/18/22		Pass w/ Conditions	-14.3	10/19/22 0558	ALESAICHERRE	-14.0	10/21/22 1050		
AC02368	10/18/22		Pass w/ Conditions	-14.3	10/19/22 0558	ALESAICHERRE	-14.0	10/21/22 1050		
AC02274	10/18/22		Pass w/ Conditions	-14.3	10/19/22 0558	ALESAICHERRE	-14.0	10/21/22 1050		
AC02094	10/18/22		Pass w/ Conditions	-14.3	10/19/22 0558	ALESAICHERRE	-14.0	10/20/22 0912		
AC02437	10/18/22		Pass w/ Conditions	-14.3	10/19/22 0558	ALESAICHERRE	-14.0	10/21/22 1050		
AC02430	10/18/22		Pass w/ Conditions	-14.3	10/19/22 0558	ALESAICHERRE	-14.0	10/20/22 0912		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 10\18\
Data File : 10182209.D
Acq On : 18 Oct 2022 16:46
Operator : KM
Sample : 101822 AC02062 30101
Misc : SIM + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

APL 10/19/22

Quant Time: Oct 19 04:44:46 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

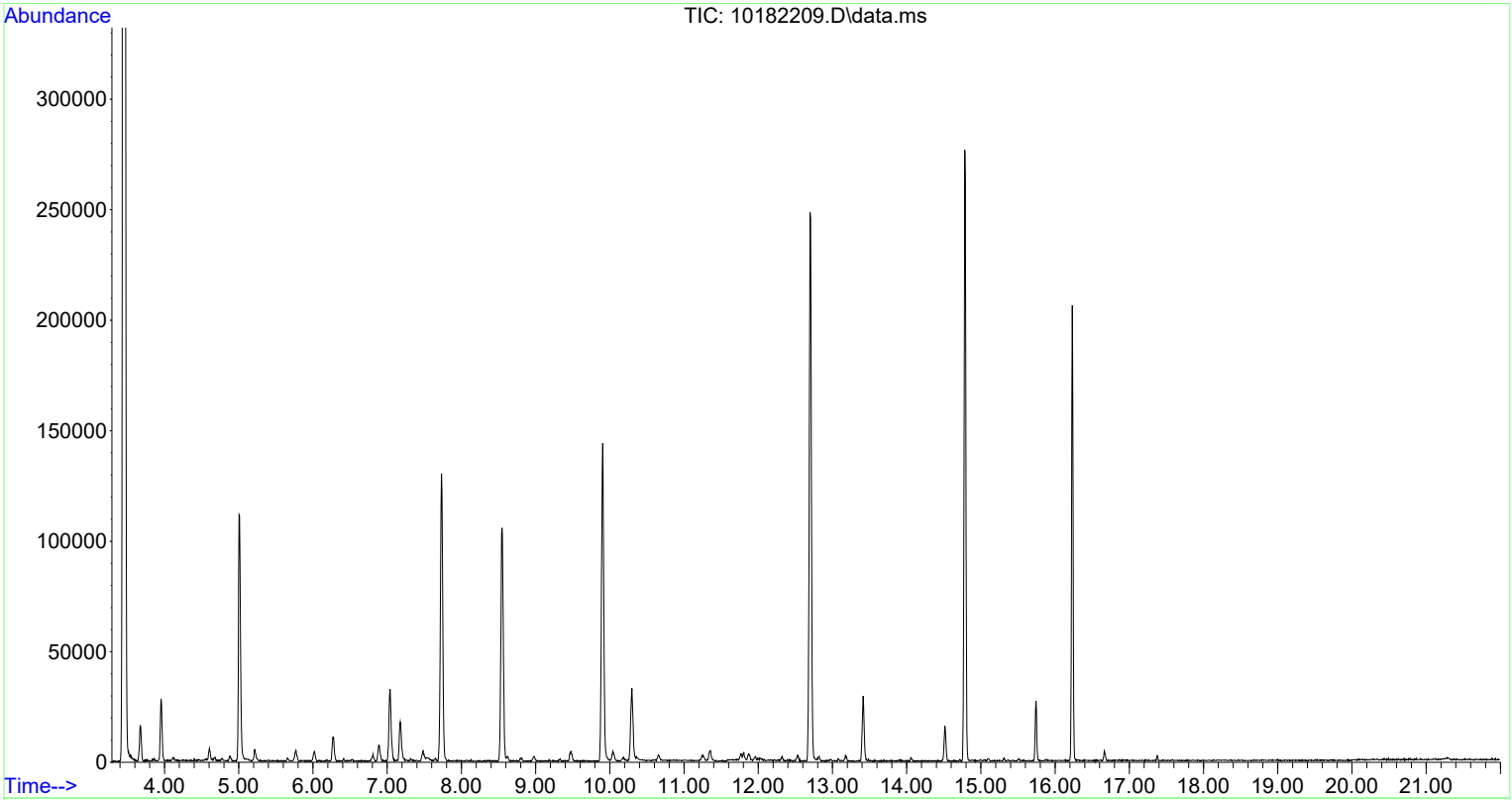
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.734	130	64735	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.906	114	155301	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	34190	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.550	65	106119	1067.38	pg		0.00
Spiked Amount 1000.000			Recovery = 106.74%				
57) Toluene-d8 (SS2)	12.702	98	201055	988.90	pg		0.00
Spiked Amount 1000.000			Recovery = 98.89%				
74) Bromofluorobenzene (SS3)	16.233	174	68461	834.38	pg		0.00
Spiked Amount 1000.000			Recovery = 83.44%				
Target Compounds							Qvalue
4] * Chloromethane	3.856	50	583	18.433	pg		90
7] * 1,3-Butadiene	4.142	54	21	0.814	pg	#	8
9] * Chloroethane	4.502	64	84	1.843	pg	#	43
10] * Ethanol	4.606	45	4211	112.345	pg		99
11] * Acetonitrile	4.773	41	980	7.862	pg		91
12] * Acrolein	4.884	56	2225	67.020	pg		96
13] * Acetone	5.014	58	60760	1181.559	pg	#	49
15] * 2-Propanol (Isopropa...	5.219	45	4008	32.651	pg	#	61
16] * Acrylonitrile	5.349	53	114	1.618	pg	#	77
18] tert-Butanol	5.768	59	4712	45.315	pg		94
19] * Methylene Chloride	5.739	84	163	2.111	pg		94
20] * 3-Chloro-1-propene (...	5.822	41	53	0.852	pg	#	31
22] * Carbon Disulfide	6.016	76	8481	28.820	pg		98
26] * Vinyl Acetate	6.892	86	1897	184.207	pg	#	14
27] * 2-Butanone (MEK)	7.174	72	6698	177.104	pg		94
29] DIPE	7.844	45	89	0.548	pg	#	46
31] * n-Hexane	7.818	57	86	1.201	pg	#	55
34] * Tetrahydrofuran	8.364	71	57	2.202	pg	#	76
39] * Benzene	9.489	78	603	3.948	pg		98
48] * 1,4-Dioxane	10.764	88	194	4.622	pg		92
49] Isooctane	10.793	56	124	2.207	pg		90
51] * n-Heptane	11.083	71	78	2.127	pg	#	43
53] * 4-Methyl-2-pentanone	11.804	58	1012	30.532	pg		95
58] * Toluene	12.816	91	2475	10.190	pg		95
59] * 2-Hexanone	13.178	58	1089	23.544	pg		98
64] * Tetrachloroethene	14.114	166	55	0.743	pg	#	10
65] * Chlorobenzene	14.826	112	62	0.378	pg	#	42
66] * Ethylbenzene	15.214	91	59	0.325	pg	#	43
67] * m- & p-Xylenes	15.381	91	132	0.922	pg		98
70] * Styrene	15.727	104	77	0.794	pg	#	30
71] * o-Xylene	15.822	91	65	0.459	pg	#	29
76] * alpha-Pinene	16.705	93	56	0.650	pg	#	21
77] * n-Propylbenzene	16.811	91	89	0.401	pg	#	53
83] tert-Butylbenzene	17.378	134	77	2.473	pg	#	1
84] * 1,2,4-Trimethylbenzene	17.351	105	75	0.557	pg	#	24
91] p-Isopropyltoluene	17.724	119	191	1.232	pg	#	49
98] * Naphthalene	19.444	128	50	0.322	pg	#	68

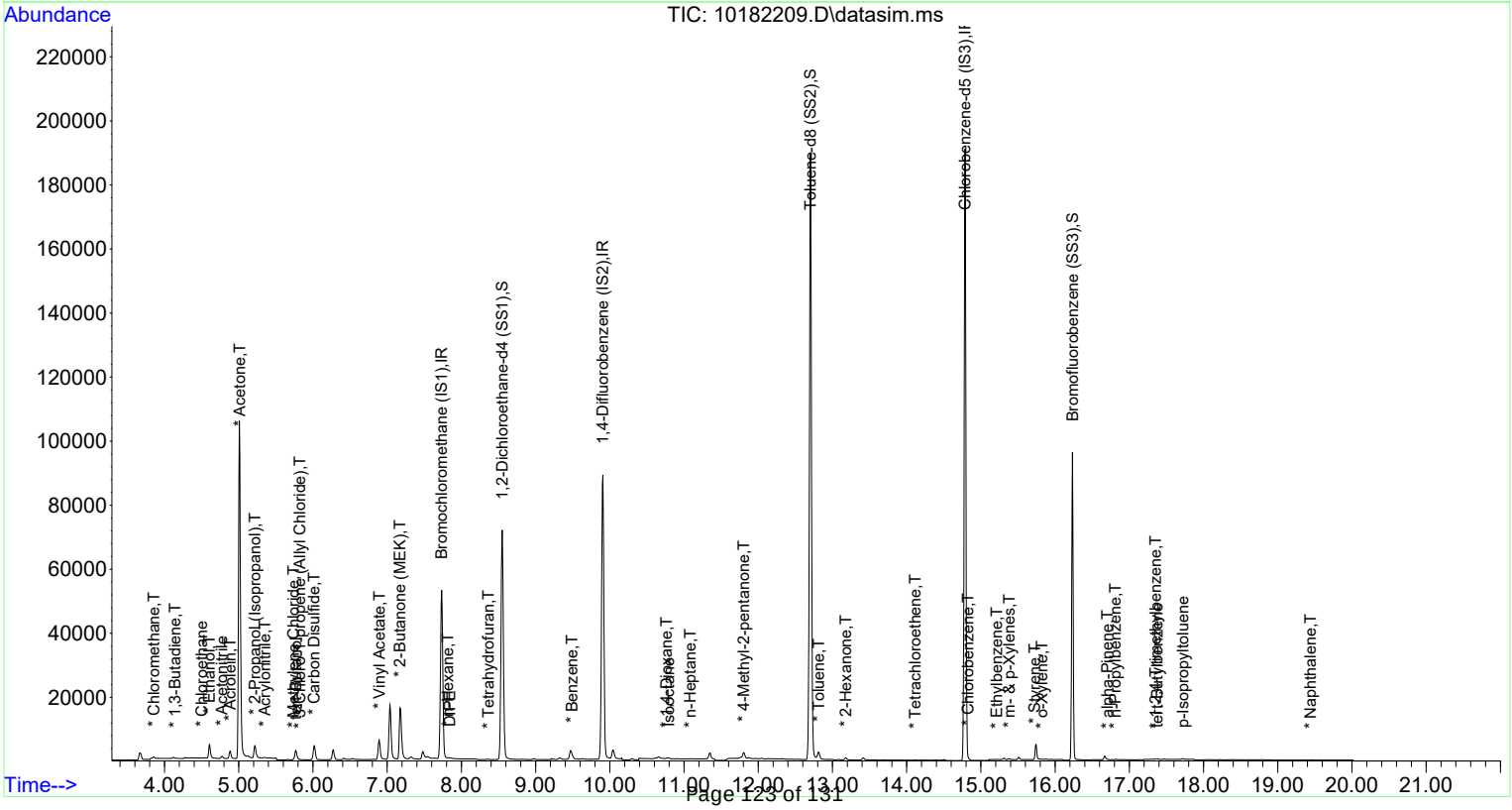
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 10\18\
Data File : 10182209.D
Acq On : 18 Oct 2022 16:46
Operator : KM
Sample : 101822 AC02062 30101
Misc : SIM + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 19 04:44:46 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 30175

Batch Started By: on 11/1/22 0349
Finished Cleaning By: ALESAICHERRE on 11/3/22 0527

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02479	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/3/22 0906		
AS00918	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/4/22 0837		
AS00568	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/3/22 0906		
AC02235	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/3/22 0234		
AS01669	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/3/22 0906		
AC02454	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/3/22 0906		
AS01458	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/4/22 0837		
AS01778	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/3/22 0906		
AC02443	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/3/22 0906		
AS00372	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/3/22 0906		
AS00341	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/3/22 0234		
AS01349	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/3/22 0906		
AC02318	11/1/22	11/2/22	Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/4/22 0837		ms21-11/02/22
AS01239	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/3/22 0906		
AS01437	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/3/22 0906		
AS01358	11/1/22		Pass w/ Conditions	-14.3	11/3/22 0527	ALESAICHERRE	-14.0	11/3/22 0906		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 11\02\
Data File : 11022210.D
Acq On : 2 Nov 2022 17:03
Operator : KM
Sample : 110222 AC02318 30175
Misc : SIM + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 6 Sample Multiplier: 1

11/3/22

Quant Time: Nov 03 04:20:34 2022
Quant Method : I:\MS21\Methods\F21103122.M
Quant Title : EPA TO-15
QLast Update : Tue Nov 01 07:50:09 2022
Response via : Initial Calibration

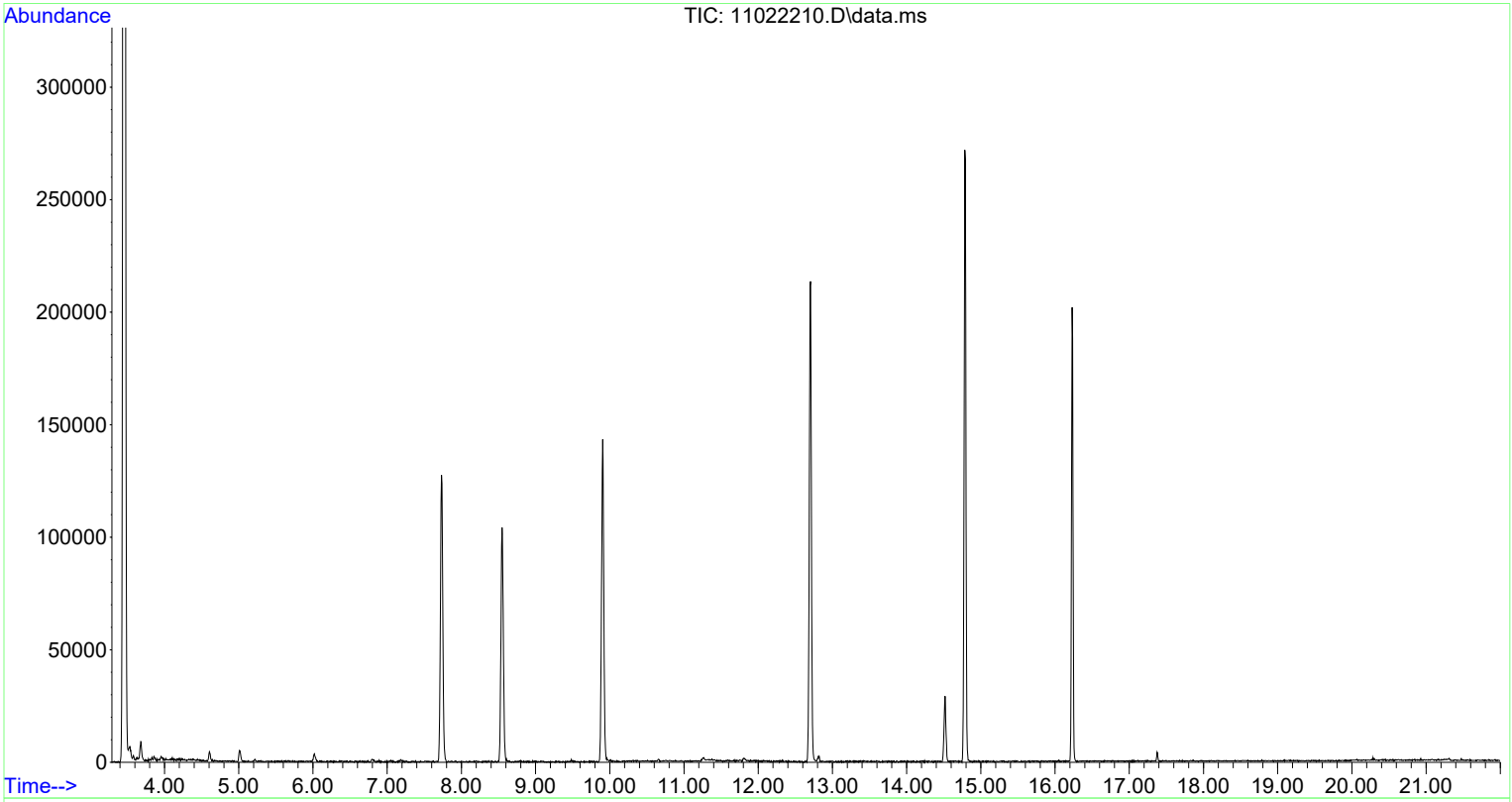
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.734	130	68833	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.906	114	151607	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	29270	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.550	65	100261	941.08	pg		0.00
Spiked Amount 1000.000			Recovery = 94.11%				
57) Toluene-d8 (SS2)	12.702	98	173606	960.91	pg		0.00
Spiked Amount 1000.000			Recovery = 96.09%				
74) Bromofluorobenzene (SS3)	16.233	174	68738	829.27	pg		0.00
Spiked Amount 1000.000			Recovery = 82.93%				
Target Compounds							Qvalue
2] * Propene	3.686	42	482	12.298	pg	#	1
3] * Dichlorodifluoromethane	3.725	85	370	3.165	pg	#	80
4] * Chloromethane	3.851	50	203	6.321	pg		97
7] * 1,3-Butadiene	4.152	54	11	0.431	pg		95
10] * Ethanol	4.606	45	3182	102.125	pg		99
11] * Acetonitrile	4.783	41	120	1.245	pg	#	26
12] * Acrolein	4.884	56	103	5.253	pg		88
13] * Acetone	5.014	58	2116	53.692	pg		85
14] * Trichlorofluoromethane	5.138	101	273	1.612	pg		100
15] * 2-Propanol (Isopropa...	5.219	45	1041	14.752	pg		91
18] tert-Butanol	5.768	59	108	1.524	pg	#	40
19] * Methylene Chloride	5.739	84	274	3.741	pg		96
22] * Carbon Disulfide	6.021	76	5909	22.693	pg		99
26] * Vinyl Acetate	6.903	86	82	14.266	pg	#	13
27] * 2-Butanone (MEK)	7.189	72	437	17.141	pg		94
31] * n-Hexane	7.825	57	54	1.145	pg	#	49
32] * Chloroform	7.857	83	56	0.405	pg	#	17
39] * Benzene	9.495	78	432	3.678	pg		95
53] * 4-Methyl-2-pentanone	11.809	58	510	26.692	pg		93
58] * Toluene	12.816	91	2213	10.861	pg		97
59] * 2-Hexanone	13.189	58	69	2.789	pg	#	51
66] * Ethylbenzene	15.220	91	109	0.955	pg	#	42
67] * m- & p-Xylenes	15.381	91	154	1.678	pg		88
70] * Styrene	15.721	104	60	1.067	pg	#	29
71] * o-Xylene	15.822	91	51	0.584	pg	#	29
76] * alpha-Pinene	16.705	93	83	1.517	pg	#	19
83] tert-Butylbenzene	17.378	134	118	5.984	pg	#	1
84] * 1,2,4-Trimethylbenzene	17.351	105	74	0.896	pg	#	23
91] p-Isopropyltoluene	17.724	119	242	2.447	pg		99
98] * Naphthalene	19.439	128	86	1.173	pg	#	67

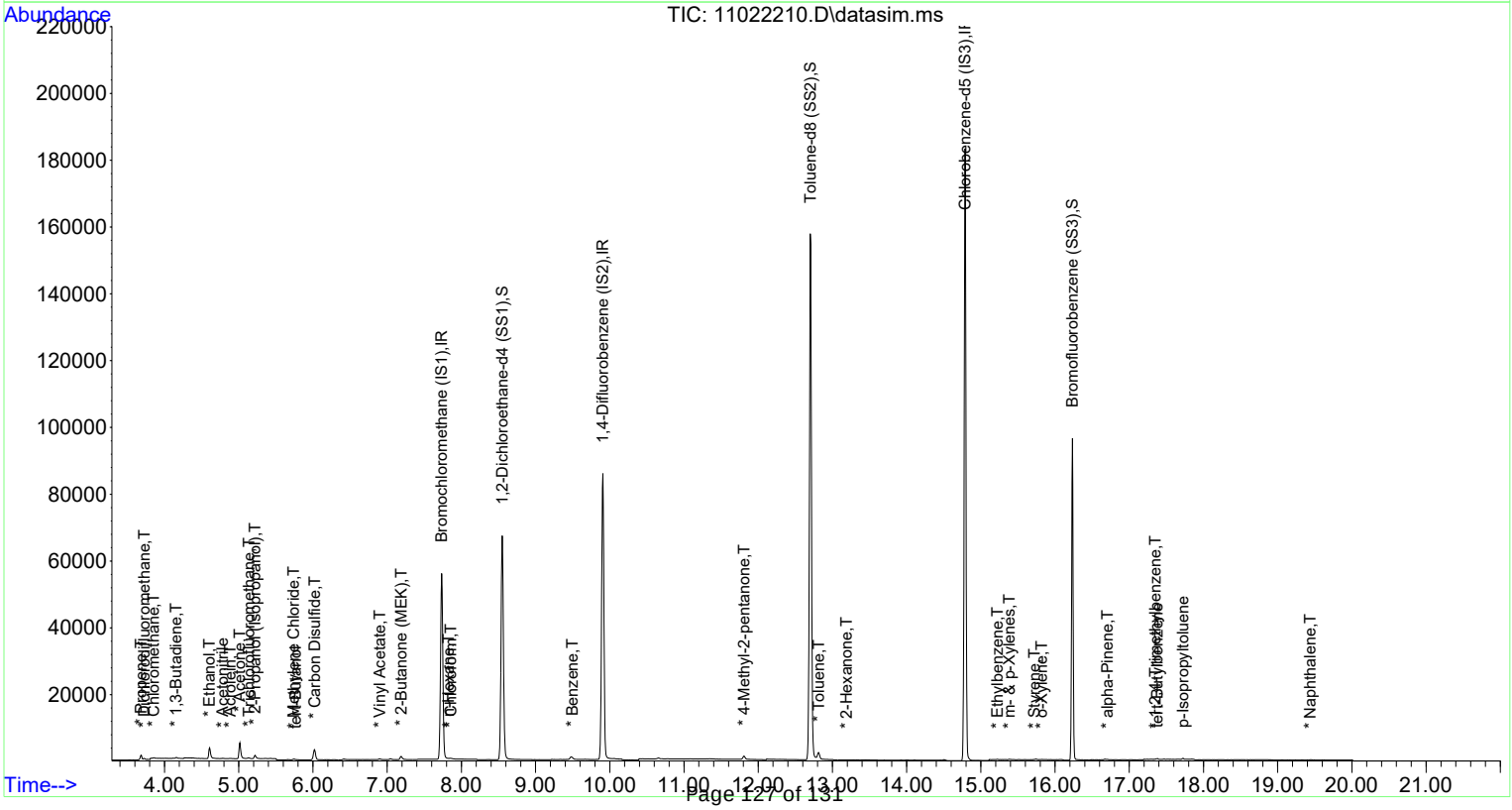
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 11\02\
Data File : 11022210.D
Acq On : 2 Nov 2022 17:03
Operator : KM
Sample : 110222 AC02318 30175
Misc : SIM + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 03 04:20:34 2022
Quant Method : I:\MS21\Methods\F21103122.M
Quant Title : EPA TO-15
QLast Update : Tue Nov 01 07:50:09 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-07
Cycles: 30
Batch: 29998

Batch Started By: on 9/28/22 0846
Finished Cleaning By: ALESAICHERRE on 9/29/22 0529

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS01665	9/28/22	9/28/22	Pass w/ Conditions	-14.3	9/29/22 0529	ALESAICHERRE	-14.0	11/4/22 0837		ms21-09/28/22
AS01422	9/28/22		Pass w/ Conditions	-14.3	9/29/22 0529	ALESAICHERRE	-14.0	9/29/22 0445		
AS00978	9/28/22		Pass w/ Conditions	-14.3	9/29/22 0529	ALESAICHERRE				
AS01560	9/28/22		Pass w/ Conditions	-14.3	9/29/22 0529	ALESAICHERRE	-14.0	9/29/22 0445		
AS00564	9/28/22		Pass w/ Conditions	-14.3	9/29/22 0529	ALESAICHERRE	-14.0	9/29/22 0444		
AS01479	9/28/22		Pass w/ Conditions	-14.3	9/29/22 0529	ALESAICHERRE	-14.0	9/29/22 0444		
AS01510	9/28/22		Pass w/ Conditions	-14.3	9/29/22 0529	ALESAICHERRE	-14.0	9/29/22 0444		
AS01604	9/28/22		Pass w/ Conditions	-14.3	9/29/22 0529	ALESAICHERRE	-14.0	9/29/22 0445		
AC02244	9/28/22		Pass w/ Conditions	-14.3	9/29/22 0529	ALESAICHERRE	-14.0	9/29/22 0432		
AS01396	9/28/22		Pass w/ Conditions	-14.3	9/29/22 0529	ALESAICHERRE	-14.0	9/29/22 0444		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 09\28\
Data File : 09282214.D
Acq On : 28 Sep 2022 21:36
Operator : KM
Sample : 092822 AS01665 29998
Misc : SIM + TICS (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 6 Sample Multiplier: 1

9/29/22

Quant Time: Sep 29 04:36:50 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.740	130	66514	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.912	114	146296	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	26804	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.555	65	98119	960.52	pg		0.00
Spiked Amount 1000.000			Recovery = 96.05%				
57) Toluene-d8 (SS2)	12.707	98	161759	1014.85	pg		0.00
Spiked Amount 1000.000			Recovery = 101.49%				
74) Bromofluorobenzene (SS3)	16.233	174	56726	881.87	pg		0.00
Spiked Amount 1000.000			Recovery = 88.19%				
Target Compounds							Qvalue
2] * Propene	3.673	42	515	9.248	pg	#	57
3] * Dichlorodifluoromethane	3.729	85	271	2.370	pg		96
4] * Chloromethane	3.856	50	683	21.017	pg		98
5] * 1,2-Dichloro-1,1,2,2...	3.946	85	57	0.947	pg	#	42
7] * 1,3-Butadiene	4.152	54	65	2.453	pg	#	35
8] * Bromomethane	4.372	94	86	2.100	pg	#	78
9] * Chloroethane	4.513	64	226	4.826	pg	#	43
10] * Ethanol	4.601	45	2767	71.846	pg		99
11] * Acetonitrile	4.773	41	438	3.420	pg	#	79
12] * Acrolein	4.884	56	490	14.365	pg		96
13] * Acetone	5.014	58	11781	222.970	pg	#	53
14] * Trichlorofluoromethane	5.138	101	278	1.777	pg		100
15] * 2-Propanol (Isopropa...	5.219	45	2566	20.345	pg	#	62
16] * Acrylonitrile	5.362	53	157	2.169	pg		92
17] * 1,1-Dichloroethene	5.662	96	60	0.992	pg	#	18
18] tert-Butanol	5.773	59	687	6.430	pg		92
19] * Methylene Chloride	5.744	84	252	3.176	pg		94
21] * Trichlorotrifluoroet...	5.997	151	126	1.658	pg		92
22] * Carbon Disulfide	6.026	76	8193	27.097	pg		99
23] * trans-1,2-Dichloroet...	6.581	96	57	0.864	pg	#	18
24] * 1,1-Dichloroethane	6.772	63	141	1.225	pg	#	42
25] * Methyl tert-Butyl Ether	6.893	73	96	0.754	pg	#	56
26] * Vinyl Acetate	6.893	86	343	32.416	pg	#	15
27] * 2-Butanone (MEK)	7.184	72	998	25.683	pg		99
28] * cis-1,2-Dichloroethene	7.585	96	58	0.887	pg	#	18
29] DIPE	7.857	45	236	1.414	pg		91
31] * n-Hexane	7.831	57	211	2.868	pg	#	55
32] * Chloroform	7.883	83	214	1.548	pg		99
34] * Tetrahydrofuran	8.359	71	85	3.195	pg	#	61
35] ETBE	8.450	87	73	1.361	pg		73
36] * 1,2-Dichloroethane	8.671	62	126	1.323	pg	#	1
38] * 1,1,1-Trichloroethane	8.977	97	153	1.956	pg		88
39] * Benzene	9.495	78	825	5.734	pg		93
42] * Carbon Tetrachloride	9.677	117	138	2.135	pg		98
43] * Cyclohexane	9.823	84	105	2.468	pg		80
44] TAME	10.254	87	53	2.276	pg	#	1
45] * 1,2-Dichloropropane	10.430	63	104	2.272	pg		96
46] * Bromodichloromethane	10.633	83	133	1.935	pg		95
47] * Trichloroethene	10.706	130	91	1.731	pg		95
48] * 1,4-Dioxane	10.771	88	134	3.389	pg		94
49] Isooctane	10.793	56	129	2.437	pg		78
50] * Methyl Methacrylate	10.960	69	74	1.986	pg	#	45
51] * n-Heptane	11.090	71	109	3.156	pg	#	43
52] * cis-1,3-Dichloropropene	11.692	75	53	1.123	pg	#	43

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 09\28\
Data File : 09282214.D
Acq On : 28 Sep 2022 21:36
Operator : KM
Sample : 092822 AS01665 29998
Misc : SIM + TICS (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 29 04:36:50 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration

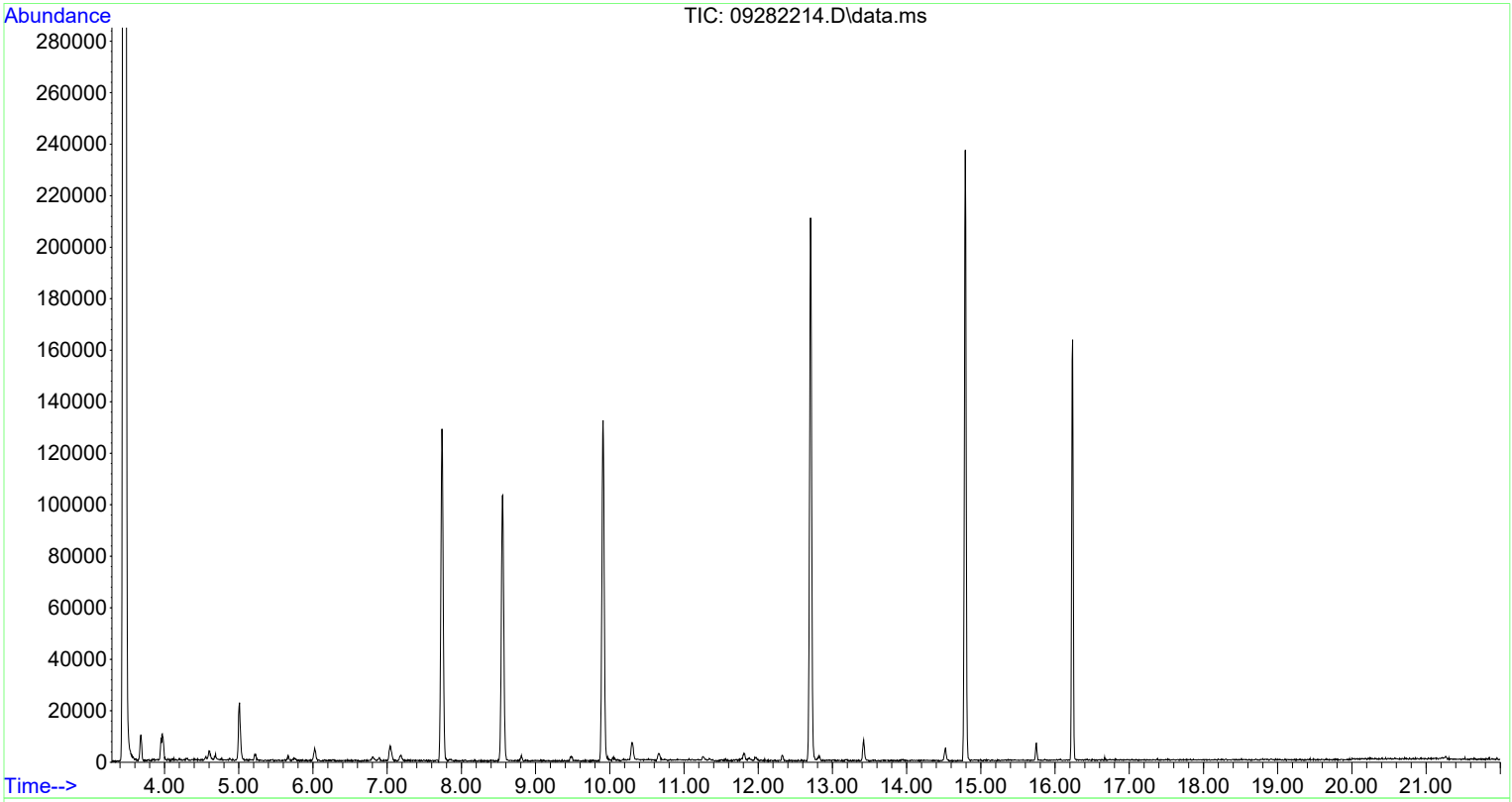
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53]	* 4-Methyl-2-pentanone	11.809	58	954	30.553	pg		95
55]	* 1,1,2-Trichloroethane	12.480	97	88	1.913	pg	#	19
58]	* Toluene	12.816	91	2079	10.918	pg		98
59]	* 2-Hexanone	13.184	58	359	9.900	pg		95
60]	* Dibromochloromethane	13.271	129	88	1.750	pg		87
61]	* 1,2-Dibromoethane	13.553	107	64	1.182	pg	#	78
62]	* n-Butyl Acetate	13.923	56	67	2.480	pg	#	31
63]	* n-Octane	14.010	85	85	3.168	pg		86
64]	* Tetrachloroethene	14.114	166	150	2.584	pg		98
65]	* Chlorobenzene	14.832	112	204	1.586	pg		91
66]	* Ethylbenzene	15.220	91	231	1.622	pg		99
67]	* m- & p-Xylenes	15.393	91	341	3.039	pg		97
68]	* Bromoform	15.429	173	69	1.871	pg	#	27
70]	* Styrene	15.727	104	100	1.315	pg	#	30
71]	* o-Xylene	15.834	91	182	1.641	pg		94
72]	* n-Nonane	16.073	57	94	2.455	pg	#	76
73]	* 1,1,2,2-Tetrachloroe...	15.810	83	145	1.680	pg		98
75]	* Cumene	16.368	105	182	1.166	pg		96
76]	* alpha-Pinene	16.705	93	111	1.643	pg		86
77]	* n-Propylbenzene	16.816	91	298	1.714	pg	#	53
79]	* 4-Ethyltoluene	16.943	105	119	0.947	pg	#	45
80]	* 1,3,5-Trimethylbenzene	17.011	105	111	1.010	pg		94
84]	* 1,2,4-Trimethylbenzene	17.362	105	153	1.450	pg		87
86]	* 1,3-Dichlorobenzene	17.476	146	68	0.659	pg		84
87]	* 1,4-Dichlorobenzene	17.476	146	68	0.699	pg		84
89]	sec-Butylbenzene	17.589	105	132	0.840	pg	#	57
91]	p-Isopropyltoluene	17.724	119	197	1.620	pg		99
92]	* 1,2-Dichlorobenzene	17.821	146	67	0.664	pg	#	18
95]	* 1,2-Dibromo-3-chloro...	18.187	157	79	2.366	pg		93
97]	* 1,2,4-Trichlorobenzene	19.331	180	55	0.970	pg		84
98]	* Naphthalene	19.444	128	109	0.894	pg	#	68
100]	* Hexachlorobutadiene	19.797	225	84	1.642	pg	#	43

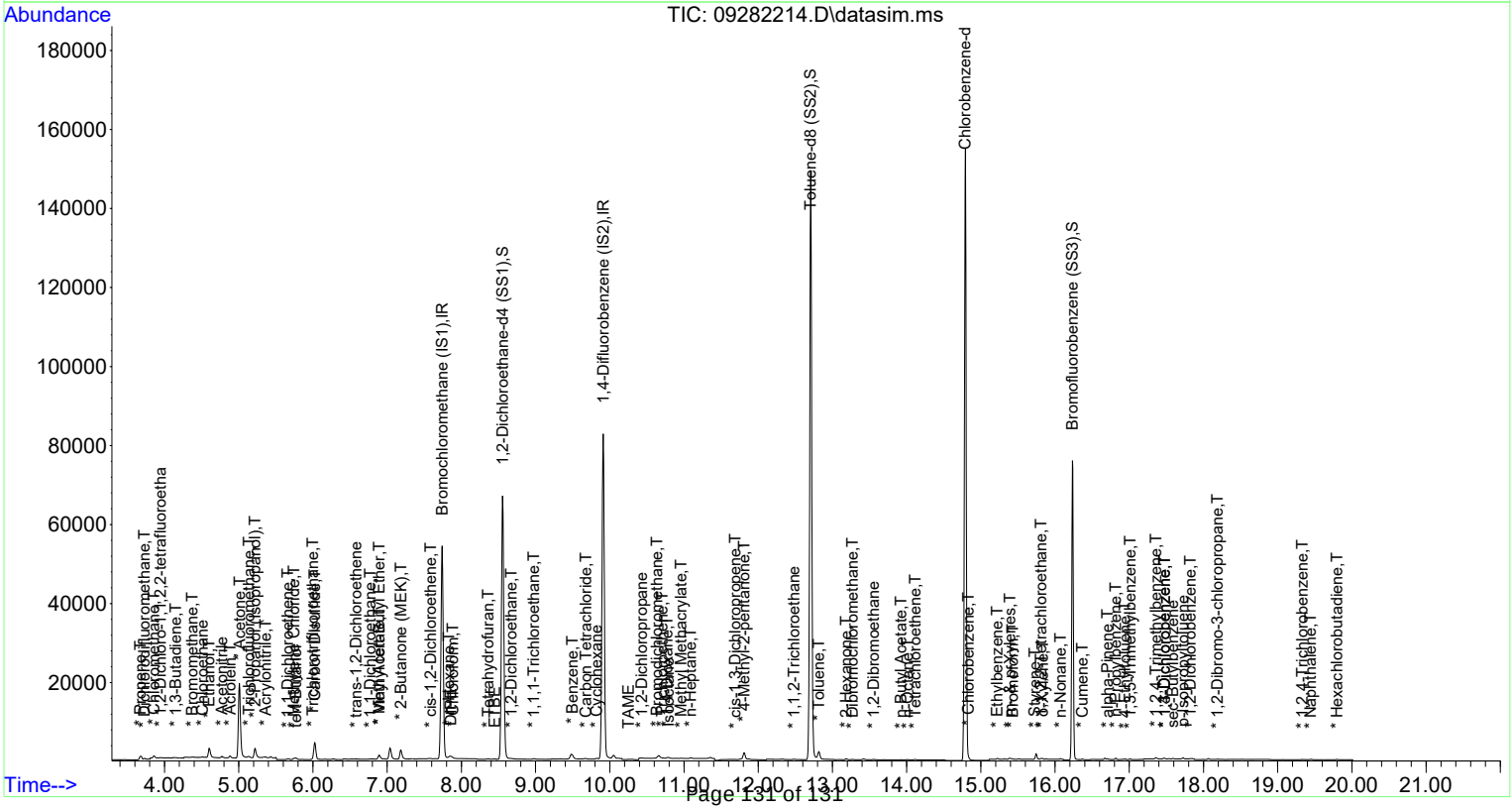
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 09\28\
Data File : 09282214.D
Acq On : 28 Sep 2022 21:36
Operator : KM
Sample : 092822 AS01665 29998
Misc : SIM + TICS (Sig #1); S35-08242214 (Sig #2)
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 29 04:36:50 2022
Quant Method : I:\MS21\Methods\F21081622.M
Quant Title : EPA TO-15
QLast Update : Wed Aug 17 15:07:25 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

December 12, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.018.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on November 22, 2022. For your reference, these analyses have been assigned our service request number P2205313.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 5:51 pm, Dec 12, 2022

Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2205313
Project: DOE Perimeter Air / 080153.018.15

CASE NARRATIVE

The samples were received intact under chain of custody on November 22, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The analyte Vinyl Acetate could not be reported for this data set, due to a vendor anomaly found in the new standard being used. Once the issue has been resolved subsequent reports will include the compound in question.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2205313

Project ID: DOE Perimeter Air / 080153.018.15

Date Received: 11/22/2022

Time Received: 14:31

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_112222_S	P2205313-001	Air	11/22/2022	13:00	AC02124	-2.24	4.27	X
DOE-2_112222_S	P2205313-002	Air	11/22/2022	13:15	AC02164	-2.30	3.73	X
DOE-3_112222_S	P2205313-003	Air	11/22/2022	13:30	AS00377	-0.77	3.61	X
DOE-4_112222_S	P2205313-004	Air	11/22/2022	13:45	AC02291	-2.12	3.83	X
DOE-4_112222_D	P2205313-005	Air	11/22/2022	13:46	AC02417	-2.65	3.89	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. P2205313

Company Name & Address (Reporting Information) North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304	Project Name: DOE Perimeter Air Project Number: 080153.018.15 P.O. # / Billing Information: PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Project Manager: Trina Cesnik Phone: 805-587-0691 Fax: Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg	Sampler (Print & Sign): T. Stewart Williford

ALS Contact: Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_112222_S	1	11/22/2022	1300	AC02124	FCR00590	-28.0	-3.0		X		
DOE-2_112222_S	2	11/22/2022	1315	AC02164	FCR00331	-28.0	-2.5		X		
DOE-3_112222_S	3	11/22/2022	1330	AS00377	FCR00526	-28.0	-1.0		X		
DOE-4_112222_S	4	11/22/2022	1345	AC02291	FCR00103	-28.0	-2.5		X		
DOE-4_112222_D	5	11/22/2022	1346	AC02417	FCR00398	-28.0	-2.5		X		

Page 5 of 137

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries) X
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Data Validation Package) 10% Surcharge ____

EDD required Yes / No
Type: EQuIS
Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature) T. Stewart Williford	Date: 11/22/22	Time: 1431	Received by: (Signature)	Date: 11-22-22	Time: 1431
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2205313

Project: DOE Perimeter Air / 080153.018.15

Sample(s) received on: 11/22/22 Date opened: 11/22/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2205313-001.01	6.0 L Ambient Can					
P2205313-002.01	6.0 L Ambient Can					
P2205313-003.01	6.0 L Silonite Can					
P2205313-004.01	6.0 L Ambient Can					
P2205313-005.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_112222_S** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-001

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02124

Initial Pressure (psig): -2.24 Final Pressure (psig): 4.27

Canister Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.81	**0.38**	0.16	
74-87-3	Chloromethane	ND	0.78	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.82	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.79	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.79	ND	0.36	
74-83-9	Bromomethane	ND	0.78	ND	0.20	
75-00-3	Chloroethane	ND	0.78	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.66	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.79	**0.18**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.62	
107-13-1	Acrylonitrile	ND	1.5	ND	0.70	
75-35-4	1,1-Dichloroethene	ND	0.82	ND	0.21	
75-09-2	Methylene Chloride	ND	0.79	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.81	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.81	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.81	ND	0.22	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	
156-59-2	cis-1,2-Dichloroethene	ND	0.79	ND	0.20	
141-78-6	Ethyl Acetate	**9.2**	3.2	**2.6**	0.89	
110-54-3	n-Hexane	ND	0.81	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_112222_S** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-001

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02124

Initial Pressure (psig): -2.24 Final Pressure (psig): 4.27

Canister Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.82	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.52	
107-06-2	1,2-Dichloroethane	ND	0.81	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.79	ND	0.14	
71-43-2	Benzene	ND	0.76	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.76	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.76	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.81	ND	0.12	
79-01-6	Trichloroethene	ND	0.79	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.79	ND	0.22	
142-82-5	n-Heptane	ND	0.81	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.76	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.78	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.79	ND	0.14	
108-88-3	Toluene	ND	0.79	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.81	ND	0.095	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
111-65-9	n-Octane	ND	0.81	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.79	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_112222_S** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-001

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02124

Initial Pressure (psig): -2.24 Final Pressure (psig): 4.27

Canister Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.79	ND	0.076	
100-42-5	Styrene	ND	0.76	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.79	ND	0.12	
98-82-8	Cumene	ND	0.79	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.81	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.81	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.79	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.79	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.79	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.81	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.79	ND	0.074	
104-51-8	n-Butylbenzene	ND	0.79	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.81	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_112222_S** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-002

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02164

Initial Pressure (psig): -2.30 Final Pressure (psig): 3.73

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.79	**0.43**	0.16	
74-87-3	Chloromethane	ND	0.76	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.76	ND	0.20	
75-00-3	Chloroethane	ND	0.76	ND	0.29	
107-02-8	Acrolein	ND	1.5	ND	0.65	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.77	**0.19**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	1.5	ND	0.69	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.80	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.79	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.79	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.79	ND	0.22	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.20	
141-78-6	Ethyl Acetate	**8.9**	3.1	**2.5**	0.87	
110-54-3	n-Hexane	ND	0.79	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_112222_S** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-002

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02164

Initial Pressure (psig): -2.30 Final Pressure (psig): 3.73

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.79	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.75	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.75	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.48	
78-87-5	1,2-Dichloropropane	ND	0.75	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.79	ND	0.12	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.22	
142-82-5	n-Heptane	ND	0.79	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.75	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.40	
10061-02-6	trans-1,3-Dichloropropene	ND	0.76	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	ND	0.77	ND	0.21	
591-78-6	2-Hexanone	ND	1.6	ND	0.40	
124-48-1	Dibromochloromethane	ND	0.79	ND	0.093	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
111-65-9	n-Octane	ND	0.79	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.77	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_112222_S** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-002

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02164

Initial Pressure (psig): -2.30 Final Pressure (psig): 3.73

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.77	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.38	
75-25-2	Bromoform	ND	0.77	ND	0.075	
100-42-5	Styrene	ND	0.75	ND	0.18	
95-47-6	o-Xylene	ND	0.77	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.79	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.79	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.77	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.77	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.79	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.77	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.073	
104-51-8	n-Butylbenzene	ND	0.77	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.79	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_112222_S** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-003

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00377

Initial Pressure (psig): -0.77 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.8**	0.69	**0.37**	0.14	
74-87-3	Chloromethane	ND	0.67	ND	0.32	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.71	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.68	ND	0.27	
106-99-0	1,3-Butadiene	ND	0.68	ND	0.31	
74-83-9	Bromomethane	ND	0.67	ND	0.17	
75-00-3	Chloroethane	ND	0.67	ND	0.25	
107-02-8	Acrolein	ND	1.3	ND	0.57	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.97**	0.68	**0.17**	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.3	ND	0.53	
107-13-1	Acrylonitrile	ND	1.3	ND	0.60	
75-35-4	1,1-Dichloroethene	ND	0.71	ND	0.18	
75-09-2	Methylene Chloride	ND	0.68	ND	0.20	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.71	ND	0.092	
75-15-0	Carbon Disulfide	ND	1.4	ND	0.46	
156-60-5	trans-1,2-Dichloroethene	ND	0.69	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.69	ND	0.17	
1634-04-4	Methyl tert-Butyl Ether	ND	0.69	ND	0.19	
78-93-3	2-Butanone (MEK)	ND	1.3	ND	0.44	
156-59-2	cis-1,2-Dichloroethene	ND	0.68	ND	0.17	
141-78-6	Ethyl Acetate	**120**	2.8	**33**	0.76	
110-54-3	n-Hexane	ND	0.69	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_112222_S** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-003

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00377

Initial Pressure (psig): -0.77 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.71	ND	0.14	
109-99-9	Tetrahydrofuran (THF)	ND	1.3	ND	0.44	
107-06-2	1,2-Dichloroethane	ND	0.69	ND	0.17	
71-55-6	1,1,1-Trichloroethane	ND	0.68	ND	0.12	
71-43-2	Benzene	**0.74**	0.66	**0.23**	0.21	
56-23-5	Carbon Tetrachloride	ND	0.66	ND	0.10	
110-82-7	Cyclohexane	ND	1.4	ND	0.42	
78-87-5	1,2-Dichloropropane	ND	0.66	ND	0.14	
75-27-4	Bromodichloromethane	ND	0.69	ND	0.10	
79-01-6	Trichloroethene	ND	0.68	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.68	ND	0.19	
142-82-5	n-Heptane	ND	0.69	ND	0.17	
10061-01-5	cis-1,3-Dichloropropene	ND	0.66	ND	0.14	
108-10-1	4-Methyl-2-pentanone	ND	1.4	ND	0.35	
10061-02-6	trans-1,3-Dichloropropene	ND	0.67	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.68	ND	0.12	
108-88-3	Toluene	**1.2**	0.68	**0.31**	0.18	
591-78-6	2-Hexanone	ND	1.4	ND	0.35	
124-48-1	Dibromochloromethane	ND	0.69	ND	0.082	
106-93-4	1,2-Dibromoethane	ND	0.68	ND	0.089	
111-65-9	n-Octane	ND	0.69	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.68	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_112222_S** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-003

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00377

Initial Pressure (psig): -0.77 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.68	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.4	ND	0.33	
75-25-2	Bromoform	ND	0.68	ND	0.066	
100-42-5	Styrene	ND	0.66	ND	0.15	
95-47-6	o-Xylene	ND	0.68	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.68	ND	0.099	
98-82-8	Cumene	ND	0.68	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.69	ND	0.14	
622-96-8	4-Ethyltoluene	ND	0.69	ND	0.14	
108-67-8	1,3,5-Trimethylbenzene	ND	0.68	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.68	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.4	ND	0.28	
541-73-1	1,3-Dichlorobenzene	ND	0.68	ND	0.11	
106-46-7	1,4-Dichlorobenzene	ND	0.68	ND	0.11	
135-98-8	sec-Butylbenzene	ND	0.68	ND	0.12	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.68	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.69	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ND	0.19	
91-20-3	Naphthalene	ND	0.68	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.68	ND	0.064	
104-51-8	n-Butylbenzene	ND	0.68	ND	0.12	
1330-20-7	Xylenes, Total	ND	0.69	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_112222_S** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-004

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02291

Initial Pressure (psig): -2.12 Final Pressure (psig): 3.83

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.78	**0.45**	0.16	
74-87-3	Chloromethane	ND	0.75	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.76	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.76	ND	0.35	
74-83-9	Bromomethane	ND	0.75	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.28	
107-02-8	Acrolein	ND	1.5	ND	0.64	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.76	**0.19**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.60	
107-13-1	Acrylonitrile	ND	1.5	ND	0.68	
75-35-4	1,1-Dichloroethene	ND	0.79	ND	0.20	
75-09-2	Methylene Chloride	ND	0.76	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.79	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.78	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	
156-59-2	cis-1,2-Dichloroethene	ND	0.76	ND	0.19	
141-78-6	Ethyl Acetate	**18**	3.1	**4.9**	0.86	
110-54-3	n-Hexane	ND	0.78	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_112222_S** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-004

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02291

Initial Pressure (psig): -2.12 Final Pressure (psig): 3.83

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.79	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.50	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.76	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.74	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.76	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.76	ND	0.21	
142-82-5	n-Heptane	ND	0.78	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.74	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.76	ND	0.14	
108-88-3	Toluene	ND	0.76	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.78	ND	0.091	
106-93-4	1,2-Dibromoethane	ND	0.76	ND	0.10	
111-65-9	n-Octane	ND	0.78	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.76	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_112222_S** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-004

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02291

Initial Pressure (psig): -2.12 Final Pressure (psig): 3.83

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.76	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.76	ND	0.074	
100-42-5	Styrene	ND	0.74	ND	0.17	
95-47-6	o-Xylene	ND	0.76	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.76	ND	0.11	
98-82-8	Cumene	ND	0.76	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.78	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.78	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.76	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.76	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.76	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.76	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.76	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.76	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.78	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.22	
91-20-3	Naphthalene	ND	0.76	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.76	ND	0.072	
104-51-8	n-Butylbenzene	ND	0.76	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.78	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_112222_D** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-005

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02417

Initial Pressure (psig): -2.65 Final Pressure (psig): 3.89

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.82	**0.45**	0.17	
74-87-3	Chloromethane	ND	0.79	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.83	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.79	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
107-02-8	Acrolein	ND	1.5	ND	0.67	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.1**	0.80	**0.19**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.63	
107-13-1	Acrylonitrile	ND	1.5	ND	0.71	
75-35-4	1,1-Dichloroethene	ND	0.83	ND	0.21	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.83	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.82	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.82	ND	0.23	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
141-78-6	Ethyl Acetate	**16**	3.2	**4.5**	0.90	
110-54-3	n-Hexane	ND	0.82	ND	0.23	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_112222_D** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-005

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02417

Initial Pressure (psig): -2.65 Final Pressure (psig): 3.89

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.83	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.52	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
142-82-5	n-Heptane	ND	0.82	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.77	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.79	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	ND	0.80	ND	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.82	ND	0.096	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
111-65-9	n-Octane	ND	0.82	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_112222_D** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-005

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02417

Initial Pressure (psig): -2.65 Final Pressure (psig): 3.89

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
103-65-1	n-Propylbenzene	ND	0.82	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
135-98-8	sec-Butylbenzene	ND	0.80	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.80	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.82	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	
104-51-8	n-Butylbenzene	ND	0.80	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.82	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221202-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221202-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221202-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Project ID: P2205313

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 11/22/22
Analyst: Simon Cao Date(s) Received: 11/22/22
Sample Type: 6.0 L Summa Canister(s) / 6.0 L Silonite Canister(s) Date(s) Analyzed: 12/2/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P221202-MB	**99**	**89**	**79**	70-130	
Lab Control Sample	P221202-LCS	**95**	**89**	**82**	70-130	
Duplicate Lab Control Sample	P221202-DLCS	**93**	**90**	**83**	70-130	
DOE-1_112222_S	P2205313-001	**99**	**88**	**80**	70-130	
DOE-2_112222_S	P2205313-002	**108**	**88**	**79**	70-130	
DOE-3_112222_S	P2205313-003	**99**	**88**	**79**	70-130	
DOE-4_112222_S	P2205313-004	**114**	**88**	**79**	70-130	
DOE-4_112222_D	P2205313-005	**113**	**89**	**80**	70-130	
DOE-4_112222_D	P2205313-005DUP	**101**	**88**	**78**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221202-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	212	186	181	**88**	**85**	71-112	3	25	
74-87-3	Chloromethane	206	193	189	**94**	**92**	53-126	2	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	183	181	**89**	**88**	62-121	1	25	
75-01-4	Vinyl Chloride	204	193	189	**95**	**93**	63-123	2	25	
106-99-0	1,3-Butadiene	212	281	280	**133**	**132**	63-135	0.8	25	
74-83-9	Bromomethane	206	177	176	**86**	**85**	71-112	1	25	
75-00-3	Chloroethane	208	195	191	**94**	**92**	66-117	2	25	
107-02-8	Acrolein	388	375	371	**97**	**96**	71-123	1	25	
75-69-4	Trichlorofluoromethane (CFC 11)	210	197	194	**94**	**92**	71-114	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	412	385	386	**93**	**94**	61-124	1	25	
107-13-1	Acrylonitrile	412	388	382	**94**	**93**	65-130	1	25	
75-35-4	1,1-Dichloroethene	216	204	200	**94**	**93**	74-114	1	25	
75-09-2	Methylene Chloride	212	194	191	**92**	**90**	75-112	2	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	175	171	**81**	**79**	73-114	3	25	
75-15-0	Carbon Disulfide	426	437	426	**103**	**100**	70-113	3	25	
156-60-5	trans-1,2-Dichloroethene	216	195	191	**90**	**88**	76-119	2	25	
75-34-3	1,1-Dichloroethane	216	197	194	**91**	**90**	70-114	1	25	
1634-04-4	Methyl tert-Butyl Ether	214	180	177	**84**	**83**	72-118	1	25	
78-93-3	2-Butanone (MEK)	418	375	370	**90**	**89**	74-121	1	25	
156-59-2	cis-1,2-Dichloroethene	214	192	188	**90**	**88**	73-117	2	25	
141-78-6	Ethyl Acetate	856	609	593	**71**	**69**	59-161	3	25	
110-54-3	n-Hexane	212	208	202	**98**	**95**	55-130	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221202-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	212	184	180	**87**	**85**	71-114	2	25	
109-99-9	Tetrahydrofuran (THF)	412	372	366	**90**	**89**	73-114	1	25	
107-06-2	1,2-Dichloroethane	216	194	190	**90**	**88**	71-119	2	25	
71-55-6	1,1,1-Trichloroethane	210	211	208	**100**	**99**	73-119	1	25	
71-43-2	Benzene	216	214	212	**99**	**98**	72-113	1	25	
56-23-5	Carbon Tetrachloride	206	195	194	**95**	**94**	67-123	1	25	
110-82-7	Cyclohexane	422	421	414	**100**	**98**	70-119	2	25	
78-87-5	1,2-Dichloropropane	212	218	214	**103**	**101**	70-118	2	25	
75-27-4	Bromodichloromethane	216	223	219	**103**	**101**	74-119	2	25	
79-01-6	Trichloroethene	212	202	200	**95**	**94**	74-115	1	25	
123-91-1	1,4-Dioxane	212	220	217	**104**	**102**	77-124	2	25	
142-82-5	n-Heptane	212	212	209	**100**	**99**	70-119	1	25	
10061-01-5	cis-1,3-Dichloropropene	216	224	221	**104**	**102**	81-126	2	25	
108-10-1	4-Methyl-2-pentanone	432	488	479	**113**	**111**	73-129	2	25	
10061-02-6	trans-1,3-Dichloropropene	206	217	215	**105**	**104**	80-127	1	25	
79-00-5	1,1,2-Trichloroethane	212	208	205	**98**	**97**	78-117	1	25	
108-88-3	Toluene	212	180	181	**85**	**85**	70-118	0	25	
591-78-6	2-Hexanone	426	441	438	**104**	**103**	74-132	1	25	
124-48-1	Dibromochloromethane	216	184	185	**85**	**86**	69-137	1	25	
106-93-4	1,2-Dibromoethane	208	175	176	**84**	**85**	76-128	1	25	
111-65-9	n-Octane	214	196	197	**92**	**92**	68-120	0	25	
127-18-4	Tetrachloroethene	212	170	170	**80**	**80**	63-130	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221202-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	210	184	185	**88**	**88**	71-123	0	25	
179601-23-1	m,p-Xylenes	420	380	380	**90**	**90**	67-127	0	25	
75-25-2	Bromoform	214	192	192	**90**	**90**	65-149	0	25	
100-42-5	Styrene	212	179	180	**84**	**85**	76-132	1	25	
95-47-6	o-Xylene	212	188	188	**89**	**89**	69-124	0	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	192	192	**91**	**91**	69-128	0	25	
98-82-8	Cumene	212	184	184	**87**	**87**	69-125	0	25	
103-65-1	n-Propylbenzene	214	188	188	**88**	**88**	70-127	0	25	
622-96-8	4-Ethyltoluene	216	188	188	**87**	**87**	69-127	0	25	
108-67-8	1,3,5-Trimethylbenzene	210	189	188	**90**	**90**	66-129	0	25	
95-63-6	1,2,4-Trimethylbenzene	208	196	196	**94**	**94**	63-142	0	25	
100-44-7	Benzyl Chloride	420	429	431	**102**	**103**	73-145	1	25	
541-73-1	1,3-Dichlorobenzene	210	179	179	**85**	**85**	67-136	0	25	
106-46-7	1,4-Dichlorobenzene	212	167	167	**79**	**79**	63-134	0	25	
135-98-8	sec-Butylbenzene	210	186	185	**89**	**88**	68-130	1	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	210	180	180	**86**	**86**	60-139	0	25	
95-50-1	1,2-Dichlorobenzene	212	174	175	**82**	**83**	64-139	1	25	
120-82-1	1,2,4-Trichlorobenzene	412	315	320	**76**	**78**	62-154	3	25	
91-20-3	Naphthalene	216	144	148	**67**	**69**	62-156	3	25	
87-68-3	Hexachlorobutadiene	210	166	168	**79**	**80**	55-142	1	25	
104-51-8	n-Butylbenzene	210	194	195	**92**	**93**	70-131	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_112222_D** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-005DUP

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02417

Initial Pressure (psig): -2.65 Final Pressure (psig): 3.89

Canister Dilution Factor: 1.54

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Dichlorodifluoromethane (CFC 12)	2.23	0.452	1.81	0.367	2.02	**21**	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Trichlorofluoromethane	1.06	0.188	0.990	0.176	1.025	**7**	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	ND	ND	-	-	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Ethyl Acetate	16.1	4.47	13.4	3.72	14.75	**18**	25	
n-Hexane	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_112222_D** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-005DUP

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02417

Initial Pressure (psig): -2.65 Final Pressure (psig): 3.89

Canister Dilution Factor: 1.54

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Chloroform	ND	ND	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Trichloroethene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	ND	ND	ND	ND	-	-	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Octane	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_112222_D** ALS Project ID: P2205313
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205313-005DUP

Test Code: EPA TO-15 Date Collected: 11/22/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 11/22/22
Analyst: Simon Cao Date Analyzed: 12/2/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02417

Initial Pressure (psig): -2.65 Final Pressure (psig): 3.89

Canister Dilution Factor: 1.54

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
sec-Butylbenzene	ND	ND	ND	ND	-	-	25	
4-Isopropyltoluene (p-Cymene)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	
n-Butylbenzene	ND	ND	ND	ND	-	-	25	
Xylenes, Total	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **North Wind, Inc.** ALS Project ID: P2205313

Client Project ID: **DOE Perimeter Air / 080153.018.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 12022202.D

Analyst: Simon Cao Date Analyzed: 12/1/22

Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 23:20

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	168342	7.24	775384	9.29	219841	14.81
	Upper Limit	235679	7.57	1085538	9.62	307777	15.14
	Lower Limit	101005	6.91	465230	8.96	131905	14.48
	Client Sample ID						
01	Method Blank	157649	7.20	700152	9.26	196604	14.81
02	Lab Control Sample	170676	7.24	726832	9.29	207014	14.81
03	Duplicate Lab Control Sample	176070	7.24	745171	9.29	208610	14.81
04	DOE-1_112222_S	163730	7.20	730124	9.26	210225	14.80
05	DOE-2_112222_S	142922	7.20	709928	9.26	205549	14.81
06	DOE-3_112222_S	162680	7.21	710352	9.27	205437	14.81
07	DOE-4_112222_S	128173	7.20	688162	9.26	199040	14.81
08	DOE-4_112222_D	129620	7.20	687574	9.26	196102	14.81
09	DOE-4_112222_D (Lab Duplicate)	148133	7.20	669361	9.26	192421	14.81
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022224.D Vial: 5
Acq On : 2 Dec 2022 18:15 Operator: SC
Sample : P2205313-001 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:05 2022 12/5/22
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	163730	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	730124	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.80	54	210225	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	353786	12.432	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
57) Toluene-d8 (SS2)	12.39	98	847257	11.056	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.48%				
73) Bromofluorobenzene (SS3)	16.79	174	268056	10.003	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.00%				
Target Compounds							Qvalue
2) Propene	3.29	42	4537	N.D.			
3) Dichlorodifluoromethan...	3.35	85	47099	1.251	ng		99
4) Chloromethane	3.50	50	12840	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	1038	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.01	94	250	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	32546	1.775	ng		90
11) Acetonitrile	4.43	41	7058	N.D.			
12) Acrolein	4.52	56	5692	N.D.			
13) Acetone	4.61	58	58086	3.506	ng		87
14) Trichlorofluoromethane	4.73	101	21462	0.663	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	15243	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.32	59	108	N.D.			
19) Methylene Chloride	5.33	84	3268	N.D.			
20) 3-Chloro-1-propene (Al...	5.38	41	533	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3402	N.D.			
22) Carbon Disulfide	5.58	76	2809	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.41	86	200	N.D.			
27) 2-Butanone (MEK)	6.64	72	5664	0.468	ng	#	51
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.25	87	537	N.D.			
30) Ethyl Acetate	7.25	61	54912	6.047	ng		90
31) n-Hexane	7.27	57	246	N.D.			
32) Chloroform	7.32	83	1204	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	1137	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	26071	No Calib		#	
40) 1-Butanol	8.84	56	1387	No Calib		#	
41) Benzene	8.86	78	4129	N.D.			
42) Carbon Tetrachloride	9.03	117	2800	N.D.			
43) Cyclohexane	9.19	84	106	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	197	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022224.D Vial: 5
Acq On : 2 Dec 2022 18:15 Operator: SC
Sample : P2205313-001 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:05 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

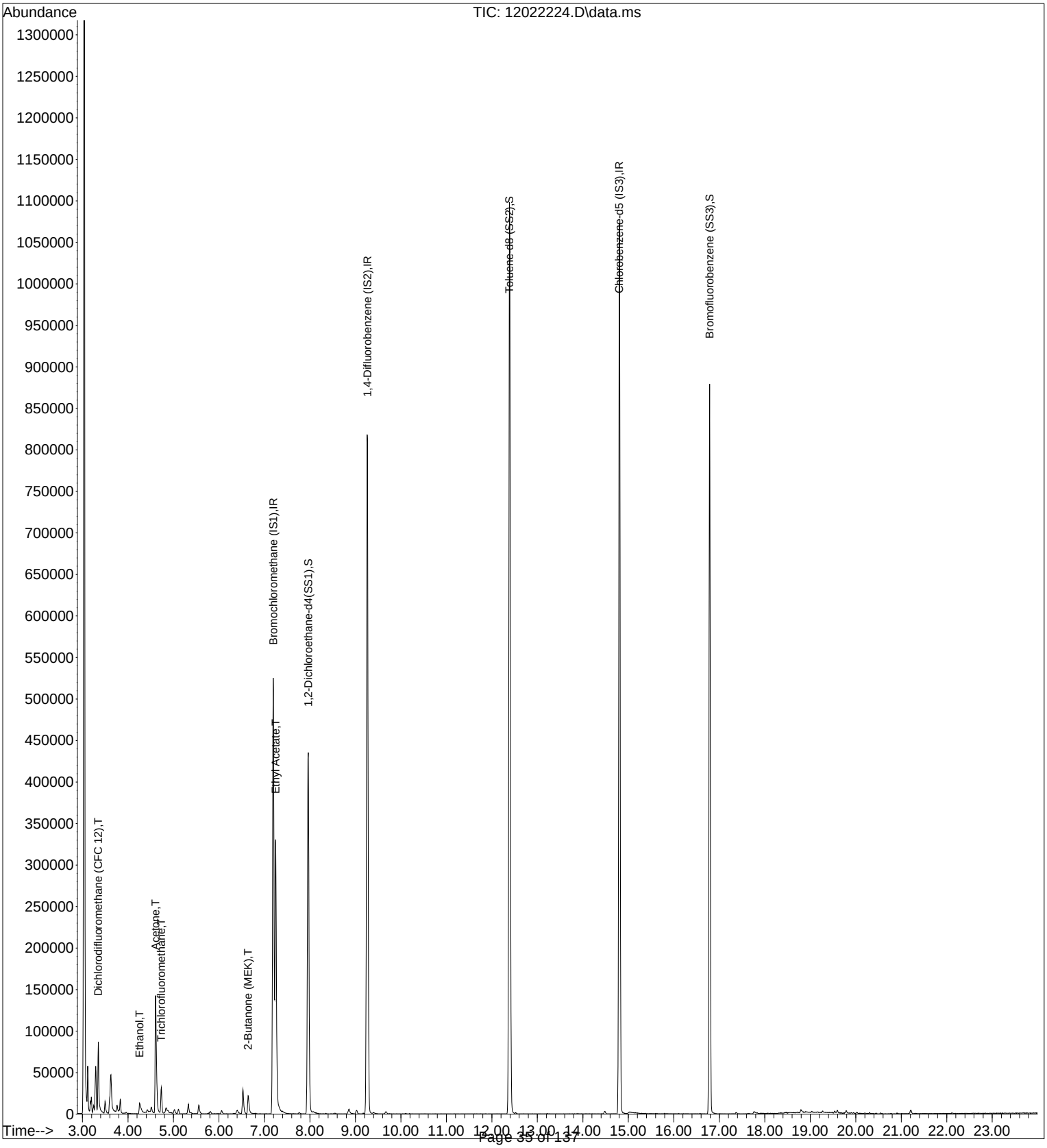
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.52	91	1128	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.39	91	225	N.D.		
67) m- & p-Xylenes	15.61	91	330	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.21	91	121	N.D.		
71) n-Nonane	16.58	43	276	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.65	91	158	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.41	105	198	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	18.72	105	270	N.D.		
88) 4-Isopropyltoluene (p-...	18.90	119	713	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.39	119	106	N.D.		
100) n-Butylbenzene	19.37	91	114	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022224.D Vial: 5
Acq On : 2 Dec 2022 18:15 Operator: SC
Sample : P2205313-001 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:05 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022224.D Vial: 5
Acq On : 2 Dec 2022 18:15 Operator: SC
Sample : P2205313-001 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:05 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/5/22

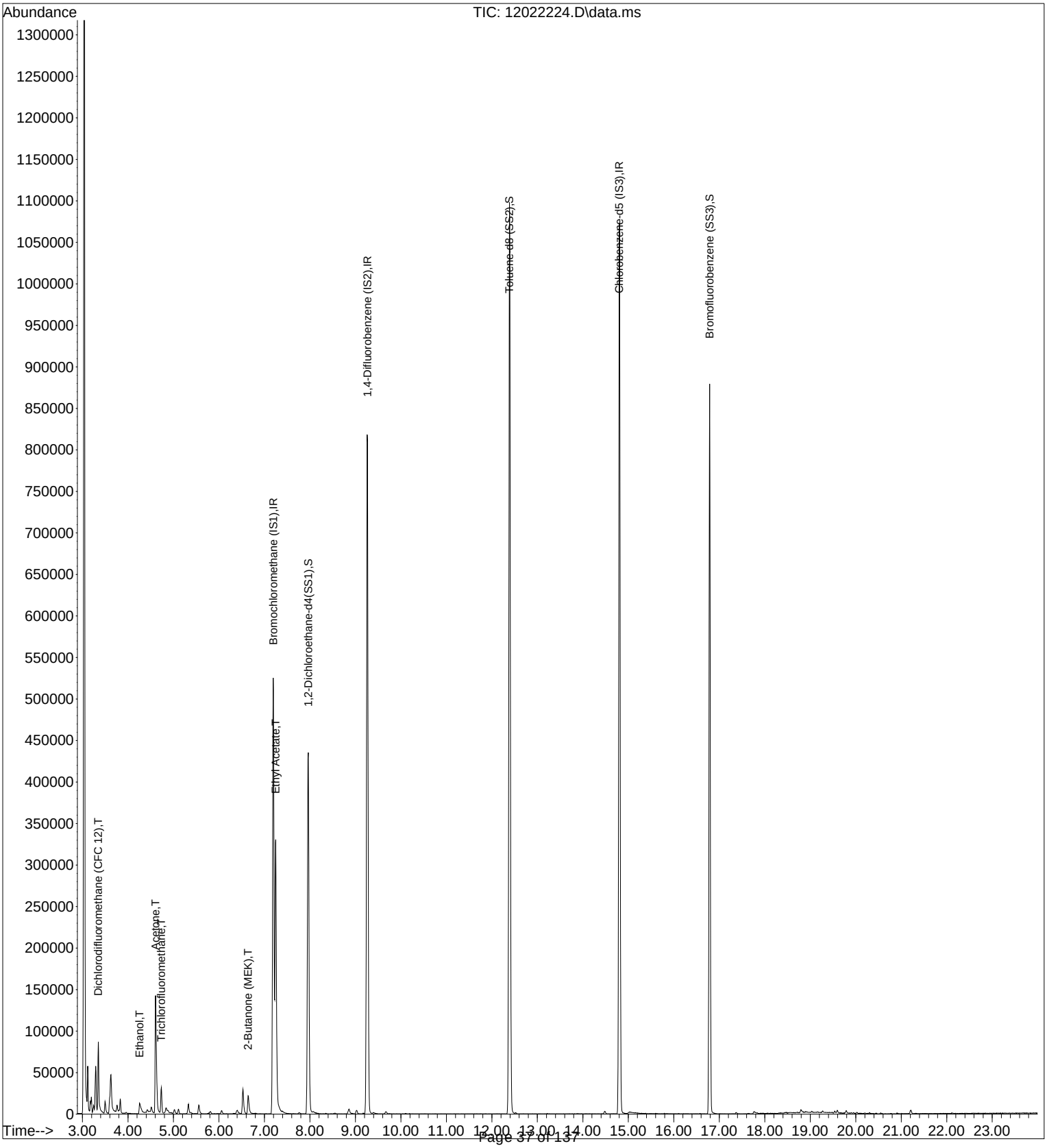
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	163730	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	730124	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.80	54	210225	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	353786	12.432	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
57) Toluene-d8 (SS2)	12.39	98	847257	11.056	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.48%				
73) Bromofluorobenzene (SS3)	16.79	174	268056	10.003	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.00%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	47099	1.251	ng		99
10) Ethanol	4.26	45	32546	1.775	ng		90
13) Acetone	4.61	58	58086	3.506	ng		87
14) Trichlorofluoromethane	4.73	101	21462	0.663	ng		99
27) 2-Butanone (MEK)	6.64	72	5664	0.468	ng	#	51
30) Ethyl Acetate	7.25	61	54912	6.047	ng		90

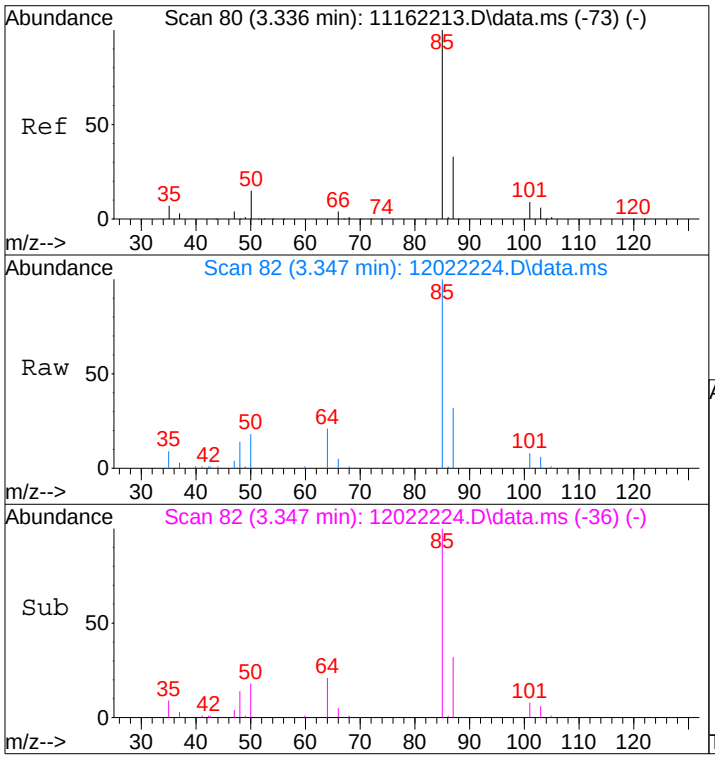
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022224.D Vial: 5
Acq On : 2 Dec 2022 18:15 Operator: SC
Sample : P2205313-001 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:05 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

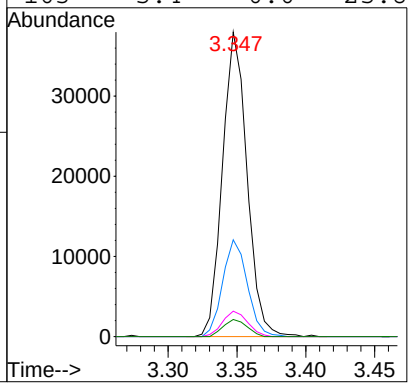


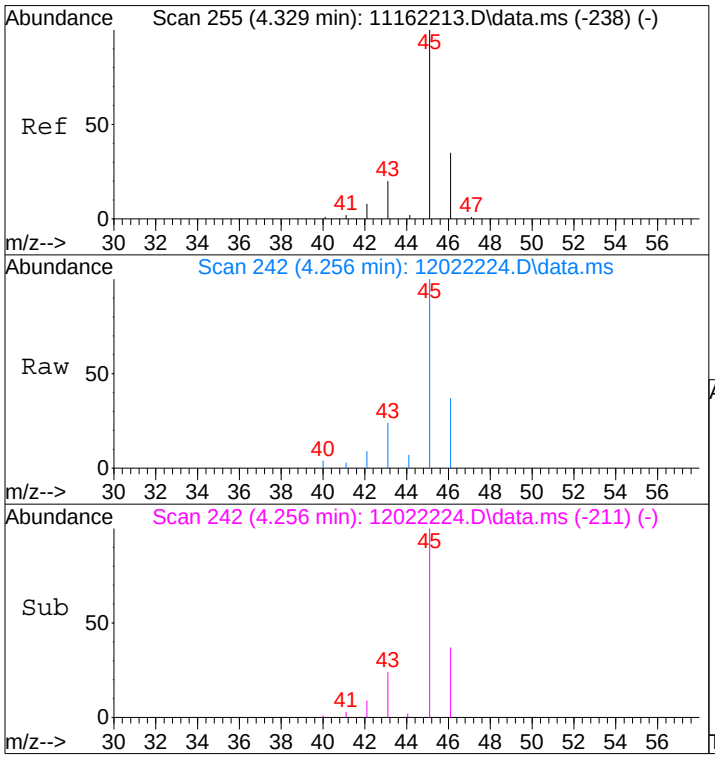


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.25 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.011 min
Lab File: 12022224.D
Acq: 2 Dec 2022 18:15

Tgt Ion: 85 Resp: 47099

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.6	52.6
101	8.6	0.0	29.1
103	5.4	0.0	25.8

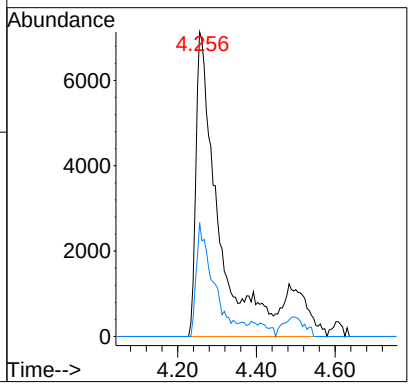


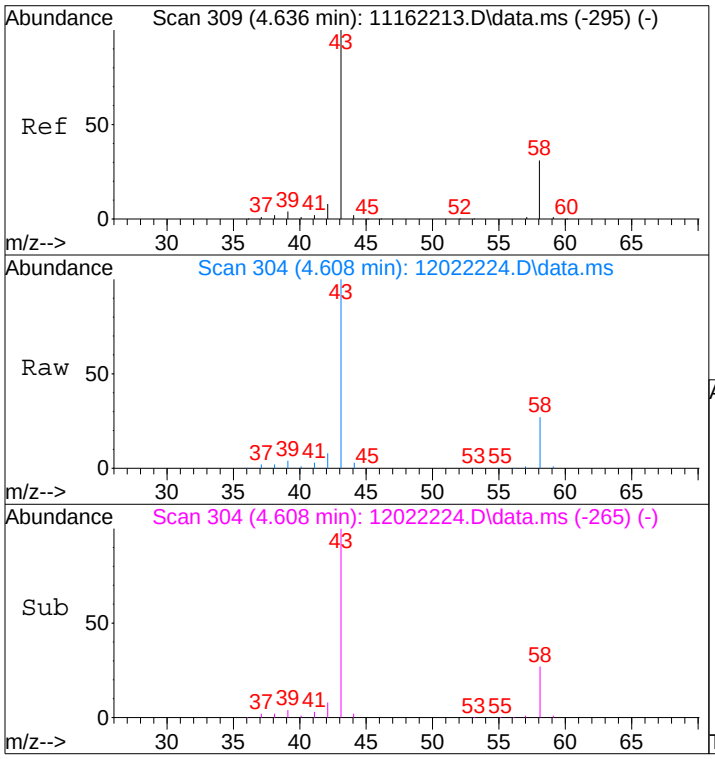


#10
Ethanol
Concen: 1.78 ng
RT: 4.26 min Scan# 242
Delta R.T. -0.074 min
Lab File: 12022224.D
Acq: 2 Dec 2022 18:15

Tgt Ion: 45 Resp: 32546

Ion	Ratio	Lower	Upper
45	100		
46	29.3	14.9	54.9

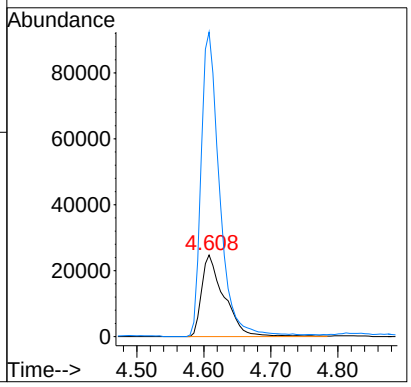


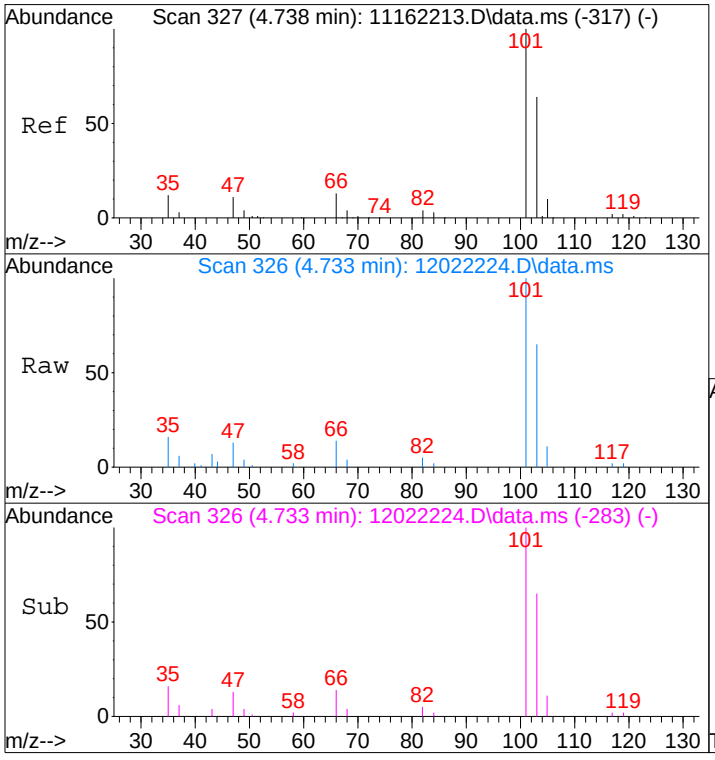


#13
Acetone
Concen: 3.51 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.028 min
Lab File: 12022224.D
Acq: 2 Dec 2022 18:15

Tgt Ion: 58 Resp: 58086

Ion	Ratio	Lower	Upper
58	100		
43	308.6	306.3	366.3

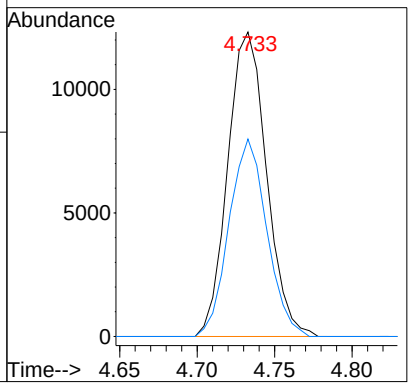


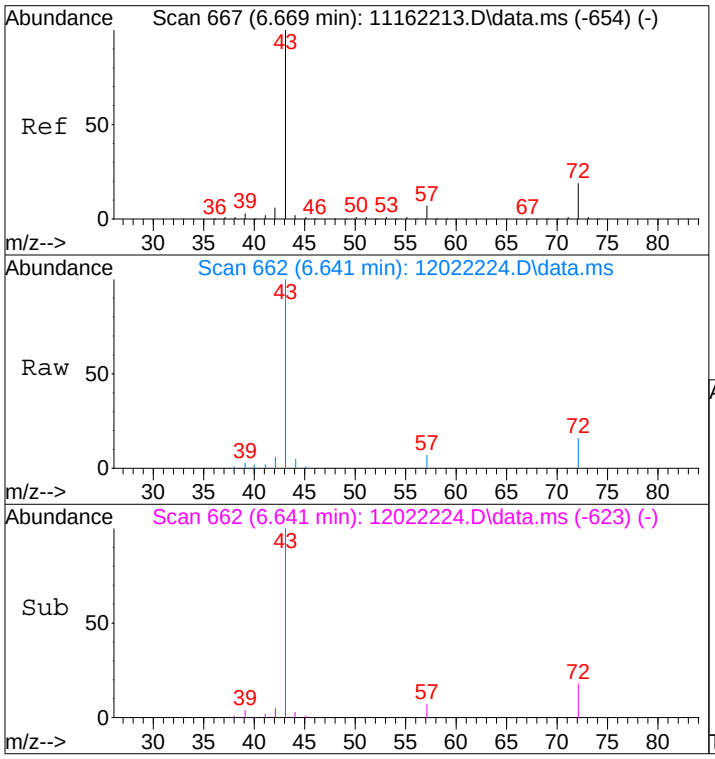


#14
Trichlorofluoromethane
Concen: 0.66 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.006 min
Lab File: 12022224.D
Acq: 2 Dec 2022 18:15

Tgt Ion:101 Resp: 21462

Ion	Ratio	Lower	Upper
101	100		
103	63.3	44.5	84.5

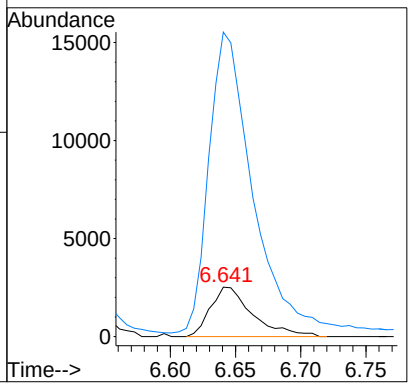


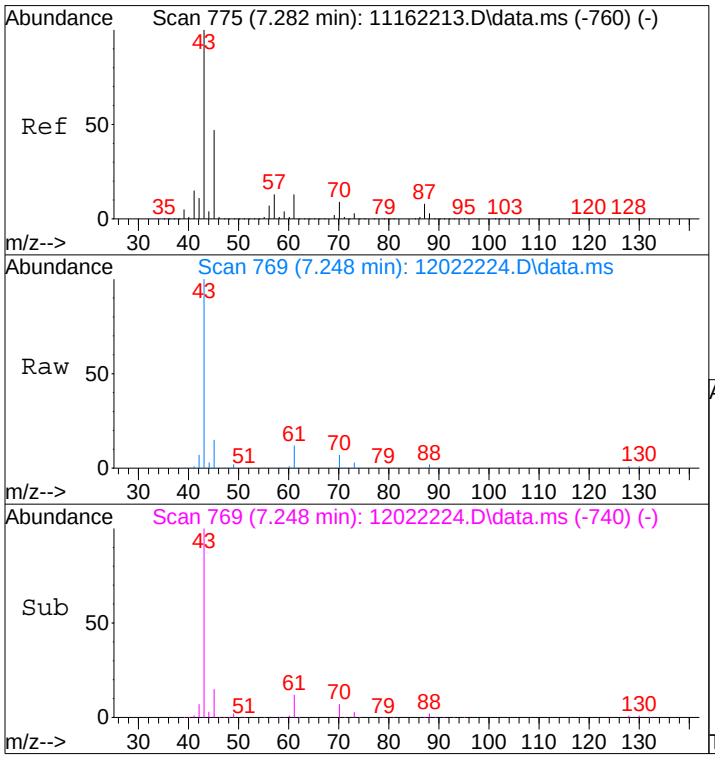


#27
2-Butanone (MEK)
Concen: 0.47 ng
RT: 6.64 min Scan# 662
Delta R.T. -0.028 min
Lab File: 12022224.D
Acq: 2 Dec 2022 18:15

Tgt Ion: 72 Resp: 5664

Ion	Ratio	Lower	Upper
72	100		
43	689.5	526.5	566.5#

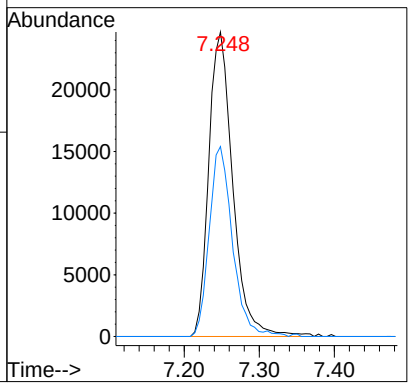




#30
Ethyl Acetate
Concen: 6.05 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.034 min
Lab File: 12022224.D
Acq: 2 Dec 2022 18:15

Tgt Ion: 61 Resp: 54912

Ion	Ratio	Lower	Upper
61	100		
70	60.3	48.2	88.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022225.D Vial: 6
Acq On : 2 Dec 2022 18:47 Operator: SC
Sample : P2205313-002 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 09:30:25 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/5/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	142922	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	709928	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	205549	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	335277	13.497	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.00%				
57) Toluene-d8 (SS2)	12.39	98	823683	10.992	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.92%				
73) Bromofluorobenzene (SS3)	16.79	174	259990	9.923	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.36%				
Target Compounds							Qvalue
2) Propene	3.28	42	6807	N.D.			
3) Dichlorodifluoromethan...	3.35	85	46735m	1.422	ng		
4) Chloromethane	3.49	50	12263	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	1051	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.00	94	280	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	19428	1.214	ng		85
11) Acetonitrile	4.43	41	6158	N.D.			
12) Acrolein	4.51	56	7188	0.546	ng		91
13) Acetone	4.60	58	86169	5.958	ng	#	84
14) Trichlorofluoromethane	4.73	101	19962	0.707	ng		98
15) 2-Propanol (Isopropanol)	4.84	45	16164	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.32	59	125	N.D.			
19) Methylene Chloride	5.33	84	3140	N.D.			
20) 3-Chloro-1-propene (Al...	5.38	41	835	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3493	N.D.			
22) Carbon Disulfide	5.58	76	921	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.63	72	9723	0.921	ng	#	77
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.26	87	444	N.D.			
30) Ethyl Acetate	7.25	61	47345	5.973	ng		92
31) n-Hexane	7.27	57	709	N.D.			
32) Chloroform	7.33	83	1019	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	1090	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	25438	No Calib		#	
40) 1-Butanol	8.84	56	3373	No Calib		#	
41) Benzene	8.86	78	3893	N.D.			
42) Carbon Tetrachloride	9.03	117	3669	N.D.			
43) Cyclohexane	9.26	84	380	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	255	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022225.D Vial: 6
Acq On : 2 Dec 2022 18:47 Operator: SC
Sample : P2205313-002 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 09:30:25 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

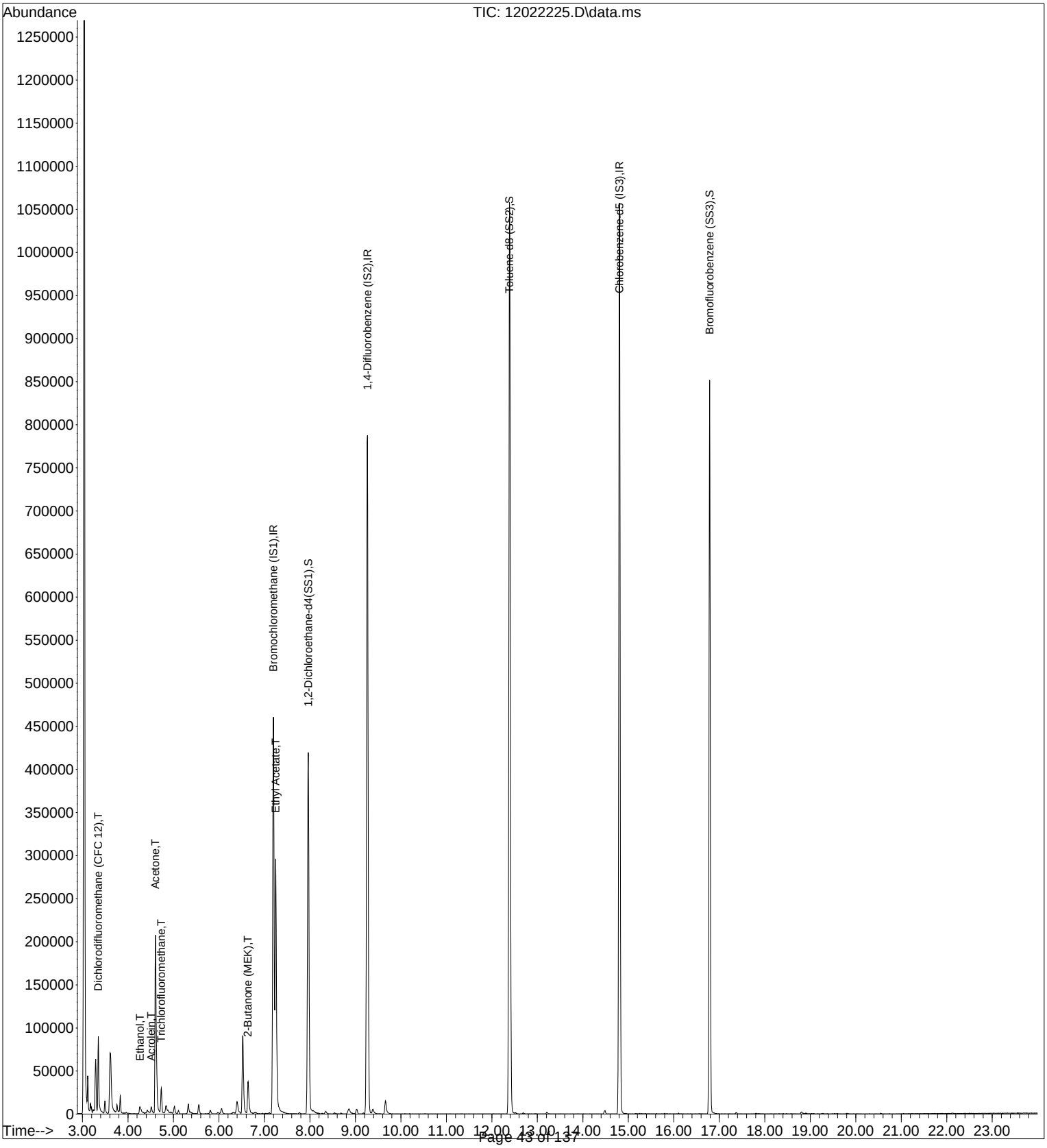
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0		N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0		N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0		N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0		N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0		N.D.	
58) Toluene	12.52	91	978		N.D.	
59) 2-Hexanone	12.94	43	166		N.D.	
60) Dibromochloromethane	0.00	129	0		N.D.	
61) 1,2-Dibromoethane	0.00	107	0		N.D.	
62) n-Butyl Acetate	0.00	43	0		N.D.	
63) n-Octane	0.00	57	0		N.D.	
64) Tetrachloroethene	0.00	166	0		N.D.	
65) Chlorobenzene	0.00	112	0		N.D.	
66) Ethylbenzene	15.38	91	173		N.D.	
67) m- & p-Xylenes	0.00	91	0		N.D.	
68) Bromoform	0.00	173	0		N.D.	
69) Styrene	0.00	104	0		N.D.	
70) o-Xylene	0.00	91	0		N.D.	
71) n-Nonane	16.58	43	254		N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0		N.D.	
74) Cumene	0.00	105	0		N.D.	
75) alpha-Pinene	0.00	93	0		N.D.	
76) n-Propylbenzene	0.00	91	0		N.D.	
77) 3-Ethyltoluene	0.00	105	0		N.D.	
78) 4-Ethyltoluene	0.00	105	0		N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0		N.D.	
80) alpha-Methylstyrene	0.00	118	0		N.D.	
81) 2-Ethyltoluene	0.00	105	0		N.D.	
82) 1,2,4-Trimethylbenzene	18.41	105	130		N.D.	
83) n-Decane	0.00	58	0		N.D.	
84) Benzyl Chloride	0.00	91	0		N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0		N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0		N.D.	
87) sec-Butylbenzene	0.00	105	0		N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	570		N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0		N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0		N.D.	
91) d-Limonene	0.00	68	0		N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0		N.D.	
93) n-Undecane	0.00	58	0		N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0		N.D.	
95) Naphthalene	0.00	128	0		N.D.	
96) n-Dodecane	0.00	58	0		N.D.	
97) Hexachlorobutadiene	0.00	225	0		N.D.	
98) Cyclohexanone	0.00	55	0		N.D.	
99) tert-Butylbenzene	0.00	119	0		N.D.	
100) n-Butylbenzene	0.00	91	0		N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0		N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022225.D Vial: 6
Acq On : 2 Dec 2022 18:47 Operator: SC
Sample : P2205313-002 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 09:30:25 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022225.D Vial: 6
Acq On : 2 Dec 2022 18:47 Operator: SC
Sample : P2205313-002 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 09:30:25 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/5/22

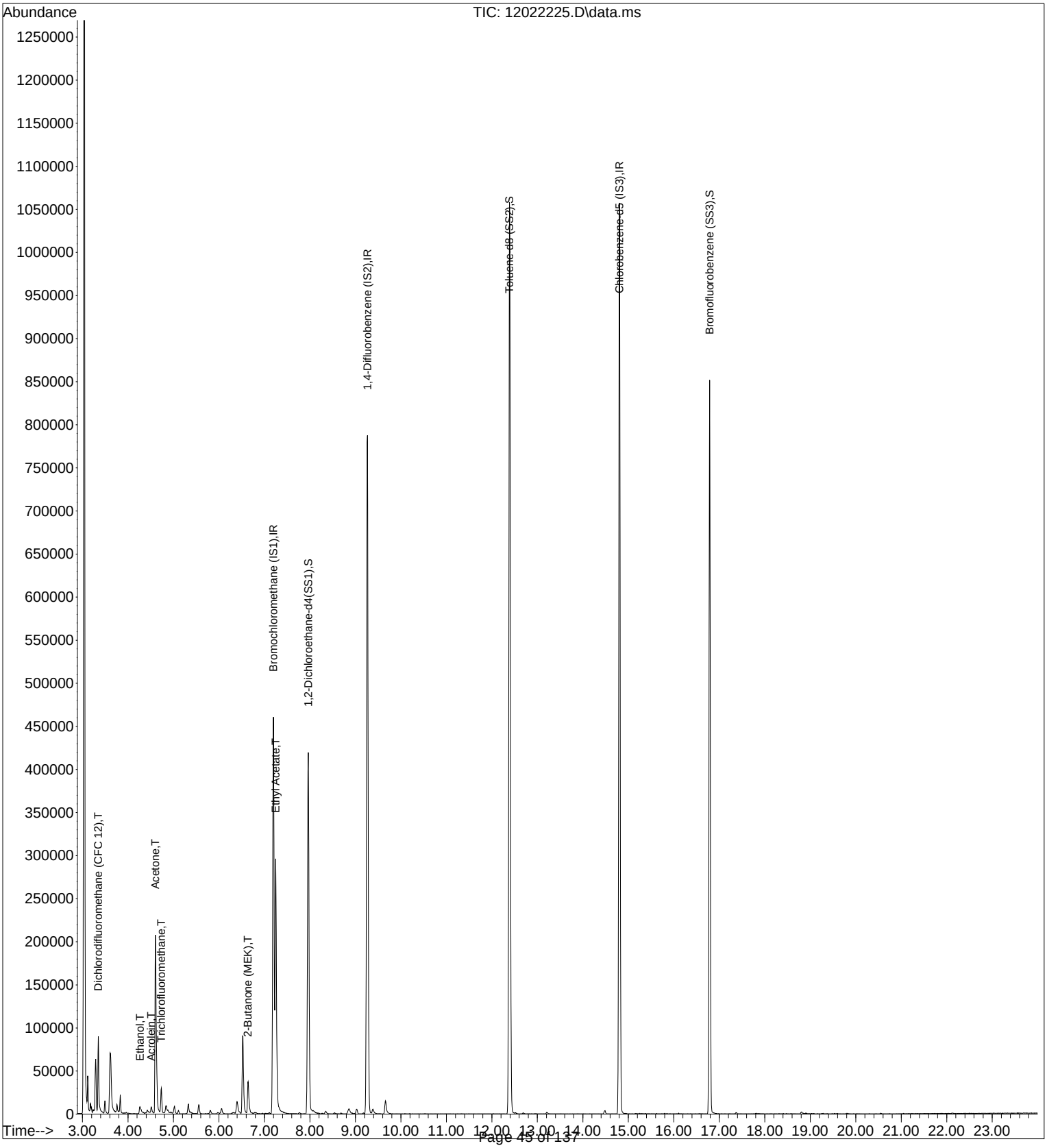
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	142922	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	709928	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	205549	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	335277	13.497	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.00%				
57) Toluene-d8 (SS2)	12.39	98	823683	10.992	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.92%				
73) Bromofluorobenzene (SS3)	16.79	174	259990	9.923	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.36%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	46735m	1.422	ng		
10) Ethanol	4.26	45	19428	1.214	ng		85
12) Acrolein	4.51	56	7188	0.546	ng		91
13) Acetone	4.60	58	86169	5.958	ng	#	84
14) Trichlorofluoromethane	4.73	101	19962	0.707	ng		98
27) 2-Butanone (MEK)	6.63	72	9723	0.921	ng	#	77
30) Ethyl Acetate	7.25	61	47345	5.973	ng		92

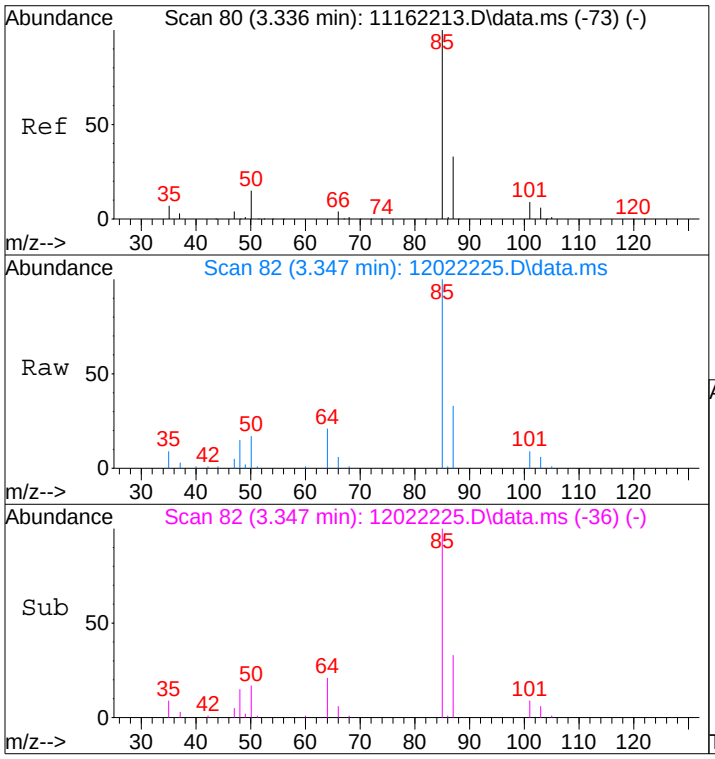
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022225.D Vial: 6
Acq On : 2 Dec 2022 18:47 Operator: SC
Sample : P2205313-002 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 09:30:25 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

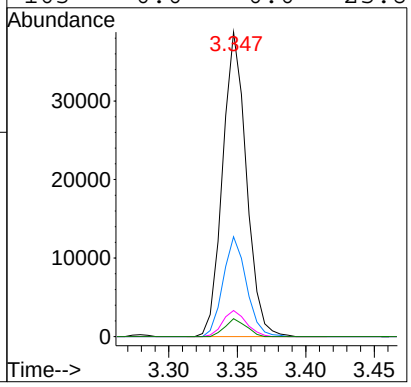


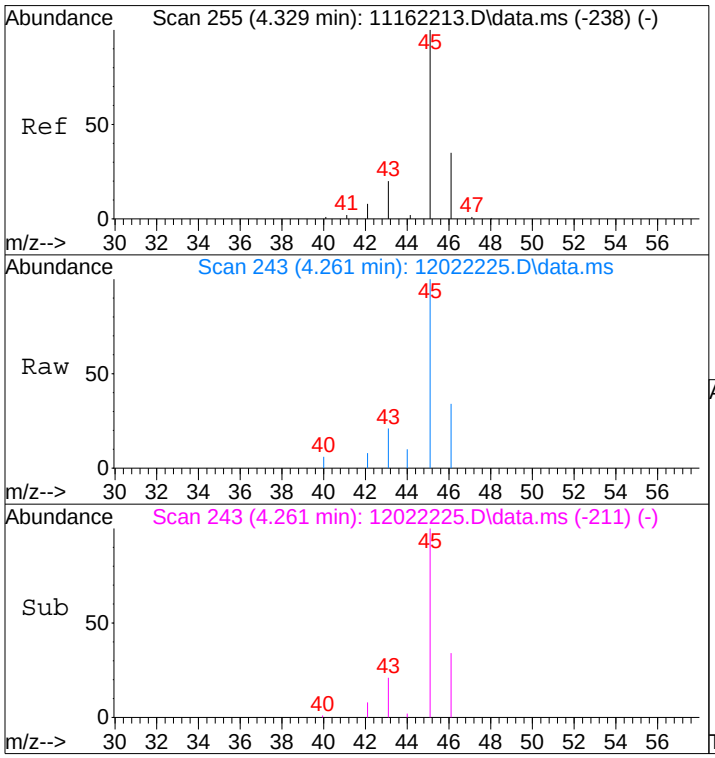


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.42 ng m
RT: 3.35 min Scan# 82
Delta R.T. 0.012 min
Lab File: 12022225.D
Acq: 2 Dec 2022 18:47

Tgt Ion: 85 Resp: 46735

Ion	Ratio	Lower	Upper
85	100		
87	0.0	12.6	52.6#
101	0.0	0.0	29.1
103	0.0	0.0	25.8

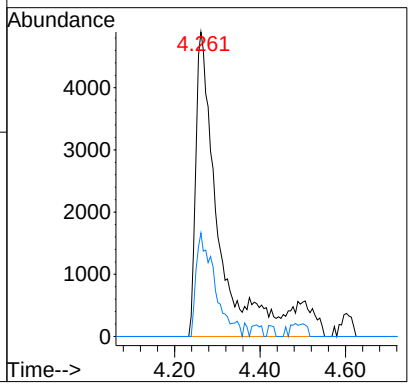


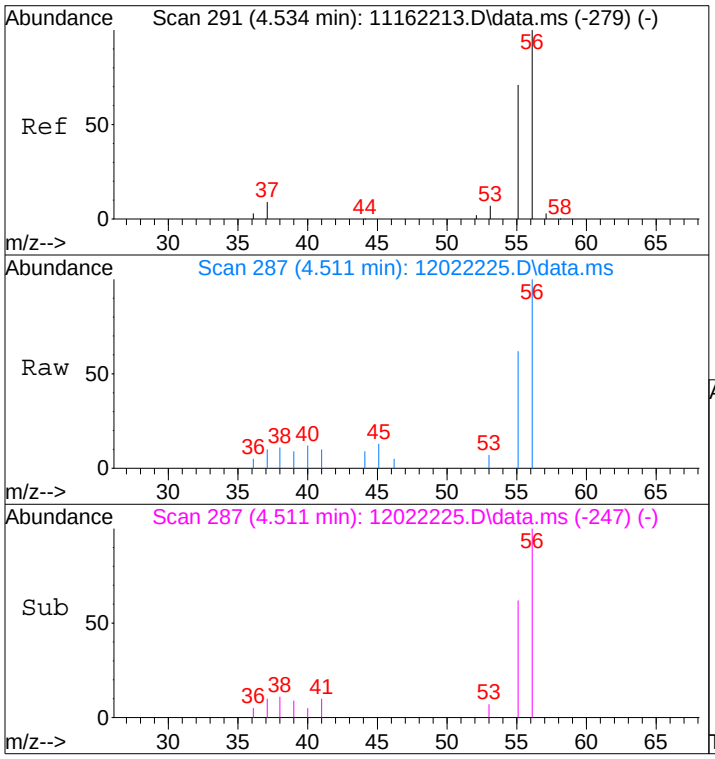


#10
Ethanol
Concen: 1.21 ng
RT: 4.26 min Scan# 243
Delta R.T. -0.068 min
Lab File: 12022225.D
Acq: 2 Dec 2022 18:47

Tgt Ion: 45 Resp: 19428

Ion	Ratio	Lower	Upper
45	100		
46	26.1	14.9	54.9

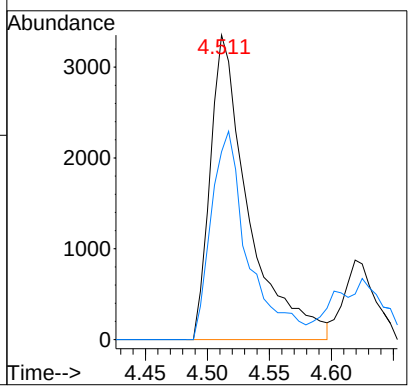


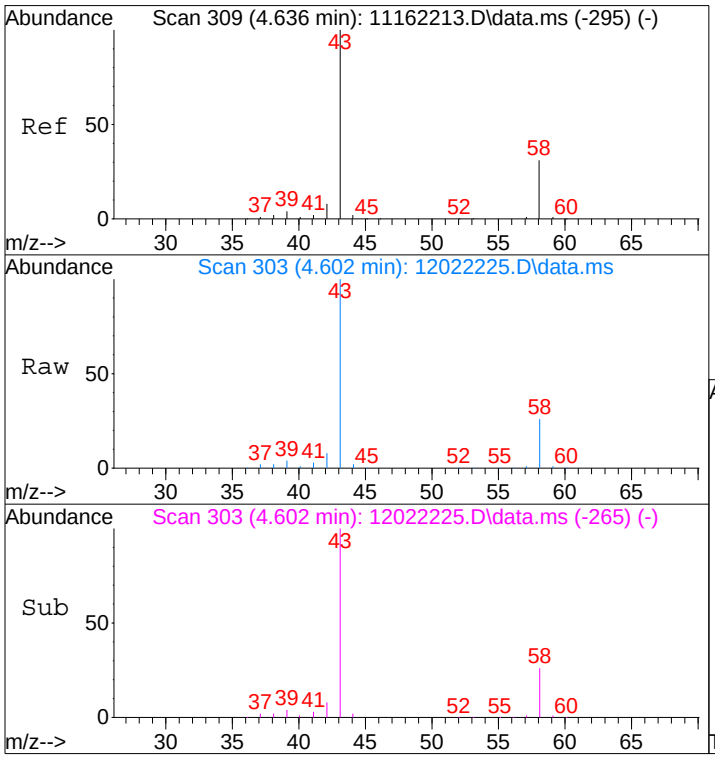


#12
Acrolein
Concen: 0.55 ng
RT: 4.51 min Scan# 287
Delta R.T. -0.023 min
Lab File: 12022225.D
Acq: 2 Dec 2022 18:47

Tgt Ion: 56 Resp: 7188

Ion	Ratio	Lower	Upper
56	100		
55	66.9	54.3	94.3

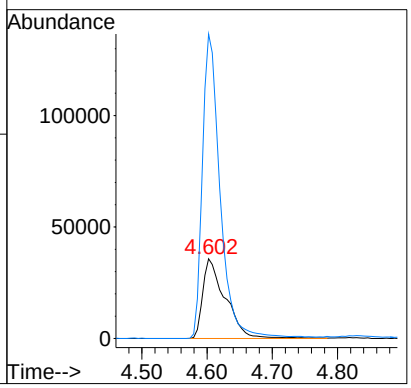


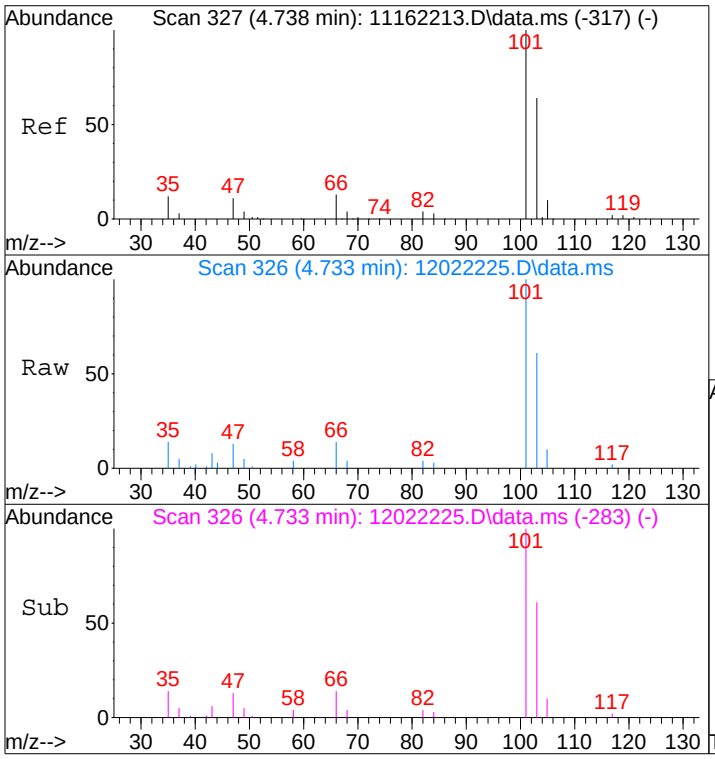


#13
Acetone
Concen: 5.96 ng
RT: 4.60 min Scan# 303
Delta R.T. -0.034 min
Lab File: 12022225.D
Acq: 2 Dec 2022 18:47

Tgt Ion: 58 Resp: 86169

Ion	Ratio	Lower	Upper
58	100		
43	302.4	306.3	366.3#

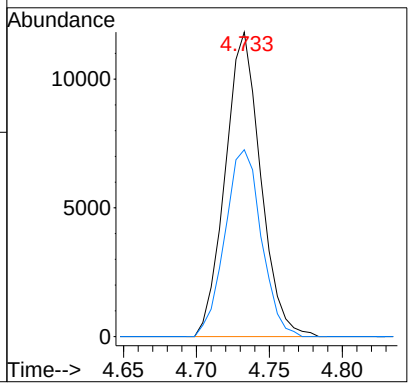


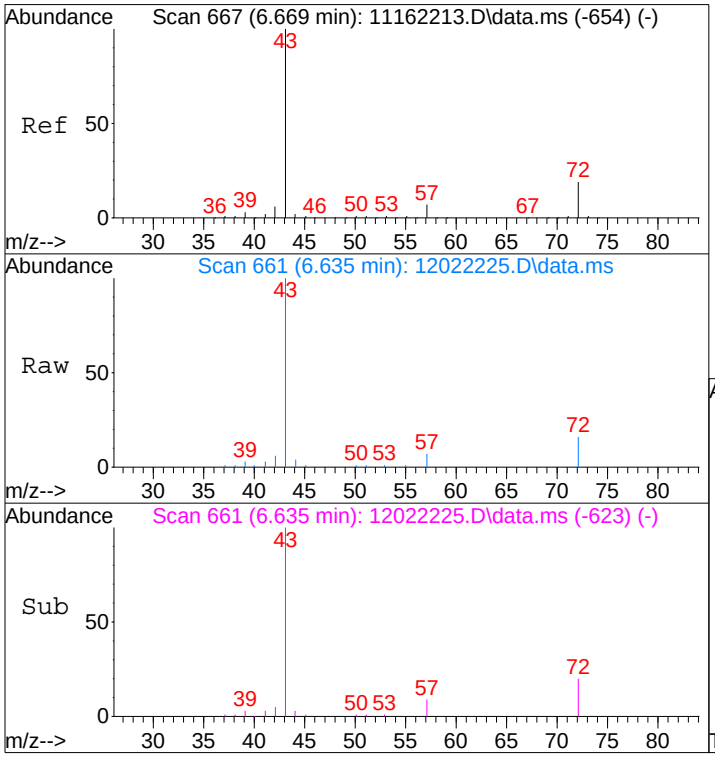


#14
Trichlorofluoromethane
Concen: 0.71 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.006 min
Lab File: 12022225.D
Acq: 2 Dec 2022 18:47

Tgt Ion:101 Resp: 19962

Ion	Ratio	Lower	Upper
101	100		
103	63.1	44.5	84.5

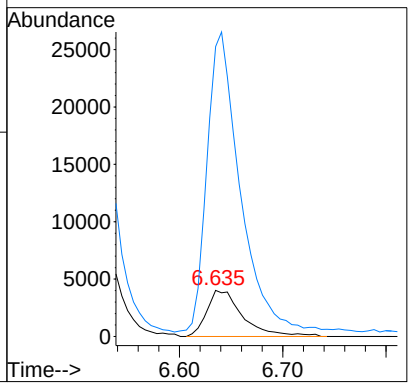


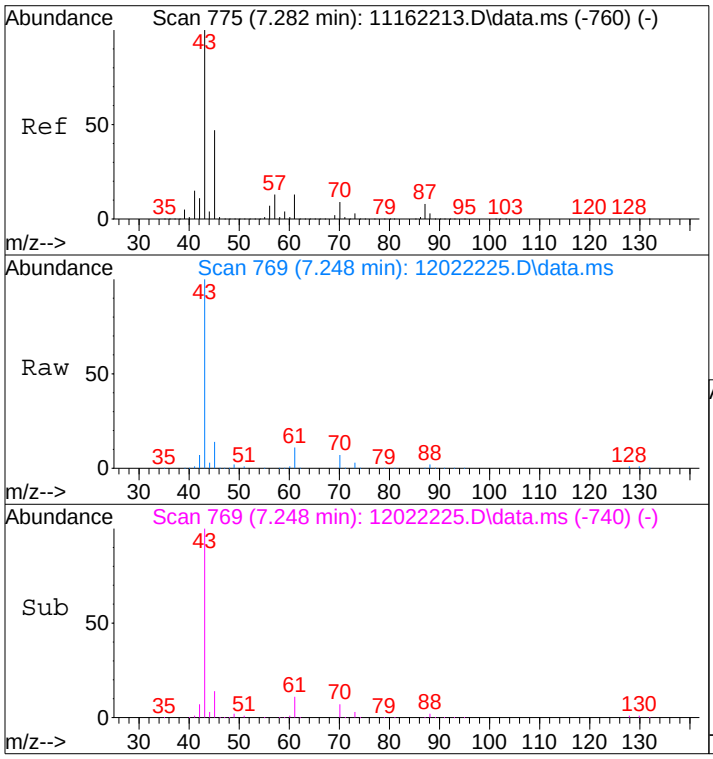


#27
2-Butanone (MEK)
Concen: 0.92 ng
RT: 6.63 min Scan# 661
Delta R.T. -0.034 min
Lab File: 12022225.D
Acq: 2 Dec 2022 18:47

Tgt Ion: 72 Resp: 9723

Ion	Ratio	Lower	Upper
72	100		
43	612.6	526.5	566.5#

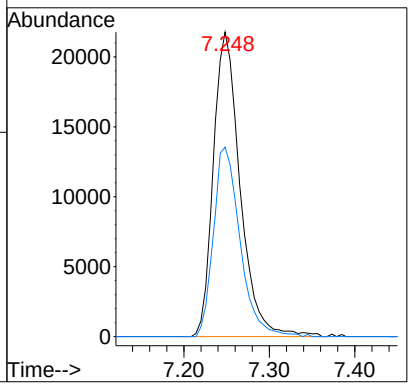




#30
Ethyl Acetate
Concen: 5.97 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.034 min
Lab File: 12022225.D
Acq: 2 Dec 2022 18:47

Tgt Ion: 61 Resp: 47345

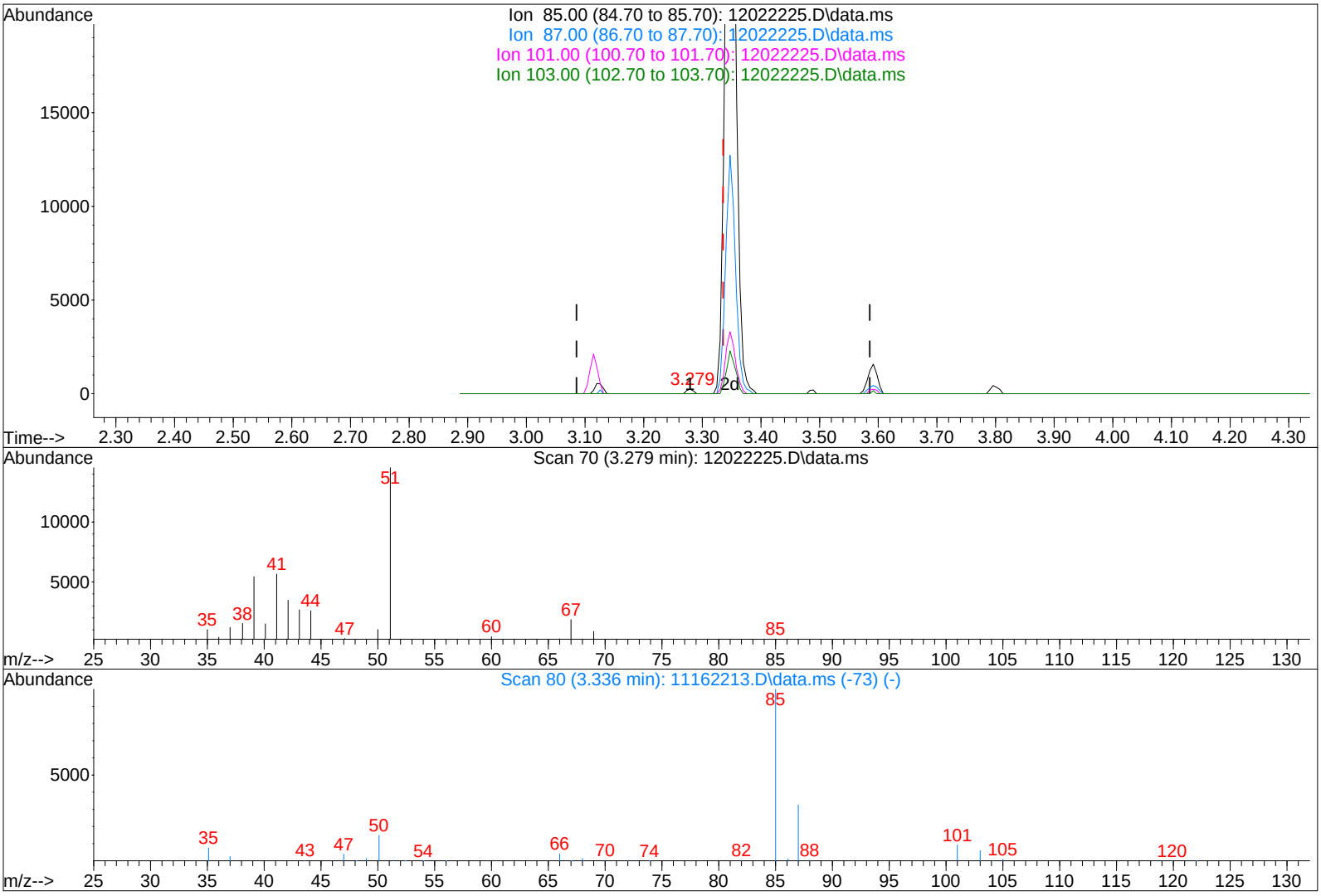
Ion	Ratio	Lower	Upper
61	100		
70	61.9	48.2	88.2



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 12\02\12022225.D Vial: 6
Acq On : 2 Dec 2022 18:47 Operator: SC
Sample : P2205313-002 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:15 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 12022225.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.279min (-0.057) 0.01ng

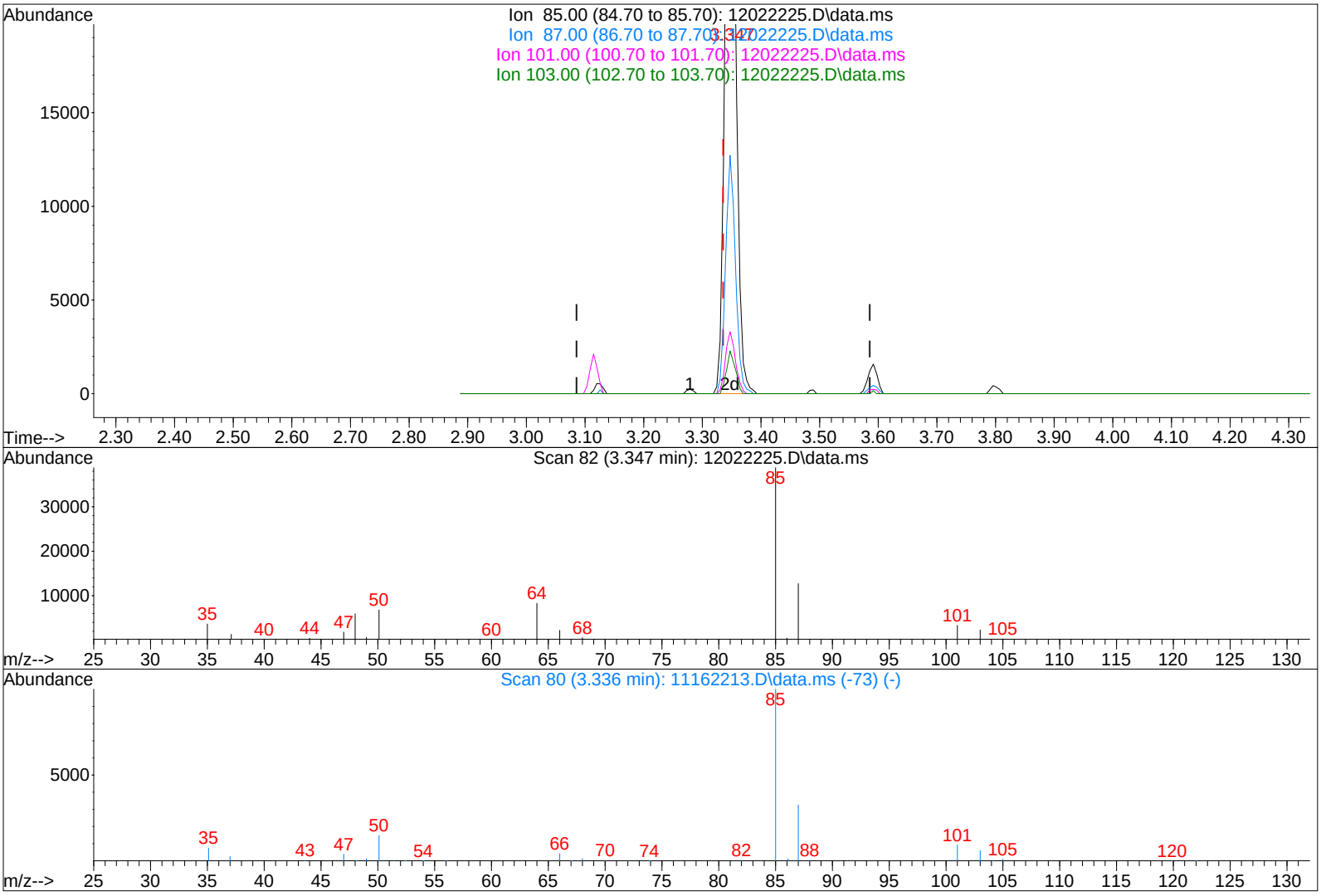
response 192

Ion	Exp%	Act%
85.00	100	100
87.00	32.60	0.00#
101.00	9.10	0.00
103.00	5.80	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2022 12\02\12022225.D Vial: 6
Acq On : 2 Dec 2022 18:47 Operator: SC
Sample : P2205313-002 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:15 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 12022225.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.347min (+0.012) 1.42ng m

response 46735

Ion	Exp%	Act%
85.00	100	100
87.00	32.60	0.00#
101.00	9.10	0.00
103.00	5.80	0.00

MP

12/5/22

12/5/22

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022226.D Vial: 7
Acq On : 2 Dec 2022 19:19 Operator: SC
Sample : P2205313-003 (1000mL) Inst : MS09
Misc : S35-11152201

12/5/22

Quant Time: Dec 05 09:32:48 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	162680	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.27	114	710352	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	205437	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	348188	12.314	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
57) Toluene-d8 (SS2)	12.39	98	827169	11.045	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%				
73) Bromofluorobenzene (SS3)	16.79	174	258588	9.875	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.96%				
Target Compounds							Qvalue
2) Propene	3.28	42	8256	N.D.			
3) Dichlorodifluoromethan...	3.34	85	51823	1.385	ng		99
4) Chloromethane	3.49	50	12801	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	1135	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.01	94	312	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	28051	1.540	ng		99
11) Acetonitrile	4.43	41	6721	N.D.			
12) Acrolein	4.52	56	748	N.D.			
13) Acetone	4.60	58	32891	1.998	ng	#	83
14) Trichlorofluoromethane	4.73	101	23888	0.743	ng		96
15) 2-Propanol (Isopropanol)	4.83	45	12208	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.39	59	267	N.D.			
19) Methylene Chloride	5.33	84	4179	N.D.			
20) 3-Chloro-1-propene (Al...	5.33	41	305	N.D.			
21) Trichlorotrifluoroethane	5.56	151	4170	N.D.			
22) Carbon Disulfide	5.60	76	959	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.65	72	2608	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.24	61	830912	92.094	ng		93
31) n-Hexane	7.27	57	1290	N.D.			
32) Chloroform	7.34	83	1324	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.09	62	1339	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.27	61	26107	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.86	78	34222	0.564	ng		100
42) Carbon Tetrachloride	9.03	117	5608	N.D.			
43) Cyclohexane	9.17	84	248	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.19	57	1027	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022226.D Vial: 7
Acq On : 2 Dec 2022 19:19 Operator: SC
Sample : P2205313-003 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 09:32:48 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

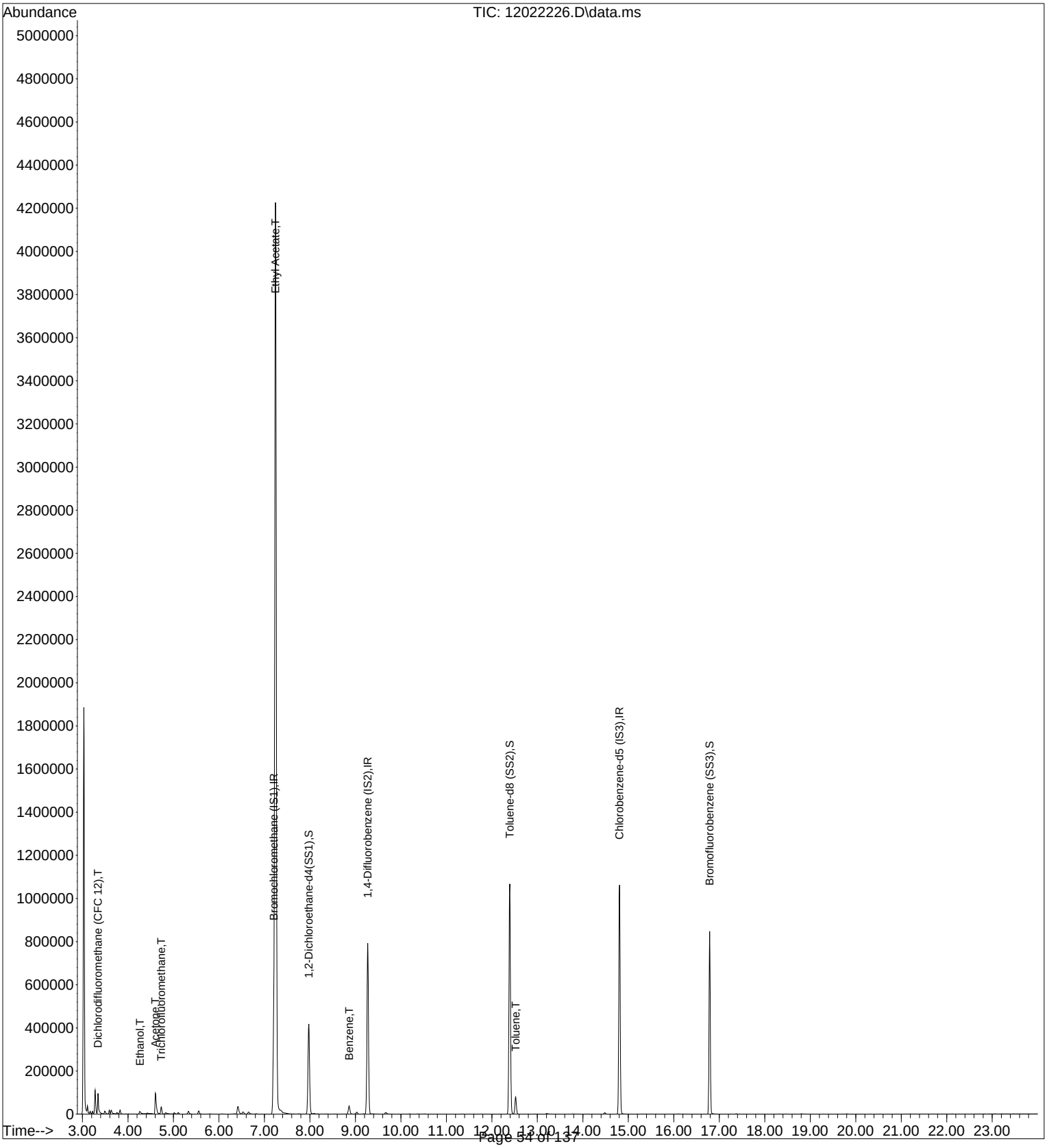
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	67142	0.901 ng	98
59) 2-Hexanone	12.97	43	233	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	1893	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.39	91	436	N.D.	
67) m- & p-Xylenes	15.60	91	355	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.21	91	124	N.D.	
71) n-Nonane	16.57	43	173	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.66	91	164	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	576	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022226.D Vial: 7
Acq On : 2 Dec 2022 19:19 Operator: SC
Sample : P2205313-003 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 09:32:48 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022226.D Vial: 7
Acq On : 2 Dec 2022 19:19 Operator: SC
Sample : P2205313-003 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 09:32:48 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/5/22

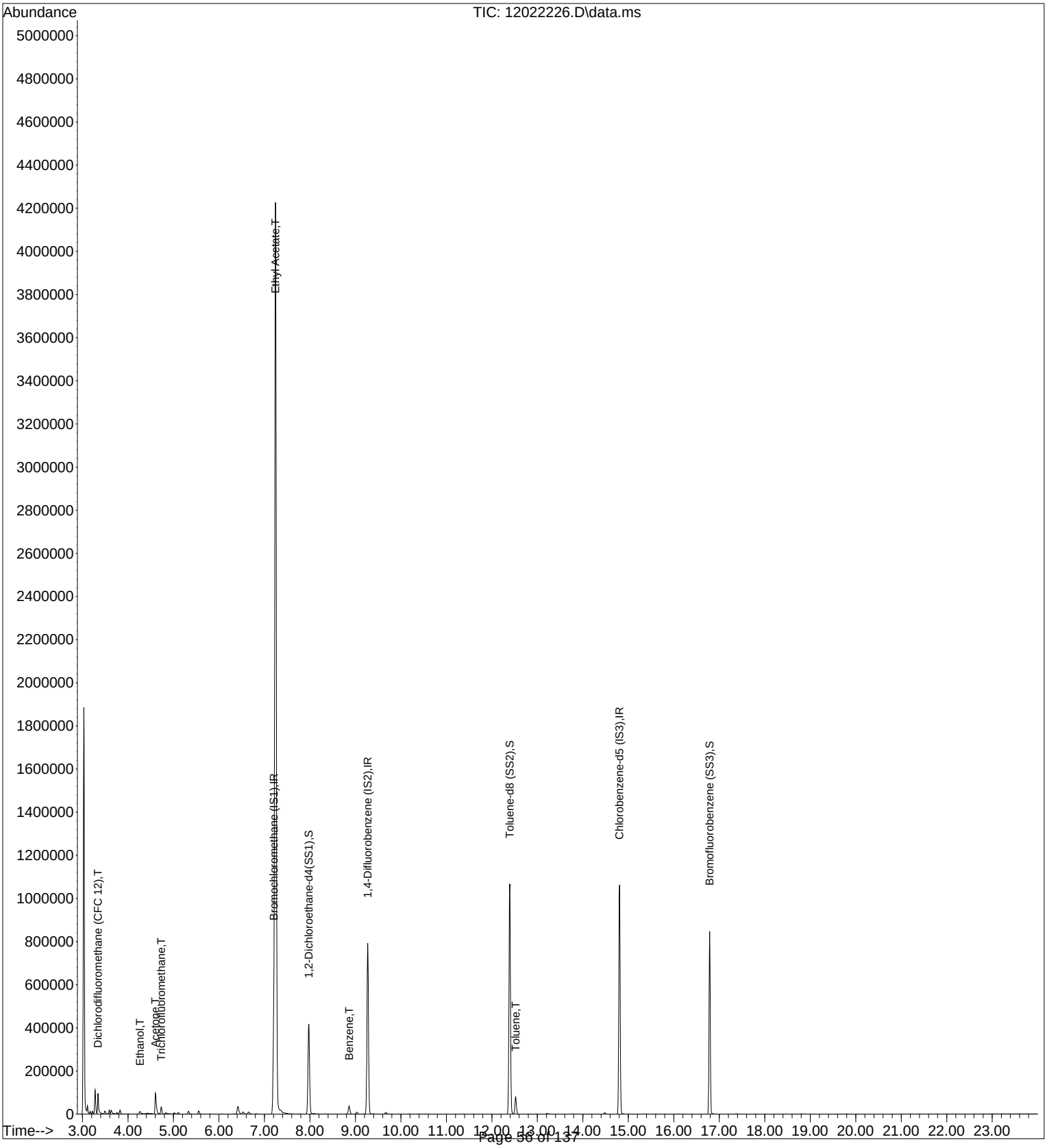
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	162680	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.27	114	710352	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	205437	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	348188	12.314	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
57) Toluene-d8 (SS2)	12.39	98	827169	11.045	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%				
73) Bromofluorobenzene (SS3)	16.79	174	258588	9.875	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.96%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.34	85	51823	1.385	ng		99
10) Ethanol	4.26	45	28051	1.540	ng		99
13) Acetone	4.60	58	32891	1.998	ng	#	83
14) Trichlorofluoromethane	4.73	101	23888	0.743	ng		96
30) Ethyl Acetate	7.24	61	830912	92.094	ng		93
41) Benzene	8.86	78	34222	0.564	ng		100
58) Toluene	12.52	91	67142	0.901	ng		98

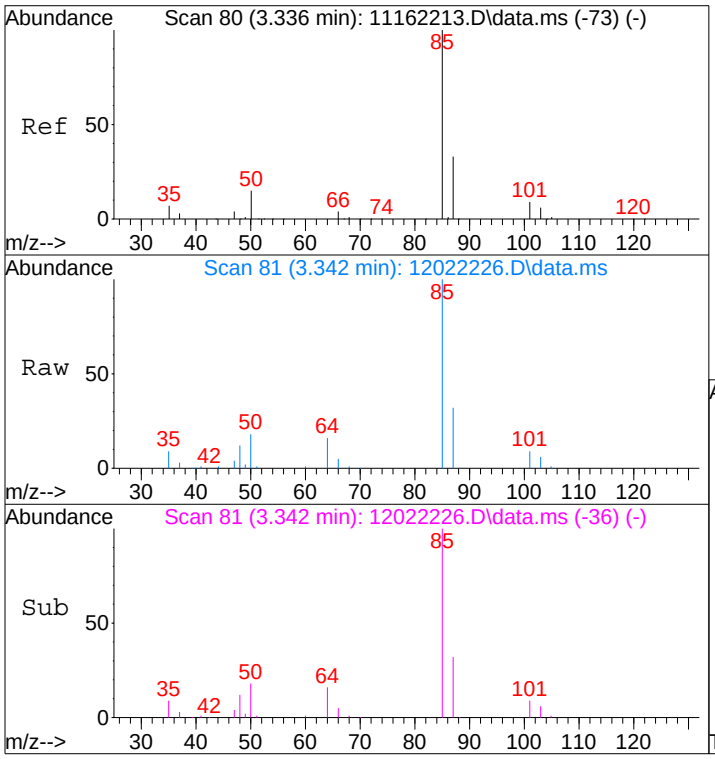
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022226.D Vial: 7
Acq On : 2 Dec 2022 19:19 Operator: SC
Sample : P2205313-003 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 09:32:48 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

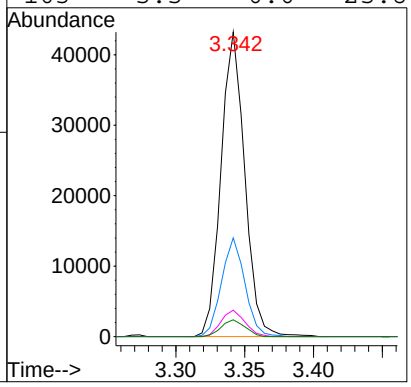


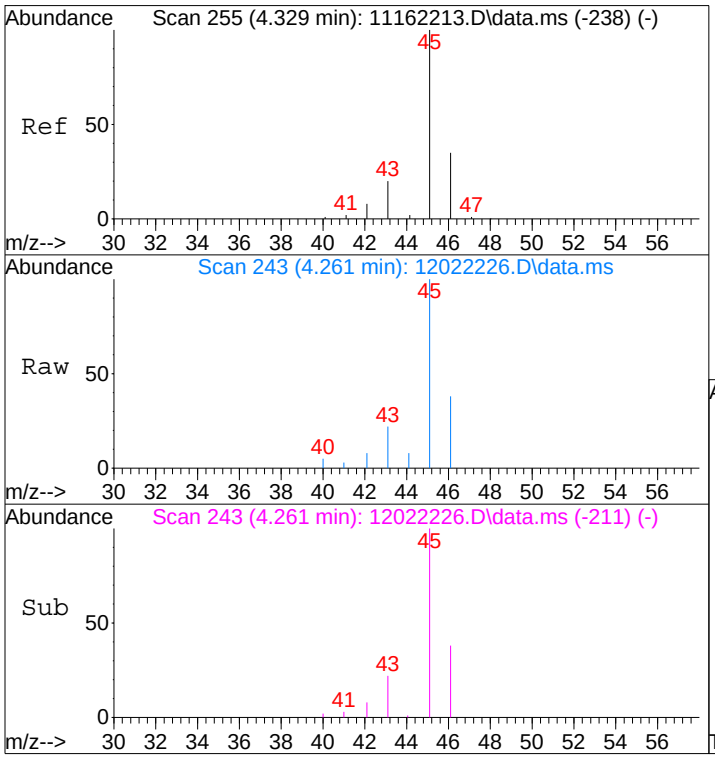


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.38 ng
RT: 3.34 min Scan# 81
Delta R.T. 0.006 min
Lab File: 12022226.D
Acq: 2 Dec 2022 19:19

Tgt Ion: 85 Resp: 51823

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.6	52.6
101	8.7	0.0	29.1
103	5.5	0.0	25.8

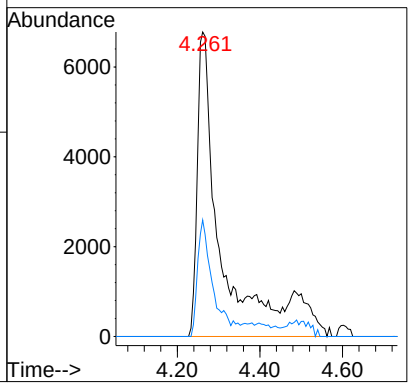


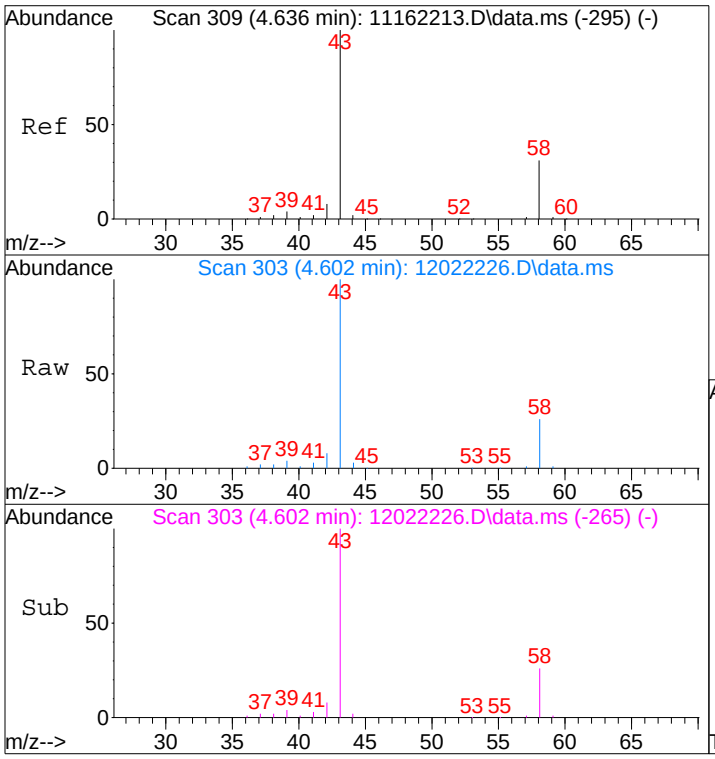


#10
Ethanol
Concen: 1.54 ng
RT: 4.26 min Scan# 243
Delta R.T. -0.068 min
Lab File: 12022226.D
Acq: 2 Dec 2022 19:19

Tgt Ion: 45 Resp: 28051

Ion	Ratio	Lower	Upper
45	100		
46	34.5	14.9	54.9

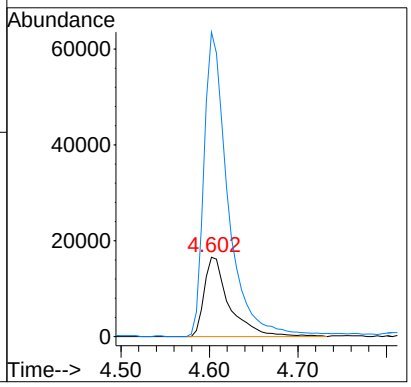


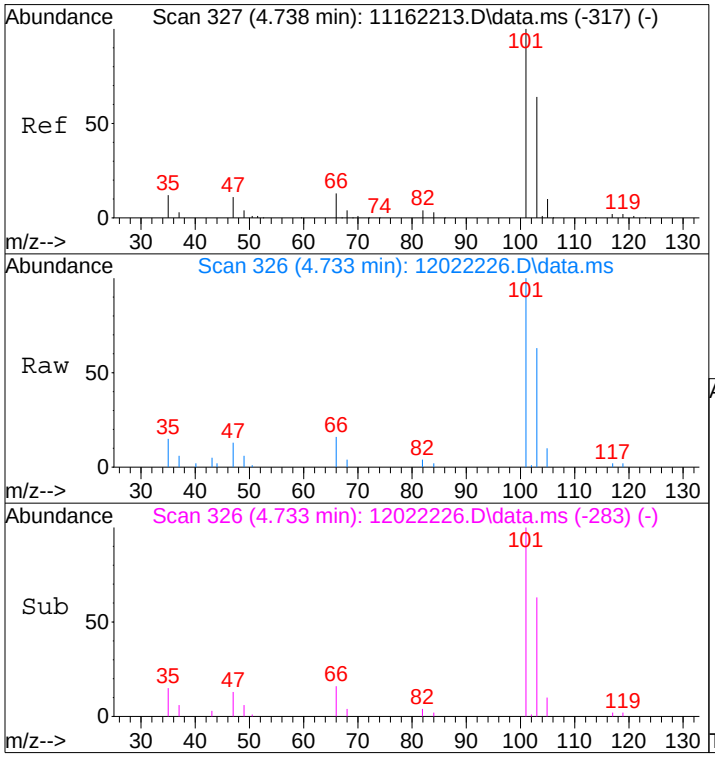


#13
Acetone
Concen: 2.00 ng
RT: 4.60 min Scan# 303
Delta R.T. -0.034 min
Lab File: 12022226.D
Acq: 2 Dec 2022 19:19

Tgt Ion: 58 Resp: 32891

Ion	Ratio	Lower	Upper
58	100		
43	372.9	306.3	366.3#

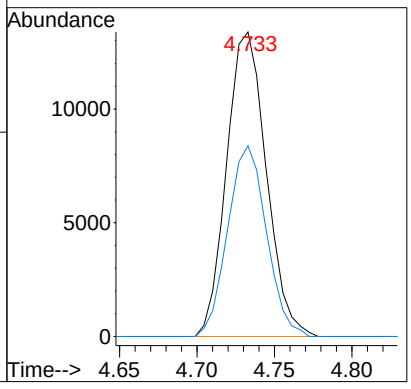


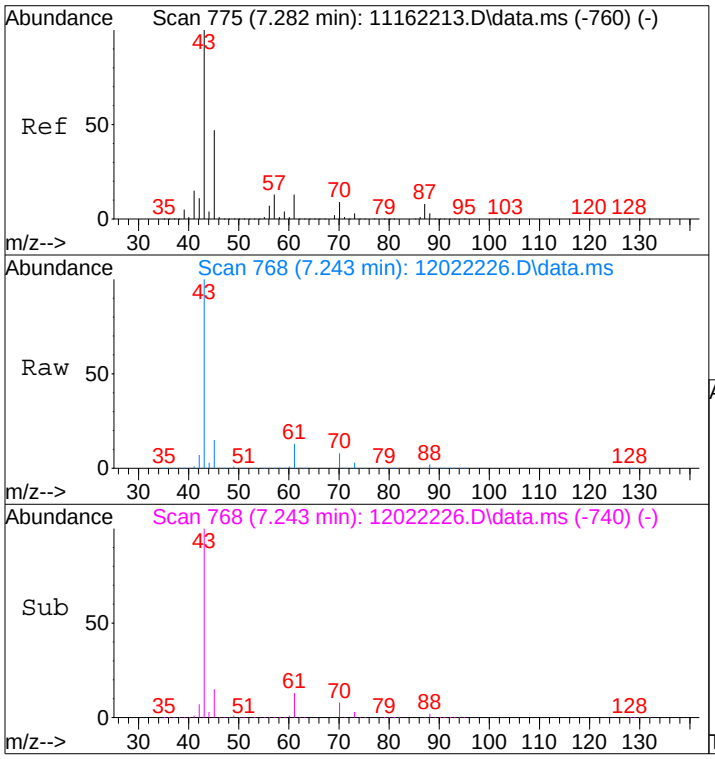


#14
Trichlorofluoromethane
Concen: 0.74 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.005 min
Lab File: 12022226.D
Acq: 2 Dec 2022 19:19

Tgt Ion:101 Resp: 23888

Ion	Ratio	Lower	Upper
101	100		
103	61.1	44.5	84.5

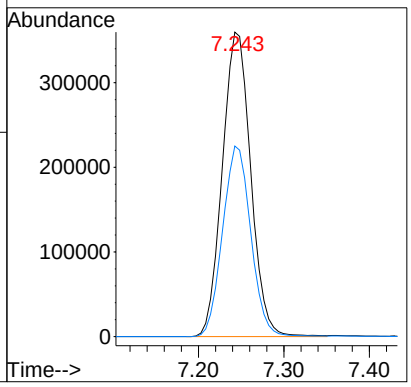


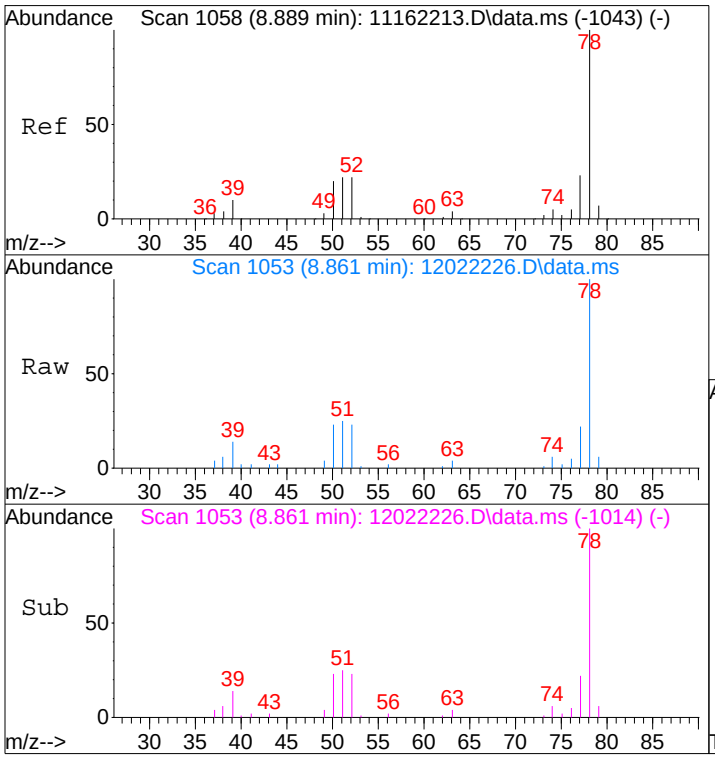


#30
Ethyl Acetate
Concen: 92.09 ng
RT: 7.24 min Scan# 768
Delta R.T. -0.040 min
Lab File: 12022226.D
Acq: 2 Dec 2022 19:19

Tgt Ion: 61 Resp: 830912

Ion	Ratio	Lower	Upper
61	100		
70	62.4	48.2	88.2

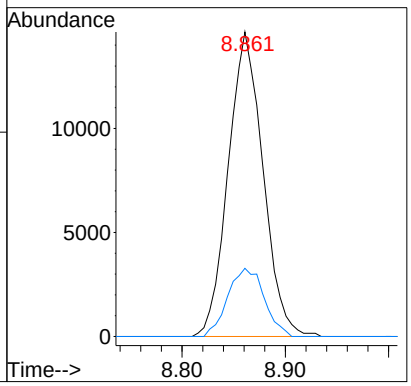


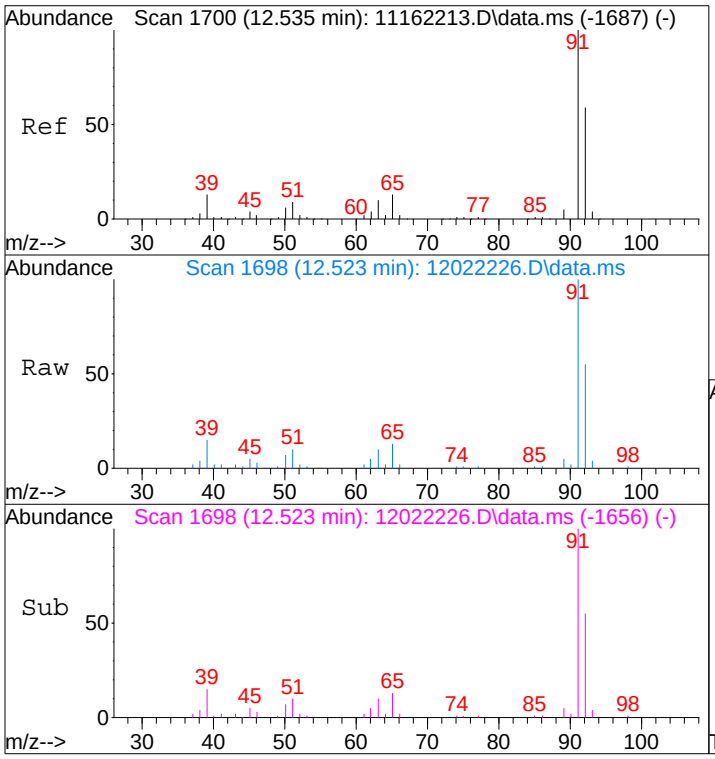


#41
Benzene
Concen: 0.56 ng
RT: 8.86 min Scan# 1053
Delta R.T. -0.028 min
Lab File: 12022226.D
Acq: 2 Dec 2022 19:19

Tgt Ion: 78 Resp: 34222

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.5	43.5

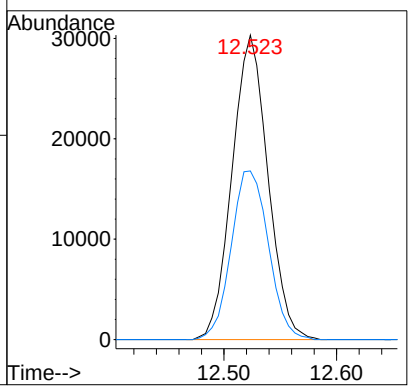




#58
Toluene
Concen: 0.90 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.011 min
Lab File: 12022226.D
Acq: 2 Dec 2022 19:19

Tgt Ion: 91 Resp: 67142

Ion	Ratio	Lower	Upper
91	100		
92	57.7	39.2	79.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022227.D Vial: 8
Acq On : 2 Dec 2022 19:51 Operator: SC
Sample : P2205313-004 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:43 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/5/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	128173	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	688162	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	199040	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	318271	14.286	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.32%				
57) Toluene-d8 (SS2)	12.39	98	797047	10.985	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.84%				
73) Bromofluorobenzene (SS3)	16.79	174	250987	9.892	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.12%				
Target Compounds							Qvalue
2) Propene	3.29	42	4744	N.D.			
3) Dichlorodifluoromethan...	3.35	85	44554	1.511	ng		99
4) Chloromethane	3.50	50	11328	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	1007	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.03	94	254	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	11307	0.788	ng		79
11) Acetonitrile	4.43	41	5818	N.D.			
12) Acrolein	4.53	56	375	N.D.			
13) Acetone	4.61	58	25532	1.968	ng	#	73
14) Trichlorofluoromethane	4.74	101	18472	0.729	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	8740	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.38	59	241	N.D.			
19) Methylene Chloride	5.33	84	3814	N.D.			
20) 3-Chloro-1-propene (Al...	5.39	41	217	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3383	N.D.			
22) Carbon Disulfide	5.60	76	716	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.42	86	392	N.D.			
27) 2-Butanone (MEK)	6.65	72	2474	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.25	87	786	N.D.			
30) Ethyl Acetate	7.25	61	84654	11.909	ng		92
31) n-Hexane	7.28	57	975	N.D.			
32) Chloroform	7.33	83	1119	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	1205	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	24716	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.86	78	9178	N.D.			
42) Carbon Tetrachloride	9.03	117	4819	N.D.			
43) Cyclohexane	9.18	84	113	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	1069	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022227.D Vial: 8
Acq On : 2 Dec 2022 19:51 Operator: SC
Sample : P2205313-004 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:43 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

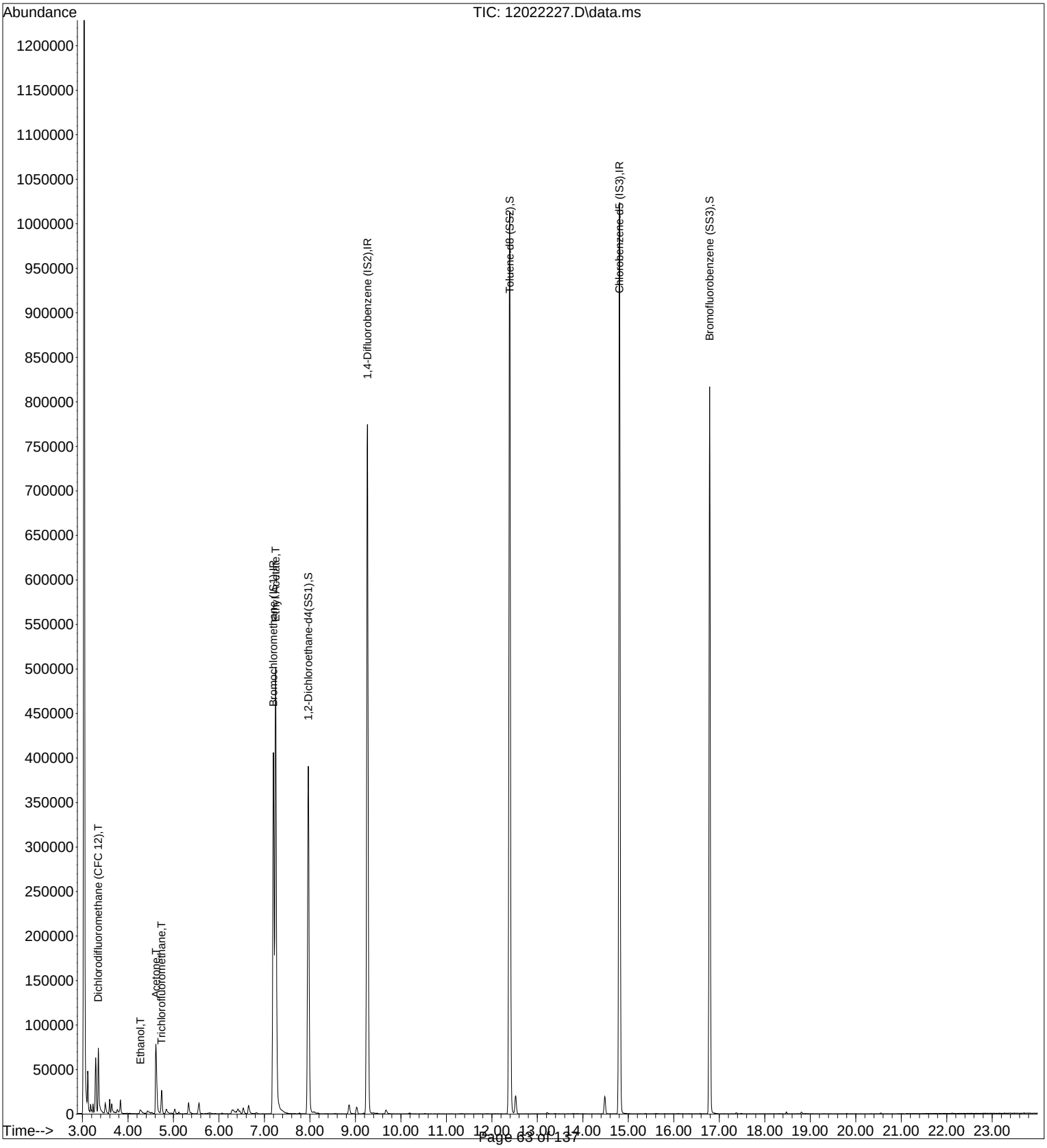
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	17668	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.79	43	471	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.39	91	417	N.D.	
67) m- & p-Xylenes	15.62	91	128	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.20	91	108	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	607	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022227.D Vial: 8
Acq On : 2 Dec 2022 19:51 Operator: SC
Sample : P2205313-004 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:43 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022227.D Vial: 8
Acq On : 2 Dec 2022 19:51 Operator: SC
Sample : P2205313-004 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:43 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/5/22

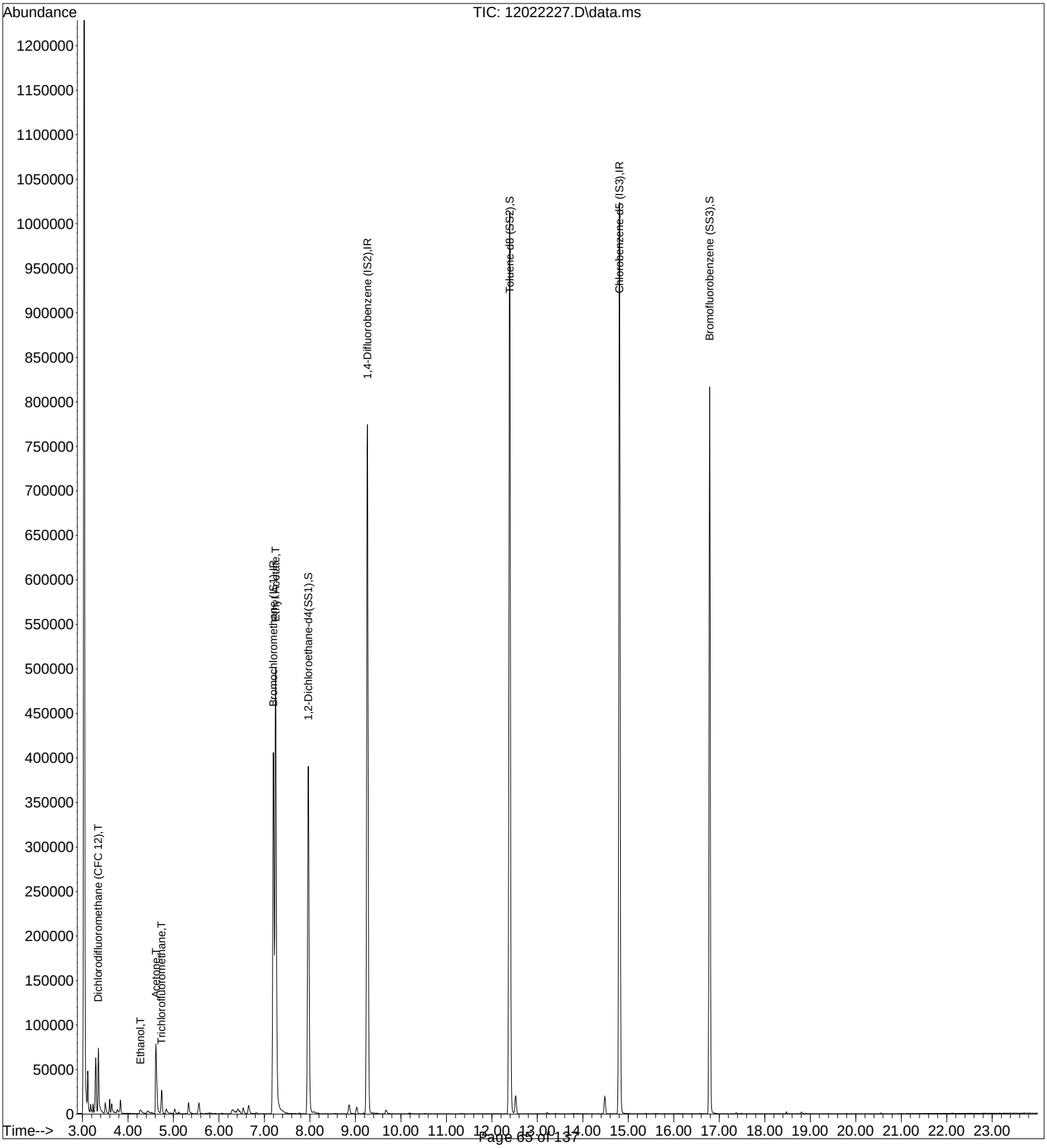
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	128173	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	688162	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	199040	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	318271	14.286	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.32%				
57) Toluene-d8 (SS2)	12.39	98	797047	10.985	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.84%				
73) Bromofluorobenzene (SS3)	16.79	174	250987	9.892	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.12%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	44554	1.511	ng		99
10) Ethanol	4.27	45	11307	0.788	ng		79
13) Acetone	4.61	58	25532	1.968	ng	#	73
14) Trichlorofluoromethane	4.74	101	18472	0.729	ng		100
30) Ethyl Acetate	7.25	61	84654	11.909	ng		92

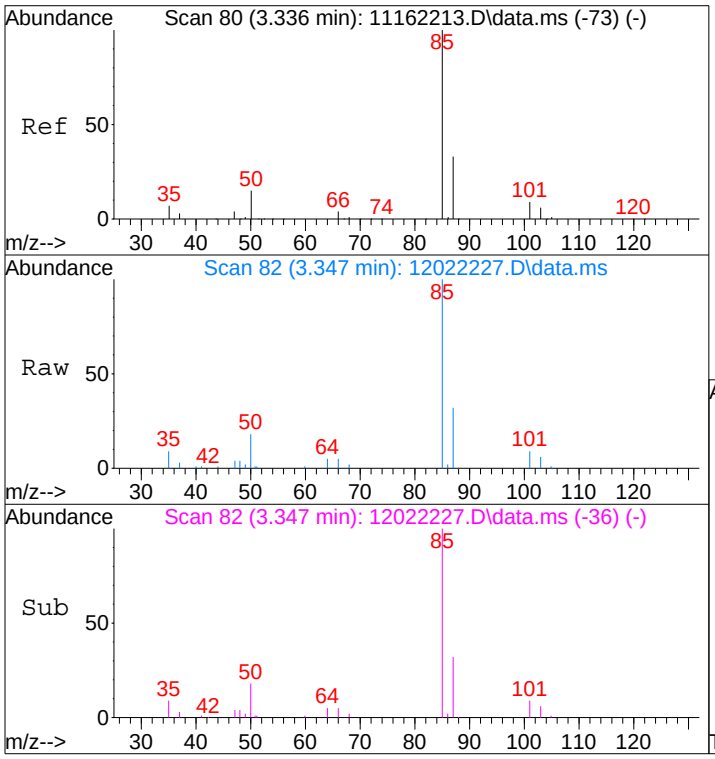
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022227.D Vial: 8
Acq On : 2 Dec 2022 19:51 Operator: SC
Sample : P2205313-004 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:43 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

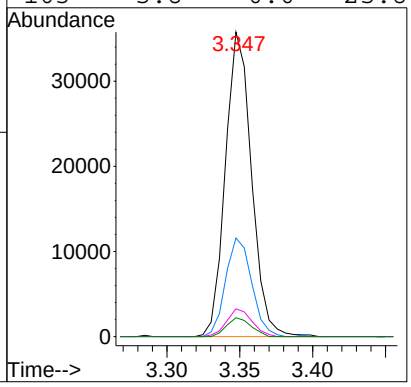


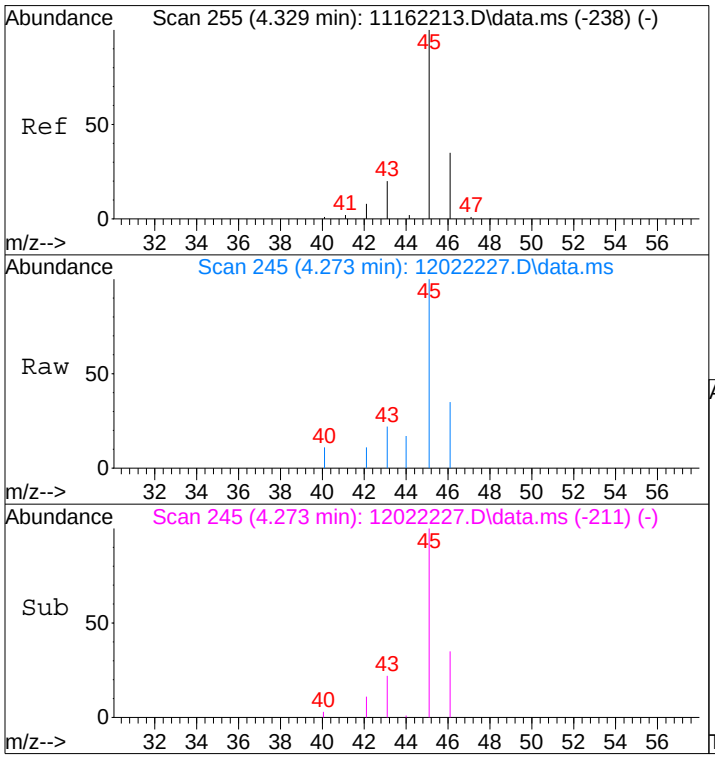


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.51 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.012 min
Lab File: 12022227.D
Acq: 2 Dec 2022 19:51

Tgt Ion: 85 Resp: 44554

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.6	52.6
101	8.9	0.0	29.1
103	5.8	0.0	25.8

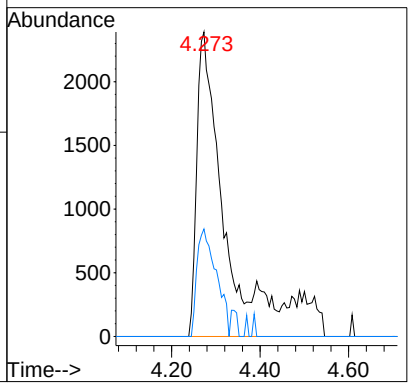


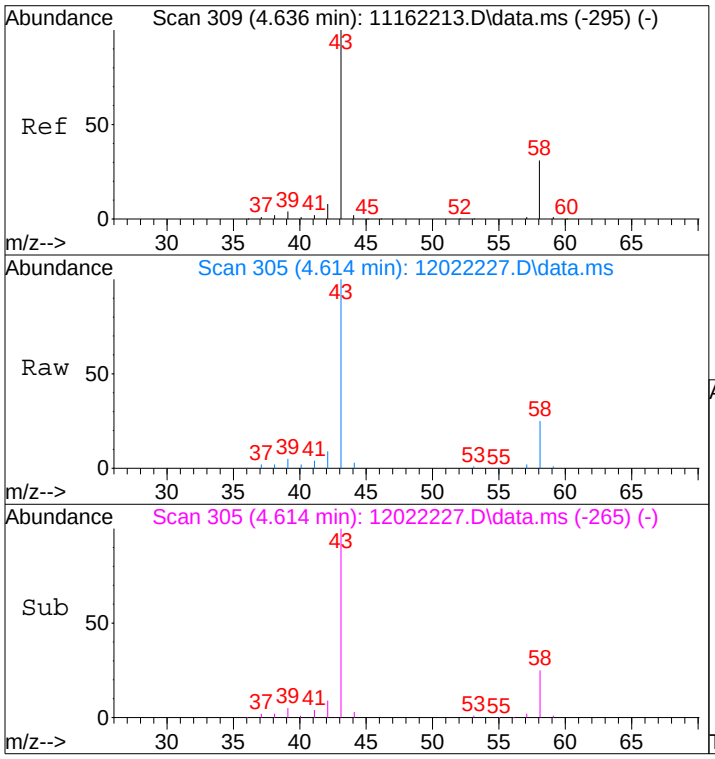


#10
Ethanol
Concen: 0.79 ng
RT: 4.27 min Scan# 245
Delta R.T. -0.057 min
Lab File: 12022227.D
Acq: 2 Dec 2022 19:51

Tgt Ion: 45 Resp: 11307

Ion	Ratio	Lower	Upper
45	100		
46	22.6	14.9	54.9

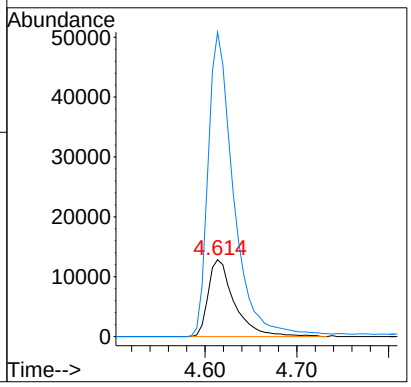


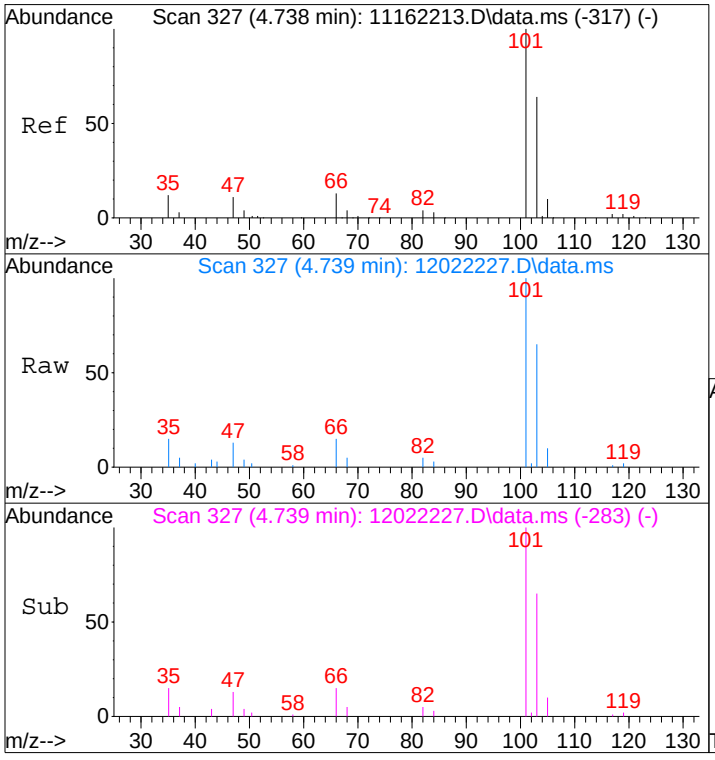


#13
Acetone
Concen: 1.97 ng
RT: 4.61 min Scan# 305
Delta R.T. -0.022 min
Lab File: 12022227.D
Acq: 2 Dec 2022 19:51

Tgt Ion: 58 Resp: 25532

Ion	Ratio	Lower	Upper
58	100		
43	393.4	306.3	366.3#

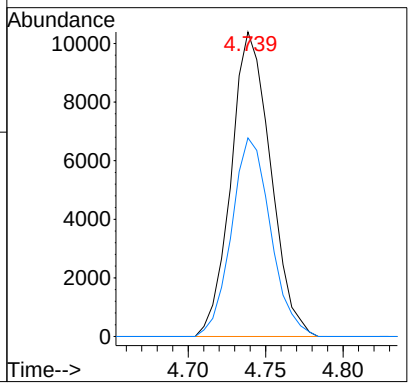


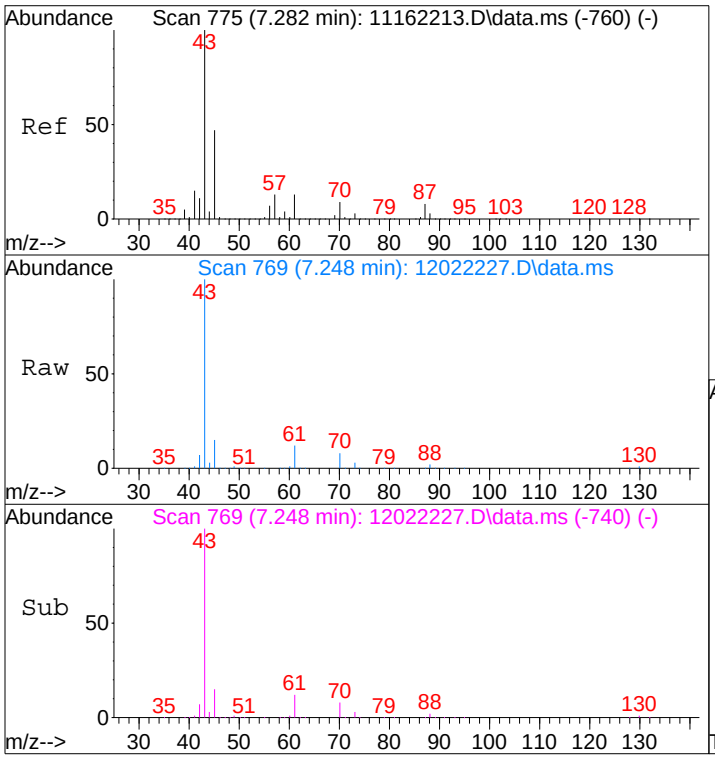


#14
Trichlorofluoromethane
Concen: 0.73 ng
RT: 4.74 min Scan# 327
Delta R.T. 0.000 min
Lab File: 12022227.D
Acq: 2 Dec 2022 19:51

Tgt Ion:101 Resp: 18472

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.5	84.5

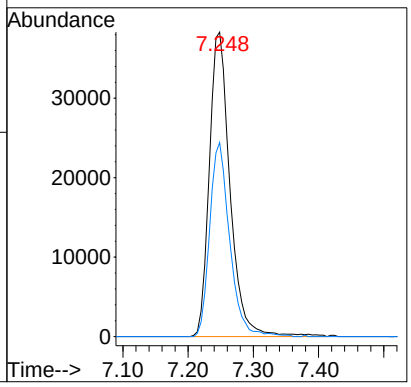




#30
Ethyl Acetate
Concen: 11.91 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.034 min
Lab File: 12022227.D
Acq: 2 Dec 2022 19:51

Tgt Ion: 61 Resp: 84654

Ion	Ratio	Lower	Upper
61	100		
70	61.5	48.2	88.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022228.D Vial: 9
Acq On : 2 Dec 2022 20:23 Operator: SC
Sample : P2205313-005 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:56 2022 12/5/22
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	129620	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	687574	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	196102	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	317548	14.095	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.72%				
57) Toluene-d8 (SS2)	12.39	98	791616	11.073	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.56%				
73) Bromofluorobenzene (SS3)	16.79	174	248625	9.946	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.60%				
Target Compounds							Qvalue
2) Propene	3.29	42	3932	N.D.			
3) Dichlorodifluoromethan...	3.35	85	43277	1.451	ng		98
4) Chloromethane	3.50	50	11917	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	969	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.03	94	139	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	5639	N.D.			
11) Acetonitrile	4.44	41	4579	N.D.			
12) Acrolein	4.52	56	365	N.D.			
13) Acetone	4.61	58	22236	1.695	ng	#	75
14) Trichlorofluoromethane	4.74	101	17591	0.687	ng		99
15) 2-Propanol (Isopropanol)	4.87	45	8762	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.39	59	184	N.D.			
19) Methylene Chloride	5.33	84	2718	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3349	N.D.			
22) Carbon Disulfide	5.60	76	694	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.42	86	124	N.D.			
27) 2-Butanone (MEK)	6.65	72	1654	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.25	87	764	N.D.			
30) Ethyl Acetate	7.24	61	75114	10.449	ng		91
31) n-Hexane	7.27	57	376	N.D.			
32) Chloroform	7.32	83	1036	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.07	62	1236	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	24522	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.87	78	5502	N.D.			
42) Carbon Tetrachloride	9.03	117	4402	N.D.			
43) Cyclohexane	9.27	84	436	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.18	57	126	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022228.D Vial: 9
Acq On : 2 Dec 2022 20:23 Operator: SC
Sample : P2205313-005 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:56 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

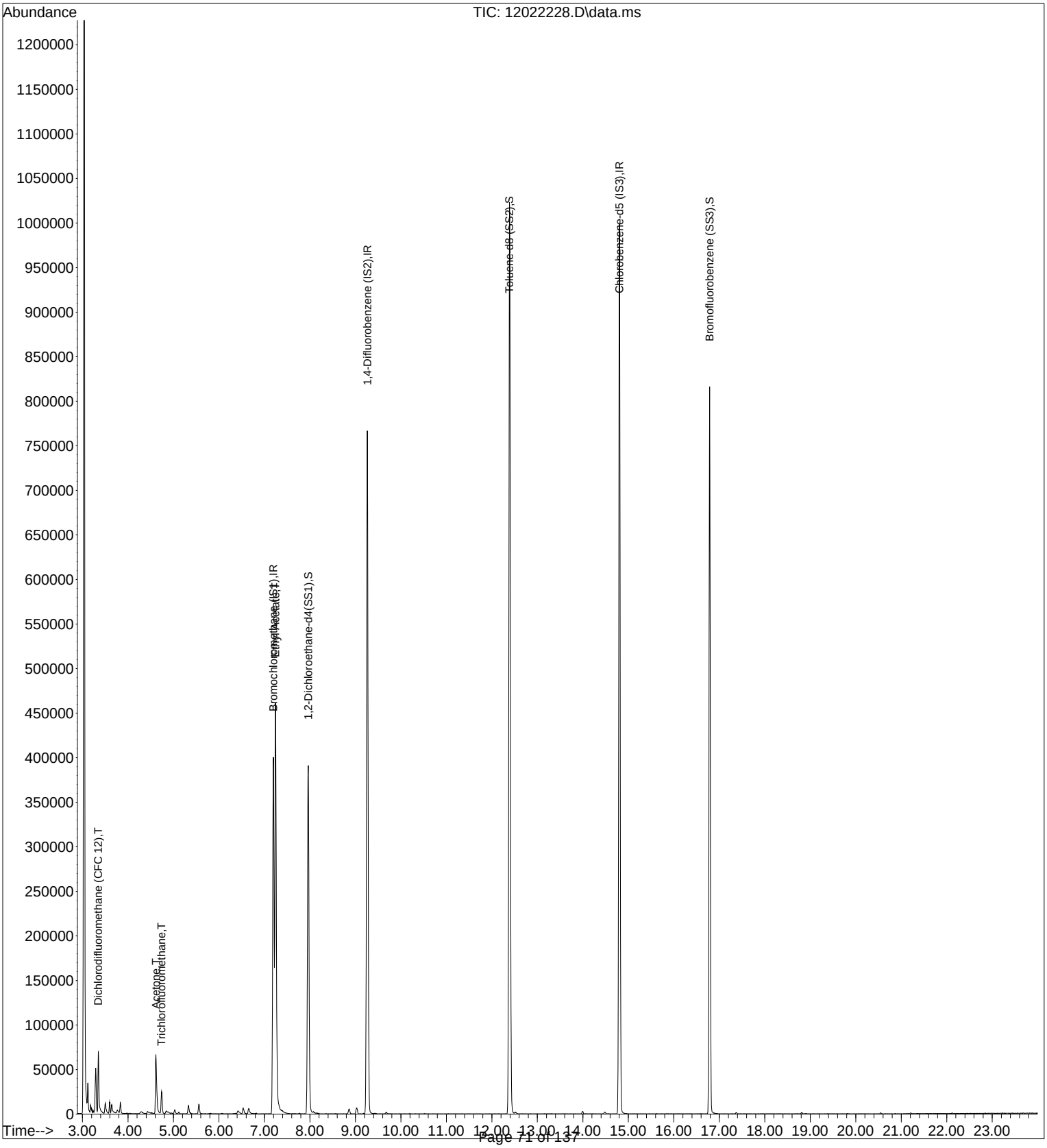
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.52	91	1944	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	13.99	166	1025	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	15.63	91	134	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	16.57	43	186	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	18.91	119	541	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	19.37	91	104	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022228.D Vial: 9
Acq On : 2 Dec 2022 20:23 Operator: SC
Sample : P2205313-005 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:56 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022228.D Vial: 9
Acq On : 2 Dec 2022 20:23 Operator: SC
Sample : P2205313-005 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:56 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/5/22

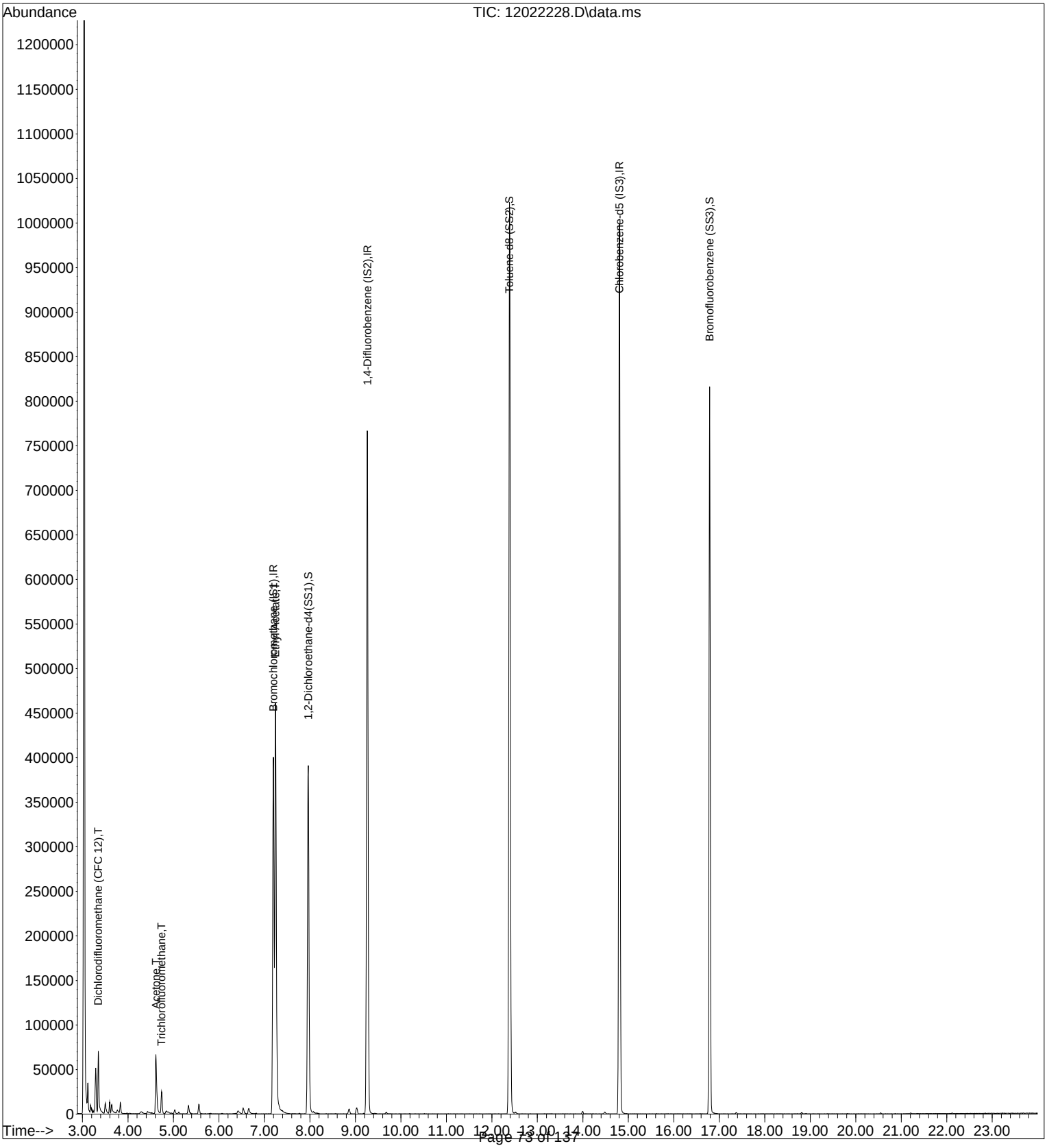
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	129620	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	687574	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	196102	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	317548	14.095	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.72%				
57) Toluene-d8 (SS2)	12.39	98	791616	11.073	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.56%				
73) Bromofluorobenzene (SS3)	16.79	174	248625	9.946	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.60%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	43277	1.451	ng		98
13) Acetone	4.61	58	22236	1.695	ng	#	75
14) Trichlorofluoromethane	4.74	101	17591	0.687	ng		99
30) Ethyl Acetate	7.24	61	75114	10.449	ng		91

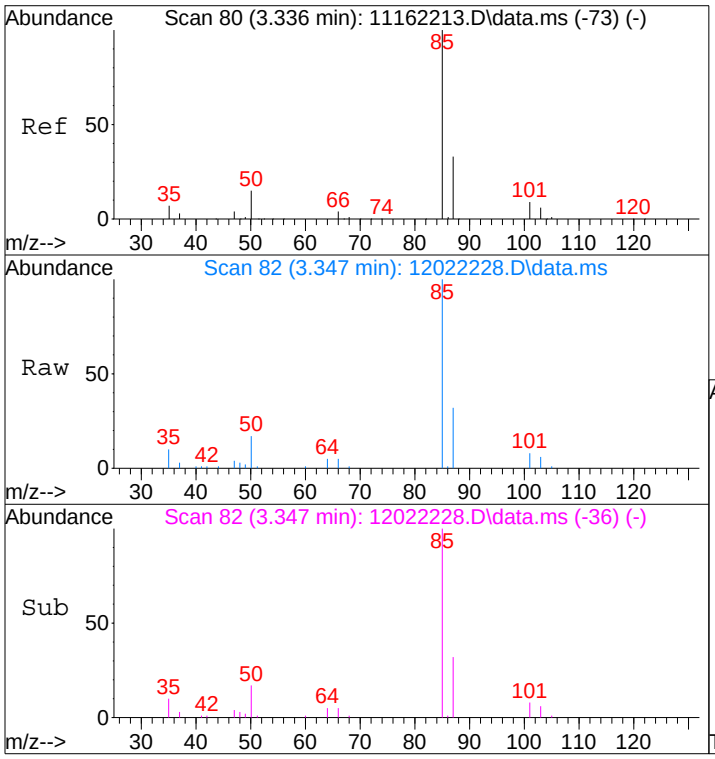
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022228.D Vial: 9
Acq On : 2 Dec 2022 20:23 Operator: SC
Sample : P2205313-005 (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:10:56 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

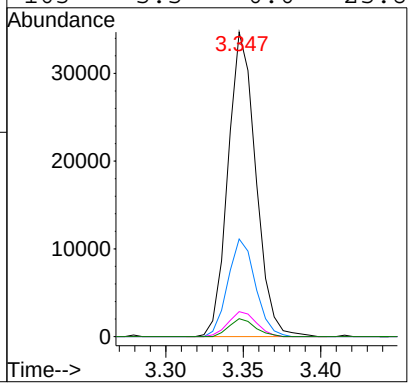


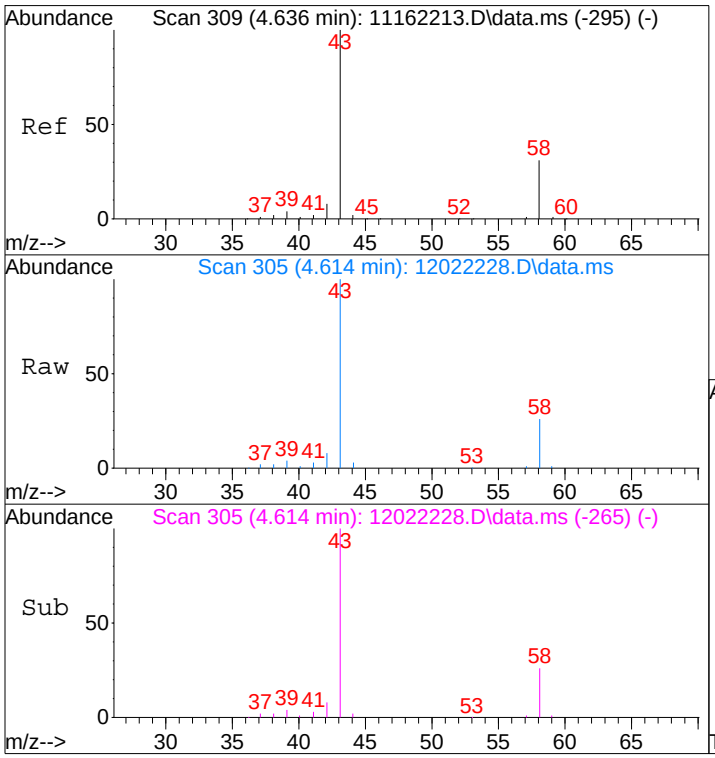


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.45 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.012 min
Lab File: 12022228.D
Acq: 2 Dec 2022 20:23

Tgt Ion: 85 Resp: 43277

Ion	Ratio	Lower	Upper
85	100		
87	31.7	12.6	52.6
101	8.3	0.0	29.1
103	5.5	0.0	25.8

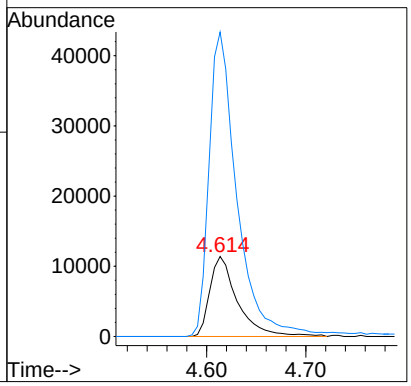


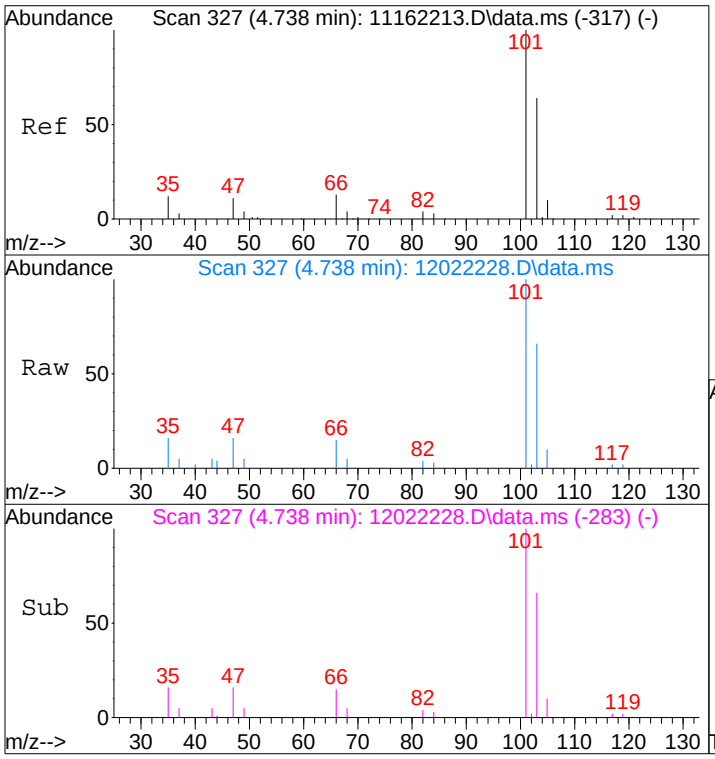


#13
Acetone
Concen: 1.70 ng
RT: 4.61 min Scan# 305
Delta R.T. -0.023 min
Lab File: 12022228.D
Acq: 2 Dec 2022 20:23

Tgt Ion: 58 Resp: 22236

Ion	Ratio	Lower	Upper
58	100		
43	389.3	306.3	366.3#

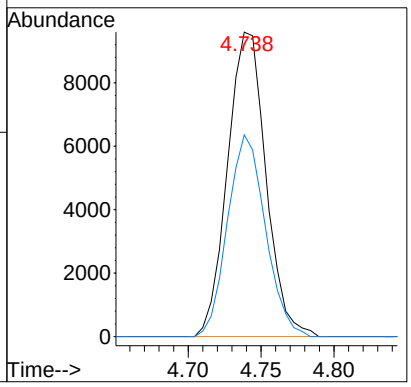


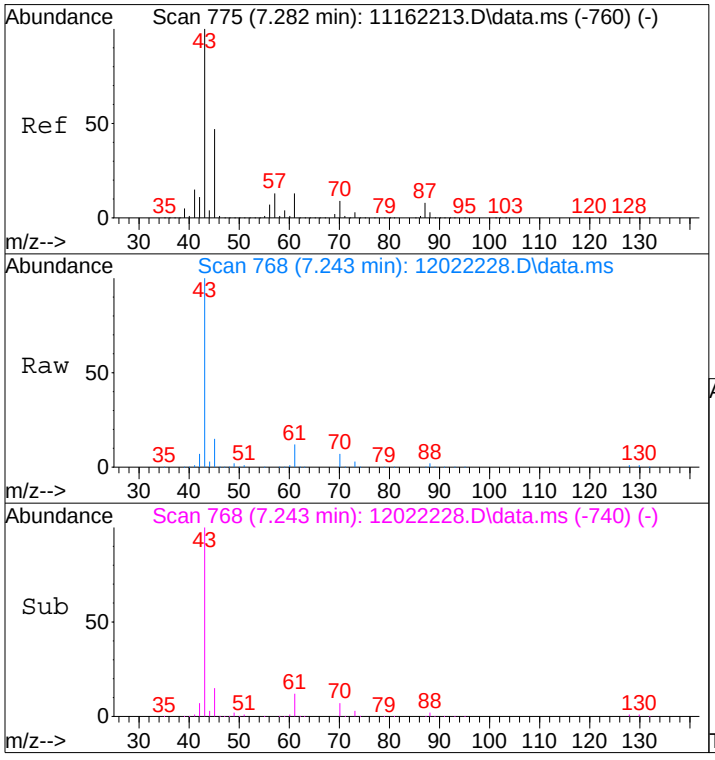


#14
Trichlorofluoromethane
Concen: 0.69 ng
RT: 4.74 min Scan# 327
Delta R.T. 0.000 min
Lab File: 12022228.D
Acq: 2 Dec 2022 20:23

Tgt Ion:101 Resp: 17591

Ion	Ratio	Lower	Upper
101	100		
103	65.2	44.5	84.5

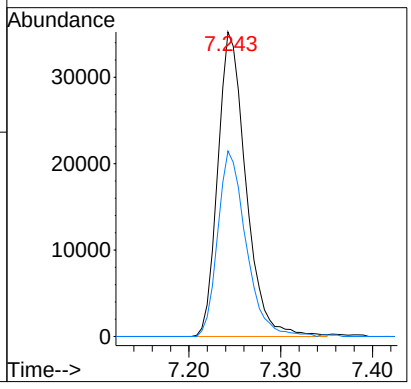




#30
Ethyl Acetate
Concen: 10.45 ng
RT: 7.24 min Scan# 768
Delta R.T. -0.040 min
Lab File: 12022228.D
Acq: 2 Dec 2022 20:23

Tgt Ion: 61 Resp: 75114

Ion	Ratio	Lower	Upper
61	100		
70	61.2	48.2	88.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022204.D Vial: 2
Acq On : 2 Dec 2022 00:24 Operator: SC
Sample : MB R9120222 1000mL Inst : MS09
Misc : S35-11152201

Quant Time: Dec 02 08:42:39 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/2/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	157649	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	700152	12.500	ng	-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	196604	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	337626	12.322	ng	-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%			
57) Toluene-d8 (SS2)	12.39	98	798875	11.146	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.20%			
73) Bromofluorobenzene (SS3)	16.79	174	248552	9.918	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.36%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	3.37	85	659	N.D.		
4) Chloromethane	3.51	50	572	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	213	N.D.		
6) Vinyl Chloride	3.71	62	423	N.D.		
7) 1,3-Butadiene	3.82	54	287	N.D.		
8) Bromomethane	4.03	94	191	N.D.		
9) Chloroethane	4.16	64	112	N.D.		
10) Ethanol	4.31	45	2746	0.156	ng	87
11) Acetonitrile	4.46	41	1408	N.D.		
12) Acrolein	4.53	56	971	0.067	ng	100
13) Acetone	4.63	58	7752	0.486	ng	99
14) Trichlorofluoromethane	4.76	101	583	N.D.		
15) 2-Propanol (Isopropanol)	4.90	45	2349	N.D.		
16) Acrylonitrile	5.01	53	848	N.D.		
17) 1,1-Dichloroethene	5.25	96	253	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.34	84	476	N.D.		
20) 3-Chloro-1-propene (Al...	5.43	41	331	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	5.60	76	1986	N.D.		
23) trans-1,2-Dichloroethene	6.12	61	288	N.D.		
24) 1,1-Dichloroethane	6.28	63	434	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	7.05	61	314	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.32	83	342	N.D.		
34) Tetrahydrofuran (THF)	7.78	72	744	0.066	ng	# 60
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.08	62	162	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	25176	No Calib		#
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	8.86	78	1452	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.26	84	416	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022204.D Vial: 2
Acq On : 2 Dec 2022 00:24 Operator: SC
Sample : MB R9120222 1000mL Inst : MS09
Misc : S35-11152201

Quant Time: Dec 02 08:42:39 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

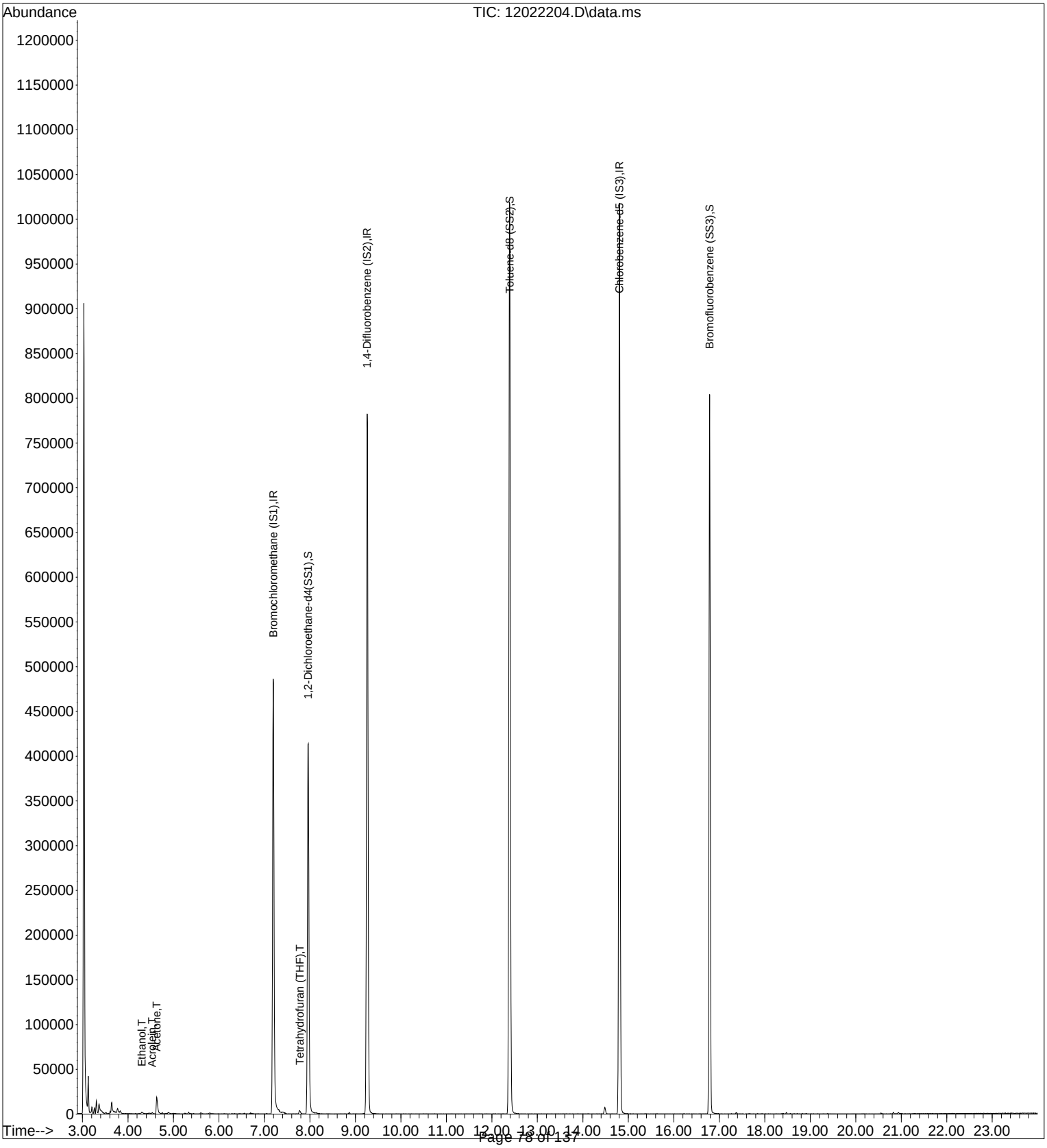
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	497	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.39	91	221	N.D.	
67) m- & p-Xylenes	15.63	91	197	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.22	91	140	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.65	91	570	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.84	105	417	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	315	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.42	105	276	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.64	146	295	N.D.	
86) 1,4-Dichlorobenzene	18.64	146	295	N.D.	
87) sec-Butylbenzene	18.72	105	390	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	589	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.83	180	811	N.D.	
95) Naphthalene	20.94	128	2897	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.28	225	170	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.39	119	221	N.D.	
100) n-Butylbenzene	19.37	91	254	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022204.D Vial: 2
Acq On : 2 Dec 2022 00:24 Operator: SC
Sample : MB R9120222 1000mL Inst : MS09
Misc : S35-11152201

Quant Time: Dec 02 08:42:39 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022205.D Vial: 2
Acq On : 2 Dec 2022 00:55 Operator: SC
Sample : LCS R9120222 25ng Inst : MS09
Misc : S35-11152201/S35-11212205 (12/21)

Quant Time: Dec 02 08:43:24 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/2/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	170676	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.29	114	726832	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	207014	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	353044	11.901	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	12.40	98	840710	11.140	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.12%				
73) Bromofluorobenzene (SS3)	16.79	174	269818	10.225	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.76%				
Target Compounds							Qvalue
2) Propene	3.25	42	775213	25.395	ng		100
3) Dichlorodifluoromethan...	3.33	85	912013	23.230	ng		100
4) Chloromethane	3.47	50	915798	24.156	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	426982	22.902	ng		99
6) Vinyl Chloride	3.66	62	801642	24.174	ng		99
7) 1,3-Butadiene	3.78	54	584580	35.098	ng		98
8) Bromomethane	3.99	94	323827	22.155	ng		100
9) Chloroethane	4.14	64	329773	24.362	ng		100
10) Ethanol	4.32	45	2228220	116.610	ng		100
11) Acetonitrile	4.45	41	1136678	20.674	ng		100
12) Acrolein	4.53	56	737305	46.877	ng		100
13) Acetone	4.63	58	2134808	123.596	ng		96
14) Trichlorofluoromethane	4.73	101	828714	24.568	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	3096666	48.097	ng		99
16) Acrylonitrile	5.01	53	1610182	48.446	ng		100
17) 1,1-Dichloroethene	5.24	96	421951	25.447	ng		90
18) 2-Methyl-2-Propanol (t...	5.34	59	2810970	50.176	ng		99
19) Methylene Chloride	5.36	84	454297	24.297	ng		88
20) 3-Chloro-1-propene (Al...	5.45	41	926963	23.475	ng		93
21) Trichlorotrifluoroethane	5.56	151	385182	21.846	ng		94
22) Carbon Disulfide	5.58	76	3222898	54.569	ng		100
23) trans-1,2-Dichloroethene	6.14	61	787085	24.395	ng		95
24) 1,1-Dichloroethane	6.32	63	914109	24.651	ng		100
25) Methyl tert-Butyl Ether	6.35	73	1284763	22.458	ng		98
26) Vinyl Acetate	6.44	86	374116	105.465	ng	#	81
27) 2-Butanone (MEK)	6.66	72	590774	46.859	ng	#	83
28) cis-1,2-Dichloroethene	7.08	61	749469	23.992	ng		94
29) Diisopropyl Ether	7.27	87	727986	46.936	ng	#	80
30) Ethyl Acetate	7.27	61	720173	76.081	ng		96
31) n-Hexane	7.28	57	1024572	26.019	ng		100
32) Chloroform	7.37	83	831270	23.001	ng		100
34) Tetrahydrofuran (THF)	7.73	72	563382	46.459	ng	#	88
35) Ethyl tert-Butyl Ether	7.80	87	1015874	45.814	ng	#	90
36) 1,2-Dichloroethane	8.11	62	750238	24.298	ng		99
38) 1,1,1-Trichloroethane	8.38	97	738296	26.319	ng		98
39) Isopropyl Acetate	9.19	61	2372	No Calib		#	
40) 1-Butanol	8.80	56	15147	No Calib		#	
41) Benzene	8.88	78	1659327	26.718	ng		100
42) Carbon Tetrachloride	9.05	117	564099	24.405	ng		100
43) Cyclohexane	9.20	84	1282642	52.677	ng		93
44) tert-Amyl Methyl Ether	9.57	73	2508276	56.489	ng		97
45) 1,2-Dichloropropane	9.84	63	500918	27.248	ng		99
46) Bromodichloromethane	10.06	83	673104	27.895	ng		100
47) Trichloroethene	10.13	130	430144	25.254	ng		100
48) 1,4-Dioxane	10.09	88	352549	27.531	ng		92
49) 2,2,4-Trimethylpentane...	10.21	57	2326249	27.627	ng		97
50) Methyl Methacrylate	10.38	100	329944	55.621	ng		90

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022205.D Vial: 2
Acq On : 2 Dec 2022 00:55 Operator: SC
Sample : LCS R9120222 25ng Inst : MS09
Misc : S35-11152201/S35-11212205 (12/21)

Quant Time: Dec 02 08:43:24 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

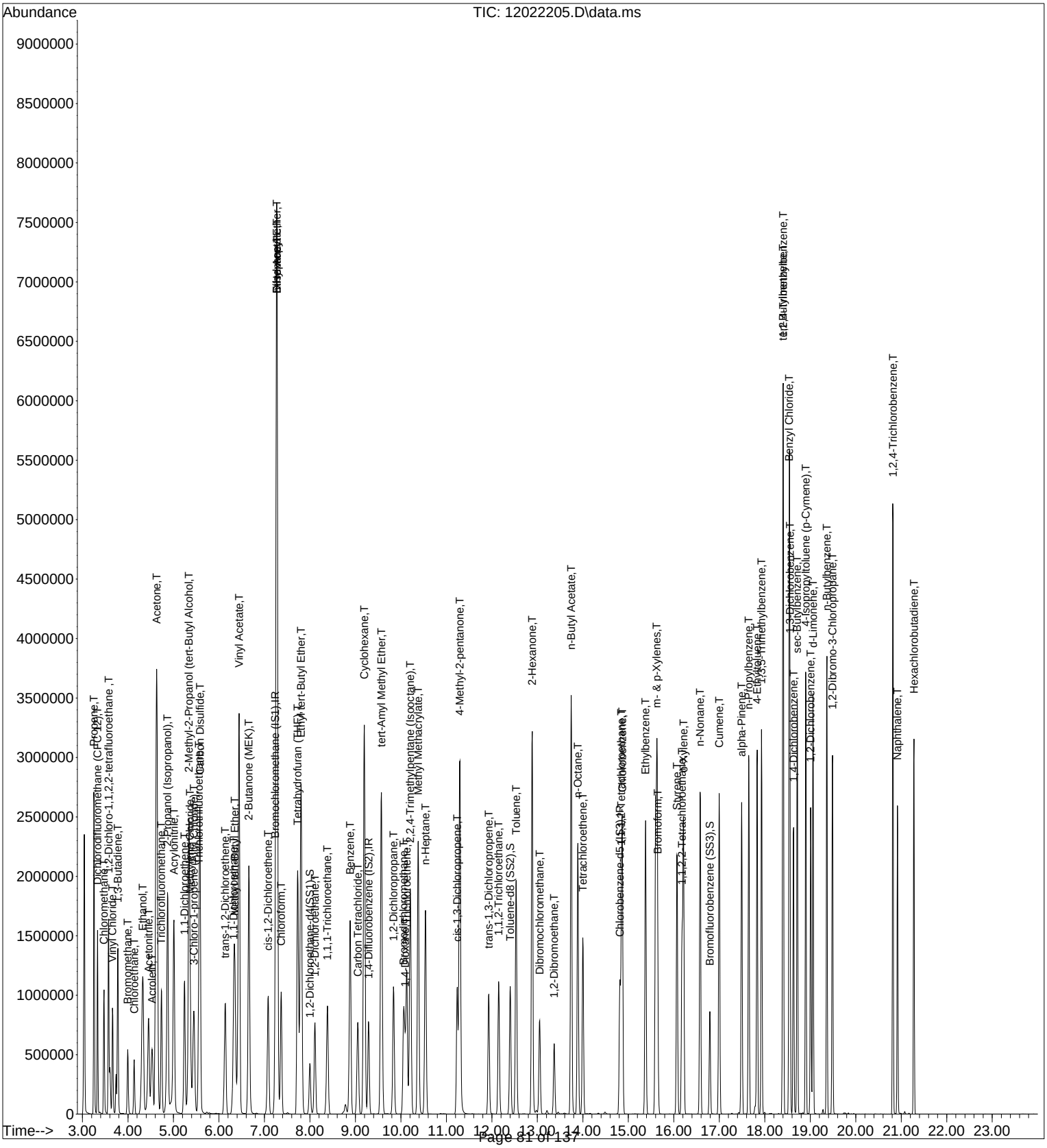
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	423618	26.469 ng		95
52) cis-1,3-Dichloropropene	11.24	75	701396	28.033 ng		100
53) 4-Methyl-2-pentanone	11.30	58	1128736	61.023 ng		93
54) trans-1,3-Dichloropropene	11.93	75	637418	27.158 ng		100
55) 1,1,2-Trichloroethane	12.15	97	424446	25.960 ng		98
58) Toluene	12.53	91	1689867	22.495 ng		99
59) 2-Hexanone	12.89	43	2955399	55.095 ng		97
60) Dibromochloromethane	13.05	129	503508	22.943 ng		99
61) 1,2-Dibromoethane	13.37	107	498762	21.874 ng		100
62) n-Butyl Acetate	13.74	43	3318654	56.275 ng		98
63) n-Octane	13.89	57	498444	24.553 ng		94
64) Tetrachloroethene	14.00	166	472859	21.240 ng		100
65) Chlorobenzene	14.87	112	1110121	21.907 ng		100
66) Ethylbenzene	15.38	91	1994803	22.997 ng		99
67) m- & p-Xylenes	15.62	91	3333892	47.496 ng		98
68) Bromoform	15.65	173	466461	23.987 ng		100
69) Styrene	16.07	104	1140558	22.401 ng		98
70) o-Xylene	16.21	91	1625666	23.466 ng		98
71) n-Nonane	16.58	43	1289590	26.018 ng		95
72) 1,1,2,2-Tetrachloroethane	16.18	83	820978	24.003 ng		99
74) Cumene	17.00	105	1924639	23.036 ng		99
75) alpha-Pinene	17.49	93	1048245	24.116 ng		98
76) n-Propylbenzene	17.65	91	2440141	23.499 ng		98
77) 3-Ethyltoluene	17.00	105	1924639	No Calib		
78) 4-Ethyltoluene	17.83	105	1892035	23.561 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	1658912	23.570 ng		98
80) alpha-Methylstyrene	17.00	118	3224	No Calib	#	
81) 2-Ethyltoluene	17.00	105	1924639	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1745786	24.540 ng		98
83) n-Decane	17.00	58	20827	No Calib		
84) Benzyl Chloride	18.54	91	2799588	53.635 ng		97
85) 1,3-Dichlorobenzene	18.55	146	930009	22.377 ng		100
86) 1,4-Dichlorobenzene	18.63	146	876136	20.838 ng		100
87) sec-Butylbenzene	18.71	105	2178919	23.244 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	1893417	22.560 ng		98
89) 1,2,3-Trimethylbenzene	17.00	105	1924639	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	883040	21.791 ng		100
91) d-Limonene	19.06	68	730585	26.020 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.49	157	702866	45.990 ng		85
93) n-Undecane	17.93	58	48192	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1302068	39.390 ng		100
95) Naphthalene	20.92	128	1525138	18.011 ng		100
96) n-Dodecane	18.90	58	59346	No Calib	#	
97) Hexachlorobutadiene	21.28	225	487280	20.805 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	1667020	23.641 ng		98
100) n-Butylbenzene	19.37	91	1863252	24.308 ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	430570	22.442 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022205.D Vial: 2
Acq On : 2 Dec 2022 00:55 Operator: SC
Sample : LCS R9120222 25ng Inst : MS09
Misc : S35-11152201/S35-11212205 (12/21)

Quant Time: Dec 02 08:43:24 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022206.D Vial: 2
Acq On : 2 Dec 2022 1:28 Operator: SC
Sample : LCSD R9120222 25ng Inst : MS09
Misc : S35-11152201/S35-11212205 (12/21)

Quant Time: Dec 02 08:45:59 2022 12/2/22
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	176070	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.29	114	745171	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.81	54	208610	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	357358	11.677	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
57) Toluene-d8 (SS2)	12.40	98	858600	11.290	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.32%				
73) Bromofluorobenzene (SS3)	16.79	174	275385	10.356	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.88%				
Target Compounds							Qvalue
2) Propene	3.25	42	756299	24.017	ng		99
3) Dichlorodifluoromethan...	3.33	85	918740	22.684	ng		100
4) Chloromethane	3.47	50	922507	23.588	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	434373	22.584	ng		100
6) Vinyl Chloride	3.66	62	807445	23.603	ng		100
7) 1,3-Butadiene	3.77	54	600780	34.966	ng		98
8) Bromomethane	3.99	94	332418	22.046	ng		99
9) Chloroethane	4.14	64	333067	23.852	ng		100
10) Ethanol	4.32	45	2257183	114.507	ng		100
11) Acetonitrile	4.45	41	1151664	20.305	ng		100
12) Acrolein	4.53	56	753070	46.412	ng		100
13) Acetone	4.63	58	2164411	121.471	ng		98
14) Trichlorofluoromethane	4.73	101	845411	24.295	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	3205837	48.267	ng		99
16) Acrylonitrile	5.01	53	1638547	47.789	ng		100
17) 1,1-Dichloroethene	5.24	96	427935	25.017	ng		91
18) 2-Methyl-2-Propanol (t...	5.34	59	2891851	50.039	ng		99
19) Methylene Chloride	5.36	84	460674	23.883	ng		89
20) 3-Chloro-1-propene (Al...	5.45	41	935258	22.959	ng		93
21) Trichlorotrifluoroethane	5.56	151	389014	21.388	ng		94
22) Carbon Disulfide	5.58	76	3247131	53.295	ng		100
23) trans-1,2-Dichloroethene	6.14	61	796153	23.920	ng		95
24) 1,1-Dichloroethane	6.32	63	925379	24.190	ng		100
25) Methyl tert-Butyl Ether	6.35	73	1304000	22.096	ng		98
26) Vinyl Acetate	6.44	86	379443	103.689	ng	#	84
27) 2-Butanone (MEK)	6.66	72	600831	46.197	ng	#	85
28) cis-1,2-Dichloroethene	7.08	61	757851	23.517	ng		95
29) Diisopropyl Ether	7.27	87	734792	45.924	ng	#	79
30) Ethyl Acetate	7.27	61	723793	74.121	ng		97
31) n-Hexane	7.28	57	1024363	25.217	ng		99
32) Chloroform	7.37	83	841121	22.560	ng		99
34) Tetrahydrofuran (THF)	7.73	72	571681	45.699	ng	#	90
35) Ethyl tert-Butyl Ether	7.80	87	1034103	45.207	ng		91
36) 1,2-Dichloroethane	8.11	62	755489	23.718	ng		99
38) 1,1,1-Trichloroethane	8.38	97	746175	25.945	ng		98
39) Isopropyl Acetate	9.20	61	2298	No Calib		#	
40) 1-Butanol	8.80	56	15147	No Calib		#	
41) Benzene	8.88	78	1683839	26.445	ng		100
42) Carbon Tetrachloride	9.05	117	573567	24.204	ng		100
43) Cyclohexane	9.20	84	1293256	51.806	ng		94
44) tert-Amyl Methyl Ether	9.57	73	2547341	55.957	ng		97
45) 1,2-Dichloropropane	9.84	63	503771	26.729	ng		99
46) Bromodichloromethane	10.06	83	677364	27.381	ng		100
47) Trichloroethene	10.13	130	435980	24.967	ng		99
48) 1,4-Dioxane	10.09	88	356455	27.151	ng		93
49) 2,2,4-Trimethylpentane...	10.21	57	2340113	27.108	ng		98
50) Methyl Methacrylate	10.38	100	336208	55.282	ng		92

Data File : I:\MS09\DATA\2022 12\02\12022206.D Vial: 2
Acq On : 2 Dec 2022 1:28 Operator: SC
Sample : LCSD R9120222 25ng Inst : MS09
Misc : S35-11152201/S35-11212205 (12/21)

Quant Time: Dec 02 08:45:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

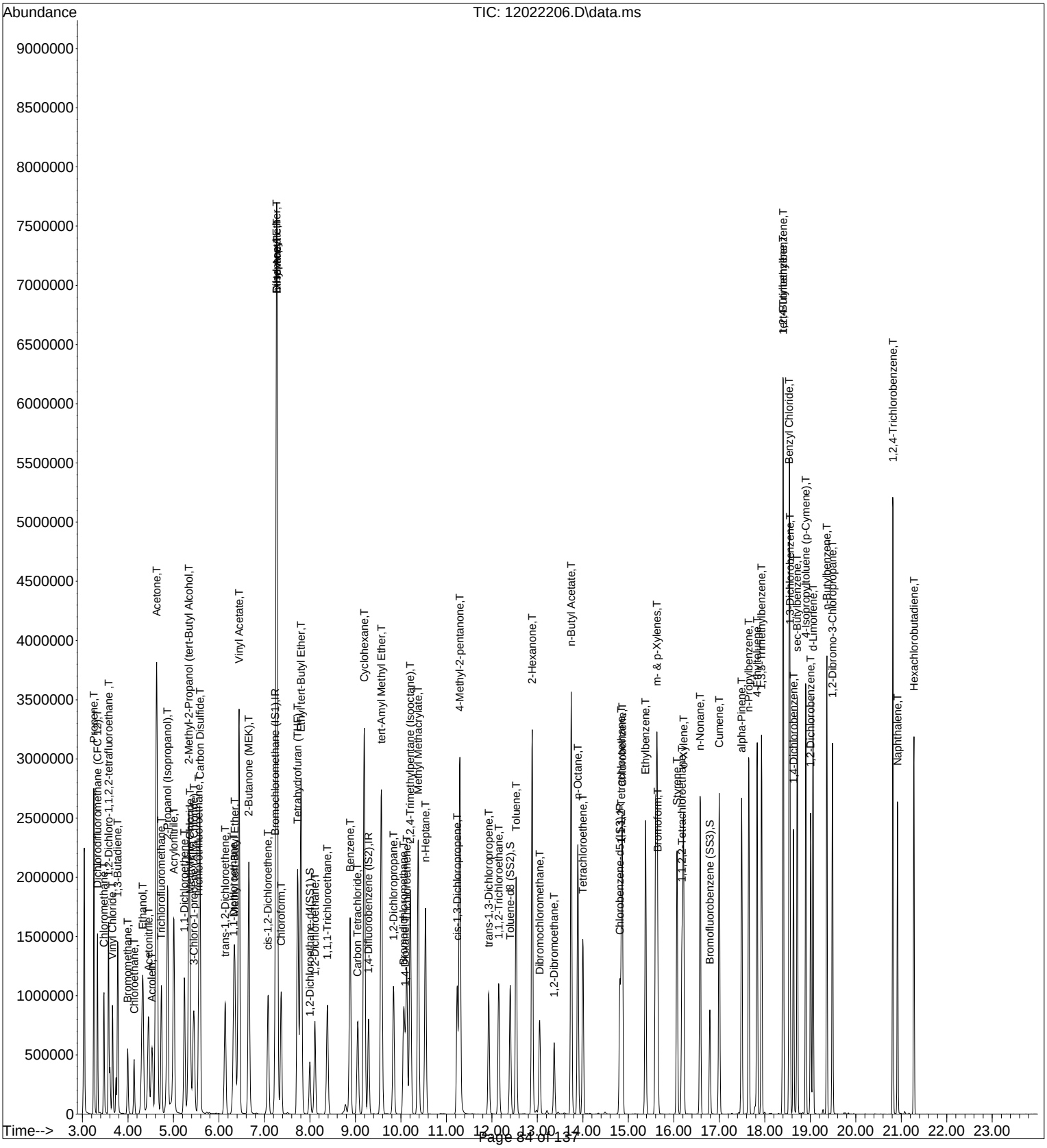
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	428282	26.102 ng		96
52) cis-1,3-Dichloropropene	11.24	75	707798	27.593 ng		100
53) 4-Methyl-2-pentanone	11.30	58	1135218	59.863 ng		94
54) trans-1,3-Dichloropropene	11.93	75	647515	26.909 ng		100
55) 1,1,2-Trichloroethane	12.15	97	430127	25.660 ng		98
58) Toluene	12.53	91	1709284	22.580 ng		99
59) 2-Hexanone	12.89	43	2961889	54.793 ng		97
60) Dibromochloromethane	13.05	129	511514	23.130 ng		99
61) 1,2-Dibromoethane	13.37	107	506301	22.035 ng		100
62) n-Butyl Acetate	13.74	43	3329173	56.022 ng		98
63) n-Octane	13.89	57	503456	24.610 ng		94
64) Tetrachloroethene	14.00	166	475740	21.205 ng		99
65) Chlorobenzene	14.87	112	1118196	21.898 ng		100
66) Ethylbenzene	15.38	91	2017386	23.080 ng		99
67) m- & p-Xylenes	15.63	91	3362518	47.537 ng		98
68) Bromoform	15.65	173	470560	24.013 ng		100
69) Styrene	16.07	104	1154974	22.511 ng		99
70) o-Xylene	16.21	91	1641667	23.516 ng		98
71) n-Nonane	16.58	43	1294092	25.909 ng		96
72) 1,1,2,2-Tetrachloroethane	16.18	83	828275	24.031 ng		100
74) Cumene	17.00	105	1941449	23.059 ng		99
75) alpha-Pinene	17.49	93	1059648	24.191 ng		98
76) n-Propylbenzene	17.65	91	2458069	23.490 ng		98
77) 3-Ethyltoluene	17.00	105	1941449	No Calib		
78) 4-Ethyltoluene	17.83	105	1901854	23.502 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	1668027	23.518 ng		98
80) alpha-Methylstyrene	16.99	118	3543	No Calib	#	
81) 2-Ethyltoluene	17.00	105	1941449	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1756755	24.505 ng		98
83) n-Decane	17.00	58	21690	No Calib		
84) Benzyl Chloride	18.54	91	2835033	53.899 ng		97
85) 1,3-Dichlorobenzene	18.55	146	936506	22.361 ng		99
86) 1,4-Dichlorobenzene	18.63	146	883236	20.846 ng		100
87) sec-Butylbenzene	18.71	105	2190329	23.187 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	1906790	22.546 ng		98
89) 1,2,3-Trimethylbenzene	17.00	105	1941449	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	893443	21.879 ng		100
91) d-Limonene	19.06	68	735706	26.002 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.49	157	712302	46.251 ng		86
93) n-Undecane	17.93	58	47938	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1332219	39.994 ng		100
95) Naphthalene	20.92	128	1579126	18.505 ng		100
96) n-Dodecane	18.90	58	60075	No Calib	#	
97) Hexachlorobutadiene	21.28	225	495384	20.989 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	1674205	23.561 ng		99
100) n-Butylbenzene	19.37	91	1880904	24.351 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	435873	22.545 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022206.D Vial: 2
Acq On : 2 Dec 2022 1:28 Operator: SC
Sample : LCSD R9120222 25ng Inst : MS09
Misc : S35-11152201/S35-11212205 (12/21)

Quant Time: Dec 02 08:45:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022229.D Vial: 9
Acq On : 2 Dec 2022 20:55 Operator: SC
Sample : P2205313-005dup (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:11:06 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/5/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	148133	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	669361	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	192421	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	325406	12.639	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
57) Toluene-d8 (SS2)	12.39	98	770707	10.987	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.92%				
73) Bromofluorobenzene (SS3)	16.79	174	240331	9.798	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.40%				
Target Compounds							Qvalue
2) Propene	3.29	42	4144	N.D.			
3) Dichlorodifluoromethan...	3.35	85	40115	1.177	ng		99
4) Chloromethane	3.51	50	9277	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	964	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.03	94	177	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	7161	N.D.			
11) Acetonitrile	4.44	41	4221	N.D.			
12) Acrolein	4.53	56	531	N.D.			
13) Acetone	4.61	58	25528	1.703	ng	#	78
14) Trichlorofluoromethane	4.74	101	18815	0.643	ng		98
15) 2-Propanol (Isopropanol)	4.89	45	10204	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.40	59	270	N.D.			
19) Methylene Chloride	5.33	84	2589	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	3193	N.D.			
22) Carbon Disulfide	5.60	76	771	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.44	86	105	N.D.			
27) 2-Butanone (MEK)	6.66	72	1507	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.25	87	812	N.D.			
30) Ethyl Acetate	7.25	61	71410	8.692	ng		91
31) n-Hexane	7.28	57	343	N.D.			
32) Chloroform	7.32	83	998	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	994	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	23629	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.86	78	5164	N.D.			
42) Carbon Tetrachloride	9.03	117	4193	N.D.			
43) Cyclohexane	9.26	84	436	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.21	57	290	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022229.D Vial: 9
Acq On : 2 Dec 2022 20:55 Operator: SC
Sample : P2205313-005dup (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:11:06 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

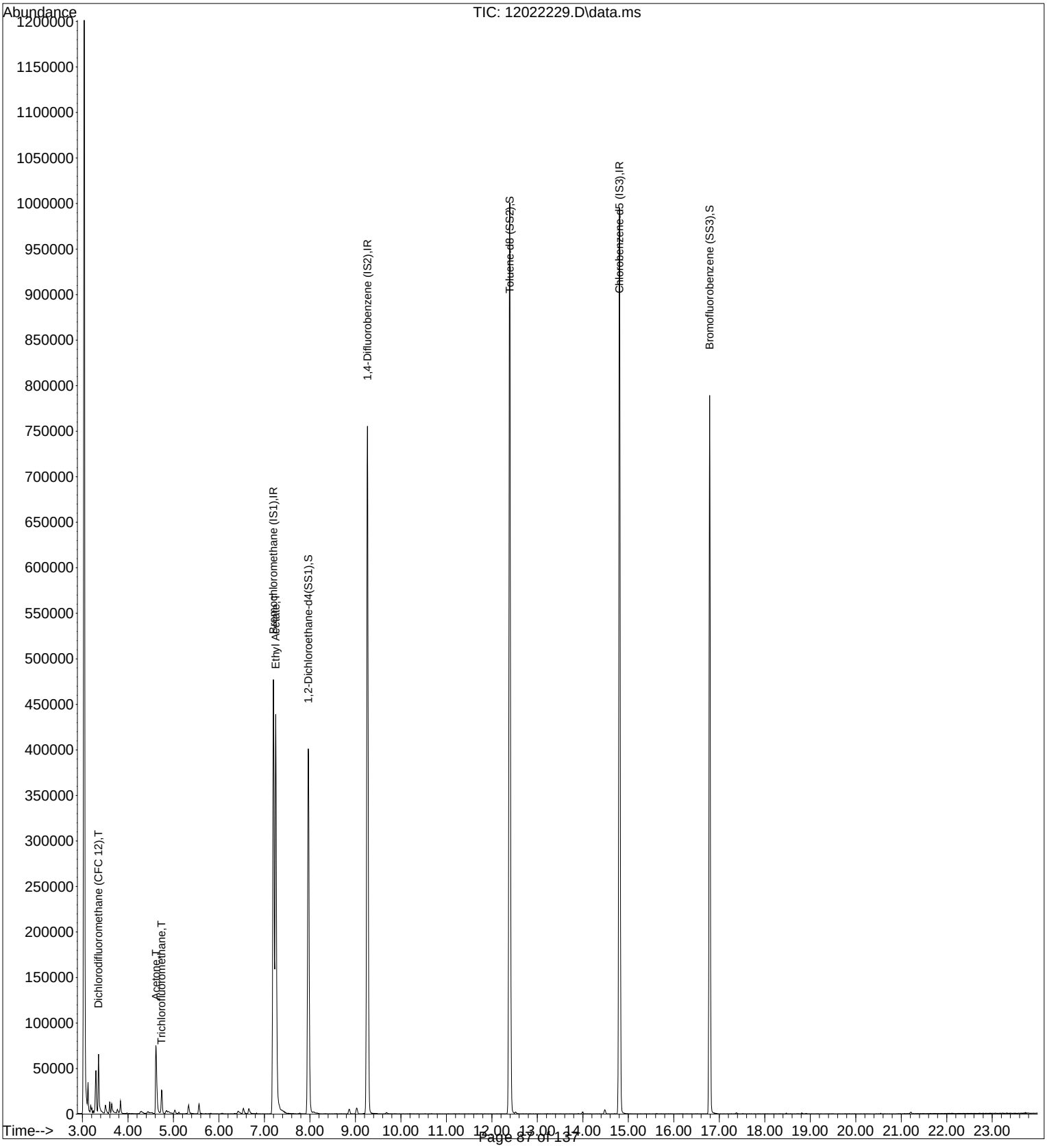
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.52	91	1798	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	13.99	166	719	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.38	91	184	N.D.		
67) m- & p-Xylenes	15.62	91	247	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.66	91	105	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	18.91	119	616	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022229.D Vial: 9
Acq On : 2 Dec 2022 20:55 Operator: SC
Sample : P2205313-005dup (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:11:06 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022229.D Vial: 9
Acq On : 2 Dec 2022 20:55 Operator: SC
Sample : P2205313-005dup (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:11:06 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/5/22

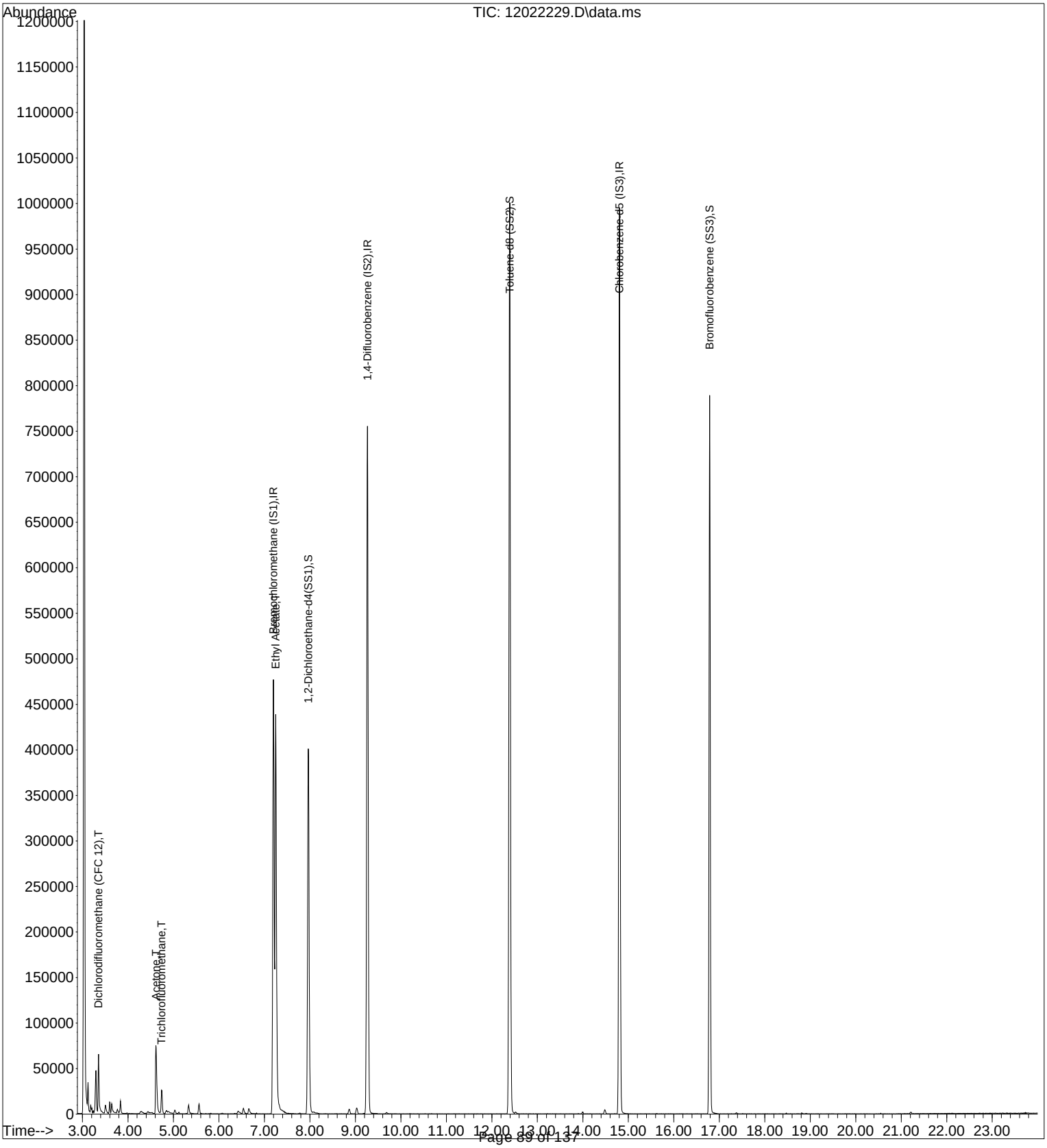
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	148133	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	669361	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	192421	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	325406	12.639	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
57) Toluene-d8 (SS2)	12.39	98	770707	10.987	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.92%				
73) Bromofluorobenzene (SS3)	16.79	174	240331	9.798	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.40%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	40115	1.177	ng		99
13) Acetone	4.61	58	25528	1.703	ng	#	78
14) Trichlorofluoromethane	4.74	101	18815	0.643	ng		98
30) Ethyl Acetate	7.25	61	71410	8.692	ng		91

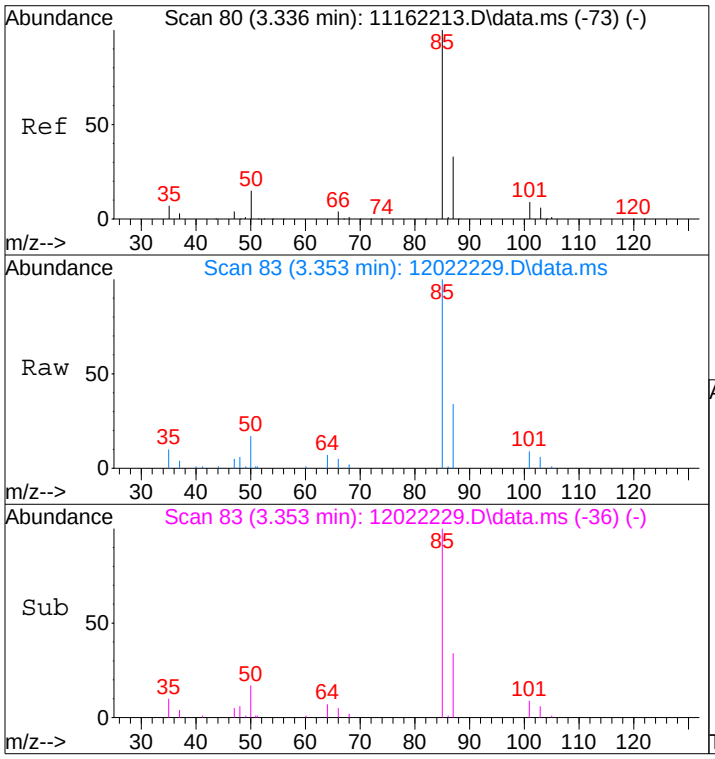
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022229.D Vial: 9
Acq On : 2 Dec 2022 20:55 Operator: SC
Sample : P2205313-005dup (1000mL) Inst : MS09
Misc : S35-11152201

Quant Time: Dec 05 08:11:06 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

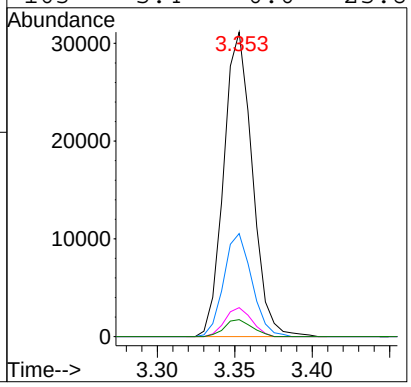


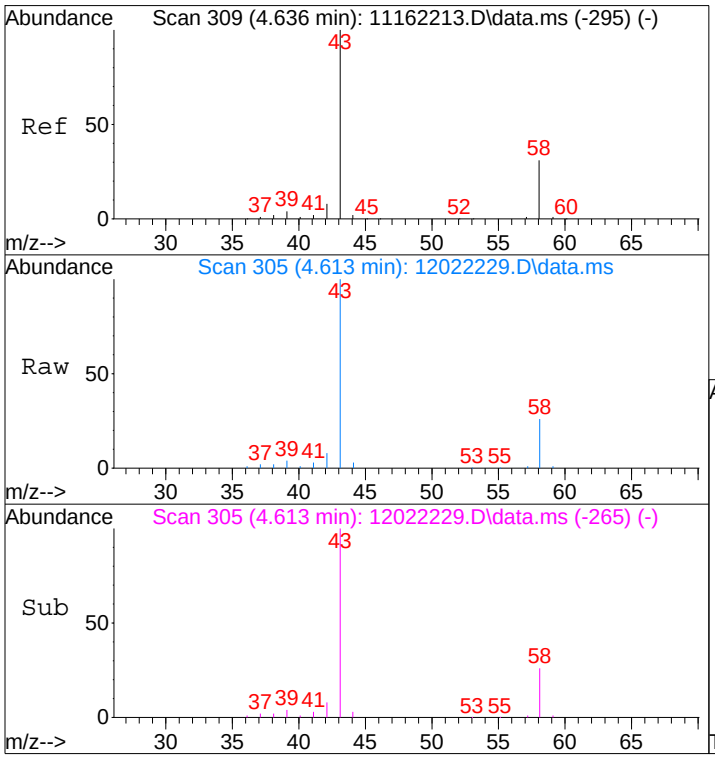


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.18 ng
RT: 3.35 min Scan# 83
Delta R.T. 0.017 min
Lab File: 12022229.D
Acq: 2 Dec 2022 20:55

Tgt Ion: 85 Resp: 40115

Ion	Ratio	Lower	Upper
85	100		
87	33.3	12.6	52.6
101	8.9	0.0	29.1
103	5.4	0.0	25.8

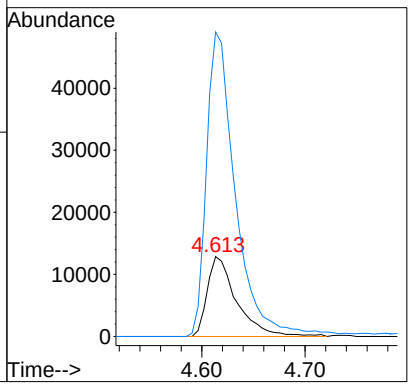


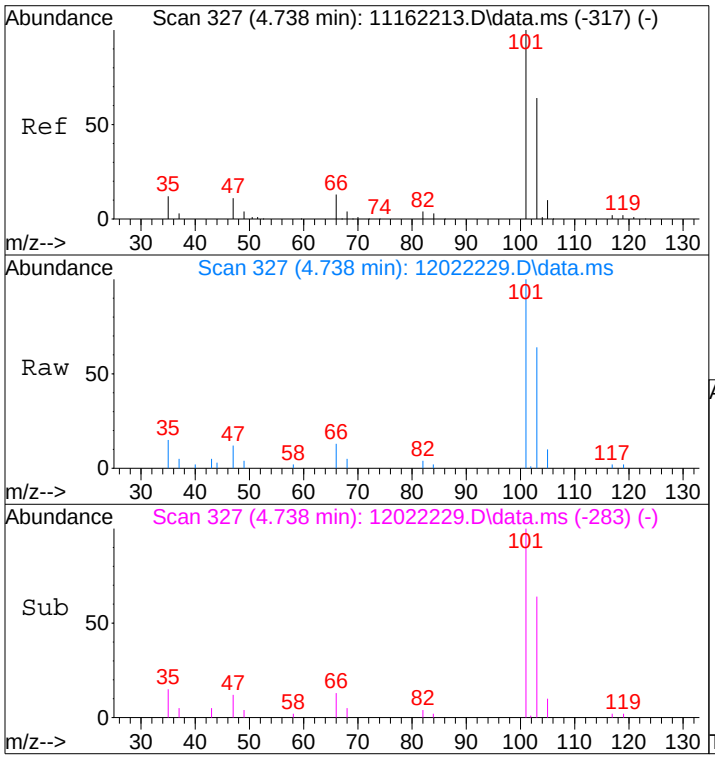


#13
Acetone
Concen: 1.70 ng
RT: 4.61 min Scan# 305
Delta R.T. -0.023 min
Lab File: 12022229.D
Acq: 2 Dec 2022 20:55

Tgt Ion: 58 Resp: 25528

Ion	Ratio	Lower	Upper
58	100		
43	382.4	306.3	366.3#

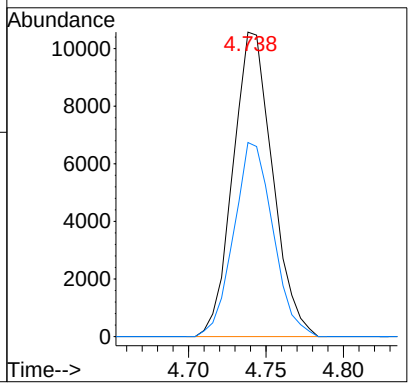


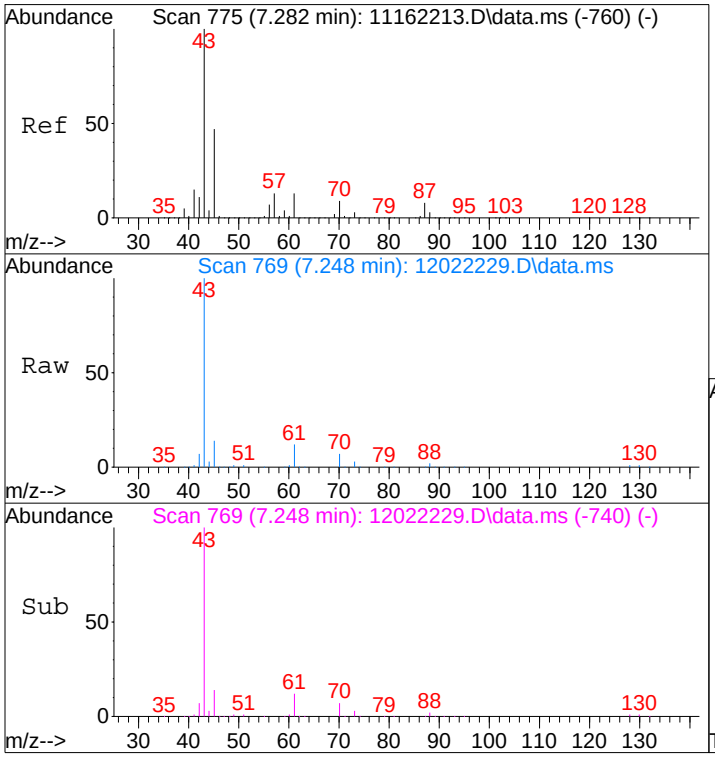


#14
Trichlorofluoromethane
Concen: 0.64 ng
RT: 4.74 min Scan# 327
Delta R.T. -0.000 min
Lab File: 12022229.D
Acq: 2 Dec 2022 20:55

Tgt Ion:101 Resp: 18815

Ion	Ratio	Lower	Upper
101	100		
103	63.1	44.5	84.5

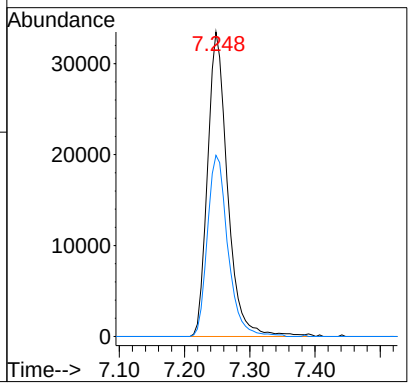




#30
Ethyl Acetate
Concen: 8.69 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.034 min
Lab File: 12022229.D
Acq: 2 Dec 2022 20:55

Tgt Ion: 61 Resp: 71410

Ion	Ratio	Lower	Upper
61	100		
70	60.9	48.2	88.2



Response Factor Report MS09

Method Path : I:\MS09\METHODS\
Method File : R9111622.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Nov 17 07:45:06 2022
Response Via : Initial Calibration

11/17/22

Calibration Files
0.1 =11162208.D 0.2 =11162209.D 0.5 =11162210.D 1.0 =11162211.D 5.0 =11162212.D 25 =11162
100 =11162215.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	2.169	2.172	2.516	2.044	2.246	2.265	2.634	1.839	2.236	11.22
3)	T	Dichlorodifluo...	3.149	2.909	3.574	2.938	2.619	2.839	2.861	2.115	2.875	14.48
4)	T	Chloromethane	3.204	3.000	3.569	2.925	2.465	2.810	2.704	1.535	2.777	21.64
5)	T	1,2-Dichloro-1...	1.590	1.338	1.638	1.366	1.208	1.307	1.314	1.161	1.365	12.31
6)	T	Vinyl Chloride	2.453	2.361	3.024	2.531	2.308	2.512	2.484	1.756	2.429	14.32
7)	T	1,3-Butadiene	1.843	1.193	1.321	1.165	1.009	1.089	0.989	1.149	1.220	22.37
8)	T	Bromomethane	1.246	1.030	1.284	1.032	0.870	1.076	1.137	0.890	1.070	13.97
9)	T	Chloroethane	1.023	0.970	1.221	0.995	0.897	1.004	1.009	0.812	0.991	11.80
10)	T	Ethanol	1.845	1.416	1.719	1.426	1.117	1.250	1.231	1.192	1.399	18.63
11)	T	Acetonitrile		4.753	4.805	4.002	3.536	3.893	3.888	3.311	4.027	14.06
12)	T	Acrolein	1.316	1.194	1.494	1.259	1.005	1.026	0.964	0.959	1.152	16.96
13)	T	Acetone	1.472	1.422	1.603	1.313	1.083	1.205	1.094	0.927	1.265	18.03
14)	T	Trichlorofluor...	2.905	2.548	2.916	2.461	2.201	2.348	2.285	2.100	2.470	12.35
15)	T	2-Propanol (Is...	5.494	5.262	6.404	5.258	3.909	4.759	3.915	2.722	4.715	24.47
16)	T	Acrylonitrile	2.376	2.489	3.152	2.568	2.257	2.375	2.317	1.940	2.434	14.17
17)	T	1,1-Dichloroet...	1.493	1.174	1.424	1.244	1.056	1.128	1.098	1.100	1.214	13.31
18)	T	2-Methyl-2-Pro...	4.363	4.245	5.238	4.344	3.850	4.482	4.274	2.028	4.103	22.52
19)	T	Methylene Chlo...	1.654	1.357	1.577	1.324	1.180	1.345	1.353	1.164	1.369	12.50
20)	T	3-Chloro-1-pro...		3.075	3.909	3.234	2.938	2.585	2.435	2.067	2.892	20.80
21)	T	Trichlorotrifl...	1.281	1.356	1.556	1.287	1.139	1.301	1.359	1.051	1.291	11.71
22)	T	Carbon Disulfide	5.340	4.129	4.917	4.212	3.763	4.325	4.135	3.783	4.326	12.59
23)	T	trans-1,2-Dich...	2.300	2.373	2.930	2.357	2.181	2.438	2.474	1.851	2.363	12.78
24)	T	1,1-Dichloroet...	2.929	2.722	3.332	2.777	2.442	2.703	2.684	2.136	2.716	12.76
25)	T	Methyl tert-Bu...	4.195	4.199	5.120	4.141	3.824	4.296	4.420	3.322	4.190	12.16
26)	T	Vinyl Acetate			0.275	0.236	0.231	0.283	0.300	0.234	0.260	11.49
27)	T	2-Butanone (MEK)	0.898	0.909	1.082	0.911	0.841	0.969	1.009	0.766	0.923	10.61
28)	T	cis-1,2-Dichlo...	2.353	2.283	2.820	2.316	2.101	2.328	2.332	1.769	2.288	12.76
29)	T	Diisopropyl Ether	1.272	1.158	1.361	1.122	1.029	1.198	1.174	0.772	1.136	15.57
30)	T	Ethyl Acetate	0.651	0.699	0.860	0.700	0.672	0.793	0.737	0.433	0.693	18.06
31)	T	n-Hexane	3.199	3.145	3.608	2.969	2.737	3.102	2.767	1.545	2.884	21.03
32)	T	Chloroform	2.815	2.704	3.265	2.640	2.372	2.655	2.688	2.038	2.647	13.26
33)	S	1,2-Dichloroet...	1.925	2.218	2.221	2.118	2.269	2.297	2.461	1.870	2.173	9.01
34)	T	Tetrahydrofura...	0.912	0.909	1.053	0.874	0.791	0.910	0.943	0.713	0.888	11.42
35)	T	Ethyl tert-But...	1.676	1.591	1.952	1.568	1.461	1.681	1.750	1.312	1.624	11.80
36)	T	1,2-Dichloroet...	2.309	2.312	2.822	2.310	2.071	2.289	2.292	1.687	2.261	13.88
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.555	0.482	0.575	0.489	0.424	0.468	0.439	0.428	0.482	11.72
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.277	1.080	1.285	1.084	0.917	1.014	0.955	0.933	1.068	13.60
42)	T	Carbon Tetrach...	0.438	0.379	0.476	0.401	0.350	0.394	0.374	0.368	0.398	10.33
43)	T	Cyclohexane	0.493	0.417	0.502	0.418	0.360	0.407	0.385	0.369	0.419	12.70
44)	T	tert-Amyl Meth...	0.861	0.721	0.896	0.763	0.682	0.770	0.727	0.686	0.764	10.25
45)	T	1,2-Dichloropr...	0.372	0.313	0.376	0.321	0.276	0.305	0.286	0.279	0.316	12.38
46)	T	Bromodichlorom...	0.469	0.394	0.488	0.419	0.366	0.413	0.391	0.380	0.415	10.39
47)	T	Trichloroethene	0.341	0.282	0.346	0.290	0.252	0.284	0.274	0.275	0.293	11.34
48)	T	1,4-Dioxane	0.220	0.202	0.257	0.222	0.196	0.228	0.219	0.217	0.220	8.37
49)	T	2,2,4-Trimethy...	1.771	1.437	1.755	1.499	1.271	1.384	1.275	1.193	1.448	15.04
50)	T	Methyl Methacr...	0.100	0.089	0.117	0.101	0.092	0.109	0.105	0.104	0.102	8.72
51)	T	n-Heptane	0.306	0.274	0.336	0.282	0.239	0.265	0.252	0.247	0.275	11.85
52)	T	cis-1,3-Dichlo...	0.460	0.394	0.502	0.432	0.386	0.442	0.417	0.409	0.430	8.79
53)	T	4-Methyl-2-pen...	0.345	0.295	0.374	0.326	0.289	0.329	0.306	0.281	0.318	9.94
54)	T	trans-1,3-Dich...	0.370	0.360	0.460	0.410	0.374	0.437	0.414	0.404	0.404	8.59

55)	T	1,1,2-Trichlor...	0.316	0.275	0.334	0.288	0.245	0.274	0.260	0.256	0.281	10.84
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	4.715	4.596	4.530	4.473	4.431	4.502	4.547	4.660	4.557	2.10
58)	T	Toluene	5.550	4.640	5.368	4.509	3.767	4.251	4.104	4.099	4.536	13.90
59)	T	2-Hexanone	3.751	3.320	3.789	3.269	2.853	3.347	2.989	2.595	3.239	12.84
60)	T	Dibromochlorom...	1.528	1.209	1.522	1.281	1.124	1.323	1.288	1.325	1.325	10.56
61)	T	1,2-Dibromoethane	1.528	1.295	1.622	1.400	1.178	1.347	1.308	1.336	1.377	10.16
62)	T	n-Butyl Acetate	4.112	3.493	4.100	3.548	3.144	3.789	3.383	2.917	3.561	11.97
63)	T	n-Octane	1.456	1.250	1.491	1.238	1.035	1.160	1.104	1.072	1.226	13.92
64)	T	Tetrachloroethene	1.664	1.315	1.576	1.290	1.098	1.273	1.250	1.288	1.344	13.70
65)	T	Chlorobenzene	3.795	2.993	3.551	2.905	2.516	2.950	2.890	2.879	3.060	13.42
66)	T	Ethylbenzene	6.193	5.312	6.295	5.184	4.396	5.017	4.810	4.694	5.238	13.06
67)	T	m- & p-Xylenes	5.107	4.291	5.004	4.172	3.552	4.149	3.954	3.680	4.238	13.29
68)	T	Bromoform	1.273	1.022	1.241	1.082	0.997	1.266	1.256	1.256	1.174	10.15
69)	T	Styrene	3.404	2.994	3.500	3.015	2.603	3.083	3.007	2.990	3.074	8.98
70)	T	o-Xylene	5.036	4.139	5.000	4.125	3.514	4.012	3.867	3.772	4.183	13.24
71)	T	n-Nonane	3.712	3.163	3.656	3.123	2.598	2.839	2.576	2.276	2.993	17.27
72)	T	1,1,2,2-Tetrac...	2.375	2.029	2.396	2.061	1.751	2.010	1.950	1.950	2.065	10.60
73)	S	Bromofluoroben...	1.630	1.593	1.551	1.525	1.537	1.587	1.625	1.698	1.593	3.59
74)	T	Cumene	6.105	5.034	5.967	4.971	4.268	4.868	4.657	4.489	5.045	13.14
75)	T	alpha-Pinene	3.068	2.569	3.019	2.575	2.240	2.577	2.500	2.450	2.625	10.72
76)	T	n-Propylbenzene	7.704	6.196	7.401	6.254	5.308	6.103	5.786	5.408	6.270	13.84
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	5.924	4.667	5.648	4.809	4.028	4.776	4.626	4.312	4.849	13.15
79)	T	1,3,5-Trimethy...	5.107	4.233	4.988	4.157	3.592	4.163	3.976	3.783	4.250	12.65
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	5.063	4.263	5.085	4.250	3.721	4.423	4.051	3.509	4.296	13.17
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride			3.094	2.773	2.827	3.831	3.509	2.877	3.152	13.58
85)	T	1,3-Dichlorobe...	2.914	2.492	2.890	2.400	2.103	2.607	2.467	2.203	2.510	11.58
86)	T	1,4-Dichlorobe...	3.103	2.475	2.845	2.367	2.052	2.550	2.480	2.439	2.539	12.43
87)	T	sec-Butylbenzene	6.913	5.592	6.761	5.572	4.794	5.567	5.247	4.838	5.660	14.01
88)	T	4-Isopropyltol...	6.385	5.145	5.973	4.896	4.246	4.931	4.661	4.305	5.068	14.98
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.910	2.343	2.779	2.354	2.030	2.441	2.373	2.346	2.447	11.29
91)	T	d-Limonene	1.867	1.674	1.971	1.680	1.459	1.729	1.649	1.534	1.695	9.74
92)	T	1,2-Dibromo-3-...	0.956	0.846	1.011	0.853	0.798	0.997	0.973	0.949	0.923	8.59
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.214	1.891	2.196	1.874	1.691	2.225	2.090	1.787	1.996	10.56
95)	T	Naphthalene	5.392	4.651	5.613	4.873	4.389	5.609	5.404	4.976	5.113	8.97
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.681	1.334	1.594	1.320	1.161	1.431	1.413	1.381	1.414	11.47
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	5.065	4.381	5.128	4.258	3.652	4.239	3.906	3.434	4.258	14.30
100)	T	n-Butylbenzene	5.484	4.559	5.439	4.524	3.954	4.672	4.397	3.998	4.628	12.42
101)	T	1,1,1,2-Tetrac...	1.351	1.097	1.342	1.118	0.984	1.141	1.117	1.117	1.158	10.85

(#) = Out of Range

R9111622.M Thu Nov 17 10:52:55 2022

Primary Source Standards Concentrations (Working & Initial Calibration)

11/17/22

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-11152210 | 200ng/L Std. ID: S35-11152208
20ng/L Std. ID: S35-11152209 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Freon-114	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Vinyl Chloride	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Ethanol	3.45	3450	690	138.0	69.0	13.80	3.45		0.345	0.690	1.725	3.45	17.25	86.25	172.5	345
Acetonitrile	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Acrolein	1.93	1930	386	77.2	38.6	7.72	1.93		0.193	0.386	0.965	1.93	9.65	48.25	96.5	193
Acetone	5.27	5270	1054	210.8	105.4	21.08	5.27		0.527	1.054	2.635	5.27	26.35	131.75	263.5	527
Trichlorofluoromethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isopropanol	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Acrylonitrile	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.13	2130	426	85.2	42.6	8.52	2.13		0.213	0.426	1.065	2.13	10.65	53.25	106.5	213
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl tert-Butyl Ether	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Vinyl Acetate	2.80	2800	560	112.0	56.0	11.20	2.80		0.280	0.560	1.400	2.80	14.00	70.00	140.0	280
2-Butanone	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.22	4220	844	168.8	84.4	16.88	4.22		0.422	0.844	2.110	4.22	21.10	105.50	211.0	422
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrahydrofuran	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Ethyl tert-Butyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Carbon Tetrachloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cyclohexane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
tert-Amyl Methyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Bromodichloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Trichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,4-Dioxane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isooctane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Methyl Methacrylate	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
n-Heptane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Prepared by: [illegible]

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S35-11152210**	**200ng/L Std. ID:**	**S35-11152208**
20ng/L Std. ID:	**S35-11152209**	**1000ng/L Std. ID:**	

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**20**	**20**	**20**	**200**	**200**	**200**
	Source Std.			**Primary Working Standards**				**Injection (L):**	**0.025**	**0.050**	**0.0250**	**0.050**	**0.25**	**0.125**	**0.25**	**0.50**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
4-Methyl-2-pentanone	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
trans-1,3-Dichloropropene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,1,2-Trichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Toluene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
2-Hexanone	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Dibromochloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
n-Octane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrachloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Ethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
m-&p-Xylene	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Nonane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cumene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
alpha-Pinene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Propylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
4-Ethyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2,4-Trimethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzyl Chloride	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,3-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,4-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
sec-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
p-Isopropyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromo-3-chloropropane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2,4-Trichlorobenzene	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Naphthalene	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
tert-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,1,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Last Updated: 09/19/20

Calibration Status Report MS09

Method : I:\MS09\METHODS\R9111622.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration

11/17/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\DATA\2022_11\16\11162208.D
2	0.2	0	13	I:\MS09\DATA\2022_11\16\11162209.D
3	0.5	1	13	I:\MS09\DATA\2022_11\16\11162210.D
4	1.0	1	13	I:\MS09\DATA\2022_11\16\11162211.D
5	5.0	5	13	I:\MS09\DATA\2022_11\16\11162212.D
6	25	26	13	I:\MS09\DATA\2022_11\16\11162213.D
7	50	53	13	I:\MS09\DATA\2022_11\16\11162214.D
8	100	105	13	I:\MS09\DATA\2022_11\16\11162215.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Nov 17 07:43 2022	Nov 16 16:47 2022	16 Nov 2022 13:36
2	0.2	Nov 17 07:43 2022	Nov 16 16:46 2022	16 Nov 2022 14:08
3	0.5	Nov 17 07:43 2022	Nov 16 16:45 2022	16 Nov 2022 14:40
4	1.0	Nov 17 07:44 2022	Nov 16 16:43 2022	16 Nov 2022 15:12
5	5.0	Nov 17 07:44 2022	Nov 16 16:41 2022	16 Nov 2022 15:44
6	25	Nov 17 07:44 2022	Nov 16 16:40 2022	16 Nov 2022 16:16
7	50	Nov 17 07:44 2022	Nov 16 17:09 2022	16 Nov 2022 16:48
8	100	Nov 17 07:44 2022	Nov 17 07:39 2022	16 Nov 2022 17:20

R9111622.M Thu Nov 17 10:53:48 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162208.D Vial: 13
Acq On : 16 Nov 2022 13:36 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:47:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	164856	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	736430	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	175396	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	317381	13.523	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.16%				
57) Toluene-d8 (SS2)	12.39	98	827042	11.112	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.88%				
73) Bromofluorobenzene (SS3)	16.79	174	285840	8.894	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 71.12%				
Target Compounds							Qvalue
2) Propene	3.30	42	3004	0.180	ng		94
3) Dichlorodifluoromethan...	3.37	85	4402	0.142	ng		96
4) Chloromethane	3.52	50	4352	0.267	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	2181	0.138	ng		89
6) Vinyl Chloride	3.71	62	3268	0.180	ng		89
7) 1,3-Butadiene	3.82	54	2576	0.205	ng	#	84
8) Bromomethane	4.02	94	1676	0.146	ng		98
9) Chloroethane	4.16	64	1389	0.177	ng		97
10) Ethanol	4.28	45	8396	0.776	ng		91
11) Acetonitrile	4.44	41	8326	0.302	ng		77
12) Acrolein	4.53	56	3349	0.441	ng		99
13) Acetone	4.63	58	10232	1.154	ng	#	84
14) Trichlorofluoromethane	4.75	101	3984	0.132	ng		98
15) 2-Propanol (Isopropanol)	4.86	45	14854	0.453	ng		67
16) Acrylonitrile	4.99	53	6425	0.427	ng		94
17) 1,1-Dichloroethene	5.26	96	2126	0.166	ng		97
18) 2-Methyl-2-Propanol (t...	5.39	59	12142	0.398	ng		90
19) Methylene Chloride	5.34	84	2312	0.174	ng		97
20) 3-Chloro-1-propene (Al...	5.39	41	2581	0.099	ng	#	49
21) Trichlorotrifluoroethane	5.57	151	1825	0.134	ng		89
22) Carbon Disulfide	5.60	76	15000	0.339	ng		93
23) trans-1,2-Dichloroethene	6.12	61	3276	0.176	ng		100
24) 1,1-Dichloroethane	6.29	63	4133	0.182	ng		99
25) Methyl tert-Butyl Ether	6.37	73	5920	0.147	ng		97
26) Vinyl Acetate	6.44	86	564	0.267	ng	#	1
27) 2-Butanone (MEK)	6.66	72	2476	0.328	ng	#	91
28) cis-1,2-Dichloroethene	7.05	61	3290	0.178	ng		98
29) Diisopropyl Ether	7.27	87	3556	0.340	ng	#	94
30) Ethyl Acetate	7.27	61	3625	0.719	ng		95
31) n-Hexane	7.28	57	4430	0.217	ng	#	98
32) Chloroform	7.32	83	3936	0.153	ng		99
34) Tetrahydrofuran (THF)	7.76	72	2453	0.335	ng	#	83
35) Ethyl tert-Butyl Ether	7.80	87	4686	0.303	ng		96
36) 1,2-Dichloroethane	8.08	62	3289	0.155	ng		100
38) 1,1,1-Trichloroethane	8.36	97	3431	0.131	ng		99
39) Isopropyl Acetate	9.26	61	22745	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.86	78	8048	0.157	ng		98
42) Carbon Tetrachloride	9.03	117	2686	0.117	ng		99
43) Cyclohexane	9.18	84	6105	0.319	ng		100
44) tert-Amyl Methyl Ether	9.58	73	10758	0.279	ng		95
45) 1,2-Dichloropropane	9.83	63	2304	0.188	ng		95
46) Bromodichloromethane	10.04	83	2959	0.143	ng		95
47) Trichloroethene	10.10	130	2108	0.129	ng		98
48) 1,4-Dioxane	10.13	88	1377	0.136	ng		89
49) 2,2,4-Trimethylpentane...	10.20	57	11270	0.217	ng		97
50) Methyl Methacrylate	10.39	100	1251	0.254	ng	#	80

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162208.D Vial: 13
Acq On : 16 Nov 2022 13:36 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:47:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

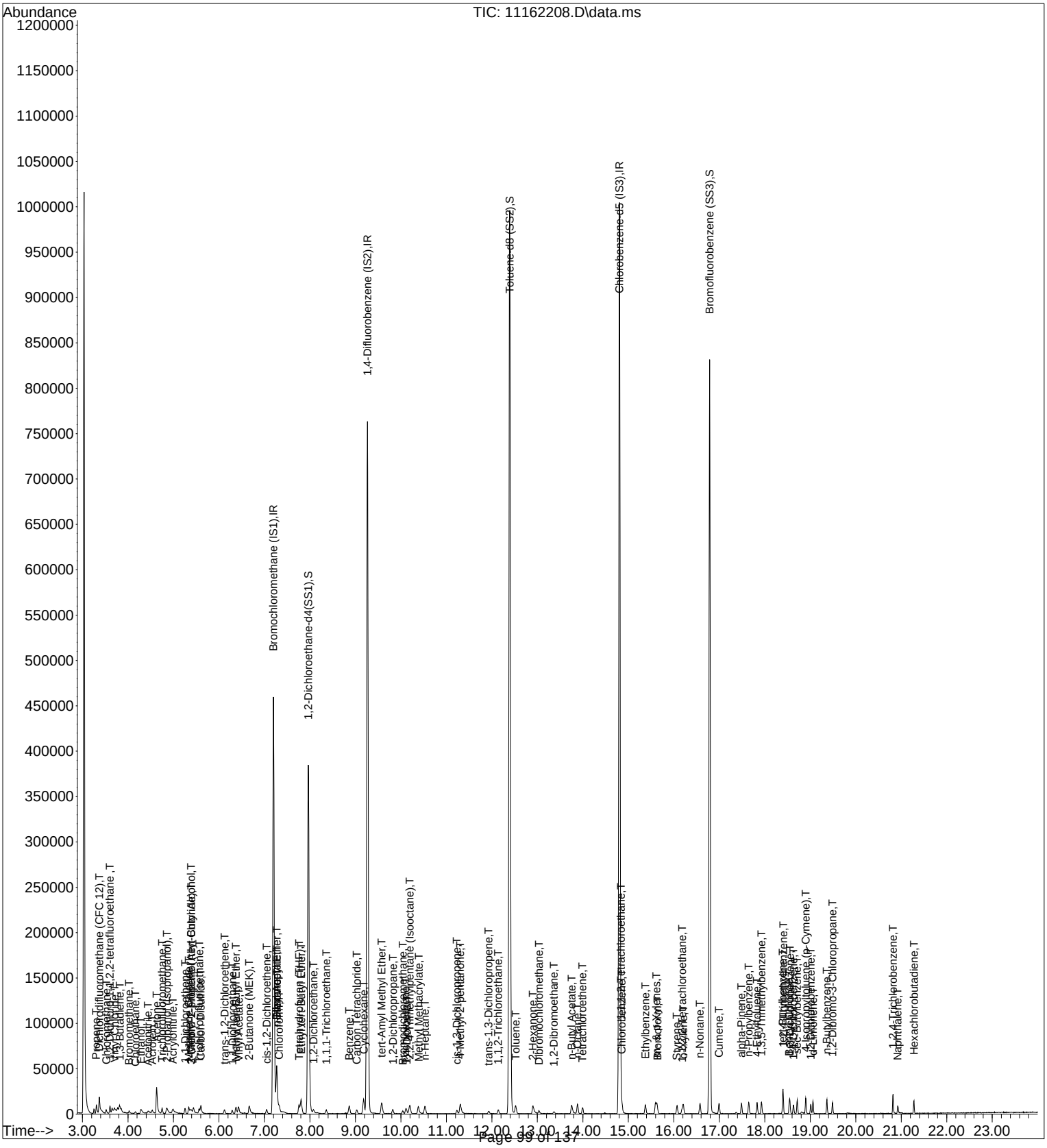
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	1912	0.166 ng		93
52) cis-1,3-Dichloropropene	11.23	75	2924	0.147 ng		96
53) 4-Methyl-2-pentanone	11.30	58	4375	0.402 ng		82
54) trans-1,3-Dichloropropene	11.93	75	2224	0.115 ng		93
55) 1,1,2-Trichloroethane	12.14	97	1976	0.145 ng		90
58) Toluene	12.52	91	8177	0.125 ng		98
59) 2-Hexanone	12.90	43	11158	0.308 ng		95
60) Dibromochloromethane	13.03	129	2316	0.110 ng		98
61) 1,2-Dibromoethane	13.36	107	2230	0.117 ng		100
62) n-Butyl Acetate	13.76	43	11829	0.298 ng		98
63) n-Octane	13.88	57	2186	0.181 ng		97
64) Tetrachloroethene	13.99	166	2475	0.118 ng		95
65) Chlorobenzene	14.86	112	5645	0.128 ng		96
66) Ethylbenzene	15.37	91	9124	0.122 ng		99
67) m- & p-Xylenes	15.62	91	15050	0.244 ng		100
68) Bromoform	15.64	173	1912	0.104 ng		88
69) Styrene	16.07	104	5063	0.120 ng		99
70) o-Xylene	16.21	91	7491	0.123 ng		100
71) n-Nonane	16.57	43	5521	0.172 ng		96
72) 1,1,2,2-Tetrachloroethane	16.19	83	3533	0.138 ng		99
74) Cumene	16.99	105	9166	0.122 ng		98
75) alpha-Pinene	17.49	93	4692	0.129 ng		91
76) n-Propylbenzene	17.65	91	11567	0.129 ng		98
77) 3-Ethyltoluene	16.99	105	9166	No Calib		
78) 4-Ethyltoluene	17.83	105	9061	0.129 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	7596	0.122 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	16.99	105	9166	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	7460	0.117 ng		98
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.54	91	7956	0.189 ng		94
85) 1,3-Dichlorobenzene	18.55	146	4334	0.112 ng		97
86) 1,4-Dichlorobenzene	18.63	146	4616	0.120 ng		97
87) sec-Butylbenzene	18.71	105	10282	0.124 ng		99
88) 4-Isopropyltoluene (p-...	18.90	119	9497	0.128 ng		98
89) 1,2,3-Trimethylbenzene	16.99	105	9166	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	4369	0.115 ng		93
91) d-Limonene	19.06	68	2803	0.139 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.49	157	2817	0.200 ng	#	74
93) n-Undecane	17.93	58	104	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	6493	0.241 ng		99
95) Naphthalene	20.92	128	8322	0.122 ng		92
96) n-Dodecane	18.90	58	313	No Calib	#	
97) Hexachlorobutadiene	21.28	225	2500	0.120 ng		97
98) Cyclohexanone	15.18	55	115	No Calib	#	
99) tert-Butylbenzene	18.39	119	7533	0.119 ng		98
100) n-Butylbenzene	19.37	91	8233	0.125 ng		96
101) 1,1,1,2-Tetrachloroethane	14.84	131	2010	0.113 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162208.D Vial: 13
Acq On : 16 Nov 2022 13:36 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:47:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162209.D Vial: 13
Acq On : 16 Nov 2022 14:08 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:46:42 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	144396	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	743200	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	181377	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	320294	15.580	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 124.64%				
57) Toluene-d8 (SS2)	12.39	98	833689	10.832	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.64%				
73) Bromofluorobenzene (SS3)	16.79	174	288971	8.695	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 69.60%#				
Target Compounds							Qvalue
2) Propene	3.30	42	5269	0.361	ng		95
3) Dichlorodifluoromethan...	3.37	85	7123	0.262	ng		97
4) Chloromethane	3.52	50	7139	0.500	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	3216	0.232	ng		99
6) Vinyl Chloride	3.70	62	5510	0.347	ng		97
7) 1,3-Butadiene	3.81	54	2922	0.265	ng		93
8) Bromomethane	4.02	94	2428	0.242	ng		99
9) Chloroethane	4.16	64	2309	0.336	ng		93
10) Ethanol	4.28	45	11284	1.191	ng		92
11) Acetonitrile	4.44	41	9993	0.414	ng		90
12) Acrolein	4.53	56	5323	0.801	ng		90
13) Acetone	4.62	58	17309	2.229	ng		88
14) Trichlorofluoromethane	4.75	101	6122	0.232	ng		95
15) 2-Propanol (Isopropanol)	4.83	45	24921	0.868	ng		81
16) Acrylonitrile	4.99	53	11788	0.895	ng		95
17) 1,1-Dichloroethene	5.25	96	2929	0.262	ng		98
18) 2-Methyl-2-Propanol (t...	5.38	59	20695	0.774	ng		94
19) Methylene Chloride	5.34	84	3324	0.286	ng		99
20) 3-Chloro-1-propene (Al...	5.44	41	7531	0.331	ng		86
21) Trichlorotrifluoroethane	5.56	151	3384	0.284	ng		95
22) Carbon Disulfide	5.60	76	20319	0.524	ng		96
23) trans-1,2-Dichloroethene	6.12	61	5920	0.363	ng		100
24) 1,1-Dichloroethane	6.29	63	6730	0.339	ng		100
25) Methyl tert-Butyl Ether	6.37	73	10381	0.294	ng		99
26) Vinyl Acetate	6.43	86	1201	0.650	ng	#	53
27) 2-Butanone (MEK)	6.66	72	4389	0.664	ng		98
28) cis-1,2-Dichloroethene	7.05	61	5592	0.345	ng		99
29) Diisopropyl Ether	7.27	87	5673	0.620	ng	#	77
30) Ethyl Acetate	7.27	61	6817	1.543	ng		98
31) n-Hexane	7.27	57	7629	0.426	ng		99
32) Chloroform	7.33	83	6621	0.294	ng		99
34) Tetrahydrofuran (THF)	7.75	72	4282	0.668	ng	#	92
35) Ethyl tert-Butyl Ether	7.80	87	7794	0.576	ng		98
36) 1,2-Dichloroethane	8.08	62	5769	0.311	ng		100
38) 1,1,1-Trichloroethane	8.36	97	6018	0.228	ng		98
39) Isopropyl Acetate	9.26	61	23160	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.87	78	13746	0.266	ng		98
42) Carbon Tetrachloride	9.03	117	4683	0.202	ng		99
43) Cyclohexane	9.18	84	10410	0.540	ng		99
44) tert-Amyl Methyl Ether	9.57	73	18183	0.467	ng		94
45) 1,2-Dichloropropane	9.83	63	3903	0.315	ng		98
46) Bromodichloromethane	10.04	83	5009	0.239	ng		97
47) Trichloroethene	10.11	130	3516	0.212	ng		99
48) 1,4-Dioxane	10.12	88	2548	0.250	ng		95
49) 2,2,4-Trimethylpentane...	10.20	57	18453	0.351	ng		96
50) Methyl Methacrylate	10.38	100	2246	0.452	ng	#	84

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162209.D Vial: 13
Acq On : 16 Nov 2022 14:08 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:46:42 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

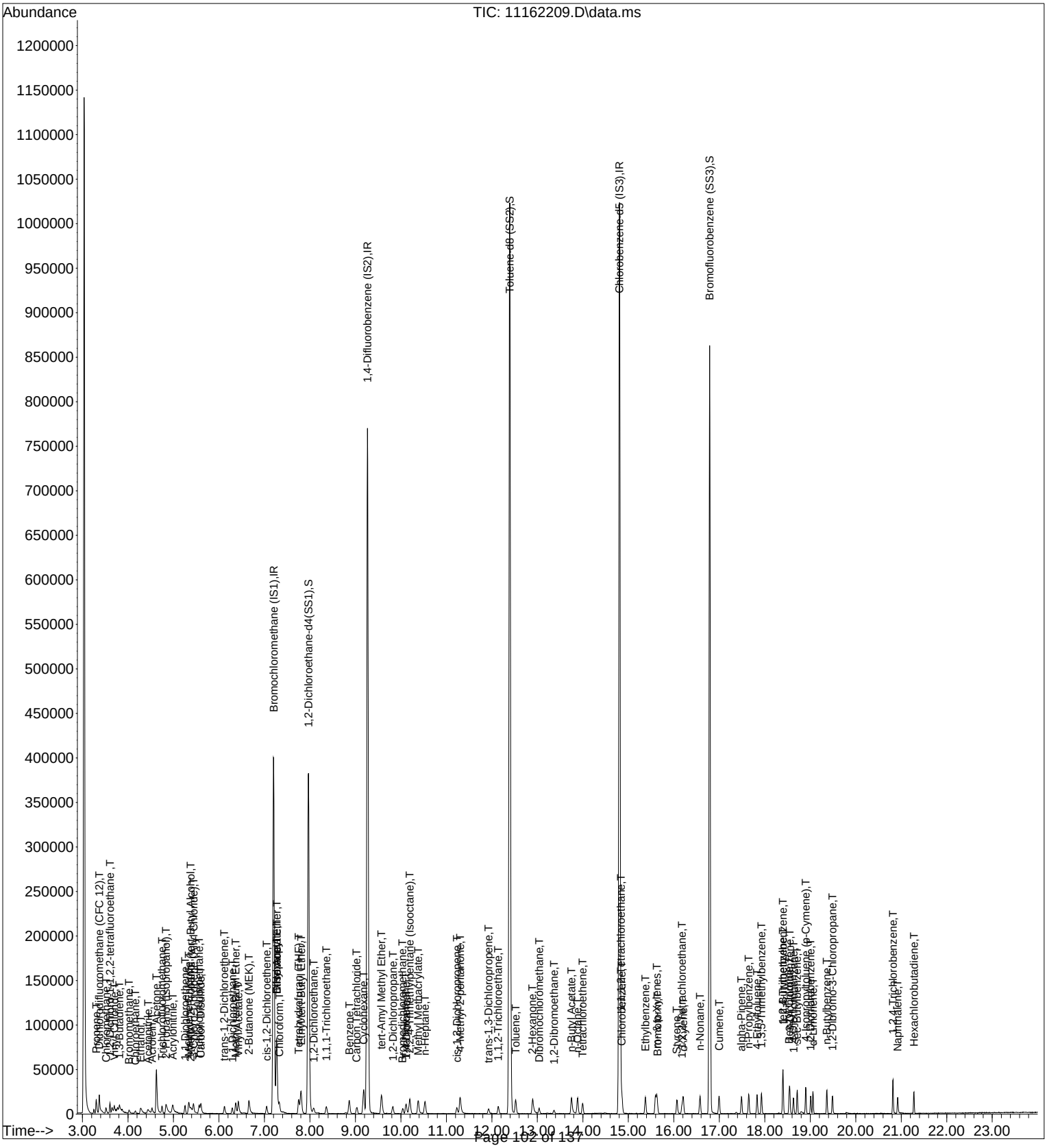
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	3451	0.297 ng		97
52) cis-1,3-Dichloropropene	11.23	75	5057	0.252 ng		97
53) 4-Methyl-2-pentanone	11.30	58	7533	0.686 ng		84
54) trans-1,3-Dichloropropene	11.93	75	4361	0.223 ng		94
55) 1,1,2-Trichloroethane	12.14	97	3462	0.253 ng		99
58) Toluene	12.52	91	14138	0.209 ng		97
59) 2-Hexanone	12.89	43	20427	0.544 ng		93
60) Dibromochloromethane	13.04	129	3790	0.173 ng		94
61) 1,2-Dibromoethane	13.37	107	3908	0.198 ng		99
62) n-Butyl Acetate	13.75	43	20781	0.507 ng		96
63) n-Octane	13.88	57	3883	0.310 ng		98
64) Tetrachloroethene	13.99	166	4045	0.187 ng		100
65) Chlorobenzene	14.86	112	9208	0.201 ng		99
66) Ethylbenzene	15.37	91	16187	0.209 ng		98
67) m- & p-Xylenes	15.62	91	26149	0.410 ng		98
68) Bromoform	15.64	173	3173	0.168 ng		93
69) Styrene	16.07	104	9210	0.211 ng		98
70) o-Xylene	16.21	91	12733	0.202 ng		99
71) n-Nonane	16.58	43	9731	0.294 ng		93
72) 1,1,2,2-Tetrachloroethane	16.18	83	6241	0.235 ng		98
74) Cumene	17.00	105	15632	0.201 ng		97
75) alpha-Pinene	17.49	93	8127	0.216 ng		96
76) n-Propylbenzene	17.64	91	19241	0.207 ng		99
77) 3-Ethyltoluene	17.00	105	15632	No Calib		
78) 4-Ethyltoluene	17.83	105	14763	0.203 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	13021	0.202 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.00	105	15632	No Calib		
82) 1,2,4-Trimethylbenzene	18.40	105	12991	0.197 ng		100
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.54	91	14445	0.332 ng		95
85) 1,3-Dichlorobenzene	18.55	146	7667	0.192 ng		98
86) 1,4-Dichlorobenzene	18.63	146	7612	0.192 ng		98
87) sec-Butylbenzene	18.71	105	17201	0.200 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	15826	0.206 ng		100
89) 1,2,3-Trimethylbenzene	17.00	105	15632	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	7275	0.185 ng		98
91) d-Limonene	19.06	68	5198	0.250 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.49	157	5155	0.355 ng	#	81
93) n-Undecane	17.92	58	309	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	11469	0.412 ng		98
95) Naphthalene	20.92	128	14847	0.210 ng		95
96) n-Dodecane	18.90	58	429	No Calib	#	
97) Hexachlorobutadiene	21.28	225	4105	0.190 ng		100
98) Cyclohexanone	15.19	55	109	No Calib	#	
99) tert-Butylbenzene	18.40	119	13477	0.206 ng		96
100) n-Butylbenzene	19.37	91	14158	0.207 ng		97
101) 1,1,1,2-Tetrachloroethane	14.84	131	3375	0.183 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162209.D Vial: 13
Acq On : 16 Nov 2022 14:08 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:46:42 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162210.D Vial: 14
Acq On : 16 Nov 2022 14:40 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:45:27 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	144934	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	734427	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	181354	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	321893	15.600	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 124.80%				
57) Toluene-d8 (SS2)	12.39	98	821469	10.674	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.36%				
73) Bromofluorobenzene (SS3)	16.79	174	281284	8.465	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 67.68%#				
Target Compounds							Qvalue
2) Propene	3.28	42	15313	1.045	ng		98
3) Dichlorodifluoromethan...	3.35	85	21963	0.804	ng		99
4) Chloromethane	3.50	50	21311	1.486	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	9875	0.708	ng		99
6) Vinyl Chloride	3.68	62	17706	1.112	ng		98
7) 1,3-Butadiene	3.80	54	8115	0.734	ng	#	87
8) Bromomethane	4.01	94	7590	0.753	ng		100
9) Chloroethane	4.15	64	7291	1.058	ng		97
10) Ethanol	4.27	45	34387	3.617	ng		96
11) Acetonitrile	4.43	41	25348	1.046	ng		100
12) Acrolein	4.52	56	16714	2.505	ng		96
13) Acetone	4.61	58	48983	6.285	ng		89
14) Trichlorofluoromethane	4.74	101	17579	0.664	ng		98
15) 2-Propanol (Isopropanol)	4.82	45	76105	2.640	ng		84
16) Acrylonitrile	4.98	53	37460	2.833	ng		99
17) 1,1-Dichloroethene	5.24	96	8914	0.794	ng		98
18) 2-Methyl-2-Propanol (t...	5.30	59	64078	2.386	ng		93
19) Methylene Chloride	5.33	84	9693	0.832	ng		98
20) 3-Chloro-1-propene (Al...	5.43	41	24024	1.052	ng		88
21) Trichlorotrifluoroethane	5.56	151	9740	0.815	ng		97
22) Carbon Disulfide	5.59	76	60723	1.559	ng		99
23) trans-1,2-Dichloroethene	6.11	61	18343	1.120	ng		98
24) 1,1-Dichloroethane	6.29	63	20671	1.038	ng		100
25) Methyl tert-Butyl Ether	6.36	73	31760	0.897	ng		100
26) Vinyl Acetate	6.42	86	4459	2.404	ng	#	86
27) 2-Butanone (MEK)	6.65	72	13116	1.978	ng	#	88
28) cis-1,2-Dichloroethene	7.05	61	17328	1.065	ng		100
29) Diisopropyl Ether	7.26	87	16731	1.822	ng	#	71
30) Ethyl Acetate	7.26	61	21050	4.746	ng		98
31) n-Hexane	7.27	57	21960	1.223	ng		100
32) Chloroform	7.33	83	20062	0.886	ng		100
34) Tetrahydrofuran (THF)	7.74	72	12453	1.937	ng		95
35) Ethyl tert-Butyl Ether	7.79	87	23989	1.765	ng		99
36) 1,2-Dichloroethane	8.08	62	17668	0.949	ng		100
38) 1,1,1-Trichloroethane	8.36	97	17743	0.679	ng		99
39) Isopropyl Acetate	9.26	61	23388	No Calib	#		
40) 1-Butanol	8.87	56	389	No Calib	#		
41) Benzene	8.87	78	40383	0.791	ng		99
42) Carbon Tetrachloride	9.03	117	14535	0.635	ng		99
43) Cyclohexane	9.18	84	30960	1.625	ng		99
44) tert-Amyl Methyl Ether	9.56	73	55822	1.450	ng		96
45) 1,2-Dichloropropane	9.82	63	11589	0.947	ng		99
46) Bromodichloromethane	10.04	83	15349	0.742	ng		100
47) Trichloroethene	10.11	130	10682	0.653	ng		99
48) 1,4-Dioxane	10.10	88	8017	0.795	ng		95
49) 2,2,4-Trimethylpentane...	10.20	57	55681	1.073	ng		98
50) Methyl Methacrylate	10.38	100	7296	1.486	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162210.D Vial: 14
Acq On : 16 Nov 2022 14:40 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:45:27 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

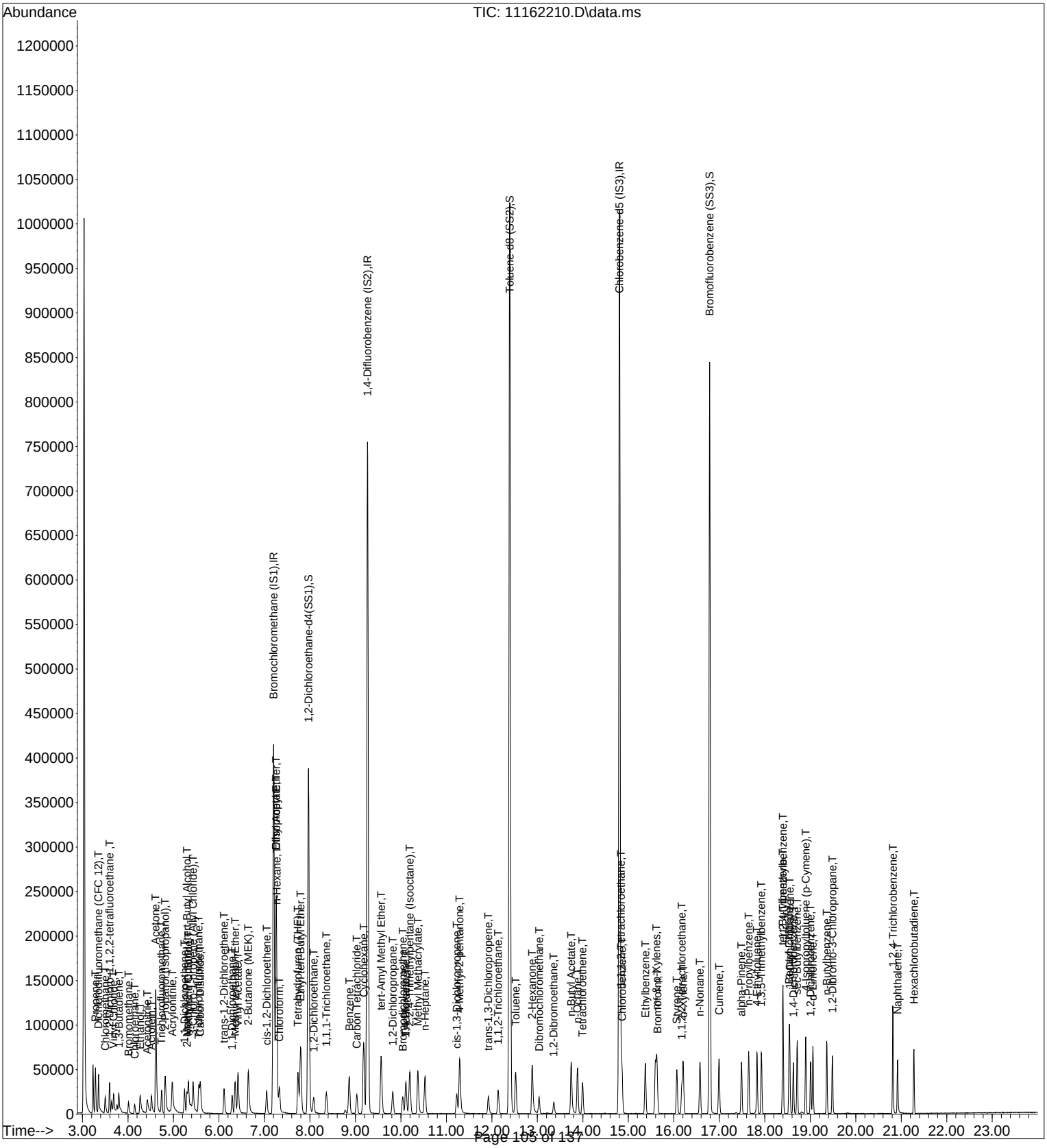
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	10468	0.911 ng		99
52) cis-1,3-Dichloropropene	11.23	75	15932	0.802 ng		100
53) 4-Methyl-2-pentanone	11.29	58	23630	2.178 ng		91
54) trans-1,3-Dichloropropene	11.92	75	13794	0.714 ng		100
55) 1,1,2-Trichloroethane	12.14	97	10400	0.768 ng		99
58) Toluene	12.52	91	40891	0.605 ng		100
59) 2-Hexanone	12.89	43	58275	1.553 ng		95
60) Dibromochloromethane	13.04	129	11923	0.546 ng		99
61) 1,2-Dibromoethane	13.36	107	12237	0.619 ng		99
62) n-Butyl Acetate	13.74	43	60976	1.487 ng		98
63) n-Octane	13.88	57	11576	0.926 ng		97
64) Tetrachloroethene	13.99	166	12118	0.560 ng		100
65) Chlorobenzene	14.86	112	27302	0.597 ng		99
66) Ethylbenzene	15.37	91	47949	0.619 ng		99
67) m- & p-Xylenes	15.62	91	76230	1.196 ng		100
68) Bromoform	15.64	173	9635	0.509 ng		97
69) Styrene	16.07	104	26910	0.618 ng		99
70) o-Xylene	16.21	91	38446	0.611 ng		100
71) n-Nonane	16.57	43	28109	0.849 ng		97
72) 1,1,2,2-Tetrachloroethane	16.17	83	18423	0.694 ng		99
74) Cumene	17.00	105	46318	0.595 ng		100
75) alpha-Pinene	17.49	93	23874	0.634 ng		96
76) n-Propylbenzene	17.65	91	57450	0.619 ng		99
77) 3-Ethyltoluene	17.00	105	46318	No Calib		
78) 4-Ethyltoluene	17.83	105	44662	0.613 ng		99
79) 1,3,5-Trimethylbenzene	17.92	105	38357	0.595 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.00	105	46318	No Calib		
82) 1,2,4-Trimethylbenzene	18.40	105	38729	0.588 ng		99
83) n-Decane	17.00	58	333	No Calib	#	
84) Benzyl Chloride	18.54	91	47583	1.095 ng		96
85) 1,3-Dichlorobenzene	18.55	146	22223	0.557 ng		98
86) 1,4-Dichlorobenzene	18.63	146	21875	0.551 ng		98
87) sec-Butylbenzene	18.71	105	51990	0.605 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	45931	0.598 ng		98
89) 1,2,3-Trimethylbenzene	17.00	105	46318	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	21568	0.549 ng		100
91) d-Limonene	19.06	68	15298	0.736 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	15402	1.059 ng	#	84
93) n-Undecane	17.93	58	1159	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	33287	1.195 ng		99
95) Naphthalene	20.92	128	44789	0.635 ng		97
96) n-Dodecane	18.89	58	1594	No Calib	#	
97) Hexachlorobutadiene	21.28	225	12254	0.567 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.39	119	39430	0.604 ng		98
100) n-Butylbenzene	19.36	91	42216	0.618 ng		97
101) 1,1,1,2-Tetrachloroethane	14.84	131	10319	0.559 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162210.D Vial: 14
Acq On : 16 Nov 2022 14:40 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:45:27 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162211.D Vial: 14
Acq On : 16 Nov 2022 15:12 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:43:56 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150993	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	731952	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	184448	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	319874	14.880	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 119.04%				
57) Toluene-d8 (SS2)	12.39	98	824972	10.540	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.32%				
73) Bromofluorobenzene (SS3)	16.79	174	281371	8.326	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 66.64%#				
Target Compounds							Qvalue
2) Propene	3.28	42	25929	1.698	ng		100
3) Dichlorodifluoromethan...	3.35	85	37616	1.323	ng		99
4) Chloromethane	3.49	50	36387	2.435	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	17165	1.182	ng		99
6) Vinyl Chloride	3.68	62	30883	1.862	ng		98
7) 1,3-Butadiene	3.79	54	14916	1.295	ng		94
8) Bromomethane	4.01	94	12711	1.210	ng		100
9) Chloroethane	4.14	64	12384	1.724	ng		99
10) Ethanol	4.27	45	59435	6.001	ng		96
11) Acetonitrile	4.43	41	43986	1.743	ng		98
12) Acrolein	4.51	56	29349	4.222	ng		100
13) Acetone	4.61	58	83595	10.295	ng		90
14) Trichlorofluoromethane	4.74	101	30918	1.121	ng		100
15) 2-Propanol (Isopropanol)	4.82	45	130204	4.335	ng		89
16) Acrylonitrile	4.98	53	63586	4.615	ng		100
17) 1,1-Dichloroethene	5.24	96	16223	1.387	ng		97
18) 2-Methyl-2-Propanol (t...	5.29	59	110712	3.958	ng		94
19) Methylene Chloride	5.33	84	16956	1.397	ng		97
20) 3-Chloro-1-propene (Al...	5.43	41	41412	1.741	ng		88
21) Trichlorotrifluoroethane	5.56	151	16795	1.350	ng		99
22) Carbon Disulfide	5.58	76	108376	2.671	ng		98
23) trans-1,2-Dichloroethene	6.11	61	30745	1.802	ng		100
24) 1,1-Dichloroethane	6.29	63	35895	1.730	ng		98
25) Methyl tert-Butyl Ether	6.35	73	53519	1.451	ng		100
26) Vinyl Acetate	6.42	86	7974	4.126	ng	#	88
27) 2-Butanone (MEK)	6.64	72	23005	3.329	ng		95
28) cis-1,2-Dichloroethene	7.05	61	29655	1.750	ng		99
29) Diisopropyl Ether	7.26	87	28738	3.004	ng	#	70
30) Ethyl Acetate	7.26	61	35665	7.719	ng		99
31) n-Hexane	7.27	57	37663	2.013	ng		99
32) Chloroform	7.33	83	33803	1.433	ng		100
34) Tetrahydrofuran (THF)	7.73	72	21546	3.216	ng		95
35) Ethyl tert-Butyl Ether	7.79	87	40156	2.836	ng		96
36) 1,2-Dichloroethane	8.08	62	30133	1.554	ng		99
38) 1,1,1-Trichloroethane	8.37	97	30066	1.154	ng		99
39) Isopropyl Acetate	9.27	61	23250	No Calib	#		
40) 1-Butanol	8.86	56	578	No Calib	#		
41) Benzene	8.87	78	67948	1.335	ng		98
42) Carbon Tetrachloride	9.03	117	24416	1.069	ng		100
43) Cyclohexane	9.18	84	51394	2.706	ng		98
44) tert-Amyl Methyl Ether	9.56	73	94764	2.470	ng		96
45) 1,2-Dichloropropane	9.82	63	19767	1.621	ng		98
46) Bromodichloromethane	10.04	83	26225	1.273	ng		100
47) Trichloroethene	10.11	130	17826	1.094	ng		100
48) 1,4-Dioxane	10.10	88	13786	1.372	ng		98
49) 2,2,4-Trimethylpentane...	10.20	57	94783	1.833	ng		98
50) Methyl Methacrylate	10.37	100	12531	2.562	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162211.D Vial: 14
Acq On : 16 Nov 2022 15:12 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:43:56 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

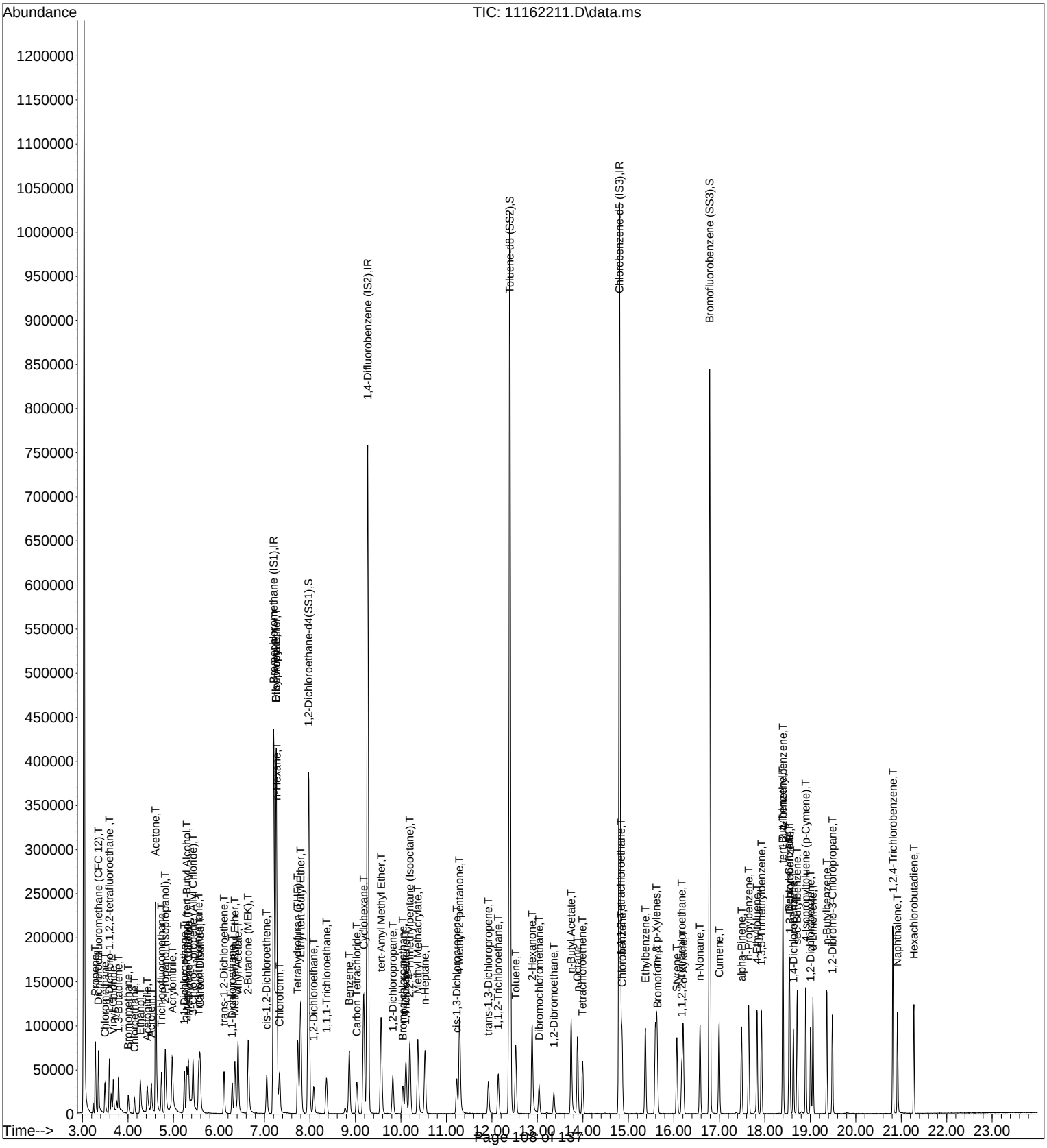
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	17524	1.530 ng		99
52) cis-1,3-Dichloropropene	11.23	75	27339	1.381 ng		98
53) 4-Methyl-2-pentanone	11.29	58	40998	3.791 ng		90
54) trans-1,3-Dichloropropene	11.92	75	24494	1.272 ng		100
55) 1,1,2-Trichloroethane	12.14	97	17893	1.326 ng		100
58) Toluene	12.52	91	69867	1.016 ng		98
59) 2-Hexanone	12.89	43	102249	2.680 ng		95
60) Dibromochloromethane	13.04	129	20422	0.919 ng		100
61) 1,2-Dibromoethane	13.36	107	21480	1.068 ng		98
62) n-Butyl Acetate	13.74	43	107323	2.573 ng		98
63) n-Octane	13.88	57	19547	1.537 ng		97
64) Tetrachloroethene	13.99	166	20184	0.917 ng		99
65) Chlorobenzene	14.86	112	45437	0.977 ng		99
66) Ethylbenzene	15.37	91	80312	1.019 ng		99
67) m- & p-Xylenes	15.62	91	129268	1.995 ng		98
68) Bromoform	15.64	173	17078	0.887 ng		98
69) Styrene	16.07	104	47163	1.065 ng		99
70) o-Xylene	16.21	91	64519	1.008 ng		100
71) n-Nonane	16.57	43	48848	1.451 ng		95
72) 1,1,2,2-Tetrachloroethane	16.17	83	32236	1.193 ng		100
74) Cumene	17.00	105	78482	0.992 ng		100
75) alpha-Pinene	17.49	93	41412	1.081 ng		99
76) n-Propylbenzene	17.64	91	98745	1.045 ng		99
77) 3-Ethyltoluene	17.00	105	78482	No Calib		
78) 4-Ethyltoluene	17.83	105	77353	1.044 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	65017	0.992 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.00	105	78482	No Calib		
82) 1,2,4-Trimethylbenzene	18.40	105	65851	0.984 ng		99
83) n-Decane	16.98	58	780	No Calib	#	
84) Benzyl Chloride	18.54	91	86740	1.963 ng		96
85) 1,3-Dichlorobenzene	18.55	146	37540	0.926 ng		100
86) 1,4-Dichlorobenzene	18.63	146	37015	0.916 ng		99
87) sec-Butylbenzene	18.71	105	87148	0.997 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	76573	0.980 ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	78482	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	37172	0.931 ng		99
91) d-Limonene	19.06	68	26519	1.254 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	26417	1.786 ng	#	84
93) n-Undecane	17.93	58	1761	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	57800	2.040 ng		98
95) Naphthalene	20.92	128	79093	1.103 ng		98
96) n-Dodecane	18.89	58	2548	No Calib	#	
97) Hexachlorobutadiene	21.28	225	20645	0.939 ng		98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.39	119	66597	1.003 ng		99
100) n-Butylbenzene	19.36	91	71422	1.028 ng		99
101) 1,1,1,2-Tetrachloroethane	14.84	131	17492	0.932 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162211.D Vial: 14
Acq On : 16 Nov 2022 15:12 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:43:56 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162212.D Vial: 14
Acq On : 16 Nov 2022 15:44 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:41:55 2022 11/16/22
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	143526	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.28	114	738402	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	188144	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	325708	15.940	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 127.52%				
57) Toluene-d8 (SS2)	12.40	98	833658	10.442	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.52%				
73) Bromofluorobenzene (SS3)	16.79	174	289226	8.390	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 67.12%#				
Target Compounds							Qvalue
2) Propene	3.26	42	135400	9.327	ng		99
3) Dichlorodifluoromethan...	3.34	85	159369	5.895	ng		99
4) Chloromethane	3.47	50	145769	10.263	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	72108	5.223	ng		99
6) Vinyl Chloride	3.66	62	133802	8.488	ng		100
7) 1,3-Butadiene	3.78	54	61405	5.609	ng		96
8) Bromomethane	3.99	94	50953	5.103	ng		100
9) Chloroethane	4.13	64	53043	7.770	ng		100
10) Ethanol	4.28	45	221169	23.493	ng		100
11) Acetonitrile	4.43	41	184711	7.698	ng		99
12) Acrolein	4.51	56	111390	16.857	ng		100
13) Acetone	4.61	58	327698	42.457	ng		90
14) Trichlorofluoromethane	4.73	101	131416	5.011	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	460090	16.116	ng		96
16) Acrylonitrile	4.98	53	265593	20.281	ng		99
17) 1,1-Dichloroethene	5.23	96	65456	5.887	ng		97
18) 2-Methyl-2-Propanol (t...	5.31	59	466378	17.539	ng		97
19) Methylene Chloride	5.34	84	71834	6.227	ng		97
20) 3-Chloro-1-propene (Al...	5.43	41	178800	7.909	ng		88
21) Trichlorotrifluoroethane	5.56	151	70642	5.972	ng		99
22) Carbon Disulfide	5.57	76	460156	11.930	ng		100
23) trans-1,2-Dichloroethene	6.12	61	135223	8.336	ng		99
24) 1,1-Dichloroethane	6.30	63	150039	7.608	ng		100
25) Methyl tert-Butyl Ether	6.34	73	234917	6.699	ng		99
26) Vinyl Acetate	6.42	86	37176	20.238	ng	#	91
27) 2-Butanone (MEK)	6.65	72	100932	15.367	ng	#	92
28) cis-1,2-Dichloroethene	7.06	61	127864	7.938	ng		98
29) Diisopropyl Ether	7.26	87	125264	13.775	ng	#	69
30) Ethyl Acetate	7.26	61	162797	37.065	ng		98
31) n-Hexane	7.27	57	164976	9.276	ng		98
32) Chloroform	7.34	83	144334	6.439	ng		99
34) Tetrahydrofuran (THF)	7.73	72	92690	14.556	ng		96
35) Ethyl tert-Butyl Ether	7.79	87	177853	13.213	ng		96
36) 1,2-Dichloroethane	8.09	62	128398	6.965	ng		100
38) 1,1,1-Trichloroethane	8.37	97	131363	5.000	ng		99
39) Isopropyl Acetate	9.18	61	184	No Calib		#	
40) 1-Butanol	8.81	56	5446	No Calib			
41) Benzene	8.87	78	289685	5.643	ng		100
42) Carbon Tetrachloride	9.04	117	107650	4.674	ng		100
43) Cyclohexane	9.18	84	223095	11.643	ng		99
44) tert-Amyl Methyl Ether	9.56	73	427312	11.042	ng		98
45) 1,2-Dichloropropane	9.83	63	85740	6.971	ng		99
46) Bromodichloromethane	10.05	83	115669	5.565	ng		100
47) Trichloroethene	10.12	130	78131	4.752	ng		99
48) 1,4-Dioxane	10.09	88	61336	6.049	ng		98
49) 2,2,4-Trimethylpentane...	10.20	57	405445	7.771	ng		99
50) Methyl Methacrylate	10.37	100	57594	11.671	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162212.D Vial: 14
Acq On : 16 Nov 2022 15:44 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:41:55 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

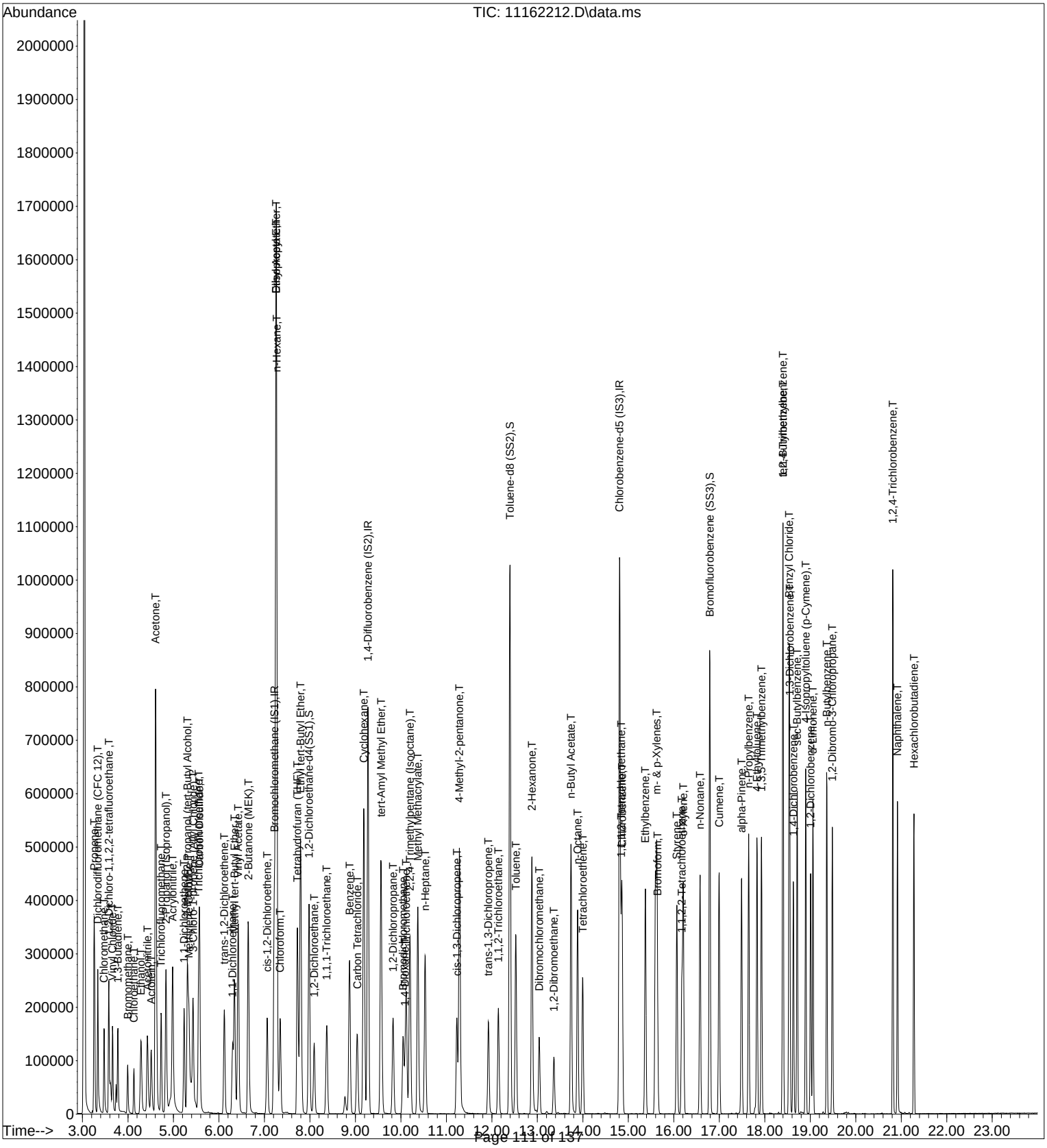
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	74931	6.486	ng		100
52) cis-1,3-Dichloropropene	11.23	75	123281	6.172	ng		100
53) 4-Methyl-2-pentanone	11.29	58	183274	16.801	ng		94
54) trans-1,3-Dichloropropene	11.92	75	112625	5.796	ng		100
55) 1,1,2-Trichloroethane	12.14	97	76856	5.644	ng		100
58) Toluene	12.53	91	297631	4.244	ng		99
59) 2-Hexanone	12.88	43	455150	11.694	ng		96
60) Dibromochloromethane	13.04	129	91389	4.032	ng		99
61) 1,2-Dibromoethane	13.36	107	92197	4.492	ng		100
62) n-Butyl Acetate	13.74	43	485048	11.399	ng		98
63) n-Octane	13.89	57	83310	6.421	ng		99
64) Tetrachloroethene	14.00	166	87596	3.904	ng		100
65) Chlorobenzene	14.86	112	200686	4.231	ng		100
66) Ethylbenzene	15.37	91	347379	4.322	ng		99
67) m- & p-Xylenes	15.62	91	561293	8.491	ng		99
68) Bromoform	15.64	173	80272	4.088	ng		100
69) Styrene	16.07	104	207622	4.595	ng		100
70) o-Xylene	16.21	91	280291	4.291	ng		99
71) n-Nonane	16.58	43	207285	6.037	ng		97
72) 1,1,2,2-Tetrachloroethane	16.17	83	139662	5.068	ng		100
74) Cumene	17.00	105	343712	4.259	ng		99
75) alpha-Pinene	17.49	93	183712	4.702	ng		98
76) n-Propylbenzene	17.65	91	427415	4.436	ng		99
77) 3-Ethyltoluene	17.00	105	343712	No Calib			
78) 4-Ethyltoluene	17.83	105	330433	4.371	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	286568	4.288	ng		99
80) alpha-Methylstyrene	16.99	118	532	No Calib		#	
81) 2-Ethyltoluene	17.00	105	343712	No Calib			
82) 1,2,4-Trimethylbenzene	18.40	105	294002	4.305	ng		100
83) n-Decane	17.00	58	3381	No Calib			
84) Benzyl Chloride	18.54	91	451094	10.009	ng		97
85) 1,3-Dichlorobenzene	18.55	146	167769	4.056	ng		99
86) 1,4-Dichlorobenzene	18.63	146	163698	3.971	ng		100
87) sec-Butylbenzene	18.71	105	382399	4.288	ng		99
88) 4-Isopropyltoluene (p-...	18.90	119	338723	4.251	ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	343712	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	163429	4.012	ng		100
91) d-Limonene	19.06	68	117513	5.447	ng		100
92) 1,2-Dibromo-3-Chloropr...	19.48	157	126141	8.363	ng		90
93) n-Undecane	17.92	58	7581	No Calib			
94) 1,2,4-Trichlorobenzene	20.81	180	266010	9.206	ng		99
95) Naphthalene	20.92	128	363332	4.966	ng		99
96) n-Dodecane	18.90	58	9470	No Calib		#	
97) Hexachlorobutadiene	21.28	225	92595	4.131	ng		100
98) Cyclohexanone	15.17	55	305	No Calib		#	
99) tert-Butylbenzene	18.40	119	291304	4.301	ng		98
100) n-Butylbenzene	19.36	91	318385	4.491	ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	78480	4.098	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162212.D Vial: 14
Acq On : 16 Nov 2022 15:44 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:41:55 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162213.D Vial: 15
Acq On : 16 Nov 2022 16:16 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 16:40:21 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:40:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	141414	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	736255	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	185679	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	324883	16.137	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 129.12%			
57) Toluene-d8 (SS2)	12.40	98	835936	10.609	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.88%			
73) Bromofluorobenzene (SS3)	16.79	174	294695	8.662	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 69.28%#			
Target Compounds						Qvalue
2) Propene	3.26	42	672523	47.020	ng	100
3) Dichlorodifluoromethan...	3.34	85	851101	31.950	ng	100
4) Chloromethane	3.47	50	818711	58.505	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	384587	28.272	ng	100
6) Vinyl Chloride	3.67	62	717484	46.194	ng	100
7) 1,3-Butadiene	3.78	54	326628	30.279	ng	100
8) Bromomethane	4.00	94	310309	31.541	ng	100
9) Chloroethane	4.14	64	292429	43.477	ng	100
10) Ethanol	4.33	45	1219910	131.519	ng	100
11) Acetonitrile	4.46	41	1001989	42.385	ng	100
12) Acrolein	4.53	56	559813	85.983	ng	100
13) Acetone	4.64	58	1796599	236.248	ng	100
14) Trichlorofluoromethane	4.74	101	690645	26.730	ng	100
15) 2-Propanol (Isopropanol)	4.88	45	2759351	98.098	ng	100
16) Acrylonitrile	5.02	53	1376962	106.716	ng	100
17) 1,1-Dichloroethene	5.25	96	344527	31.449	ng	100
18) 2-Methyl-2-Propanol (t...	5.35	59	2674413	102.076	ng	100
19) Methylene Chloride	5.37	84	403187	35.474	ng	100
20) 3-Chloro-1-propene (Al...	5.45	41	774988	34.792	ng	100
21) Trichlorotrifluoroethane	5.56	151	397309	34.091	ng	100
22) Carbon Disulfide	5.58	76	2605599	68.560	ng	100
23) trans-1,2-Dichloroethene	6.15	61	744831	46.602	ng	100
24) 1,1-Dichloroethane	6.33	63	817973	42.097	ng	100
25) Methyl tert-Butyl Ether	6.36	73	1300147	37.628	ng	100
26) Vinyl Acetate	6.45	86	224287	123.923	ng	100
27) 2-Butanone (MEK)	6.67	72	572718	88.498	ng	100
28) cis-1,2-Dichloroethene	7.09	61	697950	43.978	ng	100
29) Diisopropyl Ether	7.27	87	718439	80.186	ng	100
30) Ethyl Acetate	7.28	61	947043	218.841	ng	100
31) n-Hexane	7.28	57	921280	52.576	ng	100
32) Chloroform	7.38	83	795847	36.034	ng	100
34) Tetrahydrofuran (THF)	7.74	72	524965	83.674	ng	100
35) Ethyl tert-Butyl Ether	7.81	87	1007943	76.000	ng	100
36) 1,2-Dichloroethane	8.12	62	699100	38.487	ng	100
38) 1,1,1-Trichloroethane	8.39	97	723782	27.629	ng	100
39) Isopropyl Acetate	9.20	61	2285	No Calib	#	
40) 1-Butanol	8.80	56	28607	No Calib		
41) Benzene	8.89	78	1597495	31.212	ng	100
42) Carbon Tetrachloride	9.06	117	603050	26.260	ng	100
43) Cyclohexane	9.20	84	1258049	65.849	ng	100
44) tert-Amyl Methyl Ether	9.58	73	2405211	62.335	ng	100
45) 1,2-Dichloropropane	9.84	63	472042	38.492	ng	100
46) Bromodichloromethane	10.06	83	650710	31.396	ng	100
47) Trichloroethene	10.13	130	439417	26.803	ng	100
48) 1,4-Dioxane	10.10	88	355829	35.196	ng	100
49) 2,2,4-Trimethylpentane...	10.21	57	2200994	42.311	ng	100
50) Methyl Methacrylate	10.39	100	338893	68.872	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162213.D Vial: 15
Acq On : 16 Nov 2022 16:16 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 16:40:21 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:40:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

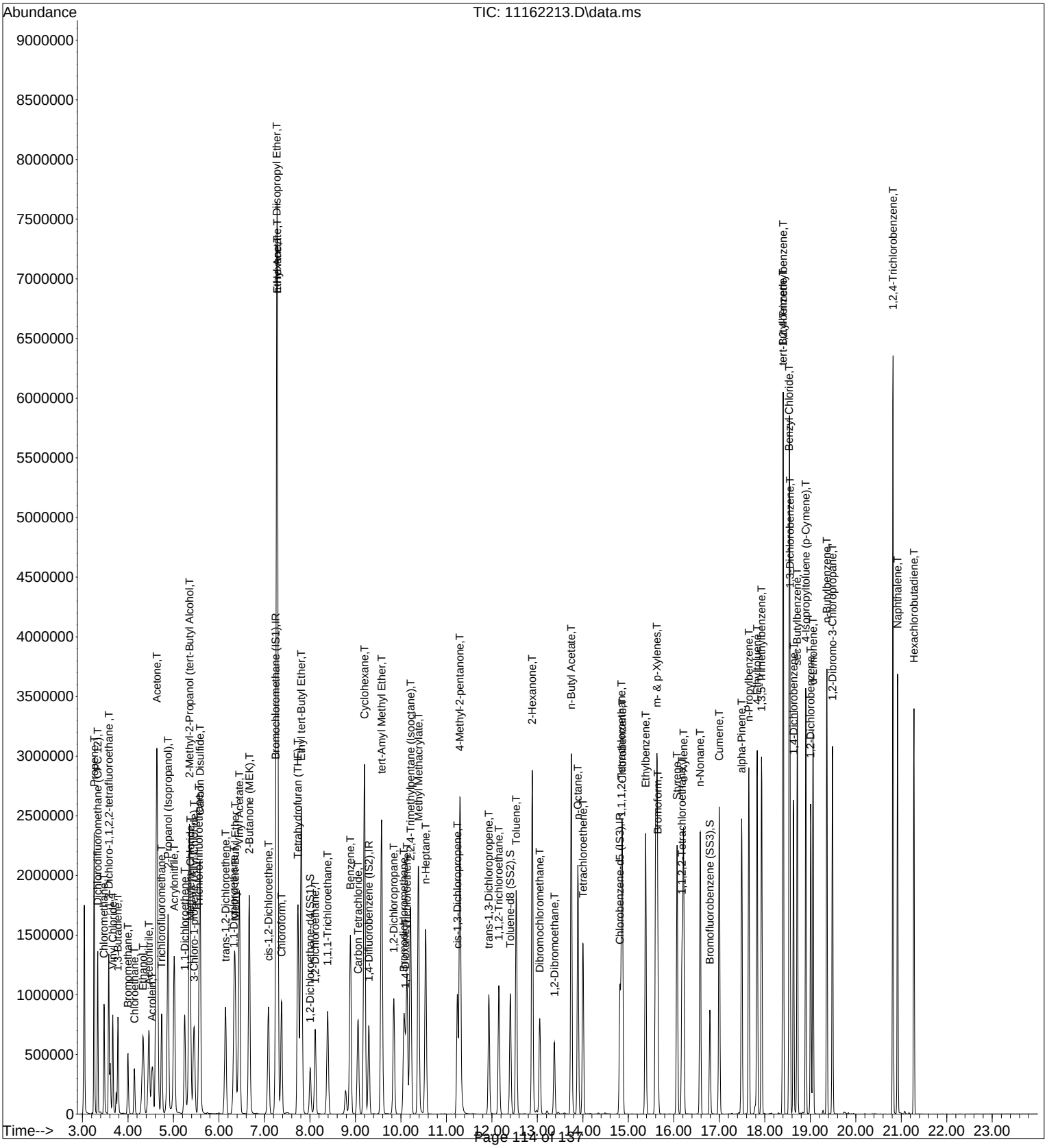
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.55	71	413841	35.926 ng		100
52) cis-1,3-Dichloropropene	11.25	75	702453	35.271 ng		100
53) 4-Methyl-2-pentanone	11.30	58	1042229	95.820 ng		100
54) trans-1,3-Dichloropropene	11.93	75	655789	33.847 ng		100
55) 1,1,2-Trichloroethane	12.15	97	427777	31.506 ng		100
58) Toluene	12.53	91	1657383	23.947 ng		100
59) 2-Hexanone	12.89	43	2635329	68.609 ng		100
60) Dibromochloromethane	13.05	129	530807	23.730 ng		100
61) 1,2-Dibromoethane	13.37	107	520391	25.693 ng		100
62) n-Butyl Acetate	13.74	43	2884868	68.696 ng		100
63) n-Octane	13.89	57	461025	36.004 ng		100
64) Tetrachloroethene	14.01	166	501044	22.624 ng		100
65) Chlorobenzene	14.87	112	1161221	24.807 ng		100
66) Ethylbenzene	15.38	91	1956293	24.660 ng		100
67) m- & p-Xylenes	15.63	91	3235642	49.597 ng		100
68) Bromoform	15.65	173	503204	25.965 ng		100
69) Styrene	16.07	104	1213480	27.212 ng		100
70) o-Xylene	16.21	91	1579369	24.500 ng		100
71) n-Nonane	16.58	43	1117414	32.975 ng		100
72) 1,1,2,2-Tetrachloroethane	16.18	83	791340	29.097 ng		100
74) Cumene	17.00	105	1934239	24.284 ng		100
75) alpha-Pinene	17.49	93	1043183	27.054 ng		100
76) n-Propylbenzene	17.65	91	2425050	25.505 ng		100
77) 3-Ethyltoluene	17.00	105	1934239	No Calib		
78) 4-Ethyltoluene	17.83	105	1933371	25.915 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1638566	24.843 ng		100
80) alpha-Methylstyrene	17.00	118	3323	No Calib	#	
81) 2-Ethyltoluene	17.00	105	1934239	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1724525	25.588 ng		100
83) n-Decane	17.00	58	18684	No Calib		
84) Benzyl Chloride	18.54	91	3015887	67.807 ng		100
85) 1,3-Dichlorobenzene	18.55	146	1026112	25.136 ng		100
86) 1,4-Dichlorobenzene	18.63	146	1003752	24.672 ng		100
87) sec-Butylbenzene	18.71	105	2191457	24.899 ng		100
88) 4-Isopropyltoluene (p-...	18.90	119	1940915	24.685 ng		100
89) 1,2,3-Trimethylbenzene	17.00	105	1934239	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	969873	24.126 ng		100
91) d-Limonene	19.06	68	687022	32.271 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	777665	52.240 ng		100
93) n-Undecane	17.93	58	42774	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1726725	60.549 ng		100
95) Naphthalene	20.92	128	2291167	31.731 ng		100
96) n-Dodecane	18.90	58	55252	No Calib	#	
97) Hexachlorobutadiene	21.28	225	563252	25.462 ng		100
98) Cyclohexanone	15.18	55	372	No Calib	#	
99) tert-Butylbenzene	18.40	119	1668615	24.965 ng		100
100) n-Butylbenzene	19.37	91	1856615	26.539 ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	448990	23.758 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162213.D Vial: 15
Acq On : 16 Nov 2022 16:16 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 16:40:21 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:40:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162214.D Vial: 15
Acq On : 16 Nov 2022 16:48 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 17:09:57 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.26	130	133289	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	758786	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	187336	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	328089	17.290	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 138.32%#				
57) Toluene-d8 (SS2)	12.41	98	851808	10.715	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.76%				
73) Bromofluorobenzene (SS3)	16.79	174	304410	8.868	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 70.96%				
Target Compounds							Qvalue
2) Propene	3.26	42	1474585	109.382	ng		99
3) Dichlorodifluoromethan...	3.34	85	1616730	64.392	ng		100
4) Chloromethane	3.48	50	1484943	112.582	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	728811	56.842	ng		100
6) Vinyl Chloride	3.67	62	1337418	91.356	ng		100
7) 1,3-Butadiene	3.78	54	559180	54.998	ng		99
8) Bromomethane	4.00	94	618198	66.667	ng		100
9) Chloroethane	4.15	64	554168	87.413	ng		99
10) Ethanol	4.35	45	2263537	258.908	ng		100
11) Acetonitrile	4.48	41	1886434	84.661	ng		100
12) Acrolein	4.55	56	991751	161.611	ng		100
13) Acetone	4.65	58	3075011	429.004	ng		92
14) Trichlorofluoromethane	4.74	101	1266838	52.019	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	4279017	161.396	ng		100
16) Acrylonitrile	5.03	53	2532530	208.239	ng		100
17) 1,1-Dichloroethene	5.26	96	632336	61.240	ng		98
18) 2-Methyl-2-Propanol (t...	5.37	59	4807607	194.681	ng		99
19) Methylene Chloride	5.39	84	764658	71.380	ng		96
20) 3-Chloro-1-propene (Al...	5.47	41	1376281	65.552	ng		98
21) Trichlorotrifluoroethane	5.57	151	782639	71.248	ng		99
22) Carbon Disulfide	5.59	76	4695597	131.085	ng		100
23) trans-1,2-Dichloroethene	6.15	61	1424780	94.578	ng		98
24) 1,1-Dichloroethane	6.34	63	1531307	83.613	ng		100
25) Methyl tert-Butyl Ether	6.36	73	2521736	77.431	ng		99
26) Vinyl Acetate	6.46	86	447855	262.532	ng	#	83
27) 2-Butanone (MEK)	6.68	72	1124800	184.403	ng	#	89
28) cis-1,2-Dichloroethene	7.10	61	1318062	88.115	ng		98
29) Diisopropyl Ether	7.28	87	1327047	157.141	ng	#	70
30) Ethyl Acetate	7.30	61	1657820	406.438	ng		96
31) n-Hexane	7.29	57	1549073	93.792	ng		99
32) Chloroform	7.39	83	1518944	72.967	ng		100
34) Tetrahydrofuran (THF)	7.75	72	1025961	173.495	ng		94
35) Ethyl tert-Butyl Ether	7.82	87	1978142	158.246	ng		96
36) 1,2-Dichloroethane	8.13	62	1319568	77.074	ng		100
38) 1,1,1-Trichloroethane	8.40	97	1397980	51.780	ng		99
39) Isopropyl Acetate	9.21	61	4082	No Calib		#	
40) 1-Butanol	8.80	56	56182	No Calib			
41) Benzene	8.89	78	3100771	58.784	ng		100
42) Carbon Tetrachloride	9.07	117	1180750	49.889	ng		100
43) Cyclohexane	9.21	84	2452427	124.554	ng		97
44) tert-Amyl Methyl Ether	9.58	73	4680500	117.701	ng		98
45) 1,2-Dichloropropane	9.85	63	911977	72.158	ng		100
46) Bromodichloromethane	10.08	83	1270249	59.468	ng		100
47) Trichloroethene	10.14	130	873038	51.670	ng		99
48) 1,4-Dioxane	10.10	88	703599	67.528	ng		98
49) 2,2,4-Trimethylpentane...	10.22	57	4180681	77.981	ng		98
50) Methyl Methacrylate	10.39	100	673163	132.742	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162214.D Vial: 15
Acq On : 16 Nov 2022 16:48 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 17:09:57 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

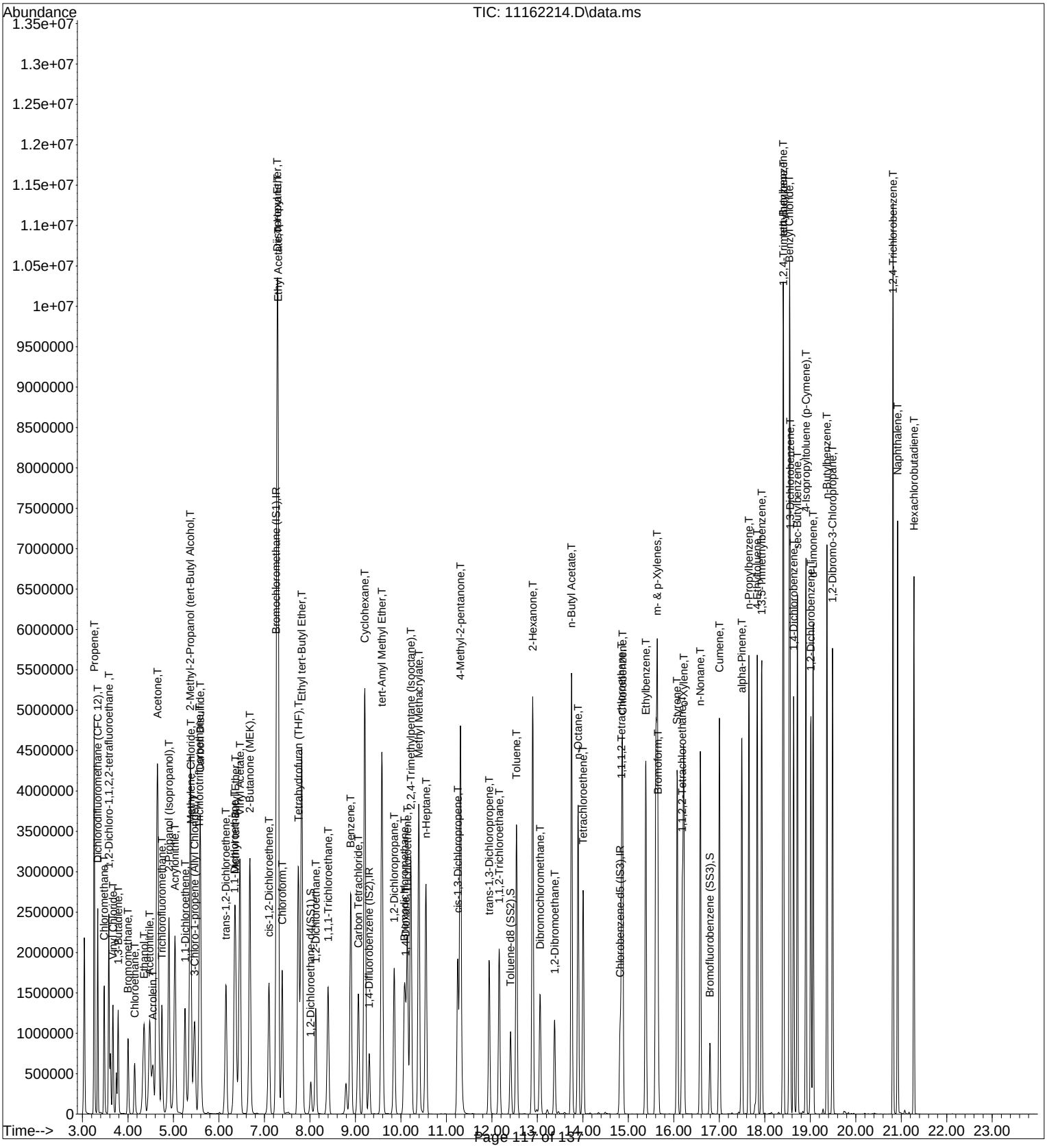
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.55	71	809517	68.188 ng		98
52) cis-1,3-Dichloropropene	11.25	75	1367623	66.631 ng		100
53) 4-Methyl-2-pentanone	11.31	58	1997907	178.228 ng		93
54) trans-1,3-Dichloropropene	11.94	75	1282625	64.233 ng		100
55) 1,1,2-Trichloroethane	12.16	97	838018	59.888 ng		100
58) Toluene	12.54	91	3228942	46.241 ng		100
59) 2-Hexanone	12.90	43	4747570	122.507 ng		96
60) Dibromochloromethane	13.06	129	1042319	46.186 ng		99
61) 1,2-Dibromoethane	13.38	107	1019475	49.889 ng		100
62) n-Butyl Acetate	13.75	43	5196121	122.638 ng		97
63) n-Octane	13.90	57	885149	68.515 ng		98
64) Tetrachloroethene	14.01	166	992903	44.437 ng		99
65) Chlorobenzene	14.87	112	2295307	48.600 ng		100
66) Ethylbenzene	15.39	91	3784329	47.281 ng		99
67) m- & p-Xylenes	15.63	91	6221463	94.521 ng		99
68) Bromoform	15.65	173	1007290	51.515 ng		100
69) Styrene	16.07	104	2388512	53.088 ng		100
70) o-Xylene	16.22	91	3071663	47.229 ng		99
71) n-Nonane	16.58	43	2045773	59.837 ng		96
72) 1,1,2,2-Tetrachloroethane	16.19	83	1549003	56.453 ng		100
74) Cumene	17.00	105	3734044	46.465 ng		99
75) alpha-Pinene	17.50	93	2041965	52.488 ng		99
76) n-Propylbenzene	17.65	91	4639586	48.365 ng		99
77) 3-Ethyltoluene	17.00	105	3734044	No Calib		
78) 4-Ethyltoluene	17.83	105	3778120	50.194 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	3158138	47.459 ng		99
80) alpha-Methylstyrene	17.00	118	5848	No Calib	#	
81) 2-Ethyltoluene	17.00	105	3734044	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	3187296	46.874 ng		99
83) n-Decane	17.00	58	36444	No Calib		
84) Benzyl Chloride	18.54	91	5574333	124.221 ng		98
85) 1,3-Dichlorobenzene	18.56	146	1959820	47.583 ng		100
86) 1,4-Dichlorobenzene	18.63	146	1970024	47.995 ng		99
87) sec-Butylbenzene	18.72	105	4167709	46.935 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	3702421	46.671 ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	3734044	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	1902991	46.918 ng		99
91) d-Limonene	19.06	68	1322427	61.568 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	1531355	101.959 ng		94
93) n-Undecane	17.93	58	81558	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	3273852	113.784 ng		100
95) Naphthalene	20.92	128	4454308	61.143 ng		99
96) n-Dodecane	18.91	58	99724	No Calib	#	
97) Hexachlorobutadiene	21.28	225	1122056	50.274 ng		100
98) Cyclohexanone	15.18	55	1250	No Calib	#	
99) tert-Butylbenzene	18.41	119	3102833	46.012 ng		99
100) n-Butylbenzene	19.37	91	3525686	49.952 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	887284	46.534 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162214.D Vial: 15
Acq On : 16 Nov 2022 16:48 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 17:09:57 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162215.D Vial: 15
Acq On : 16 Nov 2022 17:20 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 17 07:39:05 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	173715	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.32	114	764235	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.82	54	181973	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.03	65	324858	13.135	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%				
57) Toluene-d8 (SS2)	12.42	98	848070	10.983	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.84%				
73) Bromofluorobenzene (SS3)	16.80	174	309064	9.269	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 74.16%				
Target Compounds							Qvalue
2) Propene	3.26	42	2683845	152.754	ng		98
3) Dichlorodifluoromethan...	3.34	85	3116249	95.232	ng		99
4) Chloromethane	3.48	50	2197829	127.852	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	1678464	100.443	ng		99
6) Vinyl Chloride	3.68	62	2465400	129.215	ng		99
7) 1,3-Butadiene	3.80	54	1693051	127.767	ng		91
8) Bromomethane	4.01	94	1261213	104.358	ng		100
9) Chloroethane	4.15	64	1162004	140.638	ng		99
10) Ethanol	4.38	45	5713999	501.482	ng		100
11) Acetonitrile	4.50	41	4187100	144.183	ng		98
12) Acrolein	4.56	56	2570968	321.457	ng		99
13) Acetone	4.67	58	6788448	726.678	ng	#	76
14) Trichlorofluoromethane	4.76	101	3035757	95.646	ng		100
15) 2-Propanol (Isopropanol)	4.93	45	7754293	224.413	ng		99
16) Acrylonitrile	5.06	53	5526270	348.655	ng		99
17) 1,1-Dichloroethene	5.27	96	1650850	122.674	ng		92
18) 2-Methyl-2-Propanol (t...	5.39	59	5945962	184.746	ng		99
19) Methylene Chloride	5.40	84	1714660	122.813	ng		87
20) 3-Chloro-1-propene (Al...	5.48	41	3044514	111.264	ng		94
21) Trichlorotrifluoroethane	5.58	151	1576878	110.146	ng		96
22) Carbon Disulfide	5.60	76	11197813	239.857	ng		99
23) trans-1,2-Dichloroethene	6.17	61	2778484	141.516	ng		96
24) 1,1-Dichloroethane	6.36	63	3176653	133.088	ng		99
25) Methyl tert-Butyl Ether	6.37	73	4940345	116.393	ng		99
26) Vinyl Acetate	6.48	86	909949	409.279	ng	#	55
27) 2-Butanone (MEK)	6.70	72	2225801	279.986	ng	#	73
28) cis-1,2-Dichloroethene	7.11	61	2605281	133.636	ng		95
29) Diisopropyl Ether	7.29	87	2275590	206.755	ng	#	42
30) Ethyl Acetate	7.32	61	2540878	477.966	ng		89
31) n-Hexane	7.29	57	2253888	104.709	ng	#	98
32) Chloroform	7.41	83	3001515	110.632	ng		99
34) Tetrahydrofuran (THF)	7.76	72	2020557	262.171	ng	#	84
35) Ethyl tert-Butyl Ether	7.83	87	3866166	237.309	ng	#	87
36) 1,2-Dichloroethane	8.14	62	2531792	113.465	ng		100
38) 1,1,1-Trichloroethane	8.41	97	2749514	101.113	ng		98
39) Isopropyl Acetate	9.21	61	7566	No Calib	#		
40) 1-Butanol	8.82	56	108839	No Calib	#		
41) Benzene	8.91	78	6104337	114.901	ng		99
42) Carbon Tetrachloride	9.08	117	2340624	98.191	ng		99
43) Cyclohexane	9.21	84	4732641	238.647	ng		90
44) tert-Amyl Methyl Ether	9.59	73	8897423	222.149	ng		94
45) 1,2-Dichloropropane	9.87	63	1791713	140.754	ng		100
46) Bromodichloromethane	10.09	83	2484348	115.478	ng		100
47) Trichloroethene	10.16	130	1763594	103.633	ng		99
48) 1,4-Dioxane	10.12	88	1406707	134.046	ng		95
49) 2,2,4-Trimethylpentane...	10.23	57	7874391	145.831	ng		96
50) Methyl Methacrylate	10.41	100	1343390	263.015	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162215.D Vial: 15
Acq On : 16 Nov 2022 17:20 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 17 07:39:05 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

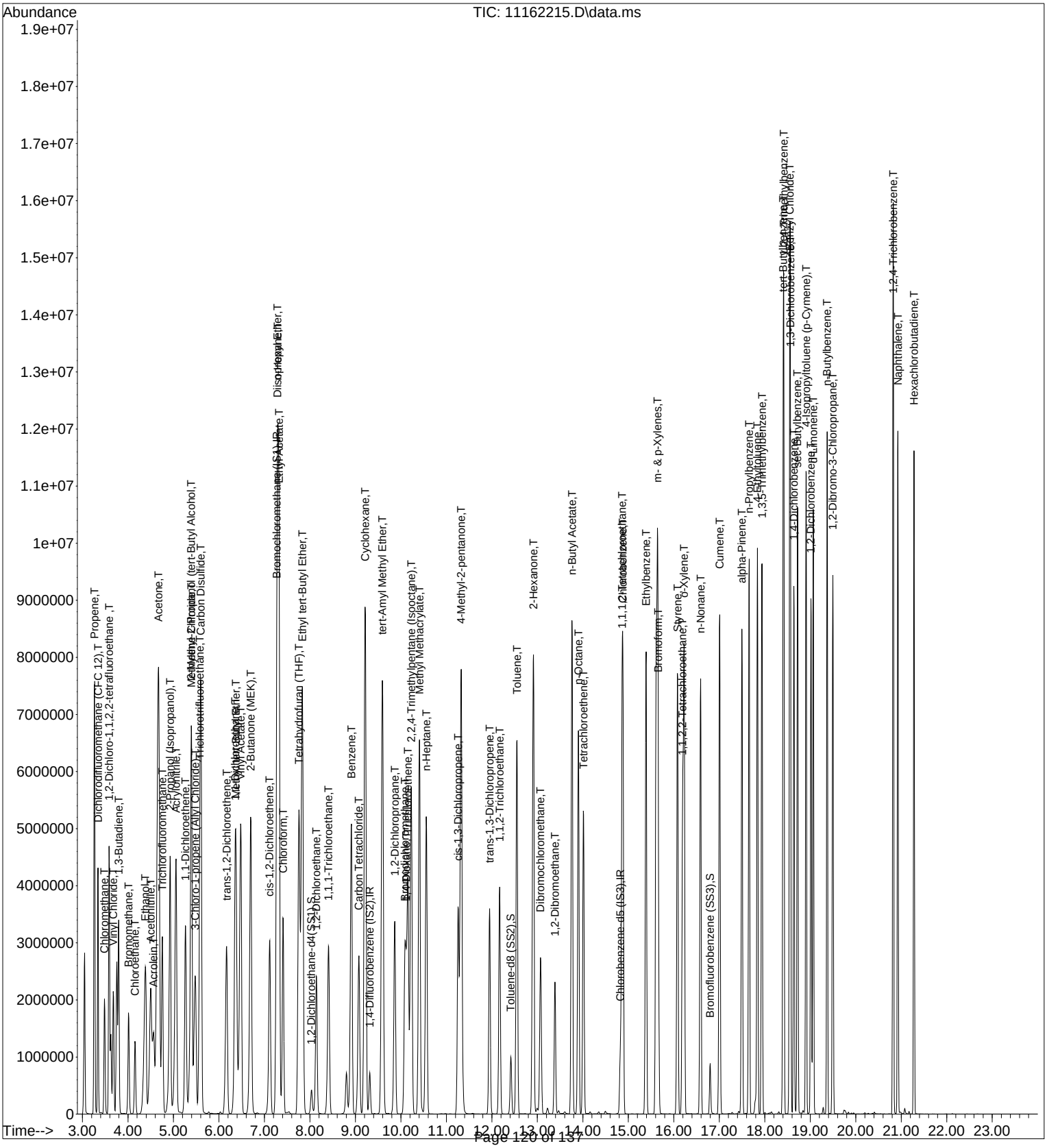
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.56	71	1603361	134.093 ng		96
52) cis-1,3-Dichloropropene	11.26	75	2701869	130.697 ng		99
53) 4-Methyl-2-pentanone	11.33	58	3694583	327.233 ng		84
54) trans-1,3-Dichloropropene	11.95	75	2521327	125.367 ng		99
55) 1,1,2-Trichloroethane	12.17	97	1660049	117.787 ng		100
58) Toluene	12.55	91	6266340	92.383 ng		99
59) 2-Hexanone	12.92	43	8007384	212.714 ng		90
60) Dibromochloromethane	13.07	129	2082475	94.995 ng		99
61) 1,2-Dibromoethane	13.39	107	2022869	101.908 ng		100
62) n-Butyl Acetate	13.76	43	8705988	211.534 ng		92
63) n-Octane	13.90	57	1669409	133.028 ng		94
64) Tetrachloroethene	14.02	166	1987756	91.584 ng		99
65) Chlorobenzene	14.88	112	4442515	96.836 ng		99
66) Ethylbenzene	15.39	91	7175484	92.293 ng		98
67) m- & p-Xylenes	15.64	91	11249096	175.941 ng		98
68) Bromoform	15.66	173	1956283	102.997 ng		99
69) Styrene	16.08	104	4613751	105.570 ng		99
70) o-Xylene	16.23	91	5820341	92.129 ng		98
71) n-Nonane	16.59	43	3512664	105.771 ng		89
72) 1,1,2,2-Tetrachloroethane	16.19	83	3009355	112.907 ng		100
74) Cumene	17.01	105	6992149	89.573 ng		97
75) alpha-Pinene	17.50	93	3886931	102.857 ng		99
76) n-Propylbenzene	17.66	91	8423694	90.400 ng		97
77) 3-Ethyltoluene	17.01	105	6992149	No Calib		
78) 4-Ethyltoluene	17.84	105	6842642	93.587 ng		97
79) 1,3,5-Trimethylbenzene	17.94	105	5837472	90.307 ng		97
80) alpha-Methylstyrene	17.01	118	10985	No Calib	#	
81) 2-Ethyltoluene	17.01	105	6992149	No Calib		
82) 1,2,4-Trimethylbenzene	18.42	105	5364101	81.213 ng		99
83) n-Decane	17.01	58	67719	No Calib		
84) Benzyl Chloride	18.55	91	8877902	203.669 ng		94
85) 1,3-Dichlorobenzene	18.56	146	3399020	84.959 ng		99
86) 1,4-Dichlorobenzene	18.64	146	3763344	94.386 ng		99
87) sec-Butylbenzene	18.72	105	7465597	86.551 ng		97
88) 4-Isopropyltoluene (p-...	18.91	119	6643365	86.211 ng		97
89) 1,2,3-Trimethylbenzene	17.01	105	6992149	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	3653844	92.740 ng		99
91) d-Limonene	19.06	68	2389968	114.548 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.50	157	2900162	198.787 ng		86
93) n-Undecane	17.93	58	144437	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	5436640	194.522 ng		99
95) Naphthalene	20.93	128	7967669	112.592 ng		97
96) n-Dodecane	18.91	58	168613	No Calib	#	
97) Hexachlorobutadiene	21.28	225	2130774	98.284 ng		99
98) Cyclohexanone	15.19	55	1447	No Calib	#	
99) tert-Butylbenzene	18.41	119	5298958	80.894 ng		98
100) n-Butylbenzene	19.37	91	6227180	90.826 ng		97
101) 1,1,1,2-Tetrachloroethane	14.86	131	1724347	93.100 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162215.D Vial: 15
Acq On : 16 Nov 2022 17:20 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 17 07:39:05 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162217.D Vial: 16
Acq On : 16 Nov 2022 18:24 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 17 07:54:22 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	156411	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	762080	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	178143	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	321886	11.840	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
57) Toluene-d8 (SS2)	12.40	98	844724	13.008	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
73) Bromofluorobenzene (SS3)	16.79	174	305995	13.475	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
Target Compounds							Qvalue
2) Propene	3.25	42	604715	21.617	ng		100
3) Dichlorodifluoromethan...	3.32	85	856777	23.813	ng		100
4) Chloromethane	3.47	50	783486	22.551	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	411020	24.056	ng		100
6) Vinyl Chloride	3.65	62	717092	23.597	ng		100
7) 1,3-Butadiene	3.77	54	341645	22.383	ng		99
8) Bromomethane	3.99	94	332608	24.832	ng		100
9) Chloroethane	4.13	64	296006	23.862	ng		99
10) Ethanol	4.32	45	1493362	85.280	ng		100
11) Acetonitrile	4.45	41	934430	18.545	ng		100
12) Acrolein	4.53	56	575772	39.946	ng		99
13) Acetone	4.63	58	1761213	111.266	ng		94
14) Trichlorofluoromethane	4.73	101	726989	23.518	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	2732992	46.320	ng		100
16) Acrylonitrile	5.01	53	1318832	43.299	ng		100
17) 1,1-Dichloroethene	5.24	96	370539	24.384	ng		95
18) 2-Methyl-2-Propanol (t...	5.35	59	2579709	50.248	ng		97
19) Methylene Chloride	5.36	84	417523	24.367	ng		91
20) 3-Chloro-1-propene (Al...	5.44	41	717583	19.830	ng		98
21) Trichlorotrifluoroethane	5.56	151	415612	25.722	ng		97
22) Carbon Disulfide	5.58	76	2651924	48.996	ng		100
23) trans-1,2-Dichloroethene	6.14	61	723789	24.479	ng		97
24) 1,1-Dichloroethane	6.32	63	832253	24.490	ng		100
25) Methyl tert-Butyl Ether	6.35	73	1277066	24.359	ng		98
26) Vinyl Acetate	6.44	86	374381	115.165	ng	#	71
27) 2-Butanone (MEK)	6.66	72	572340	49.537	ng	#	86
28) cis-1,2-Dichloroethene	7.08	61	685941	23.961	ng		97
29) Diisopropyl Ether	7.27	87	713230	50.179	ng	#	54
30) Ethyl Acetate	7.28	61	642416	74.056	ng		98
31) n-Hexane	7.28	57	881660	24.432	ng		100
32) Chloroform	7.37	83	808507	24.411	ng		100
34) Tetrahydrofuran (THF)	7.73	72	544582	49.005	ng	#	92
35) Ethyl tert-Butyl Ether	7.80	87	1011742	49.789	ng		94
36) 1,2-Dichloroethane	8.11	62	688931	24.347	ng		100
38) 1,1,1-Trichloroethane	8.38	97	739488	25.142	ng		99
39) Isopropyl Acetate	9.20	61	2068	No Calib		#	
40) 1-Butanol	8.80	56	13451	No Calib		#	
41) Benzene	8.88	78	1637981	25.154	ng		100
42) Carbon Tetrachloride	9.05	117	589846	24.338	ng		100
43) Cyclohexane	9.20	84	1264773	49.541	ng		95
44) tert-Amyl Methyl Ether	9.57	73	2386435	51.259	ng		97
45) 1,2-Dichloropropane	9.84	63	468119	24.286	ng		99
46) Bromodichloromethane	10.06	83	660219	26.096	ng		100
47) Trichloroethene	10.13	130	463778	25.969	ng		100
48) 1,4-Dioxane	10.09	88	358202	26.678	ng		96
49) 2,2,4-Trimethylpentane...	10.21	57	2077542	23.532	ng		98
50) Methyl Methacrylate	10.38	100	345652	55.574	ng		95

Data File : I:\MS09\DATA\2022 11\16\11162217.D Vial: 16
Acq On : 16 Nov 2022 18:24 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 17 07:54:22 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

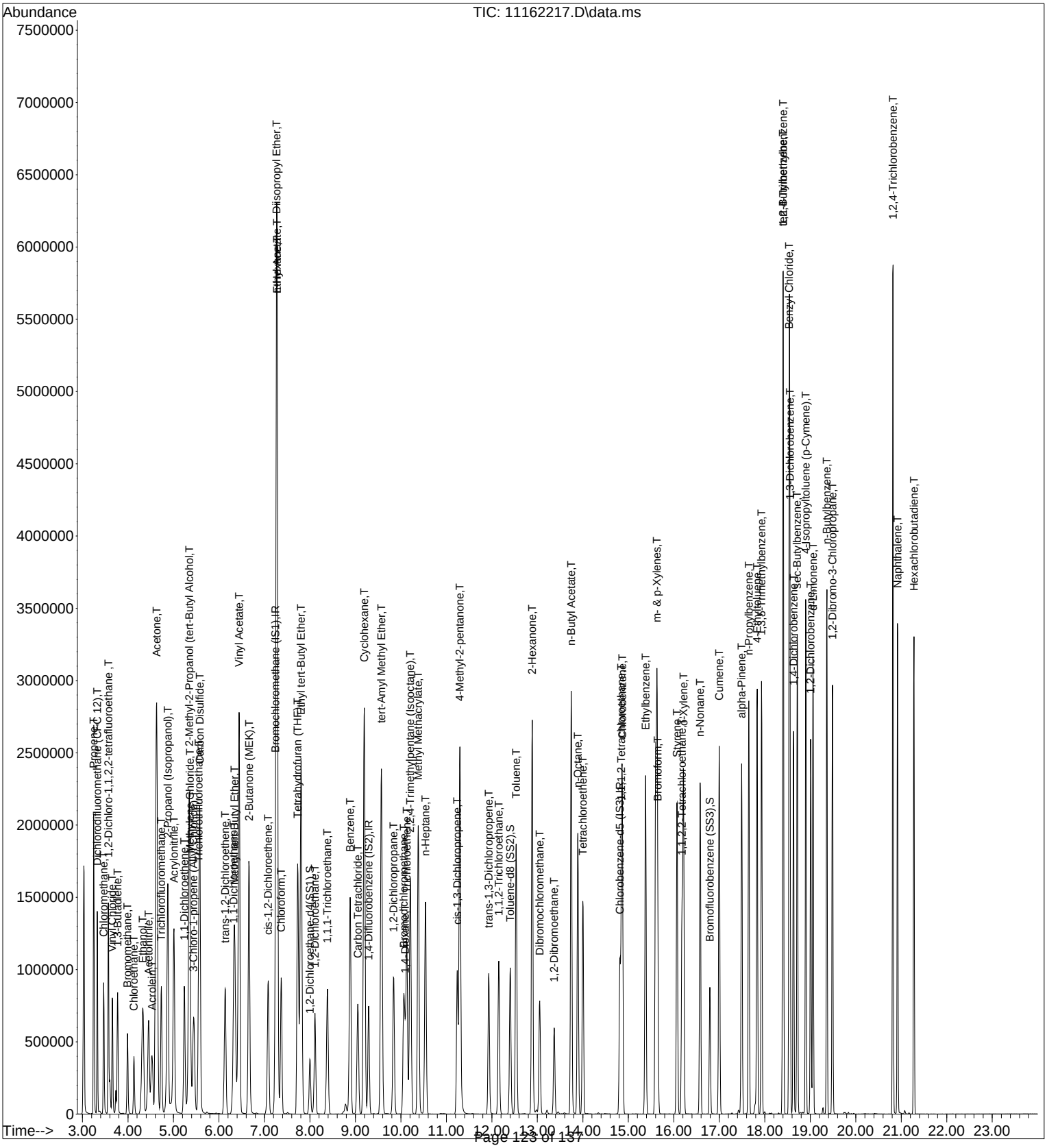
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	406856	24.246	ng		96
52) cis-1,3-Dichloropropene	11.24	75	702922	26.795	ng		100
53) 4-Methyl-2-pentanone	11.30	58	988404	50.965	ng		96
54) trans-1,3-Dichloropropene	11.93	75	651442	26.472	ng		100
55) 1,1,2-Trichloroethane	12.15	97	435331	25.394	ng		100
58) Toluene	12.53	91	1686998	26.097	ng		100
59) 2-Hexanone	12.89	43	2413074	52.275	ng		98
60) Dibromochloromethane	13.05	129	530063	28.067	ng		100
61) 1,2-Dibromoethane	13.37	107	523073	26.658	ng		100
62) n-Butyl Acetate	13.74	43	2701607	53.236	ng		98
63) n-Octane	13.89	57	438287	25.089	ng		97
64) Tetrachloroethene	14.00	166	525728	27.441	ng		99
65) Chlorobenzene	14.87	112	1177570	27.004	ng		100
66) Ethylbenzene	15.38	91	1980873	26.538	ng		100
67) m- & p-Xylenes	15.63	91	3273838	54.199	ng		99
68) Bromoform	15.65	173	515721	30.818	ng		100
69) Styrene	16.07	104	1214250	27.713	ng		99
70) o-Xylene	16.21	91	1597973	26.804	ng		99
71) n-Nonane	16.58	43	1035575	24.279	ng		97
72) 1,1,2,2-Tetrachloroethane	16.18	83	793079	26.945	ng		100
74) Cumene	17.00	105	1934972	26.913	ng		99
75) alpha-Pinene	17.49	93	1028560	27.498	ng		99
76) n-Propylbenzene	17.65	91	2391841	26.767	ng		99
77) 3-Ethyltoluene	17.00	105	1934972	No Calib			
78) 4-Ethyltoluene	17.83	105	1900725	27.505	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1643988	27.144	ng		99
80) alpha-Methylstyrene	17.00	118	3334	No Calib		#	
81) 2-Ethyltoluene	17.00	105	1934972	No Calib			
82) 1,2,4-Trimethylbenzene	18.41	105	1723588	28.155	ng		100
83) n-Decane	17.00	58	17578	No Calib			
84) Benzyl Chloride	18.54	91	2996339	66.708	ng		99
85) 1,3-Dichlorobenzene	18.55	146	1055472	29.512	ng		100
86) 1,4-Dichlorobenzene	18.63	146	1030503	28.482	ng		100
87) sec-Butylbenzene	18.71	105	2156797	26.736	ng		100
88) 4-Isopropyltoluene (p-...	18.90	119	1908170	26.421	ng		100
89) 1,2,3-Trimethylbenzene	17.00	105	1934972	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	979177	28.079	ng		100
91) d-Limonene	19.06	68	662516	27.420	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	785635	59.737	ng		95
93) n-Undecane	17.93	58	40727	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	1668439	58.653	ng		100
95) Naphthalene	20.92	128	2147967	29.476	ng		100
96) n-Dodecane	18.90	58	52122	No Calib		#	
97) Hexachlorobutadiene	21.28	225	562605	27.914	ng		100
98) Cyclohexanone	15.16	55	187	No Calib		#	
99) tert-Butylbenzene	18.40	119	1677965	27.653	ng		100
100) n-Butylbenzene	19.37	91	1807602	27.404	ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	456803	27.669	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162217.D Vial: 16
Acq On : 16 Nov 2022 18:24 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 17 07:54:22 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental

LCS Acceptance Criteria

25ng TO-15 ICV STD

	RT
Bromochloromethane (IS1)	7.24
1,4-Difluorobenzene (IS2)	9.29
Chlorobenzene-d5 (IS3)	14.81

Datafile: 11162217.D
Instrument: MS-09
Date: ##########

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
115-07-1	Propene	21.617	26.5	82	56-128	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	23.813	26.5	90	71-112	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	22.551	25.8	87	53-126	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	24.056	25.8	93	62-121	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	23.597	25.5	93	63-123	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	22.383	26.5	84	63-135	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	24.832	25.8	96	71-112	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	23.862	26.0	92	66-117	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	85.280	88.3	97	57-117	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	18.545	22.8	81	59-131	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	39.946	48.5	82	71-123	ok	70-130	ok	62-126	ok
67-64-1	Acetone	111.266	133	84	60-117	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	23.518	26.3	89	71-114	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	46.320	51.5	90	61-124	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	43.299	51.5	84	65-130	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	24.384	27.0	90	74-114	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	50.248	53.3	94	56-135	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	24.367	26.5	92	75-112	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	19.830	26.8	74	57-127	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	25.722	27.0	95	73-114	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	48.996	53.3	92	70-113	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	24.479	27.0	91	76-119	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	24.490	27.0	91	70-114	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	24.359	26.8	91	72-118	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	115.165	70.5	163	56-137	FAIL	70-130	FAIL	56-139	FAIL
78-93-3	2-Butanone	49.537	52.3	95	74-121	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	23.961	26.8	89	73-117	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	50.179	52.5	96	58-124	ok	70-130	ok	70-117	ok
141-78-6	Ethyl Acetate	74.056	107	69	59-161	ok	70-130	FAIL	65-128	ok
110-54-3	n-Hexane	24.432	26.5	92	55-130	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	24.411	26.5	92	71-114	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	49.005	51.5	95	73-114	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	49.789	53.5	93	76-119	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	24.347	27.0	90	71-119	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	25.142	26.3	96	73-119	ok	70-130	ok	68-125	ok
108-21-4	Isopropyl Acetate	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	65-129	#N/A
71-36-3	1-Butanol	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-133	#N/A
71-43-2	Benzene	25.154	27.0	93	72-113	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	24.338	25.8	94	67-123	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	49.541	52.8	94	70-119	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	51.259	53.5	96	74-120	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	24.286	26.5	92	70-118	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	26.096	27.0	97	74-119	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	25.969	26.5	98	74-115	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	26.678	26.5	101	77-124	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	23.532	27.0	87	65-120	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	55.574	53.3	104	78-126	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	24.246	26.5	91	70-119	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	26.795	27.0	99	81-126	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	50.965	54.0	94	73-129	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

25ng TO-15 ICV STD

	RT
Bromochloromethane (IS1)	7.24
1,4-Difluorobenzene (IS2)	9.29
Chlorobenzene-d5 (IS3)	14.81

Datafile: 11162217.D
Instrument: MS-09
Date: ##########

		Amount	Spike	%	ALS		70-130		DOD	
CAS No	Analyte	Found	Amount	REC	LCS Limits	Pass/Fail	LCS Limits	Pass/Fail	LCS Limits	Pass/Fail
10061-02-6	trans-1,3-Dichloropropene	26.472	25.8	103	80-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	25.394	26.5	96	78-117	ok	70-130	ok	73-119	ok
108-88-3	Toluene	26.097	26.5	98	70-118	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	52.275	53.3	98	74-132	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	28.067	27.0	104	69-137	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	26.658	26.0	103	76-128	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	53.236	51.3	104	75-134	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	25.089	26.8	94	68-120	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	27.441	26.5	104	63-130	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	27.004	26.5	102	70-118	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	26.538	26.3	101	71-123	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	54.199	52.5	103	67-127	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	30.818	26.8	115	65-149	ok	70-130	ok	66-139	ok
100-42-5	Styrene	27.713	26.5	105	76-132	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	26.804	26.5	101	69-124	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	24.279	26.5	92	64-127	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	26.945	26.5	102	69-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	26.913	26.5	102	69-125	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	27.498	27.3	101	68-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	26.767	26.8	100	70-127	ok	70-130	ok	69-123	ok
620-14-4	3-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-123	#N/A
622-96-8	4-Ethyltoluene	27.505	27.0	102	69-127	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	27.144	26.3	103	66-129	ok	70-130	ok	67-130	ok
98-83-9	alpha-Methylstyrene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	67-128	#N/A
611-14-3	2-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	66-121	#N/A
95-63-6	1,2,4-Trimethylbenzene	28.155	26.0	108	63-142	ok	70-130	ok	66-132	ok
124-18-5	n-Decane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	70-118	#N/A
100-44-7	Benzyl Chloride	66.708	52.5	127	73-145	ok	70-130	ok	50-147	ok
541-73-1	1,3-Dichlorobenzene	29.512	26.3	112	67-136	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	28.482	26.5	107	63-134	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	26.736	26.3	102	68-130	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	26.421	26.3	100	60-139	ok	70-130	ok	67-130	ok
526-73-8	1,2,3-Trimethylbenzene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	60-134	#N/A
95-50-1	1,2-Dichlorobenzene	28.079	26.5	106	64-139	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	27.420	26.3	104	63-137	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	59.737	52.0	115	72-145	ok	70-130	ok	73-133	ok
1120-21-4	n-Undecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	69-123	#N/A
120-82-1	1,2,4-Trichlorobenzene	58.653	51.5	114	62-154	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	29.476	27.0	109	62-156	ok	70-130	ok	57-138	ok
112-40-3	n-Dodecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-147	#N/A
87-68-3	Hexachloro-1,3-butadiene	27.914	26.3	106	55-142	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	61-132	#N/A
98-06-6	tert-Butylbenzene	27.653	26.3	105	61-140	ok	70-130	ok	65-124	ok
104-51-8	n-Butylbenzene	27.404	26.3	104	70-131	ok	70-130	ok	66-130	ok

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 12\02\12022202.D Vial: 2
Acq On : 1 Dec 2022 23:20 Operator: SC
Sample : CCV R9120222 25ng Inst : MS09
Misc : S35-11152201/S35-11302201 (12/30)

Quant Time: Dec 02 08:40:31 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/2/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	119	-0.01
2	T	Propene	2.236	2.092	6.4	110	0.00
3	T	Dichlorodifluoromethane (CF	2.875	2.444	15.0	102	0.00
4	T	Chloromethane	2.777	2.529	8.9	107	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.365	1.132	17.1	103	0.00
6	T	Vinyl Chloride	2.429	2.194	9.7	104	0.00
7	T	1,3-Butadiene	1.220	1.027	15.8	112	0.00
8	T	Bromomethane	1.070	0.859	19.7	95	0.00
9	T	Chloroethane	0.991	0.874	11.8	104	0.00
10	T	Ethanol	1.399	1.245	11.0	119	-0.01
11	T	Acetonitrile	4.027	3.580	11.1	109	-0.01
12	T	Acrolein	1.152	0.912	20.8	106	0.00
13	T	Acetone	1.265	1.067	15.7	105	-0.01
14	T	Trichlorofluoromethane	2.470	2.144	13.2	109	0.00
15	T	2-Propanol (Isopropanol)	4.715	4.205	10.8	105	-0.02
16	T	Acrylonitrile	2.434	2.223	8.7	111	-0.01
17	T	1,1-Dichloroethene	1.214	1.002	17.5	106	0.00
18	T	2-Methyl-2-Propanol (tert-B	4.103	3.830	6.7	102	-0.02
19	T	Methylene Chloride	1.369	1.178	14.0	104	-0.01
20	T	3-Chloro-1-propene (Allyl C	2.892	2.475	14.4	114	0.00
21	T	Trichlorotrifluoroethane	1.291	1.005	22.2	92	0.00
22	T	Carbon Disulfide	4.326	4.037	6.7	111	0.00
23	T	trans-1,2-Dichloroethene	2.363	2.094	11.4	102	-0.01
24	T	1,1-Dichloroethane	2.716	2.322	14.5	102	0.00
25	T	Methyl tert-Butyl Ether	4.190	3.479	17.0	96	-0.01
26	T	Vinyl Acetate	0.260	0.232	10.8	97	0.00
27	T	2-Butanone (MEK)	0.923	0.811	12.1	100	-0.01
28	T	cis-1,2-Dichloroethene	2.288	2.005	12.4	103	-0.01
29	T	Diisopropyl Ether	1.136	0.984	13.4	98	0.00
30	T	Ethyl Acetate	0.693	0.701	-1.2	105	-0.01
31	T	n-Hexane	2.884	2.773	3.8	106	0.00
32	T	Chloroform	2.647	2.204	16.7	99	-0.01
33	S	1,2-Dichloroethane-d4(SS1)	2.173	2.211	-1.7	115	0.00
34	T	Tetrahydrofuran (THF)	0.888	0.749	15.7	98	0.00
35	T	Ethyl tert-Butyl Ether	1.624	1.369	15.7	97	0.00
36	T	1,2-Dichloroethane	2.261	1.985	12.2	103	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	105	-0.01
38	T	1,1,1-Trichloroethane	0.482	0.431	10.6	97	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	97	0.00
40	T	1-Butanol	0.000	0.000	0.0	98	0.00
41	T	Benzene	1.068	0.938	12.2	97	0.00
42	T	Carbon Tetrachloride	0.398	0.353	11.3	95	0.00
43	T	Cyclohexane	0.419	0.376	10.3	97	0.00
44	T	tert-Amyl Methyl Ether	0.764	0.735	3.8	101	0.00
45	T	1,2-Dichloropropane	0.316	0.291	7.9	100	0.00
46	T	Bromodichloromethane	0.415	0.387	6.7	99	0.00
47	T	Trichloroethene	0.293	0.249	15.0	92	0.00
48	T	1,4-Dioxane	0.220	0.200	9.1	92	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.448	1.361	6.0	104	0.00
50	T	Methyl Methacrylate	0.102	0.097	4.9	94	0.00
51	T	n-Heptane	0.275	0.249	9.5	99	0.00
52	T	cis-1,3-Dichloropropene	0.430	0.408	5.1	97	-0.01
53	T	4-Methyl-2-pentanone	0.318	0.319	-0.3	102	0.00
54	T	trans-1,3-Dichloropropene	0.404	0.405	-0.2	98	0.00
55	T	1,1,2-Trichloroethane	0.281	0.247	12.1	95	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 12\02\12022202.D Vial: 2
Acq On : 1 Dec 2022 23:20 Operator: SC
Sample : CCV R9120222 25ng Inst : MS09
Misc : S35-11152201/S35-11302201 (12/30)

Quant Time: Dec 02 08:40:31 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	118	0.00
57	S	Toluene-d8 (SS2)	4.557	4.075	10.6	107	0.00
58	T	Toluene	4.536	3.487	23.1	97	0.00
59	T	2-Hexanone	3.239	3.018	6.8	107	0.00
60	T	Dibromochloromethane	1.325	1.053	20.5	94	0.00
61	T	1,2-Dibromoethane	1.377	1.082	21.4	95	0.00
62	T	n-Butyl Acetate	3.561	3.437	3.5	107	0.00
63	T	n-Octane	1.226	1.025	16.4	105	0.00
64	T	Tetrachloroethene	1.344	0.958	28.7	89	0.00
65	T	Chlorobenzene	3.060	2.332	23.8	94	0.00
66	T	Ethylbenzene	5.238	4.118	21.4	97	0.00
67	T	m- & p-Xylenes	4.238	3.439	18.9	98	0.00
68	T	Bromoform	1.174	0.967	17.6	90	0.00
69	T	Styrene	3.074	2.481	19.3	95	0.00
70	T	o-Xylene	4.183	3.319	20.7	98	0.00
71	T	n-Nonane	2.993	2.655	11.3	111	0.00
72	T	1,1,2,2-Tetrachloroethane	2.065	1.681	18.6	99	0.00
73	S	Bromofluorobenzene (SS3)	1.593	1.307	18.0	98	0.00
74	T	Cumene	5.045	3.945	21.8	96	0.00
75	T	alpha-Pinene	2.625	2.128	18.9	98	0.00
76	T	n-Propylbenzene	6.270	5.090	18.8	99	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	96	0.00
78	T	4-Ethyltoluene	4.849	3.874	20.1	96	0.00
79	T	1,3,5-Trimethylbenzene	4.250	3.382	20.4	96	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	98	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	96	0.00
82	T	1,2,4-Trimethylbenzene	4.296	3.625	15.6	97	0.00
83	T	n-Decane	0.000	0.000	0.0	106	0.00
84	T	Benzyl Chloride	3.152	3.246	-3.0	100	0.00
85	T	1,3-Dichlorobenzene	2.510	2.040	18.7	93	0.00
86	T	1,4-Dichlorobenzene	2.539	2.011	20.8	93	0.00
87	T	sec-Butylbenzene	5.660	4.551	19.6	97	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.068	3.953	22.0	95	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	96	0.00
90	T	1,2-Dichlorobenzene	2.447	1.893	22.6	92	0.00
91	T	d-Limonene	1.695	1.500	11.5	103	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.923	0.769	16.7	91	0.00
93	T	n-Undecane	0.000	0.000	0.0	108	0.00
94	T	1,2,4-Trichlorobenzene	1.996	1.681	15.8	89	0.00
95	T	Naphthalene	5.113	4.461	12.8	94	0.00
96	T	n-Dodecane	0.000	0.000	0.0	102	0.00
97	T	Hexachlorobutadiene	1.414	1.027	27.4	85	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	77	-0.02
99	T	tert-Butylbenzene	4.258	3.410	19.9	95	0.00
100	T	n-Butylbenzene	4.628	3.906	15.6	99	0.00
101	T	1,1,1,2-Tetrachloroethane	1.158	0.895	22.7	93	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022202.D Vial: 2
Acq On : 1 Dec 2022 23:20 Operator: SC
Sample : CCV R9120222 25ng Inst : MS09
Misc : S35-11152201/S35-11302201 (12/30)

12/2/22

Quant Time: Dec 02 08:40:31 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	168342	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.29	114	775384	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.81	54	219841	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	372239	12.722	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	12.40	98	895759	11.177	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.44%				
73) Bromofluorobenzene (SS3)	16.79	174	287343	10.254	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.00%				
Target Compounds							Qvalue
2) Propene	3.26	42	739506	24.561	ng		99
3) Dichlorodifluoromethan...	3.33	85	872075	22.520	ng		100
4) Chloromethane	3.47	50	876897	23.451	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	396463	21.560	ng		100
6) Vinyl Chloride	3.66	62	746182	22.814	ng		100
7) 1,3-Butadiene	3.78	54	366423	22.305	ng		98
8) Bromomethane	3.99	94	294929	20.458	ng		99
9) Chloroethane	4.14	64	303185	22.709	ng		100
10) Ethanol	4.32	45	1446066	76.727	ng		99
11) Acetonitrile	4.45	41	1096899	20.227	ng		100
12) Acrolein	4.53	56	592542	38.195	ng		100
13) Acetone	4.62	58	1894043	111.177	ng		94
14) Trichlorofluoromethane	4.74	101	750800	22.567	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	2902381	45.704	ng		99
16) Acrylonitrile	5.01	53	1534154	46.798	ng		100
17) 1,1-Dichloroethene	5.24	96	364353	22.278	ng		90
18) 2-Methyl-2-Propanol (t...	5.33	59	2720698	49.238	ng		99
19) Methylene Chloride	5.36	84	420401	22.796	ng		86
20) 3-Chloro-1-propene (Al...	5.45	41	883268	22.678	ng		92
21) Trichlorotrifluoroethane	5.56	151	365281	21.005	ng		94
22) Carbon Disulfide	5.58	76	2895015	49.697	ng		100
23) trans-1,2-Dichloroethene	6.14	61	761424	23.927	ng		95
24) 1,1-Dichloroethane	6.32	63	836422	22.869	ng		100
25) Methyl tert-Butyl Ether	6.35	73	1253199	22.210	ng		98
26) Vinyl Acetate	6.44	86	218283	62.388	ng	#	70
27) 2-Butanone (MEK)	6.66	72	570540	45.882	ng	#	82
28) cis-1,2-Dichloroethene	7.08	61	715414	23.219	ng		94
29) Diisopropyl Ether	7.27	87	702564	45.925	ng	#	72
30) Ethyl Acetate	7.27	61	996056	106.684	ng		96
31) n-Hexane	7.28	57	980166	25.236	ng		99
32) Chloroform	7.37	83	786440	22.062	ng		100
34) Tetrahydrofuran (THF)	7.73	72	514505	43.017	ng	#	87
35) Ethyl tert-Butyl Ether	7.80	87	976962	44.670	ng	#	90
36) 1,2-Dichloroethane	8.11	62	721751	23.699	ng		99
38) 1,1,1-Trichloroethane	8.38	97	701521	23.442	ng		98
39) Isopropyl Acetate	9.20	61	2222	No Calib		#	
40) 1-Butanol	8.79	56	28122	No Calib			
41) Benzene	8.88	78	1556108	23.487	ng		100
42) Carbon Tetrachloride	9.05	117	570095	23.120	ng		100
43) Cyclohexane	9.20	84	1223606	47.106	ng		93
44) tert-Amyl Methyl Ether	9.57	73	2417677	51.040	ng		97
45) 1,2-Dichloropropane	9.84	63	474188	24.179	ng		99
46) Bromodichloromethane	10.06	83	642813	24.972	ng		99
47) Trichloroethene	10.13	130	404686	22.272	ng		99
48) 1,4-Dioxane	10.09	88	328922	24.077	ng		93
49) 2,2,4-Trimethylpentane...	10.21	57	2279802	25.380	ng		97
50) Methyl Methacrylate	10.38	100	317571	50.183	ng		90

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022202.D Vial: 2
Acq On : 1 Dec 2022 23:20 Operator: SC
Sample : CCV R9120222 25ng Inst : MS09
Misc : S35-11152201/S35-11302201 (12/30)

Quant Time: Dec 02 08:40:31 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

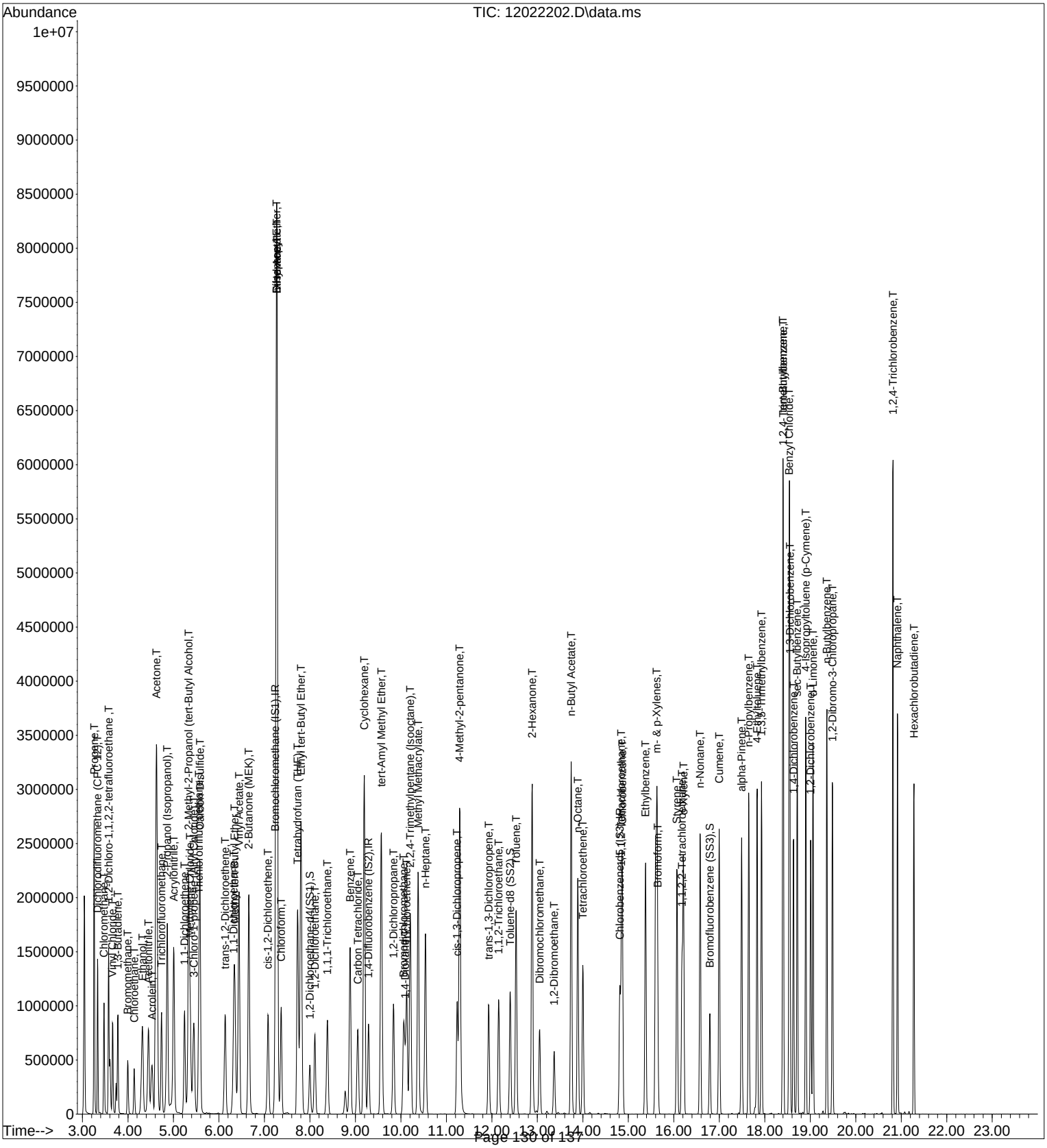
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	409633	23.992 ng		95
52) cis-1,3-Dichloropropene	11.23	75	683638	25.613 ng		100
53) 4-Methyl-2-pentanone	11.29	58	1063488	53.895 ng		93
54) trans-1,3-Dichloropropene	11.93	75	640235	25.570 ng		100
55) 1,1,2-Trichloroethane	12.15	97	405469	23.246 ng		98
58) Toluene	12.53	91	1609621	20.177 ng		99
59) 2-Hexanone	12.89	43	2812700	49.375 ng		96
60) Dibromochloromethane	13.05	129	500222	21.463 ng		99
61) 1,2-Dibromoethane	13.37	107	494637	20.428 ng		100
62) n-Butyl Acetate	13.74	43	3098370	49.474 ng		97
63) n-Octane	13.89	57	482178	22.366 ng		94
64) Tetrachloroethene	14.00	166	446358	18.879 ng		99
65) Chlorobenzene	14.87	112	1086801	20.196 ng		100
66) Ethylbenzene	15.38	91	1901260	20.640 ng		99
67) m- & p-Xylenes	15.62	91	3175293	42.597 ng		98
68) Bromoform	15.65	173	455077	22.036 ng		100
69) Styrene	16.07	104	1156280	21.385 ng		98
70) o-Xylene	16.21	91	1546991	21.027 ng		98
71) n-Nonane	16.58	43	1237483	23.510 ng		95
72) 1,1,2,2-Tetrachloroethane	16.18	83	783350	21.566 ng		99
74) Cumene	17.00	105	1856161	20.920 ng		99
75) alpha-Pinene	17.49	93	1019813	22.093 ng		98
76) n-Propylbenzene	17.65	91	2394491	21.714 ng		98
77) 3-Ethyltoluene	17.00	105	1856161	No Calib		
78) 4-Ethyltoluene	17.83	105	1856508	21.770 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	1576417	21.091 ng		98
80) alpha-Methylstyrene	16.99	118	3243	No Calib	#	
81) 2-Ethyltoluene	17.00	105	1856161	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1673597	22.153 ng		98
83) n-Decane	17.00	58	19798	No Calib		
84) Benzyl Chloride	18.54	91	3026100	54.592 ng		97
85) 1,3-Dichlorobenzene	18.55	146	950916	21.545 ng		100
86) 1,4-Dichlorobenzene	18.63	146	937103	20.988 ng		100
87) sec-Butylbenzene	18.71	105	2121066	21.306 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	1842459	20.672 ng		98
89) 1,2,3-Trimethylbenzene	17.00	105	1856161	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	890554	20.694 ng		100
91) d-Limonene	19.06	68	705698	23.667 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.49	157	709841	43.737 ng		85
93) n-Undecane	17.93	58	46275	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1545182	44.017 ng		100
95) Naphthalene	20.92	128	2157376	23.990 ng		100
96) n-Dodecane	18.90	58	56376	No Calib	#	
97) Hexachlorobutadiene	21.28	225	478693	19.246 ng		100
98) Cyclohexanone	15.16	55	287	No Calib	#	
99) tert-Butylbenzene	18.40	119	1589151	21.222 ng		99
100) n-Butylbenzene	19.37	91	1837776	22.577 ng		98
101) 1,1,1,2-Tetrachloroethane	14.85	131	417202	20.477 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\02\12022202.D Vial: 2
Acq On : 1 Dec 2022 23:20 Operator: SC
Sample : CCV R9120222 25ng Inst : MS09
Misc : S35-11152201/S35-11302201 (12/30)

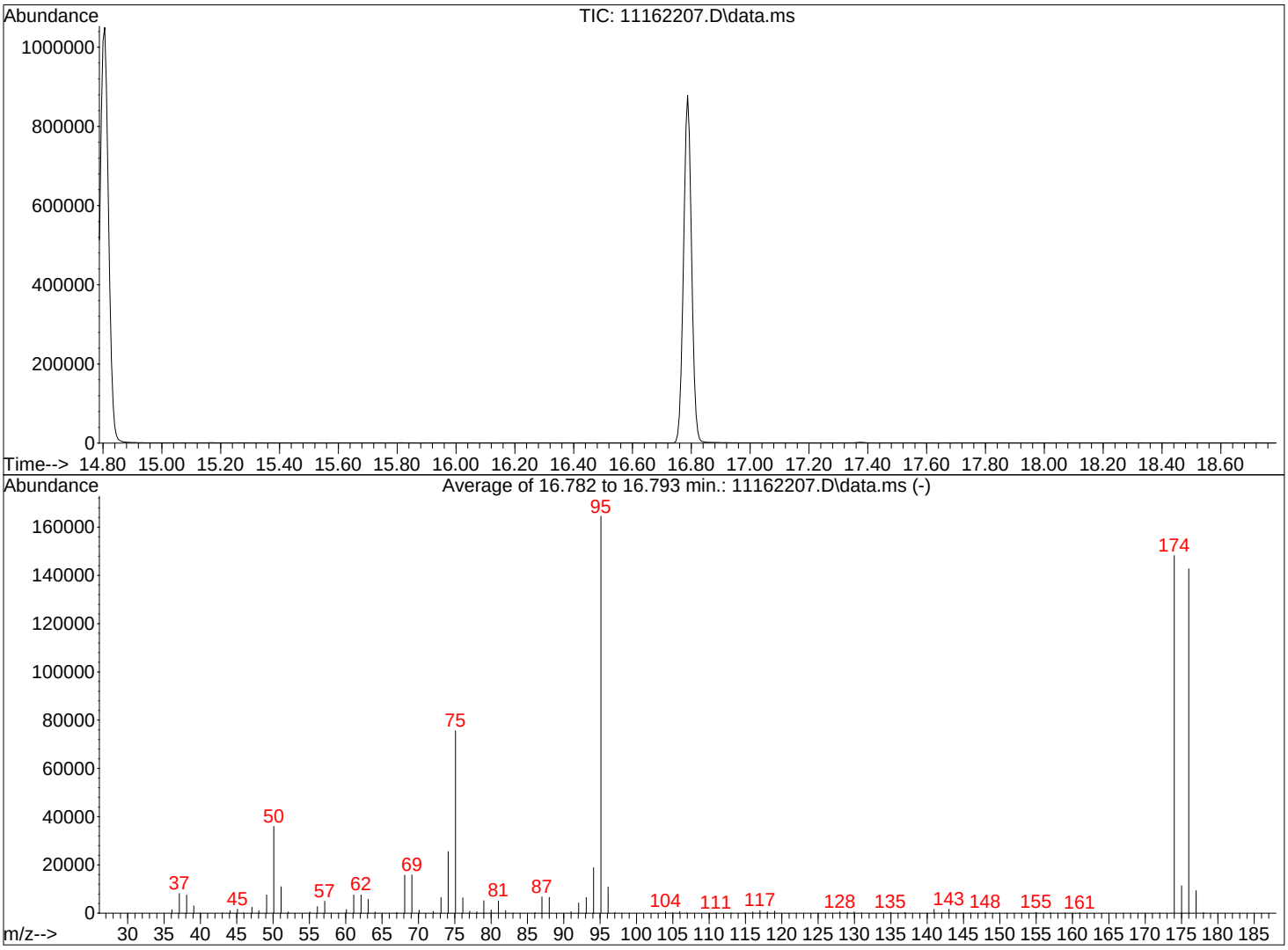
Quant Time: Dec 02 08:40:31 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS09\DATA\2022 11\16\
Data File : 11162207.D
Acq On : 16 Nov 2022 13:04
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S35-11152201
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R9111622.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Nov 16 16:41:45 2022



AutoFind: Scans 2448, 2449, 2450; Background Corrected with Scan 2439

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	21.9	35968	PASS
75	95	30	66	45.9	75581	PASS
95	95	100	100	100.0	164544	PASS
96	95	5	9	6.6	10824	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.1	148224	PASS
175	174	4	9	7.7	11388	PASS
176	174	93	101	96.3	142741	PASS
177	176	5	9	6.5	9340	PASS

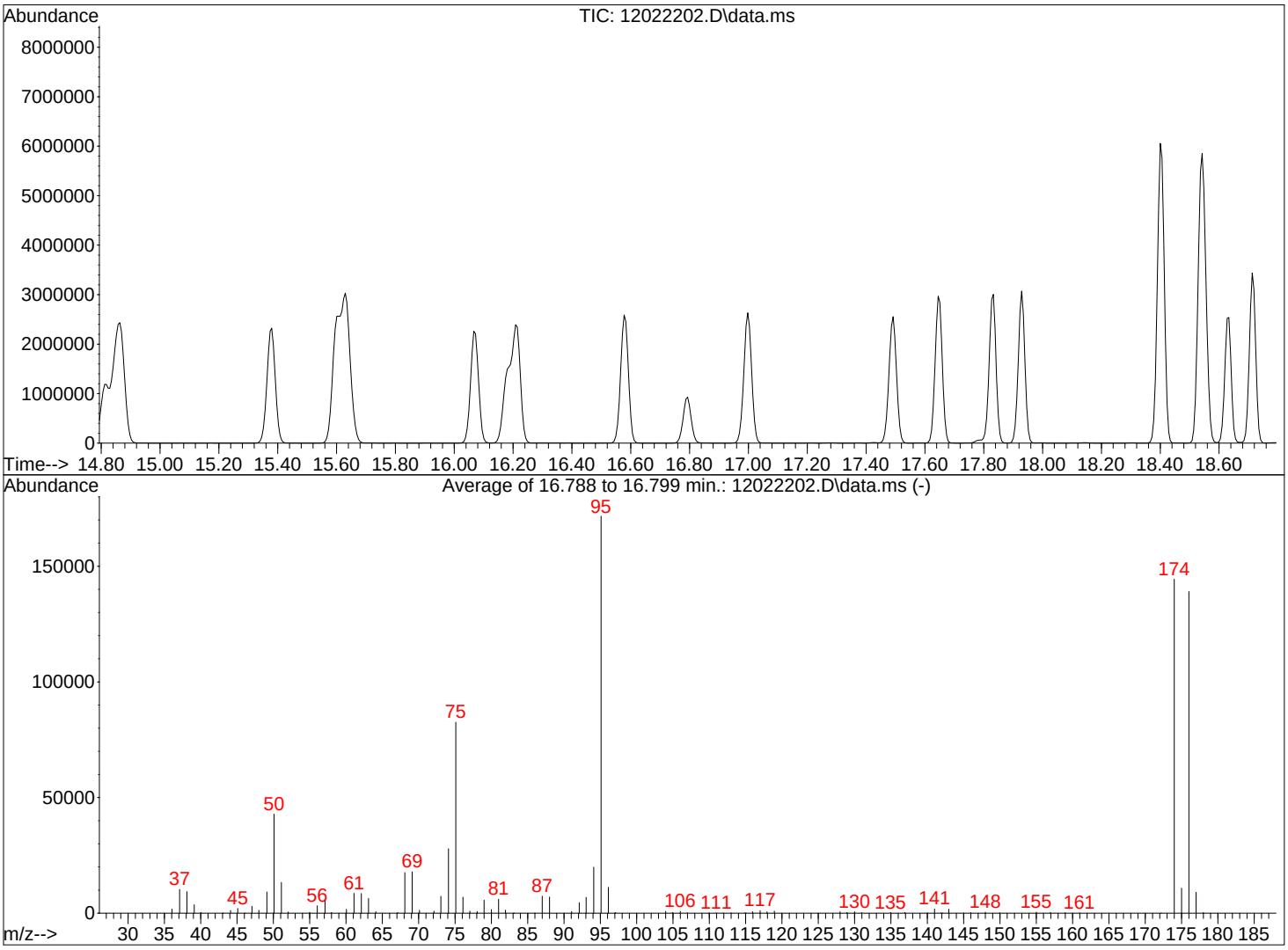
11/16/22

Data Path : I:\MS09\DATA\2022 12\02\
Data File : 12022202.D
Acq On : 1 Dec 2022 23:20
Operator : SC
Sample : CCV R9120222 25ng
Misc : S35-11152201/S35-11302201 (12/30)
ALS Vial : 2 Sample Multiplier: 1

12/2/22

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R9111622.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Nov 17 07:45:06 2022



AutoFind: Scans 2449, 2450, 2451; Background Corrected with Scan 2440

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	25.0	42845	PASS
75	95	30	66	48.1	82571	PASS
95	95	100	100	100.0	171648	PASS
96	95	5	9	6.5	11187	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	84.1	144363	PASS
175	174	4	9	7.5	10819	PASS
176	174	93	101	96.4	139109	PASS
177	176	5	9	6.5	9049	PASS

Injection Log

Directory: J:\MS09\DATA\2022_11\16\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
7	11/16/22 13:04	11162207.D	12.5ng TO-15 BFB STD	S35-11152201	SC	2	pass
8	11/16/22 13:36	11162208.D	0.1ng TO-15 ICAL STD	S35-11152201/S35-11152210 (12/15)	SC	13	
9	11/16/22 14:08	11162209.D	0.2ng TO-15 ICAL STD	S35-11152201/S35-11152210 (12/15)	SC	13	
10	11/16/22 14:40	11162210.D	0.5ng TO-15 ICAL STD	S35-11152201/S35-11152209 (12/15)	SC	14	
11	11/16/22 15:12	11162211.D	1.0ng TO-15 ICAL STD	S35-11152201/S35-11152209 (12/15)	SC	14	
12	11/16/22 15:44	11162212.D	5.0ng TO-15 ICAL STD	S35-11152201/S35-11152209 (12/15)	SC	14	
13	11/16/22 16:16	11162213.D	25ng TO-15 ICAL STD	S35-11152201/S35-11152208 (12/15)	SC	15	
14	11/16/22 16:48	11162214.D	50ng TO-15 ICAL STD	S35-11152201/S35-11152208 (12/15)	SC	15	
15	11/16/22 17:20	11162215.D	100ng TO-15 ICAL STD	S35-11152201/S35-11152208 (12/15)	SC	15	
16	11/16/22 17:52	11162216.D	Blank	S35-11152201	SC	2	
17	11/16/22 18:24	11162217.D	25ng TO-15 ICV STD	S35-11152201/S35-11152205 (12/15)	SC	16	pass
18	11/16/22 18:56	11162218.D	25ng TO-15 ICV STD	S35-11152201/S35-10172205 (11/16)	SC	2	not used

11/18/22

Injection Log

Directory: I:\MS09\DATA\2022_12\02\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	12/1/22 22:48	12022201.D	CCV C9120222_25ng	S35-11152201/S35-11152201 (12/15)	SC	3	pass
2	12/1/22 23:20	12022202.D	CCV R9120222_25ng	S35-11152201/S35-11302201 (12/30)	SC	2	pass
3	12/1/22 23:52	12022203.D	Blank	S35-11152201	SC	1	
4	12/2/22 0:24	12022204.D	MB R9120222_1000mL	S35-11152201	SC	2	pass
5	12/2/22 0:55	12022205.D	LCS R9120222_25ng	S35-11152201/S35-11212205 (12/21)	SC	2	pass
6	12/2/22 1:28	12022206.D	LCSD R9120222_25ng	S35-11152201/S35-11212205 (12/21)	SC	2	pass
7	12/2/22 2:00	12022207.D	RL R9120222_0.5ng	S35-11152201/S35-11152209 (12/15)	SC	4	pass
8	12/2/22 9:12	12022208.D	P2205172-013 (1000mL)	S35-11152201	SC	5	
9	12/2/22 9:44	12022209.D	P2205172-014 (1000mL)PF2	S35-11152201	SC	6	
10	12/2/22 10:16	12022210.D	P2205172-015 (1000mL)PF2	S35-11152201	SC	7	
11	12/2/22 10:48	12022211.D	P2205172-016 (1000mL)PF2	S35-11152201	SC	8	
12	12/2/22 11:25	12022212.D	P2205292-001 (10mL)	S35-11152201	SC	1	
13	12/2/22 12:03	12022213.D	P2205292-001Dil (1.0mL)	S35-11152201	SC	1	
14	12/2/22 12:35	12022214.D	P2205292-006 (400mL)PF2	S35-11152201	SC	13	
15	12/2/22 13:07	12022215.D	P2205292-002 (400mL)	S35-11152201	SC	9	
16	12/2/22 13:39	12022216.D	P2205292-003 (400mL)	S35-11152201	SC	10	
17	12/2/22 14:11	12022217.D	P2205292-004 (400mL)	S35-11152201	SC	11	
18	12/2/22 14:43	12022218.D	P2205292-005 (400mL)	S35-11152201	SC	12	
19	12/2/22 15:15	12022219.D	P2205341-001Dil (100mL)	S35-11152201	SC	14	
20	12/2/22 15:47	12022220.D	P2205416-001 (100mL)	S35-11152201	SC	15	Surr3 out
21	12/2/22 16:19	12022221.D	P2205292-004Dil (40mL)	S35-11152201	SC	11	
22	12/2/22 17:11	12022222.D	P2205416-001 (50mL)	S35-11152201	SC	15	
23	12/2/22 17:43	12022223.D	P2205341-001 (1000mL)	S35-11152201	SC	14	
24	12/2/22 18:15	12022224.D	P2205313-001 (1000mL)	S35-11152201	SC	5	
25	12/2/22 18:47	12022225.D	P2205313-002 (1000mL)	S35-11152201	SC	6	
26	12/2/22 19:19	12022226.D	P2205313-003 (1000mL)	S35-11152201	SC	7	
27	12/2/22 19:51	12022227.D	P2205313-004 (1000mL)	S35-11152201	SC	8	
28	12/2/22 20:23	12022228.D	P2205313-005 (1000mL)	S35-11152201	SC	9	
29	12/2/22 20:55	12022229.D	P2205313-005dup (1000mL)	S35-11152201	SC	9	pass
30	12/2/22 21:27	12022230.D	CCV END R9120222_5.0ng	S35-11152201/S35-11302201 (12/30)	SC	2	pass
							12/5/22

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-09
Cycles: 30
Batch: 30275

Batch Started By: ANAKLOWYCZ on 11/17/22 0852
Finished Cleaning By: ALESAICHERRE on 11/18/22 0526

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02336	11/17/22	11/17/22	Pass w/ Conditions	-14.3	11/18/22 0526	ALESAICHERRE				ms21-11/17/22
AC00626	11/17/22		Pass w/ Conditions	-14.3	11/18/22 0526	ALESAICHERRE	-14.0	11/21/22 0340		
AC02124	11/17/22		Pass w/ Conditions	-14.3	11/18/22 0526	ALESAICHERRE	-14.0	11/21/22 0747		
AC02164	11/17/22		Pass w/ Conditions	-14.3	11/18/22 0526	ALESAICHERRE	-14.0	11/21/22 0747		
AC02101	11/17/22		Pass w/ Conditions	-14.3	11/18/22 0526	ALESAICHERRE	-14.0	11/23/22 0802		
AC02291	11/17/22		Pass w/ Conditions	-14.3	11/18/22 0526	ALESAICHERRE	-14.0	11/21/22 0747		
AC02417	11/17/22		Pass w/ Conditions	-14.3	11/18/22 0526	ALESAICHERRE	-14.0	11/21/22 0747		
AS00377	11/17/22		Pass w/ Conditions	-14.3	11/18/22 0526	ALESAICHERRE	-14.0	11/21/22 0747		
AC02406	11/17/22		Pass w/ Conditions	-14.3	11/18/22 0526	ALESAICHERRE	-147.0	11/23/22 0804		
AC01049	11/17/22		Pass w/ Conditions	-14.3	11/18/22 0526	ALESAICHERRE	-14.0	11/23/22 0802		

Passed For: TO-15 (75 Comp 0.5 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 11\17\
Data File : 11172208.D
Acq On : 17 Nov 2022 20:22
Operator : KM
Sample : 111622 AC02336 30275
Misc : 0.5 + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

11/18/22

Quant Time: Nov 18 04:13:10 2022
Quant Method : I:\MS21\Methods\F21103122.M
Quant Title : EPA TO-15
QLast Update : Tue Nov 01 07:50:09 2022
Response via : Initial Calibration

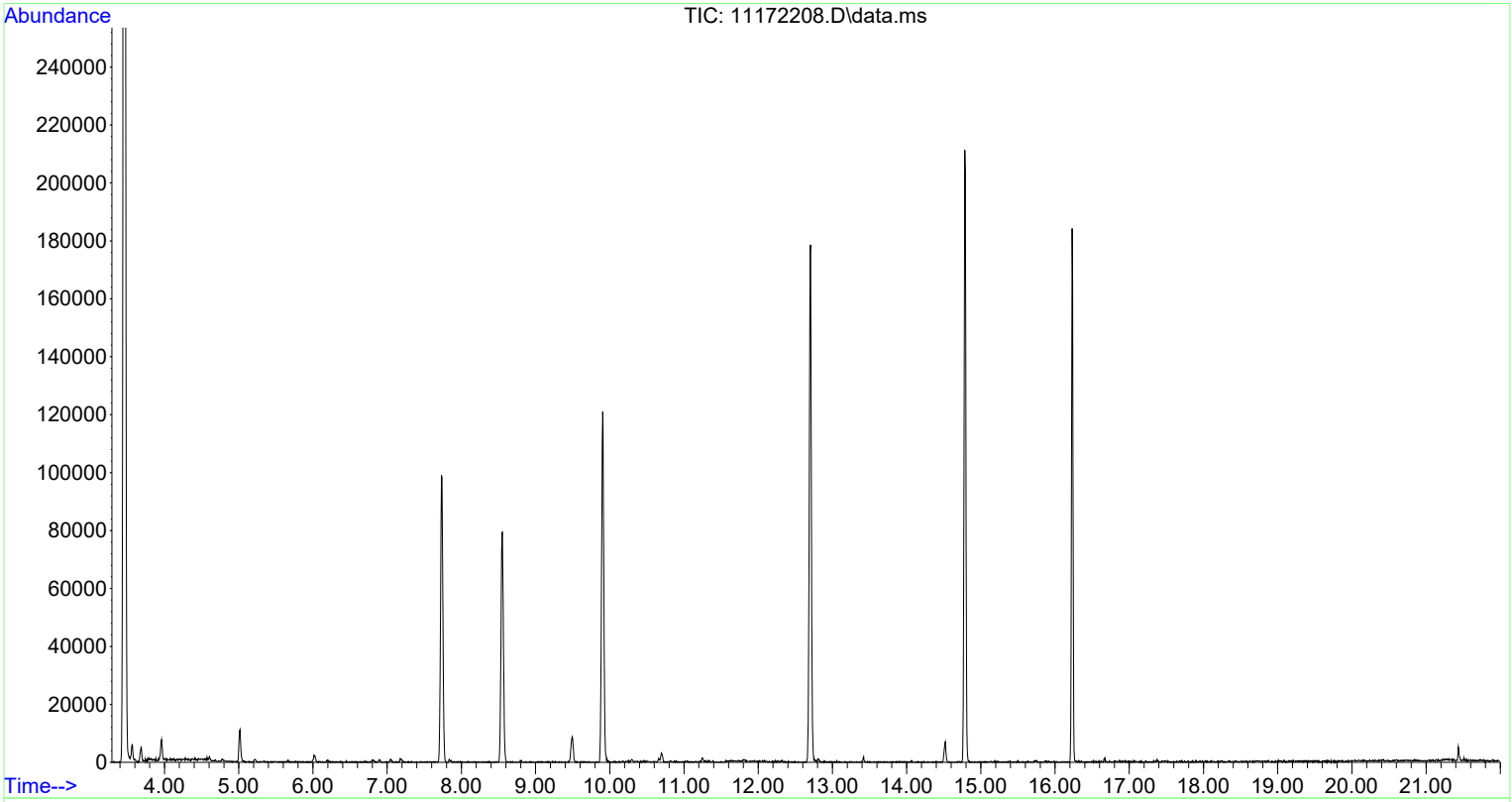
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane (IS1)	7.734	130	52983	1000.00	pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.906	114	128539	1000.00	pg	0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	23111	1000.00	pg	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4 ...	8.550	65	79761	972.62	pg	0.00
Spiked Amount 1000.000			Recovery = 97.26%			
57) Toluene-d8 (SS2)	12.702	98	140614	985.71	pg	0.00
Spiked Amount 1000.000			Recovery = 98.57%			
74) Bromofluorobenzene (SS3)	16.233	174	62527	955.37	pg	0.00
Spiked Amount 1000.000			Recovery = 95.54%			
Target Compounds						Qvalue
2] * Propene	3.686	42	351	11.635	pg	# 32
3] * Dichlorodifluoromethane	3.729	85	122	1.356	pg	# 73
4] * Chloromethane	3.856	50	232	9.385	pg	94
7] * 1,3-Butadiene	4.152	54	10	0.509	pg	# 6
8] * Bromomethane	4.377	94	68	2.444	pg	# 63
10] * Ethanol	4.606	45	867	36.150	pg	99
11] * Acetonitrile	4.778	41	790	10.647	pg	# 80
12] * Acrolein	4.884	56	270	17.890	pg	92
13] * Acetone	5.014	58	4345	143.234	pg	83
14] * Trichlorofluoromethane	5.132	101	92	0.706	pg	99
15] * 2-Propanol (Isopropa...	5.219	45	833	15.336	pg	88
18] tert-Butanol	5.773	59	262	4.804	pg	93
19] * Methylene Chloride	5.744	84	144	2.555	pg	97
22] * Carbon Disulfide	6.021	76	4321	21.559	pg	98
26] * Vinyl Acetate	6.902	86	304	68.709	pg	# 7
27] * 2-Butanone (MEK)	7.189	72	523	26.651	pg	98
29] DIPE	7.844	45	240	2.886	pg	# 41
30] * Ethyl Acetate	7.844	61	236	20.621	pg	98
32] * Chloroform	7.870	83	106	0.997	pg	98
34] * Tetrahydrofuran	8.359	71	104	7.121	pg	# 79
39] * Benzene	9.495	78	10619	106.647	pg	98
47] * Trichloroethene	10.698	130	1502	34.801	pg	99
48] * 1,4-Dioxane	10.771	88	90	4.443	pg	87
53] * 4-Methyl-2-pentanone	11.804	58	368	22.717	pg	93
58] * Toluene	12.816	91	1099	6.831	pg	99
59] * 2-Hexanone	13.178	58	142	7.268	pg	# 51
64] * Tetrachloroethene	14.103	166	61	1.080	pg	# 10
65] * Chlorobenzene	14.826	112	212	1.895	pg	97
66] * Ethylbenzene	15.220	91	84	0.933	pg	# 42
67] * m- & p-Xylenes	15.381	91	134	1.849	pg	91
70] * Styrene	15.727	104	82	1.847	pg	# 29
71] * o-Xylene	15.822	91	54	0.783	pg	# 29
75] * Cumene	16.368	105	63	0.573	pg	# 48
77] * n-Propylbenzene	16.811	91	76	0.688	pg	# 52
83] tert-Butylbenzene	17.378	134	60	3.853	pg	# 1
84] * 1,2,4-Trimethylbenzene	17.351	105	65	0.997	pg	# 23
91] p-Isopropyltoluene	17.724	119	144	1.844	pg	# 49
98] * Naphthalene	19.444	128	51	0.881	pg	# 67

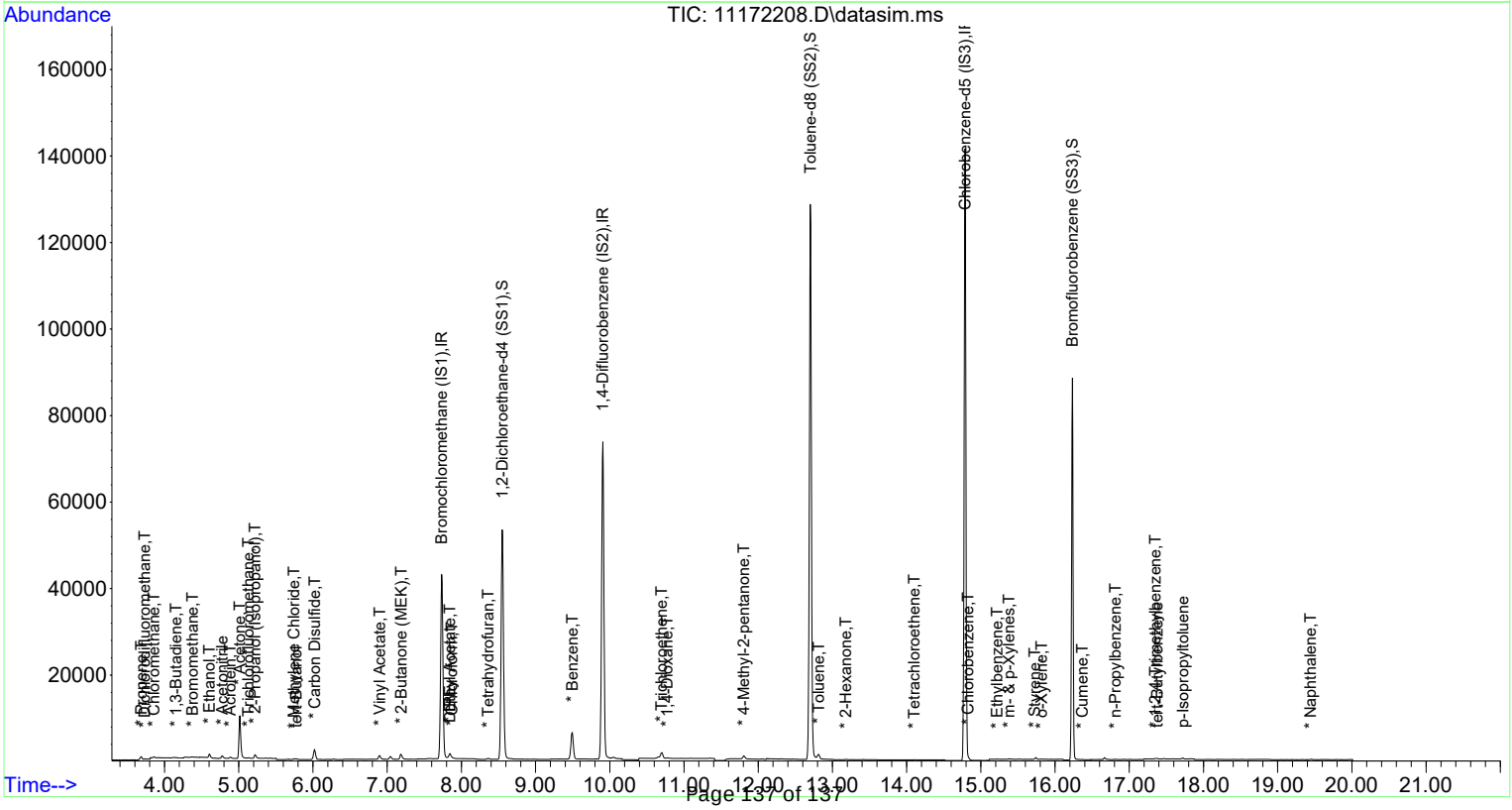
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 11\17\
Data File : 11172208.D
Acq On : 17 Nov 2022 20:22
Operator : KM
Sample : 111622 AC02336 30275
Misc : 0.5 + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 18 04:13:10 2022
Quant Method : I:\MS21\Methods\F21103122.M
Quant Title : EPA TO-15
QLast Update : Tue Nov 01 07:50:09 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

December 22, 2022

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.018.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on December 7, 2022. For your reference, these analyses have been assigned our service request number P2205500.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

Nicole Bryson
By Nicole.Bryson at 4:22 pm, Dec 22, 2022

Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2205500
Project: DOE Perimeter Air / 080153.018.15

CASE NARRATIVE

The samples were received intact under chain of custody on December 7, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The analyte Vinyl Acetate could not be reported for this data set, due to a vendor anomaly found in the new standard being used. Once the issue has been resolved subsequent reports will include the compound in question.

The minimum criterion for Naphthalene was not met in the Continuing Calibration Verification (CCV) analyzed on December 15, 2022. In accordance with ALS Environmental standard operating procedures, a Method Reporting Limit (MRL) check standard containing the analyte of concern was analyzed each day of analysis. The MRL check standard verified that instrument sensitivity was adequate to detect the analyte at the MRL on the day of analysis. Because the sensitivity was shown to be adequate to detect the compound in question and the compound was not detected in the field samples, the data quality is not significantly affected. This procedure is a quantitative confirmation of non-detect results at or below the MRL. No further corrective action was necessary.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2205500

Project ID: DOE Perimeter Air / 080153.018.15

Date Received: 12/7/2022

Time Received: 14:00

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_120722_S	P2205500-001	Air	12/7/2022	11:00	AS00323	-0.91	3.80	X
DOE-2_120722_S	P2205500-002	Air	12/7/2022	11:15	AS01256	-2.74	4.02	X
DOE-3_120722_S	P2205500-003	Air	12/7/2022	11:30	AS01728	-1.18	3.62	X
DOE-4_120722_S	P2205500-004	Air	12/7/2022	11:45	AS00640	-1.91	3.71	X
DOE-1_120722_D	P2205500-005	Air	12/7/2022	11:01	AS00685	-1.48	4.05	X

Air - Chain of Custody Record & Analytical Service Request

P22 05500

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No.

Company Name & Address (Reporting Information)
North Wind Portage
5800 Woolsey Canyon Rd
Canoga Park CA 91304

Project Name: DOE Perimeter Air

Project Number: 080153.018.15

Project Manager: Trina Cesnik

P.O. # / Billing Information: PO # 8-0000943

Accounts Payable : accounts.payable@northwindgrp.com

Phone: 805-587-0691

Fax:

Email Address for Result Reporting: cchristensen@northwindgrp.com; denise.gonzalez@northwindg

Sampler (Print & Sign): T. Stewart Williford

ALS Contact: Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_120722_S		12/7/2022	1100	AS00323	FCR00117	-28.0	-1.0		X		
DOE-2_120722_S		12/7/2022	1115	AS01256	FCR00103	-28.0	-3.5		X		
DOE-3_120722_S		12/7/2022	1130	AS01728	FCR00398	-28.0	-1.0		X		
DOE-4_120722_S		12/7/2022	1145	AS00640	FCR00373	-29.0	-3.5		X		
DOE-1_120722_D		12/7/2022	1101	AS00685	FCR00331	-28.0	-1.5		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries) X
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Data Validation Package) 10% Surcharge ____

EDD required: Yes / No
Type: EQuIS
Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
T. Stewart Williford	12/7/22	1400			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
				12/7/22	1400

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2205500

Project: DOE Perimeter Air / 080153.018.15

Sample(s) received on: 12/7/22 Date opened: 12/7/22 by: ARNOLD.ACEVEDO

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2205500-001.01	6.0 L Silonite Can					
P2205500-002.01	6.0 L Silonite Can					
P2205500-003.01	6.0 L Silonite Can					
P2205500-004.01	6.0 L Silonite Can					
P2205500-005.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_120722_S** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-001

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00323

Initial Pressure (psig): -0.91 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.34

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	0.71	**0.50**	0.14	
74-87-3	Chloromethane	ND	0.68	ND	0.33	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.72	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.70	ND	0.27	
106-99-0	1,3-Butadiene	ND	0.70	ND	0.32	
74-83-9	Bromomethane	ND	0.68	ND	0.18	
75-00-3	Chloroethane	ND	0.68	ND	0.26	
107-02-8	Acrolein	ND	1.3	ND	0.58	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.70	**0.22**	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.3	ND	0.55	
107-13-1	Acrylonitrile	ND	1.3	ND	0.62	
75-35-4	1,1-Dichloroethene	ND	0.72	ND	0.18	
75-09-2	Methylene Chloride	ND	0.70	ND	0.20	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.72	ND	0.094	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.47	
156-60-5	trans-1,2-Dichloroethene	ND	0.71	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.71	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.71	ND	0.20	
78-93-3	2-Butanone (MEK)	ND	1.3	ND	0.45	
156-59-2	cis-1,2-Dichloroethene	ND	0.70	ND	0.18	
141-78-6	Ethyl Acetate	**16**	2.8	**4.5**	0.78	
110-54-3	n-Hexane	ND	0.71	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_120722_S** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-001

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00323

Initial Pressure (psig): -0.91 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.34

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.72	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.3	ND	0.45	
107-06-2	1,2-Dichloroethane	ND	0.71	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.70	ND	0.13	
71-43-2	Benzene	ND	0.67	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.67	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.67	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.71	ND	0.11	
79-01-6	Trichloroethene	ND	0.70	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.70	ND	0.19	
142-82-5	n-Heptane	ND	0.71	ND	0.17	
10061-01-5	cis-1,3-Dichloropropene	ND	0.67	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.36	
10061-02-6	trans-1,3-Dichloropropene	ND	0.68	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.70	ND	0.13	
108-88-3	Toluene	ND	0.70	ND	0.18	
591-78-6	2-Hexanone	ND	1.5	ND	0.36	
124-48-1	Dibromochloromethane	ND	0.71	ND	0.083	
106-93-4	1,2-Dibromoethane	ND	0.70	ND	0.091	
111-65-9	n-Octane	ND	0.71	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.70	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_120722_S** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-001

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00323

Initial Pressure (psig): -0.91 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.34

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.70	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.34	
75-25-2	Bromoform	ND	0.70	ND	0.067	
100-42-5	Styrene	ND	0.67	ND	0.16	
95-47-6	o-Xylene	ND	0.70	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.70	ND	0.10	
98-82-8	Cumene	ND	0.70	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.71	ND	0.14	
622-96-8	4-Ethyltoluene	ND	0.71	ND	0.14	
108-67-8	1,3,5-Trimethylbenzene	ND	0.70	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.70	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.28	
541-73-1	1,3-Dichlorobenzene	ND	0.70	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.70	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.70	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.70	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.71	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.70	ND	0.13	**V**
87-68-3	Hexachlorobutadiene	ND	0.70	ND	0.065	
104-51-8	n-Butylbenzene	ND	0.70	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.71	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_120722_S** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-002

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01256

Initial Pressure (psig): -2.74 Final Pressure (psig): 4.02

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.83	ND	0.17	
74-87-3	Chloromethane	ND	0.80	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.85	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.82	ND	0.37	
74-83-9	Bromomethane	ND	0.80	ND	0.21	
75-00-3	Chloroethane	ND	0.80	ND	0.30	
107-02-8	Acrolein	ND	1.6	ND	0.69	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.82	**0.21**	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.64	
107-13-1	Acrylonitrile	ND	1.6	ND	0.72	
75-35-4	1,1-Dichloroethene	ND	0.85	ND	0.21	
75-09-2	Methylene Chloride	ND	0.82	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.85	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.55	
156-60-5	trans-1,2-Dichloroethene	ND	0.83	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.83	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.83	ND	0.23	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.53	
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
141-78-6	Ethyl Acetate	**48**	3.3	**13**	0.92	
110-54-3	n-Hexane	ND	0.83	ND	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_120722_S** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-002

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01256

Initial Pressure (psig): -2.74 Final Pressure (psig): 4.02

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.85	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.53	
107-06-2	1,2-Dichloroethane	ND	0.83	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.82	ND	0.15	
71-43-2	Benzene	ND	0.79	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.79	ND	0.12	
110-82-7	Cyclohexane	ND	1.7	ND	0.50	
78-87-5	1,2-Dichloropropane	ND	0.79	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.83	ND	0.12	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.82	ND	0.23	
142-82-5	n-Heptane	ND	0.83	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.79	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.42	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.82	ND	0.15	
108-88-3	Toluene	**1.0**	0.82	**0.27**	0.22	
591-78-6	2-Hexanone	ND	1.7	ND	0.42	
124-48-1	Dibromochloromethane	ND	0.83	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.82	ND	0.11	
111-65-9	n-Octane	ND	0.83	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.82	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_120722_S** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-002

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01256

Initial Pressure (psig): -2.74 Final Pressure (psig): 4.02

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.82	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.40	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.79	ND	0.18	
95-47-6	o-Xylene	ND	0.82	ND	0.19	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
98-82-8	Cumene	ND	0.82	ND	0.17	
103-65-1	n-Propylbenzene	ND	0.83	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.83	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.82	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.82	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.82	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.82	ND	0.14	
135-98-8	sec-Butylbenzene	ND	0.82	ND	0.15	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.82	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.83	ND	0.14	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	0.82	ND	0.16	**V**
87-68-3	Hexachlorobutadiene	ND	0.82	ND	0.077	
104-51-8	n-Butylbenzene	ND	0.82	ND	0.15	
1330-20-7	Xylenes, Total	ND	0.83	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_120722_S** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-003

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01728

Initial Pressure (psig): -1.18 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.6**	0.72	**0.52**	0.15	
74-87-3	Chloromethane	ND	0.69	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.73	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.71	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.71	ND	0.32	
74-83-9	Bromomethane	ND	0.69	ND	0.18	
75-00-3	Chloroethane	ND	0.69	ND	0.26	
107-02-8	Acrolein	ND	1.4	ND	0.59	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	0.71	**0.21**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.55	
107-13-1	Acrylonitrile	ND	1.4	ND	0.63	
75-35-4	1,1-Dichloroethene	ND	0.73	ND	0.19	
75-09-2	Methylene Chloride	ND	0.71	ND	0.20	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.73	ND	0.096	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	0.72	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.72	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.72	ND	0.20	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.46	
156-59-2	cis-1,2-Dichloroethene	ND	0.71	ND	0.18	
141-78-6	Ethyl Acetate	**10**	2.9	**2.9**	0.79	
110-54-3	n-Hexane	ND	0.72	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_120722_S** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-003

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01728

Initial Pressure (psig): -1.18 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.73	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.46	
107-06-2	1,2-Dichloroethane	ND	0.72	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.71	ND	0.13	
71-43-2	Benzene	ND	0.68	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.68	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.68	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.72	ND	0.11	
79-01-6	Trichloroethene	ND	0.71	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.71	ND	0.20	
142-82-5	n-Heptane	ND	0.72	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.68	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.69	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.71	ND	0.13	
108-88-3	Toluene	ND	0.71	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.72	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.71	ND	0.092	
111-65-9	n-Octane	ND	0.72	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.71	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_120722_S** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-003

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01728

Initial Pressure (psig): -1.18 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.71	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.34	
75-25-2	Bromoform	ND	0.71	ND	0.068	
100-42-5	Styrene	ND	0.68	ND	0.16	
95-47-6	o-Xylene	ND	0.71	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.71	ND	0.10	
98-82-8	Cumene	ND	0.71	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.72	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.72	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.71	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.71	ND	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.71	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.71	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.71	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.71	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.72	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.71	ND	0.13	**V**
87-68-3	Hexachlorobutadiene	ND	0.71	ND	0.066	
104-51-8	n-Butylbenzene	ND	0.71	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.72	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_120722_S** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-004

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00640

Initial Pressure (psig): -1.91 Final Pressure (psig): 3.71

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	0.76	**0.50**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.78	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.63	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.3**	0.75	**0.22**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.59	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.75	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	**3.4**	3.0	**0.94**	0.84	
110-54-3	n-Hexane	ND	0.76	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_120722_S** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-004

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00640

Initial Pressure (psig): -1.91 Final Pressure (psig): 3.71

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.78	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.75	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.75	ND	0.14	
108-88-3	Toluene	ND	0.75	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.39	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.75	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.75	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_120722_S** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-004

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00640

Initial Pressure (psig): -1.91 Final Pressure (psig): 3.71

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.75	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.75	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.75	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.75	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.75	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.75	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.75	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.75	ND	0.14	**V**
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.75	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.76	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_120722_D** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-005

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00685

Initial Pressure (psig): -1.48 Final Pressure (psig): 4.05

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.7**	0.75	**0.54**	0.15	
74-87-3	Chloromethane	ND	0.72	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.33	
74-83-9	Bromomethane	ND	0.72	ND	0.19	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.3**	0.74	**0.22**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.75	ND	0.21	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**3.1**	3.0	**0.87**	0.83	
110-54-3	n-Hexane	ND	0.75	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_120722_D** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-005

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00685

Initial Pressure (psig): -1.48 Final Pressure (psig): 4.05

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.48	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.71	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.71	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.71	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.20	
142-82-5	n-Heptane	ND	0.75	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	ND	0.74	ND	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.75	ND	0.088	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.096	
111-65-9	n-Octane	ND	0.75	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_120722_D** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205500-005

Test Code: EPA TO-15 Date Collected: 12/7/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 12/7/22
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00685

Initial Pressure (psig): -1.48 Final Pressure (psig): 4.05

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.071	
100-42-5	Styrene	ND	0.71	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.75	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	**V**
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.069	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.75	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221215-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221215-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221215-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	**V**
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Project ID: P2205500

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date(s) Collected: 12/7/22
Analyst: Topacio Zavala Date(s) Received: 12/7/22
Sample Type: 6.0 L Silonite Canister(s) Date(s) Analyzed: 12/15/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P221215-MB	**110**	**95**	**85**	70-130	
Lab Control Sample	P221215-LCS	**112**	**91**	**94**	70-130	
Duplicate Lab Control Sample	P221215-DLCS	**113**	**89**	**90**	70-130	
DOE-1_120722_S	P2205500-001	**110**	**90**	**92**	70-130	
DOE-2_120722_S	P2205500-002	**111**	**91**	**91**	70-130	
DOE-3_120722_S	P2205500-003	**112**	**88**	**89**	70-130	
DOE-4_120722_S	P2205500-004	**109**	**88**	**88**	70-130	
DOE-1_120722_D	P2205500-005	**110**	**91**	**92**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221215-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	212	215	223	**101**	**105**	71-112	4	25	
74-87-3	Chloromethane	206	240	248	**117**	**120**	53-126	3	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	210	216	**102**	**105**	62-121	3	25	
75-01-4	Vinyl Chloride	204	224	225	**110**	**110**	63-123	0	25	
106-99-0	1,3-Butadiene	212	244	250	**115**	**118**	63-135	3	25	
74-83-9	Bromomethane	206	203	208	**99**	**101**	71-112	2	25	
75-00-3	Chloroethane	208	221	226	**106**	**109**	66-117	3	25	
107-02-8	Acrolein	388	428	442	**110**	**114**	71-123	4	25	
75-69-4	Trichlorofluoromethane (CFC 11)	210	204	214	**97**	**102**	71-114	5	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	412	443	462	**108**	**112**	61-124	4	25	
107-13-1	Acrylonitrile	412	454	470	**110**	**114**	65-130	4	25	
75-35-4	1,1-Dichloroethene	216	210	222	**97**	**103**	74-114	6	25	
75-09-2	Methylene Chloride	212	202	210	**95**	**99**	75-112	4	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	199	201	**92**	**93**	73-114	1	25	
75-15-0	Carbon Disulfide	426	384	397	**90**	**93**	70-113	3	25	
156-60-5	trans-1,2-Dichloroethene	216	224	229	**104**	**106**	76-119	2	25	
75-34-3	1,1-Dichloroethane	216	219	224	**101**	**104**	70-114	3	25	
1634-04-4	Methyl tert-Butyl Ether	214	196	202	**92**	**94**	72-118	2	25	
78-93-3	2-Butanone (MEK)	418	404	407	**97**	**97**	74-121	0	25	
156-59-2	cis-1,2-Dichloroethene	214	209	214	**98**	**100**	73-117	2	25	
141-78-6	Ethyl Acetate	856	607	630	**71**	**74**	59-161	4	25	
110-54-3	n-Hexane	212	205	212	**97**	**100**	55-130	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221215-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	212	211	217	**100**	**102**	71-114	2	25	
109-99-9	Tetrahydrofuran (THF)	412	397	426	**96**	**103**	73-114	7	25	
107-06-2	1,2-Dichloroethane	216	239	239	**111**	**111**	71-119	0	25	
71-55-6	1,1,1-Trichloroethane	210	215	224	**102**	**107**	73-119	5	25	
71-43-2	Benzene	216	208	213	**96**	**99**	72-113	3	25	
56-23-5	Carbon Tetrachloride	206	204	208	**99**	**101**	67-123	2	25	
110-82-7	Cyclohexane	422	406	406	**96**	**96**	70-119	0	25	
78-87-5	1,2-Dichloropropane	212	240	242	**113**	**114**	70-118	0.9	25	
75-27-4	Bromodichloromethane	216	218	224	**101**	**104**	74-119	3	25	
79-01-6	Trichloroethene	212	193	198	**91**	**93**	74-115	2	25	
123-91-1	1,4-Dioxane	212	230	235	**108**	**111**	77-124	3	25	
142-82-5	n-Heptane	212	208	215	**98**	**101**	70-119	3	25	
10061-01-5	cis-1,3-Dichloropropene	216	213	218	**99**	**101**	81-126	2	25	
108-10-1	4-Methyl-2-pentanone	432	461	459	**107**	**106**	73-129	0.9	25	
10061-02-6	trans-1,3-Dichloropropene	206	211	211	**102**	**102**	80-127	0	25	
79-00-5	1,1,2-Trichloroethane	212	199	201	**94**	**95**	78-117	1	25	
108-88-3	Toluene	212	185	184	**87**	**87**	70-118	0	25	
591-78-6	2-Hexanone	426	428	425	**100**	**100**	74-132	0	25	
124-48-1	Dibromochloromethane	216	190	188	**88**	**87**	69-137	1	25	
106-93-4	1,2-Dibromoethane	208	174	171	**84**	**82**	76-128	2	25	
111-65-9	n-Octane	214	202	200	**94**	**93**	68-120	1	25	
127-18-4	Tetrachloroethene	212	176	175	**83**	**83**	63-130	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2205500
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221215-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 12/15/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	210	192	189	**91**	**90**	71-123	1	25	
179601-23-1	m,p-Xylenes	420	390	385	**93**	**92**	67-127	1	25	
75-25-2	Bromoform	214	188	184	**88**	**86**	65-149	2	25	
100-42-5	Styrene	212	209	207	**99**	**98**	76-132	1	25	
95-47-6	o-Xylene	212	209	207	**99**	**98**	69-124	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	189	189	**89**	**89**	69-128	0	25	
98-82-8	Cumene	212	200	198	**94**	**93**	69-125	1	25	
103-65-1	n-Propylbenzene	214	225	221	**105**	**103**	70-127	2	25	
622-96-8	4-Ethyltoluene	216	222	219	**103**	**101**	69-127	2	25	
108-67-8	1,3,5-Trimethylbenzene	210	241	234	**115**	**111**	66-129	4	25	
95-63-6	1,2,4-Trimethylbenzene	208	250	249	**120**	**120**	63-142	0	25	
100-44-7	Benzyl Chloride	420	429	423	**102**	**101**	73-145	1	25	
541-73-1	1,3-Dichlorobenzene	210	207	203	**99**	**97**	67-136	2	25	
106-46-7	1,4-Dichlorobenzene	212	209	205	**99**	**97**	63-134	2	25	
135-98-8	sec-Butylbenzene	210	230	224	**110**	**107**	68-130	3	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	210	217	212	**103**	**101**	60-139	2	25	
95-50-1	1,2-Dichlorobenzene	212	209	205	**99**	**97**	64-139	2	25	
120-82-1	1,2,4-Trichlorobenzene	412	408	402	**99**	**98**	62-154	1	25	
91-20-3	Naphthalene	216	200	201	**93**	**93**	62-156	0	25	
87-68-3	Hexachlorobutadiene	210	192	190	**91**	**90**	55-142	1	25	
104-51-8	n-Butylbenzene	210	230	225	**110**	**107**	70-131	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2205500

Client Project ID: **DOE Perimeter Air / 080153.018.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Lab File ID: 12152201.D

Analyst: Topacio Zavala Date Analyzed: 12/15/22

Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 00:29

Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	212506		7.36		906988		9.40		178675		14.89	
	Upper Limit	297508		7.69		1269783		9.73		250145		15.22	
	Lower Limit	127504		7.03		544193		9.07		107205		14.56	
	Client Sample ID												
01	Method Blank	194593		7.32		850044		9.38		161631		14.88	
02	Lab Control Sample	208985		7.37		909616		9.40		176820		14.89	
03	Duplicate Lab Control Sample	206639		7.36		910120		9.40		182514		14.89	
04	DOE-1_120722_S	188126		7.32		803991		9.38		163878		14.88	
05	DOE-2_120722_S	191980		7.33		820492		9.39		163903		14.88	
06	DOE-3_120722_S	183514		7.32		813575		9.38		167171		14.88	
07	DOE-4_120722_S	189672		7.33		818819		9.38		168413		14.88	
08	DOE-1_120722_D	191727		7.33		824879		9.38		163696		14.88	
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152225.D Vial: 5
Acq On : 15 Dec 2022 17:47 Operator: TZ
Sample : P2205500-001 (1000mL) Inst : MS13
Misc : S35-11012201

TZ 12/16/22

Quant Time: Dec 16 07:26:37 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.32	130	188126	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.38	114	803991	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.88	54	163878	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.08	65	359154	13.795	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.32%			
57) Toluene-d8 (SS2)	12.48	98	908796	11.203	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.60%			
73) Bromofluorobenzene (SS3)	16.86	174	331895	11.467	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%			
Target Compounds						Qvalue
2) Propene	3.42	42	3977	N.D.		
3) Dichlorodifluoromethan...	3.48	85	63435	1.831	ng	97
4) Chloromethane	3.63	50	4293	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.73	135	1435	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.38	45	18385	1.629	ng	99
11) Acetonitrile	4.56	41	2879	N.D.		
12) Acrolein	4.65	56	618	N.D.		
13) Acetone	4.74	58	20482	2.058	ng	89
14) Trichlorofluoromethane	4.87	101	30083	0.930	ng	97
15) 2-Propanol (Isopropanol)	4.95	45	17268	0.464	ng	82
16) Acrylonitrile	5.16	53	60	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.43	59	187	N.D.		
19) Methylene Chloride	5.46	84	4294	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.69	151	5826	N.D.		
22) Carbon Disulfide	5.72	76	5190	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.53	86	634	N.D.		
27) 2-Butanone (MEK)	6.77	72	2747	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	7.35	87	172	N.D.		
30) Ethyl Acetate	7.37	61	69019	12.081	ng	98
31) n-Hexane	7.40	57	2109	N.D.		
32) Chloroform	7.45	83	1848	N.D.		
34) Tetrahydrofuran (THF)	7.89	72	200	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.20	62	1155	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.38	61	25836	No Calib	#	
40) 1-Butanol	8.93	56	990	No Calib	#	
41) Benzene	8.98	78	12642	N.D.		
42) Carbon Tetrachloride	9.14	117	9177	N.D.		
43) Cyclohexane	9.28	84	346	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	9.96	63	161	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.31	57	2565	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152225.D Vial: 5
Acq On : 15 Dec 2022 17:47 Operator: TZ
Sample : P2205500-001 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:37 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

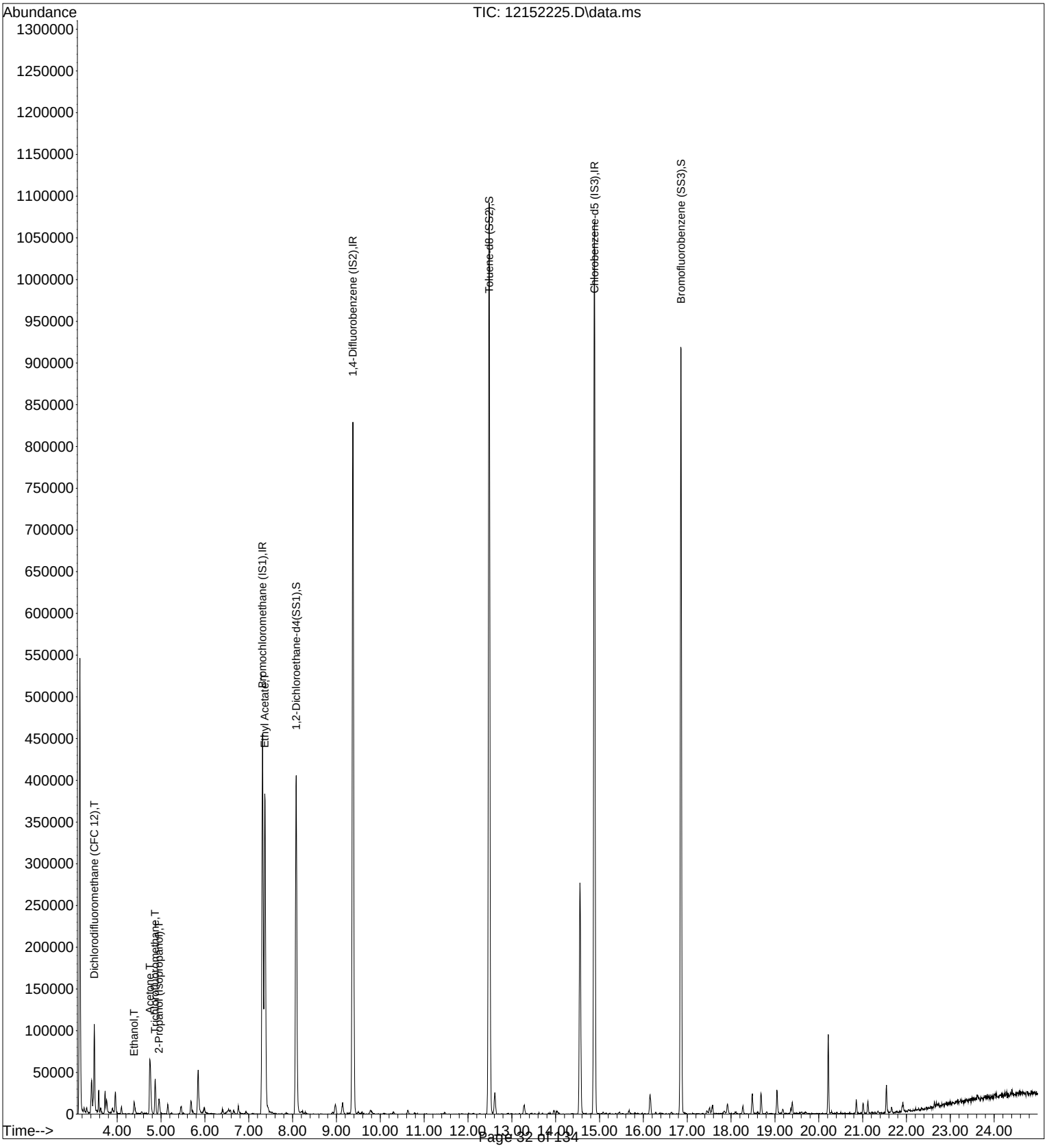
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.64	71	1156	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.61	91	21368	N.D.	
59) 2-Hexanone	12.98	43	916	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.84	43	1225	N.D.	
63) n-Octane	13.96	57	729	N.D.	
64) Tetrachloroethene	14.08	166	161	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.45	91	2463	N.D.	
67) m- & p-Xylenes	15.66	91	2230	N.D.	
68) Bromoform	15.71	173	114	N.D.	
69) Styrene	16.15	104	271	N.D.	
70) o-Xylene	16.28	91	1850	N.D.	
71) n-Nonane	16.64	43	1333	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.06	105	111	N.D.	
75) alpha-Pinene	17.58	93	4711	N.D.	
76) n-Propylbenzene	17.75	91	388	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.92	105	163	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.62	105	637	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	19.18	119	4736	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.36	68	2219	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.26	58	112	No Calib	#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	21.56	128	1135	N.D.	
96) n-Dodecane	19.15	58	120	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.69	119	366	N.D.	
100) n-Butylbenzene	19.73	91	524	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152225.D Vial: 5
Acq On : 15 Dec 2022 17:47 Operator: TZ
Sample : P2205500-001 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:37 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152225.D Vial: 5
Acq On : 15 Dec 2022 17:47 Operator: TZ
Sample : P2205500-001 (1000mL) Inst : MS13
Misc : S35-11012201

TZ 12/16/22

Quant Time: Dec 16 07:26:37 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

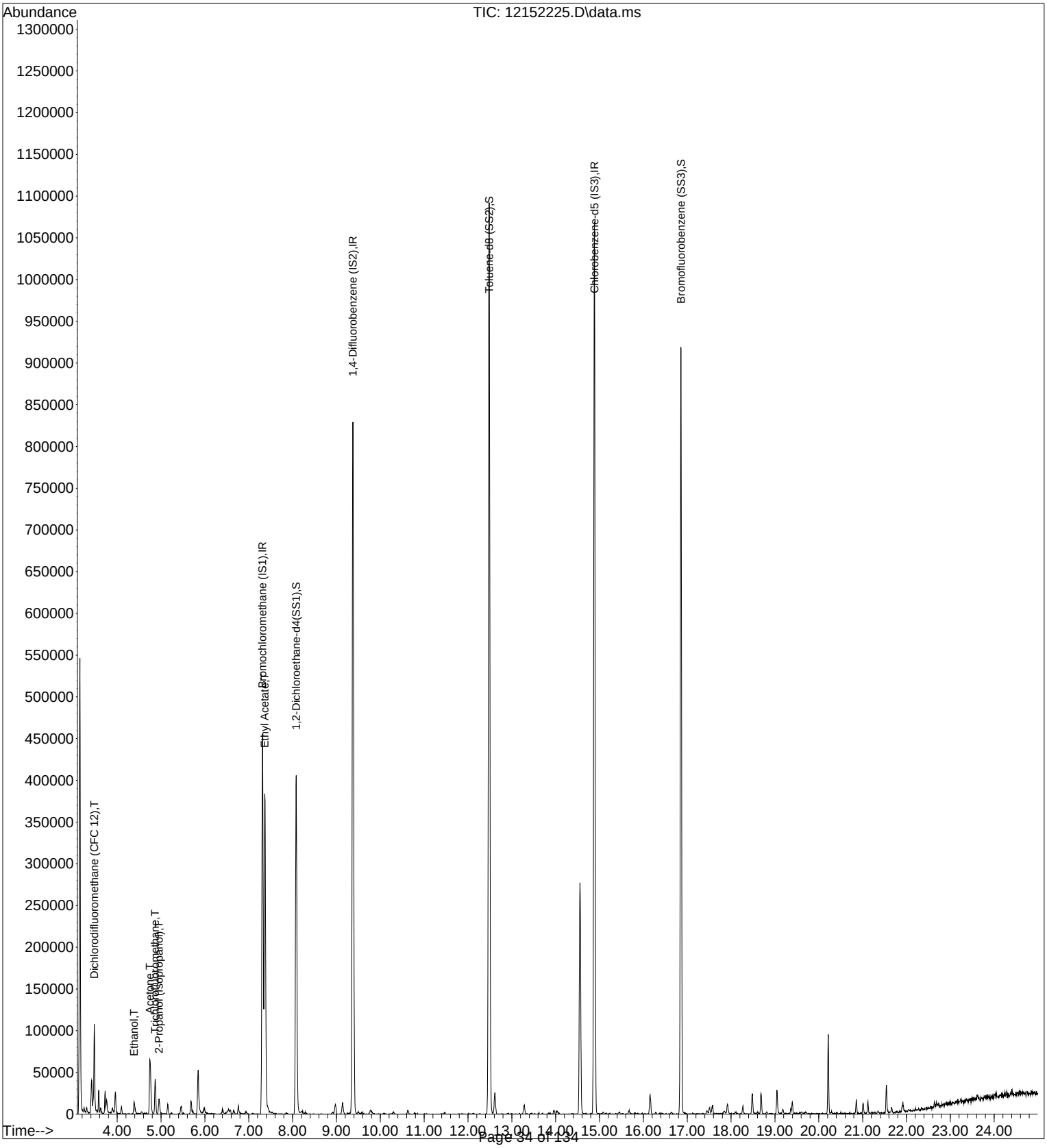
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.32	130	188126	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.38	114	803991	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.88	54	163878	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.08	65	359154	13.795	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.32%			
57) Toluene-d8 (SS2)	12.48	98	908796	11.203	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.60%			
73) Bromofluorobenzene (SS3)	16.86	174	331895	11.467	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.48	85	63435	1.831	ng	97
10) Ethanol	4.38	45	18385	1.629	ng	99
13) Acetone	4.74	58	20482	2.058	ng	89
14) Trichlorofluoromethane	4.87	101	30083	0.930	ng	97
15) 2-Propanol (Isopropanol)	4.95	45	17268	0.464	ng	82
30) Ethyl Acetate	7.37	61	69019	12.081	ng	98

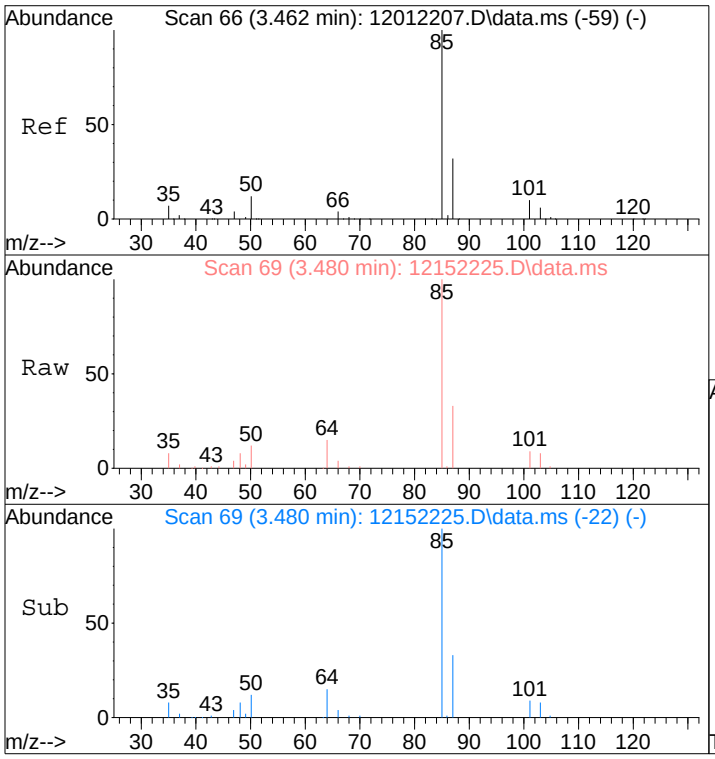
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152225.D Vial: 5
Acq On : 15 Dec 2022 17:47 Operator: TZ
Sample : P2205500-001 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:37 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

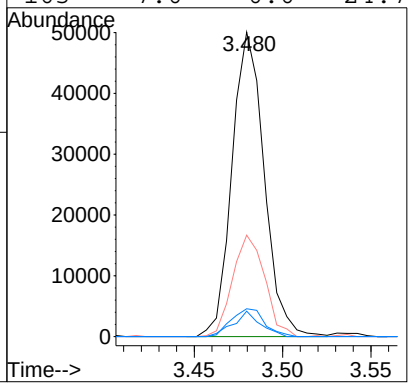


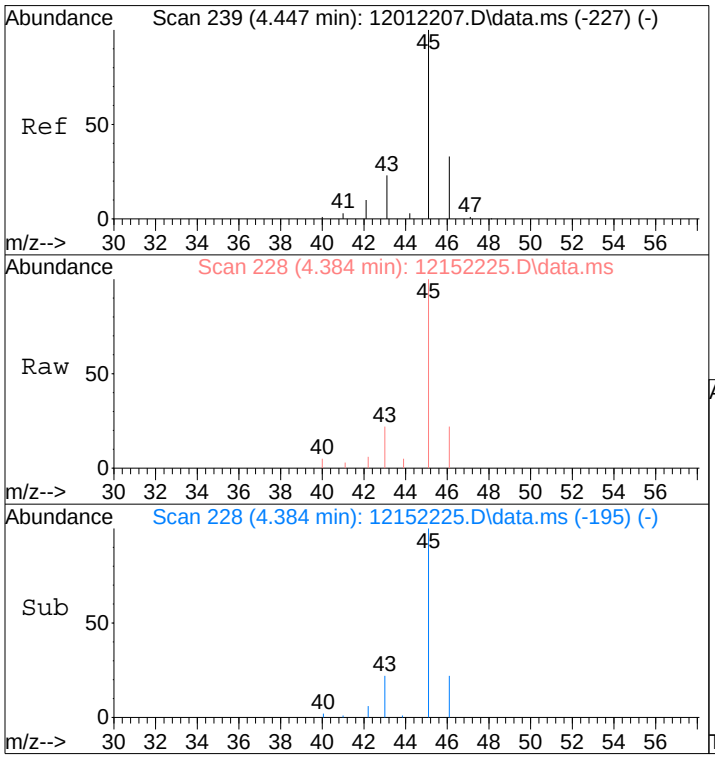


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.83 ng
RT: 3.48 min Scan# 69
Delta R.T. 0.017 min
Lab File: 12152225.D
Acq: 15 Dec 2022 17:47

Tgt Ion: 85 Resp: 63435

Ion	Ratio	Lower	Upper
85	100		
87	33.2	11.3	51.3
101	9.5	0.0	30.0
103	7.0	0.0	24.7

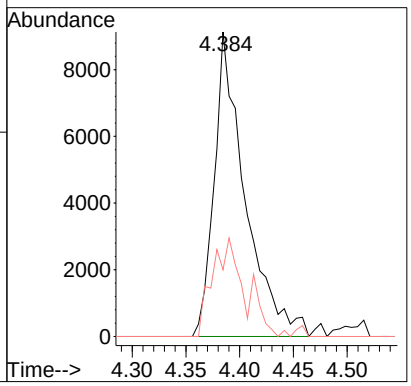


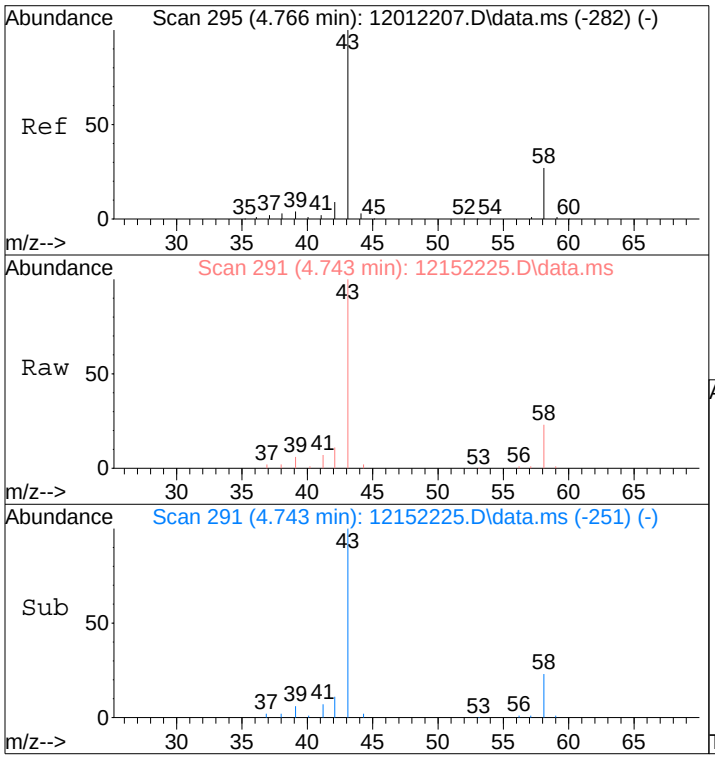


#10
Ethanol
Concen: 1.63 ng
RT: 4.38 min Scan# 228
Delta R.T. -0.062 min
Lab File: 12152225.D
Acq: 15 Dec 2022 17:47

Tgt Ion: 45 Resp: 18385

Ion	Ratio	Lower	Upper
45	100		
46	33.7	13.3	53.3

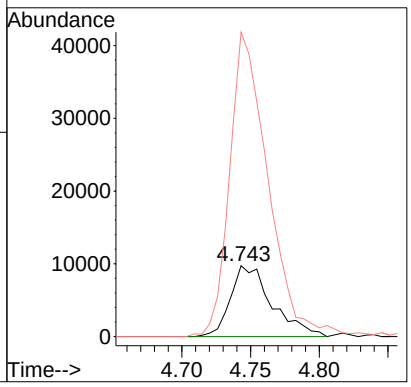


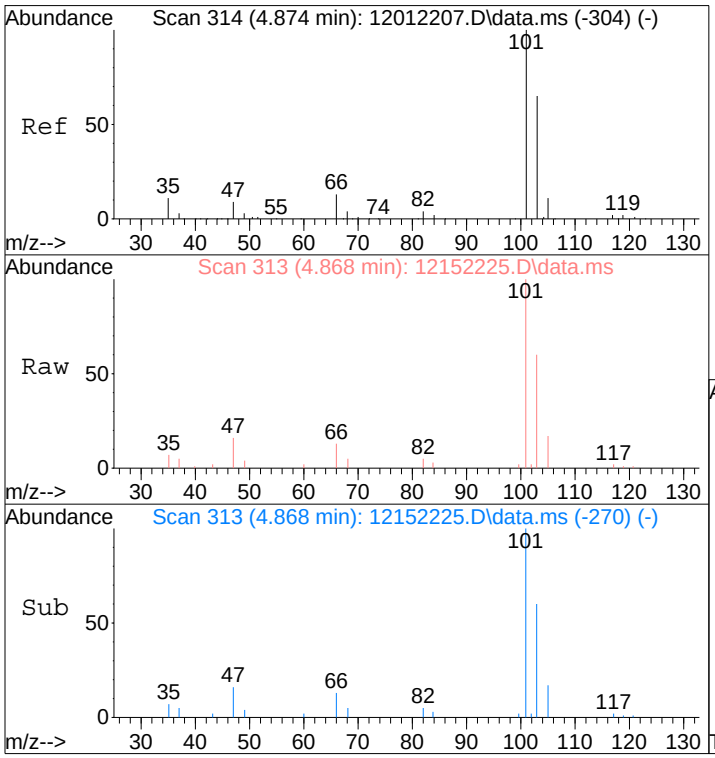


#13
Acetone
Concen: 2.06 ng
RT: 4.74 min Scan# 291
Delta R.T. -0.023 min
Lab File: 12152225.D
Acq: 15 Dec 2022 17:47

Tgt Ion: 58 Resp: 20482

Ion	Ratio	Lower	Upper
58	100		
43	398.4	343.1	403.1

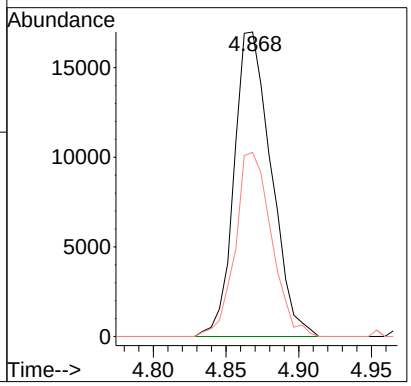


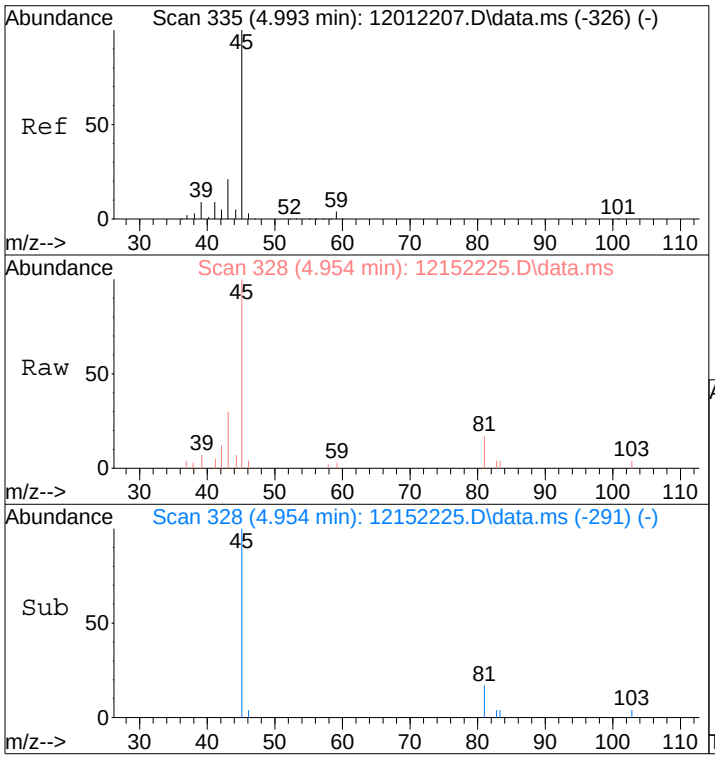


#14
Trichlorofluoromethane
Concen: 0.93 ng
RT: 4.87 min Scan# 313
Delta R.T. -0.006 min
Lab File: 12152225.D
Acq: 15 Dec 2022 17:47

Tgt Ion:101 Resp: 30083

Ion	Ratio	Lower	Upper
101	100		
103	59.2	37.2	77.2

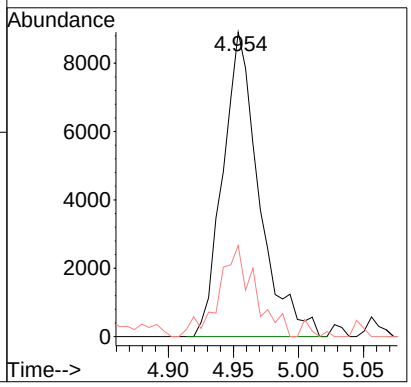


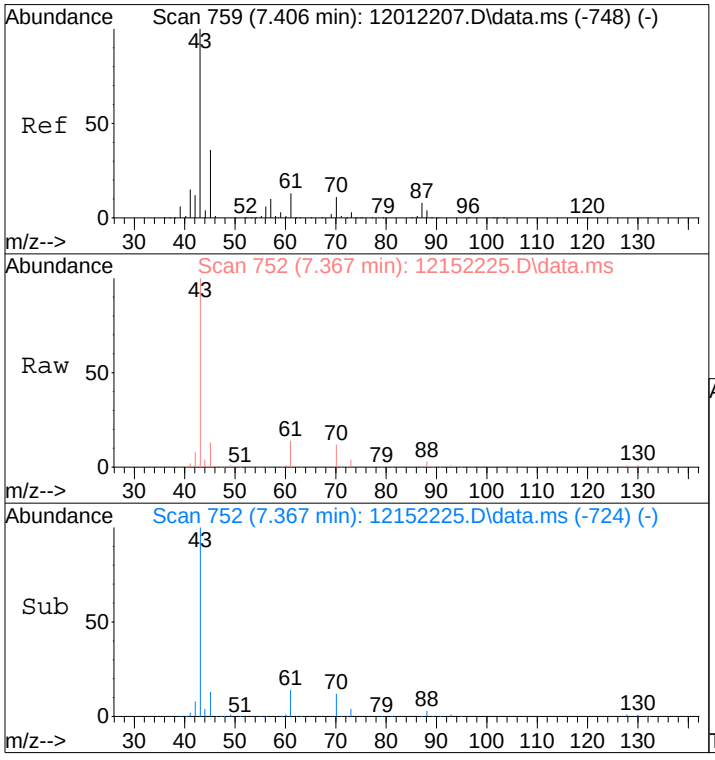


#15
2-Propanol (Isopropanol)
Concen: 0.46 ng
RT: 4.95 min Scan# 328
Delta R.T. -0.040 min
Lab File: 12152225.D
Acq: 15 Dec 2022 17:47

Tgt Ion: 45 Resp: 17268

Ion	Ratio	Lower	Upper
45	100		
43	29.7	1.3	41.3

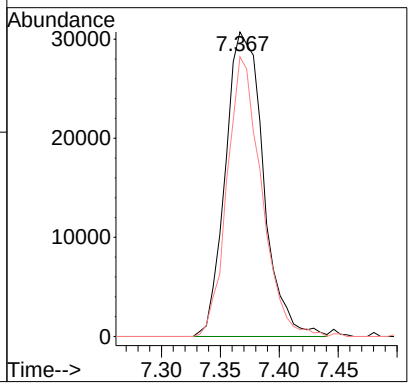




#30
Ethyl Acetate
Concen: 12.08 ng
RT: 7.37 min Scan# 752
Delta R.T. -0.040 min
Lab File: 12152225.D
Acq: 15 Dec 2022 17:47

Tgt Ion: 61 Resp: 69019

Ion	Ratio	Lower	Upper
61	100		
70	82.9	60.8	100.8



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152226.D Vial: 6
Acq On : 15 Dec 2022 18:23 Operator: TZ
Sample : P2205500-002 (1000mL) Inst : MS13
Misc : S35-11012201

TZ 12/16/22

Quant Time: Dec 16 07:26:40 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	191980	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.39	114	820492	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.88	54	163903	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	369384	13.903	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.20%				
57) Toluene-d8 (SS2)	12.49	98	924250	11.392	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
73) Bromofluorobenzene (SS3)	16.86	174	329908	11.397	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%				
Target Compounds							Qvalue
2) Propene	3.43	42	4149	N.D.			
3) Dichlorodifluoromethan...	3.42	85	112	N.D.			
4) Chloromethane	3.64	50	3363	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.74	135	1294	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.40	45	24885	2.160	ng		93
11) Acetonitrile	4.57	41	1958	N.D.			
12) Acrolein	4.66	56	296	N.D.			
13) Acetone	4.75	58	19495	1.920	ng	#	74
14) Trichlorofluoromethane	4.89	101	24733	0.749	ng		80
15) 2-Propanol (Isopropanol)	4.96	45	18421	0.485	ng		83
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.47	59	60	N.D.			
19) Methylene Chloride	5.47	84	4471	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.69	151	4080	N.D.			
22) Carbon Disulfide	5.73	76	5315	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.55	86	1598	0.585	ng	#	28
27) 2-Butanone (MEK)	6.76	72	2503	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.38	87	2935	N.D.			
30) Ethyl Acetate	7.38	61	177447	30.437	ng		95
31) n-Hexane	7.38	57	761	N.D.			
32) Chloroform	7.44	83	1622	N.D.			
34) Tetrahydrofuran (THF)	7.87	72	163	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.20	62	787	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.39	61	27705	No Calib		#	
40) 1-Butanol	8.92	56	1681	No Calib		#	
41) Benzene	8.98	78	16020	N.D.			
42) Carbon Tetrachloride	9.14	117	7752	N.D.			
43) Cyclohexane	9.30	84	201	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.31	57	2916	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152226.D Vial: 6
Acq On : 15 Dec 2022 18:23 Operator: TZ
Sample : P2205500-002 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:40 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

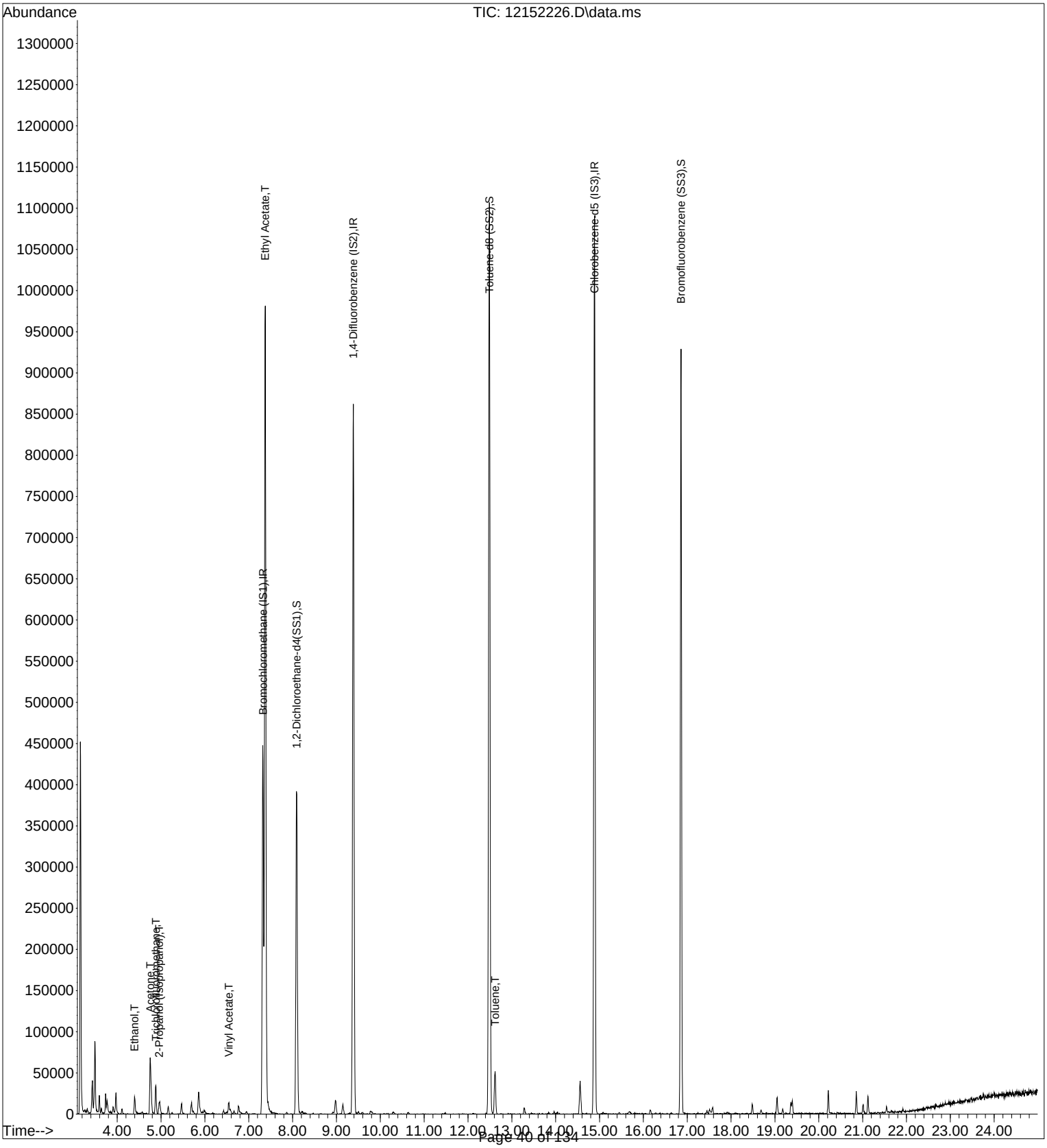
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.62	71	241	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.62	91	45354	0.644 ng	93
59) 2-Hexanone	12.97	43	386	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.84	43	2007	N.D.	
63) n-Octane	13.96	57	216	N.D.	
64) Tetrachloroethene	14.09	166	113	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.45	91	2462	N.D.	
67) m- & p-Xylenes	15.68	91	4810	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.13	104	131	N.D.	
70) o-Xylene	16.27	91	1653	N.D.	
71) n-Nonane	16.63	43	971	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	17.59	93	3734	N.D.	
76) n-Propylbenzene	17.74	91	149	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.95	105	278	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.61	105	771	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.86	146	187	N.D.	
86) 1,4-Dichlorobenzene	18.86	146	187	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	19.18	119	4125	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.36	68	3751	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	21.56	128	1208	N.D.	
96) n-Dodecane	19.20	58	163	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152226.D Vial: 6
Acq On : 15 Dec 2022 18:23 Operator: TZ
Sample : P2205500-002 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:40 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152226.D Vial: 6
Acq On : 15 Dec 2022 18:23 Operator: TZ
Sample : P2205500-002 (1000mL) Inst : MS13
Misc : S35-11012201

TZ 12/16/22

Quant Time: Dec 16 07:26:40 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

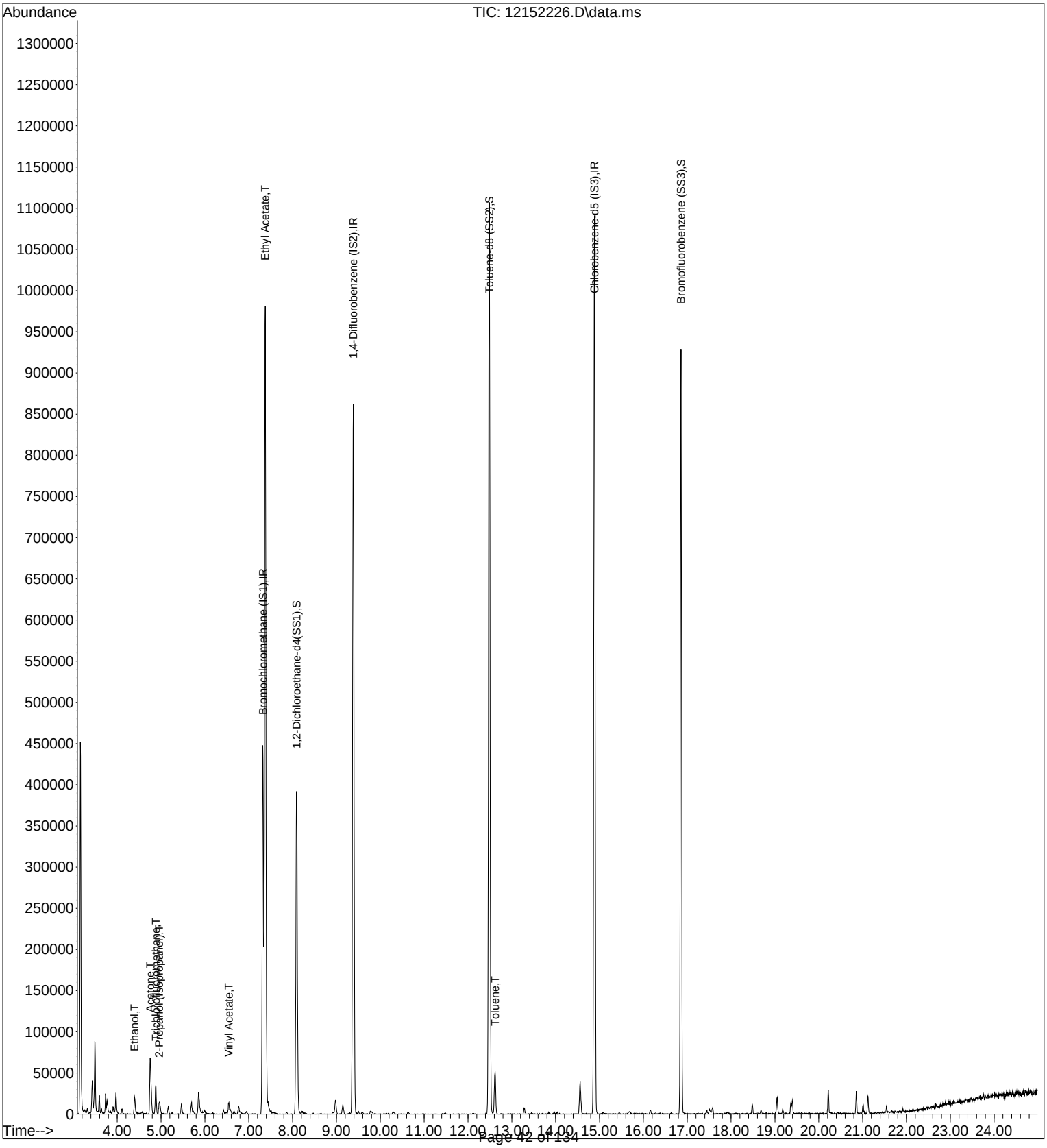
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	191980	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.39	114	820492	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.88	54	163903	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	369384	13.903	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.20%				
57) Toluene-d8 (SS2)	12.49	98	924250	11.392	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
73) Bromofluorobenzene (SS3)	16.86	174	329908	11.397	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%				
Target Compounds							Qvalue
10) Ethanol	4.40	45	24885	2.160	ng		93
13) Acetone	4.75	58	19495	1.920	ng	#	74
14) Trichlorofluoromethane	4.89	101	24733	0.749	ng		80
15) 2-Propanol (Isopropanol)	4.96	45	18421	0.485	ng		83
26) Vinyl Acetate	6.55	86	1598	0.585	ng	#	28
30) Ethyl Acetate	7.38	61	177447	30.437	ng		95
58) Toluene	12.62	91	45354	0.644	ng		93

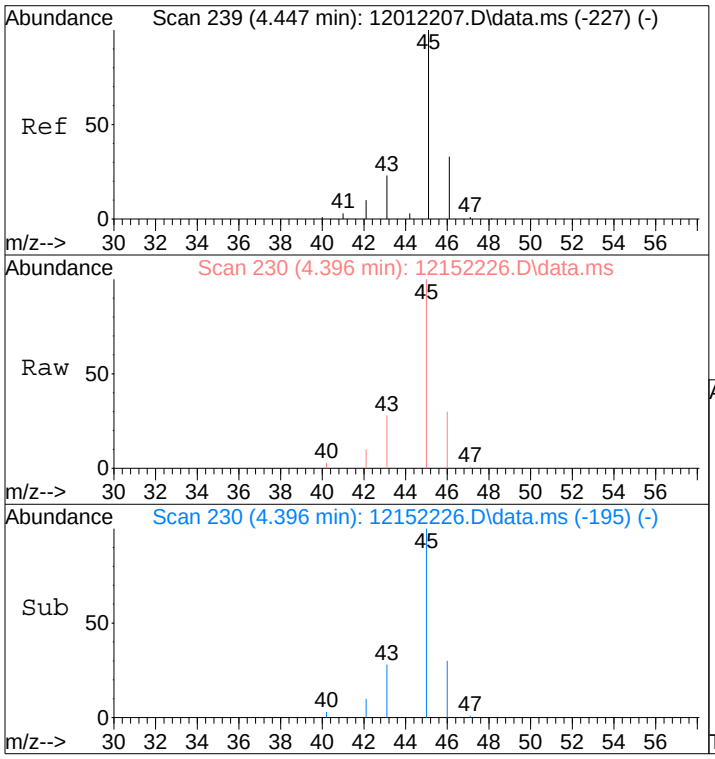
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152226.D Vial: 6
Acq On : 15 Dec 2022 18:23 Operator: TZ
Sample : P2205500-002 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:40 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

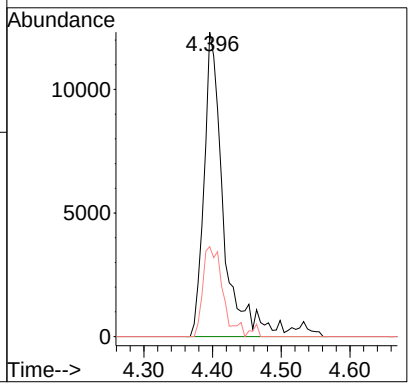


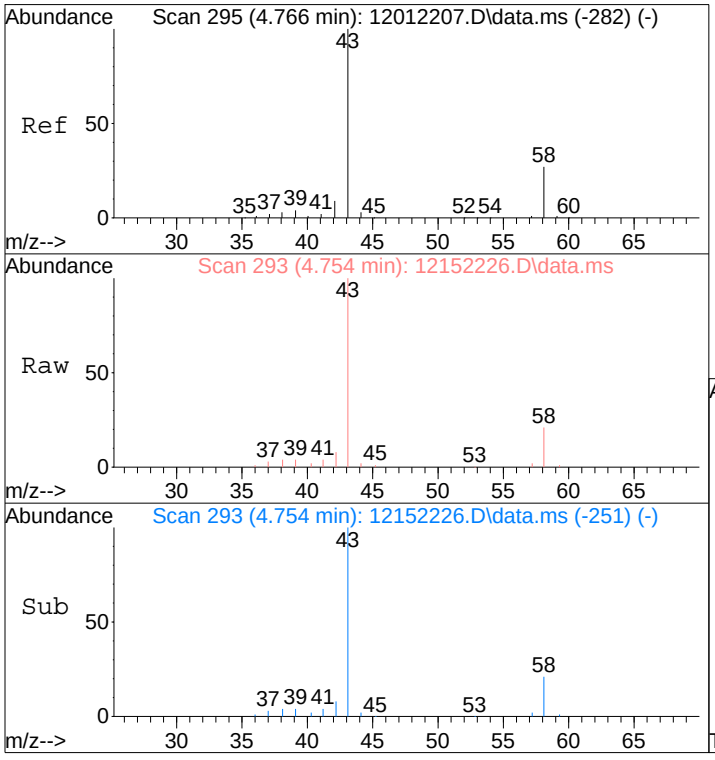


#10
Ethanol
Concen: 2.16 ng
RT: 4.40 min Scan# 230
Delta R.T. -0.051 min
Lab File: 12152226.D
Acq: 15 Dec 2022 18:23

Tgt Ion: 45 Resp: 24885

Ion	Ratio	Lower	Upper
45	100		
46	29.1	13.3	53.3

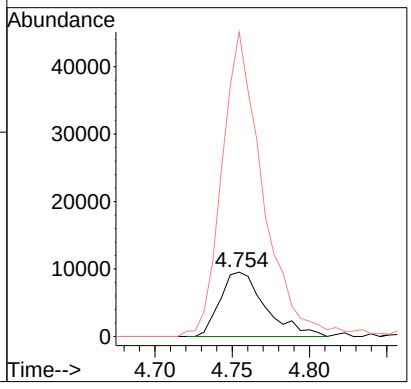


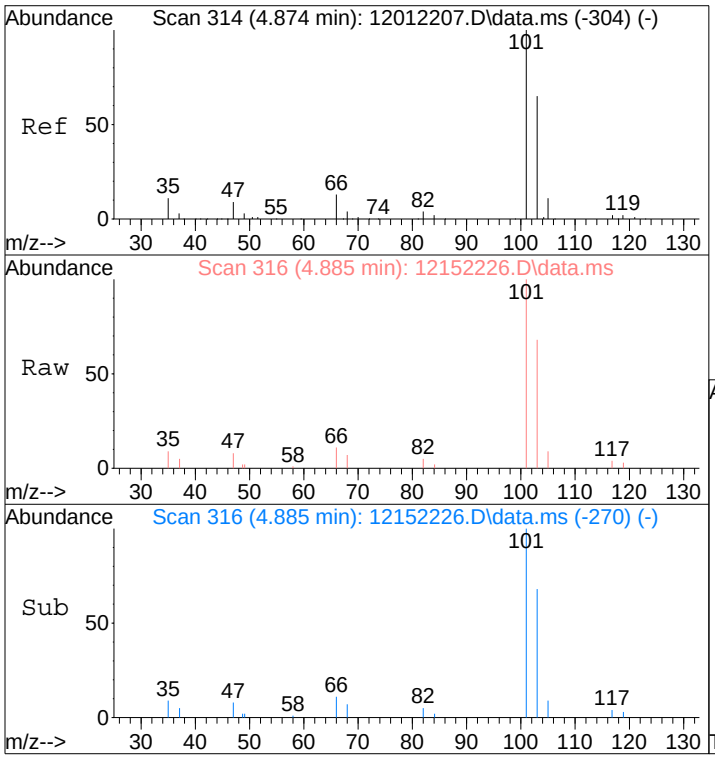


#13
Acetone
Concen: 1.92 ng
RT: 4.75 min Scan# 293
Delta R.T. -0.011 min
Lab File: 12152226.D
Acq: 15 Dec 2022 18:23

Tgt Ion: 58 Resp: 19495

Ion	Ratio	Lower	Upper
58	100		
43	430.9	343.1	403.1#

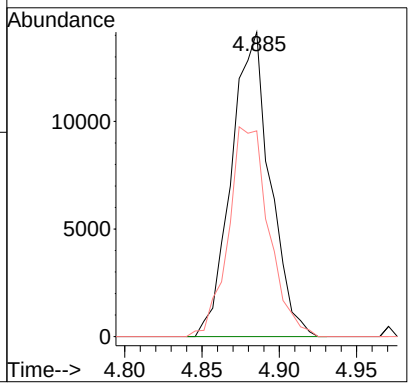


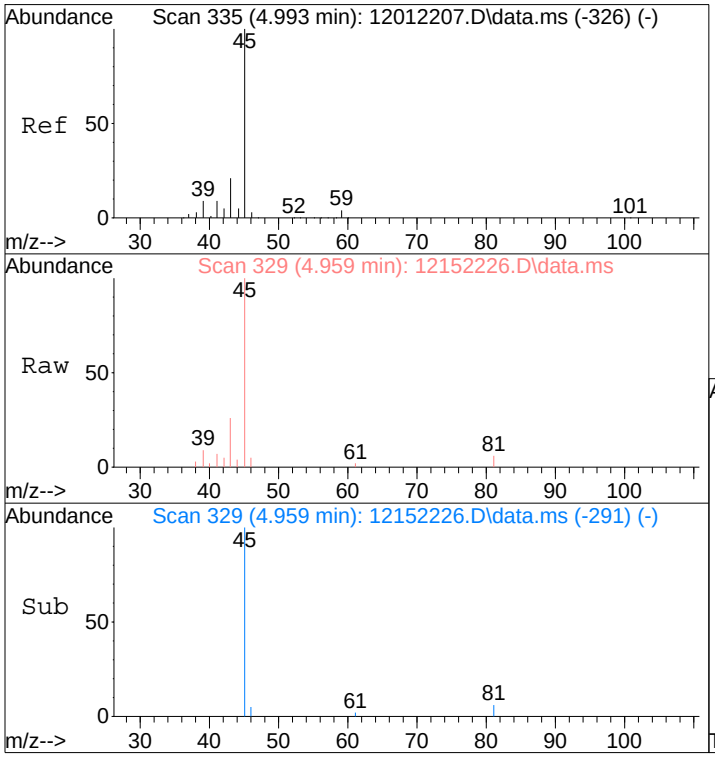


#14
Trichlorofluoromethane
Concen: 0.75 ng
RT: 4.89 min Scan# 316
Delta R.T. 0.012 min
Lab File: 12152226.D
Acq: 15 Dec 2022 18:23

Tgt Ion:101 Resp: 24733

Ion	Ratio	Lower	Upper
101	100		
103	71.6	37.2	77.2

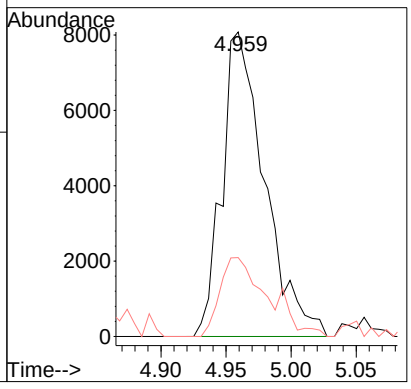


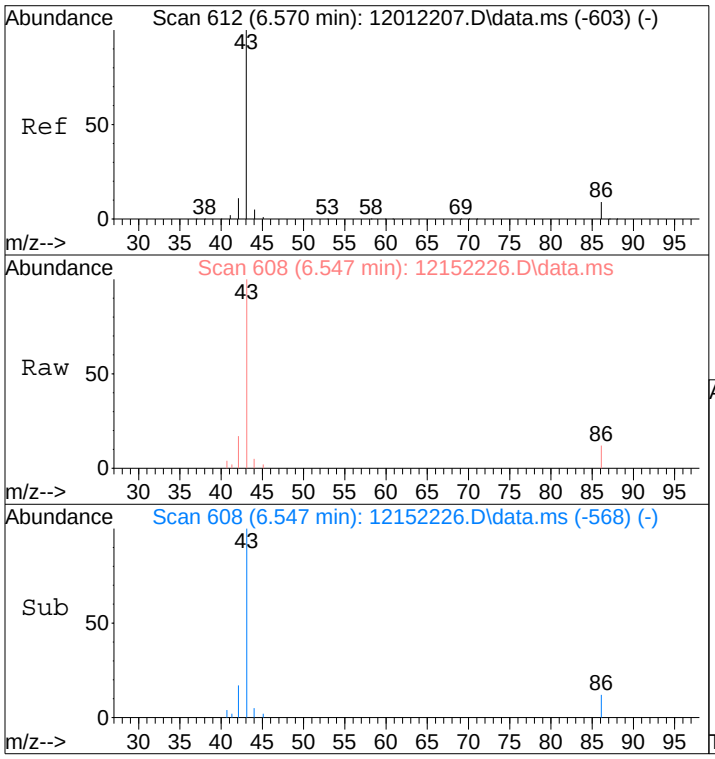


#15
2-Propanol (Isopropanol)
Concen: 0.48 ng
RT: 4.96 min Scan# 329
Delta R.T. -0.034 min
Lab File: 12152226.D
Acq: 15 Dec 2022 18:23

Tgt Ion: 45 Resp: 18421

Ion	Ratio	Lower	Upper
45	100		
43	29.2	1.3	41.3

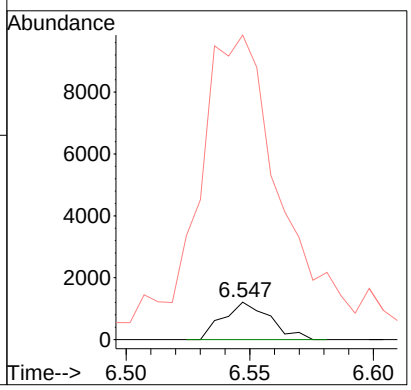


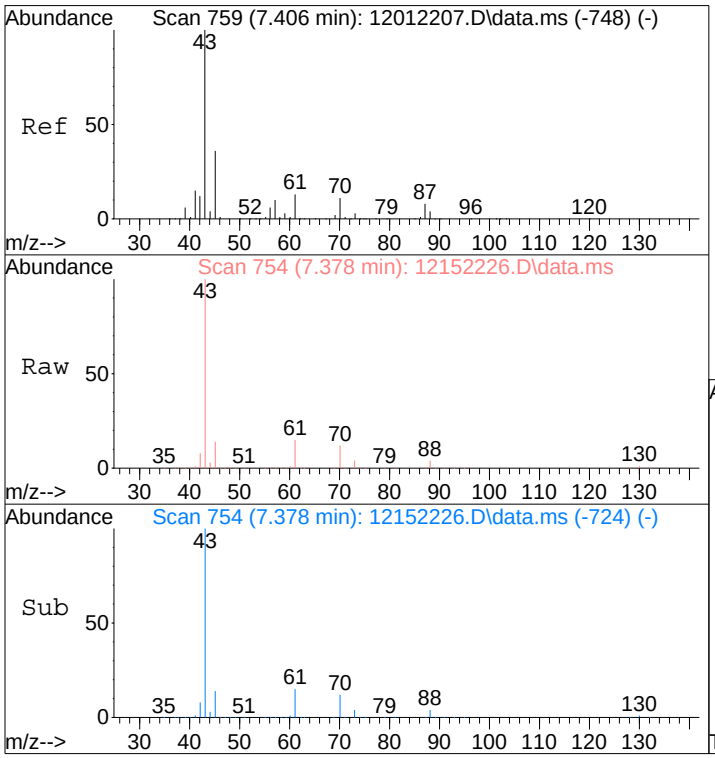


#26
Vinyl Acetate
Concen: 0.58 ng
RT: 6.55 min Scan# 608
Delta R.T. -0.023 min
Lab File: 12152226.D
Acq: 15 Dec 2022 18:23

Tgt Ion: 86 Resp: 1598

Ion	Ratio	Lower	Upper
86	100		
43	1583.9	1196.4	1236.4#

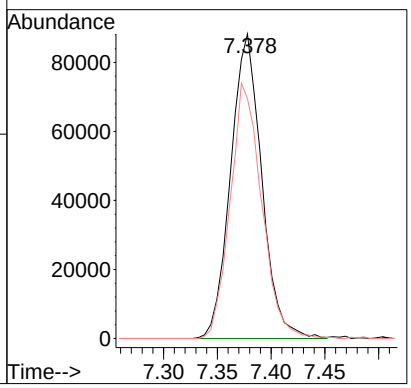


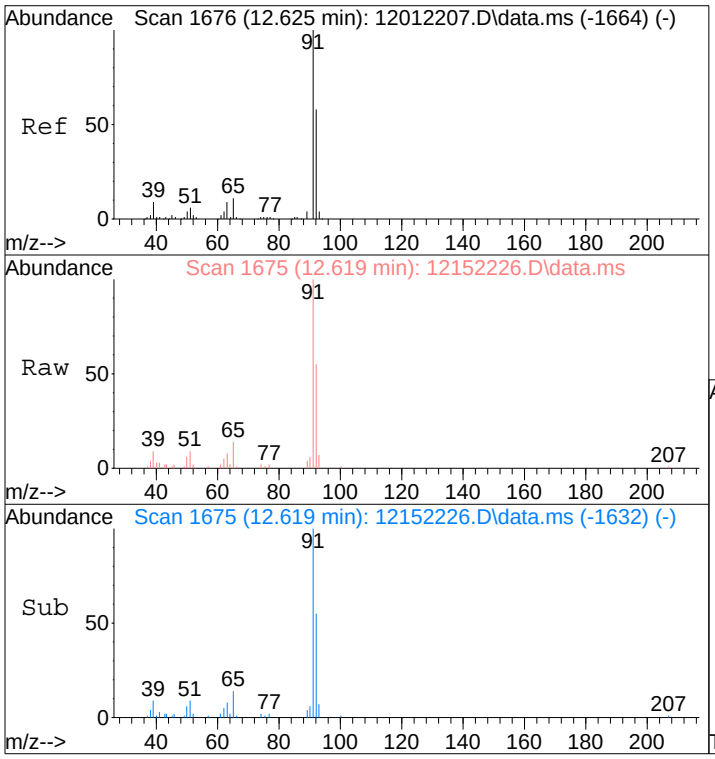


#30
Ethyl Acetate
Concen: 30.44 ng
RT: 7.38 min Scan# 754
Delta R.T. -0.028 min
Lab File: 12152226.D
Acq: 15 Dec 2022 18:23

Tgt Ion: 61 Resp: 177447

Ion	Ratio	Lower	Upper
61	100		
70	84.9	60.8	100.8

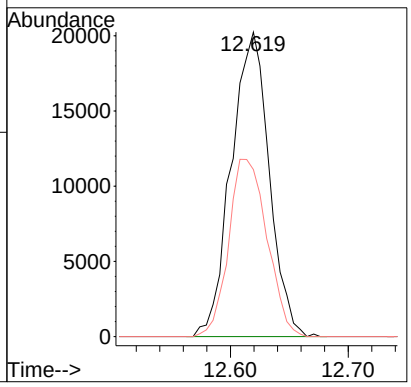




#58
Toluene
Concen: 0.64 ng
RT: 12.62 min Scan# 1675
Delta R.T. -0.006 min
Lab File: 12152226.D
Acq: 15 Dec 2022 18:23

Tgt Ion: 91 Resp: 45354

Ion	Ratio	Lower	Upper
91	100		
92	58.9	34.1	74.1



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152227.D Vial: 10
Acq On : 15 Dec 2022 19:00 Operator: TZ
Sample : P2205500-003 (1000mL) Inst : MS13
Misc : S35-11012201

TZ 12/16/22

Quant Time: Dec 16 07:26:41 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.32	130	183514	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.38	114	813575	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.88	54	167171	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.08	65	356731	14.046	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.40%			
57) Toluene-d8 (SS2)	12.48	98	911903	11.020	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.16%			
73) Bromofluorobenzene (SS3)	16.86	174	329562	11.162	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%			
Target Compounds						Qvalue
2) Propene	3.43	42	4109	N.D.		
3) Dichlorodifluoromethan...	3.49	85	64146	1.898	ng	97
4) Chloromethane	3.64	50	4363	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.74	135	2068	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	3.97	54	113	N.D.		
8) Bromomethane	4.16	94	397	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.38	45	16659	1.513	ng	94
11) Acetonitrile	4.57	41	2373	N.D.		
12) Acrolein	4.66	56	699	N.D.		
13) Acetone	4.75	58	22288	2.296	ng	87
14) Trichlorofluoromethane	4.87	101	27428	0.869	ng	80
15) 2-Propanol (Isopropanol)	4.95	45	17963	0.495	ng	98
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.44	59	187	N.D.		
19) Methylene Chloride	5.46	84	3646	N.D.		
20) 3-Chloro-1-propene (Al...	5.46	41	192	N.D.		
21) Trichlorotrifluoroethane	5.69	151	5914	N.D.		
22) Carbon Disulfide	5.73	76	6067	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.54	86	729	N.D.		
27) 2-Butanone (MEK)	6.77	72	2546	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	7.37	87	116	N.D.		
30) Ethyl Acetate	7.37	61	42634	7.650	ng	97
31) n-Hexane	7.39	57	1508	N.D.		
32) Chloroform	7.45	83	1512	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.20	62	1187	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.38	61	27766	No Calib	#	
40) 1-Butanol	8.91	56	1426	No Calib	#	
41) Benzene	8.97	78	11594	N.D.		
42) Carbon Tetrachloride	9.14	117	8621	N.D.		
43) Cyclohexane	9.29	84	229	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.20	83	105	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.30	57	1872	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152227.D Vial: 10
Acq On : 15 Dec 2022 19:00 Operator: TZ
Sample : P2205500-003 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:41 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

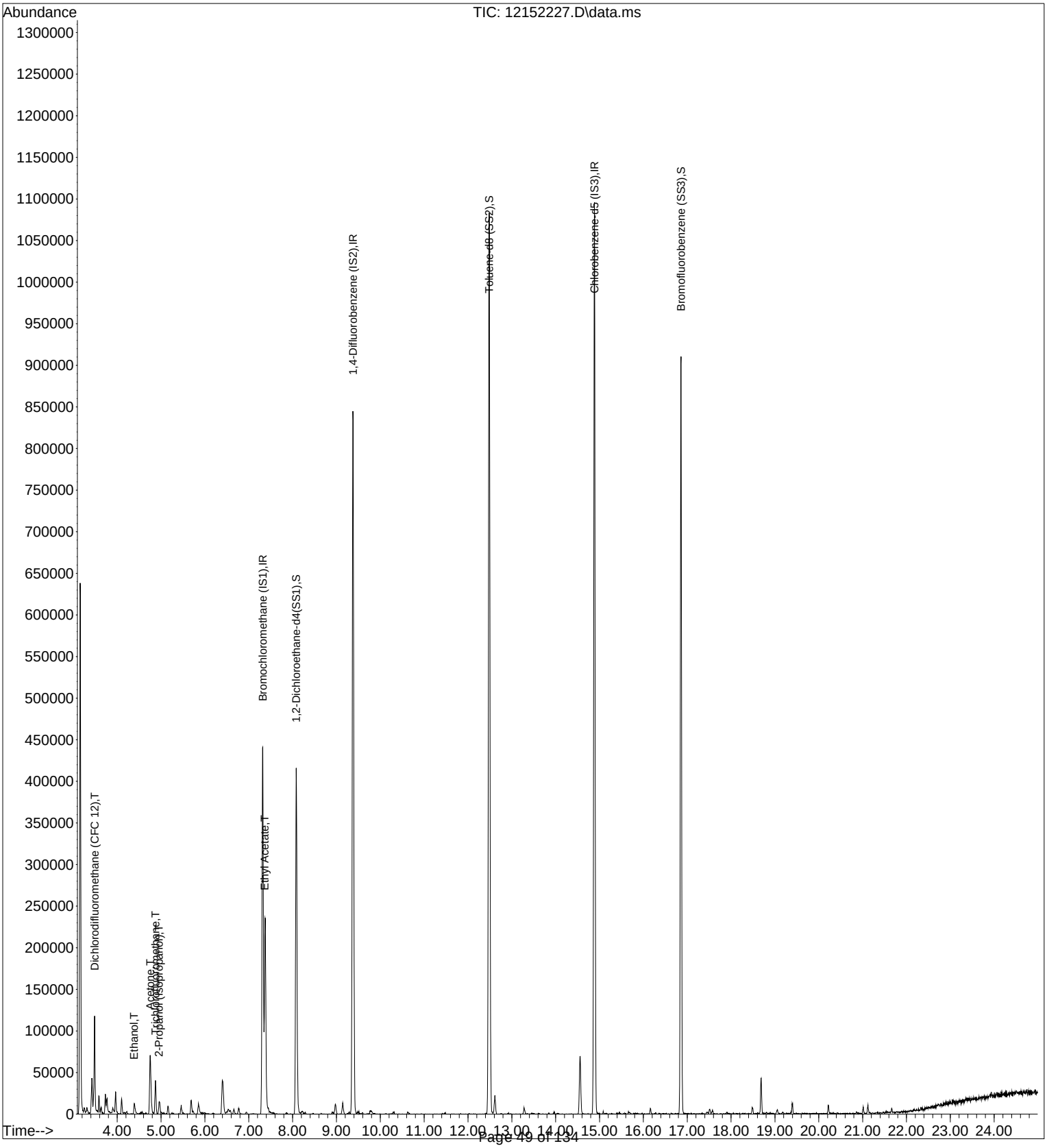
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.64	71	293	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.61	91	17551	N.D.	
59) 2-Hexanone	12.96	43	167	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.84	43	778	N.D.	
63) n-Octane	13.97	57	450	N.D.	
64) Tetrachloroethene	14.07	166	291	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.46	91	1722	N.D.	
67) m- & p-Xylenes	15.69	91	1414	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.28	91	855	N.D.	
71) n-Nonane	16.64	43	826	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	17.59	93	2151	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.97	105	189	N.D.	
79) 1,3,5-Trimethylbenzene	17.97	105	189	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.60	105	791	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.75	91	121	N.D.	
85) 1,3-Dichlorobenzene	18.87	146	430	N.D.	
86) 1,4-Dichlorobenzene	18.87	146	430	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	19.17	119	1088	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.37	68	594	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	21.55	128	252	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.61	119	146	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152227.D Vial: 10
Acq On : 15 Dec 2022 19:00 Operator: TZ
Sample : P2205500-003 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:41 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152227.D Vial: 10
Acq On : 15 Dec 2022 19:00 Operator: TZ
Sample : P2205500-003 (1000mL) Inst : MS13
Misc : S35-11012201

TZ 12/16/22

Quant Time: Dec 16 07:26:41 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

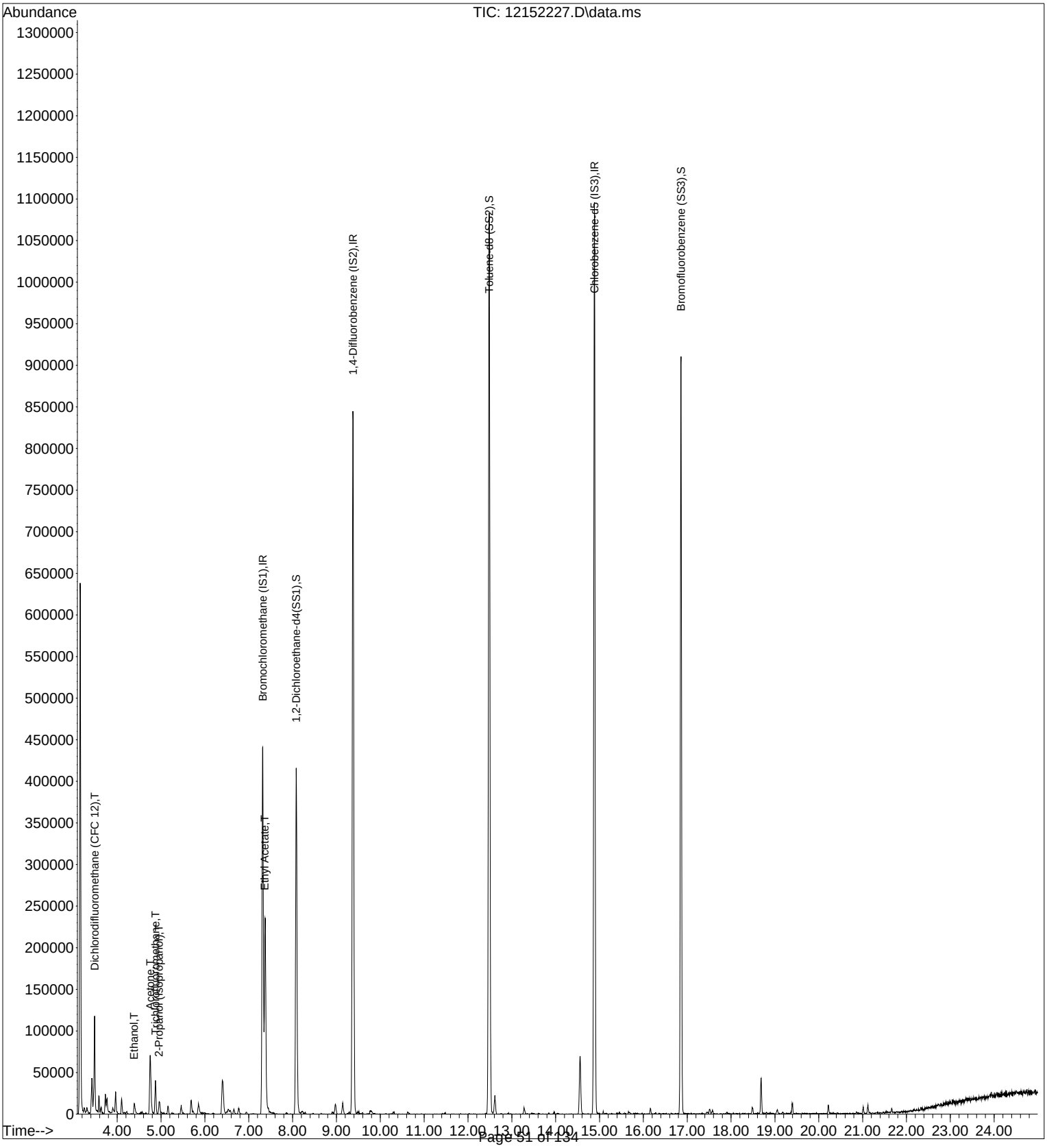
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.32	130	183514	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.38	114	813575	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.88	54	167171	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.08	65	356731	14.046	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.40%			
57) Toluene-d8 (SS2)	12.48	98	911903	11.020	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.16%			
73) Bromofluorobenzene (SS3)	16.86	174	329562	11.162	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.49	85	64146	1.898	ng	97
10) Ethanol	4.38	45	16659	1.513	ng	94
13) Acetone	4.75	58	22288	2.296	ng	87
14) Trichlorofluoromethane	4.87	101	27428	0.869	ng	80
15) 2-Propanol (Isopropanol)	4.95	45	17963	0.495	ng	98
30) Ethyl Acetate	7.37	61	42634	7.650	ng	97

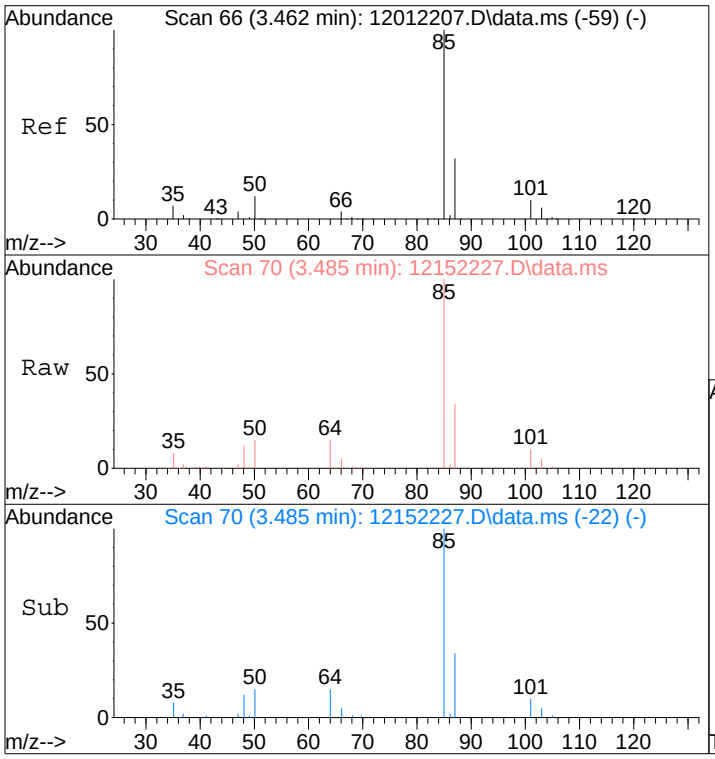
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152227.D Vial: 10
Acq On : 15 Dec 2022 19:00 Operator: TZ
Sample : P2205500-003 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:41 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

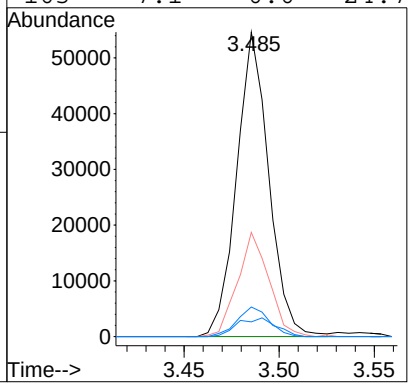


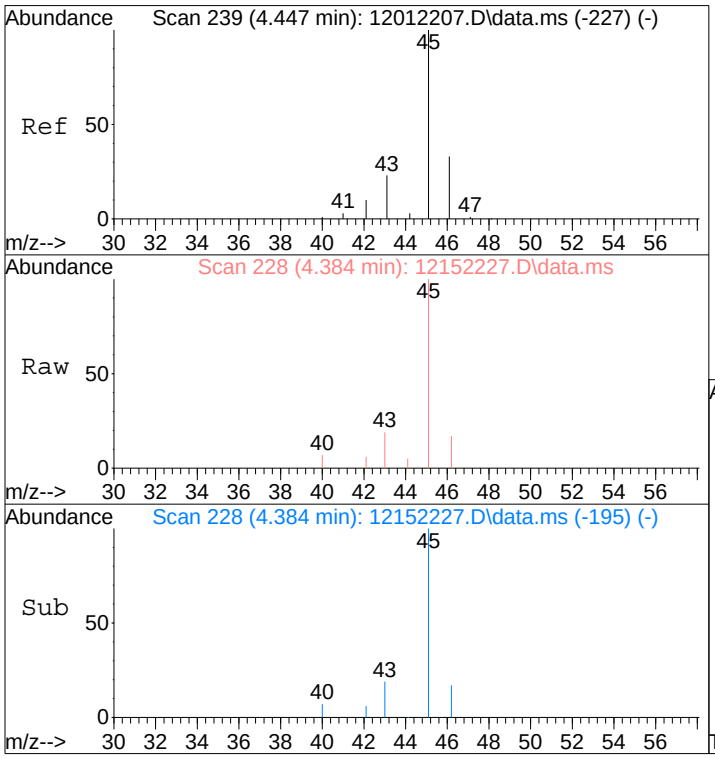


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.90 ng
RT: 3.49 min Scan# 70
Delta R.T. 0.023 min
Lab File: 12152227.D
Acq: 15 Dec 2022 19:00

Tgt Ion: 85 Resp: 64146

Ion	Ratio	Lower	Upper
85	100		
87	33.4	11.3	51.3
101	10.1	0.0	30.0
103	7.1	0.0	24.7

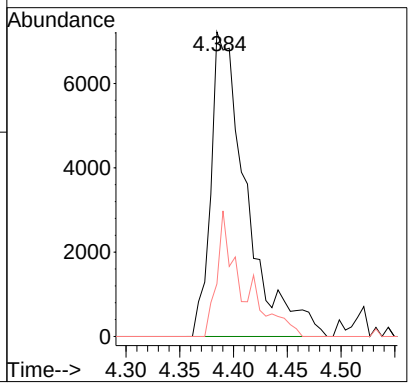


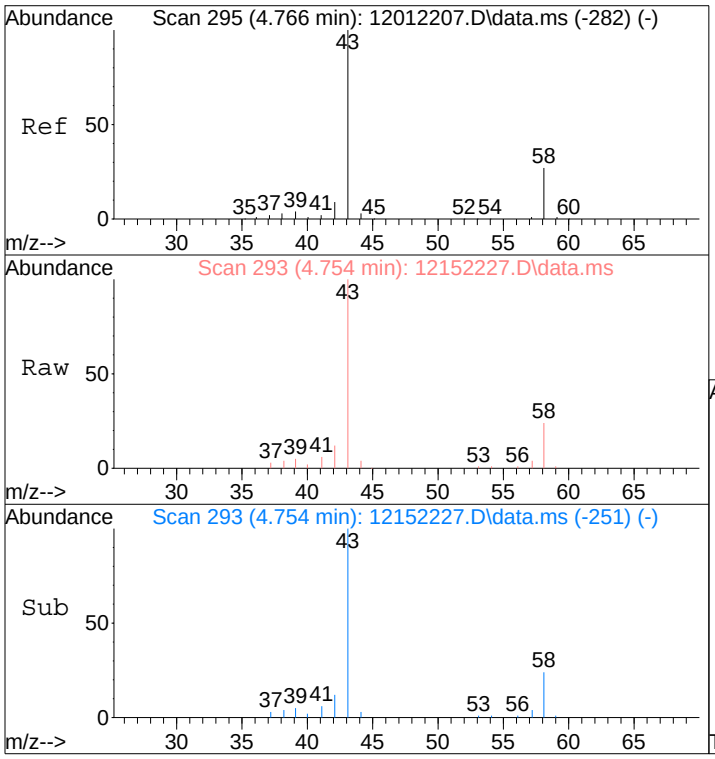


#10
Ethanol
Concen: 1.51 ng
RT: 4.38 min Scan# 228
Delta R.T. -0.062 min
Lab File: 12152227.D
Acq: 15 Dec 2022 19:00

Tgt Ion: 45 Resp: 16659

Ion	Ratio	Lower	Upper
45	100		
46	30.1	13.3	53.3

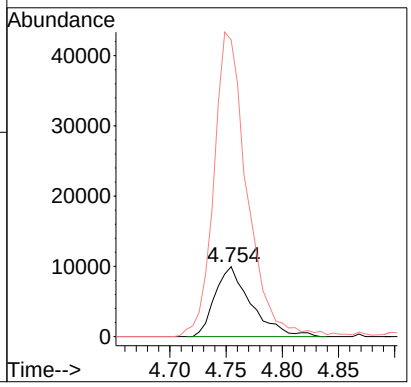


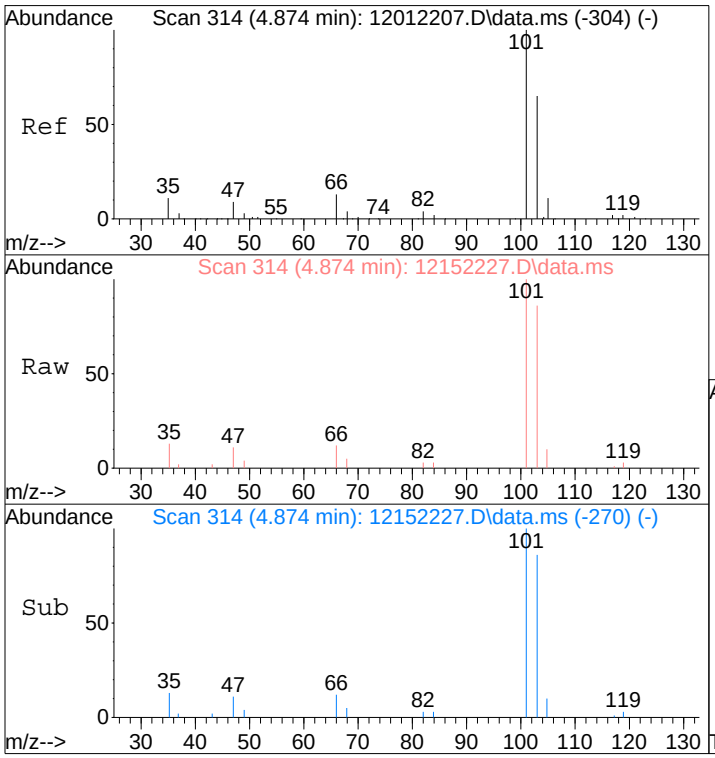


#13
Acetone
Concen: 2.30 ng
RT: 4.75 min Scan# 293
Delta R.T. -0.011 min
Lab File: 12152227.D
Acq: 15 Dec 2022 19:00

Tgt Ion: 58 Resp: 22288

Ion	Ratio	Lower	Upper
58	100		
43	402.3	343.1	403.1

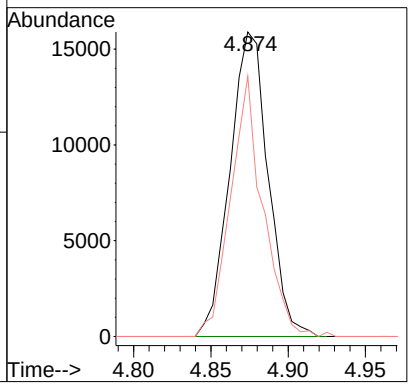


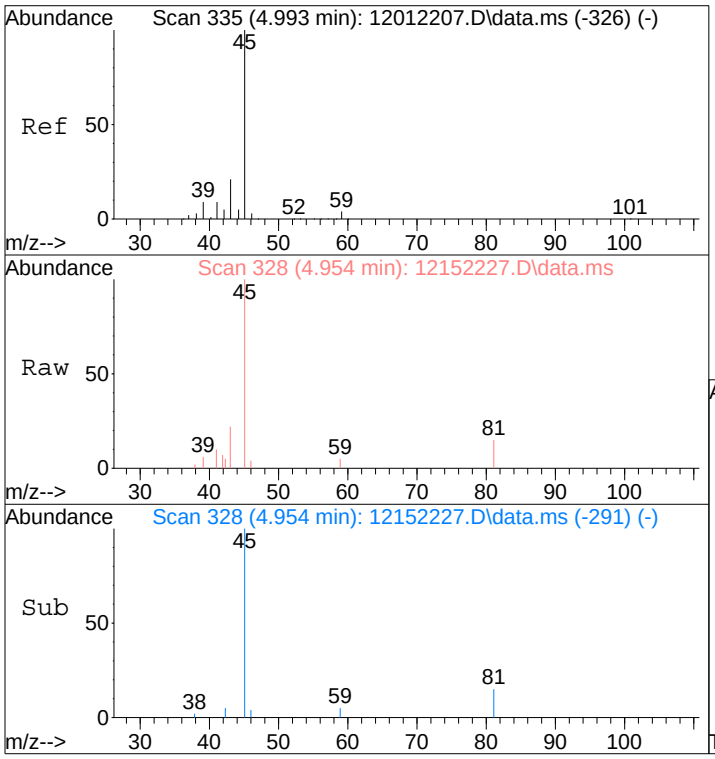


#14
Trichlorofluoromethane
Concen: 0.87 ng
RT: 4.87 min Scan# 314
Delta R.T. 0.000 min
Lab File: 12152227.D
Acq: 15 Dec 2022 19:00

Tgt Ion:101 Resp: 27428

Ion	Ratio	Lower	Upper
101	100		
103	72.2	37.2	77.2

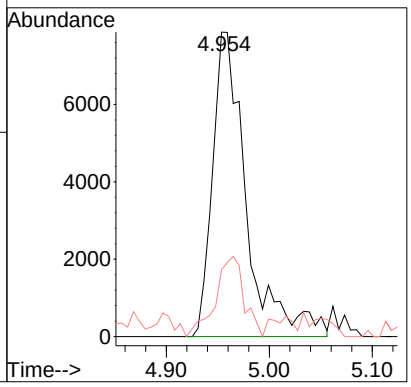


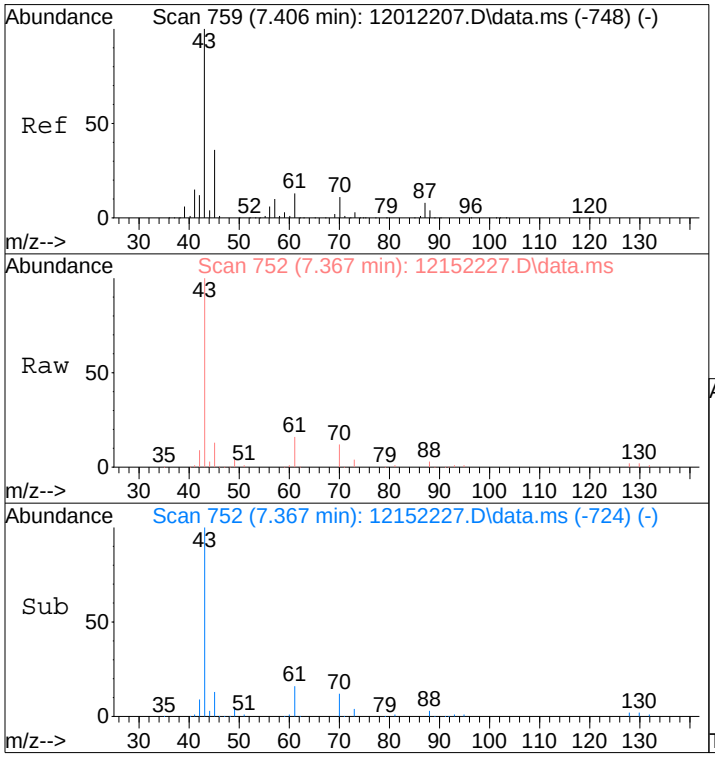


#15
2-Propanol (Isopropanol)
Concen: 0.49 ng
RT: 4.95 min Scan# 328
Delta R.T. -0.040 min
Lab File: 12152227.D
Acq: 15 Dec 2022 19:00

Tgt Ion: 45 Resp: 17963

Ion	Ratio	Lower	Upper
45	100		
43	22.1	1.3	41.3

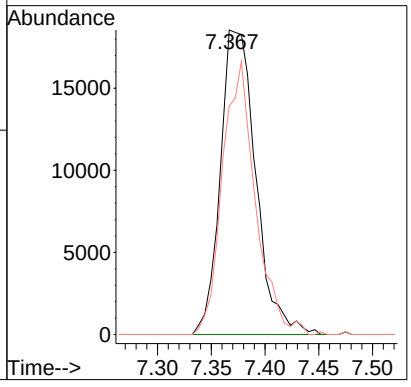




#30
Ethyl Acetate
Concen: 7.65 ng
RT: 7.37 min Scan# 752
Delta R.T. -0.040 min
Lab File: 12152227.D
Acq: 15 Dec 2022 19:00

Tgt Ion: 61 Resp: 42634

Ion	Ratio	Lower	Upper
61	100		
70	83.3	60.8	100.8



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152228.D Vial: 11
Acq On : 15 Dec 2022 19:36 Operator: TZ
Sample : P2205500-004 (1000mL) Inst : MS13
Misc : S35-11012201

TZ 12/16/22

Quant Time: Dec 16 07:26:43 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	189672	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.38	114	818819	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.88	54	168413	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.09	65	357259	13.610	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
57) Toluene-d8 (SS2)	12.48	98	917850	11.010	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
73) Bromofluorobenzene (SS3)	16.86	174	327426	11.008	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
Target Compounds							Qvalue
2) Propene	3.43	42	4180	N.D.			
3) Dichlorodifluoromethan...	3.49	85	60292	1.726	ng		96
4) Chloromethane	3.64	50	3711	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.75	135	1460	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.40	45	18846	1.656	ng		92
11) Acetonitrile	4.57	41	2452	N.D.			
12) Acrolein	4.67	56	682	N.D.			
13) Acetone	4.76	58	20708	2.064	ng	#	86
14) Trichlorofluoromethane	4.88	101	28355	0.869	ng		91
15) 2-Propanol (Isopropanol)	4.96	45	15085	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.47	84	3749	N.D.			
20) 3-Chloro-1-propene (Al...	5.47	41	186	N.D.			
21) Trichlorotrifluoroethane	5.69	151	4716	N.D.			
22) Carbon Disulfide	5.73	76	4888	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.54	86	204	N.D.			
27) 2-Butanone (MEK)	6.77	72	1949	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.38	61	13522	2.348	ng		96
31) n-Hexane	7.40	57	1466	N.D.			
32) Chloroform	7.46	83	1598	N.D.			
34) Tetrahydrofuran (THF)	7.88	72	170	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.20	62	981	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.38	61	27498	No Calib			
40) 1-Butanol	8.92	56	798	No Calib		#	
41) Benzene	8.97	78	10037	N.D.			
42) Carbon Tetrachloride	9.15	117	7010	N.D.			
43) Cyclohexane	9.30	84	662	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.30	57	2441	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152228.D Vial: 11
Acq On : 15 Dec 2022 19:36 Operator: TZ
Sample : P2205500-004 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:43 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

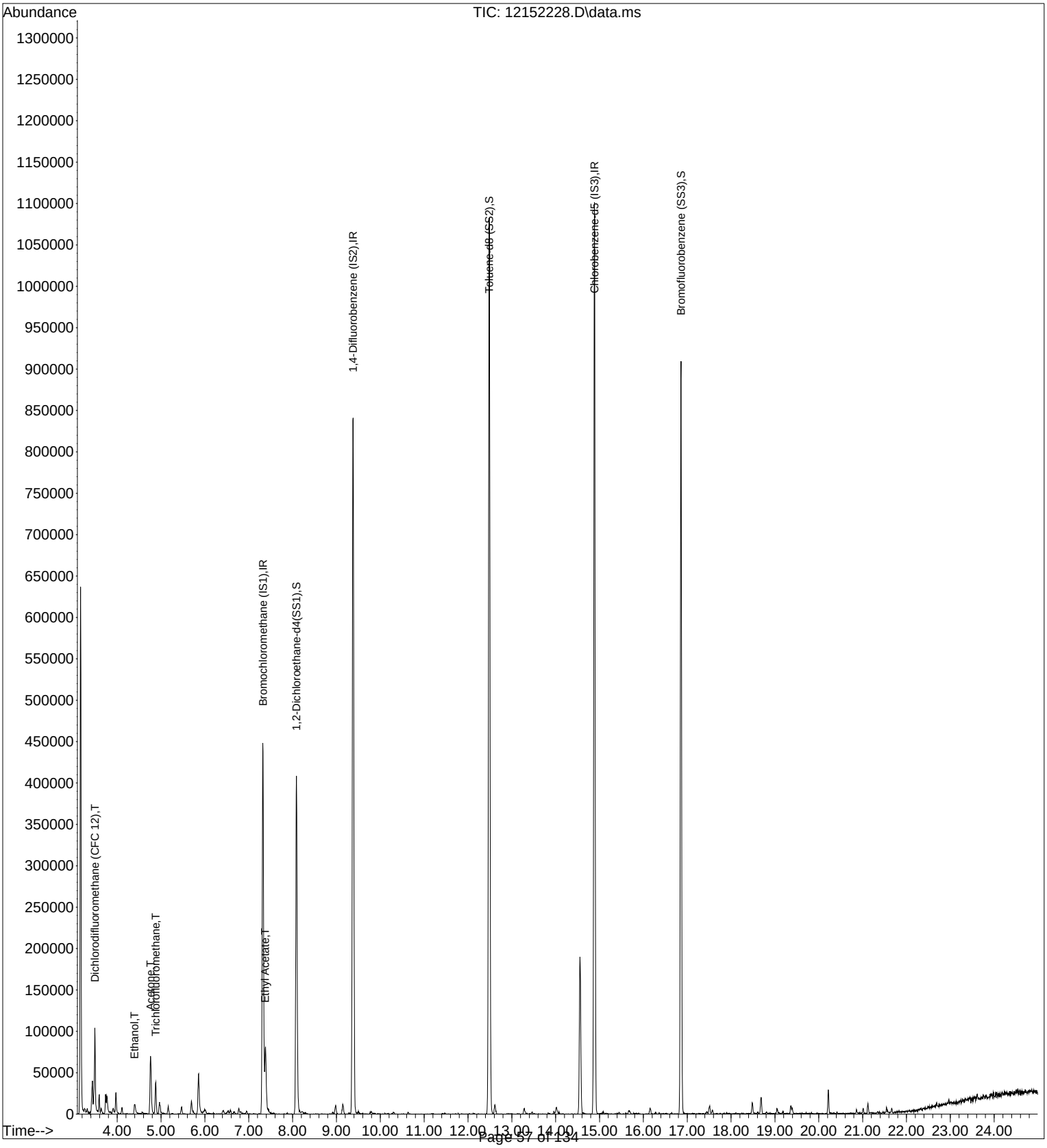
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.63	71	427	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.61	91	9965	N.D.		
59) 2-Hexanone	12.97	43	377	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.84	43	1171	N.D.		
63) n-Octane	13.96	57	619	N.D.		
64) Tetrachloroethene	14.09	166	295	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.45	91	2162	N.D.		
67) m- & p-Xylenes	15.66	91	2653	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.15	104	951	N.D.		
70) o-Xylene	16.29	91	1261	N.D.		
71) n-Nonane	16.65	43	718	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.05	105	153	N.D.		
75) alpha-Pinene	17.58	93	2206	N.D.		
76) n-Propylbenzene	17.75	91	362	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.96	105	620	N.D.		
79) 1,3,5-Trimethylbenzene	18.07	105	381	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.61	105	1796	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.87	146	620	N.D.		
86) 1,4-Dichlorobenzene	18.87	146	620	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	19.18	119	3041	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.36	68	3013	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.24	58	168	No Calib	#	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	21.56	128	410	N.D.		
96) n-Dodecane	19.09	58	104	No Calib	#	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.61	55	298	No Calib	#	
99) tert-Butylbenzene	18.69	119	615	N.D.		
100) n-Butylbenzene	19.71	91	451	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152228.D Vial: 11
Acq On : 15 Dec 2022 19:36 Operator: TZ
Sample : P2205500-004 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:43 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152228.D Vial: 11
Acq On : 15 Dec 2022 19:36 Operator: TZ
Sample : P2205500-004 (1000mL) Inst : MS13
Misc : S35-11012201

TZ 12/16/22

Quant Time: Dec 16 07:26:43 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

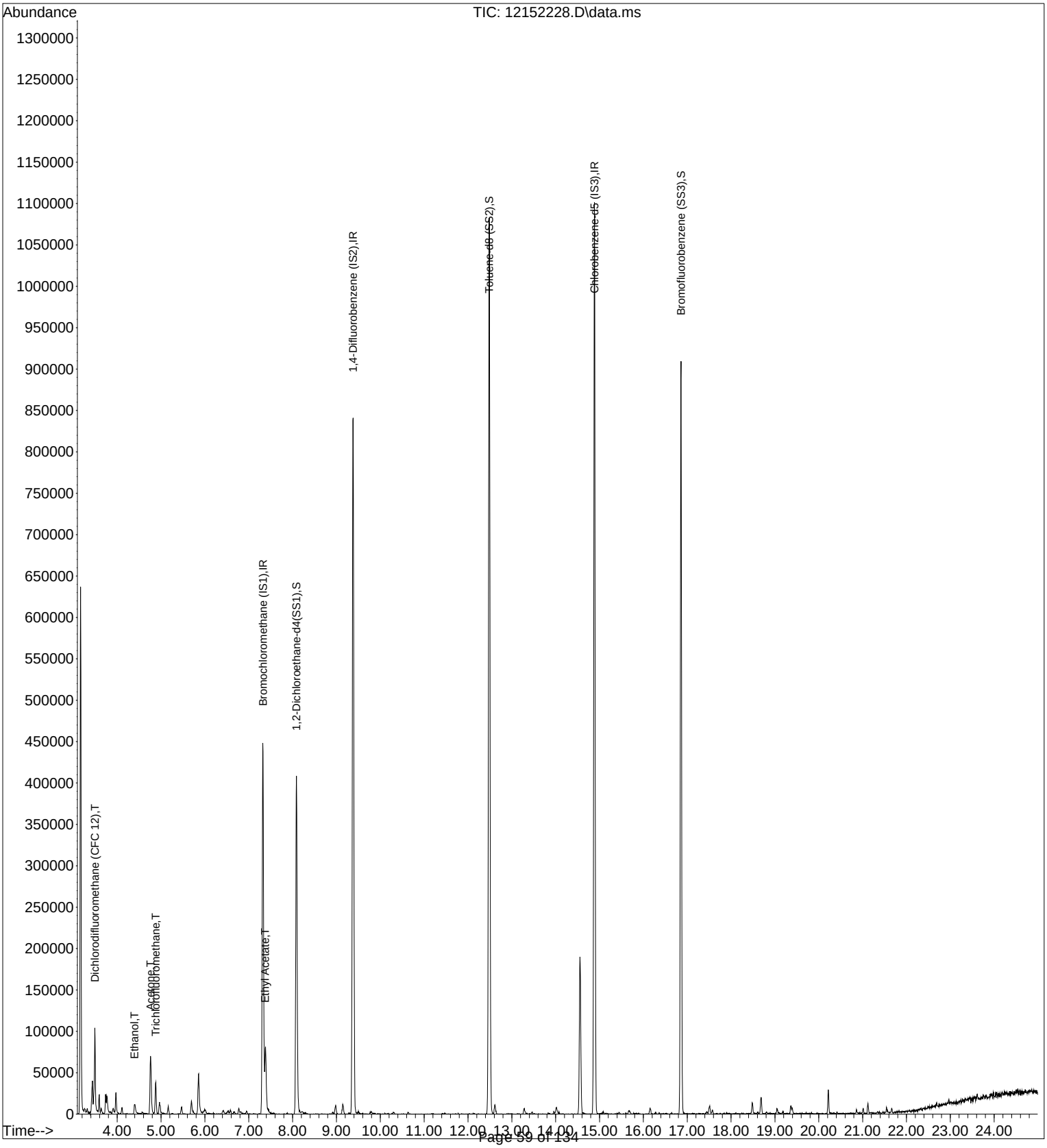
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	189672	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.38	114	818819	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.88	54	168413	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.09	65	357259	13.610	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
57) Toluene-d8 (SS2)	12.48	98	917850	11.010	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
73) Bromofluorobenzene (SS3)	16.86	174	327426	11.008	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.49	85	60292	1.726	ng		96
10) Ethanol	4.40	45	18846	1.656	ng		92
13) Acetone	4.76	58	20708	2.064	ng	#	86
14) Trichlorofluoromethane	4.88	101	28355	0.869	ng		91
30) Ethyl Acetate	7.38	61	13522	2.348	ng		96

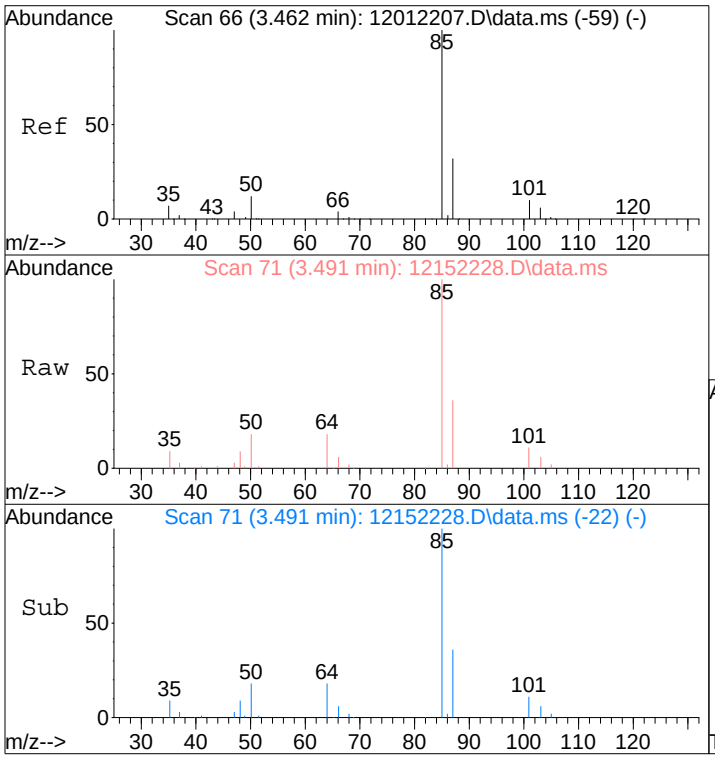
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152228.D Vial: 11
Acq On : 15 Dec 2022 19:36 Operator: TZ
Sample : P2205500-004 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:43 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

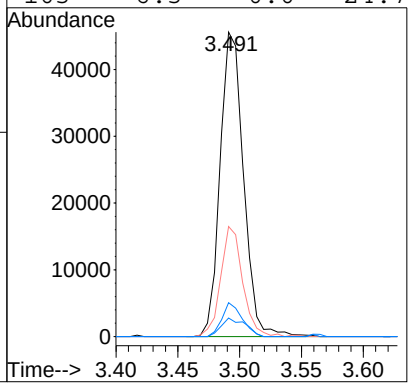


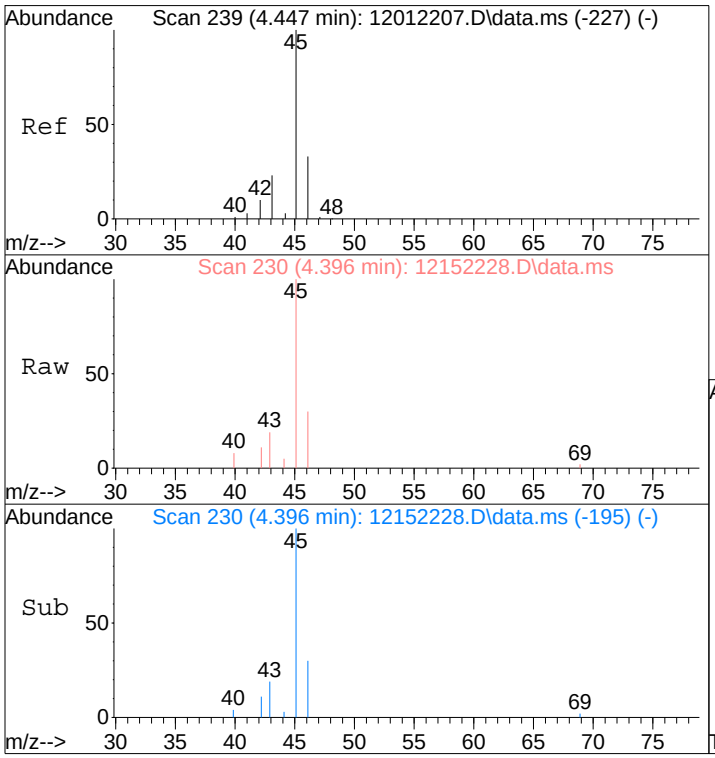


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.73 ng
RT: 3.49 min Scan# 71
Delta R.T. 0.029 min
Lab File: 12152228.D
Acq: 15 Dec 2022 19:36

Tgt Ion: 85 Resp: 60292

Ion	Ratio	Lower	Upper
85	100		
87	34.1	11.3	51.3
101	9.6	0.0	30.0
103	6.3	0.0	24.7

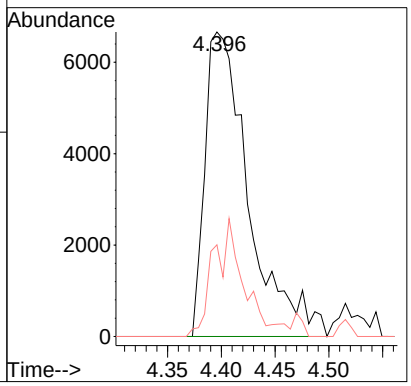


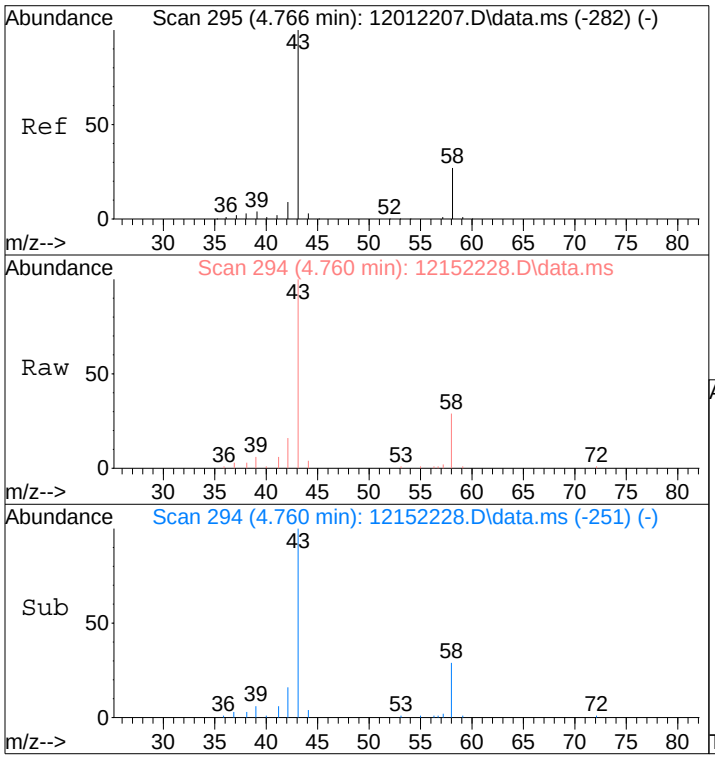


#10
Ethanol
Concen: 1.66 ng
RT: 4.40 min Scan# 230
Delta R.T. -0.051 min
Lab File: 12152228.D
Acq: 15 Dec 2022 19:36

Tgt Ion: 45 Resp: 18846

Ion	Ratio	Lower	Upper
45	100		
46	28.9	13.3	53.3

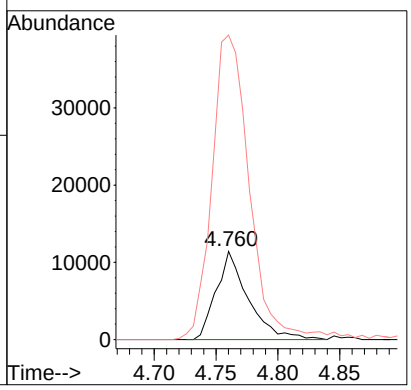


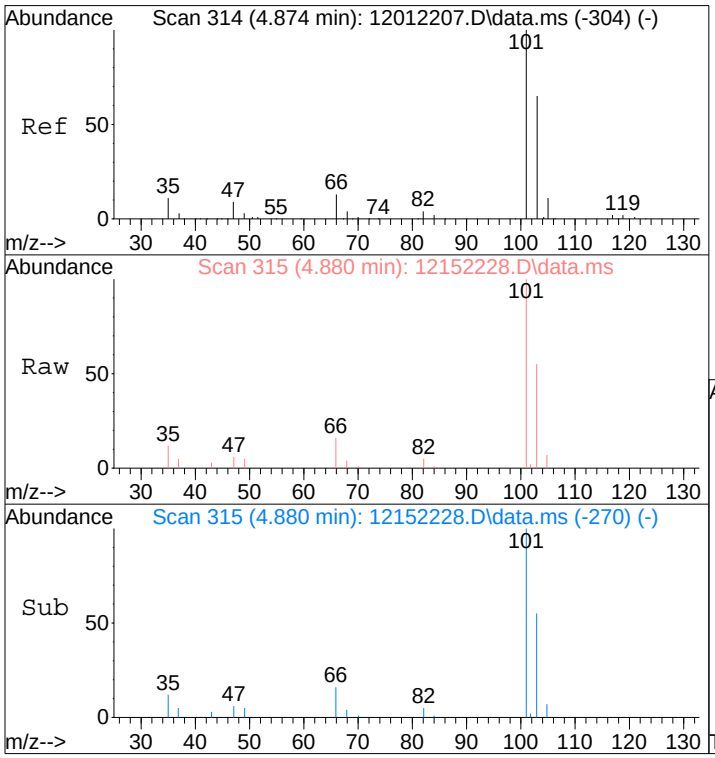


#13
Acetone
Concen: 2.06 ng
RT: 4.76 min Scan# 294
Delta R.T. -0.006 min
Lab File: 12152228.D
Acq: 15 Dec 2022 19:36

Tgt Ion: 58 Resp: 20708

Ion	Ratio	Lower	Upper
58	100		
43	404.7	343.1	403.1#

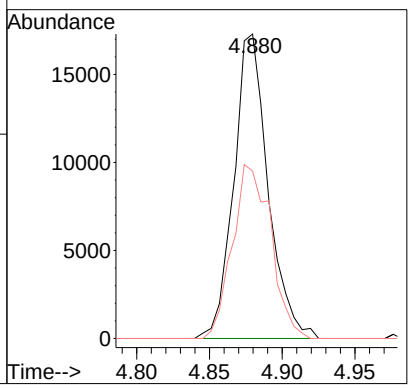


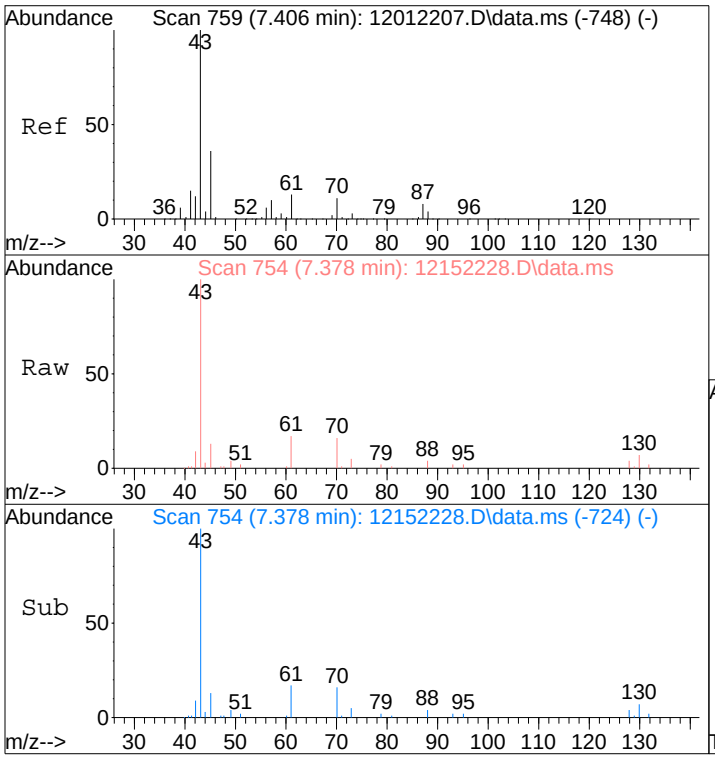


#14
Trichlorofluoromethane
Concen: 0.87 ng
RT: 4.88 min Scan# 315
Delta R.T. 0.006 min
Lab File: 12152228.D
Acq: 15 Dec 2022 19:36

Tgt Ion:101 Resp: 28355

Ion	Ratio	Lower	Upper
101	100		
103	64.1	37.2	77.2

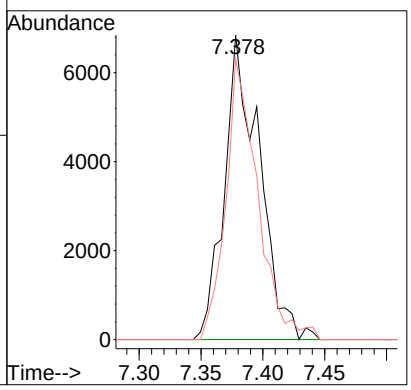




#30
Ethyl Acetate
Concen: 2.35 ng
RT: 7.38 min Scan# 754
Delta R.T. -0.028 min
Lab File: 12152228.D
Acq: 15 Dec 2022 19:36

Tgt Ion: 61 Resp: 13522

Ion	Ratio	Lower	Upper
61	100		
70	84.0	60.8	100.8



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152229.D Vial: 12
Acq On : 15 Dec 2022 20:12 Operator: TZ
Sample : P2205500-005 (1000mL) Inst : MS13
Misc : S35-11012201

TZ 12/16/22

Quant Time: Dec 16 07:26:46 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	191727	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.38	114	824879	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.88	54	163696	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.09	65	365915	13.790	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.32%				
57) Toluene-d8 (SS2)	12.48	98	921804	11.376	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.04%				
73) Bromofluorobenzene (SS3)	16.86	174	331396	11.463	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.68%				
Target Compounds							Qvalue
2) Propene	3.43	42	3628	N.D.			
3) Dichlorodifluoromethan...	3.50	85	66669	1.888	ng		98
4) Chloromethane	3.64	50	4782	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.75	135	1569	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.16	94	180	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.41	45	12069	1.049	ng		100
11) Acetonitrile	4.59	41	1782	N.D.			
12) Acrolein	4.66	56	361	N.D.			
13) Acetone	4.76	58	18744	1.848	ng	#	82
14) Trichlorofluoromethane	4.88	101	29056	0.881	ng		93
15) 2-Propanol (Isopropanol)	4.96	45	13336	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.45	59	192	N.D.			
19) Methylene Chloride	5.46	84	3897	N.D.			
20) 3-Chloro-1-propene (Al...	5.52	41	197	N.D.			
21) Trichlorotrifluoroethane	5.70	151	5868	N.D.			
22) Carbon Disulfide	5.73	76	9802	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.40	73	240	N.D.			
26) Vinyl Acetate	6.54	86	225	N.D.			
27) 2-Butanone (MEK)	6.77	72	2043	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.38	61	12788	2.196	ng		95
31) n-Hexane	7.41	57	1615	N.D.			
32) Chloroform	7.44	83	1820	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.19	62	594	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.38	61	27201	No Calib		#	
40) 1-Butanol	8.92	56	1431	No Calib		#	
41) Benzene	8.98	78	10258	N.D.			
42) Carbon Tetrachloride	9.15	117	8100	N.D.			
43) Cyclohexane	9.30	84	250	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.30	57	2304	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152229.D Vial: 12
Acq On : 15 Dec 2022 20:12 Operator: TZ
Sample : P2205500-005 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:46 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

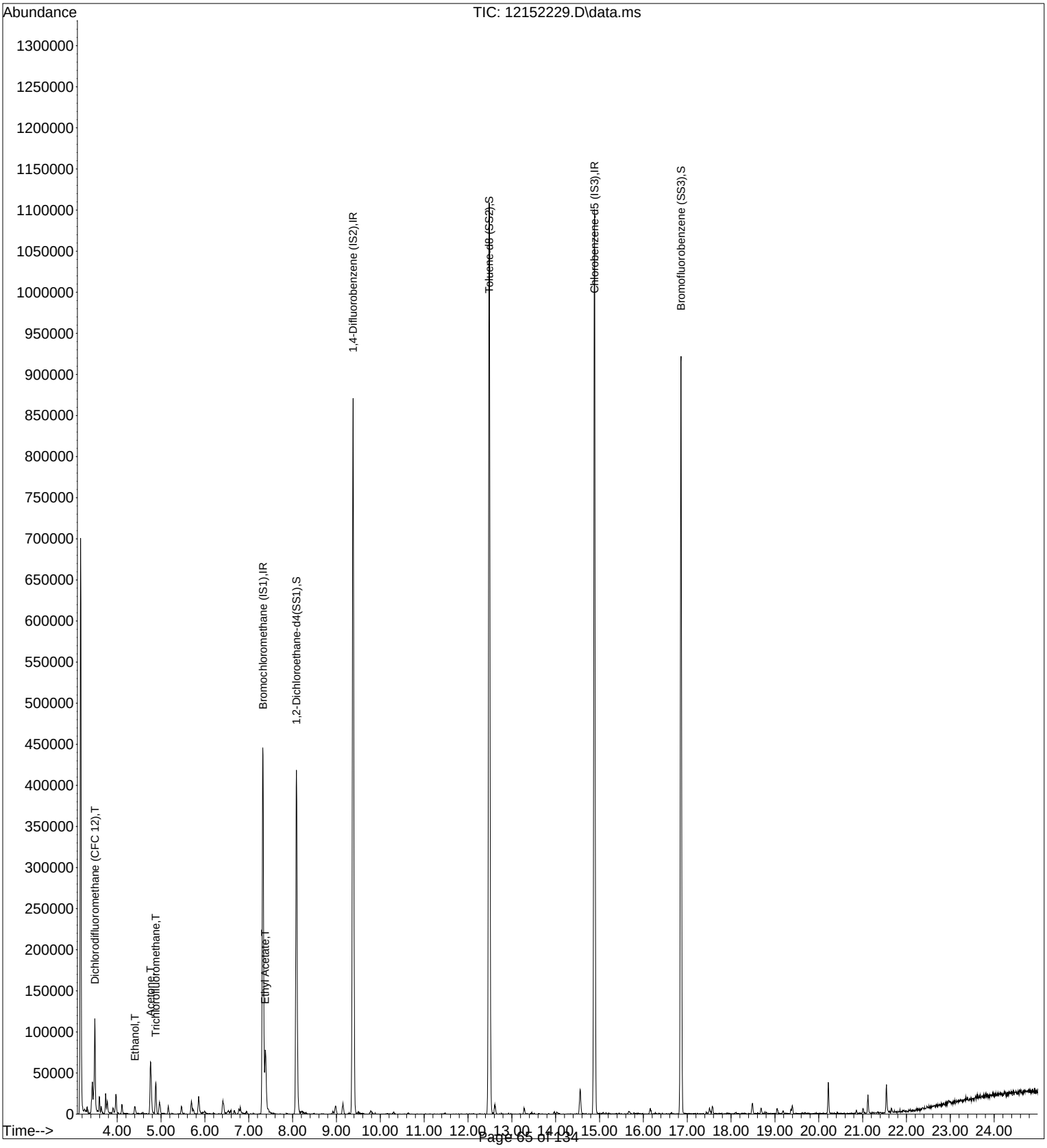
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.63	71	689	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.61	91	9913	N.D.		
59) 2-Hexanone	12.93	43	194	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.84	43	121	N.D.		
63) n-Octane	13.96	57	723	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.44	91	1208	N.D.		
67) m- & p-Xylenes	15.69	91	1868	N.D.		
68) Bromoform	15.73	173	130	N.D.		
69) Styrene	16.14	104	232	N.D.		
70) o-Xylene	16.27	91	713	N.D.		
71) n-Nonane	16.65	43	871	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	17.57	93	4096	N.D.		
76) n-Propylbenzene	17.76	91	138	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.96	105	442	N.D.		
79) 1,3,5-Trimethylbenzene	18.07	105	197	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.62	105	1168	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	19.18	119	2306	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.36	68	1186	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	21.56	128	980	N.D.		
96) n-Dodecane	19.07	58	137	No Calib	#	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.60	119	127	N.D.		
100) n-Butylbenzene	19.72	91	236	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152229.D Vial: 12
Acq On : 15 Dec 2022 20:12 Operator: TZ
Sample : P2205500-005 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:46 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152229.D Vial: 12
Acq On : 15 Dec 2022 20:12 Operator: TZ
Sample : P2205500-005 (1000mL) Inst : MS13
Misc : S35-11012201

TZ 12/16/22

Quant Time: Dec 16 07:26:46 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

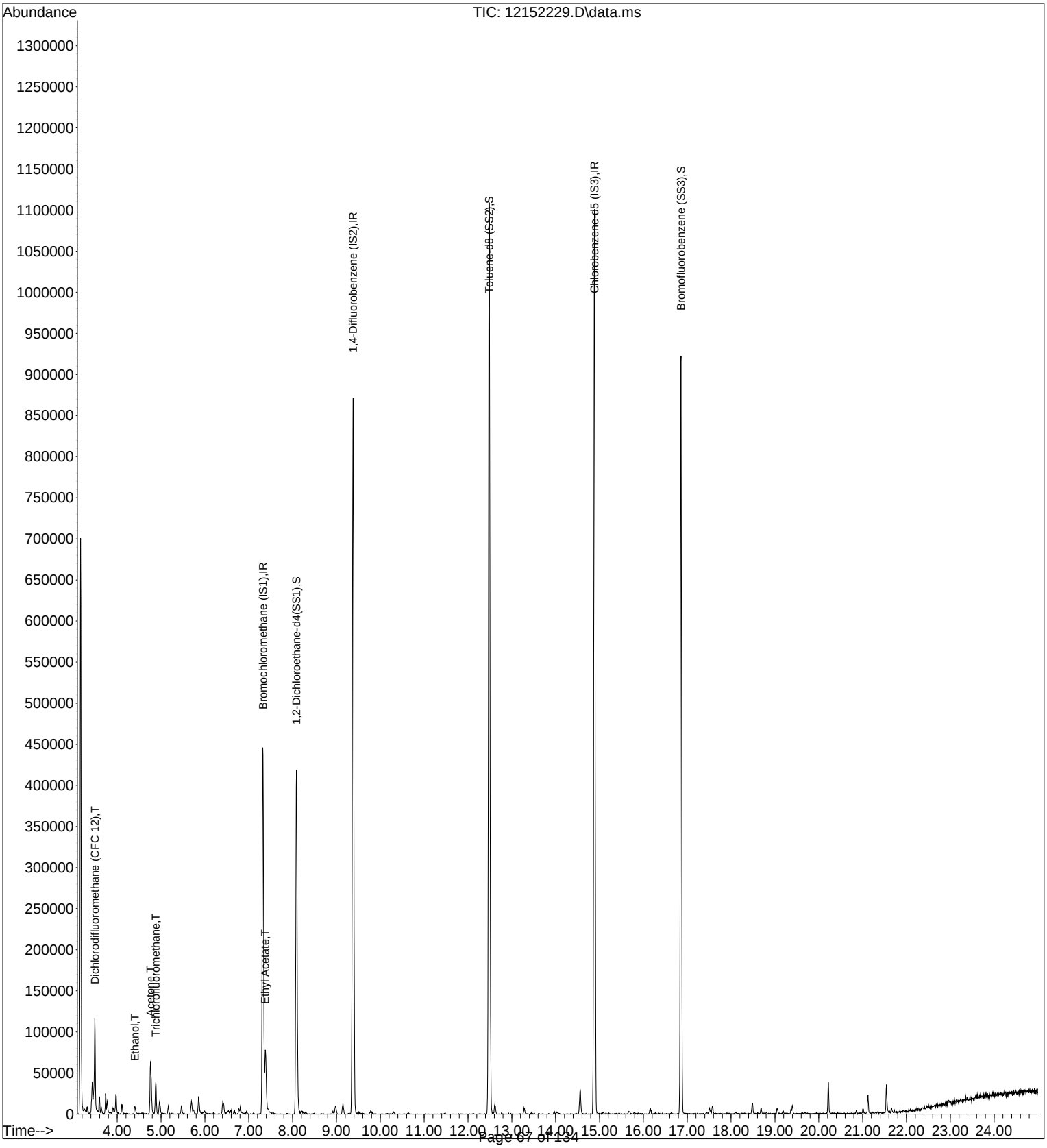
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	191727	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.38	114	824879	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.88	54	163696	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.09	65	365915	13.790	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.32%				
57) Toluene-d8 (SS2)	12.48	98	921804	11.376	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.04%				
73) Bromofluorobenzene (SS3)	16.86	174	331396	11.463	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.68%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.50	85	66669	1.888	ng		98
10) Ethanol	4.41	45	12069	1.049	ng		100
13) Acetone	4.76	58	18744	1.848	ng	#	82
14) Trichlorofluoromethane	4.88	101	29056	0.881	ng		93
30) Ethyl Acetate	7.38	61	12788	2.196	ng		95

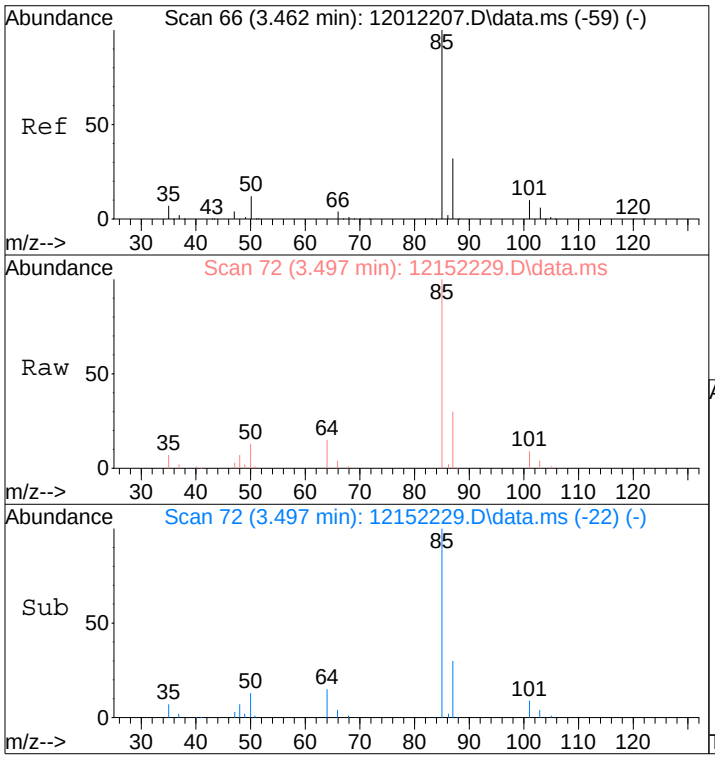
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152229.D Vial: 12
Acq On : 15 Dec 2022 20:12 Operator: TZ
Sample : P2205500-005 (1000mL) Inst : MS13
Misc : S35-11012201

Quant Time: Dec 16 07:26:46 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

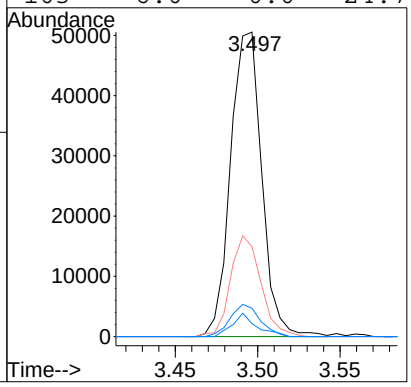


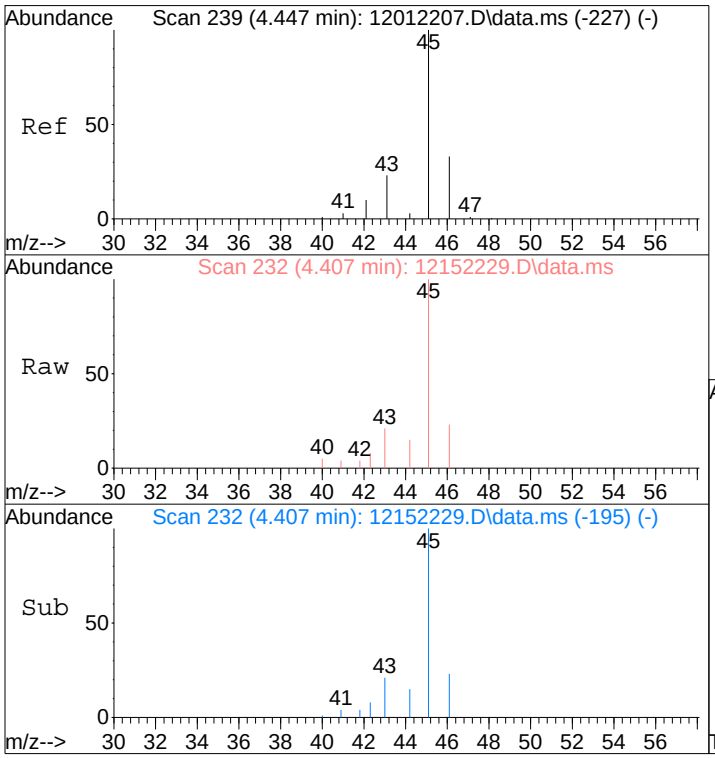


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.89 ng
RT: 3.50 min Scan# 72
Delta R.T. 0.034 min
Lab File: 12152229.D
Acq: 15 Dec 2022 20:12

Tgt Ion: 85 Resp: 66669

Ion	Ratio	Lower	Upper
85	100		
87	32.2	11.3	51.3
101	10.1	0.0	30.0
103	6.0	0.0	24.7

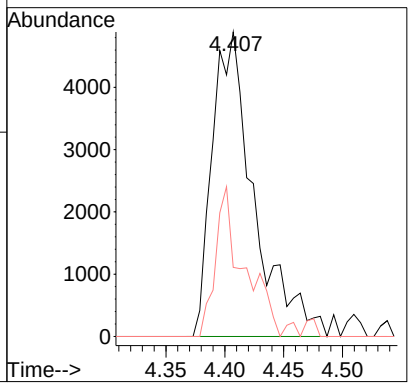


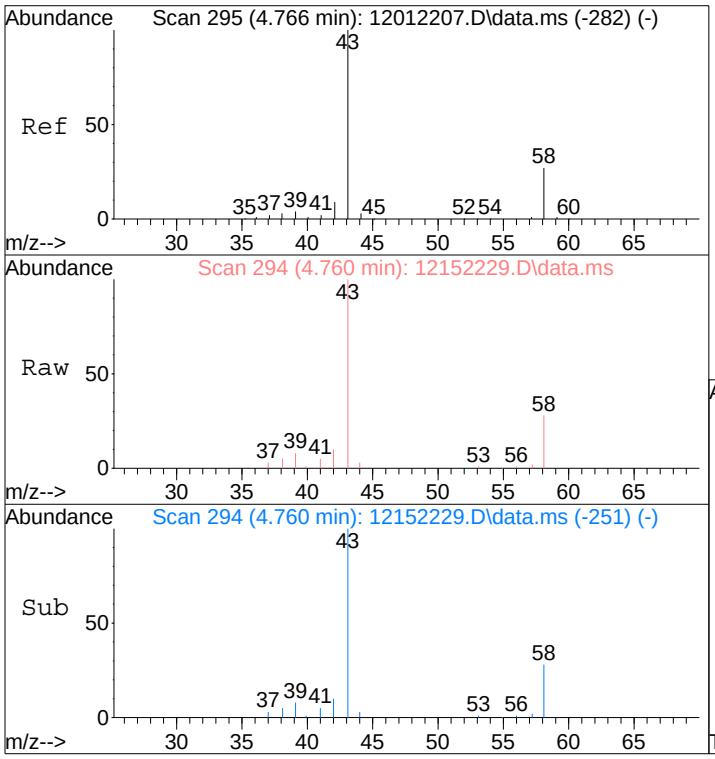


#10
Ethanol
Concen: 1.05 ng
RT: 4.41 min Scan# 232
Delta R.T. -0.040 min
Lab File: 12152229.D
Acq: 15 Dec 2022 20:12

Tgt Ion: 45 Resp: 12069

Ion	Ratio	Lower	Upper
45	100		
46	33.2	13.3	53.3

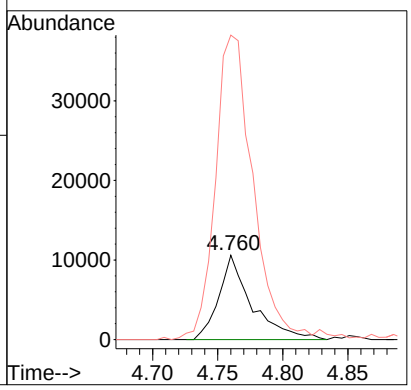


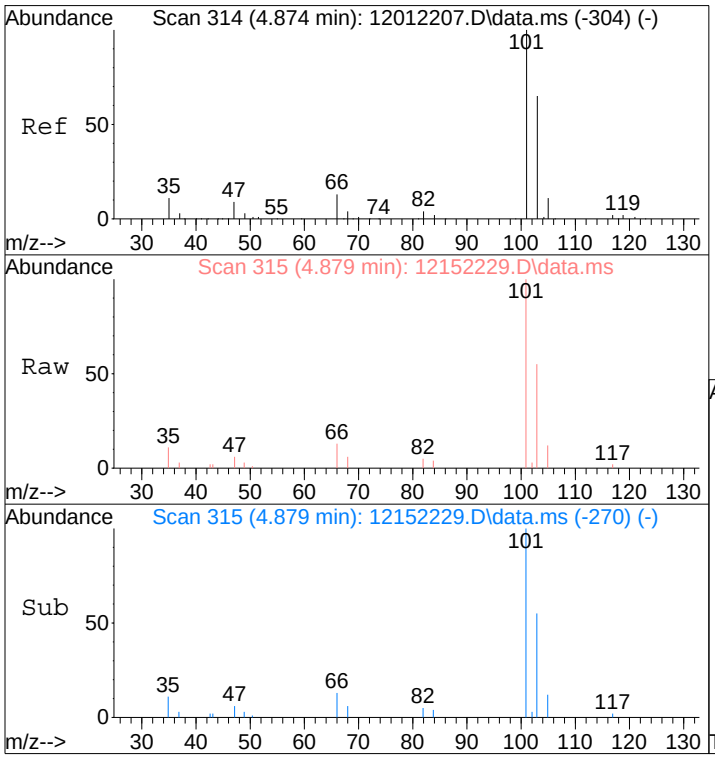


#13
Acetone
Concen: 1.85 ng
RT: 4.76 min Scan# 294
Delta R.T. -0.006 min
Lab File: 12152229.D
Acq: 15 Dec 2022 20:12

Tgt Ion: 58 Resp: 18744

Ion	Ratio	Lower	Upper
58	100		
43	414.8	343.1	403.1#

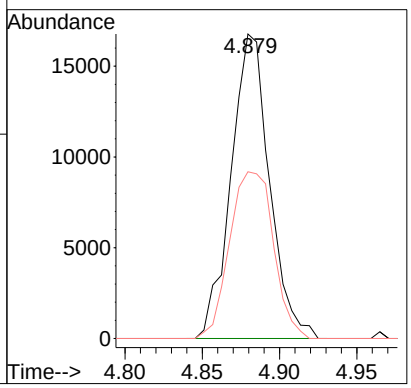


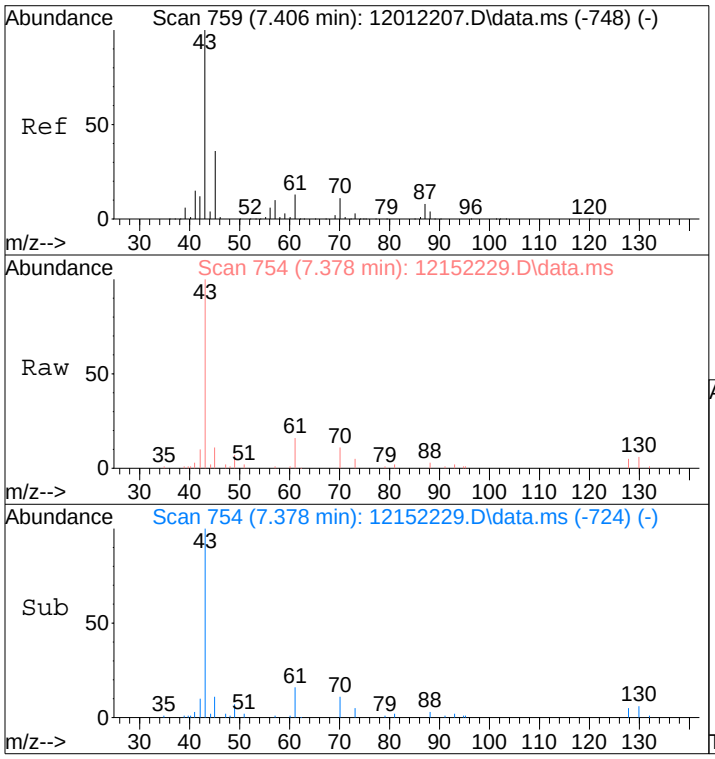


#14
Trichlorofluoromethane
Concen: 0.88 ng
RT: 4.88 min Scan# 315
Delta R.T. 0.006 min
Lab File: 12152229.D
Acq: 15 Dec 2022 20:12

Tgt Ion:101 Resp: 29056

Ion	Ratio	Lower	Upper
101	100		
103	62.5	37.2	77.2

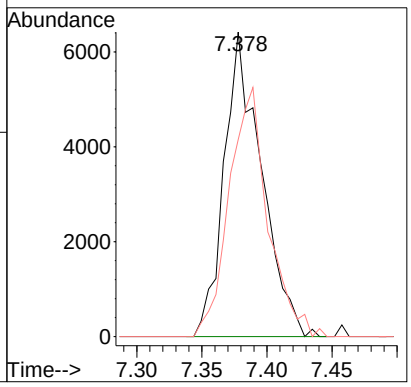




#30
Ethyl Acetate
Concen: 2.20 ng
RT: 7.38 min Scan# 754
Delta R.T. -0.028 min
Lab File: 12152229.D
Acq: 15 Dec 2022 20:12

Tgt Ion: 61 Resp: 12788

Ion	Ratio	Lower	Upper
61	100		
70	85.2	60.8	100.8



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152204.D Vial: 1
Acq On : 15 Dec 2022 2:15 Operator: TZ
Sample : MB R13121522 1000mL Inst : MS13
Misc : S35-11012201_AC01387

TZ 12/15/22

Quant Time: Dec 15 07:13:00 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.32	130	194593	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.38	114	850044	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.88	54	161631	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.08	65	370896	13.772	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%			
57) Toluene-d8 (SS2)	12.48	98	946954	11.836	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%			
73) Bromofluorobenzene (SS3)	16.86	174	304556	10.669	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.36%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D. d		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.41	45	1549	0.133	ng	93
11) Acetonitrile	4.61	41	185	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	4.78	58	421	N.D.		
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	4.98	45	11112	0.289	ng	85
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.46	59	1218	N.D.		
19) Methylene Chloride	5.45	84	312	N.D.		
20) 3-Chloro-1-propene (Al...	5.49	41	374	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	5.74	76	3634	0.060	ng	98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	7.91	72	182	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.13	62	212	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.37	61	28161	No Calib		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	8.98	78	284	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.38	84	526	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152204.D Vial: 1
Acq On : 15 Dec 2022 2:15 Operator: TZ
Sample : MB R13121522 1000mL Inst : MS13
Misc : S35-11012201_AC01387

Quant Time: Dec 15 07:13:00 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

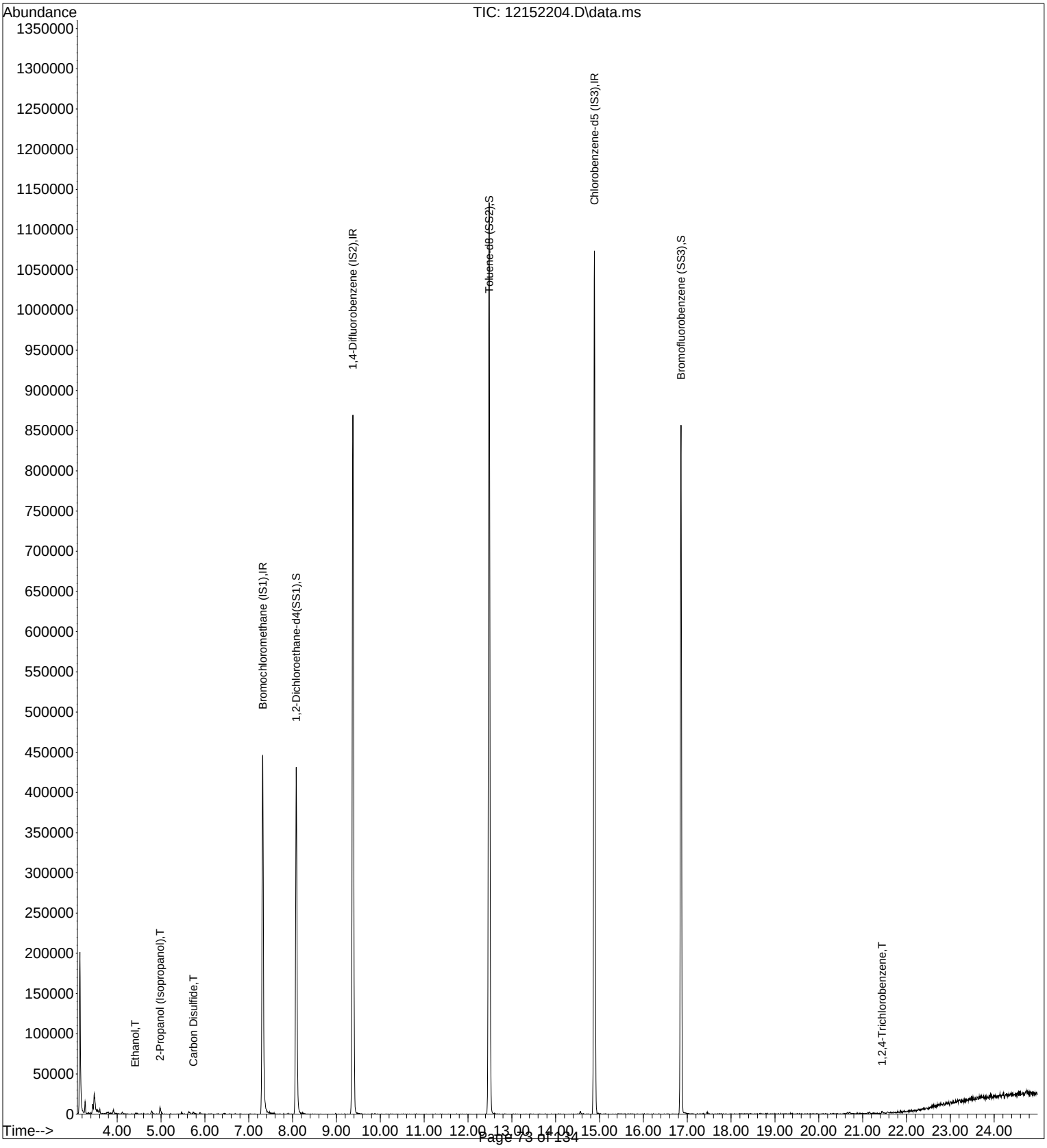
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.62	91	135	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.46	91	238	N.D.	
67) m- & p-Xylenes	0.00	91	0	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	0.00	91	0	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.78	91	164	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.76	91	121	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	21.45	180	1209	0.054 ng	# 87
95) Naphthalene	21.58	128	1907	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.99	225	218	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	19.73	91	132	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152204.D Vial: 1
Acq On : 15 Dec 2022 2:15 Operator: TZ
Sample : MB R13121522 1000mL Inst : MS13
Misc : S35-11012201_AC01387

Quant Time: Dec 15 07:13:00 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152205.D Vial: 1
Acq On : 15 Dec 2022 2:50 Operator: TZ
Sample : LCS R13121522 5.0ng Inst : MS13
Misc : S35-11012201/S35-12092202 (1/8)

TZ 12/15/22

Quant Time: Dec 15 07:10:06 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.37	130	208985	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.40	114	909616	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.89	54	176820	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.12	65	405493	14.020	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.16%				
57) Toluene-d8 (SS2)	12.49	98	996516	11.385	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
73) Bromofluorobenzene (SS3)	16.86	174	365150	11.693	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
Target Compounds							Qvalue
2) Propene	3.38	42	460994	24.569	ng		93
3) Dichlorodifluoromethan...	3.46	85	1036919	26.937	ng		98
4) Chloromethane	3.60	50	580043	29.940	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	479062	26.220	ng		96
6) Vinyl Chloride	3.79	62	599461	27.948	ng		97
7) 1,3-Butadiene	3.91	54	502397	30.502	ng		93
8) Bromomethane	4.13	94	408451	25.362	ng		89
9) Chloroethane	4.26	64	274776	27.673	ng		96
10) Ethanol	4.45	45	1333279	106.326	ng		99
11) Acetonitrile	4.58	41	698094	25.668	ng		90
12) Acrolein	4.66	56	529118	53.441	ng		96
13) Acetone	4.77	58	1426926	129.081	ng	#	86
14) Trichlorofluoromethane	4.87	101	916034	25.483	ng		89
15) 2-Propanol (Isopropanol)	5.00	45	2289121	55.340	ng		99
16) Acrylonitrile	5.14	53	1053836	56.747	ng		97
17) 1,1-Dichloroethene	5.37	96	432487	26.216	ng		85
18) 2-Methyl-2-Propanol (t...	5.47	59	2130801	54.265	ng		96
19) Methylene Chloride	5.49	84	428525	25.300	ng		96
20) 3-Chloro-1-propene (Al...	5.57	41	607082	27.023	ng		96
21) Trichlorotrifluoroethane	5.69	151	431179	24.849	ng		80
22) Carbon Disulfide	5.72	76	3144905	48.035	ng		99
23) trans-1,2-Dichloroethene	6.27	61	678507	28.047	ng		95
24) 1,1-Dichloroethane	6.45	63	787420	27.361	ng		99
25) Methyl tert-Butyl Ether	6.48	73	1050194	24.517	ng		96
26) Vinyl Acetate	6.58	86	351726	118.202	ng	#	72
27) 2-Butanone (MEK)	6.79	72	524873	50.531	ng		97
28) cis-1,2-Dichloroethene	7.21	61	627192	26.162	ng		96
29) Diisopropyl Ether	7.39	87	668667	51.482	ng	#	94
30) Ethyl Acetate	7.40	61	481669	75.896	ng		92
31) n-Hexane	7.40	57	635046	25.655	ng		94
32) Chloroform	7.49	83	845546	26.358	ng		99
34) Tetrahydrofuran (THF)	7.86	72	494014	49.683	ng	#	80
35) Ethyl tert-Butyl Ether	7.93	87	1048984	52.742	ng		94
36) 1,2-Dichloroethane	8.23	62	732240	29.831	ng		95
38) 1,1,1-Trichloroethane	8.51	97	801184	26.914	ng		95
39) Isopropyl Acetate	9.40	61	30048	No Calib			
40) 1-Butanol	8.90	56	9397	No Calib	#		
41) Benzene	9.01	78	1661771	25.999	ng		98
42) Carbon Tetrachloride	9.17	117	668602	25.519	ng		90
43) Cyclohexane	9.31	84	1140618	50.799	ng		85
44) tert-Amyl Methyl Ether	9.69	73	2588640	53.218	ng		97
45) 1,2-Dichloropropane	9.95	63	386702	30.039	ng		97
46) Bromodichloromethane	10.17	83	677425	27.258	ng		99
47) Trichloroethene	10.25	130	485216	24.129	ng		97
48) 1,4-Dioxane	10.21	88	334793	28.738	ng		69
49) 2,2,4-Trimethylpentane...	10.32	57	1603507	26.233	ng		97
50) Methyl Methacrylate	10.49	100	346694	51.674	ng	#	57

Data File : I:\MS13\DATA\2022 12\15\12152205.D Vial: 1
Acq On : 15 Dec 2022 2:50 Operator: TZ
Sample : LCS R13121522 5.0ng Inst : MS13
Misc : S35-11012201/S35-12092202 (1/8)

Quant Time: Dec 15 07:10:06 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

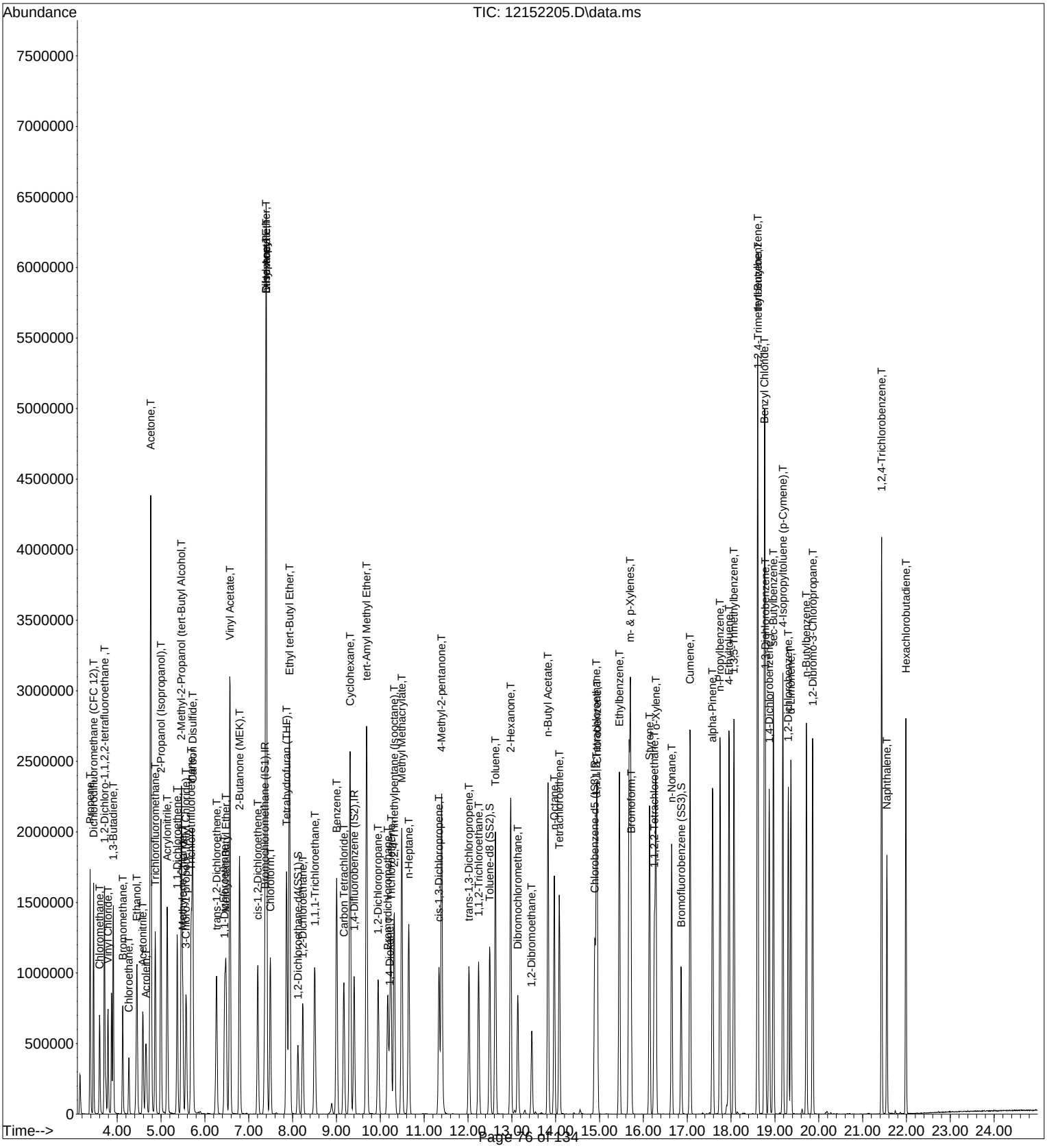
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.65	71	372097	25.985 ng		91
52) cis-1,3-Dichloropropene	11.34	75	694403	26.660 ng		95
53) 4-Methyl-2-pentanone	11.40	58	740335	57.587 ng		86
54) trans-1,3-Dichloropropene	12.02	75	682505	26.331 ng		96
55) 1,1,2-Trichloroethane	12.24	97	422462	24.866 ng		91
58) Toluene	12.62	91	1759344	23.159 ng		94
59) 2-Hexanone	12.97	43	1807868	53.525 ng		92
60) Dibromochloromethane	13.14	129	578843	23.759 ng		88
61) 1,2-Dibromoethane	13.45	107	502467	21.774 ng		90
62) n-Butyl Acetate	13.83	43	1986646	53.771 ng		97
63) n-Octane	13.97	57	326786	25.219 ng		93
64) Tetrachloroethene	14.08	166	550138	22.051 ng		96
65) Chlorobenzene	14.95	112	1137829	22.529 ng		93
66) Ethylbenzene	15.45	91	2064089	23.949 ng		99
67) m- & p-Xylenes	15.70	91	3437619	48.808 ng		97
68) Bromoform	15.72	173	534245	23.471 ng		99
69) Styrene	16.14	104	1212035	26.147 ng		100
70) o-Xylene	16.28	91	1702696	26.138 ng		94
71) n-Nonane	16.65	43	736989	32.033 ng		97
72) 1,1,2,2-Tetrachloroethane	16.25	83	713638	23.683 ng		92
74) Cumene	17.06	105	2058008	25.014 ng		93
75) alpha-Pinene	17.58	93	1054494	23.643 ng		98
76) n-Propylbenzene	17.75	91	2435391	28.120 ng		97
77) 3-Ethyltoluene	17.37	105	145	No Calib	#	
78) 4-Ethyltoluene	17.95	105	2003955	27.748 ng		100
79) 1,3,5-Trimethylbenzene	18.07	105	1790558	30.078 ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.37	105	145	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.61	105	1735276	31.308 ng		99
83) n-Decane	17.07	58	12988	No Calib		
84) Benzyl Chloride	18.76	91	3048623	53.637 ng		98
85) 1,3-Dichlorobenzene	18.78	146	1015596	25.931 ng		98
86) 1,4-Dichlorobenzene	18.87	146	1014414	26.121 ng		92
87) sec-Butylbenzene	18.96	105	2170405	28.778 ng		99
88) 4-Isopropyltoluene (p-...	19.18	119	1872850	27.162 ng		95
89) 1,2,3-Trimethylbenzene	17.37	105	145	No Calib	#	
90) 1,2-Dichlorobenzene	19.31	146	988218	26.178 ng		100
91) d-Limonene	19.36	68	539644	32.782 ng		94
92) 1,2-Dibromo-3-Chloropr...	19.86	157	766561	48.883 ng		97
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.43	180	1240810	51.025 ng		96
95) Naphthalene	21.55	128	1309918	25.034 ng		97
96) n-Dodecane	19.18	58	33870	No Calib	#	
97) Hexachlorobutadiene	21.99	225	517855	24.009 ng		96
98) Cyclohexanone	15.67	55	1135	No Calib	#	
99) tert-Butylbenzene	18.61	119	1655498	27.593 ng		98
100) n-Butylbenzene	19.72	91	1538952	28.721 ng		99
101) 1,1,1,2-Tetrachloroethane	14.92	131	467069	21.922 ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152205.D Vial: 1
Acq On : 15 Dec 2022 2:50 Operator: TZ
Sample : LCS R13121522 5.0ng Inst : MS13
Misc : S35-11012201/S35-12092202 (1/8)

Quant Time: Dec 15 07:10:06 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152206.D Vial: 1
Acq On : 15 Dec 2022 3:26 Operator: TZ
Sample : LCSD R13121522 5.0ng Inst : MS13
Misc : S35-11012201/S35-12092202 (1/8)

TZ 12/15/22

Quant Time: Dec 15 07:10:07 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.36	130	206639	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.40	114	910120	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.89	54	182514	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.12	65	402666	14.080	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.64%				
57) Toluene-d8 (SS2)	12.50	98	1010161	11.181	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.44%				
73) Bromofluorobenzene (SS3)	16.86	174	362565	11.248	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
Target Compounds							Qvalue
2) Propene	3.38	42	472153	25.449	ng		92
3) Dichlorodifluoromethan...	3.46	85	1059111	27.826	ng		98
4) Chloromethane	3.60	50	594779	31.049	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	486713	26.941	ng		95
6) Vinyl Chloride	3.79	62	595434	28.075	ng		96
7) 1,3-Butadiene	3.91	54	508457	31.220	ng		94
8) Bromomethane	4.13	94	413565	25.971	ng		88
9) Chloroethane	4.27	64	277098	28.224	ng		95
10) Ethanol	4.45	45	1381057	111.386	ng		99
11) Acetonitrile	4.59	41	715894	26.622	ng		88
12) Acrolein	4.66	56	541142	55.276	ng		96
13) Acetone	4.77	58	1465708	134.095	ng	#	87
14) Trichlorofluoromethane	4.87	101	948893	26.697	ng		91
15) 2-Propanol (Isopropanol)	5.00	45	2360077	57.704	ng		99
16) Acrylonitrile	5.14	53	1079127	58.769	ng		97
17) 1,1-Dichloroethene	5.37	96	452205	27.722	ng		88
18) 2-Methyl-2-Propanol (t...	5.47	59	2186071	56.304	ng		96
19) Methylene Chloride	5.49	84	440401	26.296	ng		95
20) 3-Chloro-1-propene (Al...	5.57	41	628945	28.314	ng		96
21) Trichlorotrifluoroethane	5.69	151	430085	25.067	ng	#	79
22) Carbon Disulfide	5.72	76	3208558	49.564	ng		99
23) trans-1,2-Dichloroethene	6.27	61	685108	28.642	ng		93
24) 1,1-Dichloroethane	6.45	63	795174	27.944	ng		99
25) Methyl tert-Butyl Ether	6.48	73	1070179	25.268	ng		97
26) Vinyl Acetate	6.57	86	353010	119.980	ng	#	66
27) 2-Butanone (MEK)	6.79	72	522796	50.902	ng		100
28) cis-1,2-Dichloroethene	7.21	61	634654	26.774	ng		96
29) Diisopropyl Ether	7.39	87	675757	52.618	ng		98
30) Ethyl Acetate	7.40	61	494040	78.729	ng		92
31) n-Hexane	7.40	57	647925	26.473	ng		94
32) Chloroform	7.49	83	859303	27.091	ng		99
34) Tetrahydrofuran (THF)	7.86	72	523235	53.220	ng	#	86
35) Ethyl tert-Butyl Ether	7.93	87	1069476	54.383	ng		95
36) 1,2-Dichloroethane	8.23	62	725110	29.876	ng		95
38) 1,1,1-Trichloroethane	8.50	97	834821	28.028	ng		95
39) Isopropyl Acetate	9.40	61	31401	No Calib		#	
40) 1-Butanol	8.90	56	9467	No Calib			
41) Benzene	9.01	78	1702968	26.629	ng		99
42) Carbon Tetrachloride	9.17	117	680513	25.959	ng		89
43) Cyclohexane	9.31	84	1140391	50.760	ng	#	83
44) tert-Amyl Methyl Ether	9.69	73	2623715	53.909	ng		96
45) 1,2-Dichloropropane	9.96	63	389550	30.244	ng		97
46) Bromodichloromethane	10.17	83	696361	28.004	ng		100
47) Trichloroethene	10.24	130	496809	24.692	ng		97
48) 1,4-Dioxane	10.21	88	342635	29.395	ng	#	67
49) 2,2,4-Trimethylpentane...	10.32	57	1613775	26.386	ng		97
50) Methyl Methacrylate	10.49	100	348983	51.987	ng	#	54

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152206.D Vial: 1
Acq On : 15 Dec 2022 3:26 Operator: TZ
Sample : LCSD R13121522 5.0ng Inst : MS13
Misc : S35-11012201/S35-12092202 (1/8)

Quant Time: Dec 15 07:10:07 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

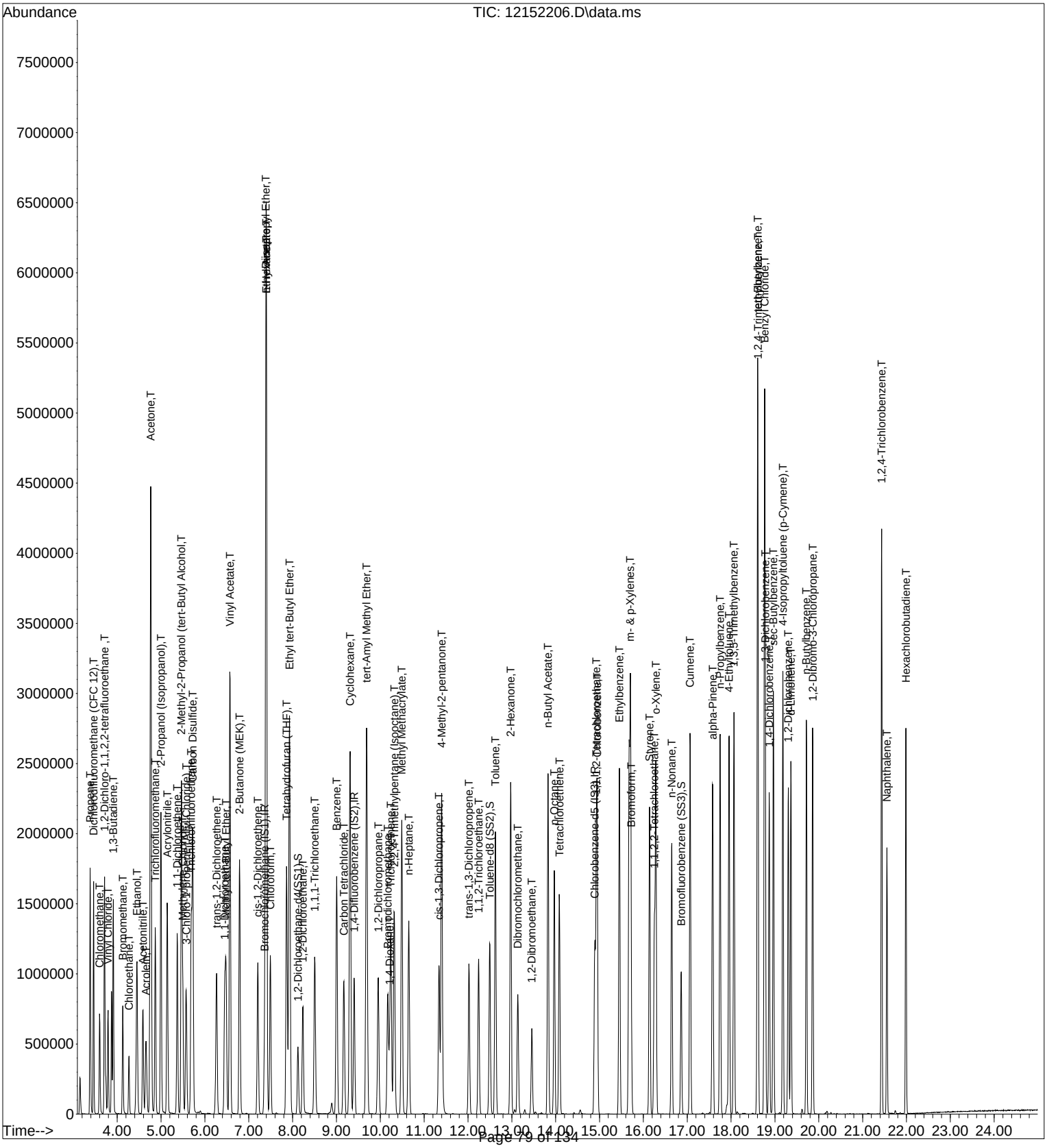
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.65	71	384821	26.859	ng		93
52) cis-1,3-Dichloropropene	11.34	75	710197	27.251	ng		95
53) 4-Methyl-2-pentanone	11.40	58	738607	57.421	ng		84
54) trans-1,3-Dichloropropene	12.02	75	685303	26.424	ng		96
55) 1,1,2-Trichloroethane	12.24	97	426794	25.107	ng		91
58) Toluene	12.62	91	1803168	22.996	ng		95
59) 2-Hexanone	12.97	43	1852819	53.144	ng		93
60) Dibromochloromethane	13.14	129	590711	23.489	ng		87
61) 1,2-Dibromoethane	13.46	107	508127	21.333	ng		90
62) n-Butyl Acetate	13.83	43	2044255	53.604	ng		97
63) n-Octane	13.97	57	333766	24.954	ng		93
64) Tetrachloroethene	14.09	166	564907	21.937	ng		96
65) Chlorobenzene	14.95	112	1156363	22.182	ng		92
66) Ethylbenzene	15.45	91	2096708	23.569	ng		99
67) m- & p-Xylenes	15.70	91	3497516	48.109	ng		97
68) Bromoform	15.72	173	540795	23.018	ng		97
69) Styrene	16.14	104	1240691	25.930	ng		99
70) o-Xylene	16.28	91	1738075	25.849	ng		95
71) n-Nonane	16.65	43	748700	31.527	ng		96
72) 1,1,2,2-Tetrachloroethane	16.25	83	735898	23.660	ng		93
74) Cumene	17.06	105	2100970	24.739	ng		93
75) alpha-Pinene	17.58	93	1083164	23.528	ng		98
76) n-Propylbenzene	17.75	91	2468420	27.612	ng		97
77) 3-Ethyltoluene	17.34	105	743	No Calib		#	
78) 4-Ethyltoluene	17.95	105	2036322	27.316	ng		100
79) 1,3,5-Trimethylbenzene	18.07	105	1799266	29.281	ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.34	105	743	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.61	105	1780175	31.116	ng		98
83) n-Decane	17.07	58	14134	No Calib			
84) Benzyl Chloride	18.77	91	3098863	52.820	ng		97
85) 1,3-Dichlorobenzene	18.78	146	1027307	25.412	ng		97
86) 1,4-Dichlorobenzene	18.87	146	1027158	25.624	ng		91
87) sec-Butylbenzene	18.96	105	2176384	27.957	ng		99
88) 4-Isopropyltoluene (p-...	19.18	119	1889224	26.545	ng		95
89) 1,2,3-Trimethylbenzene	17.34	105	743	No Calib		#	
90) 1,2-Dichlorobenzene	19.31	146	998329	25.621	ng		100
91) d-Limonene	19.36	68	537253	31.619	ng		93
92) 1,2-Dibromo-3-Chloropr...	19.86	157	778928	48.122	ng		98
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	21.43	180	1261075	50.240	ng		96
95) Naphthalene	21.55	128	1355778	25.102	ng		97
96) n-Dodecane	19.17	58	38818	No Calib		#	
97) Hexachlorobutadiene	21.99	225	528637	23.744	ng		97
98) Cyclohexanone	15.68	55	1402	No Calib		#	
99) tert-Butylbenzene	18.61	119	1664399	26.876	ng		98
100) n-Butylbenzene	19.72	91	1554225	28.101	ng		98
101) 1,1,1,2-Tetrachloroethane	14.92	131	472498	21.485	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152206.D Vial: 1
Acq On : 15 Dec 2022 3:26 Operator: TZ
Sample : LCSD R13121522 5.0ng Inst : MS13
Misc : S35-11012201/S35-12092202 (1/8)

Quant Time: Dec 15 07:10:07 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report MS13

Method Path : I:\MS13\METHODS\
Method File : R13120122.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Dec 02 10:23:09 2022
Response Via : Initial Calibration

TL 12/2/22

Calibration Files
0.1 =12012202.D 0.2 =12012203.D 0.5 =12012204.D 1.0 =12012205.D 5.0 =12012206.D 25 =12012207.D 50 =12012208.D
100 =12012209.D

	Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1) IR	Bromochloromethane...	----------ISTD----------									
2) T	Propene	1.513	1.249	1.175	1.011	1.024	0.956	1.027	1.023	1.122	16.51
3) T	Dichlorodifluo...	1.947	2.258	2.760	2.583	2.290	2.204	2.225	2.153	2.302	11.06
4) T	Chloromethane		1.096	1.367	1.349	1.019	1.146	0.976		1.159	14.27
5) T	1,2-Dichloro-1...	1.158	0.836	1.216	1.113	1.085	1.055	1.165	1.115	1.093	10.54
6) T	Vinyl Chloride	1.005	1.081	1.556	1.507	1.247	1.207	1.307	1.353	1.283	14.89
7) T	1,3-Butadiene	0.707	0.938	1.199	0.950	0.933	0.975	1.030	1.149	0.985	15.27
8) T	Bromomethane	0.755	0.961	1.225	1.082	0.901	0.919	0.946	0.917	0.963	14.35
9) T	Chloroethane		0.471	0.672	0.645	0.609	0.575	0.599	0.587	0.594	10.73
10) T	Ethanol	1.089	0.700	0.757	0.715	0.679	0.678	0.692	0.691	0.750	18.55
11) T	Acetonitrile	1.440	1.519	1.763	1.688	1.699	1.605	1.644	1.657	1.627	6.39
12) T	Acrolein	0.642	0.509	0.629	0.622	0.553	0.591	0.595	0.597	0.592	7.33
13) T	Acetone	0.749	0.733	0.710	0.654	0.613	0.609	0.612	0.610	0.661	9.09
14) T	Trichlorofluor...	2.149	2.184	2.513	2.247	2.050	1.997	2.057	2.004	2.150	7.97
15) T	2-Propanol (Is...			3.373	2.841	2.166	2.246	2.142	2.077	2.474	21.05
16) T	Acrylonitrile	1.096	0.716	1.131	1.256	1.164	1.159	1.186	1.180	1.111	14.94
17) T	1,1-Dichloroet...	1.194	0.830	0.912	1.115	0.930	0.973	0.981	0.959	0.987	11.74
18) T	2-Methyl-2-Pro...	2.258	2.851	3.181	2.843	1.977	2.034	1.297		2.349	27.71
19) T	Methylene Chlo...	1.000	1.050	1.188	1.005	0.976	0.962	0.967	0.957	1.013	7.60
20) T	3-Chloro-1-pro...	1.577	1.160	1.230	1.387	1.348	1.327	1.363	1.357	1.344	9.07
21) T	Trichlorotrifl...	0.707	1.173	1.329	1.103	1.046	0.997	1.001	0.946	1.038	17.39
22) T	Carbon Disulfide	4.737	4.209	4.148	3.880	3.615	3.550	3.616	3.573	3.916	10.78
23) T	trans-1,2-Dich...	1.367	1.186	1.605	1.645	1.463	1.415	1.458	1.437	1.447	9.78
24) T	1,1-Dichloroet...	1.537	1.722	2.042	1.945	1.652	1.621	1.646	1.606	1.721	10.30
25) T	Methyl tert-Bu...	3.254	2.992	3.542	3.055	2.419	2.217	1.761	1.255	2.562	30.79
26) T	Vinyl Acetate		0.147	0.202	0.170	0.189	0.189	0.184	0.165	0.178	10.48
27) T	2-Butanone (MEK)	0.616	0.760	0.682	0.593	0.588	0.585	0.588	0.558	0.621	10.79
28) T	cis-1,2-Dichlo...	1.318	1.499	1.797	1.516	1.303	1.329	1.363	1.347	1.434	11.69
29) T	Diisopropyl Ether	0.925	0.645	0.855	0.798	0.751	0.750	0.754	0.737	0.777	10.82
30) T	Ethyl Acetate	0.293	0.354	0.460	0.403	0.373	0.382	0.389	0.382	0.380	12.31
31) T	n-Hexane	1.778	1.321	1.714	1.503	1.399	1.372	1.382	1.376	1.481	11.65
32) T	Chloroform	1.873	1.726	2.274	2.072	1.873	1.834	1.865	1.833	1.919	9.01
33) S	1,2-Dichloroet...	1.722	1.748	1.728	1.719	1.746	1.742	1.723	1.711	1.730	0.79
34) T	Tetrahydrofura...	0.671	0.544	0.698	0.606	0.581	0.555	0.559	0.544	0.595	9.97
35) T	Ethyl tert-But...	1.031	1.071	1.364	1.351	1.174	1.177	1.189	1.159	1.190	9.89
36) T	1,2-Dichloroet...	0.948	1.553	1.759	1.563	1.499	1.480	1.494	1.450	1.468	15.73
37) IR	1,4-Difluorobenzen...	----------ISTD----------									
38) T	1,1,1-Trichlor...	0.341	0.467	0.467	0.404	0.411	0.392	0.404	0.387	0.409	10.24

39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	0.832	0.813	1.089	0.946	0.827	0.825	0.852	0.842	0.878	10.77
42)	T	Carbon Tetrach...	0.379	0.310	0.394	0.378	0.359	0.352	0.362	0.347	0.360	7.13
43)	T	Cyclohexane	0.243	0.349	0.372	0.348	0.292	0.289	0.295	0.281	0.309	14.02
44)	T	tert-Amyl Meth...	0.618	0.614	0.753	0.724	0.655	0.645	0.674	0.665	0.668	7.27
45)	T	1,2-Dichloropr...	0.132	0.102	0.222	0.197	0.194	0.185	0.194	0.190	0.177	22.33
46)	T	Bromodichlorom...	0.367	0.292	0.376	0.353	0.333	0.329	0.346	0.336	0.342	7.63
47)	T	Trichloroethene	0.296	0.267	0.332	0.271	0.264	0.256	0.264	0.260	0.276	9.24
48)	T	1,4-Dioxane	0.118	0.117	0.203	0.163	0.160	0.168	0.179	0.173	0.160	18.44
49)	T	2,2,4-Trimethy...	0.855	0.866	0.962	0.872	0.789	0.774	0.800	0.802	0.840	7.37
50)	T	Methyl Methacr...		0.071	0.104	0.098	0.093	0.093	0.094	0.093	0.092	11.14
51)	T	n-Heptane		0.160	0.227	0.222	0.197	0.186	0.193	0.191	0.197	11.49
52)	T	cis-1,3-Dichlo...	0.395	0.317	0.362	0.389	0.344	0.347	0.357	0.353	0.358	6.94
53)	T	4-Methyl-2-pen...		0.153	0.211	0.177	0.168	0.171	0.180	0.176	0.177	10.04
54)	T	trans-1,3-Dich...		0.341	0.348	0.362	0.343	0.358	0.375	0.366	0.356	3.53
55)	T	1,1,2-Trichlor...	0.205	0.211	0.283	0.279	0.226	0.215	0.228	0.222	0.233	13.02
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	6.317	6.230	6.135	6.276	6.216	5.962	6.400	5.964	6.187	2.56
58)	T	Toluene	5.071	5.558	5.853	5.456	5.365	5.054	5.430	5.175	5.370	5.01
59)	T	2-Hexanone		2.094	2.587	2.595	2.269	2.291	2.474	2.405	2.388	7.65
60)	T	Dibromochlorom...	1.450	1.511	1.933	1.906	1.750	1.697	1.814	1.717	1.722	9.97
61)	T	1,2-Dibromoethane	1.905	1.547	1.858	1.534	1.524	1.521	1.612	1.550	1.631	9.65
62)	T	n-Butyl Acetate	2.448	2.275	2.922	2.634	2.588	2.544	2.801	2.682	2.612	7.69
63)	T	n-Octane		1.096	0.877	0.853	0.829	0.888	0.953	0.917	0.916	9.73
64)	T	Tetrachloroethene	1.465	1.844	2.120	1.778	1.727	1.661	1.811	1.702	1.764	10.51
65)	T	Chlorobenzene	3.218	3.420	4.196	3.794	3.519	3.381	3.605	3.430	3.570	8.52
66)	T	Ethylbenzene	5.633	5.915	6.241	6.607	6.037	5.911	6.343	6.054	6.093	4.92
67)	T	m- & p-Xylenes	4.935	4.620	5.040	5.136	4.970	4.858	5.259	5.015	4.979	3.82
68)	T	Bromoform	1.527	1.505	1.724	1.637	1.536	1.582	1.731	1.631	1.609	5.41
69)	T	Styrene	2.981	2.451	2.904	3.133	3.390	3.629	3.947	3.781	3.277	15.34
70)	T	o-Xylene	3.933	4.166	4.617	4.650	4.713	4.701	5.179	4.881	4.605	8.50
71)	T	n-Nonane			1.268	1.400	1.269	1.787	2.029	2.005	1.626	21.97
72)	T	1,1,2,2-Tetrac...	1.993	2.052	2.070	2.464	2.195	2.022	2.168	2.077	2.130	7.09
73)	S	Bromofluoroben...	2.127	2.067	2.037	2.157	2.300	2.238	2.426	2.309	2.208	6.06
74)	T	Cumene	4.886	5.813	5.834	5.852	5.725	5.929	6.431	6.061	5.816	7.48
75)	T	alpha-Pinene	3.435	3.239	3.359	3.142	2.883	2.997	3.186	2.984	3.153	6.08
76)	T	n-Propylbenzene	5.298	5.317	5.787	5.403	5.540	6.884	7.516	7.235	6.122	15.20
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	4.309	4.678	4.788	4.567	4.673	5.639	6.184	6.005	5.106	14.15
79)	T	1,3,5-Trimethy...	3.944	3.257	3.503	3.462	3.753	5.019	5.463	5.266	4.208	21.23
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	3.439	2.824	3.140	3.299	3.155	4.763	5.412	5.313	3.918	27.09
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	2.788	3.019	4.001	3.944	4.038	4.511	4.999	4.843	4.018	19.74
85)	T	1,3-Dichlorobe...	2.103	2.499	2.680	2.637	2.647	3.084	3.349	3.150	2.769	14.56
86)	T	1,4-Dichlorobe...	2.087	2.085	2.867	2.518	2.625	3.084	3.428	3.269	2.745	18.50
87)	T	sec-Butylbenzene	4.468	4.576	5.152	4.655	4.466	6.000	6.694	6.642	5.332	18.18
88)	T	4-Isopropyltol...	5.003	4.541	4.588	4.089	3.751	5.188	5.906	5.930	4.874	16.20
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.795	2.380	2.253	2.314	2.408	2.878	3.225	3.095	2.669	14.16
91)	T	d-Limonene	1.155	0.947	1.040	0.933	0.861	1.292	1.530	1.551	1.164	23.16

92)	T	1,2-Dibromo-3-...	0.909	0.831	1.122	1.145	1.143	1.183	1.294	1.242	1.109	14.33
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	1.451	1.202	1.794	1.636	1.545	1.804	2.102	2.219	1.719	19.49
95)	T	Naphthalene		3.065	3.737	3.505	3.254	3.534	4.146	4.653	3.699	14.71
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.486	1.709	1.521	1.462	1.287	1.506	1.642	1.585	1.525	8.36
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	3.490	3.993	4.057	3.971	3.803	4.670	5.119	4.828	4.241	13.29
100)	T	n-Butylbenzene	3.458	3.492	3.460	3.575	2.920	3.851	4.656	4.892	3.788	17.51
101)	T	1,1,1,2-Tetrac...	1.223	1.962	1.703	1.483	1.436	1.390	1.469	1.385	1.506	15.08

(#) = Out of Range

R13120122.M Fri Dec 02 10:23:13 2022

Primary Source Standards Concentrations (Working & Initial Calibration)

TZ 12/2/22

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-11292206 | 200ng/L Std. ID: S35-11292202
20ng/L Std. ID: S35-11302202 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Freon-114	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Vinyl Chloride	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Ethanol	3.45	3450	690	138.0	69.0	13.80	3.45		0.345	0.690	1.725	3.45	17.25	86.25	172.5	345
Acetonitrile	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Acrolein	1.93	1930	386	77.2	38.6	7.72	1.93		0.193	0.386	0.965	1.93	9.65	48.25	96.5	193
Acetone	5.27	5270	1054	210.8	105.4	21.08	5.27		0.527	1.054	2.635	5.27	26.35	131.75	263.5	527
Trichlorofluoromethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isopropanol	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Acrylonitrile	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.13	2130	426	85.2	42.6	8.52	2.13		0.213	0.426	1.065	2.13	10.65	53.25	106.5	213
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl tert-Butyl Ether	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Vinyl Acetate	2.80	2800	560	112.0	56.0	11.20	2.80		0.280	0.560	1.400	2.80	14.00	70.00	140.0	280
2-Butanone	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.22	4220	844	168.8	84.4	16.88	4.22		0.422	0.844	2.110	4.22	21.10	105.50	211.0	422
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrahydrofuran	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Ethyl tert-Butyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Carbon Tetrachloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cyclohexane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
tert-Amyl Methyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Bromodichloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Trichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,4-Dioxane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isooctane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Methyl Methacrylate	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
n-Heptane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Dec-20

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S35-11292206**	**200ng/L Std. ID:**	**S35-11292202**
20ng/L Std. ID:	**S35-11302202**	**1000ng/L Std. ID:**	

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**20**	**20**	**20**	**200**	**200**	**200**
	Source Std.			**Primary Working Standards**				**Injection (L):**	**0.025**	**0.050**	**0.0250**	**0.050**	**0.25**	**0.125**	**0.25**	**0.50**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
4-Methyl-2-pentanone	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
trans-1,3-Dichloropropene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,1,2-Trichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Toluene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
2-Hexanone	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Dibromochloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
n-Octane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrachloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Ethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
m-&p-Xylene	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Nonane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cumene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
alpha-Pinene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Propylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
4-Ethyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2,4-Trimethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzyl Chloride	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,3-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,4-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
sec-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
p-Isopropyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromo-3-chloropropane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2,4-Trichlorobenzene	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Naphthalene	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
tert-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,1,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Page 18 of 18

Calibration Status Report MS13

Method : I:\MS13\METHODS\R13120122.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Dec 02 10:21:00 2022
Response via : Initial Calibration

TR 12/2/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS13\DATA\2022_12\01\12012202.D
2	0.2	0	13	I:\MS13\DATA\2022_12\01\12012203.D
3	0.5	1	13	I:\MS13\DATA\2022_12\01\12012204.D
4	1.0	1	13	I:\MS13\DATA\2022_12\01\12012205.D
5	5.0	5	13	I:\MS13\DATA\2022_12\01\12012206.D
6	25	26	13	I:\MS13\DATA\2022_12\01\12012207.D
7	50	53	13	I:\MS13\DATA\2022_12\01\12012208.D
8	100	105	13	I:\MS13\DATA\2022_12\01\12012209.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Dec 01 07:54 2022	Dec 01 07:53 2022	1 Dec 2022 1:03
2	0.2	Dec 01 07:35 2022	Dec 01 07:34 2022	1 Dec 2022 1:39
3	0.5	Dec 01 07:35 2022	Dec 01 07:34 2022	1 Dec 2022 2:15
4	1.0	Dec 01 07:35 2022	Dec 01 07:34 2022	1 Dec 2022 2:52
5	5.0	Dec 01 07:35 2022	Dec 01 07:34 2022	1 Dec 2022 3:28
6	25	Dec 02 10:21 2022	Dec 01 07:34 2022	1 Dec 2022 4:05
7	50	Dec 01 07:35 2022	Dec 01 07:34 2022	1 Dec 2022 4:41
8	100	Dec 01 09:24 2022	Dec 01 07:34 2022	1 Dec 2022 5:18

R13120122.M Fri Dec 02 10:21:04 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012202.D Vial: 13
Acq On : 1 Dec 2022 1:03 Operator: TZ
Sample : 0.1ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

TZ 12/2/22

Quant Time: Dec 01 07:53:39 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.32	130	166113	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.38	114	722999	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.89	54	124485	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.09	65	286094	12.397	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
57) Toluene-d8 (SS2)	12.48	98	786344	12.585	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
73) Bromofluorobenzene (SS3)	16.86	174	264804	11.390	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
Target Compounds							Qvalue
2) Propene	3.43	42	2111	0.150	ng	#	80
3) Dichlorodifluoromethan...	3.51	85	2742	0.088	ng	#	72
4) Chloromethane	3.51	50	469	0.032	ng	#	42
5) 1,2-Dichloro-1,1,2,2-t...	3.74	135	1601	0.105	ng		87
6) Vinyl Chloride	3.84	62	1349	0.079	ng	#	42
7) 1,3-Butadiene	3.96	54	996	0.069	ng	#	57
8) Bromomethane	4.15	94	1024	0.080	ng	#	64
9) Chloroethane	4.29	64	322	0.038	ng	#	42
10) Ethanol	4.41	45	4991	0.558	ng	#	62
11) Acetonitrile	4.57	41	1741	0.083	ng		85
12) Acrolein	4.66	56	1646	0.228	ng		78
13) Acetone	4.77	58	5245	0.612	ng		92
14) Trichlorofluoromethane	4.89	101	2970	0.108	ng		92
15) 2-Propanol (Isopropanol)	4.96	45	24610	0.706	ng		94
16) Acrylonitrile	5.11	53	2985	0.207	ng		98
17) 1,1-Dichloroethene	5.38	96	1714	0.131	ng	#	78
18) 2-Methyl-2-Propanol (t...	5.46	59	6332	0.200	ng		89
19) Methylene Chloride	5.45	84	1408	0.102	ng	#	67
20) 3-Chloro-1-propene (Al...	5.56	41	2222	0.124	ng	#	45
21) Trichlorotrifluoroethane	5.69	151	1015	0.073	ng	#	34
22) Carbon Disulfide	5.73	76	13409	0.257	ng		81
23) trans-1,2-Dichloroethene	6.25	61	1962	0.103	ng		82
24) 1,1-Dichloroethane	6.42	63	2186	0.094	ng		82
25) Methyl tert-Butyl Ether	6.50	73	4627m	0.123	ng		
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.77	72	1710	0.233	ng		97
28) cis-1,2-Dichloroethene	7.17	61	1856	0.098	ng		96
29) Diisopropyl Ether	7.40	87	2607	0.248	ng	#	54
30) Ethyl Acetate	7.38	61	1645	0.325	ng	#	75
31) n-Hexane	7.39	57	2481	0.129	ng	#	93
32) Chloroform	7.45	83	2638	0.104	ng		98
34) Tetrahydrofuran (THF)	7.87	72	1818	0.235	ng	#	87
35) Ethyl tert-Butyl Ether	7.92	87	2905	0.177	ng	#	74
36) 1,2-Dichloroethane	8.21	62	1361m	0.067	ng		
38) 1,1,1-Trichloroethane	8.47	97	2070	0.087	ng		78
39) Isopropyl Acetate	9.38	61	21479	No Calib			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.98	78	5152	0.101	ng		99
42) Carbon Tetrachloride	9.15	117	2281	0.102	ng		95
43) Cyclohexane	9.30	84	2949	0.161	ng	#	79
44) tert-Amyl Methyl Ether	9.69	73	7580	0.192	ng		79
45) 1,2-Dichloropropane	9.93	63	800	0.070	ng		90
46) Bromodichloromethane	10.16	83	2271	0.116	ng	#	63
47) Trichloroethene	10.21	130	1798m	0.117	ng		
48) 1,4-Dioxane	10.22	88	725	0.067	ng	#	65
49) 2,2,4-Trimethylpentane...	10.30	57	5344	0.112	ng		76
50) Methyl Methacrylate	10.50	100	312	0.059	ng	#	1

Data File : I:\MS13\DATA\2022 12\01\12012202.D Vial: 13
Acq On : 1 Dec 2022 1:03 Operator: TZ
Sample : 0.1ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

Quant Time: Dec 01 07:53:39 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

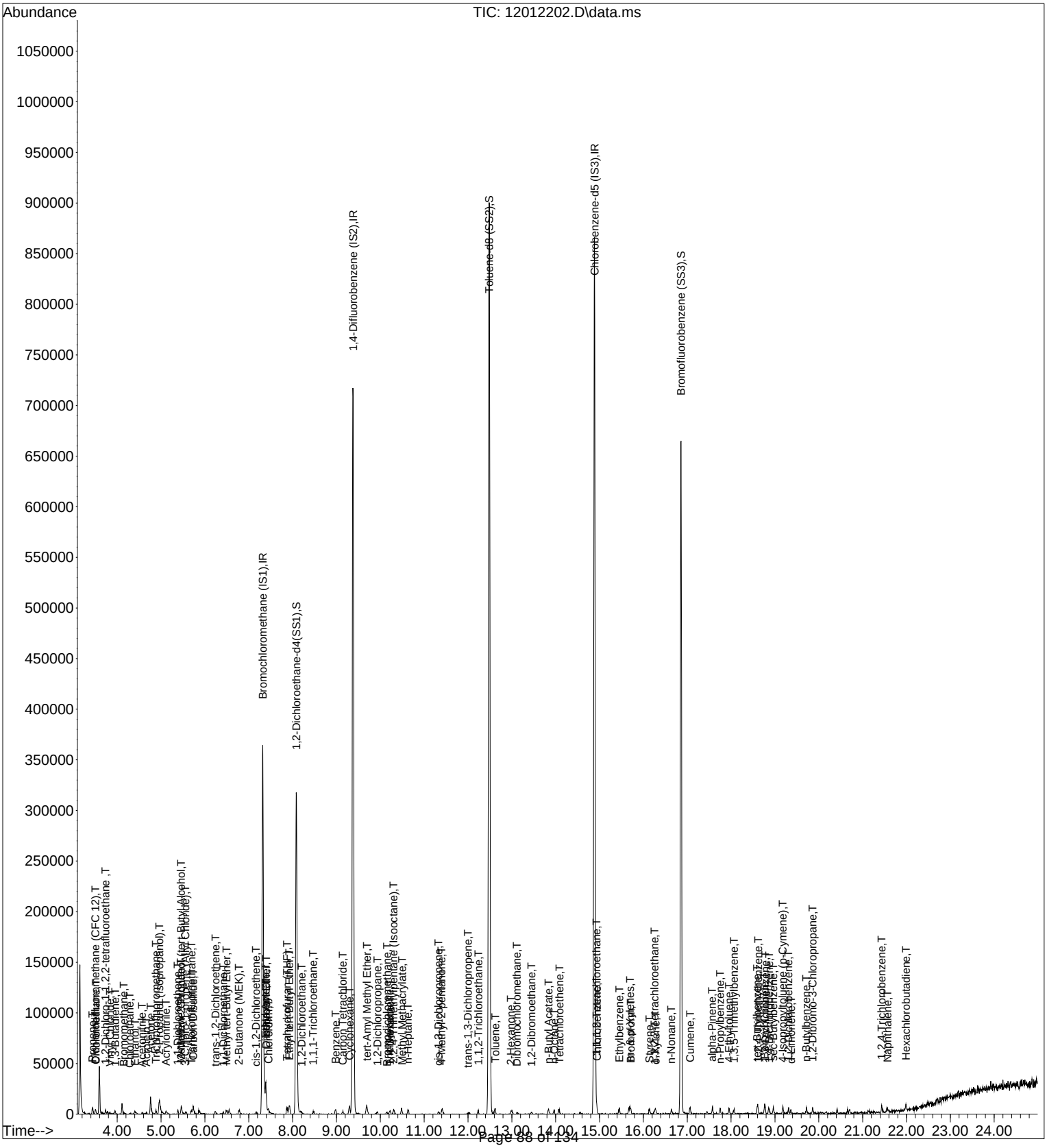
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.63	71	277	0.025 ng	#	1
52) cis-1,3-Dichloropropene	11.33	75	2466	0.125 ng	#	43
53) 4-Methyl-2-pentanone	11.40	58	592	0.057 ng	#	1
54) trans-1,3-Dichloropropene	12.00	75	983	0.049 ng	#	43
55) 1,1,2-Trichloroethane	12.24	97	1256	0.099 ng		92
58) Toluene	12.63	91	5303	0.096 ng		92
59) 2-Hexanone	12.98	43	2323	0.106 ng	#	47
60) Dibromochloromethane	13.11	129	1560	0.089 ng		88
61) 1,2-Dibromoethane	13.44	107	1973	0.125 ng		81
62) n-Butyl Acetate	13.84	43	4998	0.193 ng		96
63) n-Octane	13.97	57	436	0.047 ng	#	2
64) Tetrachloroethene	14.09	166	1547	0.085 ng		96
65) Chlorobenzene	14.94	112	3397	0.092 ng		91
66) Ethylbenzene	15.45	91	5890	0.097 ng		97
67) m- & p-Xylenes	15.70	91	10320m	0.215 ng		
68) Bromoform	15.72	173	1627	0.100 ng		99
69) Styrene	16.14	104	3147	0.093 ng	#	81
70) o-Xylene	16.28	91	4152	0.083 ng		82
71) n-Nonane	16.64	43	1600	0.074 ng	#	76
72) 1,1,2,2-Tetrachloroethane	16.26	83	2104	0.099 ng		81
74) Cumene	17.06	105	5206	0.084 ng		83
75) alpha-Pinene	17.57	93	3729	0.120 ng		65
76) n-Propylbenzene	17.75	91	5646	0.077 ng		88
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.95	105	4678	0.080 ng		94
79) 1,3,5-Trimethylbenzene	18.07	105	4163	0.075 ng		88
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.62	105	3596	0.068 ng		99
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.77	91	5886	0.153 ng		99
85) 1,3-Dichlorobenzene	18.78	146	2220	0.075 ng	#	61
86) 1,4-Dichlorobenzene	18.87	146	2203	0.077 ng	#	67
87) sec-Butylbenzene	18.96	105	4717	0.069 ng		83
88) 4-Isopropyltoluene (p-...	19.18	119	5281	0.085 ng		90
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	19.31	146	2978	0.100 ng		87
91) d-Limonene	19.37	68	1231	0.078 ng		92
92) 1,2-Dibromo-3-Chloropr...	19.86	157	1902	0.171 ng	#	71
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.43	180	3020	0.143 ng	#	72
95) Naphthalene	21.57	128	5431	0.111 ng	#	71
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.99	225	1569	0.079 ng		89
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.59	119	3684	0.071 ng	#	90
100) n-Butylbenzene	19.72	91	3685	0.073 ng	#	93
101) 1,1,1,2-Tetrachloroethane	14.93	131	1291	0.088 ng	#	74

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012202.D Vial: 13
Acq On : 1 Dec 2022 1:03 Operator: TZ
Sample : 0.1ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

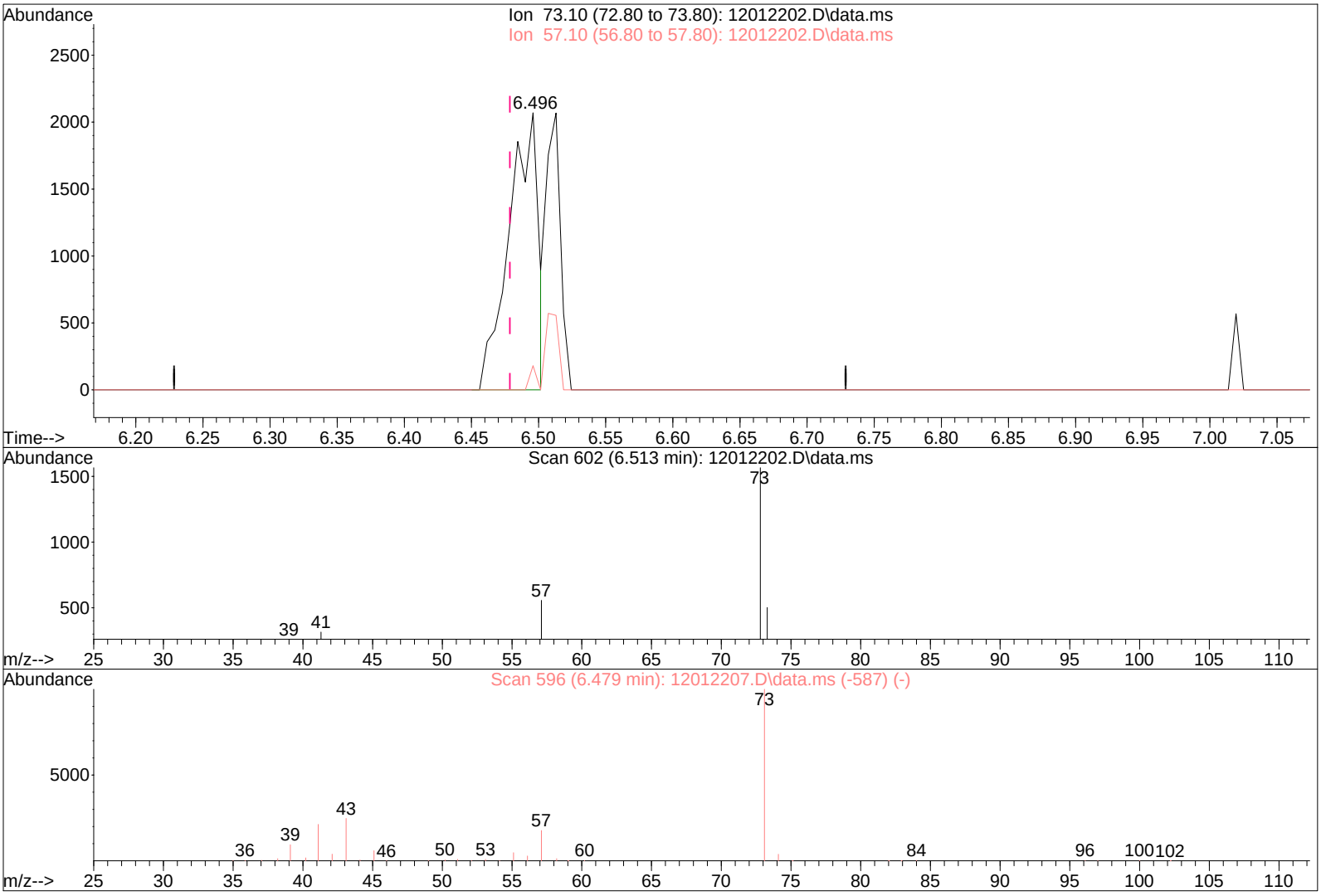
Quant Time: Dec 01 07:53:39 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 12\01\12012202.D Vial: 13
Acq On : 1 Dec 2022 1:03 Operator: TZ
Sample : 0.1ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

Quant Time: Dec 01 07:34:08 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 12012202.D\data.ms

(25) Methyl tert-Butyl Ether (T)

6.496min (+0.017) 0.08ng

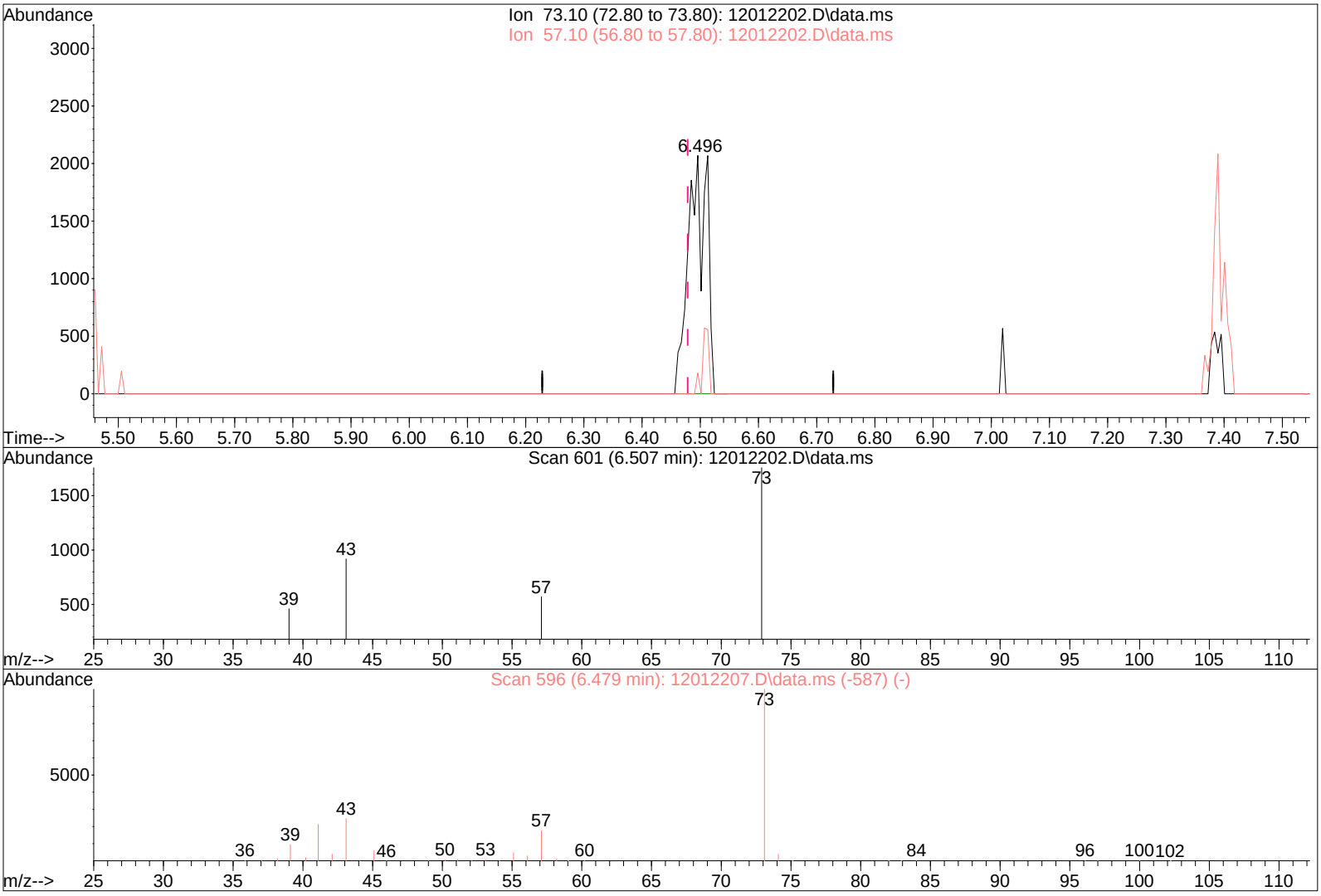
response 3126

Ion	Exp%	Act%
73.10	100	100
57.10	18.40	14.30
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 12\01\12012202.D Vial: 13
Acq On : 1 Dec 2022 1:03 Operator: TZ
Sample : 0.1ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

Quant Time: Dec 01 07:34:08 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 12012202.D\data.ms

(25) Methyl tert-Butyl Ether (T)

6.496min (+0.017) 0.12ng m

response 4627

Ion	Exp%	Act%
73.10	100	100
57.10	18.40	9.66
0.00	0.00	0.00
0.00	0.00	0.00

SP

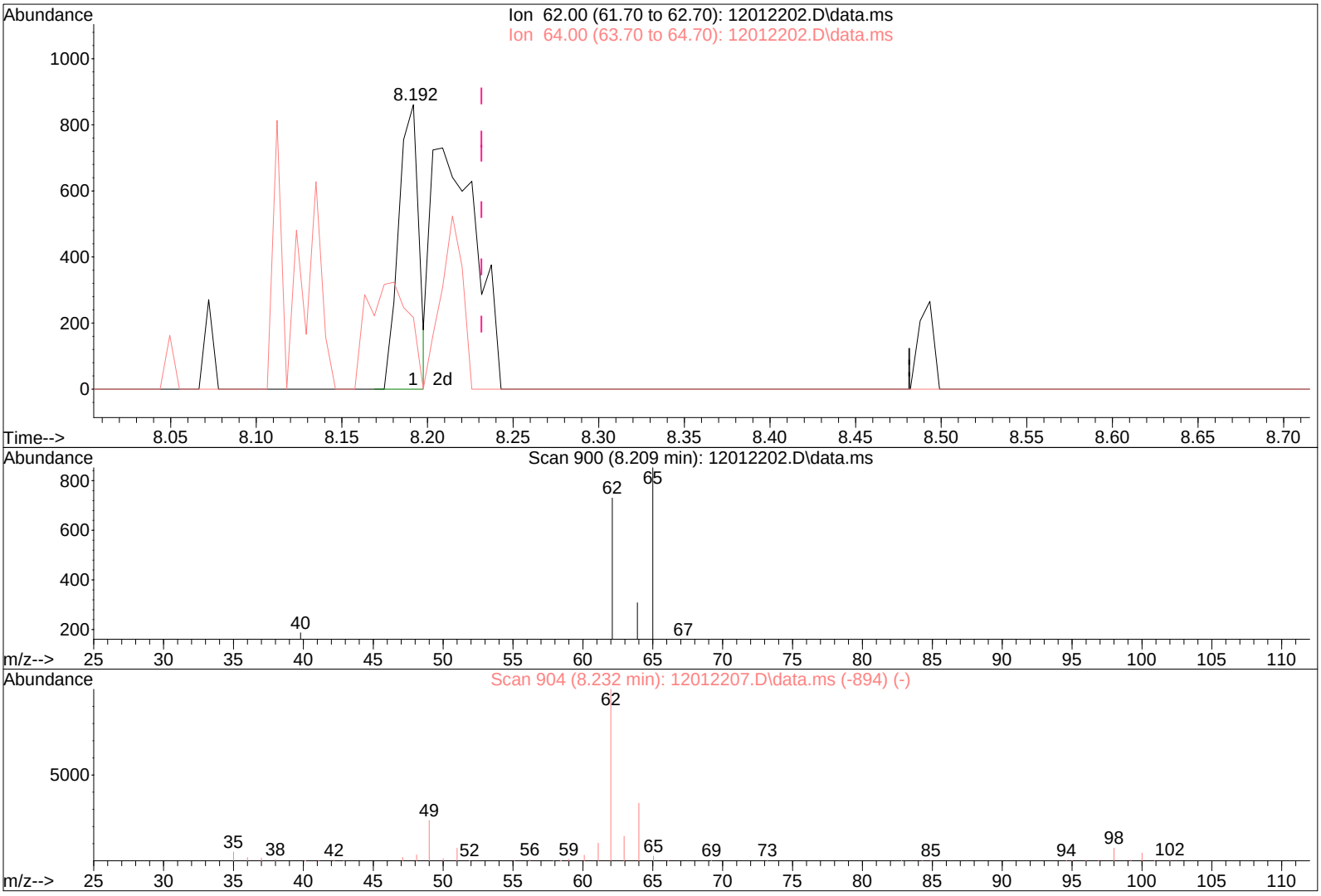
Tz 12/1/22

CG 12/5/22

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 12\01\12012202.D Vial: 13
Acq On : 1 Dec 2022 1:03 Operator: TZ
Sample : 0.1ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

Quant Time: Dec 01 07:44:36 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 12012202.D\data.ms

(36) 1,2-Dichloroethane (T)

8.192min (-0.040) 0.03ng

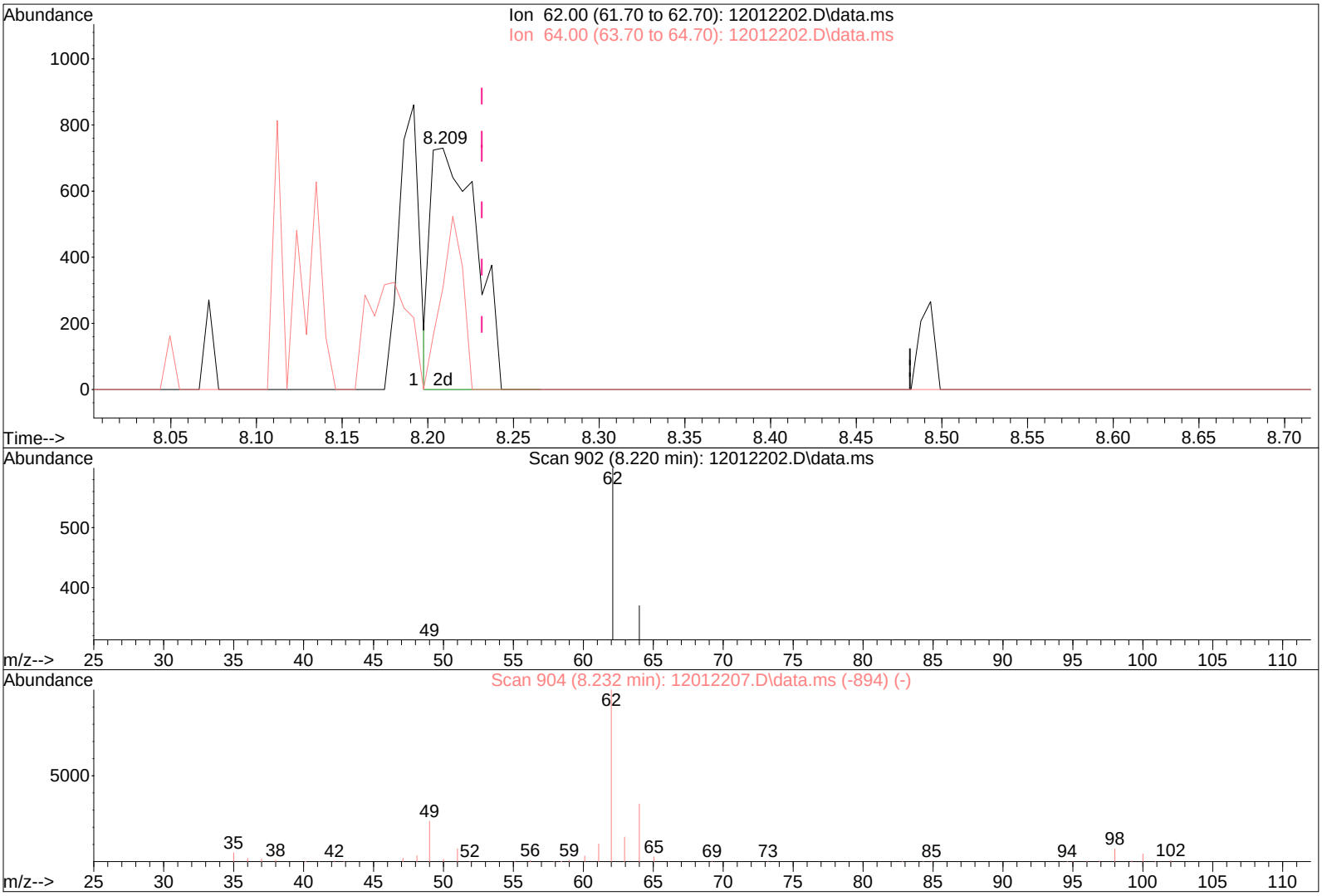
response 703

Ion	Exp%	Act%
62.00	100	100
64.00	32.70	78.38#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 12\01\12012202.D Vial: 13
Acq On : 1 Dec 2022 1:03 Operator: TZ
Sample : 0.1ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

Quant Time: Dec 01 07:44:36 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 12012202.D\data.ms

(36) 1,2-Dichloroethane (T)

8.209min (-0.023) 0.07ng m

response 1361

Ion	Exp%	Act%
62.00	100	100
64.00	32.70	40.48
0.00	0.00	0.00
0.00	0.00	0.00

WP

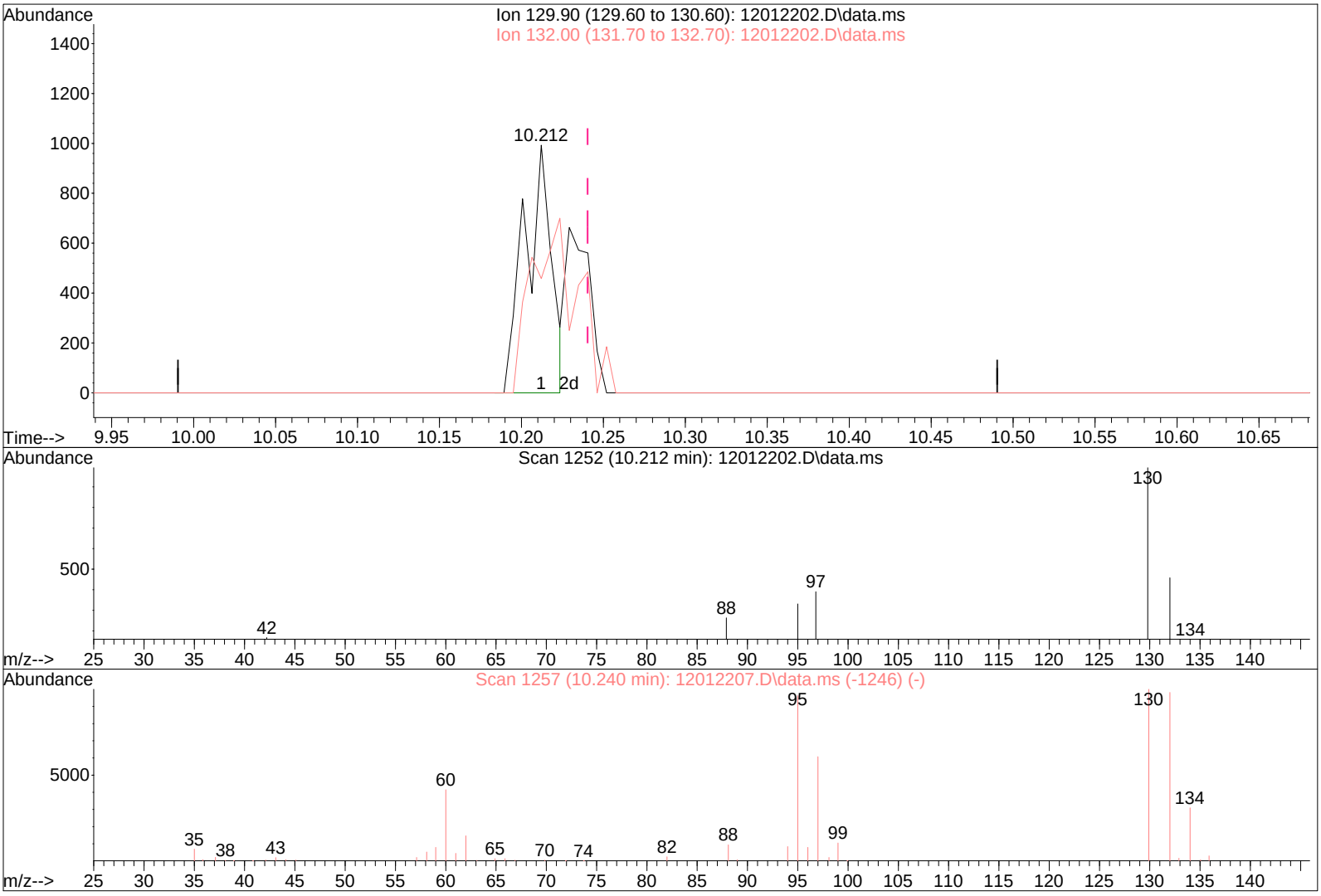
Tz 12/1/22

CG 12/5/22

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 12\01\12012202.D Vial: 13
Acq On : 1 Dec 2022 1:03 Operator: TZ
Sample : 0.1ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

Quant Time: Dec 01 07:48:02 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 12012202.D\data.ms

(47) Trichloroethene (T)

10.212min (-0.028) 0.07ng

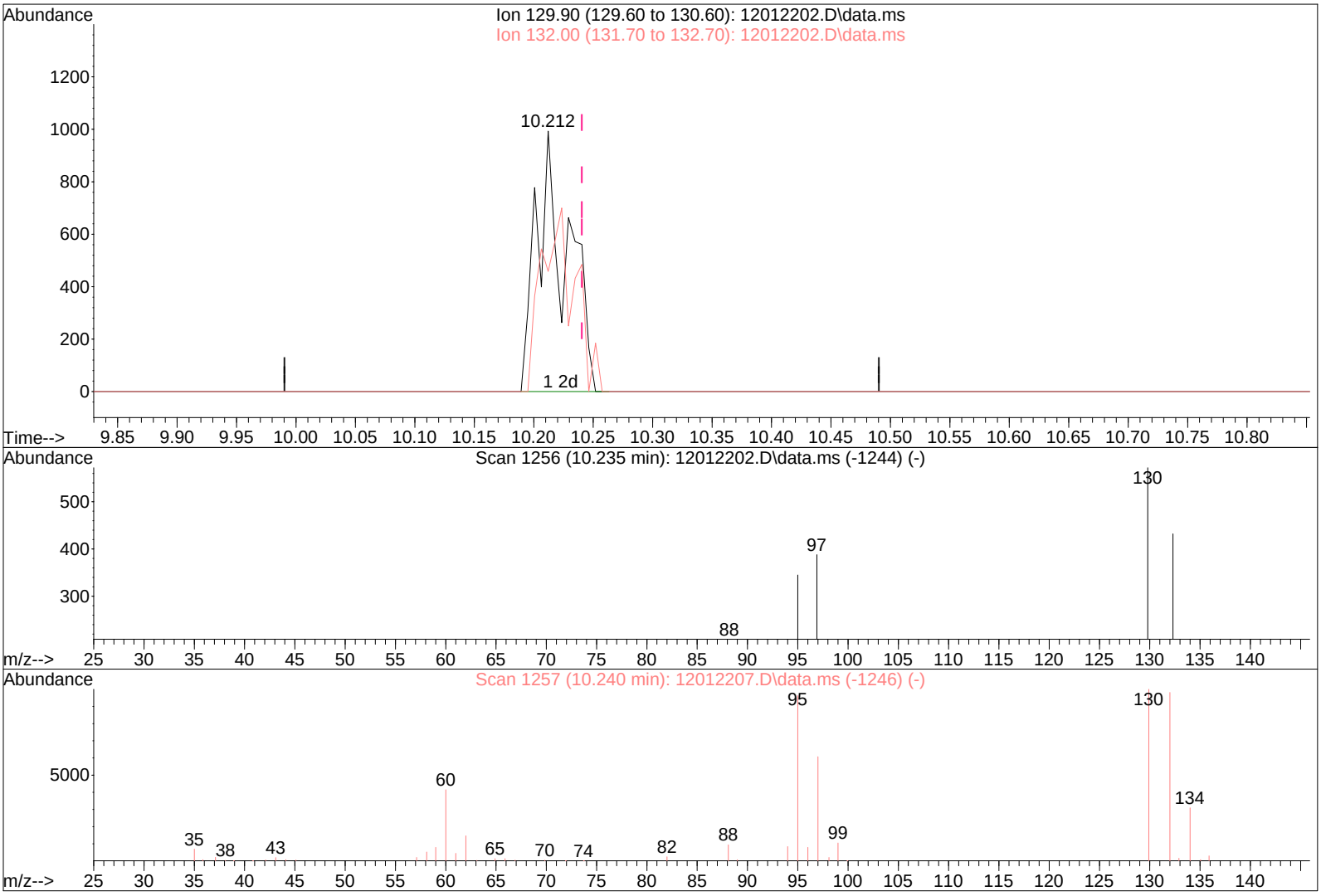
response 1128

Ion	Exp%	Act%
129.90	100	100
132.00	96.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 12\01\12012202.D Vial: 13
Acq On : 1 Dec 2022 1:03 Operator: TZ
Sample : 0.1ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

Quant Time: Dec 01 07:48:02 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 12012202.D\data.ms

(47) Trichloroethene (T)

10.212min (-0.028) 0.12ng m

response 1798

Ion	Exp%	Act%
129.90	100	100
132.00	96.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

SP

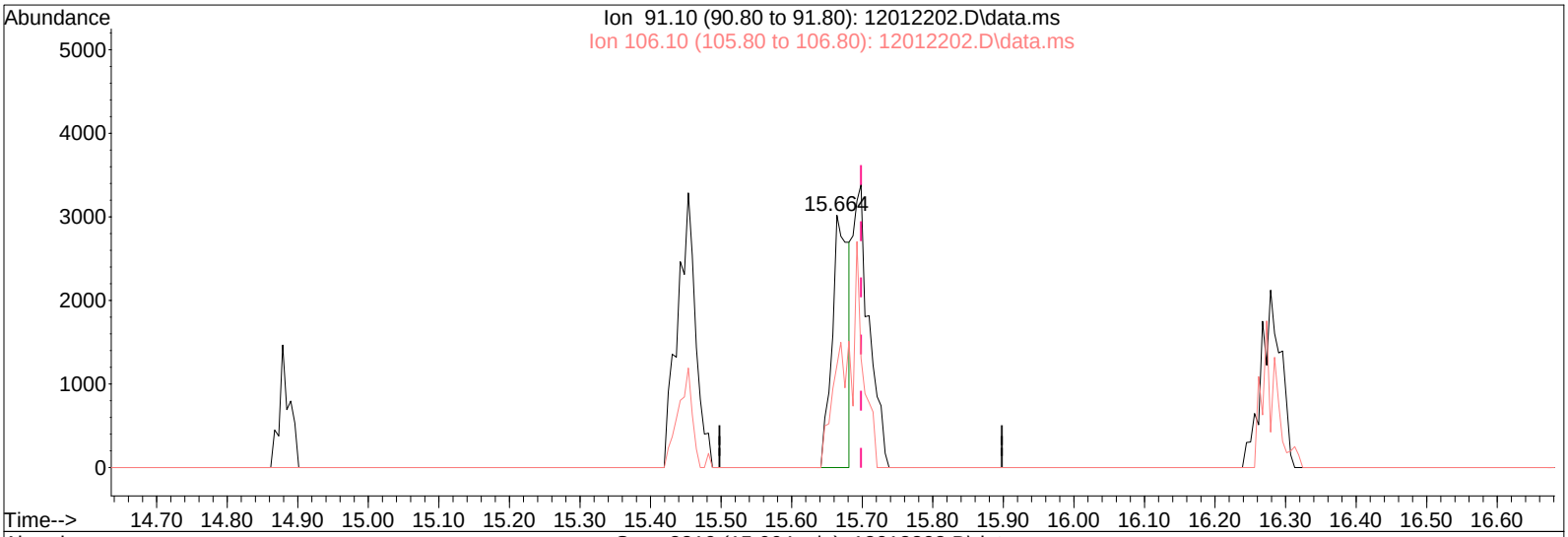
Tz 12/1/22

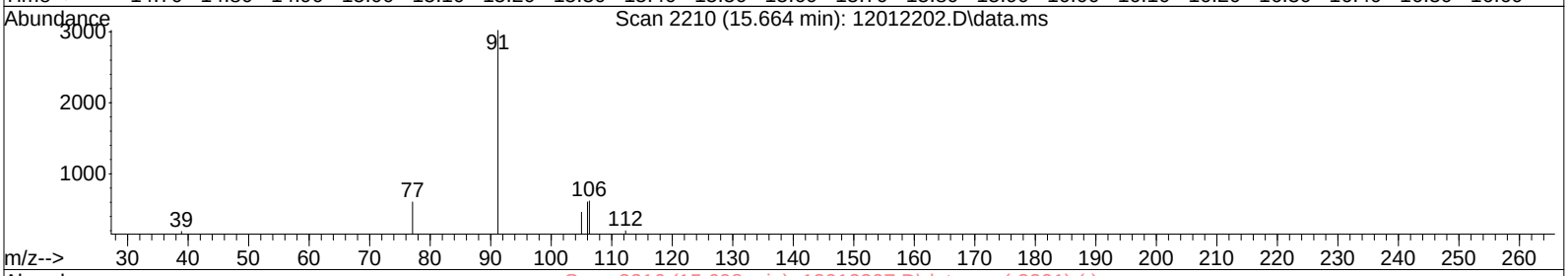
CG 12/5/22

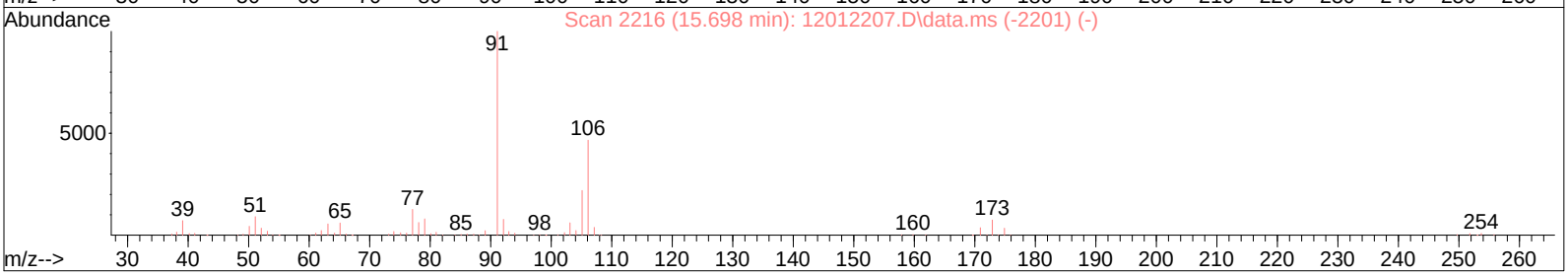
Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 12\01\12012202.D Vial: 13
Acq On : 1 Dec 2022 1:03 Operator: TZ
Sample : 0.1ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

Quant Time: Dec 01 07:50:01 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 12012202.D\data.ms

(67) m- & p-Xylenes (T)

15.664min (-0.034) 0.10ng

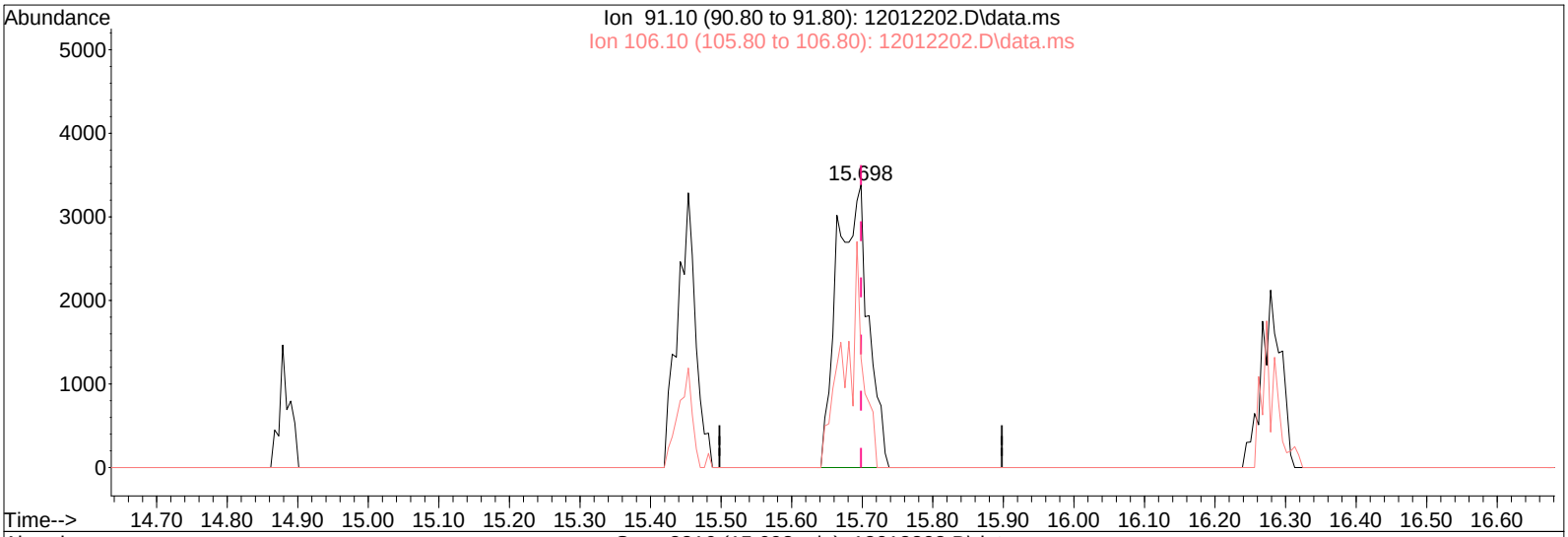
response 4870

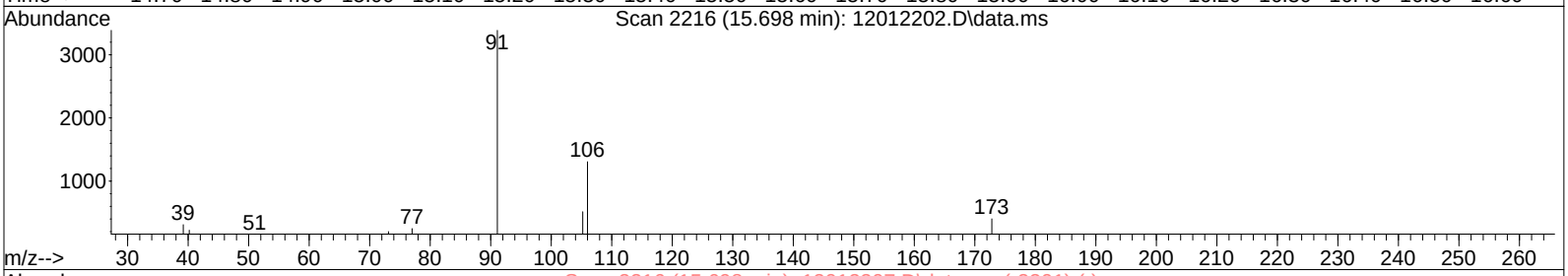
Ion	Exp%	Act%
91.10	100	100
106.10	46.40	39.57
0.00	0.00	0.00
0.00	0.00	0.00

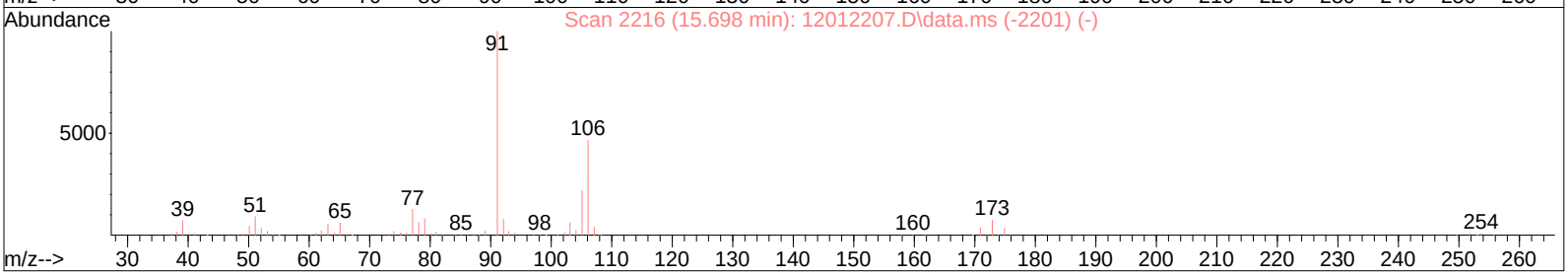
Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2022 12\01\12012202.D Vial: 13
Acq On : 1 Dec 2022 1:03 Operator: TZ
Sample : 0.1ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

Quant Time: Dec 01 07:50:01 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 12012202.D\data.ms

(67) m- & p-Xylenes (T)

15.698min (+0.000) 0.21ng m

response 10320

Ion	Exp%	Act%
91.10	100	100
106.10	46.40	18.67#
0.00	0.00	0.00
0.00	0.00	0.00

IC-

TZ 12/1/22

CG 12/5/22

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012203.D Vial: 13
Acq On : 1 Dec 2022 1:39 Operator: TZ
Sample : 0.2ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

TZ 12/2/22

Quant Time: Dec 01 07:34:10 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.32	130	162232	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.38	114	714630	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.88	54	126010	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.08	65	283553	12.581	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
57) Toluene-d8 (SS2)	12.48	98	785060	12.413	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	16.86	174	260470	11.068	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.56%				
Target Compounds							Qvalue
2) Propene	3.43	42	3405	0.248	ng		95
3) Dichlorodifluoromethan...	3.51	85	6214	0.204	ng	#	93
4) Chloromethane	3.64	50	2931	0.208	ng	#	62
5) 1,2-Dichloro-1,1,2,2-t...	3.75	135	2257	0.152	ng		88
6) Vinyl Chloride	3.83	62	2834	0.171	ng		88
7) 1,3-Butadiene	3.95	54	2581	0.184	ng	#	83
8) Bromomethane	4.16	94	2544	0.203	ng		85
9) Chloroethane	4.29	64	1260	0.153	ng		92
10) Ethanol	4.41	45	6270	0.718	ng		79
11) Acetonitrile	4.57	41	3588	0.175	ng		86
12) Acrolein	4.66	56	2550	0.362	ng		97
13) Acetone	4.76	58	10025	1.198	ng	#	71
14) Trichlorofluoromethane	4.89	101	5895	0.219	ng		92
15) 2-Propanol (Isopropanol)	4.96	45	25360	0.744	ng		96
16) Acrylonitrile	5.12	53	3811	0.270	ng	#	77
17) 1,1-Dichloroethene	5.38	96	2326	0.182	ng	#	61
18) 2-Methyl-2-Propanol (t...	5.45	59	15613	0.505	ng		96
19) Methylene Chloride	5.47	84	2888	0.214	ng		85
20) 3-Chloro-1-propene (Al...	5.57	41	3193	0.183	ng		93
21) Trichlorotrifluoroethane	5.69	151	3287	0.242	ng		86
22) Carbon Disulfide	5.74	76	23269	0.457	ng		94
23) trans-1,2-Dichloroethene	6.25	61	3326	0.179	ng		94
24) 1,1-Dichloroethane	6.42	63	4782	0.210	ng		71
25) Methyl tert-Butyl Ether	6.48	73	8310	0.226	ng		91
26) Vinyl Acetate	6.56	86	1067	0.441	ng	#	70
27) 2-Butanone (MEK)	6.77	72	4125	0.575	ng	#	67
28) cis-1,2-Dichloroethene	7.16	61	4124	0.223	ng	#	74
29) Diisopropyl Ether	7.38	87	3549	0.346	ng	#	77
30) Ethyl Acetate	7.39	61	3875	0.785	ng		98
31) n-Hexane	7.39	57	3600	0.192	ng	#	89
32) Chloroform	7.45	83	4749	0.192	ng		92
34) Tetrahydrofuran (THF)	7.87	72	2882	0.382	ng	#	53
35) Ethyl tert-Butyl Ether	7.92	87	5896	0.369	ng		91
36) 1,2-Dichloroethane	8.20	62	4354	0.218	ng		69
38) 1,1,1-Trichloroethane	8.48	97	5609	0.238	ng	#	53
39) Isopropyl Acetate	9.38	61	20292	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.98	78	9949	0.198	ng		93
42) Carbon Tetrachloride	9.15	117	3682	0.167	ng	#	63
43) Cyclohexane	9.29	84	8380	0.462	ng		93
44) tert-Amyl Methyl Ether	9.69	73	14894	0.381	ng		91
45) 1,2-Dichloropropane	9.92	63	1223	0.109	ng	#	70
46) Bromodichloromethane	10.16	83	3570	0.185	ng		96
47) Trichloroethene	10.21	130	3208	0.212	ng	#	77
48) 1,4-Dioxane	10.23	88	1413	0.132	ng		88
49) 2,2,4-Trimethylpentane...	10.31	57	10688	0.226	ng		79
50) Methyl Methacrylate	10.48	100	1713	0.329	ng	#	62

Data File : I:\MS13\DATA\2022 12\01\12012203.D Vial: 13
Acq On : 1 Dec 2022 1:39 Operator: TZ
Sample : 0.2ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

Quant Time: Dec 01 07:34:10 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

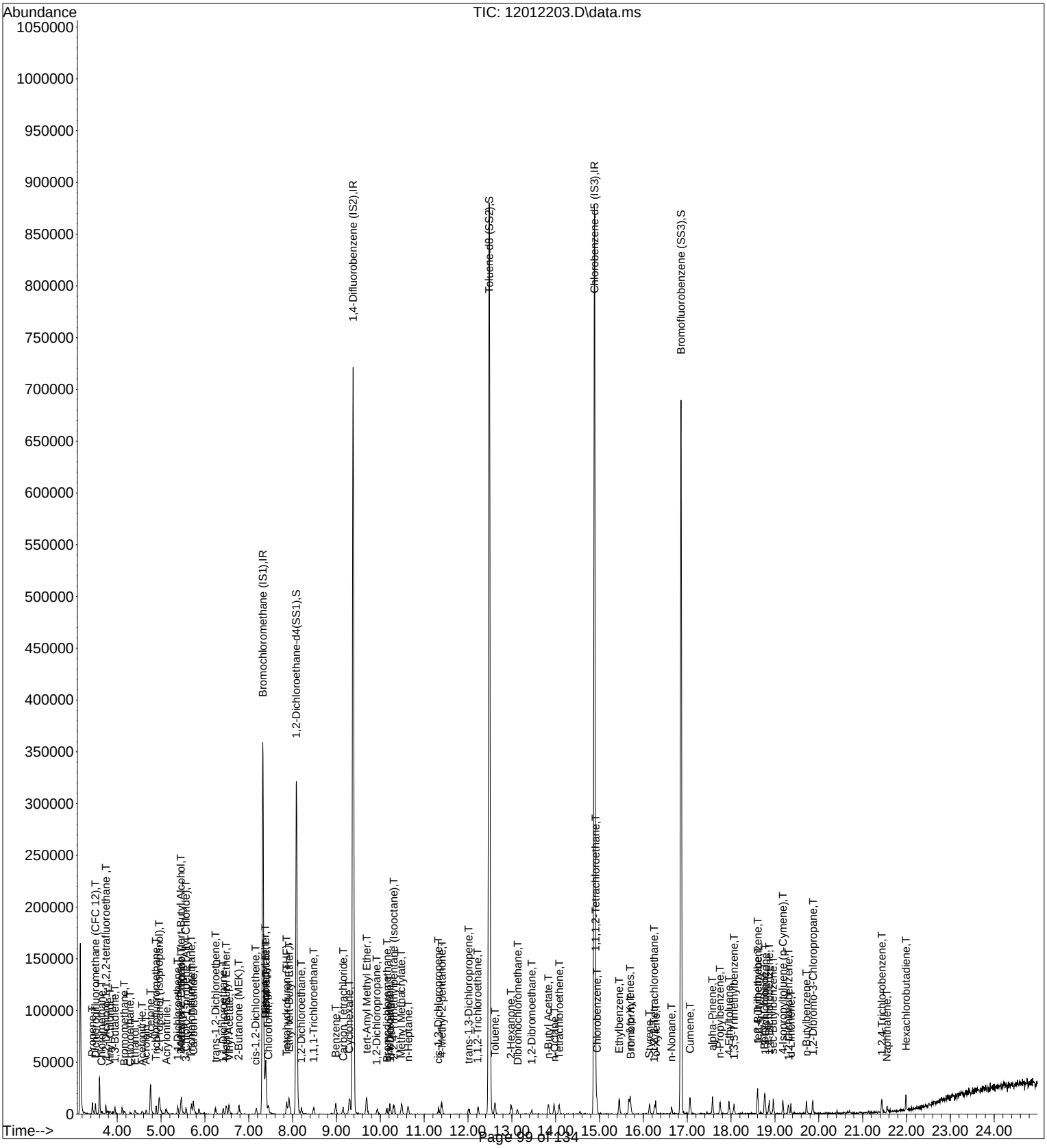
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.64	71	1942	0.176	ng	#	58
52) cis-1,3-Dichloropropene	11.32	75	3913	0.201	ng		81
53) 4-Methyl-2-pentanone	11.41	58	3754	0.366	ng		99
54) trans-1,3-Dichloropropene	12.02	75	3980	0.202	ng		98
55) 1,1,2-Trichloroethane	12.22	97	2555	0.205	ng		81
58) Toluene	12.61	91	11767	0.211	ng		92
59) 2-Hexanone	12.98	43	8951	0.404	ng		91
60) Dibromochloromethane	13.14	129	3290	0.186	ng		97
61) 1,2-Dibromoethane	13.46	107	3243	0.203	ng		98
62) n-Butyl Acetate	13.83	43	9404	0.359	ng		95
63) n-Octane	13.97	57	2364	0.253	ng	#	71
64) Tetrachloroethene	14.08	166	3941	0.213	ng		95
65) Chlorobenzene	14.94	112	7309	0.194	ng		85
66) Ethylbenzene	15.45	91	12522	0.204	ng		92
67) m- & p-Xylenes	15.70	91	19561	0.403	ng	#	68
68) Bromoform	15.72	173	3247	0.197	ng		85
69) Styrene	16.14	104	5238	0.153	ng		87
70) o-Xylene	16.28	91	8903	0.176	ng		98
71) n-Nonane	16.64	43	1838	0.084	ng	#	39
72) 1,1,2,2-Tetrachloroethane	16.24	83	4386	0.204	ng		97
74) Cumene	17.06	105	12540	0.199	ng		98
75) alpha-Pinene	17.58	93	7117	0.227	ng		89
76) n-Propylbenzene	17.75	91	11470	0.155	ng		92
77) 3-Ethyltoluene	0.00	105	0	N.D.			
78) 4-Ethyltoluene	17.95	105	10281	0.174	ng		91
79) 1,3,5-Trimethylbenzene	18.07	105	6960	0.123	ng		92
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	0.00	105	0	N.D.			
82) 1,2,4-Trimethylbenzene	18.61	105	5978	0.112	ng		97
83) n-Decane	0.00	58	0	N.D.			
84) Benzyl Chloride	18.76	91	12904	0.332	ng		94
85) 1,3-Dichlorobenzene	18.78	146	5341	0.179	ng	#	74
86) 1,4-Dichlorobenzene	18.87	146	4456	0.154	ng		82
87) sec-Butylbenzene	18.96	105	9779	0.141	ng		91
88) 4-Isopropyltoluene (p-...	19.18	119	9704	0.153	ng		97
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.			
90) 1,2-Dichlorobenzene	19.31	146	5135	0.170	ng		96
91) d-Limonene	19.36	68	2042	0.128	ng		86
92) 1,2-Dibromo-3-Chloropr...	19.87	157	3520	0.314	ng	#	61
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	21.44	180	5065	0.237	ng		98
95) Naphthalene	21.55	128	6797	0.138	ng		97
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	21.99	225	3652	0.181	ng		81
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.61	119	8534	0.162	ng		98
100) n-Butylbenzene	19.72	91	7533	0.148	ng		96
101) 1,1,1,2-Tetrachloroethane	14.91	131	4192	0.283	ng	#	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012203.D Vial: 13
Acq On : 1 Dec 2022 1:39 Operator: TZ
Sample : 0.2ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292206 (12/29)

Quant Time: Dec 01 07:34:10 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012204.D Vial: 14
Acq On : 1 Dec 2022 2:15 Operator: TZ
Sample : 0.5ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11302202 (12/30)

TZ 12/2/22

Quant Time: Dec 01 07:34:11 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.33	130	163644	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.38	114	695011	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.88	54	124288	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.09	65	282848	12.441	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
57) Toluene-d8 (SS2)	12.49	98	762550	12.224	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%				
73) Bromofluorobenzene (SS3)	16.86	174	253191	10.908	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.28%				
Target Compounds							Qvalue
2) Propene	3.42	42	8078	0.583	ng		91
3) Dichlorodifluoromethan...	3.50	85	19148	0.622	ng		97
4) Chloromethane	3.63	50	9214	0.647	ng		88
5) 1,2-Dichloro-1,1,2,2-t...	3.74	135	8279	0.552	ng		100
6) Vinyl Chloride	3.82	62	10287	0.615	ng		100
7) 1,3-Butadiene	3.93	54	8320	0.589	ng		93
8) Bromomethane	4.15	94	8176	0.648	ng		94
9) Chloroethane	4.29	64	4531	0.545	ng		89
10) Ethanol	4.40	45	17088	1.940	ng		94
11) Acetonitrile	4.56	41	10501	0.507	ng		94
12) Acrolein	4.66	56	7948	1.119	ng		86
13) Acetone	4.75	58	24478	2.900	ng		100
14) Trichlorofluoromethane	4.88	101	17107	0.631	ng		98
15) 2-Propanol (Isopropanol)	4.95	45	45256	1.317	ng		98
16) Acrylonitrile	5.10	53	15171	1.067	ng		91
17) 1,1-Dichloroethene	5.38	96	6449	0.502	ng	#	78
18) 2-Methyl-2-Propanol (t...	5.44	59	43941	1.408	ng		94
19) Methylene Chloride	5.46	84	8246	0.607	ng		98
20) 3-Chloro-1-propene (Al...	5.56	41	8533	0.484	ng		85
21) Trichlorotrifluoroethane	5.69	151	9397	0.687	ng		91
22) Carbon Disulfide	5.73	76	57836	1.127	ng		100
23) trans-1,2-Dichloroethene	6.25	61	11345	0.605	ng		99
24) 1,1-Dichloroethane	6.41	63	14299	0.622	ng		99
25) Methyl tert-Butyl Ether	6.48	73	24809	0.670	ng		95
26) Vinyl Acetate	6.55	86	3710	1.521	ng	#	94
27) 2-Butanone (MEK)	6.76	72	9336	1.290	ng		95
28) cis-1,2-Dichloroethene	7.16	61	12466	0.669	ng		83
29) Diisopropyl Ether	7.38	87	11860	1.147	ng		96
30) Ethyl Acetate	7.38	61	12706	2.551	ng		92
31) n-Hexane	7.40	57	11778	0.621	ng	#	88
32) Chloroform	7.45	83	15781	0.633	ng		96
34) Tetrahydrofuran (THF)	7.86	72	9315	1.224	ng		95
35) Ethyl tert-Butyl Ether	7.92	87	18927	1.174	ng		94
36) 1,2-Dichloroethane	8.20	62	12438	0.619	ng		100
38) 1,1,1-Trichloroethane	8.48	97	13640	0.594	ng		93
39) Isopropyl Acetate	9.38	61	20505	No Calib			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.98	78	32386	0.663	ng		96
42) Carbon Tetrachloride	9.15	117	11397	0.533	ng		93
43) Cyclohexane	9.30	84	21714	1.231	ng		98
44) tert-Amyl Methyl Ether	9.68	73	44408	1.167	ng		97
45) 1,2-Dichloropropane	9.94	63	6480	0.592	ng		86
46) Bromodichloromethane	10.16	83	11194	0.597	ng		92
47) Trichloroethene	10.22	130	9689	0.658	ng		99
48) 1,4-Dioxane	10.21	88	5996	0.575	ng	#	58
49) 2,2,4-Trimethylpentane...	10.30	57	28881	0.629	ng		98
50) Methyl Methacrylate	10.47	100	6107	1.206	ng		99

Data File : I:\MS13\DATA\2022 12\01\12012204.D Vial: 14
Acq On : 1 Dec 2022 2:15 Operator: TZ
Sample : 0.5ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11302202 (12/30)

Quant Time: Dec 01 07:34:11 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

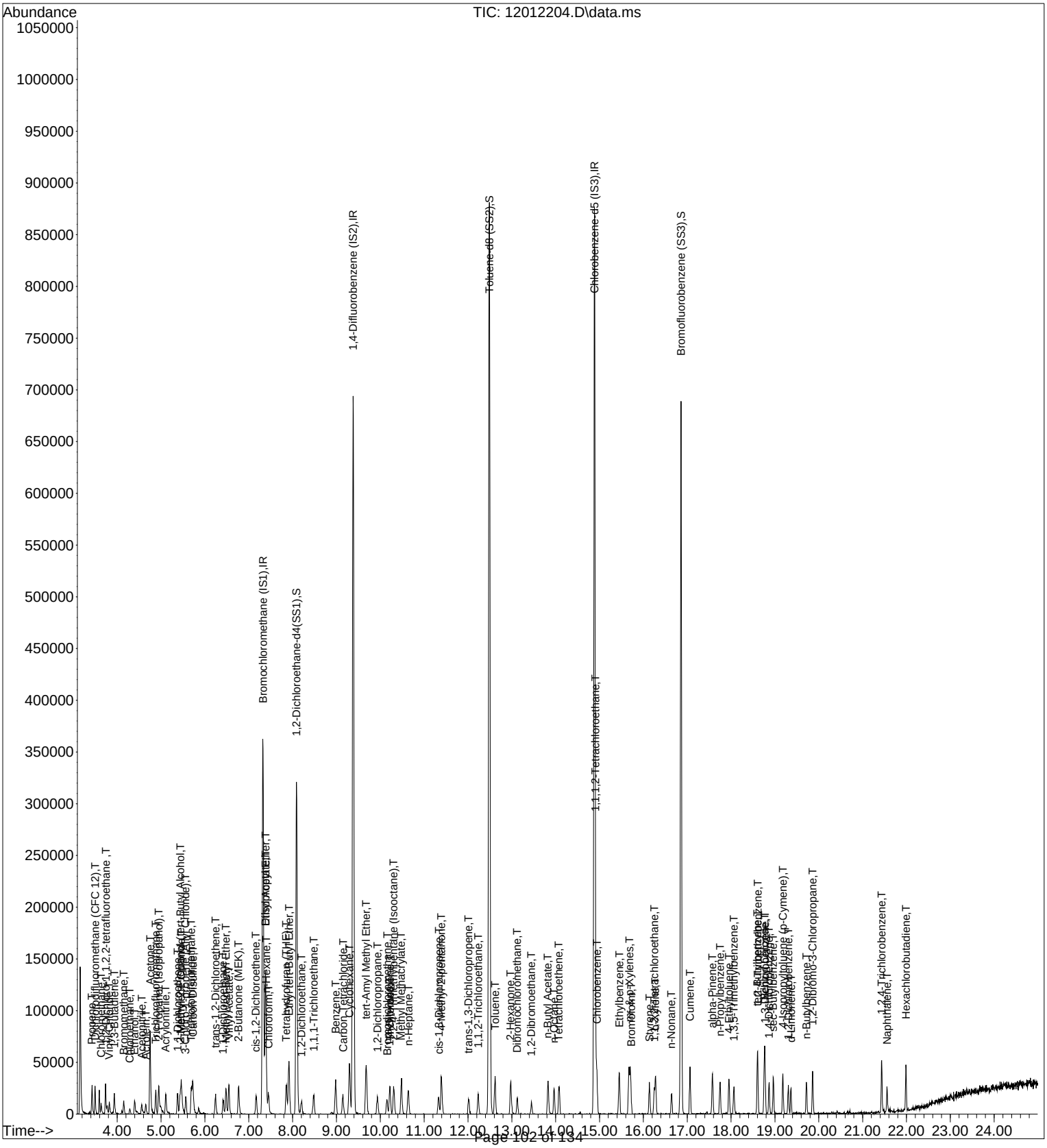
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.64	71	6693	0.625 ng		93
52) cis-1,3-Dichloropropene	11.34	75	10859	0.573 ng		81
53) 4-Methyl-2-pentanone	11.39	58	12630	1.266 ng		84
54) trans-1,3-Dichloropropene	12.01	75	9875	0.516 ng		83
55) 1,1,2-Trichloroethane	12.23	97	8344	0.687 ng		86
58) Toluene	12.62	91	30555	0.555 ng		99
59) 2-Hexanone	12.97	43	27271	1.249 ng		99
60) Dibromochloromethane	13.12	129	10377	0.594 ng		96
61) 1,2-Dibromoethane	13.44	107	9606	0.609 ng		94
62) n-Butyl Acetate	13.82	43	29782	1.152 ng		99
63) n-Octane	13.96	57	4664	0.507 ng	#	85
64) Tetrachloroethene	14.07	166	11172	0.612 ng		93
65) Chlorobenzene	14.94	112	22113	0.597 ng		95
66) Ethylbenzene	15.45	91	32581	0.538 ng		89
67) m- & p-Xylenes	15.68	91	52615	1.098 ng		96
68) Bromoform	15.72	173	9169	0.565 ng		100
69) Styrene	16.14	104	15306	0.454 ng		91
70) o-Xylene	16.27	91	24331	0.487 ng		95
71) n-Nonane	16.64	43	6684	0.311 ng		90
72) 1,1,2,2-Tetrachloroethane	16.25	83	10911	0.514 ng		85
74) Cumene	17.06	105	31036	0.499 ng		100
75) alpha-Pinene	17.58	93	18204	0.589 ng		96
76) n-Propylbenzene	17.75	91	30782	0.421 ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.95	105	25945	0.445 ng		94
79) 1,3,5-Trimethylbenzene	18.07	105	18460	0.332 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.61	105	16391	0.311 ng		99
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.77	91	42169	1.100 ng		99
85) 1,3-Dichlorobenzene	18.78	146	14123	0.479 ng		93
86) 1,4-Dichlorobenzene	18.86	146	15106	0.530 ng		92
87) sec-Butylbenzene	18.96	105	27152	0.397 ng		97
88) 4-Isopropyltoluene (p-...	19.18	119	24180	0.388 ng		95
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	19.31	146	11987	0.403 ng		99
91) d-Limonene	19.37	68	5531	0.351 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.86	157	11716	1.058 ng		88
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.43	180	18645	0.883 ng		98
95) Naphthalene	21.56	128	20439	0.420 ng		94
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.99	225	8018	0.402 ng		89
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.60	119	21378	0.412 ng		100
100) n-Butylbenzene	19.72	91	18403	0.366 ng		97
101) 1,1,1,2-Tetrachloroethane	14.91	131	8972	0.614 ng		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012204.D Vial: 14
Acq On : 1 Dec 2022 2:15 Operator: TZ
Sample : 0.5ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11302202 (12/30)

Quant Time: Dec 01 07:34:11 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012205.D Vial: 14
Acq On : 1 Dec 2022 2:52 Operator: TZ
Sample : 1.0ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11302202 (12/30)

TZ 12/2/22

Quant Time: Dec 01 07:34:14 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.32	130	164727	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.38	114	712119	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.88	54	123426	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.09	65	283235	12.376	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
57) Toluene-d8 (SS2)	12.48	98	774589	12.503	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	16.86	174	266272	11.551	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
Target Compounds							Qvalue
2) Propene	3.41	42	13992	1.004	ng		98
3) Dichlorodifluoromethan...	3.48	85	36076	1.164	ng		96
4) Chloromethane	3.62	50	18316	1.279	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	15248	1.011	ng		98
6) Vinyl Chloride	3.80	62	20061	1.191	ng		92
7) 1,3-Butadiene	3.92	54	13277	0.934	ng		86
8) Bromomethane	4.13	94	14542	1.145	ng		98
9) Chloroethane	4.28	64	8753	1.045	ng		89
10) Ethanol	4.39	45	32517	3.668	ng		98
11) Acetonitrile	4.56	41	20241	0.970	ng		90
12) Acrolein	4.63	56	15815	2.213	ng		92
13) Acetone	4.73	58	45397	5.343	ng		98
14) Trichlorofluoromethane	4.87	101	30798	1.129	ng		92
15) 2-Propanol (Isopropanol)	4.94	45	76743	2.219	ng		98
16) Acrylonitrile	5.10	53	33926	2.371	ng		98
17) 1,1-Dichloroethene	5.36	96	15868	1.226	ng		88
18) 2-Methyl-2-Propanol (t...	5.41	59	79042	2.516	ng		96
19) Methylene Chloride	5.45	84	14036	1.026	ng		93
20) 3-Chloro-1-propene (Al...	5.56	41	19371	1.091	ng		96
21) Trichlorotrifluoroethane	5.68	151	15692	1.140	ng		96
22) Carbon Disulfide	5.70	76	108907	2.108	ng		97
23) trans-1,2-Dichloroethene	6.23	61	23418	1.241	ng		96
24) 1,1-Dichloroethane	6.41	63	27421	1.185	ng		96
25) Methyl tert-Butyl Ether	6.47	73	43079	1.156	ng		99
26) Vinyl Acetate	6.54	86	6268	2.553	ng	#	69
27) 2-Butanone (MEK)	6.76	72	16323	2.240	ng	#	91
28) cis-1,2-Dichloroethene	7.16	61	21179	1.130	ng		97
29) Diisopropyl Ether	7.37	87	22294	2.141	ng		97
30) Ethyl Acetate	7.38	61	22439	4.475	ng		94
31) n-Hexane	7.39	57	20803	1.090	ng		94
32) Chloroform	7.45	83	28950	1.153	ng		98
34) Tetrahydrofuran (THF)	7.84	72	16296	2.127	ng		94
35) Ethyl tert-Butyl Ether	7.91	87	37754	2.326	ng	#	87
36) 1,2-Dichloroethane	8.19	62	22239	1.099	ng		98
38) 1,1,1-Trichloroethane	8.48	97	24151	1.027	ng		95
39) Isopropyl Acetate	9.38	61	20043	No Calib			
40) 1-Butanol	8.90	56	326	No Calib		#	
41) Benzene	8.98	78	57655	1.153	ng		95
42) Carbon Tetrachloride	9.14	117	22369	1.020	ng		98
43) Cyclohexane	9.30	84	41594	2.301	ng		93
44) tert-Amyl Methyl Ether	9.68	73	87416	2.243	ng		99
45) 1,2-Dichloropropane	9.93	63	11780	1.050	ng		96
46) Bromodichloromethane	10.15	83	21509	1.120	ng		100
47) Trichloroethene	10.22	130	16230	1.076	ng		95
48) 1,4-Dioxane	10.19	88	9837	0.920	ng		98
49) 2,2,4-Trimethylpentane...	10.31	57	53681	1.140	ng		100
50) Methyl Methacrylate	10.49	100	11831	2.280	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012205.D Vial: 14
Acq On : 1 Dec 2022 2:52 Operator: TZ
Sample : 1.0ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11302202 (12/30)

Quant Time: Dec 01 07:34:14 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

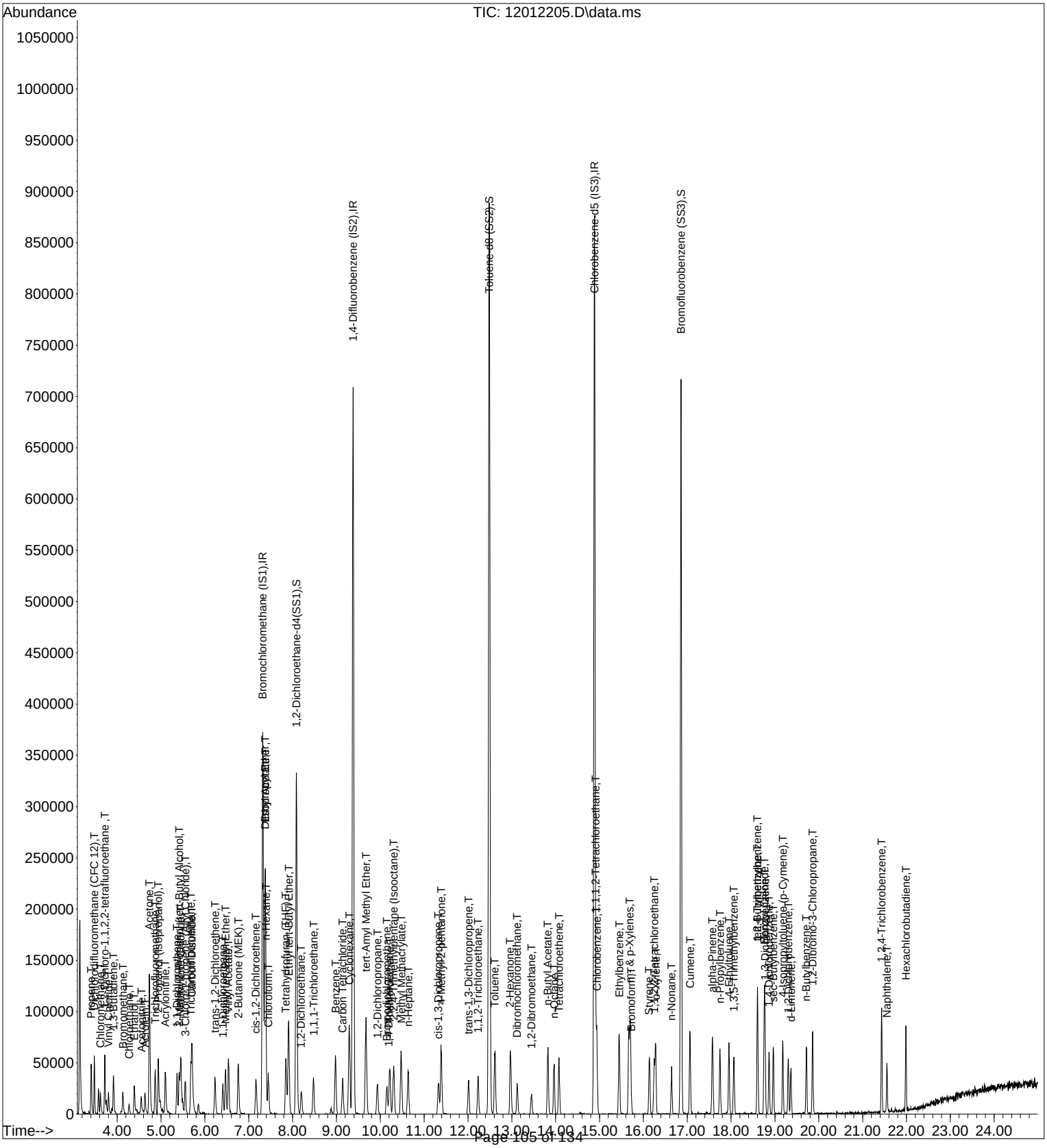
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.64	71	13426	1.224 ng		89
52) cis-1,3-Dichloropropene	11.32	75	23905	1.231 ng		96
53) 4-Methyl-2-pentanone	11.39	58	21730	2.126 ng		98
54) trans-1,3-Dichloropropene	12.02	75	21035	1.073 ng		100
55) 1,1,2-Trichloroethane	12.23	97	16855	1.355 ng		81
58) Toluene	12.61	91	56565	1.034 ng		93
59) 2-Hexanone	12.96	43	54314	2.506 ng		98
60) Dibromochloromethane	13.12	129	20325	1.172 ng		91
61) 1,2-Dibromoethane	13.45	107	15755	1.005 ng		92
62) n-Butyl Acetate	13.82	43	53307	2.076 ng		98
63) n-Octane	13.97	57	9011	0.986 ng	#	77
64) Tetrachloroethene	14.08	166	18612	1.028 ng		89
65) Chlorobenzene	14.94	112	39710	1.079 ng		99
66) Ethylbenzene	15.45	91	68499	1.138 ng		99
67) m- & p-Xylenes	15.69	91	106499	2.237 ng		97
68) Bromoform	15.72	173	17296	1.073 ng		91
69) Styrene	16.13	104	32788	0.979 ng		95
70) o-Xylene	16.28	91	48673	0.982 ng		96
71) n-Nonane	16.64	43	14655	0.686 ng		94
72) 1,1,2,2-Tetrachloroethane	16.25	83	25787	1.223 ng		93
74) Cumene	17.06	105	61823	1.000 ng		97
75) alpha-Pinene	17.58	93	33818	1.102 ng		98
76) n-Propylbenzene	17.75	91	57081	0.787 ng		97
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.95	105	49154	0.849 ng		95
79) 1,3,5-Trimethylbenzene	18.07	105	36237	0.656 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.60	105	34208	0.655 ng		98
83) n-Decane	17.08	58	134	No Calib	#	
84) Benzyl Chloride	18.76	91	82569	2.168 ng		100
85) 1,3-Dichlorobenzene	18.78	146	27605	0.942 ng		98
86) 1,4-Dichlorobenzene	18.86	146	26352	0.930 ng		86
87) sec-Butylbenzene	18.96	105	48725	0.718 ng		94
88) 4-Isopropyltoluene (p-...	19.18	119	42794	0.691 ng		97
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	19.31	146	24447	0.827 ng		90
91) d-Limonene	19.37	68	9859	0.630 ng		85
92) 1,2-Dibromo-3-Chloropr...	19.86	157	23732	2.158 ng		97
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.43	180	33754	1.610 ng		96
95) Naphthalene	21.55	128	38067	0.787 ng		98
96) n-Dodecane	19.18	58	644	No Calib	#	
97) Hexachlorobutadiene	21.99	225	15302	0.773 ng		90
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.60	119	41558	0.807 ng		94
100) n-Butylbenzene	19.72	91	37769	0.756 ng	#	96
101) 1,1,1,2-Tetrachloroethane	14.91	131	15517	1.070 ng		85

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012205.D Vial: 14
Acq On : 1 Dec 2022 2:52 Operator: TZ
Sample : 1.0ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11302202 (12/30)

Quant Time: Dec 01 07:34:14 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

TZ 12/2/22

Data File : I:\MS13\DATA\2022 12\01\12012206.D Vial: 14
Acq On : 1 Dec 2022 3:28 Operator: TZ
Sample : 5.0ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11302202 (12/30)

Quant Time: Dec 01 07:34:15 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.34	130	166427	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.39	114	731256	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.88	54	128001	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.11	65	290541	12.566	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
57) Toluene-d8 (SS2)	12.49	98	795710	12.385	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	16.86	174	294404	12.315	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
Target Compounds							Qvalue
2) Propene	3.40	42	71608	5.084	ng		96
3) Dichlorodifluoromethan...	3.47	85	161623	5.163	ng		99
4) Chloromethane	3.61	50	69856	4.826	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	75134	4.928	ng		98
6) Vinyl Chloride	3.79	62	83861	4.928	ng		99
7) 1,3-Butadiene	3.91	54	65810	4.582	ng		95
8) Bromomethane	4.13	94	61183	4.770	ng		97
9) Chloroethane	4.26	64	41725	4.933	ng		96
10) Ethanol	4.41	45	155836	17.397	ng		97
11) Acetonitrile	4.57	41	102907	4.884	ng		98
12) Acrolein	4.64	56	71023	9.836	ng		98
13) Acetone	4.74	58	215141	25.064	ng		99
14) Trichlorofluoromethane	4.87	101	141953	5.152	ng		99
15) 2-Propanol (Isopropanol)	4.96	45	295629	8.459	ng		97
16) Acrylonitrile	5.11	53	158821	10.988	ng		96
17) 1,1-Dichloroethene	5.37	96	66868	5.113	ng		92
18) 2-Methyl-2-Propanol (t...	5.44	59	277740	8.751	ng		98
19) Methylene Chloride	5.47	84	68880	4.983	ng		97
20) 3-Chloro-1-propene (Al...	5.56	41	95149	5.306	ng		97
21) Trichlorotrifluoroethane	5.69	151	75239	5.408	ng		97
22) Carbon Disulfide	5.71	76	512595	9.820	ng		100
23) trans-1,2-Dichloroethene	6.25	61	105175	5.517	ng		96
24) 1,1-Dichloroethane	6.43	63	117667	5.031	ng		98
25) Methyl tert-Butyl Ether	6.47	73	172336	4.578	ng		97
26) Vinyl Acetate	6.55	86	35287	14.224	ng	#	95
27) 2-Butanone (MEK)	6.77	72	81842	11.118	ng		99
28) cis-1,2-Dichloroethene	7.18	61	91956	4.855	ng		99
29) Diisopropyl Ether	7.38	87	106013	10.078	ng		99
30) Ethyl Acetate	7.39	61	104667	20.659	ng		96
31) n-Hexane	7.40	57	97817	5.074	ng		98
32) Chloroform	7.47	83	132166	5.210	ng		100
34) Tetrahydrofuran (THF)	7.86	72	78893	10.191	ng		98
35) Ethyl tert-Butyl Ether	7.92	87	165676	10.104	ng		99
36) 1,2-Dichloroethane	8.21	62	107785	5.271	ng		100
38) 1,1,1-Trichloroethane	8.49	97	126351	5.230	ng		97
39) Isopropyl Acetate	9.39	61	21273	No Calib			
40) 1-Butanol	8.89	56	3110	No Calib			
41) Benzene	8.99	78	258915	5.041	ng		98
42) Carbon Tetrachloride	9.15	117	109145	4.847	ng		99
43) Cyclohexane	9.30	84	179313	9.661	ng		98
44) tert-Amyl Methyl Ether	9.68	73	405898	10.142	ng		98
45) 1,2-Dichloropropane	9.94	63	59481	5.162	ng		95
46) Bromodichloromethane	10.16	83	104228	5.286	ng		100
47) Trichloroethene	10.23	130	81053	5.231	ng		97
48) 1,4-Dioxane	10.21	88	49690	4.527	ng		92
49) 2,2,4-Trimethylpentane...	10.31	57	249098	5.152	ng		99
50) Methyl Methacrylate	10.49	100	57560	10.803	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012206.D Vial: 14
Acq On : 1 Dec 2022 3:28 Operator: TZ
Sample : 5.0ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11302202 (12/30)

Quant Time: Dec 01 07:34:15 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

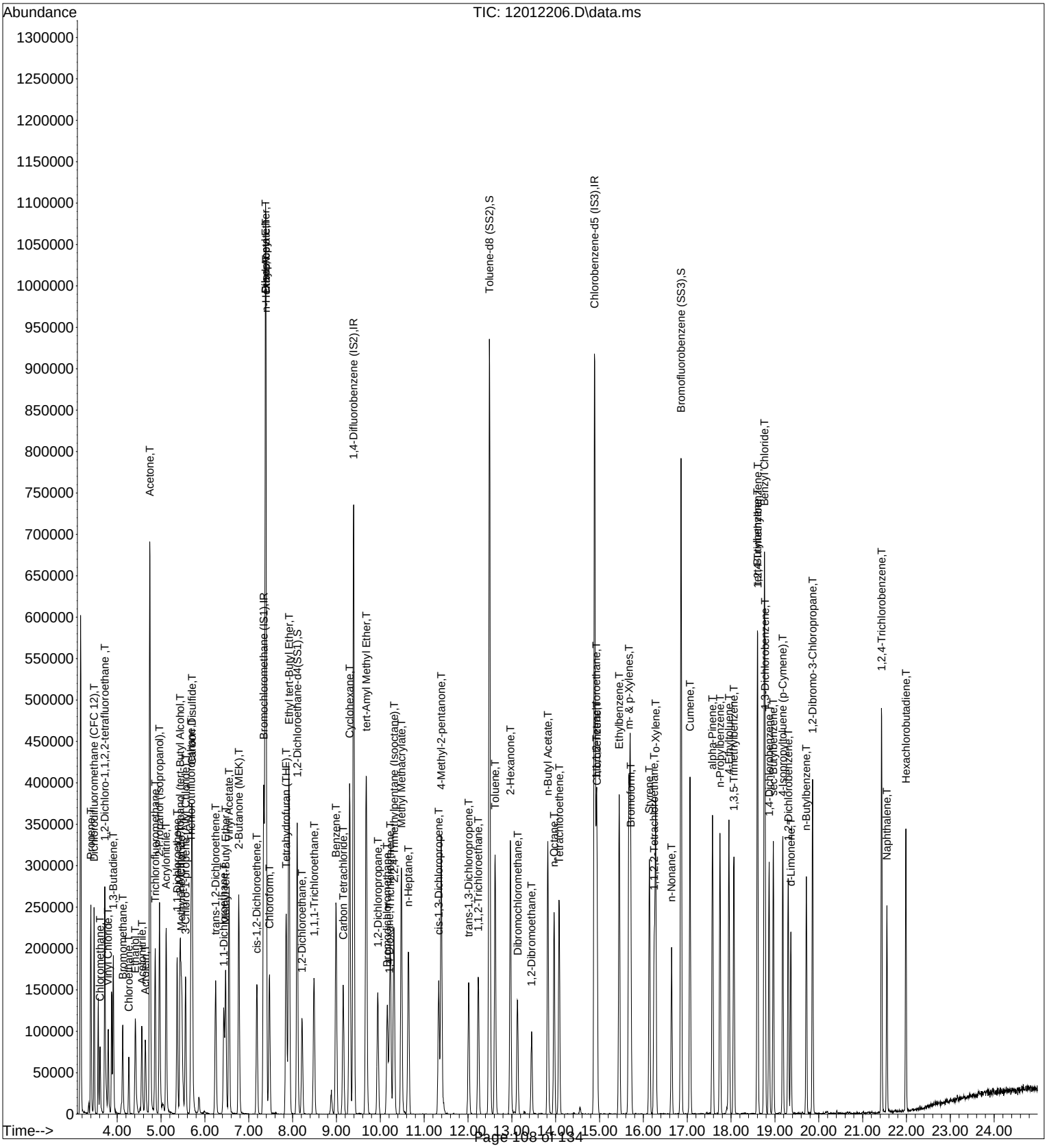
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.64	71	61174	5.431	ng		100
52) cis-1,3-Dichloropropene	11.33	75	108724	5.452	ng		96
53) 4-Methyl-2-pentanone	11.39	58	105781	10.078	ng		97
54) trans-1,3-Dichloropropene	12.02	75	102261	5.081	ng		99
55) 1,1,2-Trichloroethane	12.23	97	70070	5.486	ng		100
58) Toluene	12.62	91	288414	5.086	ng		99
59) 2-Hexanone	12.97	43	246241	10.954	ng		99
60) Dibromochloromethane	13.13	129	96785	5.381	ng		98
61) 1,2-Dibromoethane	13.45	107	81164	4.993	ng		95
62) n-Butyl Acetate	13.82	43	271686	10.200	ng		99
63) n-Octane	13.96	57	45393	4.790	ng		95
64) Tetrachloroethene	14.08	166	93754	4.991	ng		95
65) Chlorobenzene	14.94	112	190991	5.003	ng		98
66) Ethylbenzene	15.45	91	324567	5.199	ng		98
67) m- & p-Xylenes	15.67	91	534347	10.825	ng		100
68) Bromoform	15.72	173	84141	5.036	ng		100
69) Styrene	16.14	104	183996	5.298	ng		97
70) o-Xylene	16.28	91	255777	4.976	ng		98
71) n-Nonane	16.64	43	68868	3.110	ng		96
72) 1,1,2,2-Tetrachloroethane	16.24	83	119135	5.449	ng		97
74) Cumene	17.06	105	313648	4.894	ng		100
75) alpha-Pinene	17.58	93	160872	5.054	ng		98
76) n-Propylbenzene	17.75	91	303479	4.035	ng		99
77) 3-Ethyltoluene	17.35	105	129	No Calib		#	
78) 4-Ethyltoluene	17.95	105	260806	4.344	ng		99
79) 1,3,5-Trimethylbenzene	18.07	105	203705	3.554	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.35	105	129	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.61	105	169621	3.130	ng		97
83) n-Decane	17.05	58	2133	No Calib		#	
84) Benzyl Chloride	18.76	91	438311	11.099	ng		99
85) 1,3-Dichlorobenzene	18.78	146	143670	4.728	ng		97
86) 1,4-Dichlorobenzene	18.87	146	142484	4.850	ng		96
87) sec-Butylbenzene	18.96	105	242365	3.443	ng		99
88) 4-Isopropyltoluene (p-...	19.18	119	203574	3.170	ng		99
89) 1,2,3-Trimethylbenzene	17.35	105	129	No Calib		#	
90) 1,2-Dichlorobenzene	19.31	146	131947	4.302	ng		97
91) d-Limonene	19.36	68	47188	2.907	ng		92
92) 1,2-Dibromo-3-Chloropr...	19.86	157	122872	10.774	ng		98
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	21.43	180	165319	7.605	ng		97
95) Naphthalene	21.55	128	183255	3.654	ng		99
96) n-Dodecane	19.18	58	5478	No Calib		#	
97) Hexachlorobutadiene	21.99	225	69836	3.401	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.60	119	206418	3.865	ng		98
100) n-Butylbenzene	19.72	91	159971	3.088	ng		99
101) 1,1,1,2-Tetrachloroethane	14.92	131	77931	5.179	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012206.D Vial: 14
Acq On : 1 Dec 2022 3:28 Operator: TZ
Sample : 5.0ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11302202 (12/30)

Quant Time: Dec 01 07:34:15 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012207.D Vial: 15
Acq On : 1 Dec 2022 4:05 Operator: TZ
Sample : 25ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292202 (12/29)

TZ 12/2/22

Quant Time: Dec 01 07:34:17 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.36	130	173503	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.40	114	767117	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.88	54	137577	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.12	65	302287	12.541	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%			
57) Toluene-d8 (SS2)	12.49	98	820206	11.878	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%			
73) Bromofluorobenzene (SS3)	16.86	174	307875	11.982	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%			
Target Compounds						Qvalue
2) Propene	3.39	42	348231	23.716	ng	100
3) Dichlorodifluoromethan...	3.46	85	810730	24.842	ng	100
4) Chloromethane	3.60	50	409589	27.145	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	380728	23.955	ng	100
6) Vinyl Chloride	3.79	62	423012	23.845	ng	100
7) 1,3-Butadiene	3.91	54	358470	23.942	ng	100
8) Bromomethane	4.13	94	325407	24.334	ng	100
9) Chloroethane	4.27	64	205552	23.309	ng	100
10) Ethanol	4.45	45	811997	86.952	ng	100
11) Acetonitrile	4.58	41	506798	23.070	ng	100
12) Acrolein	4.66	56	395940	52.600	ng	100
13) Acetone	4.77	58	1114359	124.530	ng	100
14) Trichlorofluoromethane	4.87	101	720695	25.090	ng	100
15) 2-Propanol (Isopropanol)	4.99	45	1597963	43.861	ng	100
16) Acrylonitrile	5.14	53	824323	54.703	ng	100
17) 1,1-Dichloroethene	5.37	96	364497	26.736	ng	100
18) 2-Methyl-2-Propanol (t...	5.47	59	1489097	45.004	ng	100
19) Methylene Chloride	5.49	84	353885	24.559	ng	100
20) 3-Chloro-1-propene (Al...	5.57	41	488072	26.109	ng	100
21) Trichlorotrifluoroethane	5.69	151	373760	25.771	ng	100
22) Carbon Disulfide	5.72	76	2624008	48.221	ng	100
23) trans-1,2-Dichloroethene	6.27	61	530108	26.671	ng	100
24) 1,1-Dichloroethane	6.45	63	602054	24.693	ng	100
25) Methyl tert-Butyl Ether	6.48	73	823255	20.979	ng	100
26) Vinyl Acetate	6.57	86	183221	70.843	ng	100
27) 2-Butanone (MEK)	6.79	72	423939	55.244	ng	100
28) cis-1,2-Dichloroethene	7.21	61	488990	24.766	ng	100
29) Diisopropyl Ether	7.39	87	551988	50.335	ng	100
30) Ethyl Acetate	7.41	61	560115	106.047	ng	100
31) n-Hexane	7.40	57	499874	24.871	ng	100
32) Chloroform	7.49	83	674468	25.502	ng	100
34) Tetrahydrofuran (THF)	7.86	72	392835	48.676	ng	100
35) Ethyl tert-Butyl Ether	7.93	87	866012	50.659	ng	100
36) 1,2-Dichloroethane	8.23	62	554526	26.010	ng	100
38) 1,1,1-Trichloroethane	8.50	97	631581	24.920	ng	100
39) Isopropyl Acetate	9.40	61	20846	No Calib		
40) 1-Butanol	8.90	56	14789	No Calib		
41) Benzene	9.01	78	1354085	25.129	ng	100
42) Carbon Tetrachloride	9.17	117	561842	23.785	ng	100
43) Cyclohexane	9.31	84	930970	47.815	ng	100
44) tert-Amyl Methyl Ether	9.69	73	2097004	49.946	ng	100
45) 1,2-Dichloropropane	9.95	63	297737	24.629	ng	100
46) Bromodichloromethane	10.17	83	539367	26.076	ng	100
47) Trichloroethene	10.24	130	411966	25.347	ng	100
48) 1,4-Dioxane	10.21	88	272547	23.670	ng	100
49) 2,2,4-Trimethylpentane...	10.32	57	1282796	25.293	ng	100
50) Methyl Methacrylate	10.49	100	303456	54.292	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012207.D Vial: 15
Acq On : 1 Dec 2022 4:05 Operator: TZ
Sample : 25ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292202 (12/29)

Quant Time: Dec 01 07:34:17 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

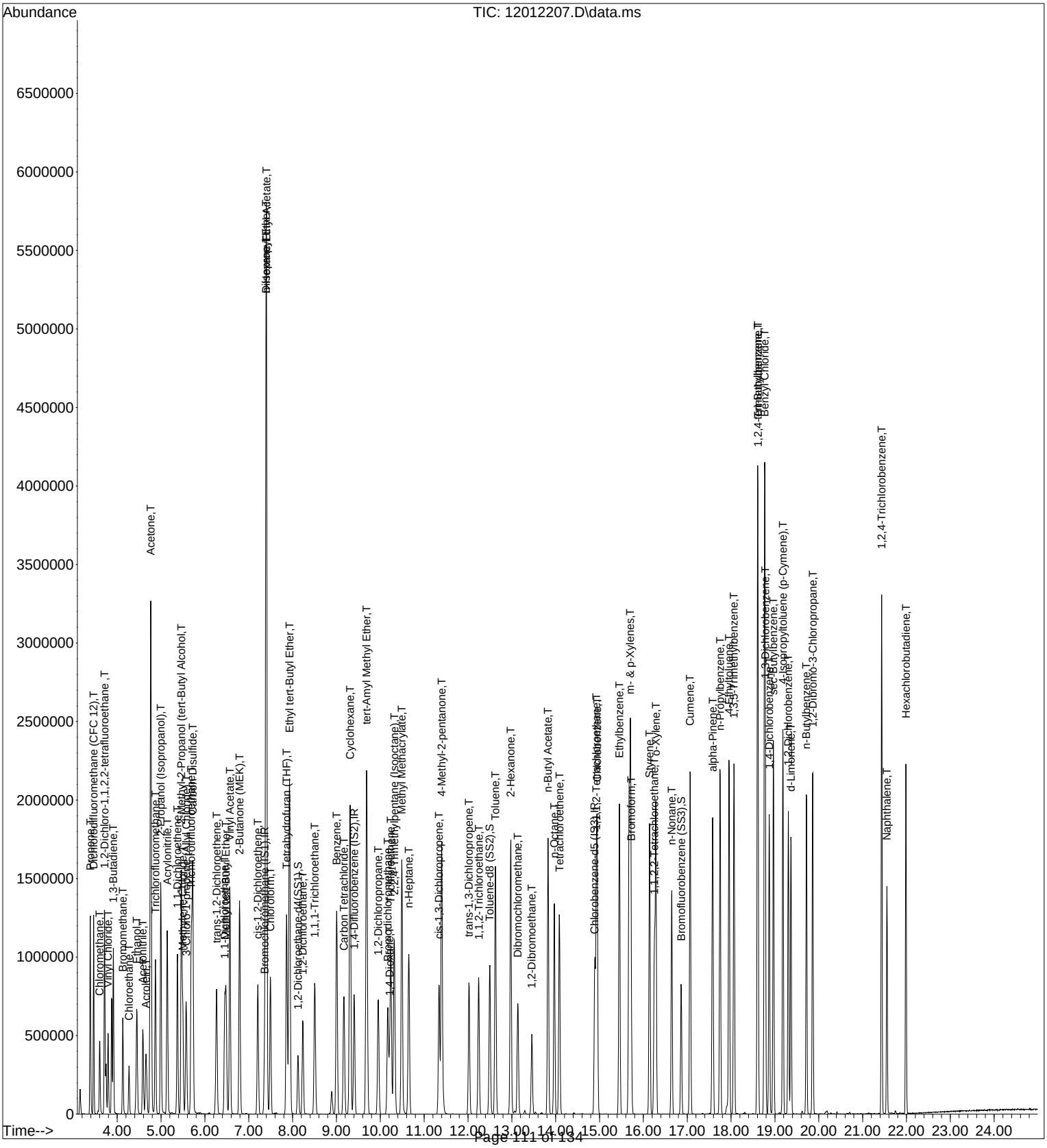
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.65	71	302869	25.634 ng		100
52) cis-1,3-Dichloropropene	11.34	75	575390	27.505 ng		100
53) 4-Methyl-2-pentanone	11.40	58	563639	51.191 ng		100
54) trans-1,3-Dichloropropene	12.02	75	560562	26.549 ng		100
55) 1,1,2-Trichloroethane	12.25	97	349166	26.058 ng		100
58) Toluene	12.62	91	1460302	23.959 ng		100
59) 2-Hexanone	12.97	43	1336461	55.315 ng		100
60) Dibromochloromethane	13.14	129	504370	26.092 ng		100
61) 1,2-Dibromoethane	13.46	107	435338	24.915 ng		100
62) n-Butyl Acetate	13.83	43	1435022	50.128 ng		100
63) n-Octane	13.97	57	261412	25.665 ng		100
64) Tetrachloroethene	14.09	166	484578	24.000 ng		100
65) Chlorobenzene	14.95	112	985974	24.031 ng		100
66) Ethylbenzene	15.45	91	1707800	25.453 ng		100
67) m- & p-Xylenes	15.70	91	2807092	52.907 ng		100
68) Bromoform	15.72	173	465816	25.937 ng		100
69) Styrene	16.14	104	1058350	28.353 ng		100
70) o-Xylene	16.28	91	1371178	24.819 ng		100
71) n-Nonane	16.65	43	521215	21.896 ng		100
72) 1,1,2,2-Tetrachloroethane	16.25	83	589800	25.100 ng		100
74) Cumene	17.06	105	1745667	25.343 ng		100
75) alpha-Pinene	17.58	93	898745	26.267 ng		100
76) n-Propylbenzene	17.75	91	2026847	25.070 ng		100
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.95	105	1691298	26.211 ng		100
79) 1,3,5-Trimethylbenzene	18.07	105	1463929	23.764 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.61	105	1376152	23.625 ng		100
83) n-Decane	17.07	58	11115	No Calib		
84) Benzyl Chloride	18.77	91	2631667	62.002 ng		100
85) 1,3-Dichlorobenzene	18.78	146	899495	27.539 ng		100
86) 1,4-Dichlorobenzene	18.87	146	899383	28.485 ng		100
87) sec-Butylbenzene	18.96	105	1749867	23.129 ng		100
88) 4-Isopropyltoluene (p-...	19.18	119	1513112	21.921 ng		100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	19.31	146	847431	25.709 ng		100
91) d-Limonene	19.36	68	380399	21.800 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.86	157	683421	55.755 ng		100
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.43	180	1037669	44.411 ng		100
95) Naphthalene	21.55	128	1069758	19.844 ng		100
96) n-Dodecane	19.17	58	28911	No Calib	#	
97) Hexachlorobutadiene	21.99	225	439244	19.902 ng		100
98) Cyclohexanone	15.66	55	185	No Calib	#	
99) tert-Butylbenzene	18.61	119	1362046	23.730 ng		100
100) n-Butylbenzene	19.72	91	1133848	20.363 ng		100
101) 1,1,1,2-Tetrachloroethane	14.92	131	405440	25.071 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012207.D Vial: 15
Acq On : 1 Dec 2022 4:05 Operator: TZ
Sample : 25ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292202 (12/29)

Quant Time: Dec 01 07:34:17 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012208.D Vial: 15
Acq On : 1 Dec 2022 4:41 Operator: TZ
Sample : 50ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292202 (12/29)

Quant Time: Dec 01 07:34:19 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

TZ 12/2/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.38	130	174526	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.42	114	753950	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.90	54	130026	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.13	65	300648	12.399	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
57) Toluene-d8 (SS2)	12.50	98	832123	12.750	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
73) Bromofluorobenzene (SS3)	16.86	174	315405	12.988	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
Target Compounds							Qvalue
2) Propene	3.39	42	752486	50.946	ng		99
3) Dichlorodifluoromethan...	3.47	85	1646119	50.144	ng		100
4) Chloromethane	3.61	50	701506	46.219	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	845619	52.894	ng		98
6) Vinyl Chloride	3.80	62	921577	51.643	ng		98
7) 1,3-Butadiene	3.92	54	762249	50.612	ng		94
8) Bromomethane	4.14	94	673700	50.085	ng		98
9) Chloroethane	4.28	64	430494	48.531	ng		98
10) Ethanol	4.47	45	1666370	177.396	ng		98
11) Acetonitrile	4.61	41	1044288	47.258	ng		98
12) Acrolein	4.67	56	801463	105.849	ng		98
13) Acetone	4.78	58	2252648	250.258	ng		95
14) Trichlorofluoromethane	4.88	101	1493265	51.680	ng		99
15) 2-Propanol (Isopropanol)	5.02	45	3064791	83.630	ng		99
16) Acrylonitrile	5.16	53	1696892	111.948	ng		100
17) 1,1-Dichloroethene	5.39	96	739644	53.935	ng		99
18) 2-Methyl-2-Propanol (t...	5.48	59	1909883	57.382	ng		98
19) Methylene Chloride	5.51	84	715577	49.369	ng		99
20) 3-Chloro-1-propene (Al...	5.59	41	1008599	53.638	ng		97
21) Trichlorotrifluoroethane	5.70	151	755003	51.753	ng		99
22) Carbon Disulfide	5.73	76	5376825	98.231	ng		99
23) trans-1,2-Dichloroethene	6.28	61	1099232	54.981	ng		97
24) 1,1-Dichloroethane	6.46	63	1229357	50.127	ng		100
25) Methyl tert-Butyl Ether	6.49	73	1315670	33.331	ng		99
26) Vinyl Acetate	6.59	86	359803	138.304	ng	#	92
27) 2-Butanone (MEK)	6.80	72	858064	111.160	ng		100
28) cis-1,2-Dichloroethene	7.22	61	1008505	50.779	ng		100
29) Diisopropyl Ether	7.40	87	1115458	101.121	ng		96
30) Ethyl Acetate	7.42	61	1146342	215.766	ng		100
31) n-Hexane	7.41	57	1012679	50.091	ng		98
32) Chloroform	7.51	83	1379938	51.870	ng		100
34) Tetrahydrofuran (THF)	7.88	72	796330	98.094	ng		98
35) Ethyl tert-Butyl Ether	7.94	87	1759668	102.332	ng		99
36) 1,2-Dichloroethane	8.24	62	1126095	52.509	ng		99
38) 1,1,1-Trichloroethane	8.52	97	1277768	51.297	ng		99
39) Isopropyl Acetate	9.41	61	21845	No Calib	#		
40) 1-Butanol	8.90	56	29718	No Calib	#		
41) Benzene	9.02	78	2749129	51.909	ng		100
42) Carbon Tetrachloride	9.18	117	1134467	48.866	ng		99
43) Cyclohexane	9.32	84	1869056	97.672	ng		99
44) tert-Amyl Methyl Ether	9.69	73	4307652	104.391	ng		99
45) 1,2-Dichloropropane	9.96	63	614473	51.718	ng		99
46) Bromodichloromethane	10.18	83	1117823	54.985	ng		100
47) Trichloroethene	10.25	130	836362	52.357	ng		98
48) 1,4-Dioxane	10.22	88	570859	50.442	ng		100
49) 2,2,4-Trimethylpentane...	10.33	57	2605995	52.280	ng		100
50) Methyl Methacrylate	10.50	100	599632	109.155	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012208.D Vial: 15
Acq On : 1 Dec 2022 4:41 Operator: TZ
Sample : 50ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292202 (12/29)

Quant Time: Dec 01 07:34:19 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

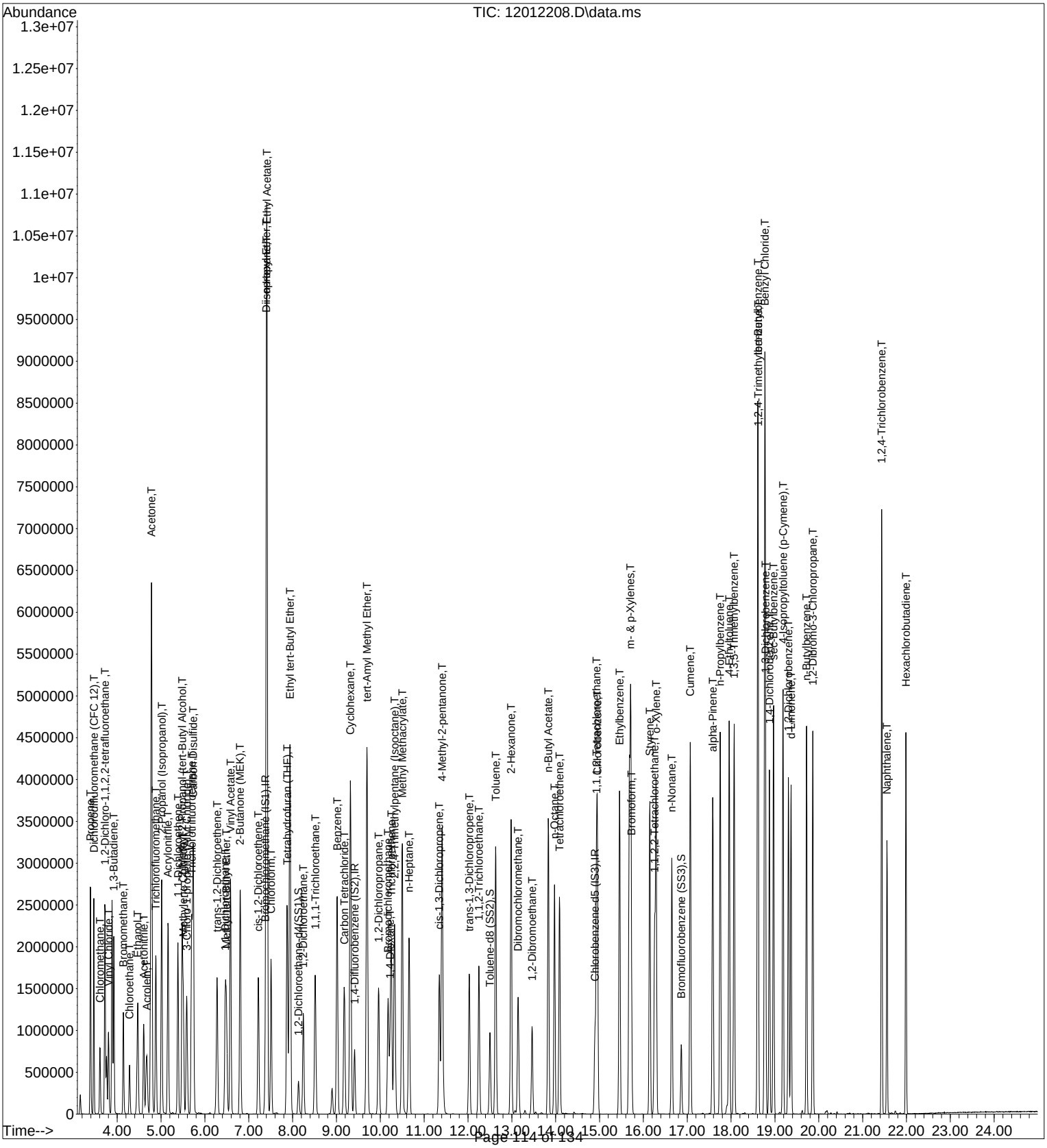
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.66	71	617133	53.144	ng		97
52) cis-1,3-Dichloropropene	11.34	75	1162636	56.548	ng		98
53) 4-Methyl-2-pentanone	11.41	58	1165117	107.667	ng		98
54) trans-1,3-Dichloropropene	12.03	75	1152336	55.529	ng		100
55) 1,1,2-Trichloroethane	12.25	97	727322	55.228	ng		98
58) Toluene	12.63	91	2965229	51.476	ng		100
59) 2-Hexanone	12.98	43	2727717	119.455	ng		100
60) Dibromochloromethane	13.14	129	1018927	55.771	ng		100
61) 1,2-Dibromoethane	13.46	107	871784	52.790	ng		97
62) n-Butyl Acetate	13.83	43	2986265	110.373	ng		99
63) n-Octane	13.97	57	530390	55.096	ng		99
64) Tetrachloroethene	14.09	166	998420	52.322	ng		99
65) Chlorobenzene	14.95	112	1987739	51.261	ng		100
66) Ethylbenzene	15.46	91	3464151	54.628	ng		99
67) m- & p-Xylenes	15.70	91	5744102	114.550	ng		99
68) Bromoform	15.73	173	963571	56.769	ng		99
69) Styrene	16.15	104	2175753	61.673	ng		98
70) o-Xylene	16.29	91	2855410	54.685	ng		98
71) n-Nonane	16.65	43	1118548	49.719	ng		99
72) 1,1,2,2-Tetrachloroethane	16.26	83	1195289	53.821	ng		100
74) Cumene	17.07	105	3578812	54.974	ng		98
75) alpha-Pinene	17.58	93	1806114	55.853	ng		99
76) n-Propylbenzene	17.75	91	4182875	54.743	ng		100
77) 3-Ethyltoluene	17.37	105	1270	No Calib		#	
78) 4-Ethyltoluene	17.96	105	3505959	57.488	ng		100
79) 1,3,5-Trimethylbenzene	18.07	105	3011985	51.732	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.37	105	1270	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.62	105	2955458	53.684	ng		99
83) n-Decane	17.06	58	18408	No Calib			
84) Benzyl Chloride	18.77	91	5512407	137.414	ng		100
85) 1,3-Dichlorobenzene	18.79	146	1846174	59.806	ng		99
86) 1,4-Dichlorobenzene	18.87	146	1890161	63.340	ng		99
87) sec-Butylbenzene	18.97	105	3690625	51.614	ng		99
88) 4-Isopropyltoluene (p-...	19.19	119	3255889	49.909	ng		100
89) 1,2,3-Trimethylbenzene	17.37	105	1270	No Calib		#	
90) 1,2-Dichlorobenzene	19.31	146	1794635	57.607	ng		99
91) d-Limonene	19.37	68	851601	51.639	ng		97
92) 1,2-Dibromo-3-Chloropr...	19.86	157	1413137	121.982	ng		99
93) n-Undecane	18.29	58	114	No Calib		#	
94) 1,2,4-Trichlorobenzene	21.43	180	2284873	103.470	ng		99
95) Naphthalene	21.55	128	2371928	46.555	ng		100
96) n-Dodecane	19.18	58	55543	No Calib		#	
97) Hexachlorobutadiene	21.99	225	905203	43.397	ng		99
98) Cyclohexanone	15.68	55	1612	No Calib		#	
99) tert-Butylbenzene	18.61	119	2822247	52.026	ng		98
100) n-Butylbenzene	19.72	91	2591167	49.238	ng		99
101) 1,1,1,2-Tetrachloroethane	14.93	131	810095	53.002	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012208.D Vial: 15
Acq On : 1 Dec 2022 4:41 Operator: TZ
Sample : 50ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292202 (12/29)

Quant Time: Dec 01 07:34:19 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012209.D Vial: 15
Acq On : 1 Dec 2022 5:18 Operator: TZ
Sample : 100ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292202 (12/29)

TZ 12/2/22

Quant Time: Dec 01 07:34:21 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.39	130	180544	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.42	114	775758	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.90	54	139742	12.500	ng		0.02
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.15	65	308880	12.314	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
57) Toluene-d8 (SS2)	12.51	98	833371	11.882	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
73) Bromofluorobenzene (SS3)	16.87	174	322701	12.365	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
Target Compounds							Qvalue
2) Propene	3.39	42	1551289	101.527	ng		98
3) Dichlorodifluoromethan...	3.47	85	3297013	97.085	ng		100
4) Chloromethane	3.60	50	854466	54.420	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	1674127	101.228	ng		97
6) Vinyl Chloride	3.80	62	1973945	106.929	ng		98
7) 1,3-Butadiene	3.93	54	1759885	112.958	ng		89
8) Bromomethane	4.15	94	1350882	97.081	ng		99
9) Chloroethane	4.29	64	872957	95.131	ng		97
10) Ethanol	4.49	45	3442716	354.283	ng		99
11) Acetonitrile	4.62	41	2177564	95.257	ng		100
12) Acrolein	4.69	56	1664499	212.502	ng		99
13) Acetone	4.80	58	4640507	498.353	ng		94
14) Trichlorofluoromethane	4.89	101	3009586	100.687	ng		99
15) 2-Propanol (Isopropanol)	5.03	45	6150725	162.242	ng		98
16) Acrylonitrile	5.18	53	3492530	222.731	ng		100
17) 1,1-Dichloroethene	5.39	96	1496168	105.463	ng		99
18) 2-Methyl-2-Propanol (t...	5.50	59	1644205	47.753	ng		96
19) Methylene Chloride	5.52	84	1465478	97.736	ng		100
20) 3-Chloro-1-propene (Al...	5.60	41	2077712	106.812	ng		100
21) Trichlorotrifluoroethane	5.70	151	1476101	97.810	ng		97
22) Carbon Disulfide	5.74	76	10992151	194.125	ng		99
23) trans-1,2-Dichloroethene	6.29	61	2241091	108.358	ng		97
24) 1,1-Dichloroethane	6.47	63	2482306	97.842	ng		99
25) Methyl tert-Butyl Ether	6.50	73	1940036	47.510	ng		100
26) Vinyl Acetate	6.60	86	666548	247.673	ng	#	80
27) 2-Butanone (MEK)	6.82	72	1685425	211.065	ng		95
28) cis-1,2-Dichloroethene	7.23	61	2061863	100.356	ng		98
29) Diisopropyl Ether	7.41	87	2256275	197.722	ng	#	90
30) Ethyl Acetate	7.43	61	2328719	423.704	ng		99
31) n-Hexane	7.41	57	2086110	99.747	ng		97
32) Chloroform	7.53	83	2806103	101.962	ng		100
34) Tetrahydrofuran (THF)	7.88	72	1603501	190.939	ng		97
35) Ethyl tert-Butyl Ether	7.95	87	3548884	199.504	ng		99
36) 1,2-Dichloroethane	8.25	62	2261276	101.928	ng		100
38) 1,1,1-Trichloroethane	8.52	97	2519532	98.304	ng		100
39) Isopropyl Acetate	9.42	61	21212	No Calib		#	
40) 1-Butanol	8.91	56	68047	No Calib			
41) Benzene	9.02	78	5594315	102.663	ng		100
42) Carbon Tetrachloride	9.19	117	2240794	93.806	ng		99
43) Cyclohexane	9.33	84	3663461	186.061	ng		97
44) tert-Amyl Methyl Ether	9.71	73	8744735	205.961	ng		99
45) 1,2-Dichloropropane	9.97	63	1239247	101.370	ng		99
46) Bromodichloromethane	10.18	83	2233215	106.761	ng		99
47) Trichloroethene	10.26	130	1697476	103.277	ng		100
48) 1,4-Dioxane	10.23	88	1138703	97.790	ng		99
49) 2,2,4-Trimethylpentane...	10.34	57	5373914	104.778	ng		99
50) Methyl Methacrylate	10.51	100	1226686	217.025	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012209.D Vial: 15
Acq On : 1 Dec 2022 5:18 Operator: TZ
Sample : 100ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292202 (12/29)

Quant Time: Dec 01 07:34:21 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

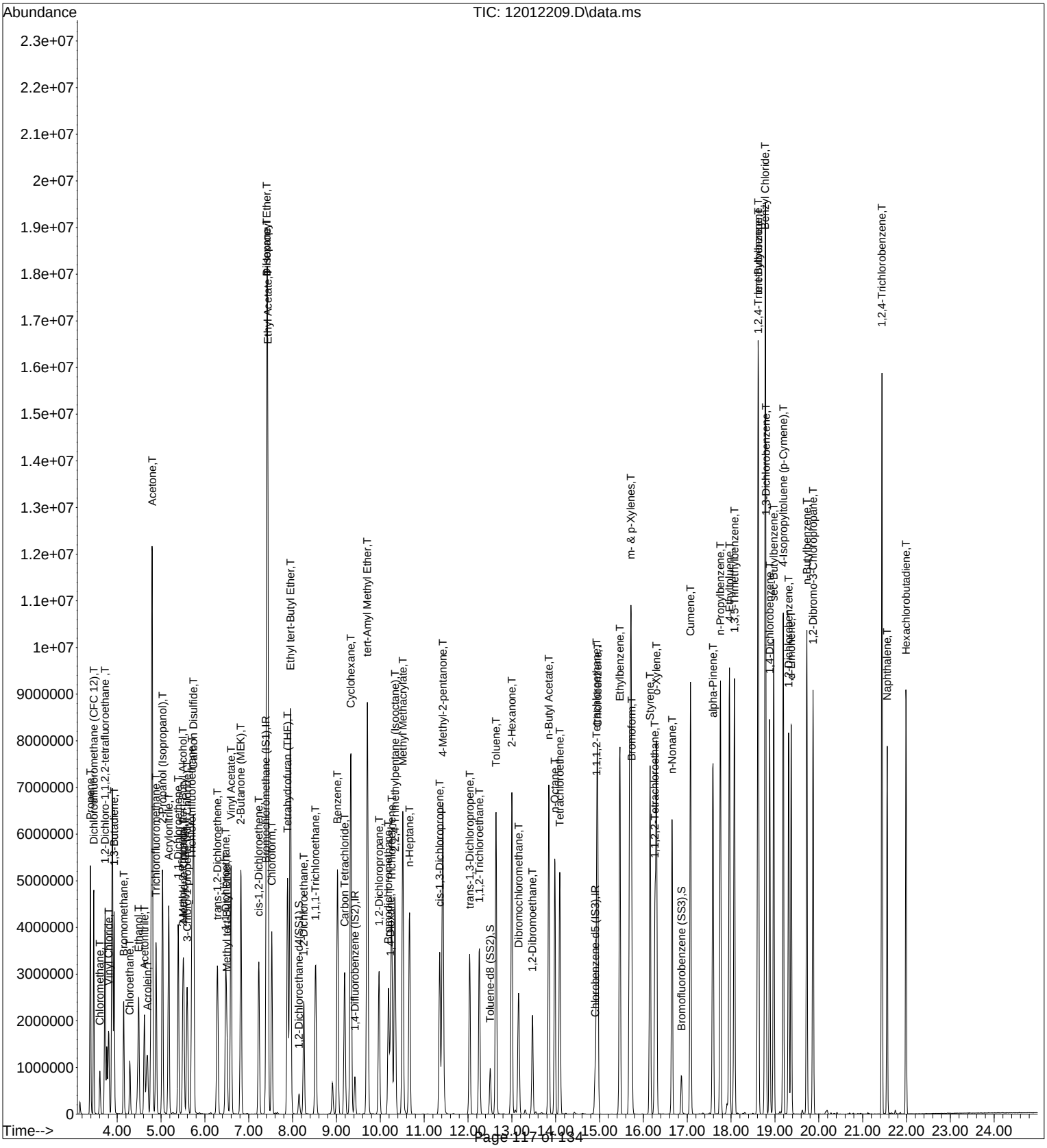
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.67	71	1257787	105.268 ng		99
52) cis-1,3-Dichloropropene	11.36	75	2367944	111.934 ng		100
53) 4-Methyl-2-pentanone	11.42	58	2354641	211.473 ng		99
54) trans-1,3-Dichloropropene	12.04	75	2318995	108.606 ng		100
55) 1,1,2-Trichloroethane	12.26	97	1458145	107.608 ng		100
58) Toluene	12.64	91	6074488	98.120 ng		99
59) 2-Hexanone	13.00	43	5698793	232.215 ng		99
60) Dibromochloromethane	13.15	129	2073301	105.592 ng		99
61) 1,2-Dibromoethane	13.47	107	1801587	101.508 ng		99
62) n-Butyl Acetate	13.84	43	6147470	211.414 ng		98
63) n-Octane	13.98	57	1097238	106.055 ng		97
64) Tetrachloroethene	14.09	166	2016566	98.330 ng		100
65) Chlorobenzene	14.96	112	4064148	97.521 ng		99
66) Ethylbenzene	15.46	91	7106875	104.281 ng		100
67) m- & p-Xylenes	15.72	91	11774073	218.476 ng		99
68) Bromoform	15.73	173	1950432	106.920 ng		100
69) Styrene	16.15	104	4481047	118.186 ng		98
70) o-Xylene	16.30	91	5783794	103.067 ng		98
71) n-Nonane	16.65	43	2376442	98.287 ng		99
72) 1,1,2,2-Tetrachloroethane	16.26	83	2460834	103.102 ng		99
74) Cumene	17.08	105	7249681	103.619 ng		98
75) alpha-Pinene	17.59	93	3635699	104.614 ng		99
76) n-Propylbenzene	17.76	91	8654692	105.392 ng		99
77) 3-Ethyltoluene	17.35	105	1340	No Calib	#	
78) 4-Ethyltoluene	17.96	105	7317111	111.639 ng		99
79) 1,3,5-Trimethylbenzene	18.08	105	6240582	99.732 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.35	105	1340	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.62	105	6236759	105.410 ng		98
83) n-Decane	17.07	58	50650	No Calib		
84) Benzyl Chloride	18.78	91	11478847	266.251 ng		99
85) 1,3-Dichlorobenzene	18.79	146	3733332	112.531 ng		99
86) 1,4-Dichlorobenzene	18.88	146	3874254	120.802 ng		99
87) sec-Butylbenzene	18.98	105	7870421	102.417 ng		99
88) 4-Isopropyltoluene (p-...	19.19	119	7026725	100.222 ng		99
89) 1,2,3-Trimethylbenzene	17.35	105	1340	No Calib	#	
90) 1,2-Dichlorobenzene	19.31	146	3702380	110.582 ng		98
91) d-Limonene	19.37	68	1855859	104.711 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.87	157	2915029	234.130 ng		99
93) n-Undecane	18.24	58	157	No Calib	#	
94) 1,2,4-Trichlorobenzene	21.44	180	5183739	218.423 ng		100
95) Naphthalene	21.56	128	5721460	104.490 ng		100
96) n-Dodecane	19.19	58	118623	No Calib		
97) Hexachlorobutadiene	21.99	225	1878622	83.802 ng		100
98) Cyclohexanone	15.68	55	2315	No Calib	#	
99) tert-Butylbenzene	18.62	119	5721758	98.142 ng		98
100) n-Butylbenzene	19.73	91	5852255	103.475 ng		100
101) 1,1,1,2-Tetrachloroethane	14.94	131	1640753	99.886 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012209.D Vial: 15
Acq On : 1 Dec 2022 5:18 Operator: TZ
Sample : 100ng R13120122 ICAL Std. Inst : MS13
Misc : S35-11012201/S35-11292202 (12/29)

Quant Time: Dec 01 07:34:21 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 07:32:04 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012212.D Vial: 1
Acq On : 1 Dec 2022 7:07 Operator: TZ
Sample : 25ng R13120122 ICV Std. Inst : MS13 TZ 12/2/22
Misc : S35-11012201/S35-11152204 (12/15)

Quant Time: Dec 01 08:07:07 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 08:02:29 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.37	130	177586	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.40	114	759229	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.89	54	131881	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.12	65	307823	12.525	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
57) Toluene-d8 (SS2)	12.49	98	823845	12.620	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
73) Bromofluorobenzene (SS3)	16.86	174	316887	13.605	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
Target Compounds							Qvalue
2) Propene	3.38	42	350056	21.955	ng		97
3) Dichlorodifluoromethan...	3.46	85	777308	23.763	ng		99
4) Chloromethane	3.60	50	381111	23.150	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	393998	25.377	ng		98
6) Vinyl Chloride	3.79	62	471440	25.865	ng		99
7) 1,3-Butadiene	3.91	54	390601	27.907	ng		98
8) Bromomethane	4.13	94	326038	23.824	ng		99
9) Chloroethane	4.27	64	201232	23.850	ng		98
10) Ethanol	4.45	45	970532	91.082	ng		100
11) Acetonitrile	4.59	41	498938	21.589	ng		99
12) Acrolein	4.66	56	381458	45.339	ng		97
13) Acetone	4.77	58	1060154	112.859	ng		99
14) Trichlorofluoromethane	4.87	101	691310	22.632	ng		100
15) 2-Propanol (Isopropanol)	5.00	45	1555284	44.248	ng		99
16) Acrylonitrile	5.14	53	764987	48.477	ng		99
17) 1,1-Dichloroethene	5.37	96	349794	24.952	ng		98
18) 2-Methyl-2-Propanol (t...	5.47	59	1254483	37.596	ng		99
19) Methylene Chloride	5.49	84	336138	23.354	ng		100
20) 3-Chloro-1-propene (Al...	5.57	41	432129	22.636	ng		100
21) Trichlorotrifluoroethane	5.69	151	350787	23.790	ng		97
22) Carbon Disulfide	5.72	76	2463522	44.281	ng		100
23) trans-1,2-Dichloroethene	6.27	61	513248	24.967	ng		98
24) 1,1-Dichloroethane	6.45	63	594106	24.294	ng		99
25) Methyl tert-Butyl Ether	6.48	73	710900	19.531	ng		100
26) Vinyl Acetate	6.58	86	272426	107.740	ng	#	94
27) 2-Butanone (MEK)	6.79	72	391450	44.349	ng		97
28) cis-1,2-Dichloroethene	7.21	61	467127	22.930	ng		100
29) Diisopropyl Ether	7.39	87	529158	47.944	ng	#	63
30) Ethyl Acetate	7.41	61	360245	66.799	ng		97
31) n-Hexane	7.40	57	485092	23.062	ng		99
32) Chloroform	7.50	83	642064	23.554	ng		99
34) Tetrahydrofuran (THF)	7.86	72	396086	46.878	ng		98
35) Ethyl tert-Butyl Ether	7.93	87	823419	48.721	ng		100
36) 1,2-Dichloroethane	8.24	62	524882	25.164	ng		99
38) 1,1,1-Trichloroethane	8.51	97	603540	24.290	ng		99
39) Isopropyl Acetate	9.41	61	19925	No Calib			
40) 1-Butanol	8.91	56	8741	No Calib		#	
41) Benzene	9.01	78	1304220	24.447	ng		99
42) Carbon Tetrachloride	9.17	117	506957	23.182	ng		97
43) Cyclohexane	9.31	84	878476	46.873	ng		99
44) tert-Amyl Methyl Ether	9.69	73	2015548	49.644	ng		99
45) 1,2-Dichloropropane	9.96	63	293880	27.351	ng		95
46) Bromodichloromethane	10.17	83	518118	24.977	ng		100
47) Trichloroethene	10.24	130	407104	24.254	ng		98
48) 1,4-Dioxane	10.21	88	271254	27.896	ng		98
49) 2,2,4-Trimethylpentane...	10.32	57	1195869	23.439	ng		99
50) Methyl Methacrylate	10.50	100	280747	50.134	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012212.D Vial: 1
Acq On : 1 Dec 2022 7:07 Operator: TZ
Sample : 25ng R13120122 ICV Std. Inst : MS13
Misc : S35-11012201/S35-11152204 (12/15)

Quant Time: Dec 01 08:07:07 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 08:02:29 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

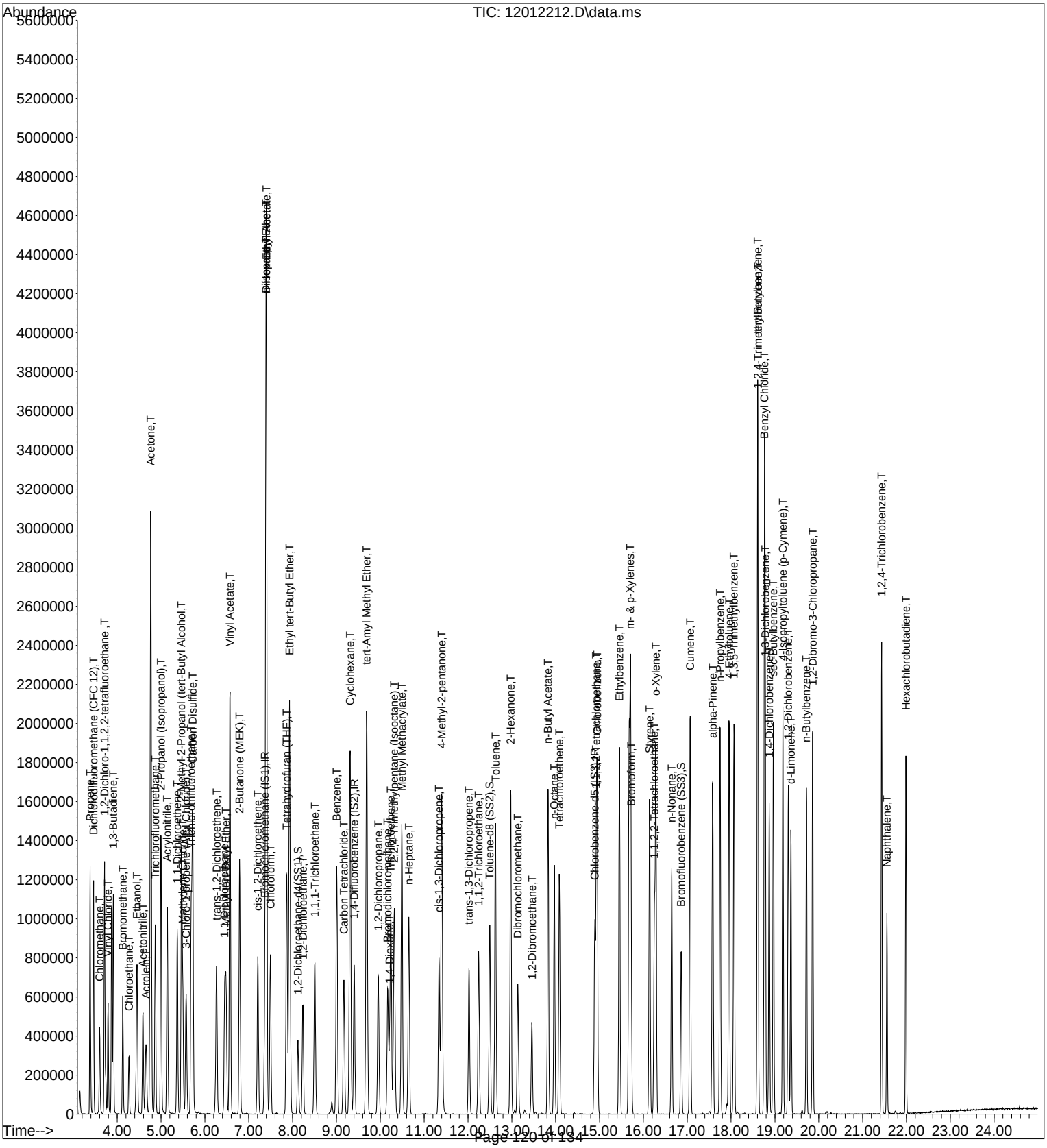
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.66	71	291942	24.426	ng		99
52) cis-1,3-Dichloropropene	11.34	75	535143	24.615	ng		99
53) 4-Methyl-2-pentanone	11.40	58	546988	50.976	ng		98
54) trans-1,3-Dichloropropene	12.02	75	501823	23.195	ng		99
55) 1,1,2-Trichloroethane	12.24	97	340863	24.037	ng		99
58) Toluene	12.63	91	1409754	24.881	ng		100
59) 2-Hexanone	12.97	43	1278605	50.754	ng		99
60) Dibromochloromethane	13.14	129	457059	25.153	ng		98
61) 1,2-Dibromoethane	13.46	107	399995	23.240	ng		99
62) n-Butyl Acetate	13.83	43	1386582	50.318	ng		100
63) n-Octane	13.97	57	241683	25.007	ng		98
64) Tetrachloroethene	14.08	166	459973	24.720	ng		97
65) Chlorobenzene	14.95	112	917434	24.355	ng		98
66) Ethylbenzene	15.45	91	1617229	25.158	ng		99
67) m- & p-Xylenes	15.70	91	2669044	50.808	ng		100
68) Bromoform	15.72	173	437965	25.798	ng		98
69) Styrene	16.14	104	953969	27.592	ng		98
70) o-Xylene	16.28	91	1326721	27.307	ng		100
71) n-Nonane	16.65	43	466027	27.158	ng		99
72) 1,1,2,2-Tetrachloroethane	16.25	83	563511	25.073	ng		100
74) Cumene	17.07	105	1654498	26.962	ng		99
75) alpha-Pinene	17.58	93	815158	24.505	ng		100
76) n-Propylbenzene	17.75	91	1831960	28.361	ng		100
77) 3-Ethyltoluene	17.35	105	380	No Calib		#	
78) 4-Ethyltoluene	17.96	105	1524444	28.301	ng		99
79) 1,3,5-Trimethylbenzene	18.07	105	1329236	29.937	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.35	105	380	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.61	105	1217023	29.440	ng		99
83) n-Decane	17.06	58	12629	No Calib			
84) Benzyl Chloride	18.76	91	2200233	51.901	ng		99
85) 1,3-Dichlorobenzene	18.78	146	790068	27.046	ng		99
86) 1,4-Dichlorobenzene	18.87	146	746830	25.784	ng		100
87) sec-Butylbenzene	18.96	105	1491245	26.510	ng		100
88) 4-Isopropyltoluene (p-...	19.18	119	1281507	24.919	ng		99
89) 1,2,3-Trimethylbenzene	17.35	105	380	No Calib		#	
90) 1,2-Dichlorobenzene	19.31	146	760971	27.028	ng		100
91) d-Limonene	19.36	68	307487	25.044	ng		97
92) 1,2-Dibromo-3-Chloropr...	19.86	157	625491	53.479	ng		98
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	21.43	180	773197	42.630	ng		99
95) Naphthalene	21.55	128	754294	19.327	ng		99
96) n-Dodecane	19.18	58	26575	No Calib		#	
97) Hexachlorobutadiene	21.99	225	366705	22.794	ng		99
98) Cyclohexanone	15.68	55	582	No Calib		#	
99) tert-Butylbenzene	18.61	119	1216569	27.187	ng		99
100) n-Butylbenzene	19.72	91	938161	23.474	ng		99
101) 1,1,1,2-Tetrachloroethane	14.92	131	373092	23.478	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\01\12012212.D Vial: 1
Acq On : 1 Dec 2022 7:07 Operator: TZ
Sample : 25ng R13120122 ICV Std. Inst : MS13
Misc : S35-11012201/S35-11152204 (12/15)

Quant Time: Dec 01 08:07:07 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Dec 01 08:02:29 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental

TZ 12/2/22

LCS Acceptance Criteria

25ng R13120122 ICV Std.

	RT
Bromochloromethane (IS1)	7.37
1,4-Difluorobenzene (IS2)	9.40
Chlorobenzene-d5 (IS3)	14.89

Datafile: 12012212.D
Instrument: MS-13
Date: 12/1/2022

		Amount	Spike	%	ALS		70-130		DOD	
CAS No	Analyte	Found	Amount	REC	LCS Limits	Pass/Fail	LCS Limits	Pass/Fail	LCS Limits	Pass/Fail
115-07-1	Propene	21.955	26.5	83	56-128	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	23.763	26.5	90	71-112	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	23.150	25.8	90	53-126	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	25.377	25.8	98	62-121	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	25.865	25.5	101	63-123	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	27.907	26.5	105	63-135	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	23.824	25.8	92	71-112	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	23.850	26.0	92	66-117	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	91.082	88.3	103	57-117	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	21.589	22.8	95	59-131	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	45.339	48.5	93	71-123	ok	70-130	ok	62-126	ok
67-64-1	Acetone	112.859	133	85	60-117	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	22.632	26.3	86	71-114	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	44.248	51.5	86	61-124	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	48.477	51.5	94	65-130	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	24.952	27.0	92	74-114	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	37.596	53.3	71	56-135	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	23.354	26.5	88	75-112	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	22.636	26.8	84	57-127	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	23.790	27.0	88	73-114	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	44.281	53.3	83	70-113	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	24.967	27.0	92	76-119	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	24.294	27.0	90	70-114	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	19.531	26.8	73	72-118	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	107.740	70.5	153	56-137	FAIL	70-130	FAIL	56-139	FAIL
78-93-3	2-Butanone	44.349	52.3	85	74-121	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	22.930	26.8	86	73-117	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	47.944	52.5	91	58-124	ok	70-130	ok	70-117	ok
141-78-6	Ethyl Acetate	66.799	107	62	59-161	ok	70-130	FAIL	65-128	FAIL
110-54-3	n-Hexane	23.062	26.5	87	55-130	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	23.554	26.5	89	71-114	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	46.878	51.5	91	73-114	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	48.721	53.5	91	76-119	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	25.164	27.0	93	71-119	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	24.290	26.3	92	73-119	ok	70-130	ok	68-125	ok
108-21-4	Isopropyl Acetate	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	65-129	#N/A
71-36-3	1-Butanol	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-133	#N/A
71-43-2	Benzene	24.447	27.0	91	72-113	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	23.182	25.8	90	67-123	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	46.873	52.8	89	70-119	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	49.644	53.5	93	74-120	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	27.351	26.5	103	70-118	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	24.977	27.0	93	74-119	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	24.254	26.5	92	74-115	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	27.896	26.5	105	77-124	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	23.439	27.0	87	65-120	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	50.134	53.3	94	78-126	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	24.426	26.5	92	70-119	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	24.615	27.0	91	81-126	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	50.976	54.0	94	73-129	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

25ng R13120122 ICV Std.

	RT
Bromochloromethane (IS1)	7.37
1,4-Difluorobenzene (IS2)	9.40
Chlorobenzene-d5 (IS3)	14.89

Datafile: 12012212.D
Instrument: MS-13
Date: 12/1/2022

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
10061-02-6	trans-1,3-Dichloropropene	23.195	25.8	90	80-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	24.037	26.5	91	78-117	ok	70-130	ok	73-119	ok
108-88-3	Toluene	24.881	26.5	94	70-118	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	50.754	53.3	95	74-132	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	25.153	27.0	93	69-137	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	23.240	26.0	89	76-128	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	50.318	51.3	98	75-134	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	25.007	26.8	93	68-120	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	24.720	26.5	93	63-130	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	24.355	26.5	92	70-118	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	25.158	26.3	96	71-123	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	50.808	52.5	97	67-127	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	25.798	26.8	96	65-149	ok	70-130	ok	66-139	ok
100-42-5	Styrene	27.592	26.5	104	76-132	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	27.307	26.5	103	69-124	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	27.158	26.5	102	64-127	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	25.073	26.5	95	69-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	26.962	26.5	102	69-125	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	24.505	27.3	90	68-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	28.361	26.8	106	70-127	ok	70-130	ok	69-123	ok
620-14-4	3-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-123	#N/A
622-96-8	4-Ethyltoluene	28.301	27.0	105	69-127	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	29.937	26.3	114	66-129	ok	70-130	ok	67-130	ok
98-83-9	alpha-Methylstyrene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	67-128	#N/A
611-14-3	2-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	66-121	#N/A
95-63-6	1,2,4-Trimethylbenzene	29.440	26.0	113	63-142	ok	70-130	ok	66-132	ok
124-18-5	n-Decane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	70-118	#N/A
100-44-7	Benzyl Chloride	51.901	52.5	99	73-145	ok	70-130	ok	50-147	ok
541-73-1	1,3-Dichlorobenzene	27.046	26.3	103	67-136	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	25.784	26.5	97	63-134	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	26.510	26.3	101	68-130	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	24.919	26.3	95	60-139	ok	70-130	ok	67-130	ok
526-73-8	1,2,3-Trimethylbenzene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	60-134	#N/A
95-50-1	1,2-Dichlorobenzene	27.028	26.5	102	64-139	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	25.044	26.3	95	63-137	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	53.479	52.0	103	72-145	ok	70-130	ok	73-133	ok
1120-21-4	n-Undecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	69-123	#N/A
120-82-1	1,2,4-Trichlorobenzene	42.630	51.5	83	62-154	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	19.327	27.0	72	62-156	ok	70-130	ok	57-138	ok
112-40-3	n-Dodecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-147	#N/A
87-68-3	Hexachloro-1,3-butadiene	22.794	26.3	87	55-142	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	61-132	#N/A
98-06-6	tert-Butylbenzene	27.187	26.3	103	61-140	ok	70-130	ok	65-124	ok
104-51-8	n-Butylbenzene	23.474	26.3	89	70-131	ok	70-130	ok	66-130	ok

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2022 12\15\12152201.D Vial: 1
Acq On : 15 Dec 2022 00:29 Operator: TZ
Sample : CCV R13121522 25ng Inst : MS13
Misc : S35-11012201/S35-12022203 (1/1)

TZ 12/15/22

Quant Time: Dec 15 07:10:01 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	122	0.00
2	T	Propene	1.122	1.075	4.2	138	-0.01
3	T	Dichlorodifluoromethane (CF	2.302	2.372	-3.0	132	0.00
4	T	Chloromethane	1.159	1.334	-15.1	143	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.093	1.127	-3.1	131	0.00
6	T	Vinyl Chloride	1.283	1.421	-10.8	144	0.00
7	T	1,3-Butadiene	0.985	1.134	-15.1	143	0.00
8	T	Bromomethane	0.963	0.950	1.3	127	0.00
9	T	Chloroethane	0.594	0.635	-6.9	135	0.00
10	T	Ethanol	0.750	0.781	-4.1	141	0.00
11	T	Acetonitrile	1.627	1.892	-16.3	144	0.00
12	T	Acrolein	0.592	0.621	-4.9	129	0.00
13	T	Acetone	0.661	0.659	0.3	132	0.00
14	T	Trichlorofluoromethane	2.150	2.137	0.6	131	0.00
15	T	2-Propanol (Isopropanol)	2.474	2.617	-5.8	143	0.00
16	T	Acrylonitrile	1.111	1.274	-14.7	135	0.00
17	T	1,1-Dichloroethene	0.987	0.961	2.6	121	0.00
18	T	2-Methyl-2-Propanol (tert-B	2.349	2.351	-0.1	142	0.00
19	T	Methylene Chloride	1.013	0.966	4.6	123	0.00
20	T	3-Chloro-1-propene (Allyl C	1.344	1.516	-12.8	140	0.00
21	T	Trichlorotrifluoroethane	1.038	0.955	8.0	117	0.00
22	T	Carbon Disulfide	3.916	3.688	5.8	127	0.00
23	T	trans-1,2-Dichloroethene	1.447	1.525	-5.4	132	0.00
24	T	1,1-Dichloroethane	1.721	1.727	-0.3	130	0.00
25	T	Methyl tert-Butyl Ether	2.562	2.473	3.5	137	0.00
26	T	Vinyl Acetate	0.178	0.184	-3.4	120	0.00
27	T	2-Butanone (MEK)	0.621	0.607	2.3	127	0.00
28	T	cis-1,2-Dichloroethene	1.434	1.433	0.1	132	0.00
29	T	Diisopropyl Ether	0.777	0.747	3.9	122	0.00
30	T	Ethyl Acetate	0.380	0.396	-4.2	127	0.00
31	T	n-Hexane	1.481	1.480	0.1	132	0.00
32	T	Chloroform	1.919	1.918	0.1	128	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.730	1.903	-10.0	134	0.00
34	T	Tetrahydrofuran (THF)	0.595	0.585	1.7	129	0.00
35	T	Ethyl tert-Butyl Ether	1.190	1.205	-1.3	125	0.00
36	T	1,2-Dichloroethane	1.468	1.607	-9.5	133	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	118	0.00
38	T	1,1,1-Trichloroethane	0.409	0.430	-5.1	130	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	141	0.01
40	T	1-Butanol	0.000	0.000	0.0	163	-0.01
41	T	Benzene	0.878	0.863	1.7	124	0.00
42	T	Carbon Tetrachloride	0.360	0.375	-4.2	126	0.00
43	T	Cyclohexane	0.309	0.307	0.6	126	0.00
44	T	tert-Amyl Methyl Ether	0.668	0.695	-4.0	128	0.00
45	T	1,2-Dichloropropane	0.177	0.207	-16.9	133	0.00
46	T	Bromodichloromethane	0.342	0.357	-4.4	128	0.00
47	T	Trichloroethene	0.276	0.255	7.6	118	0.00
48	T	1,4-Dioxane	0.160	0.185	-15.6	130	0.00
49	T	2,2,4-Trimethylpentane (Iso	0.840	0.858	-2.1	131	0.00
50	T	Methyl Methacrylate	0.092	0.092	0.0	116	0.00
51	T	n-Heptane	0.197	0.204	-3.6	130	0.00
52	T	cis-1,3-Dichloropropene	0.358	0.362	-1.1	123	0.00
53	T	4-Methyl-2-pentanone	0.177	0.193	-9.0	133	0.00
54	T	trans-1,3-Dichloropropene	0.356	0.368	-3.4	121	0.00
55	T	1,1,2-Trichloroethane	0.233	0.225	3.4	124	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2022 12\15\12152201.D Vial: 1
Acq On : 15 Dec 2022 00:29 Operator: TZ
Sample : CCV R13121522 25ng Inst : MS13
Misc : S35-11012201/S35-12022203 (1/1)

Quant Time: Dec 15 07:10:01 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	130	0.00
57	S	Toluene-d8 (SS2)	6.187	5.681	8.2	124	0.00
58	T	Toluene	5.370	4.758	11.4	122	0.00
59	T	2-Hexanone	2.388	2.457	-2.9	139	0.00
60	T	Dibromochloromethane	1.722	1.576	8.5	121	0.00
61	T	1,2-Dibromoethane	1.631	1.366	16.2	117	0.00
62	T	n-Butyl Acetate	2.612	2.707	-3.6	138	0.00
63	T	n-Octane	0.916	0.889	2.9	130	0.00
64	T	Tetrachloroethene	1.764	1.481	16.0	116	0.00
65	T	Chlorobenzene	3.570	3.034	15.0	117	0.00
66	T	Ethylbenzene	6.093	5.583	8.4	123	0.00
67	T	m- & p-Xylenes	4.979	4.648	6.6	124	0.00
68	T	Bromoform	1.609	1.425	11.4	117	0.00
69	T	Styrene	3.277	3.209	2.1	115	0.00
70	T	o-Xylene	4.605	4.542	1.4	125	0.00
71	T	n-Nonane	1.626	1.966	-20.9	143	0.00
72	T	1,1,2,2-Tetrachloroethane	2.130	1.921	9.8	123	0.00
73	S	Bromofluorobenzene (SS3)	2.208	2.025	8.3	118	0.00
74	T	Cumene	5.816	5.573	4.2	122	0.00
75	T	alpha-Pinene	3.153	2.800	11.2	121	0.00
76	T	n-Propylbenzene	6.122	6.553	-7.0	124	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	0#	0.05
78	T	4-Ethyltoluene	5.106	5.281	-3.4	122	0.00
79	T	1,3,5-Trimethylbenzene	4.208	4.747	-12.8	123	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	-17.20#
81	T	2-Ethyltoluene	0.000	0.000	0.0	0#	0.05
82	T	1,2,4-Trimethylbenzene	3.918	4.636	-18.3	126	0.00
83	T	n-Decane	0.000	0.000	0.0	149	0.00
84	T	Benzyl Chloride	4.018	3.733	7.1	107	0.00
85	T	1,3-Dichlorobenzene	2.769	2.542	8.2	107	0.00
86	T	1,4-Dichlorobenzene	2.745	2.477	9.8	104	0.00
87	T	sec-Butylbenzene	5.332	5.819	-9.1	126	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.874	5.057	-3.8	127	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	0#	0.05
90	T	1,2-Dichlorobenzene	2.669	2.583	3.2	117	0.00
91	T	d-Limonene	1.164	1.399	-20.2	141	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.109	1.028	7.3	113	0.00
93	T	n-Undecane	0.000	0.000	0.0	0#	0.01
94	T	1,2,4-Trichlorobenzene	1.719	1.415	17.7	102	0.00
95	T	Naphthalene	3.699	2.564	30.7#	94	0.00
96	T	n-Dodecane	0.000	0.000	0.0	132	0.00
97	T	Hexachlorobutadiene	1.525	1.419	7.0	122	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	822#	0.02
99	T	tert-Butylbenzene	4.241	4.392	-3.6	122	0.00
100	T	n-Butylbenzene	3.788	3.981	-5.1	134	0.00
101	T	1,1,1,2-Tetrachloroethane	1.506	1.275	15.3	119	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152201.D Vial: 1
Acq On : 15 Dec 2022 00:29 Operator: TZ
Sample : CCV R13121522 25ng Inst : MS13
Misc : S35-11012201/S35-12022203 (1/1)

TZ 12/15/22

Quant Time: Dec 15 07:10:01 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.36	130	212506	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.40	114	906988	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.89	54	178675	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.12	65	404463	13.753	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.00%				
57) Toluene-d8 (SS2)	12.49	98	1015073	11.477	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%				
73) Bromofluorobenzene (SS3)	16.86	174	361837	11.466	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%				
Target Compounds							Qvalue
2) Propene	3.38	42	479563	25.135	ng		93
3) Dichlorodifluoromethan...	3.46	85	1068697	27.302	ng		98
4) Chloromethane	3.59	50	583903	29.640	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	498215	26.817	ng		97
6) Vinyl Chloride	3.79	62	609998	27.968	ng		97
7) 1,3-Butadiene	3.91	54	510963	30.508	ng		94
8) Bromomethane	4.12	94	411940	25.155	ng		88
9) Chloroethane	4.26	64	278129	27.547	ng		99
10) Ethanol	4.45	45	1144705	89.775	ng		98
11) Acetonitrile	4.58	41	731600	26.455	ng		88
12) Acrolein	4.65	56	509663	50.623	ng		94
13) Acetone	4.77	58	1475257	131.242	ng	#	85
14) Trichlorofluoromethane	4.87	101	944594	25.843	ng		89
15) 2-Propanol (Isopropanol)	4.99	45	2280380	54.216	ng		100
16) Acrylonitrile	5.14	53	1110042	58.784	ng		97
17) 1,1-Dichloroethene	5.37	96	441262	26.305	ng	#	84
18) 2-Methyl-2-Propanol (t...	5.47	59	2108040	52.795	ng		95
19) Methylene Chloride	5.49	84	435063	25.260	ng		94
20) 3-Chloro-1-propene (Al...	5.57	41	682780	29.889	ng		96
21) Trichlorotrifluoroethane	5.69	151	438244	24.838	ng	#	78
22) Carbon Disulfide	5.72	76	3339072	50.156	ng		99
23) trans-1,2-Dichloroethene	6.26	61	700213	28.465	ng		93
24) 1,1-Dichloroethane	6.45	63	785274	26.835	ng		100
25) Methyl tert-Butyl Ether	6.48	73	1124757	25.823	ng		96
26) Vinyl Acetate	6.57	86	219220	72.451	ng	#	67
27) 2-Butanone (MEK)	6.79	72	539057	51.036	ng		97
28) cis-1,2-Dichloroethene	7.20	61	645646	26.486	ng		95
29) Diisopropyl Ether	7.39	87	673212	50.973	ng	#	57
30) Ethyl Acetate	7.40	61	711002	110.175	ng		92
31) n-Hexane	7.40	57	660691	26.249	ng		95
32) Chloroform	7.49	83	863897	26.484	ng		99
34) Tetrahydrofuran (THF)	7.86	72	507040	50.149	ng	#	85
35) Ethyl tert-Butyl Ether	7.93	87	1085317	53.665	ng		95
36) 1,2-Dichloroethane	8.23	62	737519	29.548	ng		95
38) 1,1,1-Trichloroethane	8.50	97	818209	27.565	ng		95
39) Isopropyl Acetate	9.41	61	29317	No Calib			
40) 1-Butanol	8.89	56	24179	No Calib			
41) Benzene	9.01	78	1675039	26.283	ng		99
42) Carbon Tetrachloride	9.17	117	707642	27.087	ng		88
43) Cyclohexane	9.31	84	1169098	52.218	ng		85
44) tert-Amyl Methyl Ether	9.69	73	2674111	55.134	ng		97
45) 1,2-Dichloropropane	9.95	63	395067	30.778	ng		99
46) Bromodichloromethane	10.17	83	692670	27.952	ng		99
47) Trichloroethene	10.24	130	486010	24.238	ng		97
48) 1,4-Dioxane	10.21	88	355558	30.609	ng	#	65
49) 2,2,4-Trimethylpentane...	10.31	57	1680496	27.572	ng		98
50) Methyl Methacrylate	10.49	100	353225	52.800	ng	#	55

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152201.D Vial: 1
Acq On : 15 Dec 2022 00:29 Operator: TZ
Sample : CCV R13121522 25ng Inst : MS13
Misc : S35-11012201/S35-12022203 (1/1)

Quant Time: Dec 15 07:10:01 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

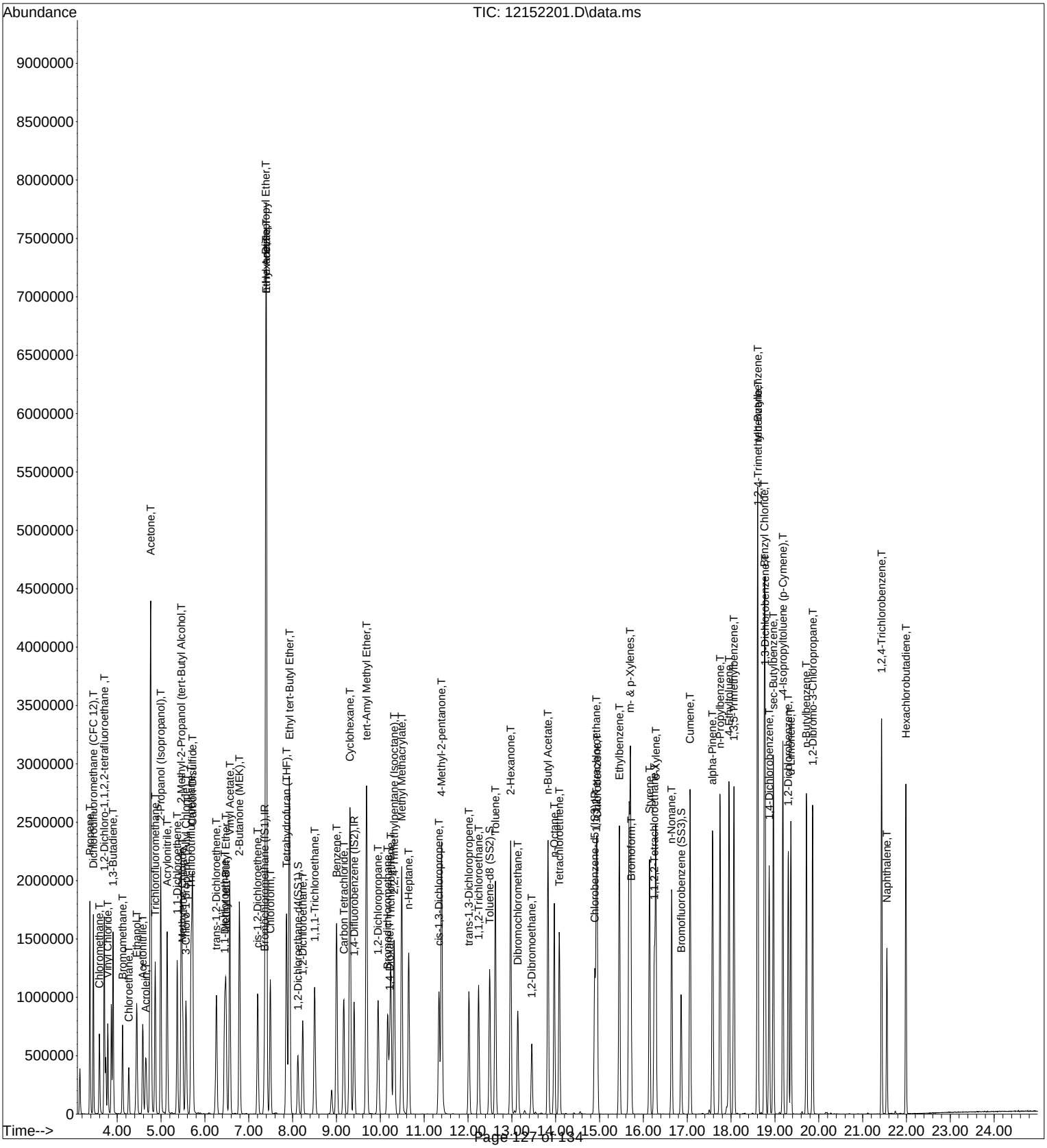
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.64	71	392599	27.496	ng		93
52) cis-1,3-Dichloropropene	11.34	75	708595	27.283	ng		94
53) 4-Methyl-2-pentanone	11.40	58	752448	58.699	ng		83
54) trans-1,3-Dichloropropene	12.02	75	680994	26.349	ng		95
55) 1,1,2-Trichloroethane	12.24	97	432775	25.546	ng		91
58) Toluene	12.63	91	1785453	23.259	ng		95
59) 2-Hexanone	12.97	43	1861300	54.535	ng		93
60) Dibromochloromethane	13.14	129	608244	24.706	ng		89
61) 1,2-Dibromoethane	13.46	107	507539	21.766	ng		89
62) n-Butyl Acetate	13.83	43	1983033	53.116	ng		97
63) n-Octane	13.97	57	340027	25.968	ng		92
64) Tetrachloroethene	14.08	166	560966	22.252	ng		97
65) Chlorobenzene	14.95	112	1149329	22.521	ng		94
66) Ethylbenzene	15.45	91	2094838	24.054	ng		99
67) m- & p-Xylenes	15.70	91	3487924	49.008	ng		97
68) Bromoform	15.72	173	544711	23.683	ng		99
69) Styrene	16.14	104	1215418	25.947	ng		99
70) o-Xylene	16.28	91	1720613	26.139	ng		93
71) n-Nonane	16.64	43	744792	32.036	ng		96
72) 1,1,2,2-Tetrachloroethane	16.25	83	727589	23.895	ng		94
74) Cumene	17.06	105	2130886	25.631	ng		93
75) alpha-Pinene	17.58	93	1090821	24.203	ng		98
76) n-Propylbenzene	17.75	91	2505523	28.630	ng		98
77) 3-Ethyltoluene	17.41	105	140	No Calib		#	
78) 4-Ethyltoluene	17.95	105	2056829	28.184	ng		99
79) 1,3,5-Trimethylbenzene	18.07	105	1798151	29.892	ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.41	105	140	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.61	105	1739617	31.061	ng		99
83) n-Decane	17.07	58	16509	No Calib			
84) Benzyl Chloride	18.76	91	2827838	49.236	ng		97
85) 1,3-Dichlorobenzene	18.78	146	962904	24.330	ng		97
86) 1,4-Dichlorobenzene	18.87	146	938100	23.905	ng		92
87) sec-Butylbenzene	18.96	105	2204144	28.922	ng		99
88) 4-Isopropyltoluene (p-...	19.18	119	1915531	27.493	ng		95
89) 1,2,3-Trimethylbenzene	17.41	105	140	No Calib		#	
90) 1,2-Dichlorobenzene	19.31	146	987687	25.893	ng		100
91) d-Limonene	19.36	68	535110	32.169	ng		94
92) 1,2-Dibromo-3-Chloropr...	19.86	157	771436	48.684	ng		97
93) n-Undecane	18.26	58	291	No Calib		#	
94) 1,2,4-Trichlorobenzene	21.43	180	1056840	43.008	ng		95
95) Naphthalene	21.55	128	1007808	19.060	ng		96
96) n-Dodecane	19.18	58	38124	No Calib		#	
97) Hexachlorobutadiene	21.99	225	537600	24.665	ng		97
98) Cyclohexanone	15.68	55	1521	No Calib		#	
99) tert-Butylbenzene	18.61	119	1663819	27.444	ng		99
100) n-Butylbenzene	19.72	91	1522021	28.110	ng		99
101) 1,1,1,2-Tetrachloroethane	14.92	131	482854	22.428	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2022 12\15\12152201.D Vial: 1
Acq On : 15 Dec 2022 00:29 Operator: TZ
Sample : CCV R13121522 25ng Inst : MS13
Misc : S35-11012201/S35-12022203 (1/1)

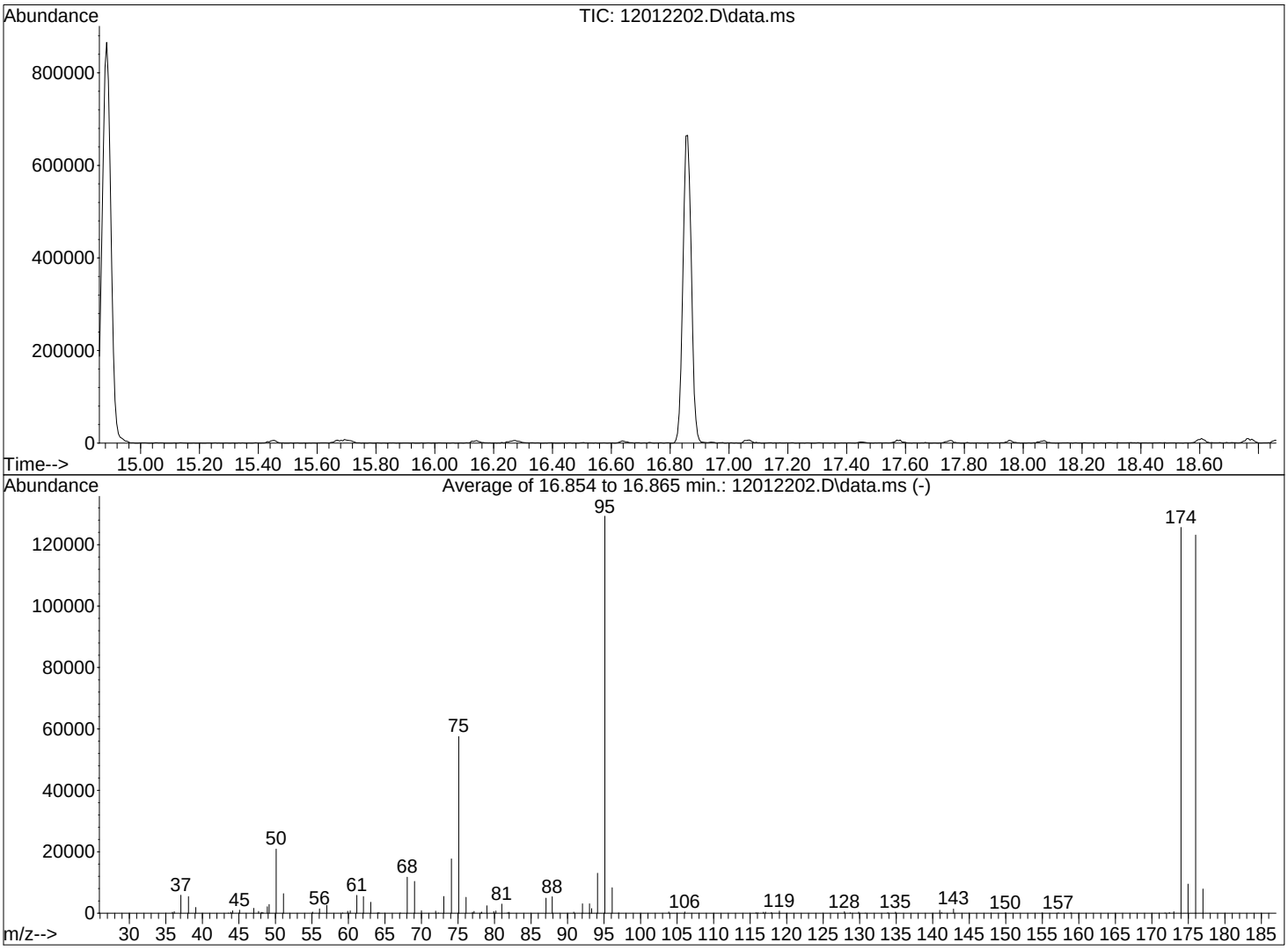
Quant Time: Dec 15 07:10:01 2022
Quant Method : I:\MS13\METHODS\R13120122.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Dec 12 08:38:59 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS13\DATA\2022 12\01\
Data File : 12012202.D
Acq On : 1 Dec 2022 1:03
Operator : TZ
Sample : 0.1ng R13120122 ICAL Std.
Misc : S35-11012201/S35-11292206 (12/29)
ALS Vial : 13 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13120122.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Dec 01 07:32:04 2022



AutoFind: Scans 2419, 2420, 2421; Background Corrected with Scan 2411

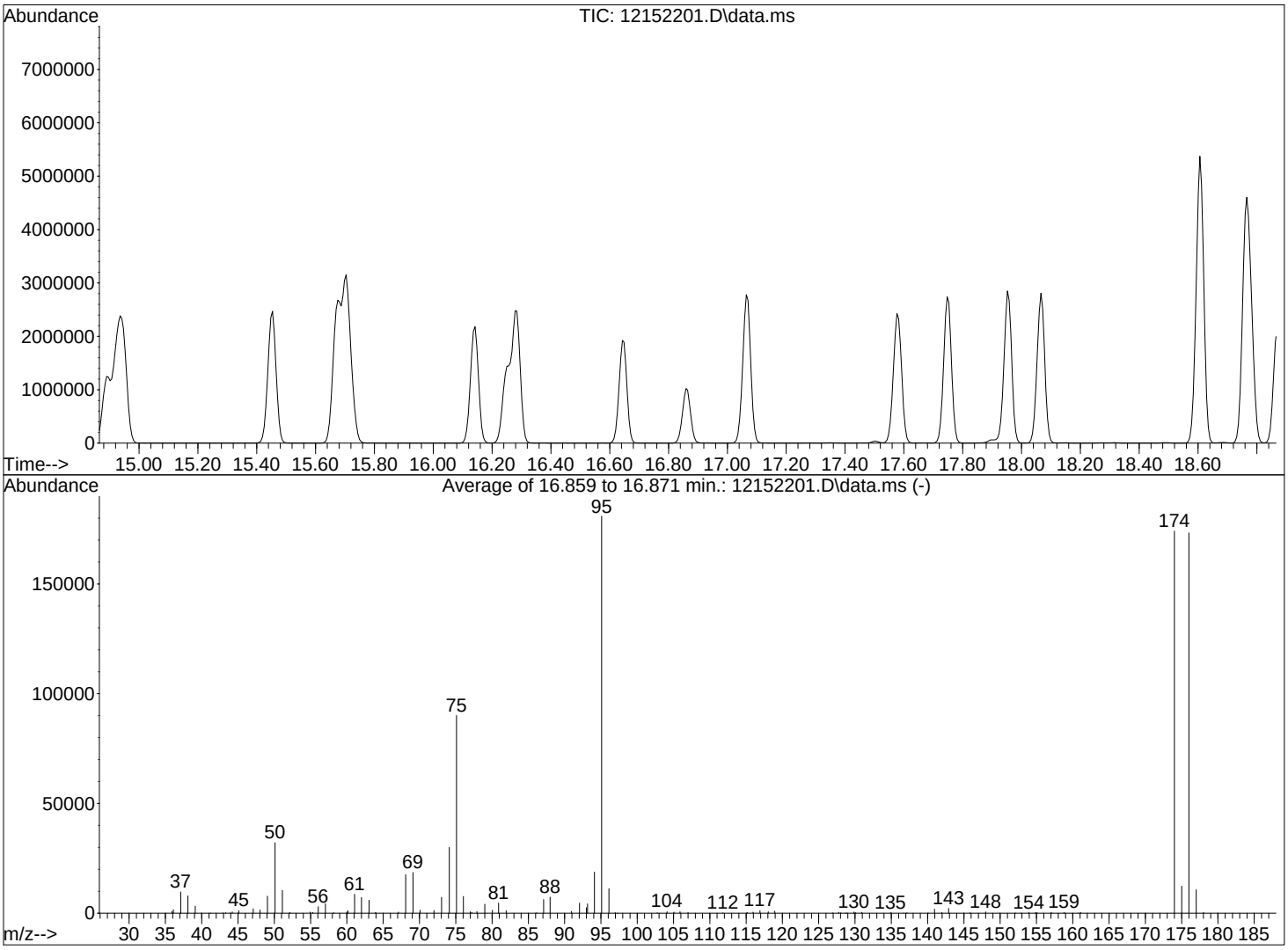
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.2	20917	PASS
75	95	30	66	44.5	57525	PASS
95	95	100	100	100.0	129293	PASS
96	95	5	9	6.4	8313	PASS
173	174	0.00	2	0.4	506	PASS
174	95	50	120	97.2	125624	PASS
175	174	4	9	7.6	9507	PASS
176	174	93	101	98.0	123147	PASS
177	176	5	9	6.4	7866	PASS

TZ 12/2/22

Data Path : I:\MS13\DATA\2022 12\14\
Data File : 12152201.D
Acq On : 15 Dec 2022 00:29
Operator : TZ
Sample : CCV R13121522 25ng
Misc : S35-11012201/S35-12022203 (1/1)
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13120122.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Mon Dec 12 08:38:59 2022



AutoFind: Scans 2420, 2421, 2422; Background Corrected with Scan 2411

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.8	32136	PASS
75	95	30	66	49.8	90075	PASS
95	95	100	100	100.0	180885	PASS
96	95	5	9	6.2	11187	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	96.3	174123	PASS
175	174	4	9	7.1	12332	PASS
176	174	93	101	99.6	173355	PASS
177	176	5	9	6.2	10686	PASS

Tz 12/15/22

TZ 12/2/22

Directory: J:\MS13\DATA\2022_12\01\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	12/1/22 0:26	12012201.D	Blank	S35-11012201	TZ	1	
2	12/1/22 1:03	12012202.D	0.1ng R13120122 ICAL Std.	S35-11012201/S35-11292206 (12/29)	TZ	13	R13120122.M
3	12/1/22 1:39	12012203.D	0.2ng R13120122 ICAL Std.	S35-11012201/S35-11292206 (12/29)	TZ	13	
4	12/1/22 2:15	12012204.D	0.5ng R13120122 ICAL Std.	S35-11012201/S35-11302202 (12/30)	TZ	14	
5	12/1/22 2:52	12012205.D	1.0ng R13120122 ICAL Std.	S35-11012201/S35-11302202 (12/30)	TZ	14	
6	12/1/22 3:28	12012206.D	5.0ng R13120122 ICAL Std.	S35-11012201/S35-11302202 (12/30)	TZ	14	
7	12/1/22 4:05	12012207.D	25ng R13120122 ICAL Std.	S35-11012201/S35-11292202 (12/29)	TZ	15	
8	12/1/22 4:41	12012208.D	50ng R13120122 ICAL Std.	S35-11012201/S35-11292202 (12/29)	TZ	15	
9	12/1/22 5:18	12012209.D	100ng R13120122 ICAL Std.	S35-11012201/S35-11292202 (12/29)	TZ	15	
10	12/1/22 5:55	12012210.D	Blank	S35-11012201	TZ	1	
11	12/1/22 6:31	12012211.D	5.0ng R13120122 ICV Std.	S35-11012201/S35-11152204 (12/15)	TZ	1	not used
12	12/1/22 7:07	12012212.D	25ng R13120122 ICV Std.	S35-11012201/S35-11152204 (12/15)	TZ	1	passed
13	12/1/22 8:17	12012213.D	Blank	S35-11012201	TZ	1	

R13120122.M ranges from 0.1ng->100ng except: chloromethane: 0.2ng-<50ng, chloroethane: 0.2ng->100ng, IPA: 1ng->200ng,

TBA: 0.2ng->100ng, vinyl acetate: 0.5ng->250ng, methyl methacrylate: 0.4ng->200ng, heptane: 0.2ng->100ng, MIBK: 0.4ng->200ng,

trans-1,3-dichloropropene: 0.2ng->100ng, 2-hexanone: 0.4ng->200ng, octane: 0.2ng->100ng, nonane: 0.5ng->100ng, naphthalene: 0.2ng->100ng

RSD>30% for MTBE

Ethyl Acetate not within method limit, but passed within lab control limit

Injection Log

TZ 12/16/22

Directory: I:\MS13\DATA\2022_12\15\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	12/15/22 0:29	12152201.D	CCV R13121522 25ng	S35-11012201/S35-12022203 (1/1)	TZ	1	passed
2	12/15/22 1:04	12152202.D	CCV C13121522 5.0ng	S35-11012201/S35-12062203 (1/5)	TZ	16	passed
3	12/15/22 1:40	12152203.D	Blank	S35-11012201	TZ	1	
4	12/15/22 2:15	12152204.D	MB R13121522 1000mL	S35-11012201_AC01387	TZ	1	passed
5	12/15/22 2:50	12152205.D	LCS R13121522 5.0ng	S35-11012201/S35-12092202 (1/8)	TZ	1	passed
6	12/15/22 3:26	12152206.D	LCSD R13121522 5.0ng	S35-11012201/S35-12092202 (1/8)	TZ	1	passed
7	12/15/22 4:02	12152207.D	P2205542-005 (1000mL)	S35-11012201	TZ	6	not reporting
8	12/15/22 4:38	12152208.D	P2205604-002 (100mL)	S35-11012201	TZ	7	
9	12/15/22 5:13	12152209.D	P2205604-002dil (50mL)	S35-11012201	TZ	7	
10	12/15/22 7:56	12152210.D	P2205495-001 (1000mL)	S35-11012201	TZ	7	
11	12/15/22 8:34	12152211.D	P2205542-005 (1000mL)	S35-11012201	TZ	6	
12	12/15/22 9:10	12152212.D	P2205604-001 (0.05mL)	S35-11012201	TZ	8	
13	12/15/22 9:47	12152213.D	RL R13121522 0.5ng	S35-11012201/S35-11292204 (12/29)	TZ	15	low standard cans
14	12/15/22 10:40	12152214.D	RL R13121522 0.5ng	S35-11012201/S35-11292206 (12/29)	TZ	15	
15	12/15/22 11:16	12152215.D	P2205530-001 (400mL)	S35-11012201	TZ	2	
16	12/15/22 11:53	12152216.D	RL R13121522 0.5ng	S35-11012201/S35-12142201 (1/13)	TZ	15	passed
17	12/15/22 12:30	12152217.D	P2205459-003 (90mL)	S35-11012201	TZ	4	not reporting
18	12/15/22 13:07	12152218.D	P2205530-002 (400mL)	S35-11012201	TZ	3	
19	12/15/22 13:43	12152219.D	P2205459-003 (65mL)	S35-11012201	TZ	4	
20	12/15/22 14:20	12152220.D	P2205512-001 (1000mL)	S35-11012201	TZ	5	
21	12/15/22 14:56	12152221.D	P2205512-002 (1000mL)	S35-11012201	TZ	6	
22	12/15/22 15:58	12152222.D	P2205512-003 (1000mL)	S35-11012201	TZ	7	
23	12/15/22 16:34	12152223.D	P2205512-004 (1000mL)	S35-11012201	TZ	8	
24	12/15/22 17:10	12152224.D	P2205512-004dup (1000mL)	S35-11012201	TZ	8	passed
25	12/15/22 17:47	12152225.D	P2205500-001 (1000mL)	S35-11012201	TZ	5	
26	12/15/22 18:23	12152226.D	P2205500-002 (1000mL)	S35-11012201	TZ	6	
27	12/15/22 19:00	12152227.D	P2205500-003 (1000mL)	S35-11012201	TZ	10	
28	12/15/22 19:36	12152228.D	P2205500-004 (1000mL)	S35-11012201	TZ	11	
29	12/15/22 20:12	12152229.D	P2205500-005 (1000mL)	S35-11012201	TZ	12	
30	12/15/22 20:49	12152230.D	P2205570-001 (400mL)	S35-11012201	TZ	9	
31	12/15/22 21:26	12152231.D	P2205513-001 (1000mL)	S35-11012201	TZ	2	
32	12/15/22 22:03	12152232.D	P2205513-002 (1000mL)	S35-11012201	TZ	3	needs dilution
33	12/15/22 22:39	12152233.D	P2205513-003 (1000mL)	S35-11012201	TZ	4	
34	12/15/22 23:16	12152234.D	P2205556-009 0.3ng Extra Compds MDL LOD (Set	S35-11012201/S35-12062204 (1/5)	TZ	15	
35	12/15/22 23:53	12152235.D	P2205556-011 0.5ng LOQ	S35-11012201/S35-12062204 (1/5)	TZ	15	
36	12/16/22 0:29	12152236.D	System	S35-11012201/S35-12022203 (1/1)	TZ	1	

CCV: Naphthalene out low - RL passed
LCS/LCSD: Ethanol out high, within method

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 30236

Batch Started By: on 11/10/22 0313
Finished Cleaning By: KYLAN.MALLOY on 11/14/22 1046

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS00786	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY				
AS01114	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY				
AS00665	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY				
AS01597	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY				
AS01743	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY				
AS01357	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY				
AS00323	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/5/22 0128		
AS00987	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY				MS21-11/11/22
AS00618	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY				
AS01735	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY				
AS01175	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY				
AS01599	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY				
AS00685	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/5/22 0128		
AS00640	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/5/22 0128		
AS01728	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/5/22 0128		
AS01256	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/5/22 0128		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 11\11\
Data File : 11112206.D
Acq On : 11 Nov 2022 17:26
Operator : KM
Sample : 111122 AS00987 30236
Misc : SIM + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

11/15/22

Quant Time: Nov 14 07:41:22 2022
Quant Method : I:\MS21\Methods\F21103122.M
Quant Title : EPA TO-15
QLast Update : Tue Nov 01 07:50:09 2022
Response via : Initial Calibration

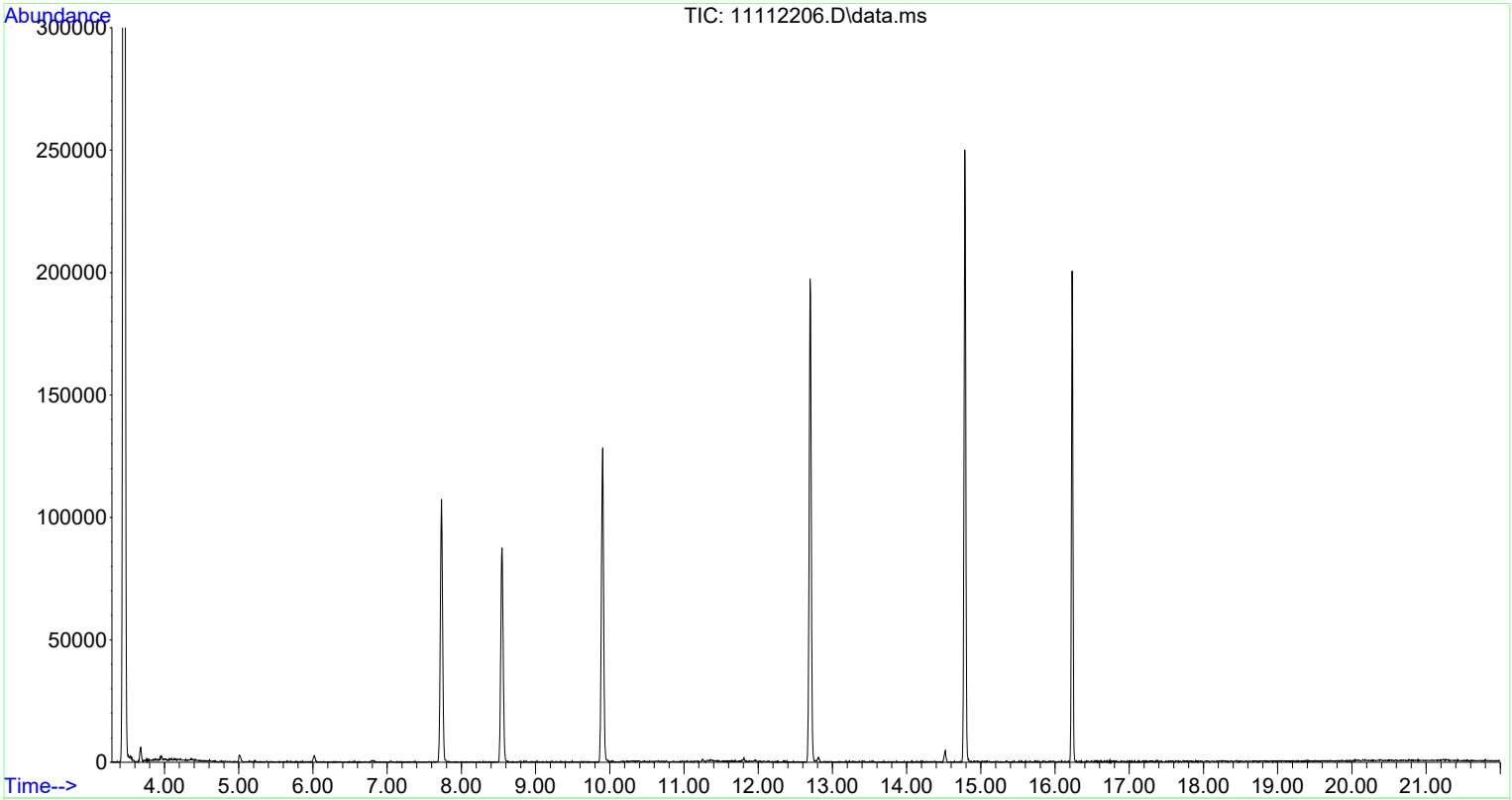
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.734	130	55901	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.901	114	136278	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	25676	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.550	65	86187	996.12	pg		0.00
Spiked Amount 1000.000			Recovery = 99.61%				
57) Toluene-d8 (SS2)	12.702	98	155014	978.10	pg		0.00
Spiked Amount 1000.000			Recovery = 97.81%				
74) Bromofluorobenzene (SS3)	16.233	174	67666	930.61	pg		0.00
Spiked Amount 1000.000			Recovery = 93.06%				
Target Compounds							Qvalue
2] * Propene	3.682	42	294	9.237	pg	#	19
3] * Dichlorodifluoromethane	3.725	85	113	1.190	pg	#	42
4] * Chloromethane	3.856	50	98	3.758	pg	#	40
7] * 1,3-Butadiene	4.147	54	6	0.290	pg	#	6
10] * Ethanol	4.606	45	644	25.450	pg		99
12] * Acrolein	4.884	56	91	5.715	pg		92
13] * Acetone	5.014	58	1242	38.806	pg		91
14] * Trichlorofluoromethane	5.138	101	69	0.502	pg	#	18
15] * 2-Propanol (Isopropa...	5.219	45	538	9.388	pg	#	73
19] * Methylene Chloride	5.739	84	92	1.547	pg		94
22] * Carbon Disulfide	6.016	76	4844	22.906	pg		97
26] * Vinyl Acetate	6.892	86	55	11.782	pg	#	24
27] * 2-Butanone (MEK)	7.189	72	136	6.568	pg		98
32] * Chloroform	7.857	83	57	0.508	pg	#	17
39] * Benzene	9.484	78	379	3.590	pg		99
53] * 4-Methyl-2-pentanone	11.804	58	428	24.920	pg		97
58] * Toluene	12.810	91	2041	11.419	pg		98
66] * Ethylbenzene	15.220	91	523	5.226	pg		99
67] * m- & p-Xylenes	15.381	91	280	3.478	pg		91
91] p-Isopropyltoluene	17.724	119	74	0.853	pg	#	49
93] * D-Limonene	17.843	68	290	12.944	pg		96

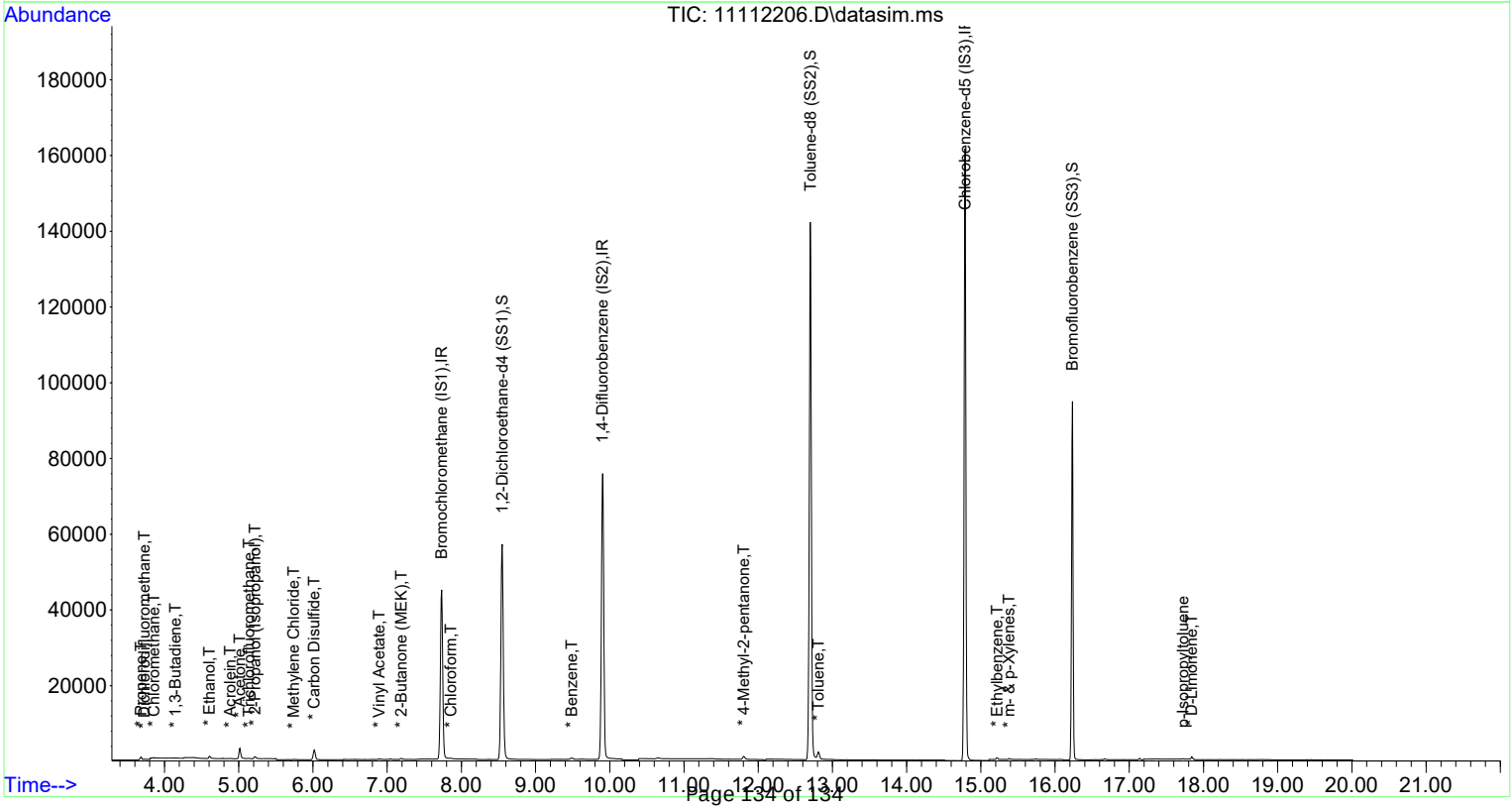
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 11\11\
Data File : 11112206.D
Acq On : 11 Nov 2022 17:26
Operator : KM
Sample : 111122 AS00987 30236
Misc : SIM + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 14 07:41:22 2022
Quant Method : I:\MS21\Methods\F21103122.M
Quant Title : EPA TO-15
QLast Update : Tue Nov 01 07:50:09 2022
Response via : Initial Calibration





ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

January 9, 2023

Candace Christensen
North Wind, Inc.
352 Corporate Center Court
Stockbridge, GA 30281

RE: DOE Perimeter Air / 080153.018.15

Dear Candace:

Enclosed are the results of the samples submitted to our laboratory on December 16, 2022. For your reference, these analyses have been assigned our service request number P2205677.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

By Sue Anderson at 2:51 pm, Jan 09, 2023

For Nicole Bryson
Laboratory Director

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: North Wind, Inc. Service Request No: P2205677
Project: DOE Perimeter Air / 080153.018.15

CASE NARRATIVE

The samples were received intact under chain of custody on December 16, 2022 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The analyte Vinyl Acetate could not be reported for this data set, due to a vendor anomaly found in the new standard being used. Once the issue has been resolved subsequent reports will include the compound in question.

The minimum criterion for Methyl tert-Butyl Ether was not met in the Continuing Calibration Verification (CCV) analyzed on December 29, 2022. In accordance with ALS Environmental standard operating procedures, a Method Reporting Limit (MRL) check standard containing the analyte of concern was analyzed each day of analysis. The MRL check standard verified that instrument sensitivity was adequate to detect the analyte at the MRL on the day of analysis. Because the sensitivity was shown to be adequate to detect the compound in question and the compound was not detected in the field samples, the data quality has not been significantly affected. This procedure is a quantitative confirmation of non-detect results at or below the MRL. No further corrective action was necessary.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: North Wind, Inc. Service Request: P2205677

Project ID: DOE Perimeter Air / 080153.018.15

Date Received: 12/16/2022

Time Received: 13:39

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
DOE-1_121622_S	P2205677-001	Air	12/16/2022	10:00	AS00092	-1.37	3.85	X
DOE-2_121622_S	P2205677-002	Air	12/16/2022	10:15	AS01090	-1.08	3.53	X
DOE-3_121622_S	P2205677-003	Air	12/16/2022	10:30	AS00665	-3.81	3.76	X
DOE-4_121622_S	P2205677-004	Air	12/16/2022	10:45	AS00618	-1.72	3.84	X
DOE-2_121622_D	P2205677-005	Air	12/16/2022	10:16	AS01317	-1.57	3.82	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. R2205677

Company Name & Address (Reporting Information)	North Wind Portage 5800 Woolsey Canyon Rd Canoga Park CA 91304
Project Manager	Trina Cesnik
Phone	805-587-0691
Fax	
Email Address for Result Reporting	cchristensen@northwindgrp.com; denise.gonzalez@northwindg
Project Name	DOE Perimeter Air
Project Number	080153.018.15
P.O. # / Billing Information	PO # 8-0000943 Accounts Payable : accounts.payable@northwindgrp.com
Sampler (Print & Sign)	T. Stewart Williford
ALS Contact:	Hayden Akers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
DOE-1_121622_S	1	12/16/2022	1000	AS00092	FCR00385	-28.0	-1.5		X		
DOE-2_121622_S	2	12/16/2022	1015	AS01090	FCR00326	-29.0	-2.5		X		
DOE-3_121622_S	3	12/16/2022	1030	AS00665	FCR00327	-29.5	-7.0		X		
DOE-4_121622_S	4	12/16/2022	1045	AS00618	FCR00331	-28.0	-2.0		X		
DOE-2_121622_D	X	12/16/2022	1016	AS01317	FCR00141	-28.0	-2.5		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries) X
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Data Validation Package) 10% Surcharge X

EDD required: (Yes) / No
Type: EQuIS
Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature) T. Stewart Williford	Date: 12/16/22	Time: 1353	Received by: (Signature)	Date: 12-16-22	Time: 1358	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: North Wind, Inc. Work order: P2205677

Project: DOE Perimeter Air / 080153.018.15

Sample(s) received on: 12/16/22 Date opened: 12/16/22 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2205677-001.01	6.0 L Silonite Can					
P2205677-002.01	6.0 L Silonite Can					
P2205677-003.01	6.0 L Silonite Can					
P2205677-004.01	6.0 L Silonite Can					
P2205677-005.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_121622_S** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-001

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00092

Initial Pressure (psig): -1.37 Final Pressure (psig): 3.85

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.8**	0.74	**0.36**	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.75	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.72	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.72	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.71	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.61	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.98**	0.72	**0.17**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.64	
75-35-4	1,1-Dichloroethene	ND	0.75	ND	0.19	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.75	ND	0.098	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.20	**V**
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.47	
156-59-2	cis-1,2-Dichloroethene	ND	0.72	ND	0.18	
141-78-6	Ethyl Acetate	**10**	2.9	**2.8**	0.81	
110-54-3	n-Hexane	ND	0.74	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_121622_S** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-001

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00092

Initial Pressure (psig): -1.37 Final Pressure (psig): 3.85

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.75	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.47	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.72	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.70	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	ND	0.72	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.72	ND	0.20	
142-82-5	n-Heptane	ND	0.74	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	0.71	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.72	ND	0.13	
108-88-3	Toluene	ND	0.72	ND	0.19	
591-78-6	2-Hexanone	ND	1.5	ND	0.37	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.087	
106-93-4	1,2-Dibromoethane	ND	0.72	ND	0.094	
111-65-9	n-Octane	ND	0.74	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.72	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-1_121622_S** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-001

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00092

Initial Pressure (psig): -1.37 Final Pressure (psig): 3.85

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.72	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.72	ND	0.070	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	o-Xylene	ND	0.72	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.72	ND	0.11	
98-82-8	Cumene	ND	0.72	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.74	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.74	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.72	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.72	ND	0.15	
100-44-7	Benzyl Chloride	ND	2.8	ND	0.54	
541-73-1	1,3-Dichlorobenzene	ND	0.72	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.72	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.72	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.72	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.21	
91-20-3	Naphthalene	ND	0.72	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.72	ND	0.068	
104-51-8	n-Butylbenzene	ND	0.72	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.74	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_121622_S** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-002

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01090

Initial Pressure (psig): -1.08 Final Pressure (psig): 3.53

Canister Dilution Factor: 1.34

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.8**	0.71	**0.37**	0.14	
74-87-3	Chloromethane	ND	0.68	ND	0.33	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.72	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.70	ND	0.27	
106-99-0	1,3-Butadiene	ND	0.70	ND	0.32	
74-83-9	Bromomethane	ND	0.68	ND	0.18	
75-00-3	Chloroethane	ND	0.68	ND	0.26	
107-02-8	Acrolein	ND	1.3	ND	0.58	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.99**	0.70	**0.18**	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.3	ND	0.55	
107-13-1	Acrylonitrile	ND	1.3	ND	0.62	
75-35-4	1,1-Dichloroethene	ND	0.72	ND	0.18	
75-09-2	Methylene Chloride	ND	0.70	ND	0.20	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.72	ND	0.094	
75-15-0	Carbon Disulfide	ND	1.5	ND	0.47	
156-60-5	trans-1,2-Dichloroethene	ND	0.71	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.71	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.71	ND	0.20	**V**
78-93-3	2-Butanone (MEK)	ND	1.3	ND	0.45	
156-59-2	cis-1,2-Dichloroethene	ND	0.70	ND	0.18	
141-78-6	Ethyl Acetate	**4.7**	2.8	**1.3**	0.78	
110-54-3	n-Hexane	ND	0.71	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_121622_S** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-002

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01090

Initial Pressure (psig): -1.08 Final Pressure (psig): 3.53

Canister Dilution Factor: 1.34

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.72	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	1.3	ND	0.45	
107-06-2	1,2-Dichloroethane	ND	0.71	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.70	ND	0.13	
71-43-2	Benzene	ND	0.67	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.67	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.67	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.71	ND	0.11	
79-01-6	Trichloroethene	ND	0.70	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.70	ND	0.19	
142-82-5	n-Heptane	ND	0.71	ND	0.17	
10061-01-5	cis-1,3-Dichloropropene	ND	0.67	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.5	ND	0.36	
10061-02-6	trans-1,3-Dichloropropene	ND	0.68	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.70	ND	0.13	
108-88-3	Toluene	ND	0.70	ND	0.18	
591-78-6	2-Hexanone	ND	1.5	ND	0.36	
124-48-1	Dibromochloromethane	ND	0.71	ND	0.083	
106-93-4	1,2-Dibromoethane	ND	0.70	ND	0.091	
111-65-9	n-Octane	ND	0.71	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.70	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_121622_S** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-002

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01090

Initial Pressure (psig): -1.08 Final Pressure (psig): 3.53

Canister Dilution Factor: 1.34

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.70	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.34	
75-25-2	Bromoform	ND	0.70	ND	0.067	
100-42-5	Styrene	ND	0.67	ND	0.16	
95-47-6	o-Xylene	ND	0.70	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.70	ND	0.10	
98-82-8	Cumene	ND	0.70	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.71	ND	0.14	
622-96-8	4-Ethyltoluene	ND	0.71	ND	0.14	
108-67-8	1,3,5-Trimethylbenzene	ND	0.70	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.70	ND	0.14	
100-44-7	Benzyl Chloride	ND	2.7	ND	0.52	
541-73-1	1,3-Dichlorobenzene	ND	0.70	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.70	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.70	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.70	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.71	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ND	0.20	
91-20-3	Naphthalene	ND	0.70	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.70	ND	0.065	
104-51-8	n-Butylbenzene	ND	0.70	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.71	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_121622_S** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-003

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00665

Initial Pressure (psig): -3.81 Final Pressure (psig): 3.76

Canister Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.90	**0.38**	0.18	
74-87-3	Chloromethane	ND	0.87	ND	0.42	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.92	ND	0.13	
75-01-4	Vinyl Chloride	ND	0.88	ND	0.35	
106-99-0	1,3-Butadiene	ND	0.88	ND	0.40	
74-83-9	Bromomethane	ND	0.87	ND	0.22	
75-00-3	Chloroethane	ND	0.87	ND	0.33	
107-02-8	Acrolein	ND	1.7	ND	0.74	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.88	**0.18**	0.16	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.7	ND	0.69	
107-13-1	Acrylonitrile	ND	1.7	ND	0.78	
75-35-4	1,1-Dichloroethene	ND	0.92	ND	0.23	
75-09-2	Methylene Chloride	ND	0.88	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.92	ND	0.12	
75-15-0	Carbon Disulfide	ND	1.9	ND	0.60	
156-60-5	trans-1,2-Dichloroethene	ND	0.90	ND	0.23	
75-34-3	1,1-Dichloroethane	ND	0.90	ND	0.22	
1634-04-4	Methyl tert-Butyl Ether	ND	0.90	ND	0.25	**V**
78-93-3	2-Butanone (MEK)	ND	1.7	ND	0.58	
156-59-2	cis-1,2-Dichloroethene	ND	0.88	ND	0.22	
141-78-6	Ethyl Acetate	**35**	3.6	**9.7**	0.99	
110-54-3	n-Hexane	ND	0.90	ND	0.26	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_121622_S** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-003

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00665

Initial Pressure (psig): -3.81 Final Pressure (psig): 3.76

Canister Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.92	ND	0.19	
109-99-9	Tetrahydrofuran (THF)	ND	1.7	ND	0.58	
107-06-2	1,2-Dichloroethane	ND	0.90	ND	0.22	
71-55-6	1,1,1-Trichloroethane	ND	0.88	ND	0.16	
71-43-2	Benzene	ND	0.85	ND	0.27	
56-23-5	Carbon Tetrachloride	ND	0.85	ND	0.14	
110-82-7	Cyclohexane	ND	1.9	ND	0.54	
78-87-5	1,2-Dichloropropane	ND	0.85	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.90	ND	0.13	
79-01-6	Trichloroethene	ND	0.88	ND	0.16	
123-91-1	1,4-Dioxane	ND	0.88	ND	0.25	
142-82-5	n-Heptane	ND	0.90	ND	0.22	
10061-01-5	cis-1,3-Dichloropropene	ND	0.85	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	1.9	ND	0.46	
10061-02-6	trans-1,3-Dichloropropene	ND	0.87	ND	0.19	
79-00-5	1,1,2-Trichloroethane	ND	0.88	ND	0.16	
108-88-3	Toluene	ND	0.88	ND	0.23	
591-78-6	2-Hexanone	ND	1.9	ND	0.46	
124-48-1	Dibromochloromethane	ND	0.90	ND	0.11	
106-93-4	1,2-Dibromoethane	ND	0.88	ND	0.12	
111-65-9	n-Octane	ND	0.90	ND	0.19	
127-18-4	Tetrachloroethene	ND	0.88	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-3_121622_S** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-003

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00665

Initial Pressure (psig): -3.81 Final Pressure (psig): 3.76

Canister Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.88	ND	0.20	
179601-23-1	m,p-Xylenes	ND	1.9	ND	0.43	
75-25-2	Bromoform	ND	0.88	ND	0.086	
100-42-5	Styrene	ND	0.85	ND	0.20	
95-47-6	o-Xylene	ND	0.88	ND	0.20	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.88	ND	0.13	
98-82-8	Cumene	ND	0.88	ND	0.18	
103-65-1	n-Propylbenzene	ND	0.90	ND	0.18	
622-96-8	4-Ethyltoluene	ND	0.90	ND	0.18	
108-67-8	1,3,5-Trimethylbenzene	ND	0.88	ND	0.18	
95-63-6	1,2,4-Trimethylbenzene	ND	0.88	ND	0.18	
100-44-7	Benzyl Chloride	ND	3.4	ND	0.66	
541-73-1	1,3-Dichlorobenzene	ND	0.88	ND	0.15	
106-46-7	1,4-Dichlorobenzene	ND	0.88	ND	0.15	
135-98-8	sec-Butylbenzene	ND	0.88	ND	0.16	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.88	ND	0.16	
95-50-1	1,2-Dichlorobenzene	ND	0.90	ND	0.15	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	ND	0.25	
91-20-3	Naphthalene	ND	0.88	ND	0.17	
87-68-3	Hexachlorobutadiene	ND	0.88	ND	0.083	
104-51-8	n-Butylbenzene	ND	0.88	ND	0.16	
1330-20-7	Xylenes, Total	ND	0.90	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_121622_S** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-004

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00618

Initial Pressure (psig): -1.72 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.8**	0.76	**0.37**	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.28	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**0.99**	0.74	**0.18**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	1.4	ND	0.66	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	**V**
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.49	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	**59**	3.0	**16**	0.83	
110-54-3	n-Hexane	ND	0.76	ND	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_121622_S** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-004

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00618

Initial Pressure (psig): -1.72 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.49	
107-06-2	1,2-Dichloroethane	ND	0.76	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.14	
71-43-2	Benzene	ND	0.72	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.76	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.21	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	**1.3**	0.74	**0.34**	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.089	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.097	
111-65-9	n-Octane	ND	0.76	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-4_121622_S** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-004

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00618

Initial Pressure (psig): -1.72 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.74	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.74	ND	0.072	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.74	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.76	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.74	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.74	ND	0.15	
100-44-7	Benzyl Chloride	ND	2.9	ND	0.55	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.74	ND	0.14	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.74	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.070	
104-51-8	n-Butylbenzene	ND	0.74	ND	0.14	
1330-20-7	Xylenes, Total	ND	0.76	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_121622_D** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-005

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01317

Initial Pressure (psig): -1.57 Final Pressure (psig): 3.82

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.75	**0.38**	0.15	
74-87-3	Chloromethane	ND	0.72	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.76	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.72	ND	0.19	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
107-02-8	Acrolein	ND	1.4	ND	0.62	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.73	**0.18**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.57	
107-13-1	Acrylonitrile	ND	1.4	ND	0.65	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.76	ND	0.099	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.75	ND	0.21	**V**
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.19	
141-78-6	Ethyl Acetate	**4.2**	3.0	**1.2**	0.82	
110-54-3	n-Hexane	ND	0.75	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_121622_D** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-005

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01317

Initial Pressure (psig): -1.57 Final Pressure (psig): 3.82

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.76	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.4	ND	0.48	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	ND	0.71	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.71	ND	0.11	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.71	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.73	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	
142-82-5	n-Heptane	ND	0.75	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	ND	0.73	ND	0.19	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.75	ND	0.088	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.095	
111-65-9	n-Octane	ND	0.75	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.73	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **DOE-2_121622_D** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P2205677-005

Test Code: EPA TO-15 Date Collected: 12/16/22
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 12/16/22
Analyst: Simon Cao Date Analyzed: 12/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01317

Initial Pressure (psig): -1.57 Final Pressure (psig): 3.82

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.73	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.73	ND	0.071	
100-42-5	Styrene	ND	0.71	ND	0.17	
95-47-6	o-Xylene	ND	0.73	ND	0.17	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	2.8	ND	0.54	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
135-98-8	sec-Butylbenzene	ND	0.73	ND	0.13	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.73	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.75	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.069	
104-51-8	n-Butylbenzene	ND	0.73	ND	0.13	
1330-20-7	Xylenes, Total	ND	0.75	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221229-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 12/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
107-02-8	Acrolein	ND	1.0	ND	0.44	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	ND	0.15	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	**V**
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
V = The continuing calibration verification standard was outside (biased low) the specified limits for this compound.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221229-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 12/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **North Wind, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221229-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 12/29/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	2.0	ND	0.39	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
135-98-8	sec-Butylbenzene	ND	0.52	ND	0.095	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.52	ND	0.095	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	
104-51-8	n-Butylbenzene	ND	0.52	ND	0.095	
1330-20-7	Xylenes, Total	ND	0.53	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **North Wind, Inc.**
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Project ID: P2205677

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 12/16/22
Analyst: Simon Cao Date(s) Received: 12/16/22
Sample Type: 6.0 L Silonite Canister(s) Date(s) Analyzed: 12/29 - 12/30/22
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P221229-MB	**88**	**108**	**100**	70-130	
Lab Control Sample	P221229-LCS	**91**	**105**	**100**	70-130	
Duplicate Lab Control Sample	P221229-DLCS	**91**	**106**	**101**	70-130	
DOE-1_121622_S	P2205677-001	**89**	**108**	**100**	70-130	
DOE-2_121622_S	P2205677-002	**89**	**107**	**100**	70-130	
DOE-3_121622_S	P2205677-003	**89**	**107**	**98**	70-130	
DOE-4_121622_S	P2205677-004	**91**	**107**	**99**	70-130	
DOE-2_121622_D	P2205677-005	**90**	**106**	**98**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221229-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 12/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	212	194	190	**92**	**90**	71-112	2	25	
74-87-3	Chloromethane	206	206	199	**100**	**97**	53-126	3	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	196	193	**95**	**94**	62-121	1	25	
75-01-4	Vinyl Chloride	204	164	163	**80**	**80**	63-123	0	25	
106-99-0	1,3-Butadiene	212	234	233	**110**	**110**	63-135	0	25	
74-83-9	Bromomethane	206	190	190	**92**	**92**	71-112	0	25	
75-00-3	Chloroethane	208	217	212	**104**	**102**	66-117	2	25	
107-02-8	Acrolein	388	400	393	**103**	**101**	71-123	2	25	
75-69-4	Trichlorofluoromethane (CFC 11)	210	212	207	**101**	**99**	71-114	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	412	363	355	**88**	**86**	61-124	2	25	
107-13-1	Acrylonitrile	412	392	382	**95**	**93**	65-130	2	25	
75-35-4	1,1-Dichloroethene	216	229	225	**106**	**104**	74-114	2	25	
75-09-2	Methylene Chloride	212	207	203	**98**	**96**	75-112	2	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	195	192	**90**	**89**	73-114	1	25	
75-15-0	Carbon Disulfide	426	457	448	**107**	**105**	70-113	2	25	
156-60-5	trans-1,2-Dichloroethene	216	208	205	**96**	**95**	76-119	1	25	
75-34-3	1,1-Dichloroethane	216	214	210	**99**	**97**	70-114	2	25	
1634-04-4	Methyl tert-Butyl Ether	214	140	144	**65**	**67**	72-118	3	25	**L**
78-93-3	2-Butanone (MEK)	418	394	389	**94**	**93**	74-121	1	25	
156-59-2	cis-1,2-Dichloroethene	214	203	200	**95**	**93**	73-117	2	25	
141-78-6	Ethyl Acetate	856	551	545	**64**	**64**	59-161	0	25	
110-54-3	n-Hexane	212	183	180	**86**	**85**	55-130	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221229-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 12/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
67-66-3	Chloroform	212	199	197	**94**	**93**	71-114	1	25	
109-99-9	Tetrahydrofuran (THF)	412	398	392	**97**	**95**	73-114	2	25	
107-06-2	1,2-Dichloroethane	216	197	193	**91**	**89**	71-119	2	25	
71-55-6	1,1,1-Trichloroethane	210	212	207	**101**	**99**	73-119	2	25	
71-43-2	Benzene	216	221	218	**102**	**101**	72-113	1	25	
56-23-5	Carbon Tetrachloride	206	200	197	**97**	**96**	67-123	1	25	
110-82-7	Cyclohexane	422	415	409	**98**	**97**	70-119	1	25	
78-87-5	1,2-Dichloropropane	212	226	223	**107**	**105**	70-118	2	25	
75-27-4	Bromodichloromethane	216	227	223	**105**	**103**	74-119	2	25	
79-01-6	Trichloroethene	212	214	211	**101**	**100**	74-115	1	25	
123-91-1	1,4-Dioxane	212	229	227	**108**	**107**	77-124	0.9	25	
142-82-5	n-Heptane	212	212	210	**100**	**99**	70-119	1	25	
10061-01-5	cis-1,3-Dichloropropene	216	237	234	**110**	**108**	81-126	2	25	
108-10-1	4-Methyl-2-pentanone	432	454	446	**105**	**103**	73-129	2	25	
10061-02-6	trans-1,3-Dichloropropene	206	231	227	**112**	**110**	80-127	2	25	
79-00-5	1,1,2-Trichloroethane	212	218	214	**103**	**101**	78-117	2	25	
108-88-3	Toluene	212	216	216	**102**	**102**	70-118	0	25	
591-78-6	2-Hexanone	426	431	428	**101**	**100**	74-132	1	25	
124-48-1	Dibromochloromethane	216	229	226	**106**	**105**	69-137	0.9	25	
106-93-4	1,2-Dibromoethane	208	218	217	**105**	**104**	76-128	1	25	
111-65-9	n-Octane	214	220	219	**103**	**102**	68-120	1	25	
127-18-4	Tetrachloroethene	212	217	216	**102**	**102**	63-130	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2205677
Client Project ID: **DOE Perimeter Air / 080153.018.15** ALS Sample ID: P221229-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 12/30/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
100-41-4	Ethylbenzene	210	219	218	**104**	**104**	71-123	0	25	
179601-23-1	m,p-Xylenes	420	433	431	**103**	**103**	67-127	0	25	
75-25-2	Bromoform	214	239	236	**112**	**110**	65-149	2	25	
100-42-5	Styrene	212	213	213	**100**	**100**	76-132	0	25	
95-47-6	o-Xylene	212	220	219	**104**	**103**	69-124	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	222	222	**105**	**105**	69-128	0	25	
98-82-8	Cumene	212	218	217	**103**	**102**	69-125	1	25	
103-65-1	n-Propylbenzene	214	214	214	**100**	**100**	70-127	0	25	
622-96-8	4-Ethyltoluene	216	217	217	**100**	**100**	69-127	0	25	
108-67-8	1,3,5-Trimethylbenzene	210	217	215	**103**	**102**	66-129	1	25	
95-63-6	1,2,4-Trimethylbenzene	208	215	215	**103**	**103**	63-142	0	25	
100-44-7	Benzyl Chloride	420	488	486	**116**	**116**	73-145	0	25	
541-73-1	1,3-Dichlorobenzene	210	210	209	**100**	**100**	67-136	0	25	
106-46-7	1,4-Dichlorobenzene	212	207	206	**98**	**97**	63-134	1	25	
135-98-8	sec-Butylbenzene	210	212	211	**101**	**100**	68-130	1	25	
99-87-6	4-Isopropyltoluene (p-Cymene)	210	208	207	**99**	**99**	60-139	0	25	
95-50-1	1,2-Dichlorobenzene	212	214	213	**101**	**100**	64-139	1	25	
120-82-1	1,2,4-Trichlorobenzene	412	414	419	**100**	**102**	62-154	2	25	
91-20-3	Naphthalene	216	204	207	**94**	**96**	62-156	2	25	
87-68-3	Hexachlorobutadiene	210	227	227	**108**	**108**	55-142	0	25	
104-51-8	n-Butylbenzene	210	221	219	**105**	**104**	70-131	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **North Wind, Inc.** ALS Project ID: P2205677

Client Project ID: **DOE Perimeter Air / 080153.018.15**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 12292232.D

Analyst: Simon Cao Date Analyzed: 12/29/22

Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 20:16

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	166961	7.21	749088	9.28	171413	14.81
	Upper Limit	233745	7.54	1048723	9.61	239978	15.14
	Lower Limit	100177	6.88	449453	8.95	102848	14.48
	Client Sample ID						
01	Method Blank	155391	7.19	698617	9.26	161693	14.80
02	DOE-1_121622_S	153235	7.20	694427	9.26	161711	14.81
03	DOE-2_121622_S	154240	7.19	699427	9.26	162542	14.81
04	DOE-3_121622_S	152370	7.20	692620	9.26	162192	14.81
05	DOE-4_121622_S	150538	7.20	694963	9.27	163415	14.81
06	DOE-2_121622_D	150959	7.20	687052	9.26	161106	14.81
07	Lab Control Sample	152236	7.24	694754	9.29	166238	14.81
08	Duplicate Lab Control Sample	154204	7.24	706457	9.29	167057	14.81
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292237.D Vial: 9
Acq On : 29 Dec 2022 22:56 Operator: SC
Sample : P2205677-001 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:10:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/30/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	153235	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	694427	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	161711	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	295302	11.087	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.72%			
57) Toluene-d8 (SS2)	12.39	98	792330	13.441	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.52%			
73) Bromofluorobenzene (SS3)	16.79	174	257807	12.507	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%			
Target Compounds						Qvalue
2) Propene	3.28	42	7343	N.D.		
3) Dichlorodifluoromethan...	3.35	85	45697	1.296	ng	99
4) Chloromethane	3.49	50	8598	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	1150	N.D.		
6) Vinyl Chloride	3.68	62	323	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.01	94	519	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.26	45	24242	1.413	ng	89
11) Acetonitrile	4.43	41	6373	N.D.		
12) Acrolein	4.52	56	997	N.D.		
13) Acetone	4.61	58	32083	2.069	ng	98
14) Trichlorofluoromethane	4.73	101	21341	0.705	ng	99
15) 2-Propanol (Isopropanol)	4.82	45	20155	N.D.		
16) Acrylonitrile	4.99	53	190	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.32	59	389	N.D.		
19) Methylene Chloride	5.33	84	4744	N.D.		
20) 3-Chloro-1-propene (Al...	5.33	41	264	N.D.		
21) Trichlorotrifluoroethane	5.56	151	4345	N.D.		
22) Carbon Disulfide	5.60	76	2646	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.41	86	416	N.D.		
27) 2-Butanone (MEK)	6.65	72	2954	N.D.		
28) cis-1,2-Dichloroethene	7.04	61	960	N.D.		
29) Diisopropyl Ether	7.25	87	665	N.D.		
30) Ethyl Acetate	7.25	61	61437	7.229	ng	94
31) n-Hexane	7.27	57	1589	N.D.		
32) Chloroform	7.32	83	1253	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.08	62	921	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	21345	No Calib	#	
40) 1-Butanol	8.83	56	1809	No Calib	#	
41) Benzene	8.86	78	10027	N.D.		
42) Carbon Tetrachloride	9.03	117	4539	N.D.		
43) Cyclohexane	9.18	84	414	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.11	130	925	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.20	57	4074	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292237.D Vial: 9
Acq On : 29 Dec 2022 22:56 Operator: SC
Sample : P2205677-001 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:10:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

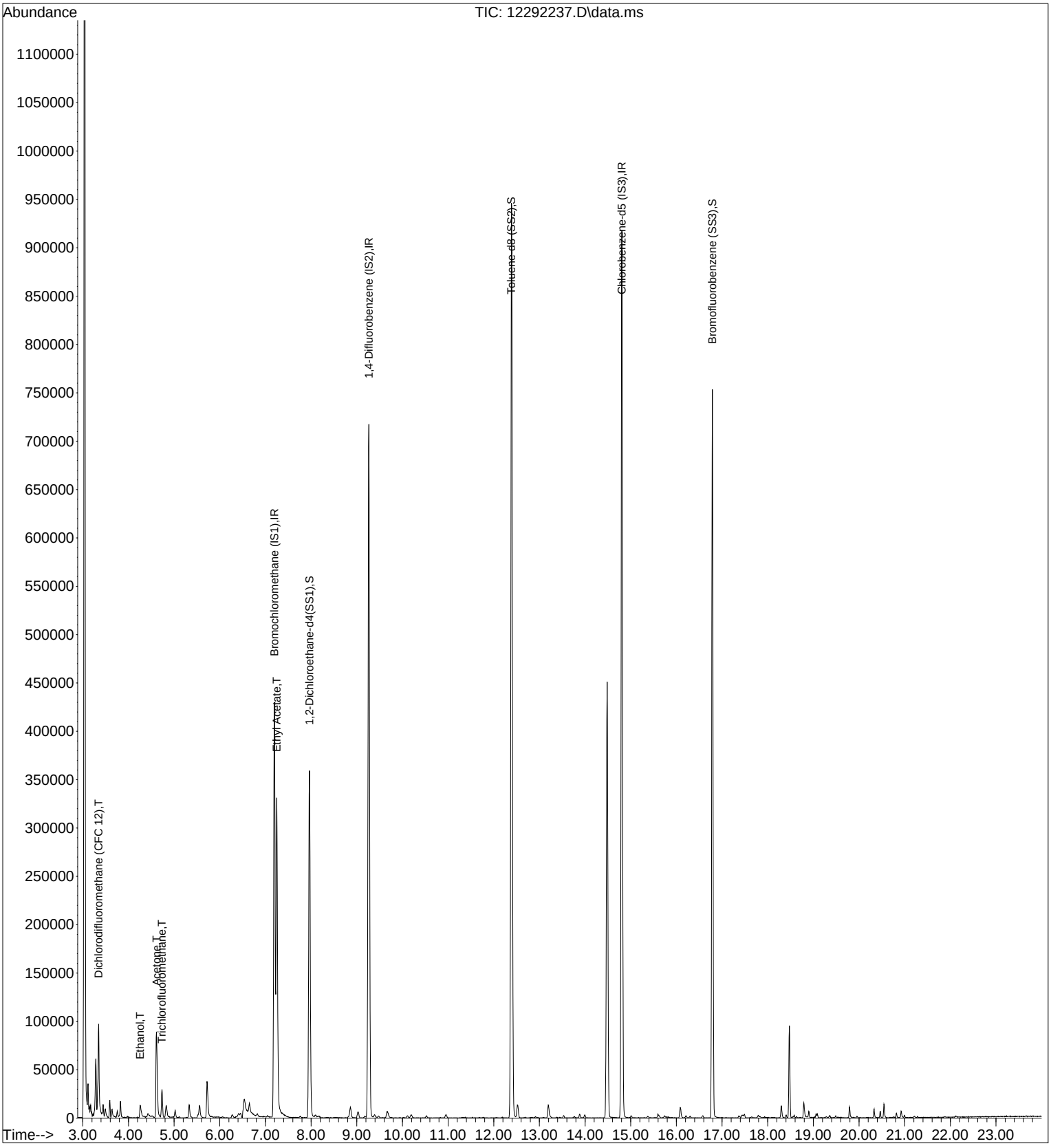
Internal Standards	R.T.	QIon	Response	Conc Units Dev(Min)
51) n-Heptane	10.52	71	460	N.D.
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.
58) Toluene	12.52	91	12864	N.D.
59) 2-Hexanone	12.91	43	2069	N.D.
60) Dibromochloromethane	0.00	129	0	N.D.
61) 1,2-Dibromoethane	0.00	107	0	N.D.
62) n-Butyl Acetate	13.76	43	2029	N.D.
63) n-Octane	13.88	57	722	N.D.
64) Tetrachloroethene	14.00	166	1225	N.D.
65) Chlorobenzene	14.86	112	253	N.D.
66) Ethylbenzene	15.37	91	2089	N.D.
67) m- & p-Xylenes	15.60	91	4762	N.D.
68) Bromoform	0.00	173	0	N.D.
69) Styrene	16.07	104	1071	N.D.
70) o-Xylene	16.21	91	2105	N.D.
71) n-Nonane	16.57	43	1476	N.D.
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.
74) Cumene	17.00	105	563	N.D.
75) alpha-Pinene	17.49	93	1803	N.D.
76) n-Propylbenzene	17.64	91	1232	N.D.
77) 3-Ethyltoluene	17.00	105	563	No Calib #
78) 4-Ethyltoluene	17.84	105	1070	N.D.
79) 1,3,5-Trimethylbenzene	17.93	105	708	N.D.
80) alpha-Methylstyrene	0.00	118	0	N.D.
81) 2-Ethyltoluene	17.00	105	563	No Calib #
82) 1,2,4-Trimethylbenzene	18.41	105	1940	N.D.
83) n-Decane	0.00	58	0	N.D.
84) Benzyl Chloride	18.54	91	756	N.D.
85) 1,3-Dichlorobenzene	18.55	146	377	N.D.
86) 1,4-Dichlorobenzene	18.63	146	696	N.D.
87) sec-Butylbenzene	18.71	105	578	N.D.
88) 4-Isopropyltoluene (p-...	18.90	119	3581	N.D.
89) 1,2,3-Trimethylbenzene	17.00	105	563	No Calib #
90) 1,2-Dichlorobenzene	19.01	146	448	N.D.
91) d-Limonene	19.06	68	1162	N.D.
92) 1,2-Dibromo-3-Chloropr...	19.50	157	387	N.D.
93) n-Undecane	0.00	58	0	N.D.
94) 1,2,4-Trichlorobenzene	20.82	180	1736	N.D.
95) Naphthalene	20.93	128	5812	N.D.
96) n-Dodecane	0.00	58	0	N.D.
97) Hexachlorobutadiene	21.28	225	238	N.D.
98) Cyclohexanone	0.00	55	0	N.D.
99) tert-Butylbenzene	18.41	119	516	N.D.
100) n-Butylbenzene	19.37	91	1113	N.D.
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292237.D Vial: 9
Acq On : 29 Dec 2022 22:56 Operator: SC
Sample : P2205677-001 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:10:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292237.D Vial: 9
Acq On : 29 Dec 2022 22:56 Operator: SC
Sample : P2205677-001 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:10:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/30/22

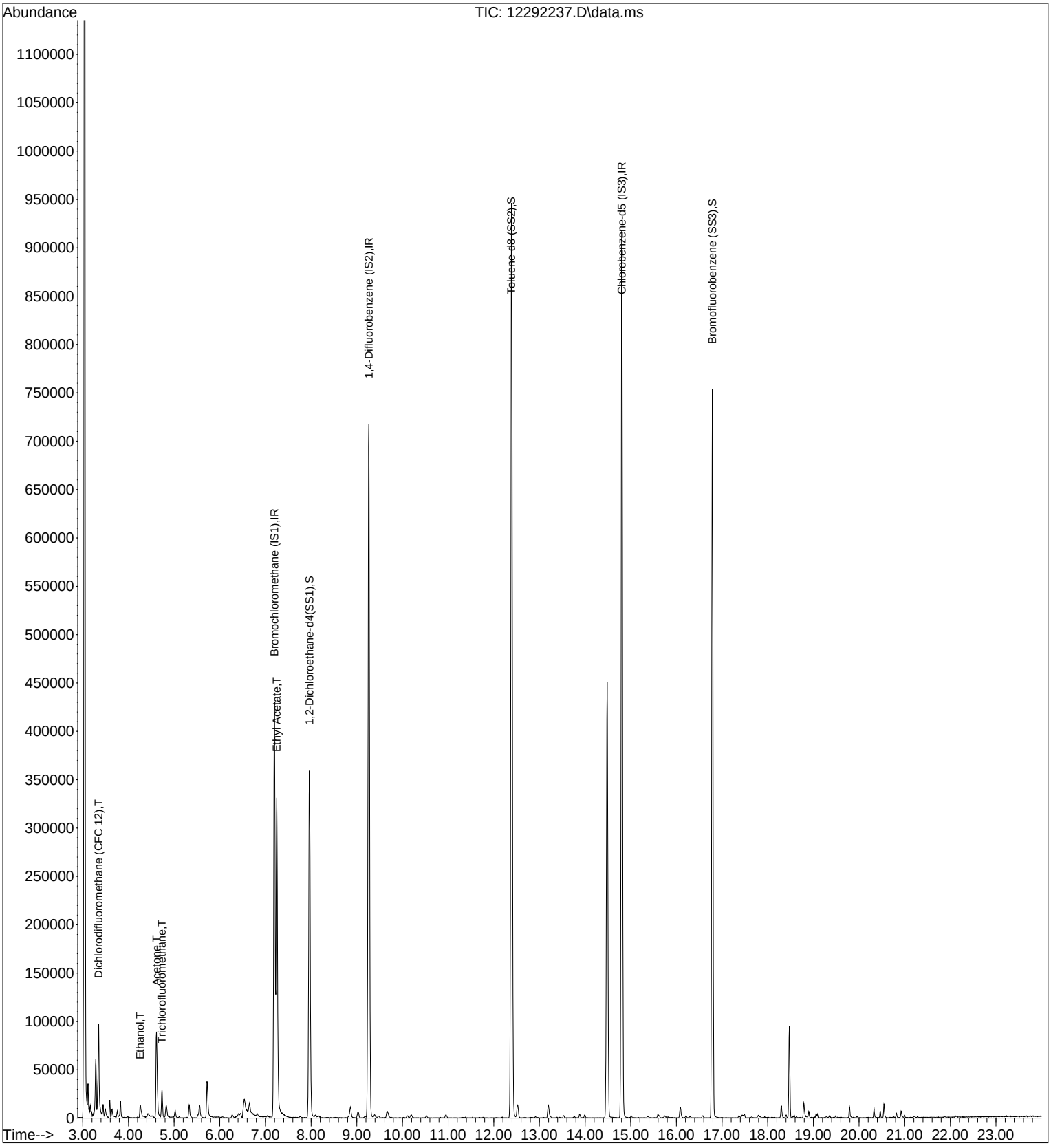
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	153235	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	694427	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	161711	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	295302	11.087	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.72%			
57) Toluene-d8 (SS2)	12.39	98	792330	13.441	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.52%			
73) Bromofluorobenzene (SS3)	16.79	174	257807	12.507	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.35	85	45697	1.296	ng	99
10) Ethanol	4.26	45	24242	1.413	ng	89
13) Acetone	4.61	58	32083	2.069	ng	98
14) Trichlorofluoromethane	4.73	101	21341	0.705	ng	99
30) Ethyl Acetate	7.25	61	61437	7.229	ng	94

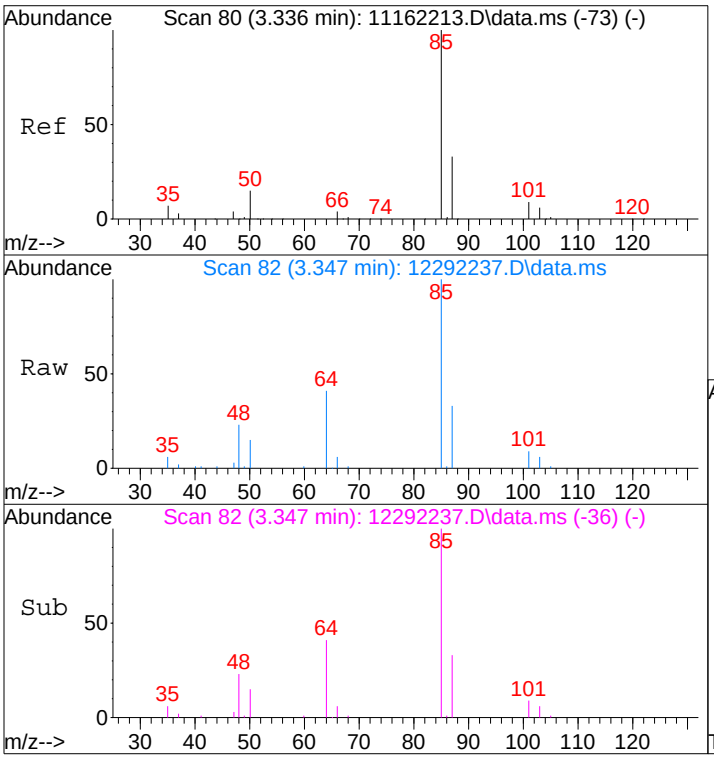
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292237.D Vial: 9
Acq On : 29 Dec 2022 22:56 Operator: SC
Sample : P2205677-001 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:10:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

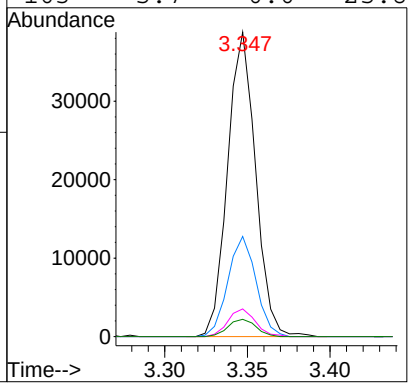


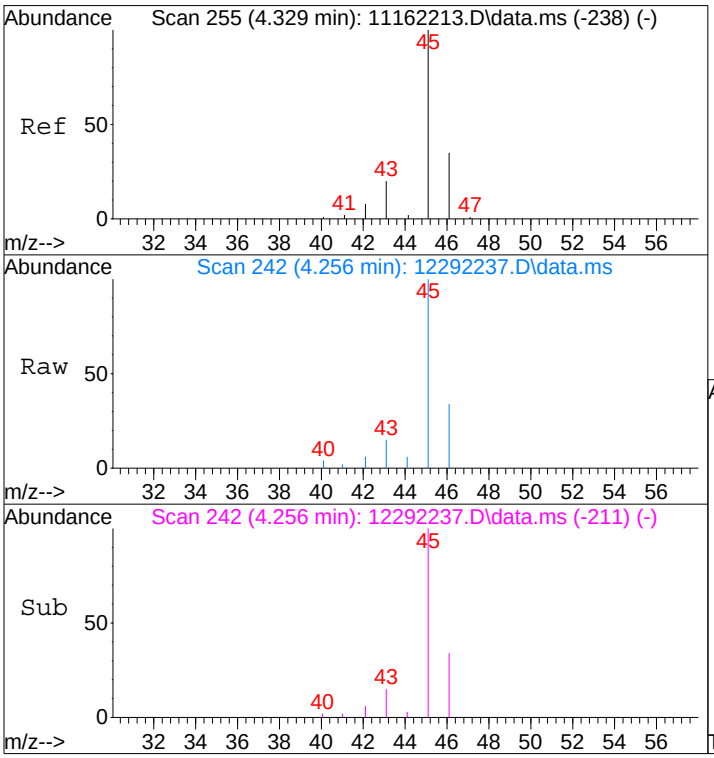


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.30 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.011 min
Lab File: 12292237.D
Acq: 29 Dec 2022 22:56

Tgt Ion: 85 Resp: 45697

Ion	Ratio	Lower	Upper
85	100		
87	33.0	12.6	52.6
101	8.9	0.0	29.1
103	5.7	0.0	25.8

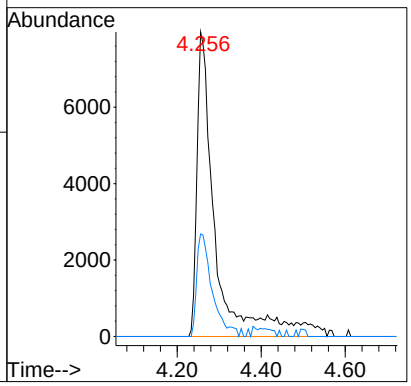


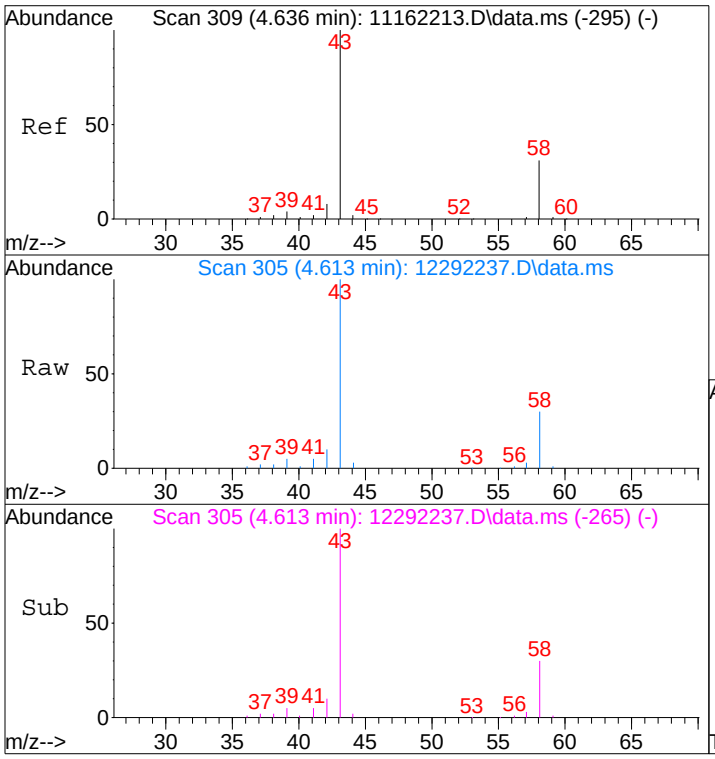


#10
Ethanol
Concen: 1.41 ng
RT: 4.26 min Scan# 242
Delta R.T. -0.074 min
Lab File: 12292237.D
Acq: 29 Dec 2022 22:56

Tgt Ion: 45 Resp: 24242

Ion	Ratio	Lower	Upper
45	100		
46	28.4	14.9	54.9

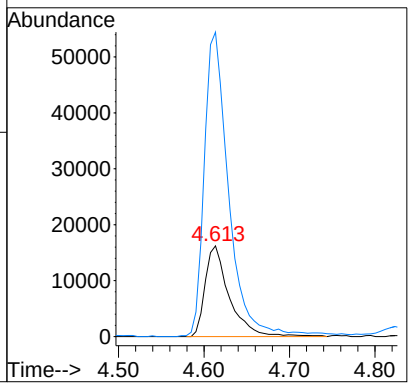


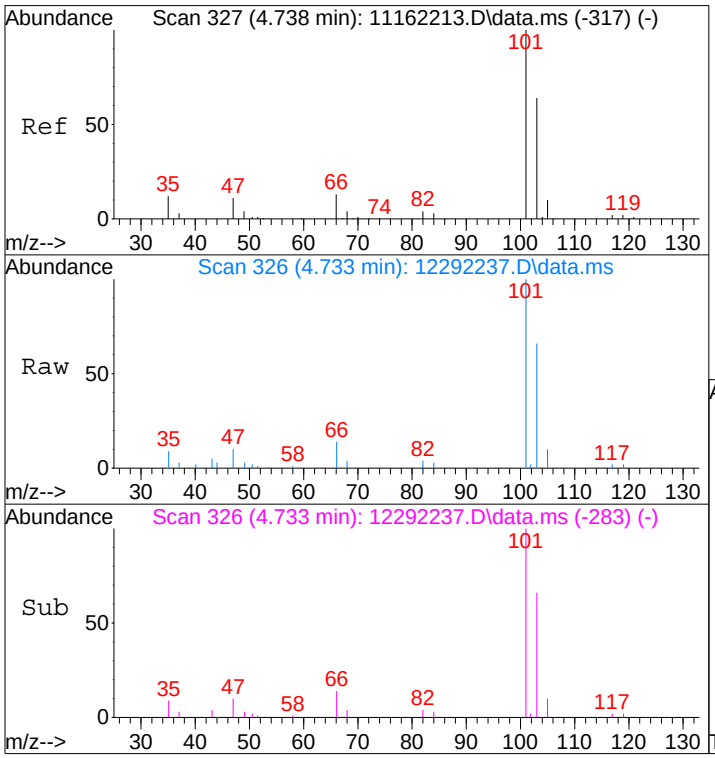


#13
Acetone
Concen: 2.07 ng
RT: 4.61 min Scan# 305
Delta R.T. -0.023 min
Lab File: 12292237.D
Acq: 29 Dec 2022 22:56

Tgt Ion: 58 Resp: 32083

Ion	Ratio	Lower	Upper
58	100		
43	340.0	306.3	366.3

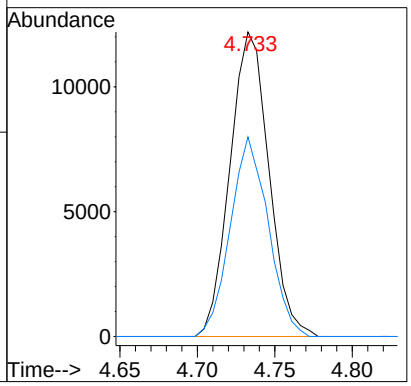


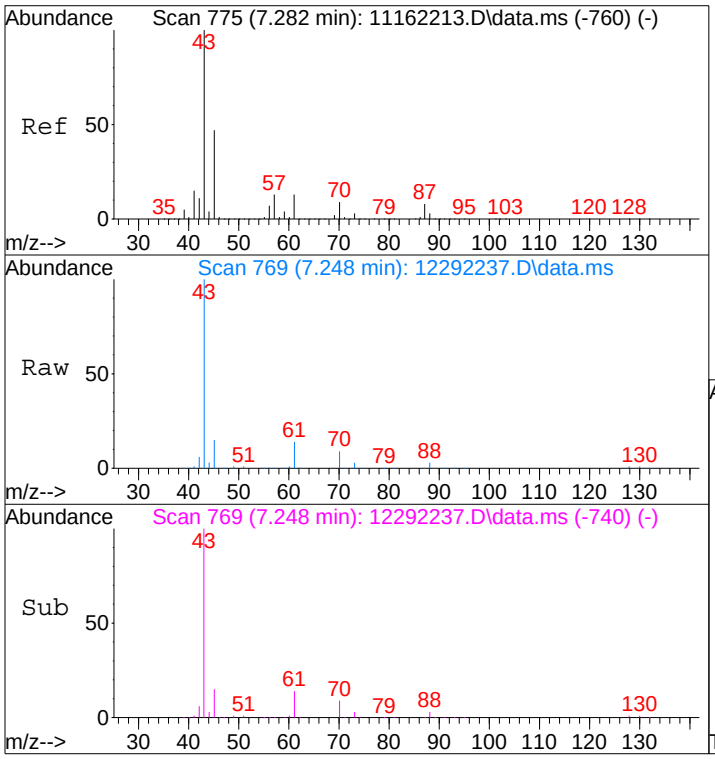


#14
Trichlorofluoromethane
Concen: 0.70 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.006 min
Lab File: 12292237.D
Acq: 29 Dec 2022 22:56

Tgt Ion:101 Resp: 21341

Ion	Ratio	Lower	Upper
101	100		
103	63.8	44.5	84.5

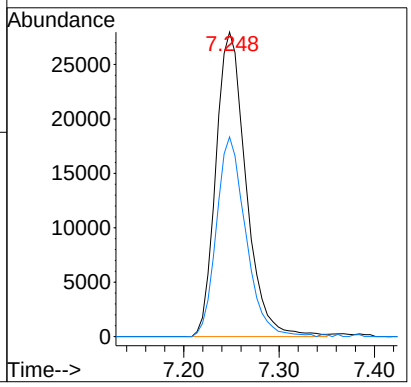




#30
Ethyl Acetate
Concen: 7.23 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.034 min
Lab File: 12292237.D
Acq: 29 Dec 2022 22:56

Tgt Ion: 61 Resp: 61437

Ion	Ratio	Lower	Upper
61	100		
70	63.7	48.2	88.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292238.D Vial: 10
Acq On : 29 Dec 2022 23:27 Operator: SC
Sample : P2205677-002 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:01 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/30/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	154240	12.500	ng	-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	699427	12.500	ng	-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	162542	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	298744	11.144	ng	-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.12%			
57) Toluene-d8 (SS2)	12.39	98	792504	13.375	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.96%			
73) Bromofluorobenzene (SS3)	16.79	174	259924	12.545	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%			
Target Compounds						Qvalue
2) Propene	3.28	42	6760	N.D.		
3) Dichlorodifluoromethan...	3.34	85	48678	1.372	ng	99
4) Chloromethane	3.49	50	10078	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	1097	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.00	94	425	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.26	45	20327	1.177	ng	94
11) Acetonitrile	4.43	41	5534	N.D.		
12) Acrolein	4.52	56	749	N.D.		
13) Acetone	4.61	58	32286	2.068	ng	98
14) Trichlorofluoromethane	4.73	101	22589	0.741	ng	98
15) 2-Propanol (Isopropanol)	4.82	45	19782	N.D.		
16) Acrylonitrile	4.98	53	60	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.32	59	161	N.D.		
19) Methylene Chloride	5.33	84	4478	N.D.		
20) 3-Chloro-1-propene (Al...	5.38	41	181	N.D.		
21) Trichlorotrifluoroethane	5.56	151	4428	N.D.		
22) Carbon Disulfide	5.59	76	5699	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.41	86	387	N.D.		
27) 2-Butanone (MEK)	6.65	72	2491	N.D.		
28) cis-1,2-Dichloroethene	7.04	61	760	N.D.		
29) Diisopropyl Ether	7.25	87	330	N.D.		
30) Ethyl Acetate	7.25	61	29982	3.505	ng	96
31) n-Hexane	7.27	57	1380	N.D.		
32) Chloroform	7.32	83	1233	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.07	62	979	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	21040	No Calib	#	
40) 1-Butanol	8.83	56	1397	No Calib	#	
41) Benzene	8.86	78	9850	N.D.		
42) Carbon Tetrachloride	9.03	117	5107	N.D.		
43) Cyclohexane	9.17	84	349	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.20	57	3422	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292238.D Vial: 10
Acq On : 29 Dec 2022 23:27 Operator: SC
Sample : P2205677-002 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:01 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

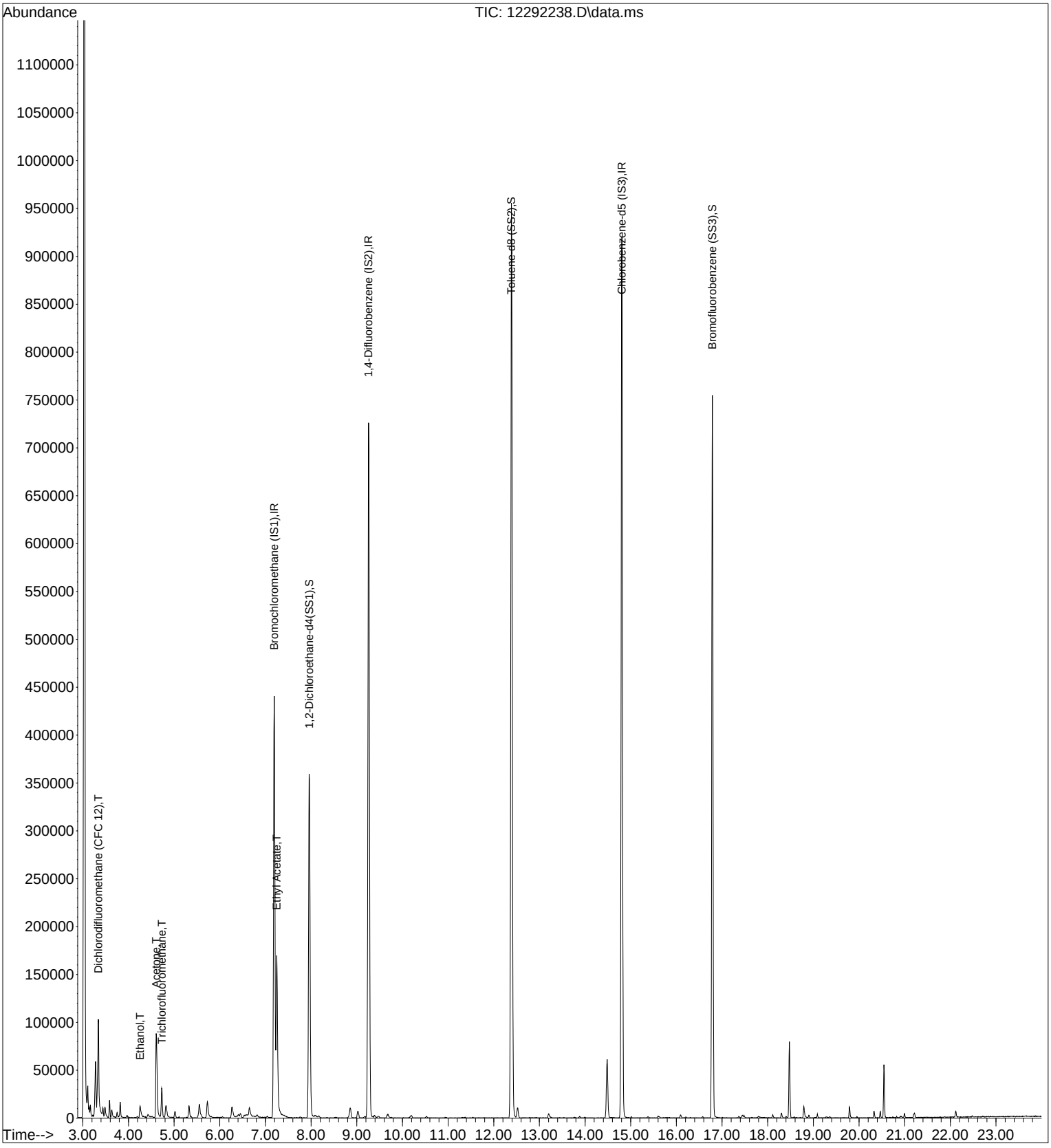
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.53	71	306	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	9108	N.D.	
59) 2-Hexanone	12.90	43	217	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	1070	N.D.	
63) n-Octane	13.88	57	329	N.D.	
64) Tetrachloroethene	14.00	166	434	N.D.	
65) Chlorobenzene	14.86	112	204	N.D.	
66) Ethylbenzene	15.38	91	1501	N.D.	
67) m- & p-Xylenes	15.60	91	2671	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.08	104	425	N.D.	
70) o-Xylene	16.21	91	990	N.D.	
71) n-Nonane	16.58	43	780	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.99	105	382	N.D.	
75) alpha-Pinene	17.48	93	721	N.D.	
76) n-Propylbenzene	17.66	91	688	N.D.	
77) 3-Ethyltoluene	16.99	105	382	No Calib	#
78) 4-Ethyltoluene	17.83	105	683	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	327	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	16.99	105	382	No Calib	#
82) 1,2,4-Trimethylbenzene	18.40	105	826	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.55	146	119	N.D.	
86) 1,4-Dichlorobenzene	18.64	146	264	N.D.	
87) sec-Butylbenzene	18.71	105	395	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	1992	N.D.	
89) 1,2,3-Trimethylbenzene	16.99	105	382	No Calib	#
90) 1,2-Dichlorobenzene	19.02	146	117	N.D.	
91) d-Limonene	19.06	68	115	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.82	180	510	N.D.	
95) Naphthalene	20.93	128	1320	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.41	119	287	N.D.	
100) n-Butylbenzene	19.37	91	637	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292238.D Vial: 10
Acq On : 29 Dec 2022 23:27 Operator: SC
Sample : P2205677-002 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:01 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292238.D Vial: 10
Acq On : 29 Dec 2022 23:27 Operator: SC
Sample : P2205677-002 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:01 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/30/22

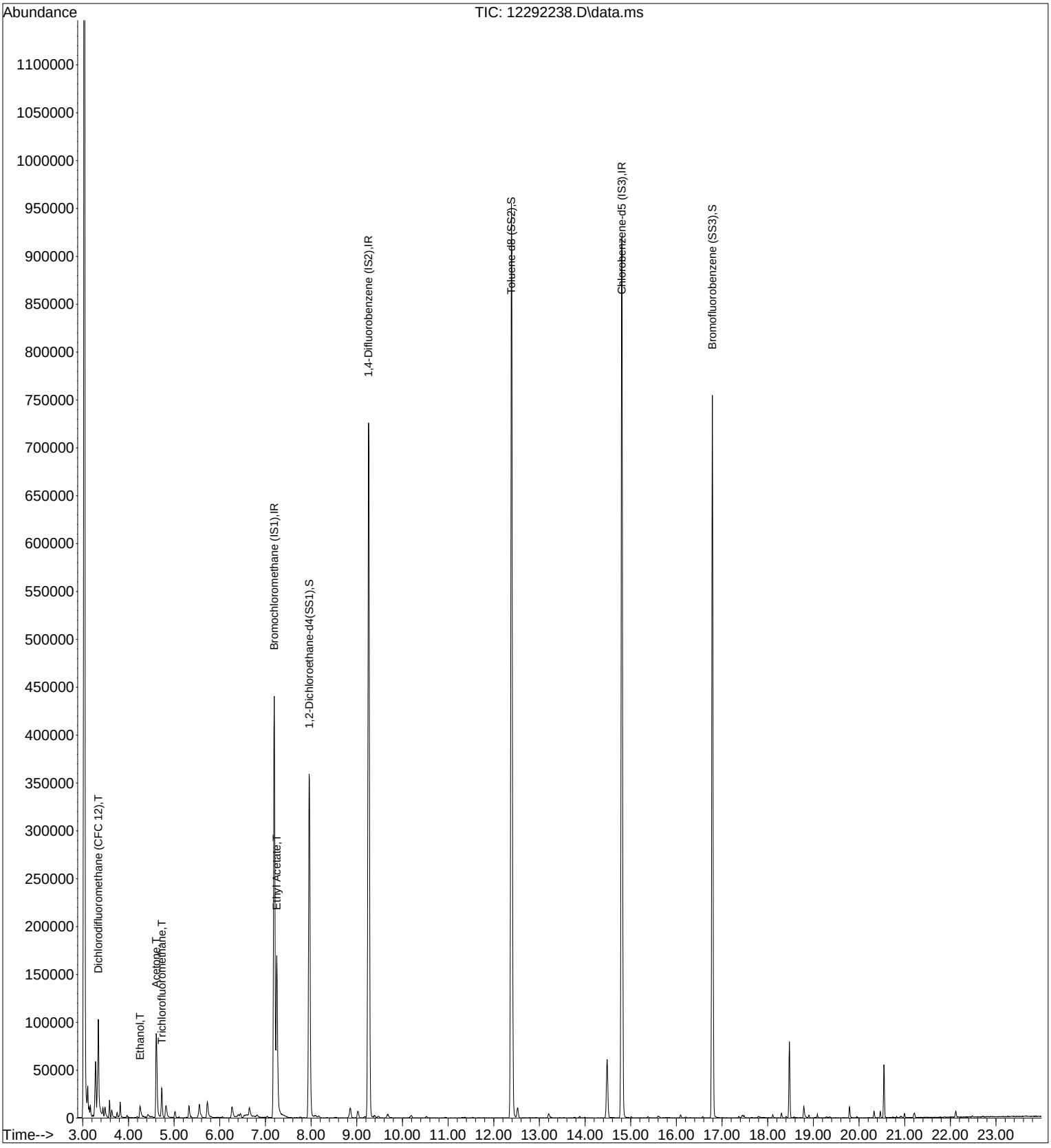
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	154240	12.500	ng	-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	699427	12.500	ng	-0.04
56) Chlorobenzene-d5 (IS3)	14.81	54	162542	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	298744	11.144	ng	-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.12%			
57) Toluene-d8 (SS2)	12.39	98	792504	13.375	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.96%			
73) Bromofluorobenzene (SS3)	16.79	174	259924	12.545	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.34	85	48678	1.372	ng	99
10) Ethanol	4.26	45	20327	1.177	ng	94
13) Acetone	4.61	58	32286	2.068	ng	98
14) Trichlorofluoromethane	4.73	101	22589	0.741	ng	98
30) Ethyl Acetate	7.25	61	29982	3.505	ng	96

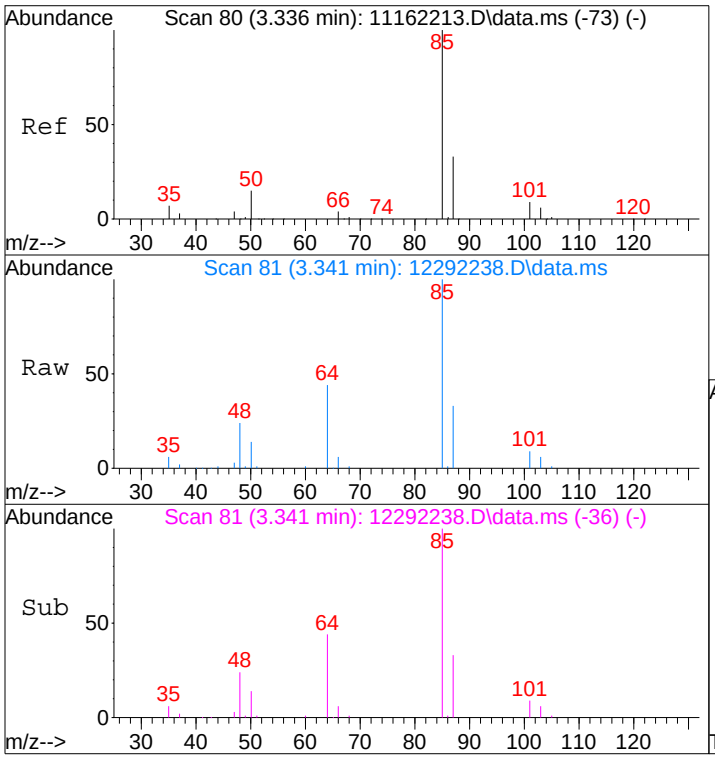
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292238.D Vial: 10
Acq On : 29 Dec 2022 23:27 Operator: SC
Sample : P2205677-002 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:01 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

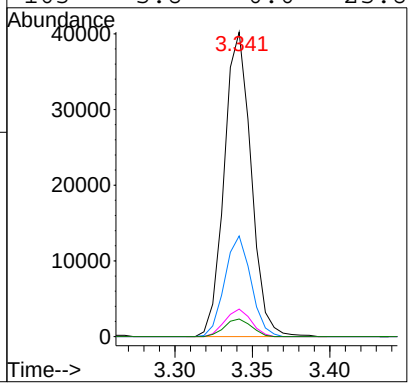


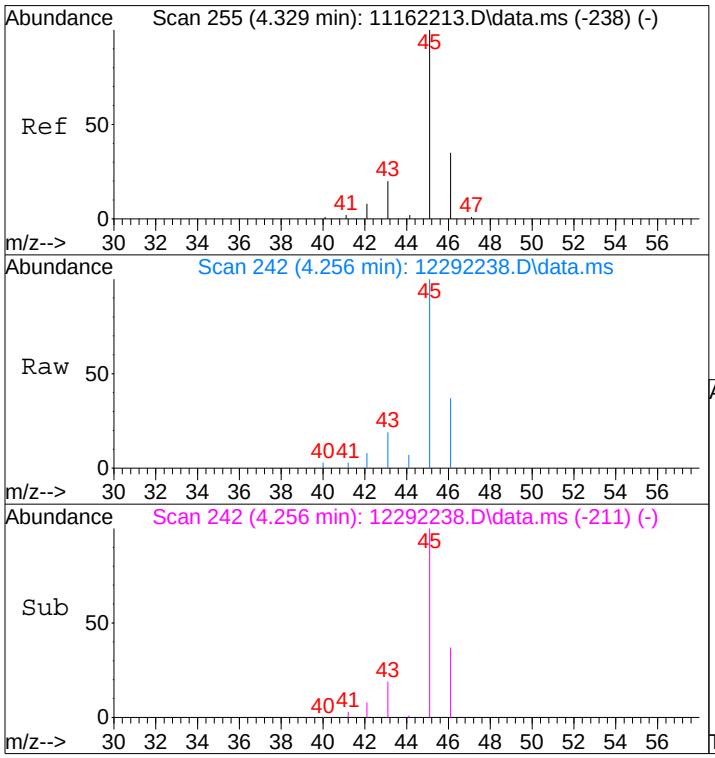


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.37 ng
RT: 3.34 min Scan# 81
Delta R.T. 0.006 min
Lab File: 12292238.D
Acq: 29 Dec 2022 23:27

Tgt Ion: 85 Resp: 48678

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.6	52.6
101	8.8	0.0	29.1
103	5.8	0.0	25.8

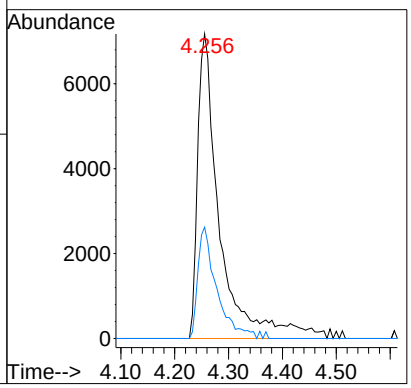


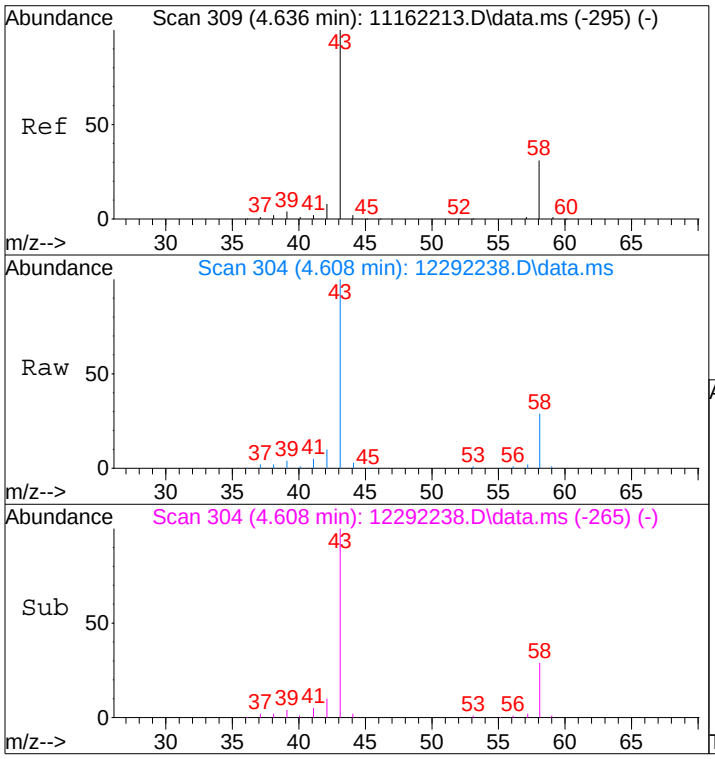


#10
Ethanol
Concen: 1.18 ng
RT: 4.26 min Scan# 242
Delta R.T. -0.074 min
Lab File: 12292238.D
Acq: 29 Dec 2022 23:27

Tgt Ion: 45 Resp: 20327

Ion	Ratio	Lower	Upper
45	100		
46	31.2	14.9	54.9

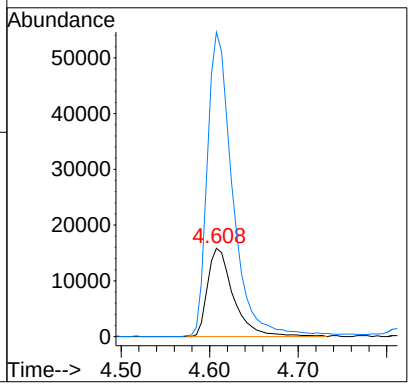


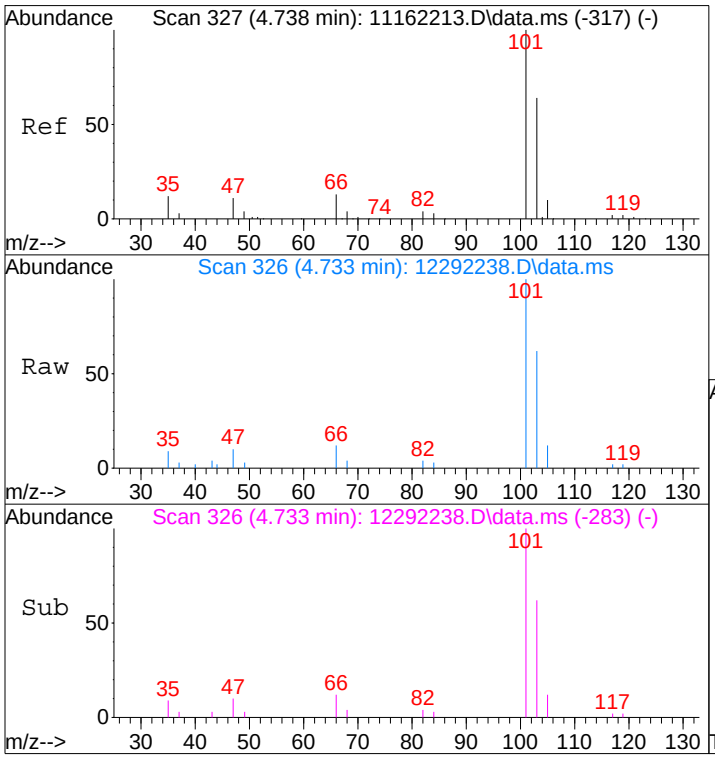


#13
Acetone
Concen: 2.07 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.028 min
Lab File: 12292238.D
Acq: 29 Dec 2022 23:27

Tgt Ion: 58 Resp: 32286

Ion	Ratio	Lower	Upper
58	100		
43	340.9	306.3	366.3

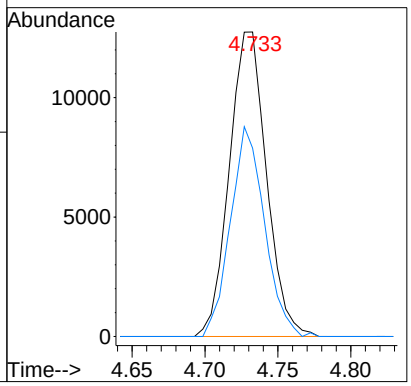


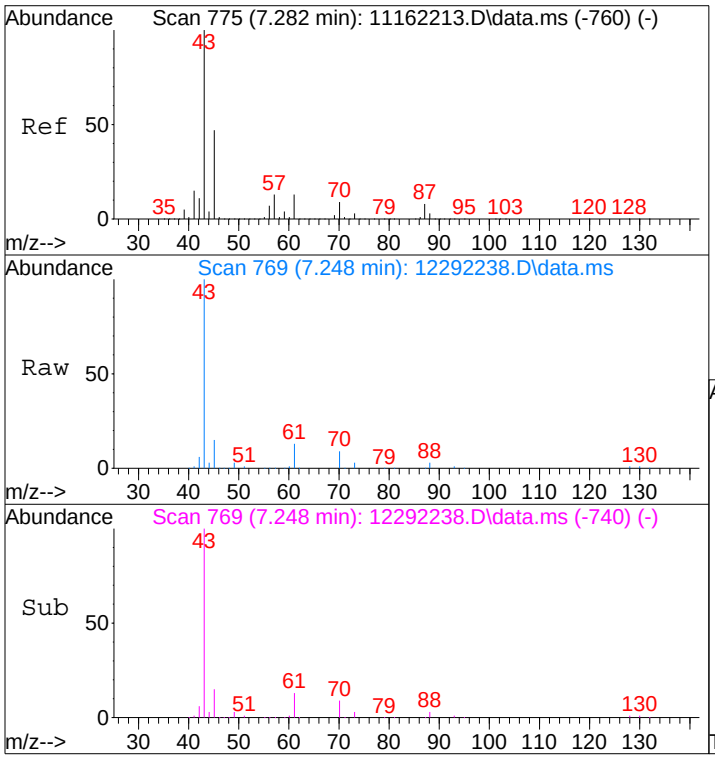


#14
Trichlorofluoromethane
Concen: 0.74 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.006 min
Lab File: 12292238.D
Acq: 29 Dec 2022 23:27

Tgt Ion:101 Resp: 22589

Ion	Ratio	Lower	Upper
101	100		
103	63.3	44.5	84.5

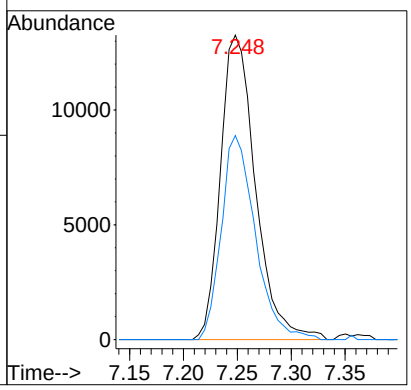




#30
Ethyl Acetate
Concen: 3.50 ng
RT: 7.25 min Scan# 769
Delta R.T. -0.034 min
Lab File: 12292238.D
Acq: 29 Dec 2022 23:27

Tgt Ion: 61 Resp: 29982

Ion	Ratio	Lower	Upper
61	100		
70	65.1	48.2	88.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292239.D Vial: 11
Acq On : 29 Dec 2022 23:59 Operator: SC
Sample : P2205677-003 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:03 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/30/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	152370	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	692620	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	162192	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	296029	11.178	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.44%			
57) Toluene-d8 (SS2)	12.39	98	791754	13.391	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%			
73) Bromofluorobenzene (SS3)	16.79	174	253772	12.274	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%			
Target Compounds						Qvalue
2) Propene	3.28	42	6288	N.D.		
3) Dichlorodifluoromethan...	3.35	85	38742	1.105	ng	99
4) Chloromethane	3.49	50	8126	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	802	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	3.99	94	226	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.26	45	22780	1.335	ng	88
11) Acetonitrile	4.43	41	5188	N.D.		
12) Acrolein	4.53	56	604	N.D.		
13) Acetone	4.61	58	30005	1.946	ng	99
14) Trichlorofluoromethane	4.73	101	18075	0.600	ng	98
15) 2-Propanol (Isopropanol)	4.83	45	22393	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.33	84	4048	N.D.		
20) 3-Chloro-1-propene (Al...	5.39	41	114	N.D.		
21) Trichlorotrifluoroethane	5.56	151	3731	N.D.		
22) Carbon Disulfide	5.60	76	4018	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.41	86	1262	N.D.		
27) 2-Butanone (MEK)	6.65	72	2218	N.D.		
28) cis-1,2-Dichloroethene	7.04	61	735	N.D.		
29) Diisopropyl Ether	7.25	87	1858	N.D.		
30) Ethyl Acetate	7.24	61	174432	20.641	ng	96
31) n-Hexane	7.27	57	1373	N.D.		
32) Chloroform	7.33	83	1033	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.08	62	785	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.84	56	2311	No Calib	#	
41) Benzene	8.86	78	12741	N.D.		
42) Carbon Tetrachloride	9.03	117	3863	N.D.		
43) Cyclohexane	9.17	84	467	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.20	57	3076	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292239.D Vial: 11
Acq On : 29 Dec 2022 23:59 Operator: SC
Sample : P2205677-003 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:03 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

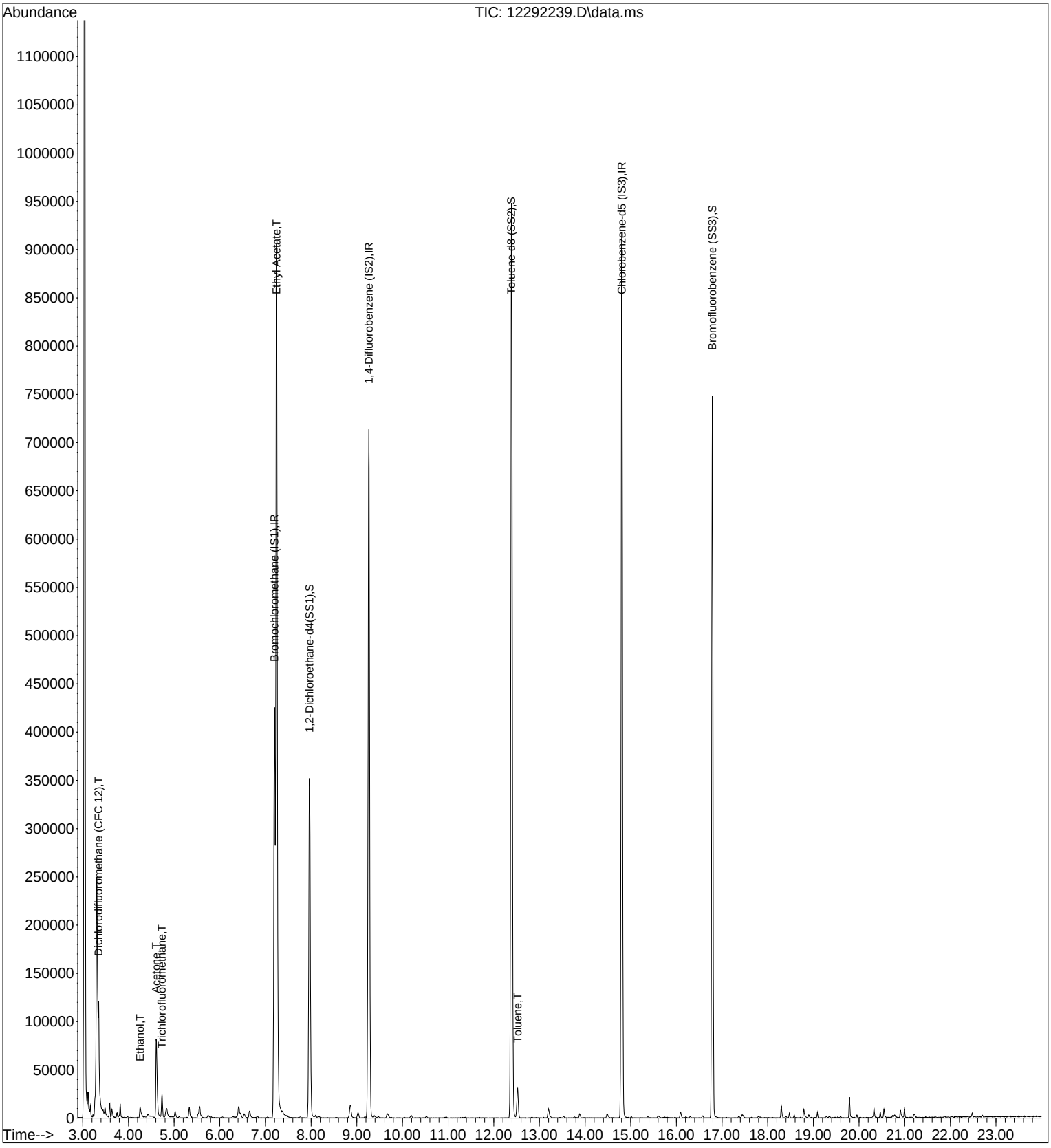
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.54	71	335	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	27308	0.464 ng	98
59) 2-Hexanone	12.91	43	389	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	1723	N.D.	
63) n-Octane	13.88	57	933	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	14.86	112	119	N.D.	
66) Ethylbenzene	15.38	91	1472	N.D.	
67) m- & p-Xylenes	15.60	91	3101	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	368	N.D.	
70) o-Xylene	16.20	91	1085	N.D.	
71) n-Nonane	16.57	43	1433	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.00	105	345	N.D.	
75) alpha-Pinene	17.49	93	154	N.D.	
76) n-Propylbenzene	17.65	91	721	N.D.	
77) 3-Ethyltoluene	17.00	105	345	No Calib	#
78) 4-Ethyltoluene	17.83	105	625	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	306	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.00	105	345	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	950	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	183	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	183	N.D.	
87) sec-Butylbenzene	18.71	105	389	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	2075	N.D.	
89) 1,2,3-Trimethylbenzene	17.00	105	345	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.09	68	135	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.82	180	348	N.D.	
95) Naphthalene	20.93	128	1258	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.41	119	298	N.D.	
100) n-Butylbenzene	19.36	91	680	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292239.D Vial: 11
Acq On : 29 Dec 2022 23:59 Operator: SC
Sample : P2205677-003 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:03 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292239.D Vial: 11
Acq On : 29 Dec 2022 23:59 Operator: SC
Sample : P2205677-003 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:03 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/30/22

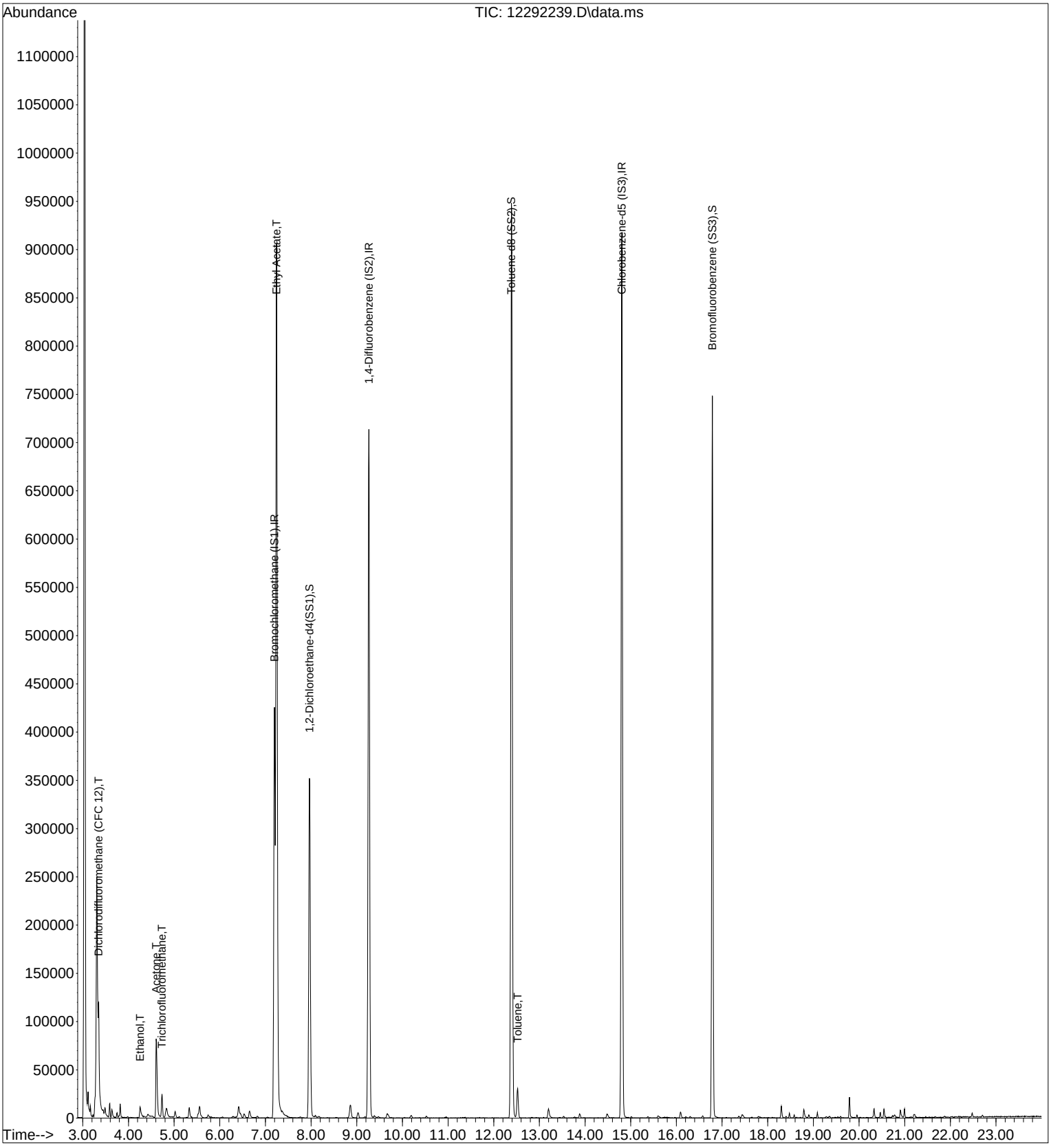
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	152370	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	692620	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	162192	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	296029	11.178	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.44%			
57) Toluene-d8 (SS2)	12.39	98	791754	13.391	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%			
73) Bromofluorobenzene (SS3)	16.79	174	253772	12.274	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.35	85	38742	1.105	ng	99
10) Ethanol	4.26	45	22780	1.335	ng	88
13) Acetone	4.61	58	30005	1.946	ng	99
14) Trichlorofluoromethane	4.73	101	18075	0.600	ng	98
30) Ethyl Acetate	7.24	61	174432	20.641	ng	96
58) Toluene	12.52	91	27308	0.464	ng	98

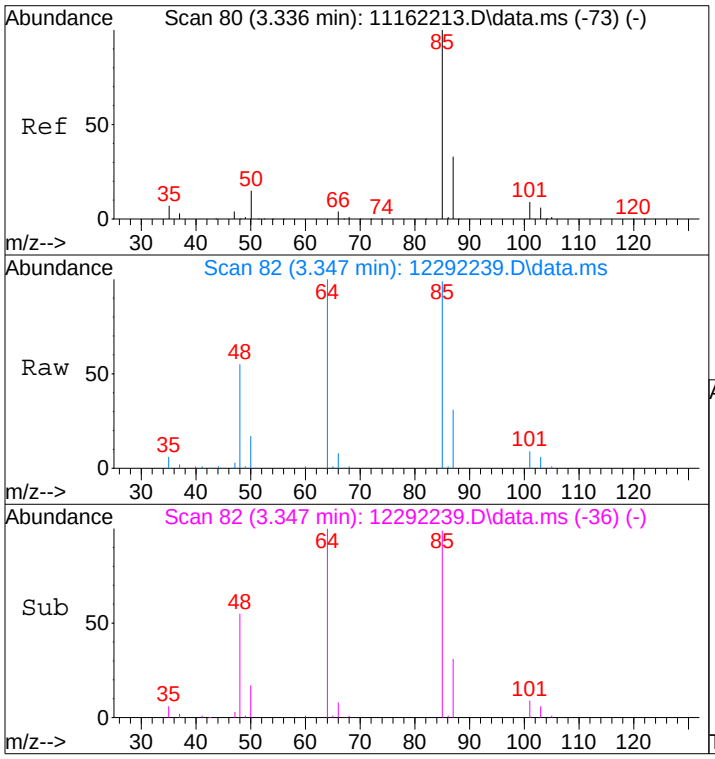
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292239.D Vial: 11
Acq On : 29 Dec 2022 23:59 Operator: SC
Sample : P2205677-003 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:03 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

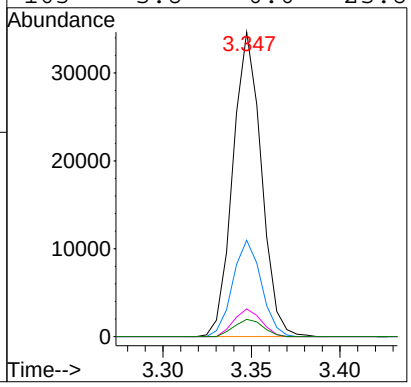


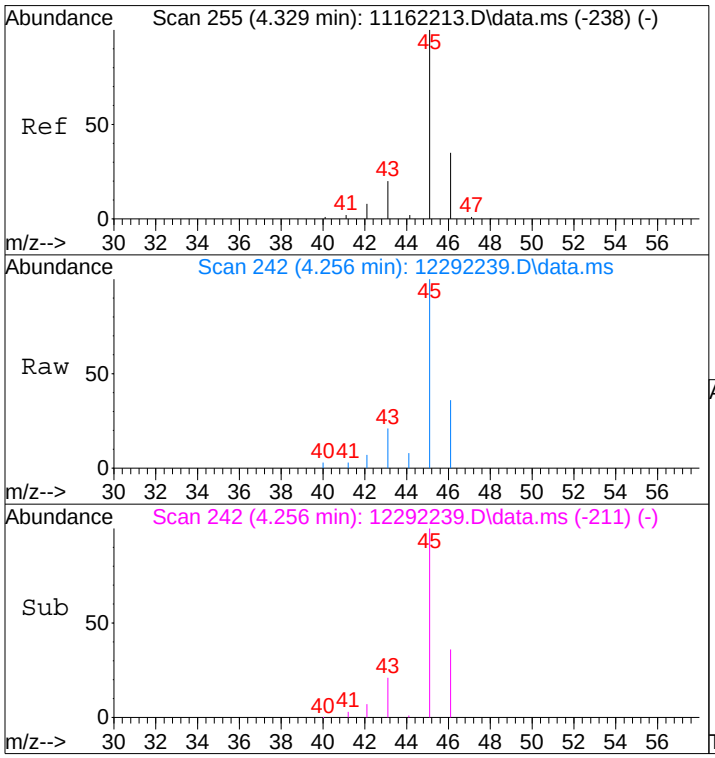


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.11 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.011 min
Lab File: 12292239.D
Acq: 29 Dec 2022 23:59

Tgt Ion: 85 Resp: 38742

Ion	Ratio	Lower	Upper
85	100		
87	31.7	12.6	52.6
101	8.7	0.0	29.1
103	5.8	0.0	25.8

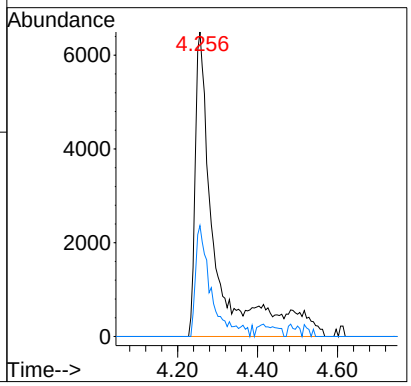


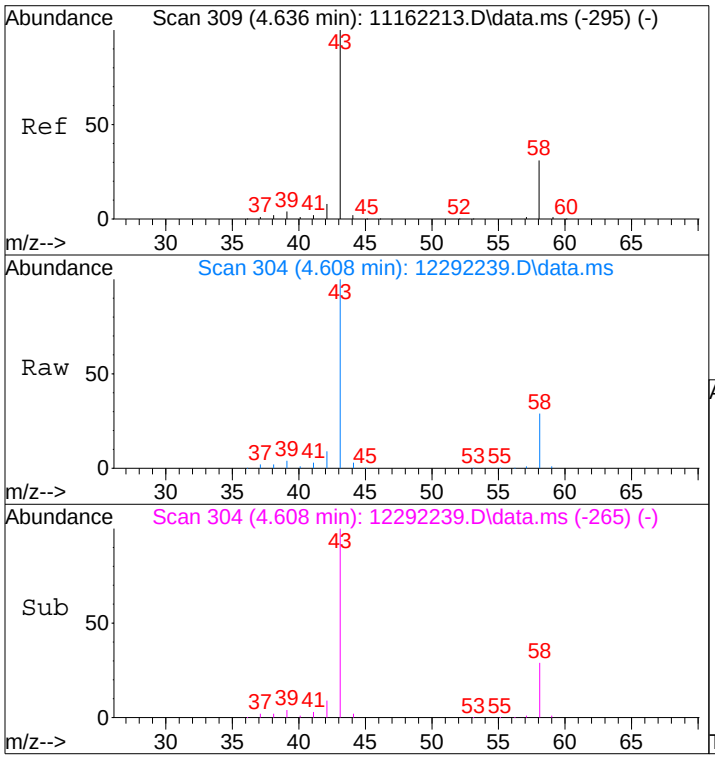


#10
Ethanol
Concen: 1.34 ng
RT: 4.26 min Scan# 242
Delta R.T. -0.074 min
Lab File: 12292239.D
Acq: 29 Dec 2022 23:59

Tgt Ion: 45 Resp: 22780

Ion	Ratio	Lower	Upper
45	100		
46	27.8	14.9	54.9

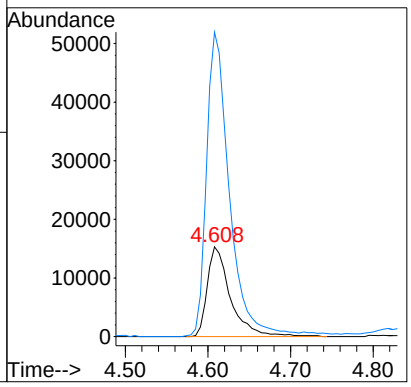


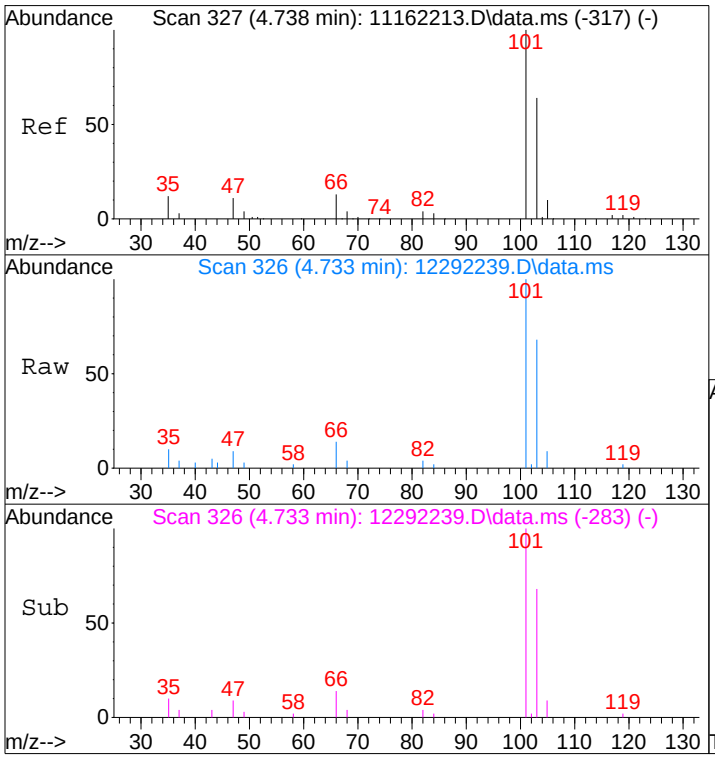


#13
Acetone
Concen: 1.95 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.028 min
Lab File: 12292239.D
Acq: 29 Dec 2022 23:59

Tgt Ion: 58 Resp: 30005

Ion	Ratio	Lower	Upper
58	100		
43	337.5	306.3	366.3

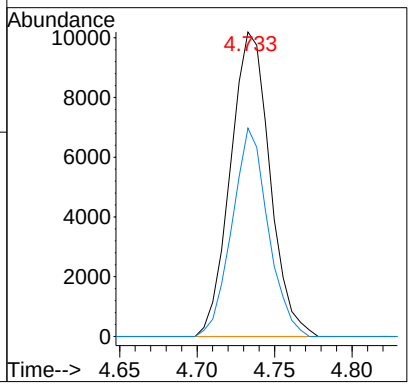


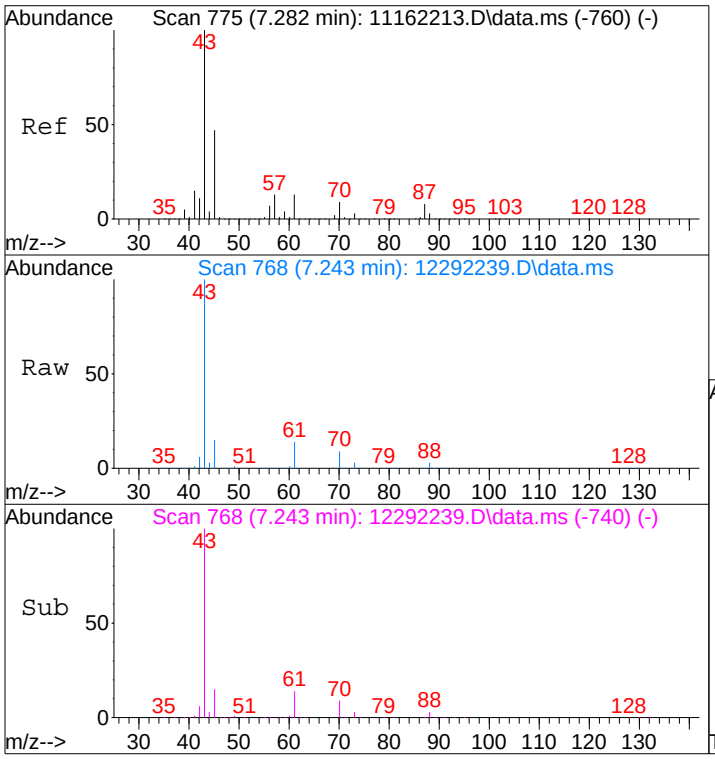


#14
Trichlorofluoromethane
Concen: 0.60 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.006 min
Lab File: 12292239.D
Acq: 29 Dec 2022 23:59

Tgt Ion:101 Resp: 18075

Ion	Ratio	Lower	Upper
101	100		
103	62.7	44.5	84.5

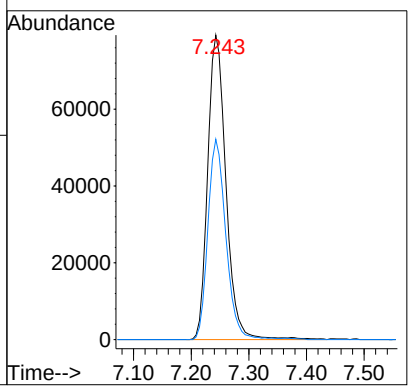


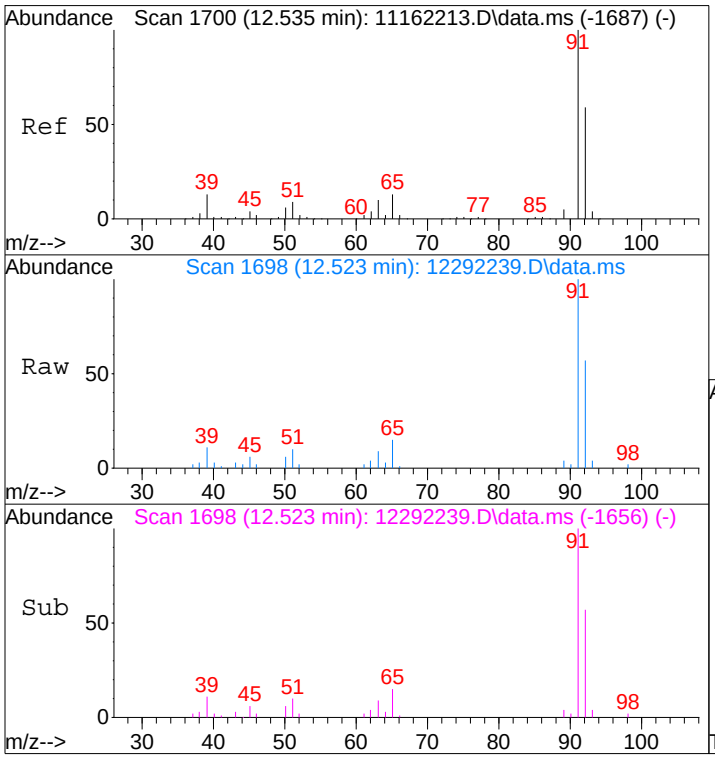


#30
Ethyl Acetate
Concen: 20.64 ng
RT: 7.24 min Scan# 768
Delta R.T. -0.040 min
Lab File: 12292239.D
Acq: 29 Dec 2022 23:59

Tgt Ion: 61 Resp: 174432

Ion	Ratio	Lower	Upper
61	100		
70	65.1	48.2	88.2

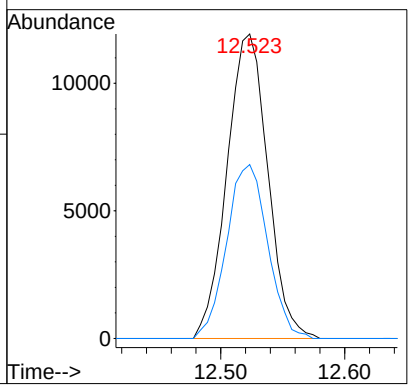




#58
Toluene
Concen: 0.46 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.011 min
Lab File: 12292239.D
Acq: 29 Dec 2022 23:59

Tgt Ion: 91 Resp: 27308

Ion	Ratio	Lower	Upper
91	100		
92	57.4	39.2	79.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292240.D Vial: 12
Acq On : 30 Dec 2022 00:31 Operator: SC
Sample : P2205677-004 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 09:21:32 2022 12/30/22
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150538	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	694963	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	163415	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.97	65	297138	11.356	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%			
57) Toluene-d8 (SS2)	12.39	98	793699	13.323	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.56%			
73) Bromofluorobenzene (SS3)	16.79	174	257096	12.342	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%			
Target Compounds						Qvalue
2) Propene	3.28	42	6690	N.D.		
3) Dichlorodifluoromethan...	3.35	85	44748	1.292	ng	100
4) Chloromethane	3.49	50	8519	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	895	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.01	94	322	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.26	45	21806	1.294	ng	87
11) Acetonitrile	4.43	41	3510	N.D.		
12) Acrolein	4.52	56	698	N.D.		
13) Acetone	4.61	58	28005	1.838	ng	99
14) Trichlorofluoromethane	4.73	101	20506	0.689	ng	100
15) 2-Propanol (Isopropanol)	4.83	45	20281	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.33	84	3135	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.56	151	4224	N.D.		
22) Carbon Disulfide	5.59	76	2065	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.65	72	2180	N.D.		
28) cis-1,2-Dichloroethene	7.06	61	380	N.D.		
29) Diisopropyl Ether	7.24	87	3637	N.D.		
30) Ethyl Acetate	7.24	61	342993	41.082	ng	95
31) n-Hexane	7.27	57	1569	N.D.		
32) Chloroform	7.33	83	1308	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.09	62	902	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	21544	No Calib	#	
40) 1-Butanol	8.84	56	1125	No Calib	#	
41) Benzene	8.86	78	21032	N.D.		
42) Carbon Tetrachloride	9.03	117	4507	N.D.		
43) Cyclohexane	9.18	84	325	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.19	57	3779	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292240.D Vial: 12
Acq On : 30 Dec 2022 00:31 Operator: SC
Sample : P2205677-004 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 09:21:32 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

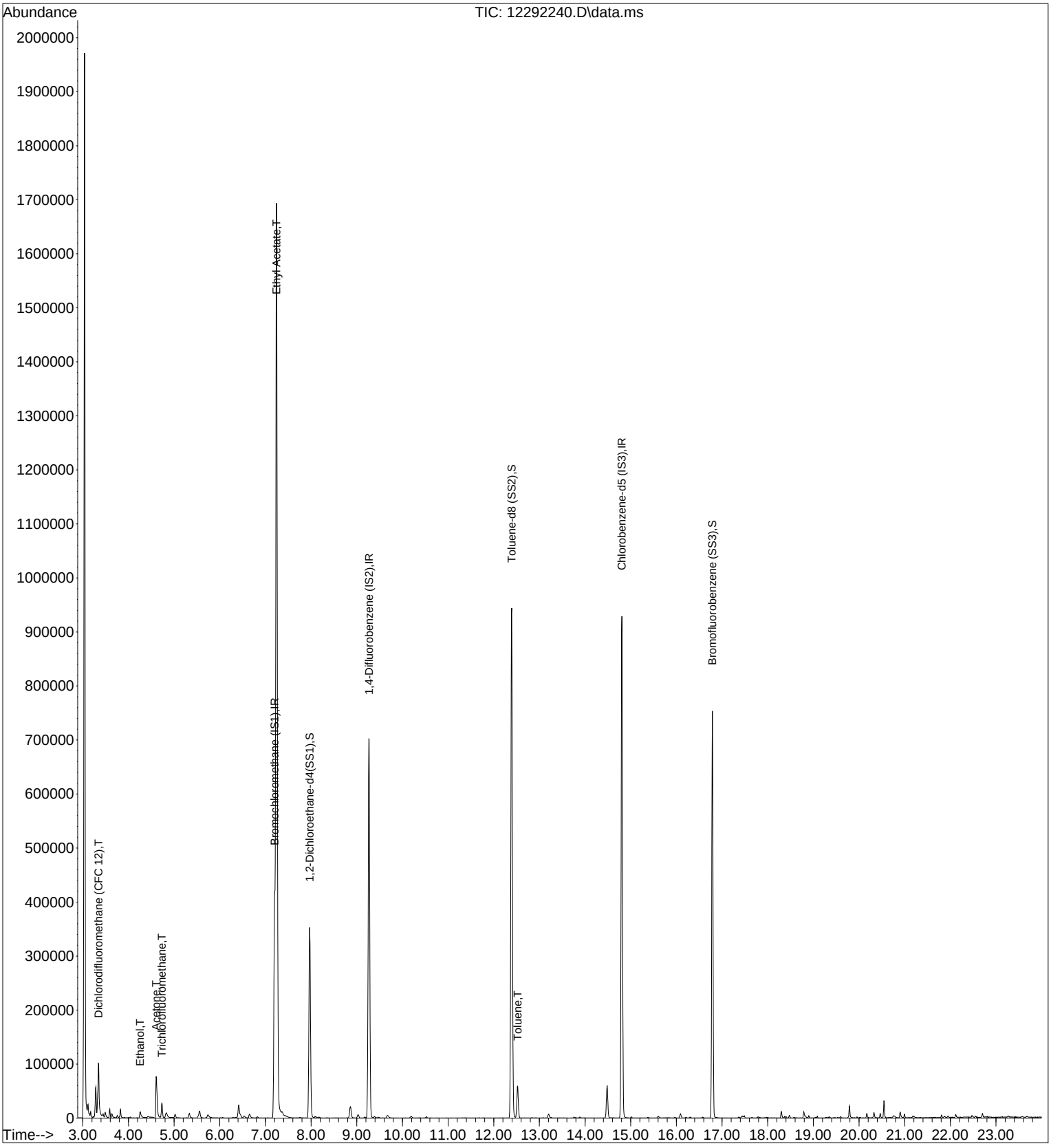
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	479	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	52714	0.889 ng	98
59) 2-Hexanone	12.90	43	383	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	2848	N.D.	
63) n-Octane	13.88	57	276	N.D.	
64) Tetrachloroethene	13.99	166	112	N.D.	
65) Chlorobenzene	14.86	112	166	N.D.	
66) Ethylbenzene	15.38	91	1959	N.D.	
67) m- & p-Xylenes	15.60	91	3895	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.08	104	923	N.D.	
70) o-Xylene	16.21	91	1479	N.D.	
71) n-Nonane	16.57	43	1024	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.99	105	286	N.D.	
75) alpha-Pinene	17.49	93	1629	N.D.	
76) n-Propylbenzene	17.65	91	729	N.D.	
77) 3-Ethyltoluene	16.99	105	286	No Calib	#
78) 4-Ethyltoluene	17.83	105	629	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	396	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	16.99	105	286	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	1217	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.64	146	203	N.D.	
86) 1,4-Dichlorobenzene	18.64	146	203	N.D.	
87) sec-Butylbenzene	18.71	105	267	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	2343	N.D.	
89) 1,2,3-Trimethylbenzene	16.99	105	286	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.06	68	313	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.82	180	162	N.D.	
95) Naphthalene	20.93	128	828	N.D.	
96) n-Dodecane	18.80	58	166	No Calib	#
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.39	119	296	N.D.	
100) n-Butylbenzene	19.37	91	538	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292240.D Vial: 12
Acq On : 30 Dec 2022 00:31 Operator: SC
Sample : P2205677-004 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 09:21:32 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292240.D Vial: 12
Acq On : 30 Dec 2022 00:31 Operator: SC
Sample : P2205677-004 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 09:21:32 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/30/22

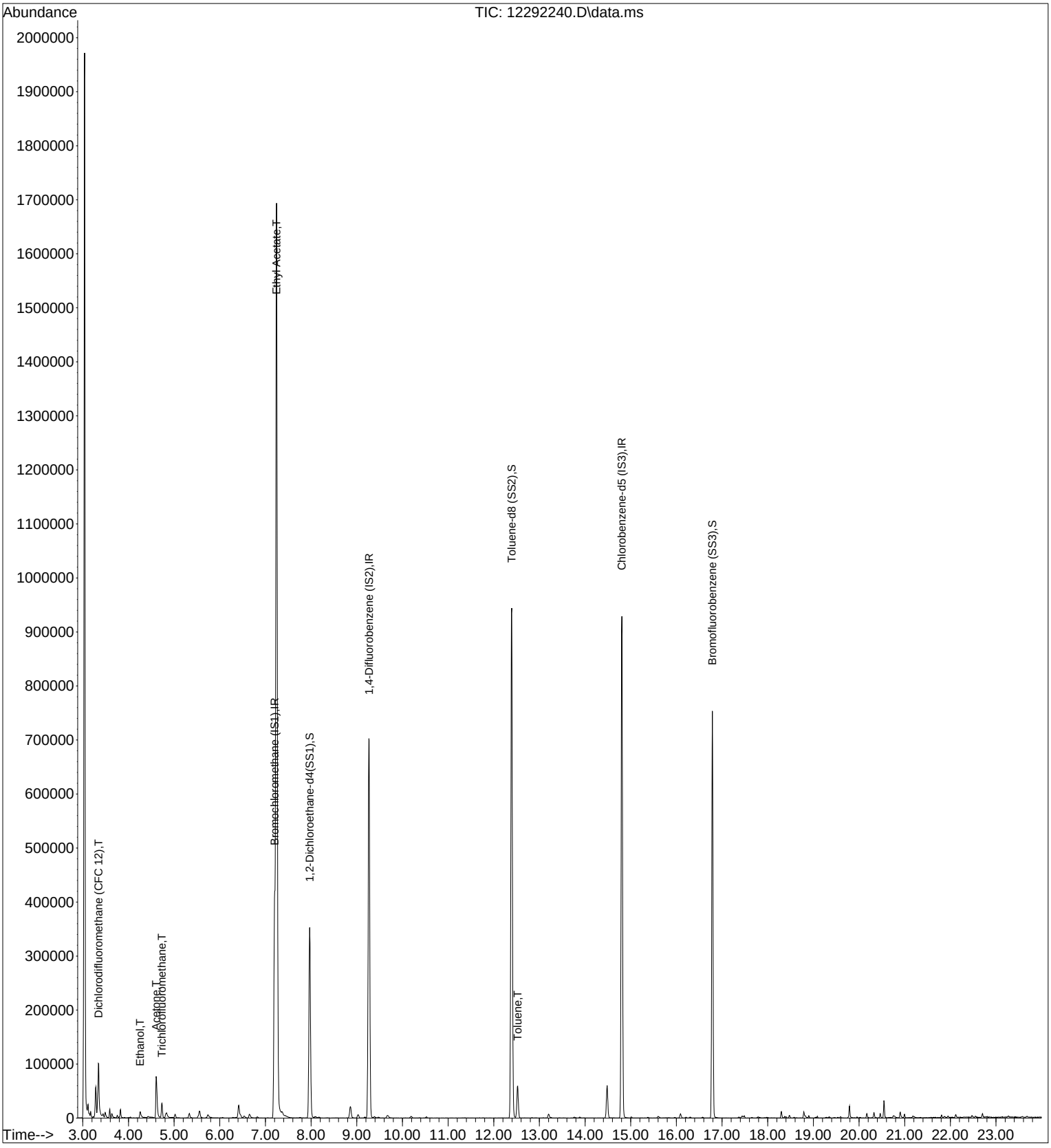
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150538	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	694963	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	163415	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.97	65	297138	11.356	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%			
57) Toluene-d8 (SS2)	12.39	98	793699	13.323	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.56%			
73) Bromofluorobenzene (SS3)	16.79	174	257096	12.342	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.35	85	44748	1.292	ng	100
10) Ethanol	4.26	45	21806	1.294	ng	87
13) Acetone	4.61	58	28005	1.838	ng	99
14) Trichlorofluoromethane	4.73	101	20506	0.689	ng	100
30) Ethyl Acetate	7.24	61	342993	41.082	ng	95
58) Toluene	12.52	91	52714	0.889	ng	98

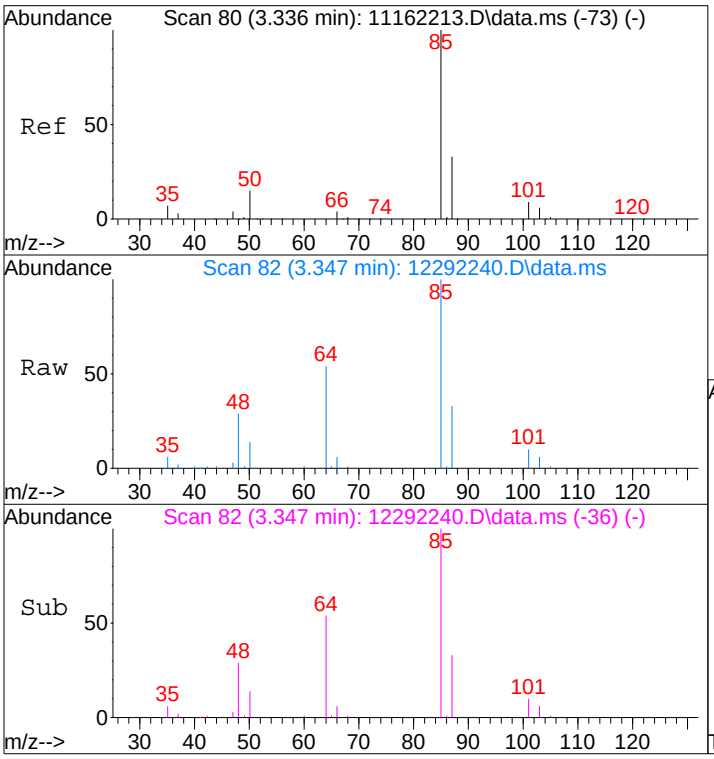
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292240.D Vial: 12
Acq On : 30 Dec 2022 00:31 Operator: SC
Sample : P2205677-004 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 09:21:32 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

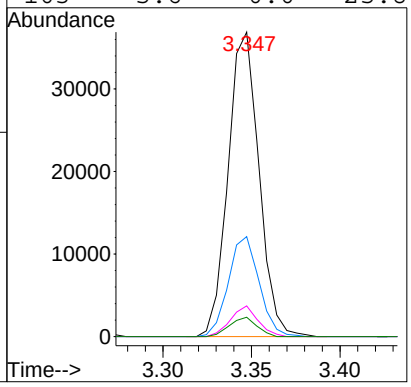


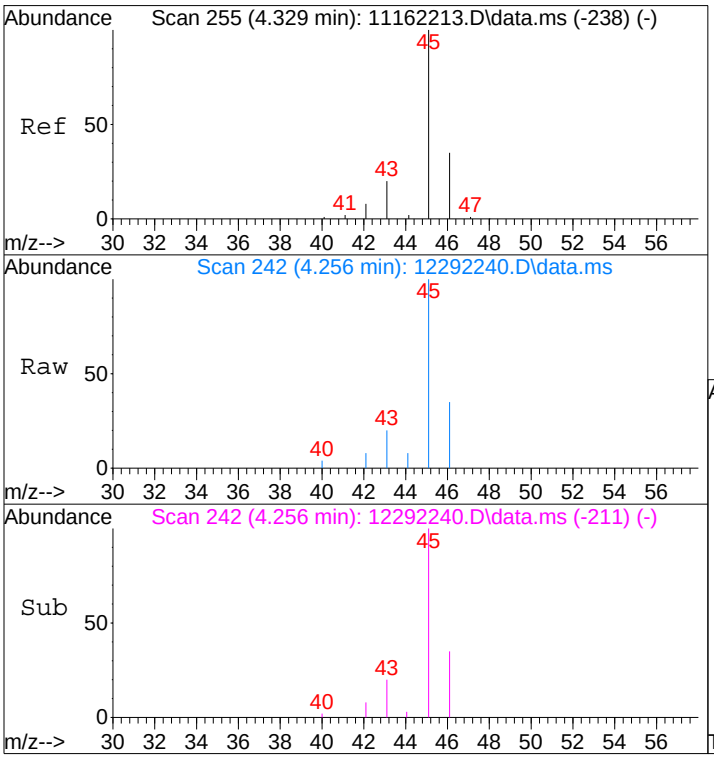


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.29 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.011 min
Lab File: 12292240.D
Acq: 30 Dec 2022 00:31

Tgt Ion: 85 Resp: 44748

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.6	52.6
101	9.0	0.0	29.1
103	5.6	0.0	25.8

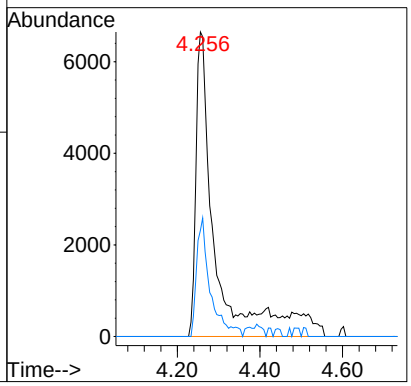


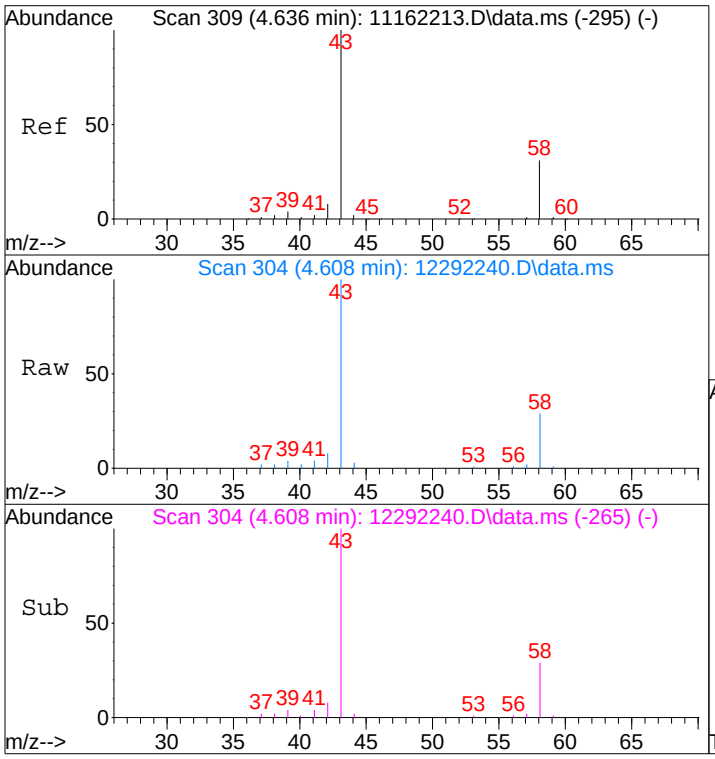


#10
Ethanol
Concen: 1.29 ng
RT: 4.26 min Scan# 242
Delta R.T. -0.074 min
Lab File: 12292240.D
Acq: 30 Dec 2022 00:31

Tgt Ion: 45 Resp: 21806

Ion	Ratio	Lower	Upper
45	100		
46	27.1	14.9	54.9

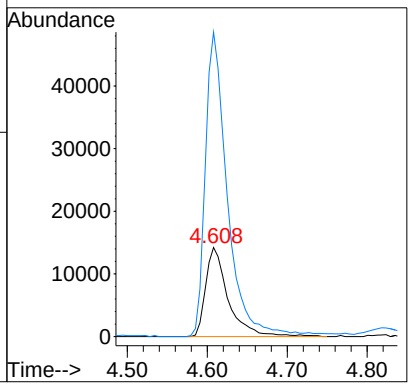


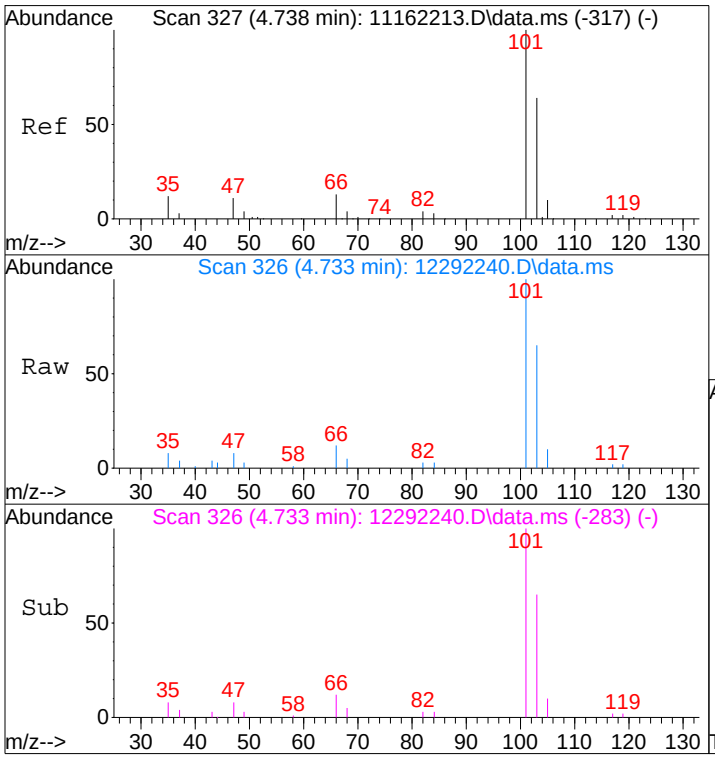


#13
Acetone
Concen: 1.84 ng
RT: 4.61 min Scan# 304
Delta R.T. -0.028 min
Lab File: 12292240.D
Acq: 30 Dec 2022 00:31

Tgt Ion: 58 Resp: 28005

Ion	Ratio	Lower	Upper
58	100		
43	337.6	306.3	366.3

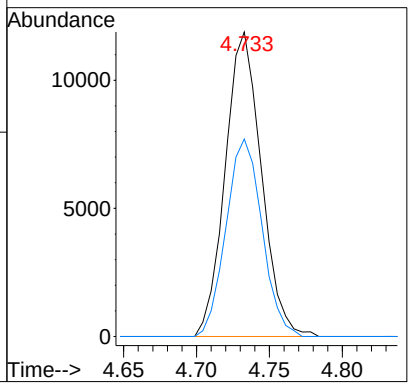


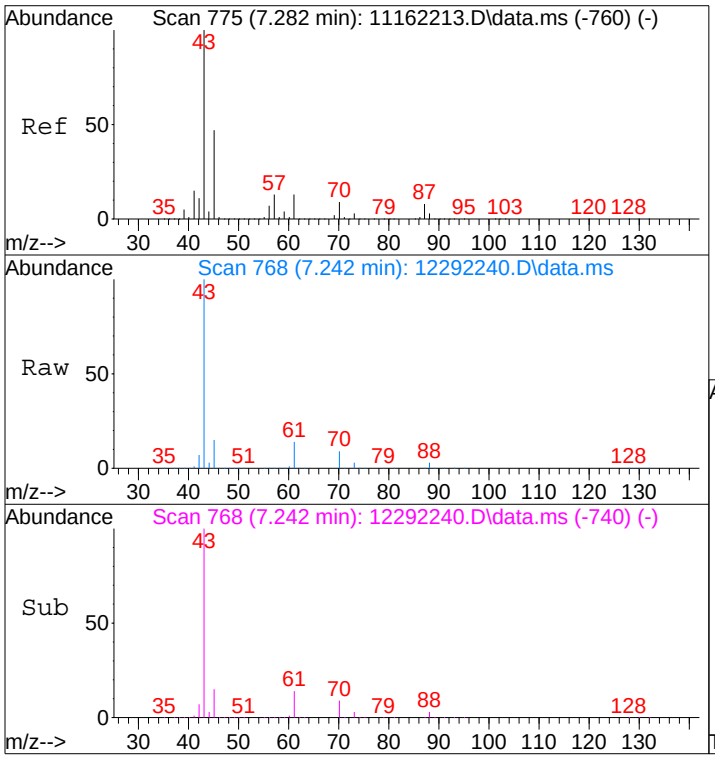


#14
Trichlorofluoromethane
Concen: 0.69 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.006 min
Lab File: 12292240.D
Acq: 30 Dec 2022 00:31

Tgt Ion:101 Resp: 20506

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.5	84.5

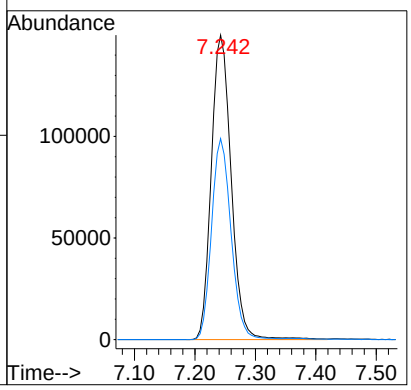


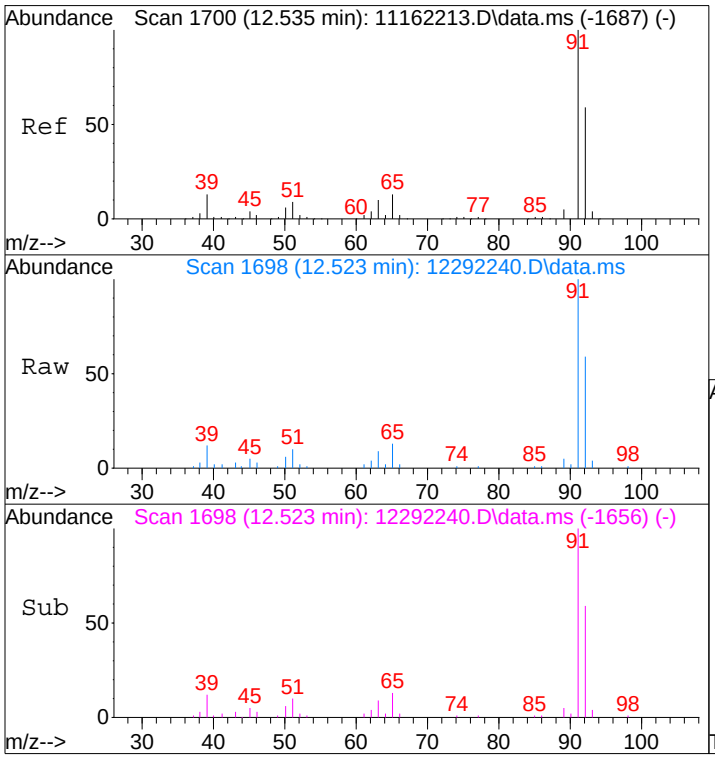


#30
Ethyl Acetate
Concen: 41.08 ng
RT: 7.24 min Scan# 768
Delta R.T. -0.040 min
Lab File: 12292240.D
Acq: 30 Dec 2022 00:31

Tgt Ion: 61 Resp: 342993

Ion	Ratio	Lower	Upper
61	100		
70	64.5	48.2	88.2

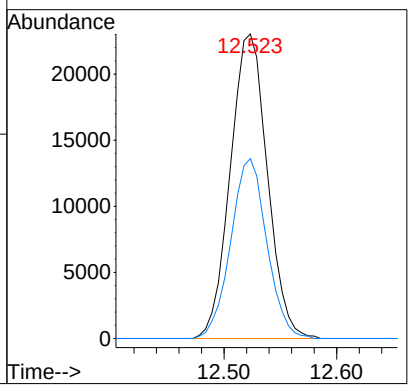




#58
Toluene
Concen: 0.89 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.011 min
Lab File: 12292240.D
Acq: 30 Dec 2022 00:31

Tgt Ion: 91 Resp: 52714

Ion	Ratio	Lower	Upper
91	100		
92	57.4	39.2	79.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292241.D Vial: 13
Acq On : 30 Dec 2022 1:03 Operator: SC
Sample : P2205677-005 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:07 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/30/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150959	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	687052	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	161106	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	294240	11.214	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.68%			
57) Toluene-d8 (SS2)	12.39	98	778157	13.250	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%			
73) Bromofluorobenzene (SS3)	16.79	174	252742	12.307	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%			
Target Compounds						Qvalue
2) Propene	3.28	42	6234	N.D.		
3) Dichlorodifluoromethan...	3.35	85	46523	1.340	ng	100
4) Chloromethane	3.49	50	9506	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	1032	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.01	94	320	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.26	45	16156	0.956	ng	85
11) Acetonitrile	4.44	41	3058	N.D.		
12) Acrolein	4.53	56	721	N.D.		
13) Acetone	4.61	58	30619	2.004	ng	99
14) Trichlorofluoromethane	4.73	101	21528	0.722	ng	98
15) 2-Propanol (Isopropanol)	4.83	45	18008	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.33	84	3102	N.D.		
20) 3-Chloro-1-propene (Al...	5.38	41	133	N.D.		
21) Trichlorotrifluoroethane	5.56	151	4366	N.D.		
22) Carbon Disulfide	5.60	76	2271	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.41	86	122	N.D.		
27) 2-Butanone (MEK)	6.66	72	1921	N.D.		
28) cis-1,2-Dichloroethene	7.04	61	2324	N.D.		
29) Diisopropyl Ether	7.26	87	113	N.D.		
30) Ethyl Acetate	7.25	61	24959	2.981	ng	95
31) n-Hexane	7.27	57	1392	N.D.		
32) Chloroform	7.32	83	1280	N.D.		
34) Tetrahydrofuran (THF)	7.76	72	984	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.08	62	895	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	21281	No Calib	#	
40) 1-Butanol	8.86	56	977	No Calib	#	
41) Benzene	8.86	78	9007	N.D.		
42) Carbon Tetrachloride	9.03	117	4881	N.D.		
43) Cyclohexane	9.18	84	490	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.20	57	3553	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292241.D Vial: 13
Acq On : 30 Dec 2022 1:03 Operator: SC
Sample : P2205677-005 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:07 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

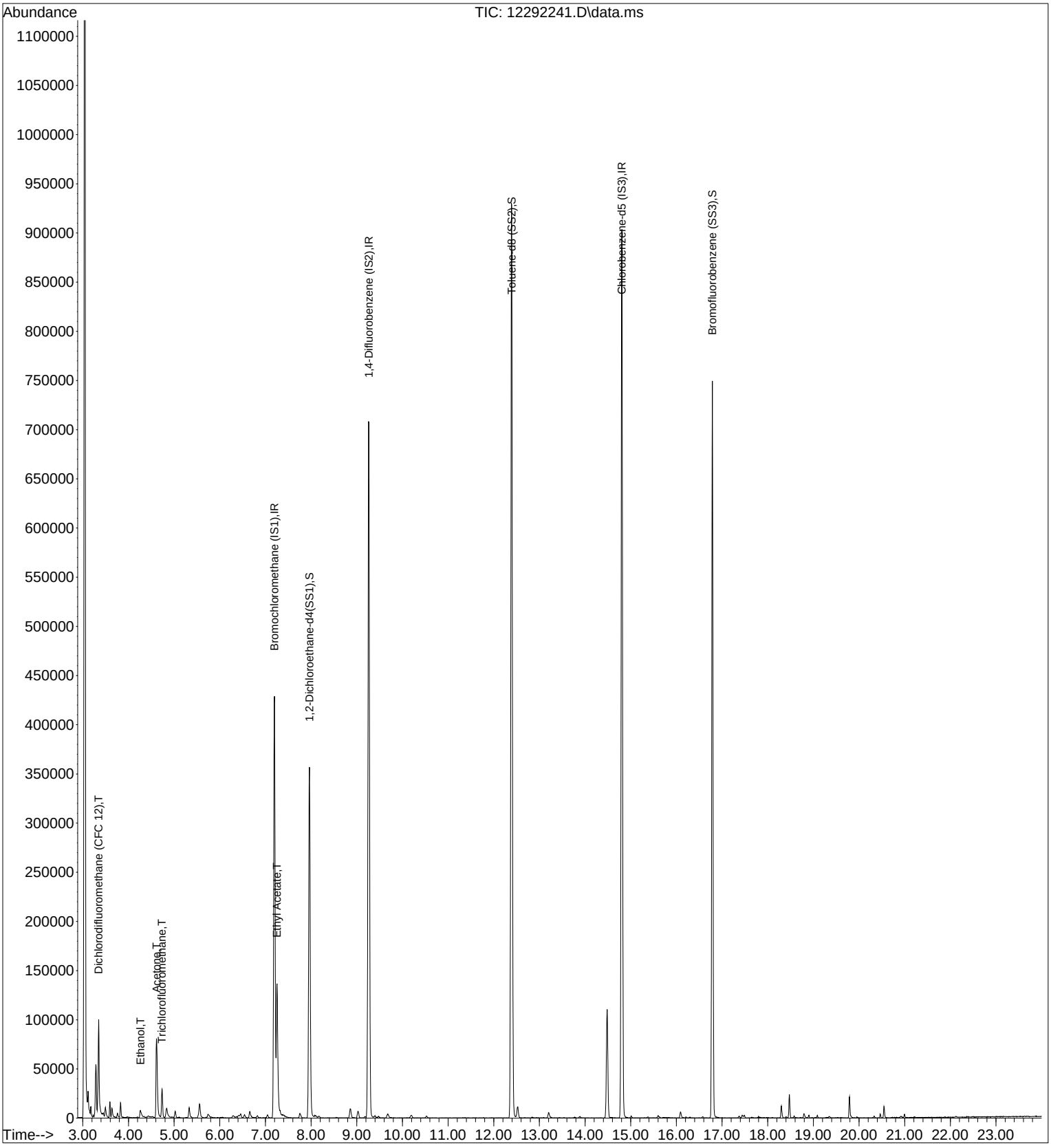
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.53	71	415	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	10439	N.D.	
59) 2-Hexanone	12.82	43	273	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	1096	N.D.	
63) n-Octane	13.89	57	122	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.38	91	1456	N.D.	
67) m- & p-Xylenes	15.60	91	3107	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.07	104	543	N.D.	
70) o-Xylene	16.21	91	1213	N.D.	
71) n-Nonane	16.58	43	802	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.00	105	268	N.D.	
75) alpha-Pinene	17.49	93	1300	N.D.	
76) n-Propylbenzene	17.64	91	592	N.D.	
77) 3-Ethyltoluene	17.00	105	268	No Calib	#
78) 4-Ethyltoluene	17.83	105	454	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	301	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.00	105	268	No Calib	#
82) 1,2,4-Trimethylbenzene	18.40	105	931	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	135	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	135	N.D.	
87) sec-Butylbenzene	18.71	105	258	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	2125	N.D.	
89) 1,2,3-Trimethylbenzene	17.00	105	268	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.82	180	122	N.D.	
95) Naphthalene	20.93	128	413	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.41	119	191	N.D.	
100) n-Butylbenzene	19.36	91	455	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292241.D Vial: 13
Acq On : 30 Dec 2022 1:03 Operator: SC
Sample : P2205677-005 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:07 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292241.D Vial: 13
Acq On : 30 Dec 2022 1:03 Operator: SC
Sample : P2205677-005 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:07 2022 12/30/22
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

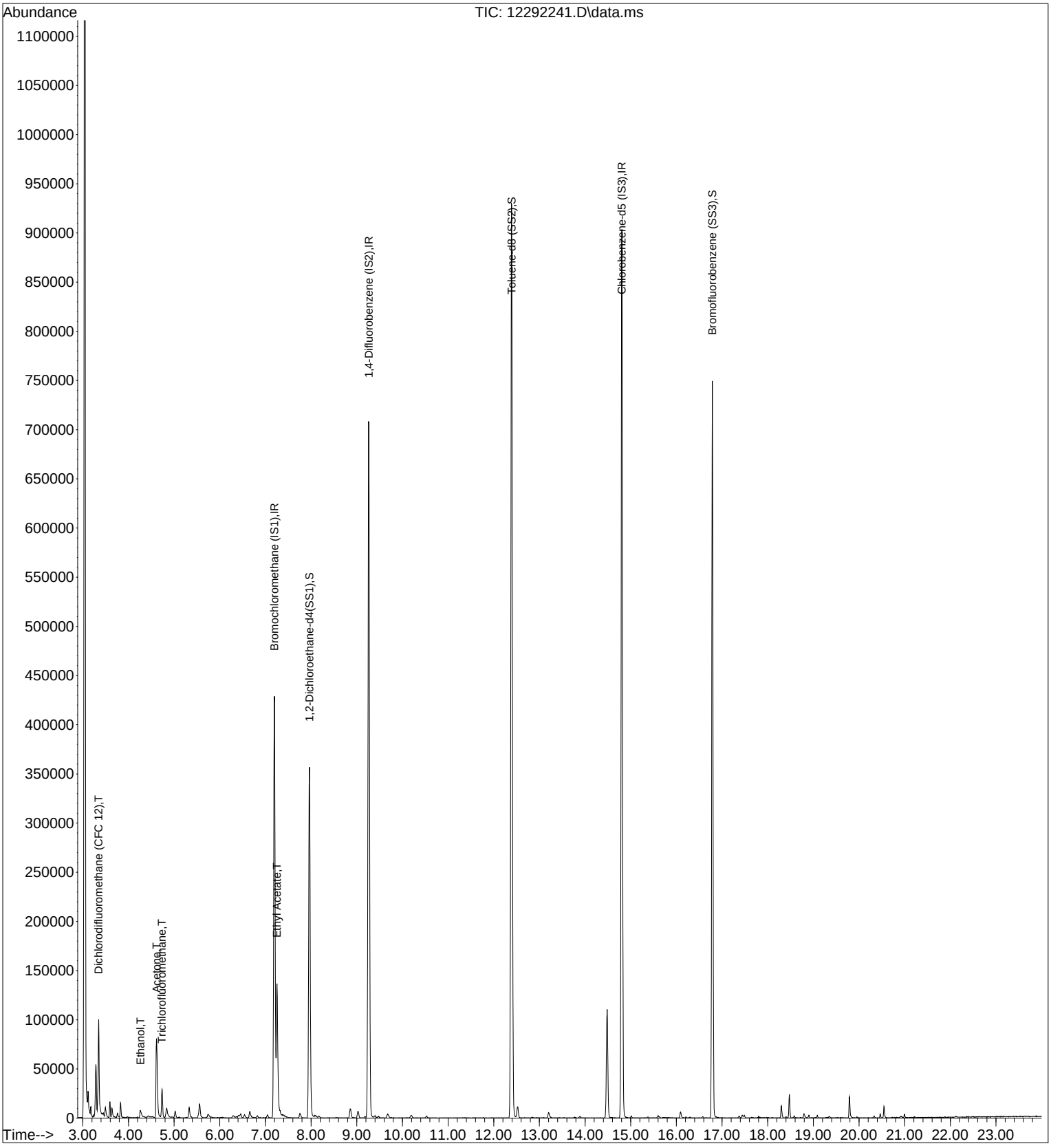
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150959	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	687052	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	161106	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	294240	11.214	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.68%			
57) Toluene-d8 (SS2)	12.39	98	778157	13.250	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%			
73) Bromofluorobenzene (SS3)	16.79	174	252742	12.307	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.35	85	46523	1.340	ng	100
10) Ethanol	4.26	45	16156	0.956	ng	85
13) Acetone	4.61	58	30619	2.004	ng	99
14) Trichlorofluoromethane	4.73	101	21528	0.722	ng	98
30) Ethyl Acetate	7.25	61	24959	2.981	ng	95

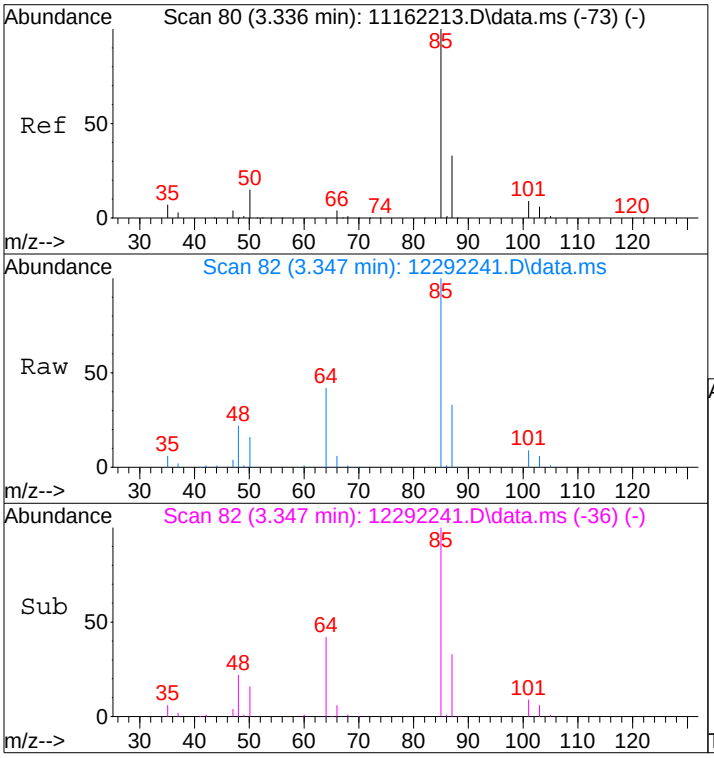
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292241.D Vial: 13
Acq On : 30 Dec 2022 1:03 Operator: SC
Sample : P2205677-005 (1000mL) Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 03:11:07 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

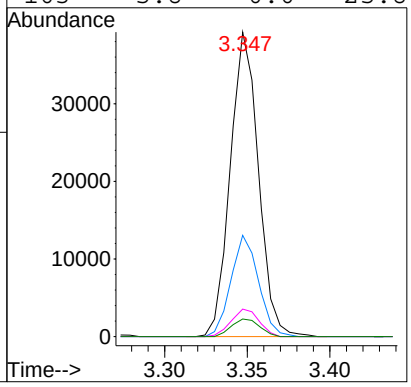


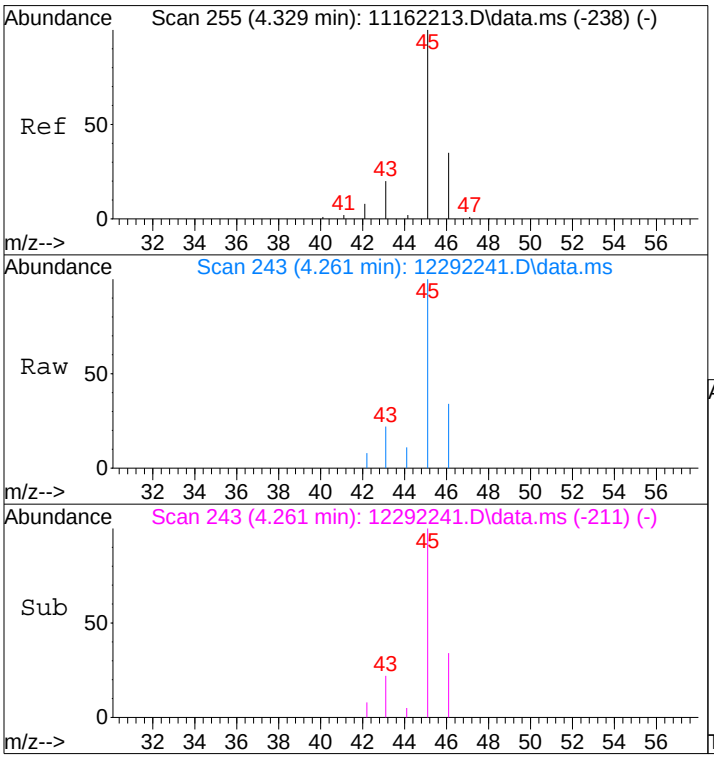


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.34 ng
RT: 3.35 min Scan# 82
Delta R.T. 0.011 min
Lab File: 12292241.D
Acq: 30 Dec 2022 1:03

Tgt Ion: 85 Resp: 46523

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.6	52.6
101	9.0	0.0	29.1
103	5.8	0.0	25.8

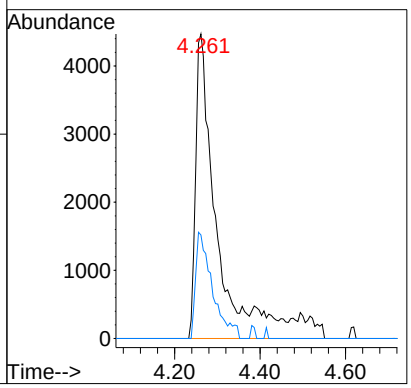


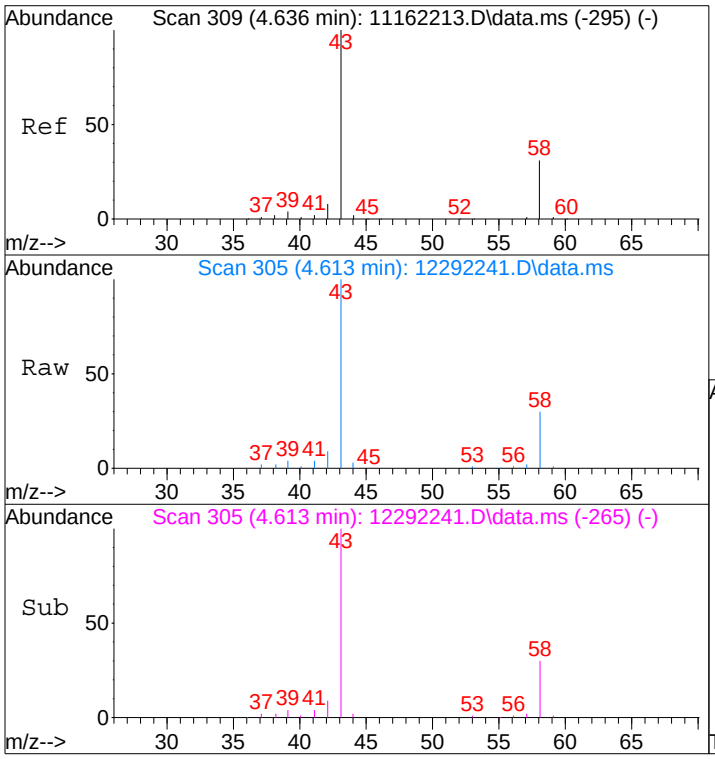


#10
Ethanol
Concen: 0.96 ng
RT: 4.26 min Scan# 243
Delta R.T. -0.068 min
Lab File: 12292241.D
Acq: 30 Dec 2022 1:03

Tgt Ion: 45 Resp: 16156

Ion	Ratio	Lower	Upper
45	100		
46	26.3	14.9	54.9

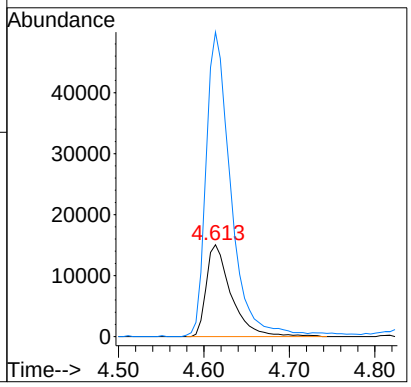


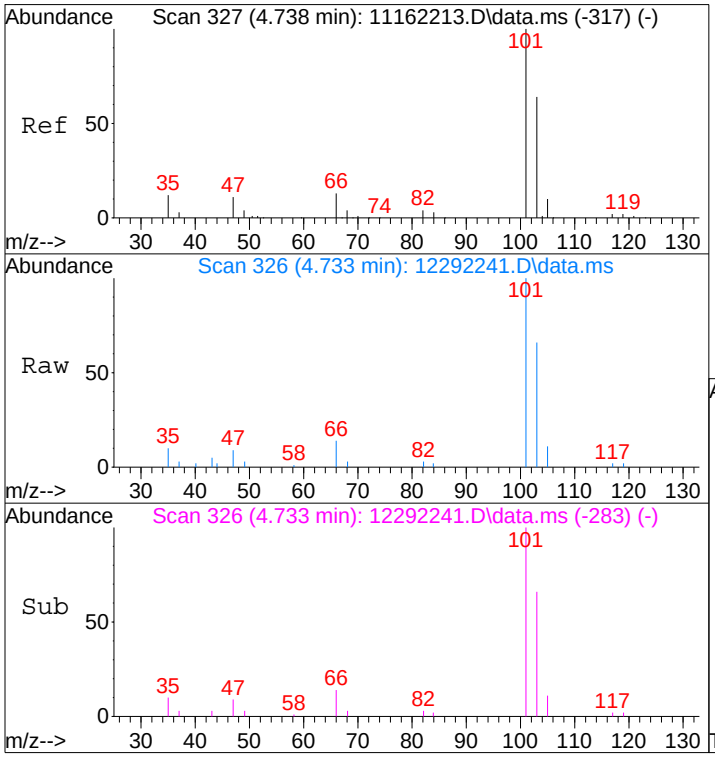


#13
Acetone
Concen: 2.00 ng
RT: 4.61 min Scan# 305
Delta R.T. -0.023 min
Lab File: 12292241.D
Acq: 30 Dec 2022 1:03

Tgt Ion: 58 Resp: 30619

Ion	Ratio	Lower	Upper
58	100		
43	333.9	306.3	366.3

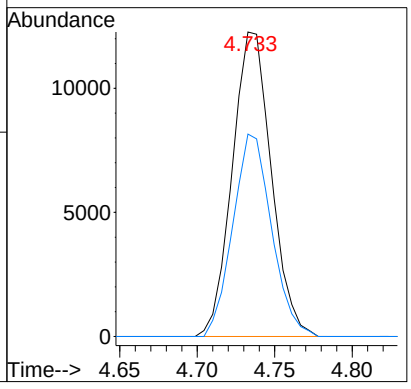


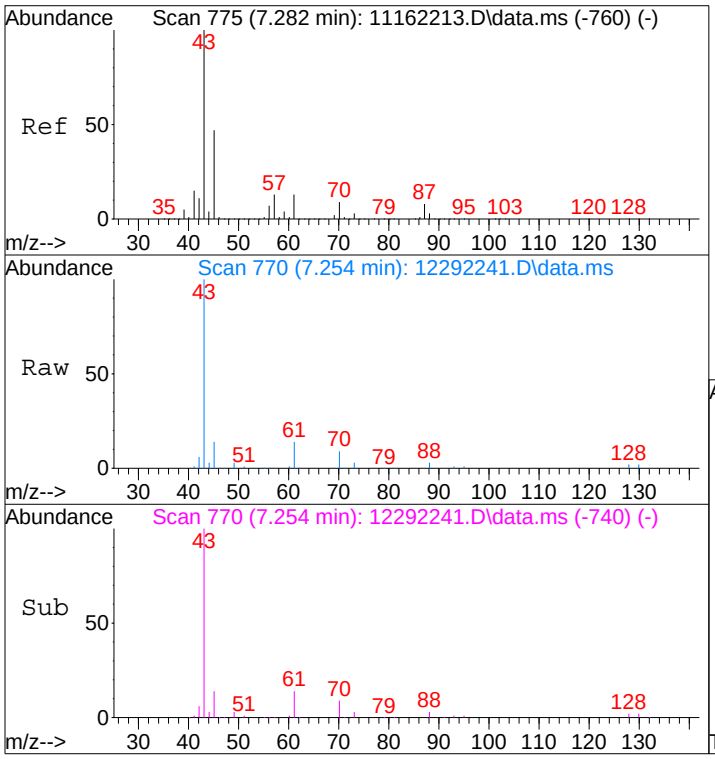


#14
Trichlorofluoromethane
Concen: 0.72 ng
RT: 4.73 min Scan# 326
Delta R.T. -0.006 min
Lab File: 12292241.D
Acq: 30 Dec 2022 1:03

Tgt Ion:101 Resp: 21528

Ion	Ratio	Lower	Upper
101	100		
103	66.0	44.5	84.5

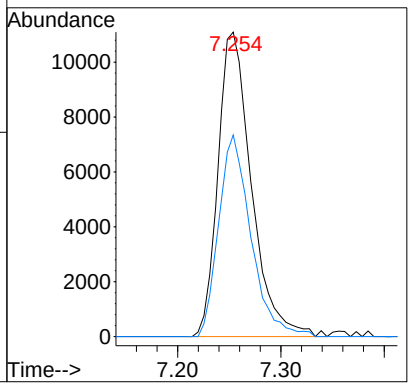




#30
Ethyl Acetate
Concen: 2.98 ng
RT: 7.25 min Scan# 770
Delta R.T. -0.028 min
Lab File: 12292241.D
Acq: 30 Dec 2022 1:03

Tgt Ion: 61 Resp: 24959

Ion	Ratio	Lower	Upper
61	100		
70	63.8	48.2	88.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292234.D Vial: 2
Acq On : 29 Dec 2022 21:20 Operator: SC
Sample : MB2 R9122922_1000mL Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 08:23:49 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/30/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.19	130	155391	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.26	114	698617	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.80	54	161693	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	295524	10.942	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%				
57) Toluene-d8 (SS2)	12.39	98	794721	13.483	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
73) Bromofluorobenzene (SS3)	16.79	174	258635	12.548	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	3.35	50	833	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.30	45	690	N.D.			
11) Acetonitrile	4.47	41	205	N.D.			
12) Acrolein	4.53	56	466	N.D.			
13) Acetone	4.64	58	5825	0.370	ng	#	70
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	4.86	45	14612	0.249	ng		97
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.33	84	268	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.60	76	1565	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	20863	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.86	78	1449	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.27	84	439	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.19	57	175	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292234.D Vial: 2
Acq On : 29 Dec 2022 21:20 Operator: SC
Sample : MB2 R9122922_1000mL Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 08:23:49 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

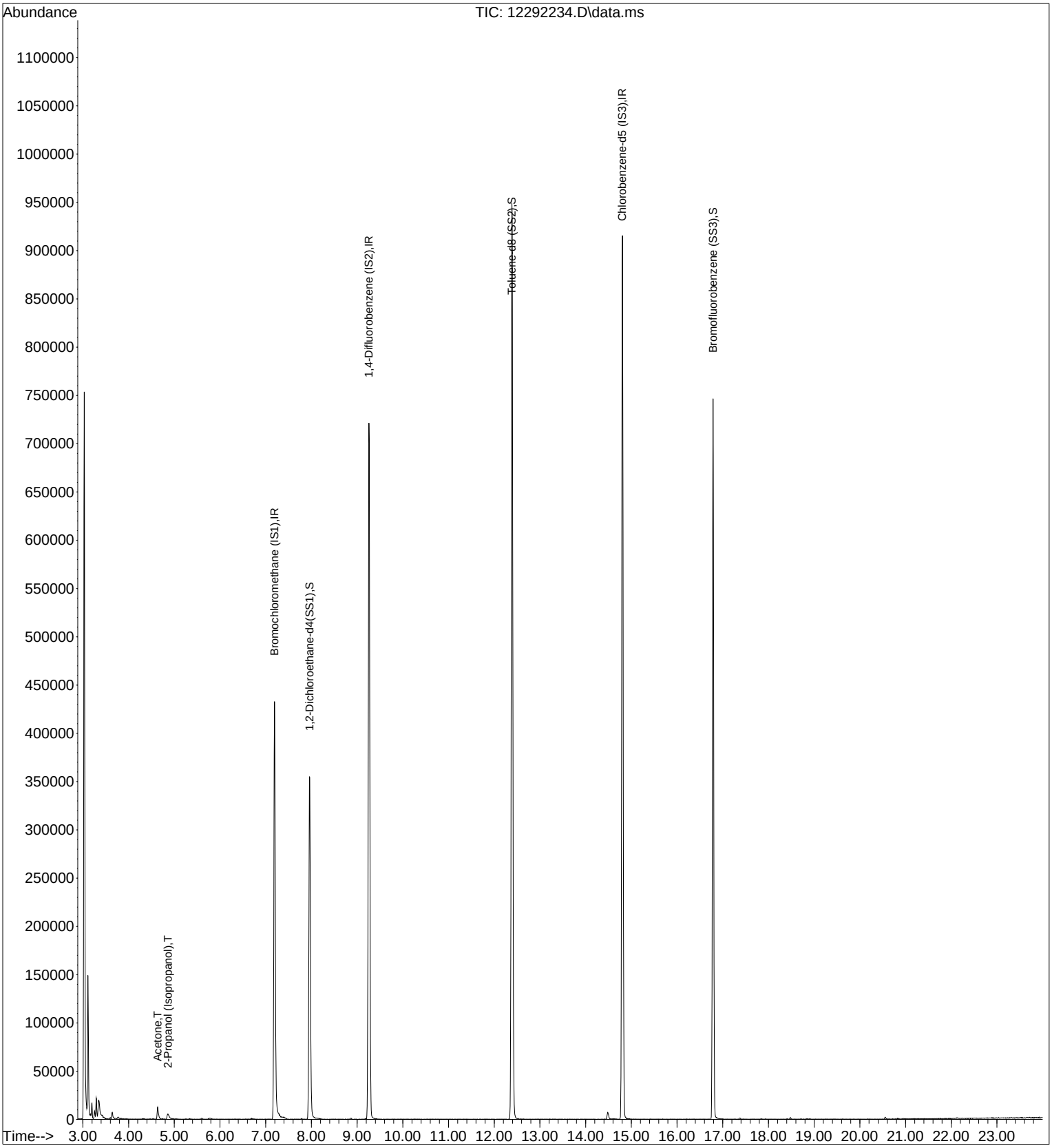
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	121	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	0.00	91	0	N.D.	
67) m- & p-Xylenes	0.00	91	0	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.22	91	108	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.00	105	141	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	361	N.D.	
77) 3-Ethyltoluene	17.00	105	141	No Calib	#
78) 4-Ethyltoluene	17.84	105	353	N.D.	
79) 1,3,5-Trimethylbenzene	17.94	105	214	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.00	105	141	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	167	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.71	105	372	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	657	N.D.	
89) 1,2,3-Trimethylbenzene	17.00	105	141	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	534	N.D.	
95) Naphthalene	20.94	128	716	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.40	119	208	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292234.D Vial: 2
Acq On : 29 Dec 2022 21:20 Operator: SC
Sample : MB2 R9122922_1000mL Inst : MS09
Misc : S35-10052202

Quant Time: Dec 30 08:23:49 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292250.D Vial: 2
Acq On : 30 Dec 2022 10:06 Operator: SC
Sample : LCS2 R9122922 25ng Inst : MS09
Misc : S35-10052202/S35-12092205 (1/8)

Quant Time: Dec 30 10:34:08 2022 12/30/22
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	152236	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.29	114	694754	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	166238	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	302364	11.427	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.44%				
57) Toluene-d8 (SS2)	12.40	98	792912	13.084	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.64%				
73) Bromofluorobenzene (SS3)	16.79	174	266049	12.555	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
Target Compounds							Qvalue
2) Propene	3.25	42	668119	24.538	ng		99
3) Dichlorodifluoromethan...	3.33	85	847720	24.207	ng		100
4) Chloromethane	3.47	50	870350	25.739	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	407716	24.517	ng		100
6) Vinyl Chloride	3.66	62	605539	20.472	ng		100
7) 1,3-Butadiene	3.78	54	433904	29.207	ng		99
8) Bromomethane	3.99	94	310067	23.784	ng		100
9) Chloroethane	4.14	64	326955	27.080	ng		100
10) Ethanol	4.33	45	1908555	111.979	ng		100
11) Acetonitrile	4.45	41	1035425	21.113	ng		99
12) Acrolein	4.53	56	701673	50.015	ng		99
13) Acetone	4.63	58	1826310	118.543	ng		92
14) Trichlorofluoromethane	4.74	101	797260	26.498	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	2606838	45.393	ng		99
16) Acrylonitrile	5.01	53	1451534	48.962	ng		100
17) 1,1-Dichloroethene	5.24	96	423886	28.660	ng		99
18) 2-Methyl-2-Propanol (t...	5.34	59	2080003	41.626	ng		97
19) Methylene Chloride	5.36	84	431807	25.892	ng		95
20) 3-Chloro-1-propene (Al...	5.45	41	772991	21.947	ng		98
21) Trichlorotrifluoroethane	5.56	151	382675	24.333	ng		100
22) Carbon Disulfide	5.58	76	3010231	57.142	ng		100
23) trans-1,2-Dichloroethene	6.14	61	749558	26.046	ng		100
24) 1,1-Dichloroethane	6.32	63	886478	26.801	ng		100
25) Methyl tert-Butyl Ether	6.35	73	889944	17.441	ng		100
26) Vinyl Acetate	6.44	86	341591	107.960	ng	#	82
27) 2-Butanone (MEK)	6.66	72	553648	49.234	ng	#	91
28) cis-1,2-Dichloroethene	7.08	61	707131	25.379	ng		99
29) Diisopropyl Ether	7.27	87	628985	45.465	ng	#	65
30) Ethyl Acetate	7.28	61	581919	68.921	ng		98
31) n-Hexane	7.28	57	802141	22.838	ng		100
32) Chloroform	7.37	83	802557	24.896	ng		100
34) Tetrahydrofuran (THF)	7.73	72	537466	49.691	ng		94
35) Ethyl tert-Butyl Ether	7.80	87	947492	47.906	ng		99
36) 1,2-Dichloroethane	8.11	62	676887	24.578	ng		100
38) 1,1,1-Trichloroethane	8.38	97	711529	26.536	ng		98
39) Isopropyl Acetate	9.20	61	2316	No Calib		#	
40) 1-Butanol	8.80	56	16476	No Calib		#	
41) Benzene	8.88	78	1637921	27.591	ng		100
42) Carbon Tetrachloride	9.05	117	553379	25.046	ng		99
43) Cyclohexane	9.20	84	1208660	51.931	ng		99
44) tert-Amyl Methyl Ether	9.57	73	2323152	54.736	ng		97
45) 1,2-Dichloropropane	9.84	63	497457	28.309	ng		100
46) Bromodichloromethane	10.06	83	653574	28.337	ng		100
47) Trichloroethene	10.13	130	436297	26.798	ng		100
48) 1,4-Dioxane	10.09	88	350129	28.604	ng		98
49) 2,2,4-Trimethylpentane...	10.21	57	2186679	27.168	ng		96
50) Methyl Methacrylate	10.38	100	323211	57.001	ng		98

Data File : I:\MS09\DATA\2022 12\29\12292250.D Vial: 2
Acq On : 30 Dec 2022 10:06 Operator: SC
Sample : LCS2 R9122922 25ng Inst : MS09
Misc : S35-10052202/S35-12092205 (1/8)

Quant Time: Dec 30 10:34:08 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

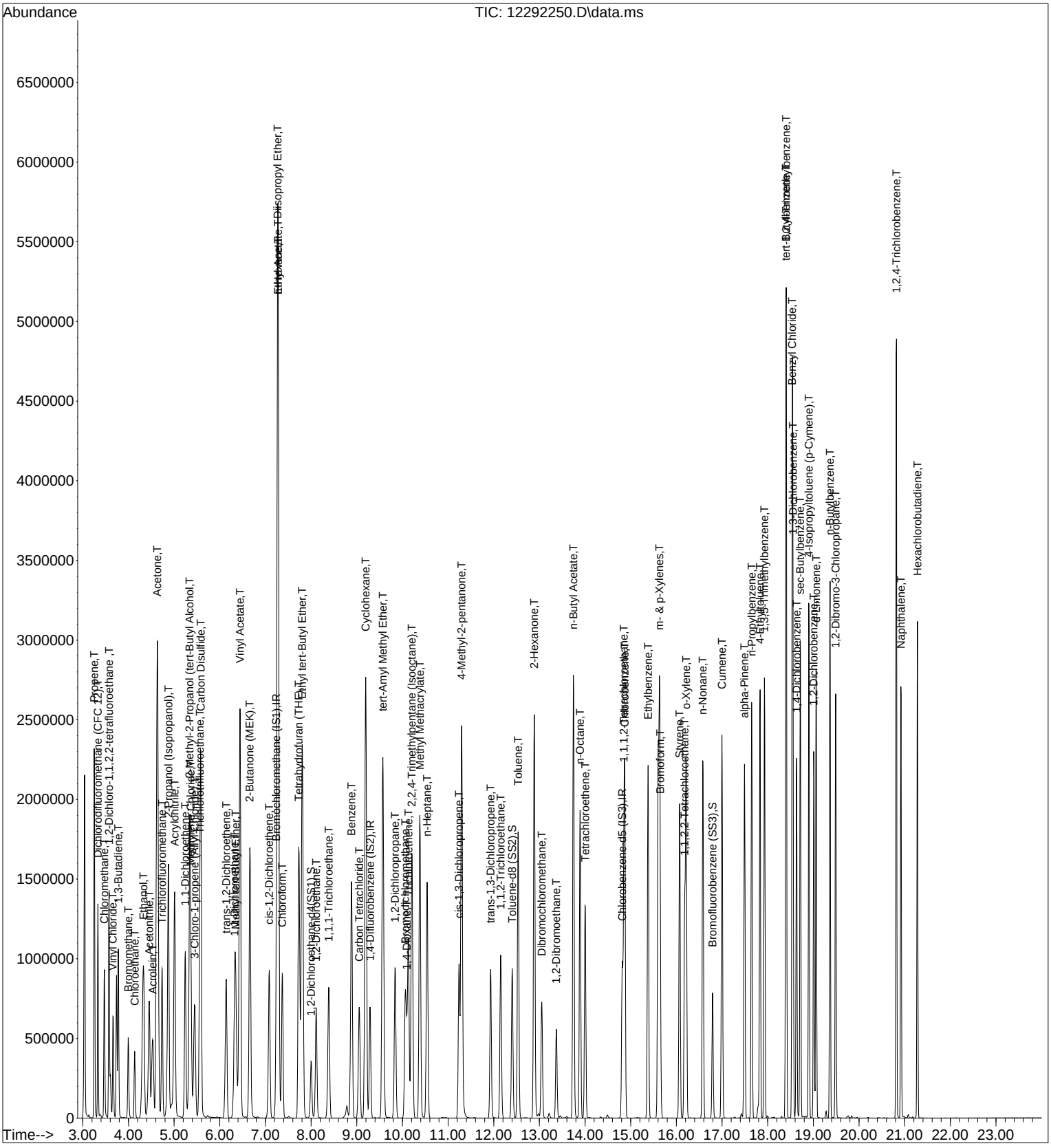
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.54	71	405808	26.527 ng	99
52) cis-1,3-Dichloropropene	11.24	75	709202	29.654 ng	100
53) 4-Methyl-2-pentanone	11.30	58	1003179	56.739 ng	94
54) trans-1,3-Dichloropropene	11.93	75	648865	28.922 ng	100
55) 1,1,2-Trichloroethane	12.15	97	425125	27.202 ng	99
58) Toluene	12.53	91	1627362	26.977 ng	99
59) 2-Hexanone	12.89	43	2320341	53.866 ng	97
60) Dibromochloromethane	13.05	129	504024	28.600 ng	100
61) 1,2-Dibromoethane	13.37	107	498473	27.224 ng	100
62) n-Butyl Acetate	13.74	43	2672652	56.437 ng	98
63) n-Octane	13.89	57	448645	27.521 ng	99
64) Tetrachloroethene	14.01	166	484972	27.127 ng	100
65) Chlorobenzene	14.87	112	1089830	26.782 ng	100
66) Ethylbenzene	15.38	91	1904283	27.339 ng	98
67) m- & p-Xylenes	15.63	91	3049704	54.104 ng	97
68) Bromoform	15.65	173	465909	29.836 ng	100
69) Styrene	16.07	104	1090096	26.661 ng	98
70) o-Xylene	16.21	91	1531064	27.521 ng	97
71) n-Nonane	16.58	43	1043972	26.229 ng	97
72) 1,1,2,2-Tetrachloroethane	16.18	83	760993	27.706 ng	100
74) Cumene	17.00	105	1825193	27.204 ng	99
75) alpha-Pinene	17.49	93	954567	27.347 ng	99
76) n-Propylbenzene	17.65	91	2227705	26.715 ng	99
77) 3-Ethyltoluene	17.00	105	1825193	No Calib	
78) 4-Ethyltoluene	17.83	105	1752376	27.174 ng	98
79) 1,3,5-Trimethylbenzene	17.93	105	1532919	27.122 ng	98
80) alpha-Methylstyrene	17.00	118	3076	No Calib #	
81) 2-Ethyltoluene	17.00	105	1825193	No Calib	
82) 1,2,4-Trimethylbenzene	18.41	105	1538377	26.929 ng	98
83) n-Decane	17.00	58	18781	No Calib	
84) Benzyl Chloride	18.54	91	2554622	60.947 ng	97
85) 1,3-Dichlorobenzene	18.55	146	874754	26.210 ng	100
86) 1,4-Dichlorobenzene	18.63	146	874646	25.905 ng	99
87) sec-Butylbenzene	18.71	105	1994454	26.494 ng	99
88) 4-Isopropyltoluene (p-...	18.90	119	1755100	26.042 ng	99
89) 1,2,3-Trimethylbenzene	17.00	105	1825193	No Calib	
90) 1,2-Dichlorobenzene	19.01	146	869774	26.728 ng	100
91) d-Limonene	19.06	68	625420	27.738 ng	98
92) 1,2-Dibromo-3-Chloropr...	19.49	157	696223	56.730 ng	96
93) n-Undecane	17.93	58	41292	No Calib	
94) 1,2,4-Trichlorobenzene	20.82	180	1374767	51.790 ng	100
95) Naphthalene	20.92	128	1733939	25.499 ng	100
96) n-Dodecane	18.90	58	52137	No Calib #	
97) Hexachlorobutadiene	21.28	225	533185	28.349 ng	100
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.40	119	1478604	26.112 ng	99
100) n-Butylbenzene	19.37	91	1700644	27.629 ng	99
101) 1,1,1,2-Tetrachloroethane	14.85	131	424892	27.579 ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292250.D Vial: 2
Acq On : 30 Dec 2022 10:06 Operator: SC
Sample : LCS2 R9122922 25ng Inst : MS09
Misc : S35-10052202/S35-12092205 (1/8)

Quant Time: Dec 30 10:34:08 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292251.D Vial: 2
Acq On : 30 Dec 2022 10:38 Operator: SC
Sample : LCSD2 R9122922 25ng Inst : MS09
Misc : S35-10052202/S35-12092205 (1/8)

12/30/22

Quant Time: Dec 30 10:59:49 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	154204	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.29	114	706457	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	167057	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	305920	11.414	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
57) Toluene-d8 (SS2)	12.40	98	803325	13.191	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.52%				
73) Bromofluorobenzene (SS3)	16.79	174	268807	12.623	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
Target Compounds							Qvalue
2) Propene	3.25	42	655105	23.753	ng		99
3) Dichlorodifluoromethan...	3.33	85	841017	23.709	ng		100
4) Chloromethane	3.47	50	853779	24.926	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	406450	24.129	ng		99
6) Vinyl Chloride	3.66	62	609000	20.327	ng		100
7) 1,3-Butadiene	3.78	54	438783	29.159	ng		99
8) Bromomethane	3.99	94	313353	23.729	ng		100
9) Chloroethane	4.14	64	324768	26.555	ng		100
10) Ethanol	4.32	45	1898341	109.959	ng		100
11) Acetonitrile	4.45	41	1028085	20.696	ng		99
12) Acrolein	4.53	56	698005	49.119	ng		99
13) Acetone	4.63	58	1804441	115.629	ng		92
14) Trichlorofluoromethane	4.73	101	787622	25.844	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	2579983	44.352	ng		99
16) Acrylonitrile	5.01	53	1435531	47.805	ng		100
17) 1,1-Dichloroethene	5.24	96	420511	28.069	ng		99
18) 2-Methyl-2-Propanol (t...	5.34	59	2101485	41.519	ng		97
19) Methylene Chloride	5.36	84	428001	25.336	ng		94
20) 3-Chloro-1-propene (Al...	5.45	41	773189	21.672	ng		98
21) Trichlorotrifluoroethane	5.56	151	383138	24.052	ng		100
22) Carbon Disulfide	5.58	76	2989960	56.032	ng		100
23) trans-1,2-Dichloroethene	6.14	61	746878	25.621	ng		99
24) 1,1-Dichloroethane	6.32	63	879755	26.259	ng		100
25) Methyl tert-Butyl Ether	6.35	73	930530	18.003	ng		100
26) Vinyl Acetate	6.44	86	341167	106.450	ng	#	82
27) 2-Butanone (MEK)	6.66	72	554309	48.663	ng	#	91
28) cis-1,2-Dichloroethene	7.08	61	704831	24.973	ng		99
29) Diisopropyl Ether	7.27	87	624307	44.551	ng	#	65
30) Ethyl Acetate	7.28	61	582881	68.154	ng		98
31) n-Hexane	7.28	57	802190	22.548	ng		100
32) Chloroform	7.37	83	802675	24.582	ng		100
34) Tetrahydrofuran (THF)	7.73	72	537073	49.021	ng		94
35) Ethyl tert-Butyl Ether	7.80	87	944981	47.169	ng		99
36) 1,2-Dichloroethane	8.11	62	674068	24.163	ng		100
38) 1,1,1-Trichloroethane	8.38	97	706226	25.902	ng		98
39) Isopropyl Acetate	9.20	61	2245	No Calib		#	
40) 1-Butanol	8.80	56	16319	No Calib		#	
41) Benzene	8.88	78	1645833	27.265	ng		100
42) Carbon Tetrachloride	9.05	117	553489	24.636	ng		99
43) Cyclohexane	9.20	84	1210404	51.144	ng		99
44) tert-Amyl Methyl Ether	9.57	73	2315448	53.651	ng		97
45) 1,2-Dichloropropane	9.84	63	497411	27.838	ng		100
46) Bromodichloromethane	10.06	83	652813	27.835	ng		99
47) Trichloroethene	10.13	130	437493	26.426	ng		99
48) 1,4-Dioxane	10.09	88	352690	28.336	ng		98
49) 2,2,4-Trimethylpentane...	10.21	57	2190304	26.763	ng		95
50) Methyl Methacrylate	10.38	100	324604	56.299	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292251.D Vial: 2
Acq On : 30 Dec 2022 10:38 Operator: SC
Sample : LCSD2 R9122922 25ng Inst : MS09
Misc : S35-10052202/S35-12092205 (1/8)

Quant Time: Dec 30 10:59:49 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

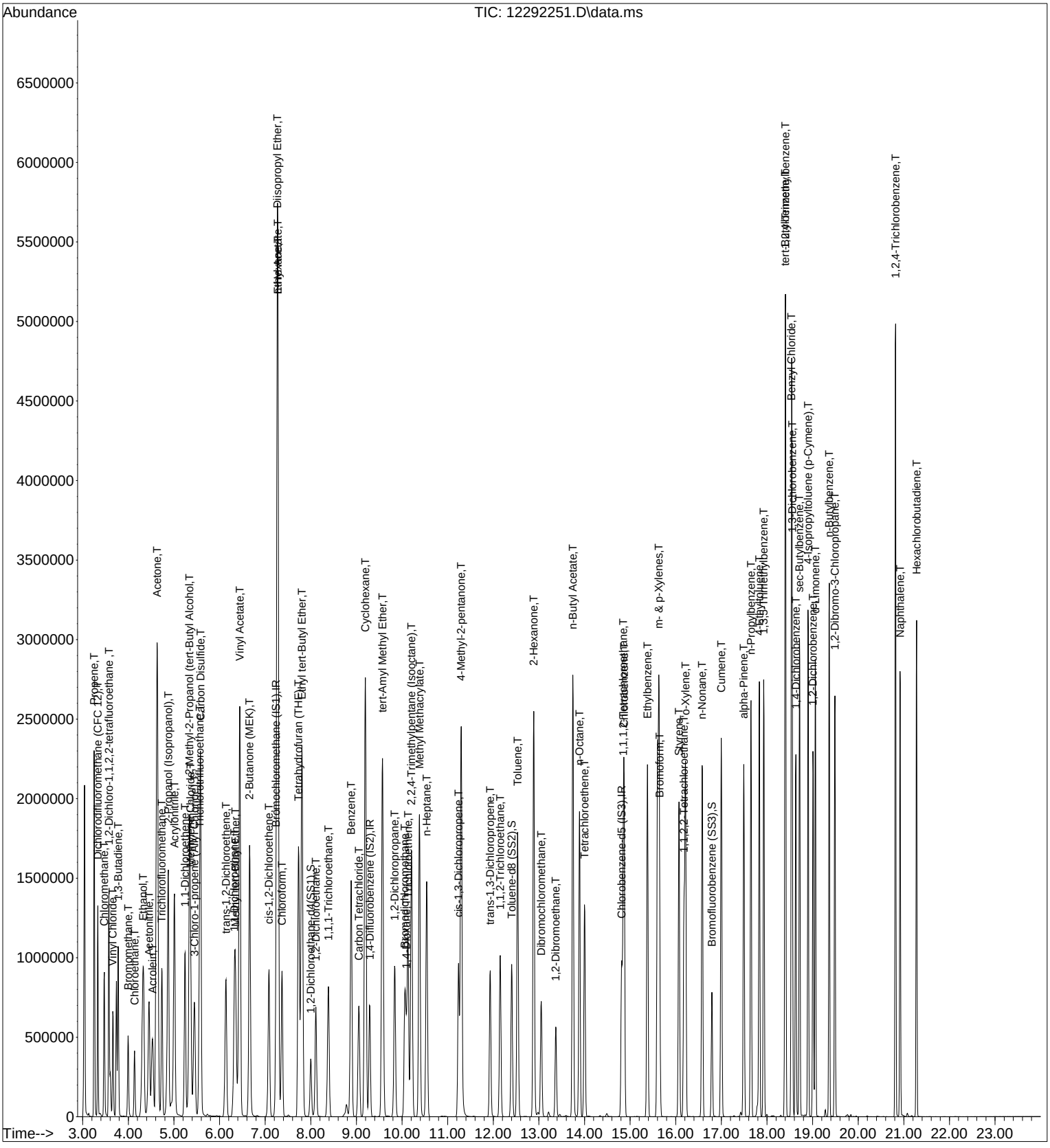
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	407571	26.201 ng		100
52) cis-1,3-Dichloropropene	11.24	75	710466	29.215 ng		100
53) 4-Methyl-2-pentanone	11.30	58	1002183	55.744 ng		94
54) trans-1,3-Dichloropropene	11.93	75	647417	28.380 ng		100
55) 1,1,2-Trichloroethane	12.15	97	424719	26.726 ng		99
58) Toluene	12.53	91	1636910	27.002 ng		99
59) 2-Hexanone	12.89	43	2318374	53.557 ng		96
60) Dibromochloromethane	13.05	129	500947	28.286 ng		100
61) 1,2-Dibromoethane	13.37	107	498159	27.073 ng		100
62) n-Butyl Acetate	13.74	43	2680288	56.321 ng		98
63) n-Octane	13.89	57	448741	27.392 ng		99
64) Tetrachloroethene	14.00	166	485887	27.045 ng		100
65) Chlorobenzene	14.87	112	1091533	26.692 ng		100
66) Ethylbenzene	15.38	91	1909187	27.275 ng		98
67) m- & p-Xylenes	15.63	91	3049554	53.836 ng		97
68) Bromoform	15.65	173	463886	29.560 ng		100
69) Styrene	16.07	104	1096243	26.680 ng		98
70) o-Xylene	16.21	91	1528458	27.340 ng		98
71) n-Nonane	16.58	43	1053807	26.346 ng		98
72) 1,1,2,2-Tetrachloroethane	16.18	83	764748	27.706 ng		99
74) Cumene	17.00	105	1828093	27.114 ng		99
75) alpha-Pinene	17.49	93	959335	27.349 ng		100
76) n-Propylbenzene	17.65	91	2237553	26.702 ng		99
77) 3-Ethyltoluene	17.00	105	1828093	No Calib		
78) 4-Ethyltoluene	17.83	105	1760506	27.167 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	1529488	26.929 ng		98
80) alpha-Methylstyrene	17.00	118	2889	No Calib	#	
81) 2-Ethyltoluene	17.00	105	1828093	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1540344	26.831 ng		97
83) n-Decane	17.00	58	20260	No Calib		
84) Benzyl Chloride	18.54	91	2556568	60.695 ng		97
85) 1,3-Dichlorobenzene	18.55	146	878258	26.186 ng		100
86) 1,4-Dichlorobenzene	18.63	146	874687	25.779 ng		99
87) sec-Butylbenzene	18.71	105	1994665	26.367 ng		99
88) 4-Isopropyltoluene (p-...	18.90	119	1748973	25.823 ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	1828093	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	869489	26.588 ng		100
91) d-Limonene	19.06	68	626502	27.650 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.49	157	697465	56.552 ng		96
93) n-Undecane	17.93	58	42131	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1396552	52.353 ng		100
95) Naphthalene	20.92	128	1765320	25.833 ng		100
96) n-Dodecane	18.90	58	51644	No Calib	#	
97) Hexachlorobutadiene	21.28	225	537124	28.418 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.40	119	1479780	26.005 ng		99
100) n-Butylbenzene	19.37	91	1690720	27.333 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	422027	27.258 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292251.D Vial: 2
Acq On : 30 Dec 2022 10:38 Operator: SC
Sample : LCSD2 R9122922 25ng Inst : MS09
Misc : S35-10052202/S35-12092205 (1/8)

Quant Time: Dec 30 10:59:49 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report MS09

Method Path : I:\MS09\METHODS\
Method File : R9111622.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Nov 17 07:45:06 2022
Response Via : Initial Calibration

11/17/22

Calibration Files
0.1 =11162208.D 0.2 =11162209.D 0.5 =11162210.D 1.0 =11162211.D 5.0 =11162212.D 25 =11162
100 =11162215.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	2.169	2.172	2.516	2.044	2.246	2.265	2.634	1.839	2.236	11.22
3)	T	Dichlorodifluo...	3.149	2.909	3.574	2.938	2.619	2.839	2.861	2.115	2.875	14.48
4)	T	Chloromethane	3.204	3.000	3.569	2.925	2.465	2.810	2.704	1.535	2.777	21.64
5)	T	1,2-Dichloro-1...	1.590	1.338	1.638	1.366	1.208	1.307	1.314	1.161	1.365	12.31
6)	T	Vinyl Chloride	2.453	2.361	3.024	2.531	2.308	2.512	2.484	1.756	2.429	14.32
7)	T	1,3-Butadiene	1.843	1.193	1.321	1.165	1.009	1.089	0.989	1.149	1.220	22.37
8)	T	Bromomethane	1.246	1.030	1.284	1.032	0.870	1.076	1.137	0.890	1.070	13.97
9)	T	Chloroethane	1.023	0.970	1.221	0.995	0.897	1.004	1.009	0.812	0.991	11.80
10)	T	Ethanol	1.845	1.416	1.719	1.426	1.117	1.250	1.231	1.192	1.399	18.63
11)	T	Acetonitrile		4.753	4.805	4.002	3.536	3.893	3.888	3.311	4.027	14.06
12)	T	Acrolein	1.316	1.194	1.494	1.259	1.005	1.026	0.964	0.959	1.152	16.96
13)	T	Acetone	1.472	1.422	1.603	1.313	1.083	1.205	1.094	0.927	1.265	18.03
14)	T	Trichlorofluor...	2.905	2.548	2.916	2.461	2.201	2.348	2.285	2.100	2.470	12.35
15)	T	2-Propanol (Is...	5.494	5.262	6.404	5.258	3.909	4.759	3.915	2.722	4.715	24.47
16)	T	Acrylonitrile	2.376	2.489	3.152	2.568	2.257	2.375	2.317	1.940	2.434	14.17
17)	T	1,1-Dichloroet...	1.493	1.174	1.424	1.244	1.056	1.128	1.098	1.100	1.214	13.31
18)	T	2-Methyl-2-Pro...	4.363	4.245	5.238	4.344	3.850	4.482	4.274	2.028	4.103	22.52
19)	T	Methylene Chlo...	1.654	1.357	1.577	1.324	1.180	1.345	1.353	1.164	1.369	12.50
20)	T	3-Chloro-1-pro...		3.075	3.909	3.234	2.938	2.585	2.435	2.067	2.892	20.80
21)	T	Trichlorotrifl...	1.281	1.356	1.556	1.287	1.139	1.301	1.359	1.051	1.291	11.71
22)	T	Carbon Disulfide	5.340	4.129	4.917	4.212	3.763	4.325	4.135	3.783	4.326	12.59
23)	T	trans-1,2-Dich...	2.300	2.373	2.930	2.357	2.181	2.438	2.474	1.851	2.363	12.78
24)	T	1,1-Dichloroet...	2.929	2.722	3.332	2.777	2.442	2.703	2.684	2.136	2.716	12.76
25)	T	Methyl tert-Bu...	4.195	4.199	5.120	4.141	3.824	4.296	4.420	3.322	4.190	12.16
26)	T	Vinyl Acetate			0.275	0.236	0.231	0.283	0.300	0.234	0.260	11.49
27)	T	2-Butanone (MEK)	0.898	0.909	1.082	0.911	0.841	0.969	1.009	0.766	0.923	10.61
28)	T	cis-1,2-Dichlo...	2.353	2.283	2.820	2.316	2.101	2.328	2.332	1.769	2.288	12.76
29)	T	Diisopropyl Ether	1.272	1.158	1.361	1.122	1.029	1.198	1.174	0.772	1.136	15.57
30)	T	Ethyl Acetate	0.651	0.699	0.860	0.700	0.672	0.793	0.737	0.433	0.693	18.06
31)	T	n-Hexane	3.199	3.145	3.608	2.969	2.737	3.102	2.767	1.545	2.884	21.03
32)	T	Chloroform	2.815	2.704	3.265	2.640	2.372	2.655	2.688	2.038	2.647	13.26
33)	S	1,2-Dichloroet...	1.925	2.218	2.221	2.118	2.269	2.297	2.461	1.870	2.173	9.01
34)	T	Tetrahydrofura...	0.912	0.909	1.053	0.874	0.791	0.910	0.943	0.713	0.888	11.42
35)	T	Ethyl tert-But...	1.676	1.591	1.952	1.568	1.461	1.681	1.750	1.312	1.624	11.80
36)	T	1,2-Dichloroet...	2.309	2.312	2.822	2.310	2.071	2.289	2.292	1.687	2.261	13.88
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.555	0.482	0.575	0.489	0.424	0.468	0.439	0.428	0.482	11.72
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.277	1.080	1.285	1.084	0.917	1.014	0.955	0.933	1.068	13.60
42)	T	Carbon Tetrach...	0.438	0.379	0.476	0.401	0.350	0.394	0.374	0.368	0.398	10.33
43)	T	Cyclohexane	0.493	0.417	0.502	0.418	0.360	0.407	0.385	0.369	0.419	12.70
44)	T	tert-Amyl Meth...	0.861	0.721	0.896	0.763	0.682	0.770	0.727	0.686	0.764	10.25
45)	T	1,2-Dichloropr...	0.372	0.313	0.376	0.321	0.276	0.305	0.286	0.279	0.316	12.38
46)	T	Bromodichlorom...	0.469	0.394	0.488	0.419	0.366	0.413	0.391	0.380	0.415	10.39
47)	T	Trichloroethene	0.341	0.282	0.346	0.290	0.252	0.284	0.274	0.275	0.293	11.34
48)	T	1,4-Dioxane	0.220	0.202	0.257	0.222	0.196	0.228	0.219	0.217	0.220	8.37
49)	T	2,2,4-Trimethy...	1.771	1.437	1.755	1.499	1.271	1.384	1.275	1.193	1.448	15.04
50)	T	Methyl Methacr...	0.100	0.089	0.117	0.101	0.092	0.109	0.105	0.104	0.102	8.72
51)	T	n-Heptane	0.306	0.274	0.336	0.282	0.239	0.265	0.252	0.247	0.275	11.85
52)	T	cis-1,3-Dichlo...	0.460	0.394	0.502	0.432	0.386	0.442	0.417	0.409	0.430	8.79
53)	T	4-Methyl-2-pen...	0.345	0.295	0.374	0.326	0.289	0.329	0.306	0.281	0.318	9.94
54)	T	trans-1,3-Dich...	0.370	0.360	0.460	0.410	0.374	0.437	0.414	0.404	0.404	8.59

55)	T	1,1,2-Trichlor...	0.316	0.275	0.334	0.288	0.245	0.274	0.260	0.256	0.281	10.84
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	4.715	4.596	4.530	4.473	4.431	4.502	4.547	4.660	4.557	2.10
58)	T	Toluene	5.550	4.640	5.368	4.509	3.767	4.251	4.104	4.099	4.536	13.90
59)	T	2-Hexanone	3.751	3.320	3.789	3.269	2.853	3.347	2.989	2.595	3.239	12.84
60)	T	Dibromochlorom...	1.528	1.209	1.522	1.281	1.124	1.323	1.288	1.325	1.325	10.56
61)	T	1,2-Dibromoethane	1.528	1.295	1.622	1.400	1.178	1.347	1.308	1.336	1.377	10.16
62)	T	n-Butyl Acetate	4.112	3.493	4.100	3.548	3.144	3.789	3.383	2.917	3.561	11.97
63)	T	n-Octane	1.456	1.250	1.491	1.238	1.035	1.160	1.104	1.072	1.226	13.92
64)	T	Tetrachloroethene	1.664	1.315	1.576	1.290	1.098	1.273	1.250	1.288	1.344	13.70
65)	T	Chlorobenzene	3.795	2.993	3.551	2.905	2.516	2.950	2.890	2.879	3.060	13.42
66)	T	Ethylbenzene	6.193	5.312	6.295	5.184	4.396	5.017	4.810	4.694	5.238	13.06
67)	T	m- & p-Xylenes	5.107	4.291	5.004	4.172	3.552	4.149	3.954	3.680	4.238	13.29
68)	T	Bromoform	1.273	1.022	1.241	1.082	0.997	1.266	1.256	1.256	1.174	10.15
69)	T	Styrene	3.404	2.994	3.500	3.015	2.603	3.083	3.007	2.990	3.074	8.98
70)	T	o-Xylene	5.036	4.139	5.000	4.125	3.514	4.012	3.867	3.772	4.183	13.24
71)	T	n-Nonane	3.712	3.163	3.656	3.123	2.598	2.839	2.576	2.276	2.993	17.27
72)	T	1,1,2,2-Tetrac...	2.375	2.029	2.396	2.061	1.751	2.010	1.950	1.950	2.065	10.60
73)	S	Bromofluoroben...	1.630	1.593	1.551	1.525	1.537	1.587	1.625	1.698	1.593	3.59
74)	T	Cumene	6.105	5.034	5.967	4.971	4.268	4.868	4.657	4.489	5.045	13.14
75)	T	alpha-Pinene	3.068	2.569	3.019	2.575	2.240	2.577	2.500	2.450	2.625	10.72
76)	T	n-Propylbenzene	7.704	6.196	7.401	6.254	5.308	6.103	5.786	5.408	6.270	13.84
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	5.924	4.667	5.648	4.809	4.028	4.776	4.626	4.312	4.849	13.15
79)	T	1,3,5-Trimethy...	5.107	4.233	4.988	4.157	3.592	4.163	3.976	3.783	4.250	12.65
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	5.063	4.263	5.085	4.250	3.721	4.423	4.051	3.509	4.296	13.17
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride			3.094	2.773	2.827	3.831	3.509	2.877	3.152	13.58
85)	T	1,3-Dichlorobe...	2.914	2.492	2.890	2.400	2.103	2.607	2.467	2.203	2.510	11.58
86)	T	1,4-Dichlorobe...	3.103	2.475	2.845	2.367	2.052	2.550	2.480	2.439	2.539	12.43
87)	T	sec-Butylbenzene	6.913	5.592	6.761	5.572	4.794	5.567	5.247	4.838	5.660	14.01
88)	T	4-Isopropyltol...	6.385	5.145	5.973	4.896	4.246	4.931	4.661	4.305	5.068	14.98
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.910	2.343	2.779	2.354	2.030	2.441	2.373	2.346	2.447	11.29
91)	T	d-Limonene	1.867	1.674	1.971	1.680	1.459	1.729	1.649	1.534	1.695	9.74
92)	T	1,2-Dibromo-3-...	0.956	0.846	1.011	0.853	0.798	0.997	0.973	0.949	0.923	8.59
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.214	1.891	2.196	1.874	1.691	2.225	2.090	1.787	1.996	10.56
95)	T	Naphthalene	5.392	4.651	5.613	4.873	4.389	5.609	5.404	4.976	5.113	8.97
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.681	1.334	1.594	1.320	1.161	1.431	1.413	1.381	1.414	11.47
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	5.065	4.381	5.128	4.258	3.652	4.239	3.906	3.434	4.258	14.30
100)	T	n-Butylbenzene	5.484	4.559	5.439	4.524	3.954	4.672	4.397	3.998	4.628	12.42
101)	T	1,1,1,2-Tetrac...	1.351	1.097	1.342	1.118	0.984	1.141	1.117	1.117	1.158	10.85

(#) = Out of Range

R9111622.M Thu Nov 17 10:52:55 2022

Primary Source Standards Concentrations (Working & Initial Calibration)

11/17/22

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-11152210 | 200ng/L Std. ID: S35-11152208
20ng/L Std. ID: S35-11152209 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Freon-114	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Vinyl Chloride	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Ethanol	3.45	3450	690	138.0	69.0	13.80	3.45		0.345	0.690	1.725	3.45	17.25	86.25	172.5	345
Acetonitrile	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Acrolein	1.93	1930	386	77.2	38.6	7.72	1.93		0.193	0.386	0.965	1.93	9.65	48.25	96.5	193
Acetone	5.27	5270	1054	210.8	105.4	21.08	5.27		0.527	1.054	2.635	5.27	26.35	131.75	263.5	527
Trichlorofluoromethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isopropanol	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Acrylonitrile	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.13	2130	426	85.2	42.6	8.52	2.13		0.213	0.426	1.065	2.13	10.65	53.25	106.5	213
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl tert-Butyl Ether	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Vinyl Acetate	2.80	2800	560	112.0	56.0	11.20	2.80		0.280	0.560	1.400	2.80	14.00	70.00	140.0	280
2-Butanone	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.22	4220	844	168.8	84.4	16.88	4.22		0.422	0.844	2.110	4.22	21.10	105.50	211.0	422
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrahydrofuran	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Ethyl tert-Butyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Carbon Tetrachloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cyclohexane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
tert-Amyl Methyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Bromodichloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Trichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,4-Dioxane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isooctane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Methyl Methacrylate	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
n-Heptane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S35-11152210**	**200ng/L Std. ID:**	**S35-11152208**
20ng/L Std. ID:	**S35-11152209**	**1000ng/L Std. ID:**	

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**20**	**20**	**20**	**200**	**200**	**200**
	Source Std.			**Primary Working Standards**				**Injection (L):**	**0.025**	**0.050**	**0.0250**	**0.050**	**0.25**	**0.125**	**0.25**	**0.50**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
4-Methyl-2-pentanone	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
trans-1,3-Dichloropropene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,1,2-Trichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Toluene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
2-Hexanone	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Dibromochloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
n-Octane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrachloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Ethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
m-&p-Xylene	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Nonane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cumene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
alpha-Pinene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Propylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
4-Ethyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2,4-Trimethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzyl Chloride	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,3-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,4-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
sec-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
p-Isopropyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromo-3-chloropropane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2,4-Trichlorobenzene	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Naphthalene	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
tert-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,1,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Calibration Status Report MS09

Method   : I:\MS09\METHODS\R9111622.M (RTE Integrator)
Title   : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration

11/17/22

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\DATA\2022_11\16\11162208.D
2	0.2	0	13	I:\MS09\DATA\2022_11\16\11162209.D
3	0.5	1	13	I:\MS09\DATA\2022_11\16\11162210.D
4	1.0	1	13	I:\MS09\DATA\2022_11\16\11162211.D
5	5.0	5	13	I:\MS09\DATA\2022_11\16\11162212.D
6	25	26	13	I:\MS09\DATA\2022_11\16\11162213.D
7	50	53	13	I:\MS09\DATA\2022_11\16\11162214.D
8	100	105	13	I:\MS09\DATA\2022_11\16\11162215.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Nov 17 07:43 2022	Nov 16 16:47 2022	16 Nov 2022 13:36
2	0.2	Nov 17 07:43 2022	Nov 16 16:46 2022	16 Nov 2022 14:08
3	0.5	Nov 17 07:43 2022	Nov 16 16:45 2022	16 Nov 2022 14:40
4	1.0	Nov 17 07:44 2022	Nov 16 16:43 2022	16 Nov 2022 15:12
5	5.0	Nov 17 07:44 2022	Nov 16 16:41 2022	16 Nov 2022 15:44
6	25	Nov 17 07:44 2022	Nov 16 16:40 2022	16 Nov 2022 16:16
7	50	Nov 17 07:44 2022	Nov 16 17:09 2022	16 Nov 2022 16:48
8	100	Nov 17 07:44 2022	Nov 17 07:39 2022	16 Nov 2022 17:20

R9111622.M Thu Nov 17 10:53:48 2022

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162208.D Vial: 13
Acq On : 16 Nov 2022 13:36 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:47:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	164856	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	736430	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	175396	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	317381	13.523	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.16%				
57) Toluene-d8 (SS2)	12.39	98	827042	11.112	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.88%				
73) Bromofluorobenzene (SS3)	16.79	174	285840	8.894	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 71.12%				
Target Compounds							Qvalue
2) Propene	3.30	42	3004	0.180	ng		94
3) Dichlorodifluoromethan...	3.37	85	4402	0.142	ng		96
4) Chloromethane	3.52	50	4352	0.267	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	2181	0.138	ng		89
6) Vinyl Chloride	3.71	62	3268	0.180	ng		89
7) 1,3-Butadiene	3.82	54	2576	0.205	ng	#	84
8) Bromomethane	4.02	94	1676	0.146	ng		98
9) Chloroethane	4.16	64	1389	0.177	ng		97
10) Ethanol	4.28	45	8396	0.776	ng		91
11) Acetonitrile	4.44	41	8326	0.302	ng		77
12) Acrolein	4.53	56	3349	0.441	ng		99
13) Acetone	4.63	58	10232	1.154	ng	#	84
14) Trichlorofluoromethane	4.75	101	3984	0.132	ng		98
15) 2-Propanol (Isopropanol)	4.86	45	14854	0.453	ng		67
16) Acrylonitrile	4.99	53	6425	0.427	ng		94
17) 1,1-Dichloroethene	5.26	96	2126	0.166	ng		97
18) 2-Methyl-2-Propanol (t...	5.39	59	12142	0.398	ng		90
19) Methylene Chloride	5.34	84	2312	0.174	ng		97
20) 3-Chloro-1-propene (Al...	5.39	41	2581	0.099	ng	#	49
21) Trichlorotrifluoroethane	5.57	151	1825	0.134	ng		89
22) Carbon Disulfide	5.60	76	15000	0.339	ng		93
23) trans-1,2-Dichloroethene	6.12	61	3276	0.176	ng		100
24) 1,1-Dichloroethane	6.29	63	4133	0.182	ng		99
25) Methyl tert-Butyl Ether	6.37	73	5920	0.147	ng		97
26) Vinyl Acetate	6.44	86	564	0.267	ng	#	1
27) 2-Butanone (MEK)	6.66	72	2476	0.328	ng	#	91
28) cis-1,2-Dichloroethene	7.05	61	3290	0.178	ng		98
29) Diisopropyl Ether	7.27	87	3556	0.340	ng	#	94
30) Ethyl Acetate	7.27	61	3625	0.719	ng		95
31) n-Hexane	7.28	57	4430	0.217	ng	#	98
32) Chloroform	7.32	83	3936	0.153	ng		99
34) Tetrahydrofuran (THF)	7.76	72	2453	0.335	ng	#	83
35) Ethyl tert-Butyl Ether	7.80	87	4686	0.303	ng		96
36) 1,2-Dichloroethane	8.08	62	3289	0.155	ng		100
38) 1,1,1-Trichloroethane	8.36	97	3431	0.131	ng		99
39) Isopropyl Acetate	9.26	61	22745	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.86	78	8048	0.157	ng		98
42) Carbon Tetrachloride	9.03	117	2686	0.117	ng		99
43) Cyclohexane	9.18	84	6105	0.319	ng		100
44) tert-Amyl Methyl Ether	9.58	73	10758	0.279	ng		95
45) 1,2-Dichloropropane	9.83	63	2304	0.188	ng		95
46) Bromodichloromethane	10.04	83	2959	0.143	ng		95
47) Trichloroethene	10.10	130	2108	0.129	ng		98
48) 1,4-Dioxane	10.13	88	1377	0.136	ng		89
49) 2,2,4-Trimethylpentane...	10.20	57	11270	0.217	ng		97
50) Methyl Methacrylate	10.39	100	1251	0.254	ng	#	80

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162208.D Vial: 13
Acq On : 16 Nov 2022 13:36 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:47:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

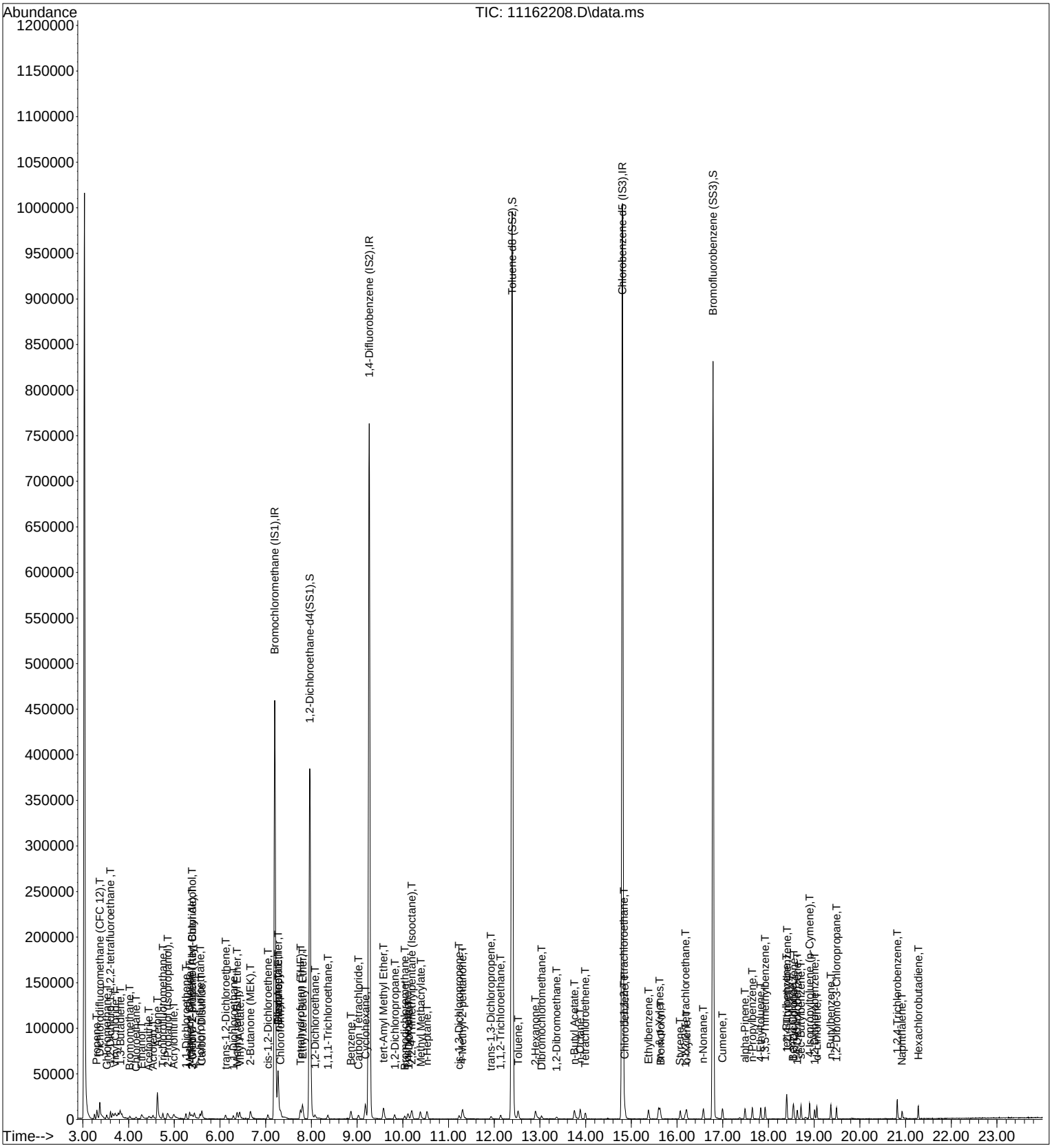
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	1912	0.166 ng		93
52) cis-1,3-Dichloropropene	11.23	75	2924	0.147 ng		96
53) 4-Methyl-2-pentanone	11.30	58	4375	0.402 ng		82
54) trans-1,3-Dichloropropene	11.93	75	2224	0.115 ng		93
55) 1,1,2-Trichloroethane	12.14	97	1976	0.145 ng		90
58) Toluene	12.52	91	8177	0.125 ng		98
59) 2-Hexanone	12.90	43	11158	0.308 ng		95
60) Dibromochloromethane	13.03	129	2316	0.110 ng		98
61) 1,2-Dibromoethane	13.36	107	2230	0.117 ng		100
62) n-Butyl Acetate	13.76	43	11829	0.298 ng		98
63) n-Octane	13.88	57	2186	0.181 ng		97
64) Tetrachloroethene	13.99	166	2475	0.118 ng		95
65) Chlorobenzene	14.86	112	5645	0.128 ng		96
66) Ethylbenzene	15.37	91	9124	0.122 ng		99
67) m- & p-Xylenes	15.62	91	15050	0.244 ng		100
68) Bromoform	15.64	173	1912	0.104 ng		88
69) Styrene	16.07	104	5063	0.120 ng		99
70) o-Xylene	16.21	91	7491	0.123 ng		100
71) n-Nonane	16.57	43	5521	0.172 ng		96
72) 1,1,2,2-Tetrachloroethane	16.19	83	3533	0.138 ng		99
74) Cumene	16.99	105	9166	0.122 ng		98
75) alpha-Pinene	17.49	93	4692	0.129 ng		91
76) n-Propylbenzene	17.65	91	11567	0.129 ng		98
77) 3-Ethyltoluene	16.99	105	9166	No Calib		
78) 4-Ethyltoluene	17.83	105	9061	0.129 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	7596	0.122 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	16.99	105	9166	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	7460	0.117 ng		98
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.54	91	7956	0.189 ng		94
85) 1,3-Dichlorobenzene	18.55	146	4334	0.112 ng		97
86) 1,4-Dichlorobenzene	18.63	146	4616	0.120 ng		97
87) sec-Butylbenzene	18.71	105	10282	0.124 ng		99
88) 4-Isopropyltoluene (p-...	18.90	119	9497	0.128 ng		98
89) 1,2,3-Trimethylbenzene	16.99	105	9166	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	4369	0.115 ng		93
91) d-Limonene	19.06	68	2803	0.139 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.49	157	2817	0.200 ng	#	74
93) n-Undecane	17.93	58	104	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	6493	0.241 ng		99
95) Naphthalene	20.92	128	8322	0.122 ng		92
96) n-Dodecane	18.90	58	313	No Calib	#	
97) Hexachlorobutadiene	21.28	225	2500	0.120 ng		97
98) Cyclohexanone	15.18	55	115	No Calib	#	
99) tert-Butylbenzene	18.39	119	7533	0.119 ng		98
100) n-Butylbenzene	19.37	91	8233	0.125 ng		96
101) 1,1,1,2-Tetrachloroethane	14.84	131	2010	0.113 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162208.D Vial: 13
Acq On : 16 Nov 2022 13:36 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:47:59 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162209.D Vial: 13
Acq On : 16 Nov 2022 14:08 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:46:42 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	144396	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	743200	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	181377	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	320294	15.580	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 124.64%				
57) Toluene-d8 (SS2)	12.39	98	833689	10.832	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.64%				
73) Bromofluorobenzene (SS3)	16.79	174	288971	8.695	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 69.60%#				
Target Compounds							Qvalue
2) Propene	3.30	42	5269	0.361	ng		95
3) Dichlorodifluoromethan...	3.37	85	7123	0.262	ng		97
4) Chloromethane	3.52	50	7139	0.500	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	3216	0.232	ng		99
6) Vinyl Chloride	3.70	62	5510	0.347	ng		97
7) 1,3-Butadiene	3.81	54	2922	0.265	ng		93
8) Bromomethane	4.02	94	2428	0.242	ng		99
9) Chloroethane	4.16	64	2309	0.336	ng		93
10) Ethanol	4.28	45	11284	1.191	ng		92
11) Acetonitrile	4.44	41	9993	0.414	ng		90
12) Acrolein	4.53	56	5323	0.801	ng		90
13) Acetone	4.62	58	17309	2.229	ng		88
14) Trichlorofluoromethane	4.75	101	6122	0.232	ng		95
15) 2-Propanol (Isopropanol)	4.83	45	24921	0.868	ng		81
16) Acrylonitrile	4.99	53	11788	0.895	ng		95
17) 1,1-Dichloroethene	5.25	96	2929	0.262	ng		98
18) 2-Methyl-2-Propanol (t...	5.38	59	20695	0.774	ng		94
19) Methylene Chloride	5.34	84	3324	0.286	ng		99
20) 3-Chloro-1-propene (Al...	5.44	41	7531	0.331	ng		86
21) Trichlorotrifluoroethane	5.56	151	3384	0.284	ng		95
22) Carbon Disulfide	5.60	76	20319	0.524	ng		96
23) trans-1,2-Dichloroethene	6.12	61	5920	0.363	ng		100
24) 1,1-Dichloroethane	6.29	63	6730	0.339	ng		100
25) Methyl tert-Butyl Ether	6.37	73	10381	0.294	ng		99
26) Vinyl Acetate	6.43	86	1201	0.650	ng	#	53
27) 2-Butanone (MEK)	6.66	72	4389	0.664	ng		98
28) cis-1,2-Dichloroethene	7.05	61	5592	0.345	ng		99
29) Diisopropyl Ether	7.27	87	5673	0.620	ng	#	77
30) Ethyl Acetate	7.27	61	6817	1.543	ng		98
31) n-Hexane	7.27	57	7629	0.426	ng		99
32) Chloroform	7.33	83	6621	0.294	ng		99
34) Tetrahydrofuran (THF)	7.75	72	4282	0.668	ng	#	92
35) Ethyl tert-Butyl Ether	7.80	87	7794	0.576	ng		98
36) 1,2-Dichloroethane	8.08	62	5769	0.311	ng		100
38) 1,1,1-Trichloroethane	8.36	97	6018	0.228	ng		98
39) Isopropyl Acetate	9.26	61	23160	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.87	78	13746	0.266	ng		98
42) Carbon Tetrachloride	9.03	117	4683	0.202	ng		99
43) Cyclohexane	9.18	84	10410	0.540	ng		99
44) tert-Amyl Methyl Ether	9.57	73	18183	0.467	ng		94
45) 1,2-Dichloropropane	9.83	63	3903	0.315	ng		98
46) Bromodichloromethane	10.04	83	5009	0.239	ng		97
47) Trichloroethene	10.11	130	3516	0.212	ng		99
48) 1,4-Dioxane	10.12	88	2548	0.250	ng		95
49) 2,2,4-Trimethylpentane...	10.20	57	18453	0.351	ng		96
50) Methyl Methacrylate	10.38	100	2246	0.452	ng	#	84

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162209.D Vial: 13
Acq On : 16 Nov 2022 14:08 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:46:42 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

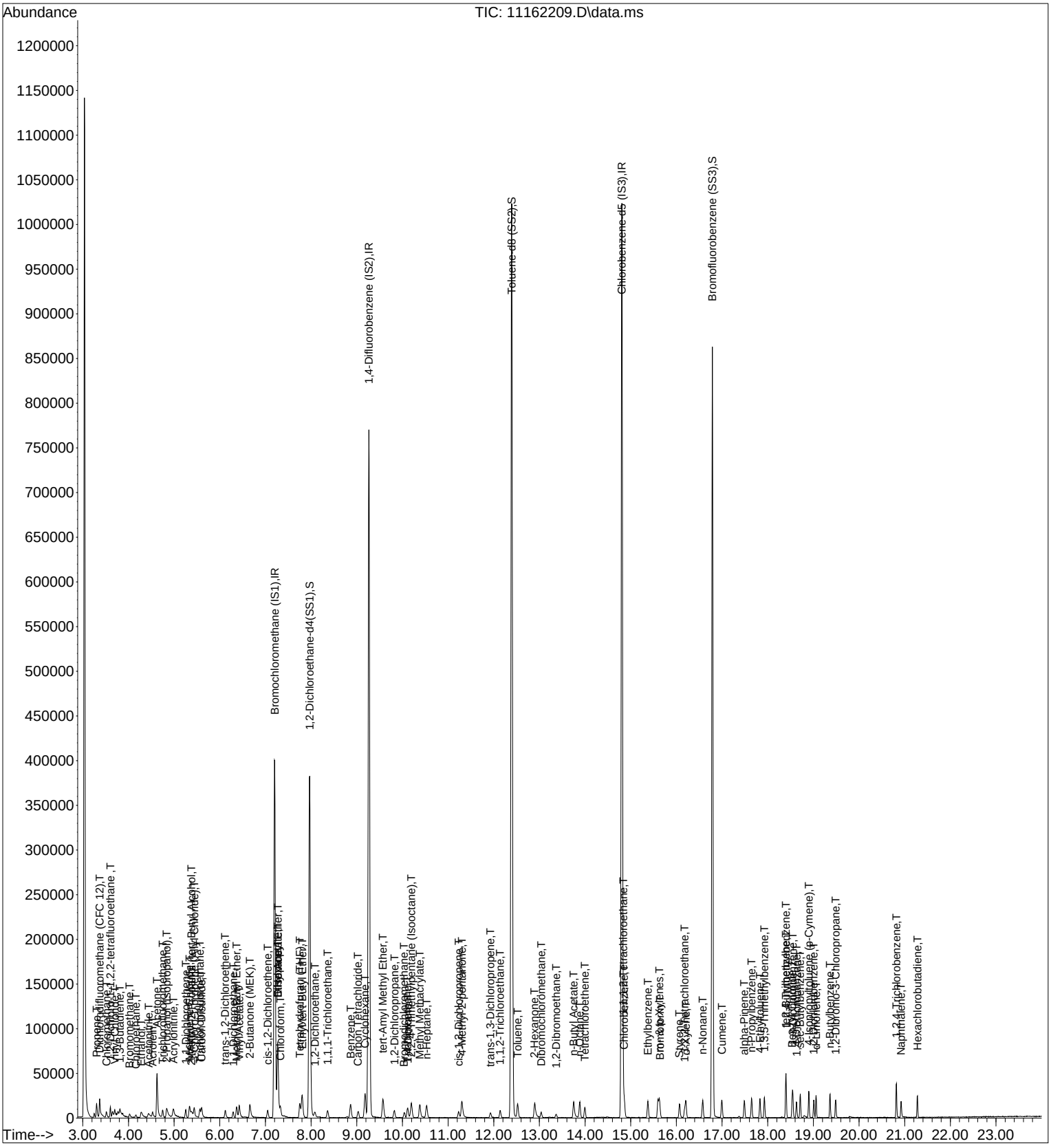
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	3451	0.297 ng		97
52) cis-1,3-Dichloropropene	11.23	75	5057	0.252 ng		97
53) 4-Methyl-2-pentanone	11.30	58	7533	0.686 ng		84
54) trans-1,3-Dichloropropene	11.93	75	4361	0.223 ng		94
55) 1,1,2-Trichloroethane	12.14	97	3462	0.253 ng		99
58) Toluene	12.52	91	14138	0.209 ng		97
59) 2-Hexanone	12.89	43	20427	0.544 ng		93
60) Dibromochloromethane	13.04	129	3790	0.173 ng		94
61) 1,2-Dibromoethane	13.37	107	3908	0.198 ng		99
62) n-Butyl Acetate	13.75	43	20781	0.507 ng		96
63) n-Octane	13.88	57	3883	0.310 ng		98
64) Tetrachloroethene	13.99	166	4045	0.187 ng		100
65) Chlorobenzene	14.86	112	9208	0.201 ng		99
66) Ethylbenzene	15.37	91	16187	0.209 ng		98
67) m- & p-Xylenes	15.62	91	26149	0.410 ng		98
68) Bromoform	15.64	173	3173	0.168 ng		93
69) Styrene	16.07	104	9210	0.211 ng		98
70) o-Xylene	16.21	91	12733	0.202 ng		99
71) n-Nonane	16.58	43	9731	0.294 ng		93
72) 1,1,2,2-Tetrachloroethane	16.18	83	6241	0.235 ng		98
74) Cumene	17.00	105	15632	0.201 ng		97
75) alpha-Pinene	17.49	93	8127	0.216 ng		96
76) n-Propylbenzene	17.64	91	19241	0.207 ng		99
77) 3-Ethyltoluene	17.00	105	15632	No Calib		
78) 4-Ethyltoluene	17.83	105	14763	0.203 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	13021	0.202 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.00	105	15632	No Calib		
82) 1,2,4-Trimethylbenzene	18.40	105	12991	0.197 ng		100
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.54	91	14445	0.332 ng		95
85) 1,3-Dichlorobenzene	18.55	146	7667	0.192 ng		98
86) 1,4-Dichlorobenzene	18.63	146	7612	0.192 ng		98
87) sec-Butylbenzene	18.71	105	17201	0.200 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	15826	0.206 ng		100
89) 1,2,3-Trimethylbenzene	17.00	105	15632	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	7275	0.185 ng		98
91) d-Limonene	19.06	68	5198	0.250 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.49	157	5155	0.355 ng	#	81
93) n-Undecane	17.92	58	309	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.82	180	11469	0.412 ng		98
95) Naphthalene	20.92	128	14847	0.210 ng		95
96) n-Dodecane	18.90	58	429	No Calib	#	
97) Hexachlorobutadiene	21.28	225	4105	0.190 ng		100
98) Cyclohexanone	15.19	55	109	No Calib	#	
99) tert-Butylbenzene	18.40	119	13477	0.206 ng		96
100) n-Butylbenzene	19.37	91	14158	0.207 ng		97
101) 1,1,1,2-Tetrachloroethane	14.84	131	3375	0.183 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162209.D Vial: 13
Acq On : 16 Nov 2022 14:08 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152210 (12/15)

Quant Time: Nov 16 16:46:42 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162210.D Vial: 14
Acq On : 16 Nov 2022 14:40 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:45:27 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	144934	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.26	114	734427	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	181354	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	321893	15.600	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 124.80%				
57) Toluene-d8 (SS2)	12.39	98	821469	10.674	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.36%				
73) Bromofluorobenzene (SS3)	16.79	174	281284	8.465	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 67.68%#				
Target Compounds							Qvalue
2) Propene	3.28	42	15313	1.045	ng		98
3) Dichlorodifluoromethan...	3.35	85	21963	0.804	ng		99
4) Chloromethane	3.50	50	21311	1.486	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	9875	0.708	ng		99
6) Vinyl Chloride	3.68	62	17706	1.112	ng		98
7) 1,3-Butadiene	3.80	54	8115	0.734	ng	#	87
8) Bromomethane	4.01	94	7590	0.753	ng		100
9) Chloroethane	4.15	64	7291	1.058	ng		97
10) Ethanol	4.27	45	34387	3.617	ng		96
11) Acetonitrile	4.43	41	25348	1.046	ng		100
12) Acrolein	4.52	56	16714	2.505	ng		96
13) Acetone	4.61	58	48983	6.285	ng		89
14) Trichlorofluoromethane	4.74	101	17579	0.664	ng		98
15) 2-Propanol (Isopropanol)	4.82	45	76105	2.640	ng		84
16) Acrylonitrile	4.98	53	37460	2.833	ng		99
17) 1,1-Dichloroethene	5.24	96	8914	0.794	ng		98
18) 2-Methyl-2-Propanol (t...	5.30	59	64078	2.386	ng		93
19) Methylene Chloride	5.33	84	9693	0.832	ng		98
20) 3-Chloro-1-propene (Al...	5.43	41	24024	1.052	ng		88
21) Trichlorotrifluoroethane	5.56	151	9740	0.815	ng		97
22) Carbon Disulfide	5.59	76	60723	1.559	ng		99
23) trans-1,2-Dichloroethene	6.11	61	18343	1.120	ng		98
24) 1,1-Dichloroethane	6.29	63	20671	1.038	ng		100
25) Methyl tert-Butyl Ether	6.36	73	31760	0.897	ng		100
26) Vinyl Acetate	6.42	86	4459	2.404	ng	#	86
27) 2-Butanone (MEK)	6.65	72	13116	1.978	ng	#	88
28) cis-1,2-Dichloroethene	7.05	61	17328	1.065	ng		100
29) Diisopropyl Ether	7.26	87	16731	1.822	ng	#	71
30) Ethyl Acetate	7.26	61	21050	4.746	ng		98
31) n-Hexane	7.27	57	21960	1.223	ng		100
32) Chloroform	7.33	83	20062	0.886	ng		100
34) Tetrahydrofuran (THF)	7.74	72	12453	1.937	ng		95
35) Ethyl tert-Butyl Ether	7.79	87	23989	1.765	ng		99
36) 1,2-Dichloroethane	8.08	62	17668	0.949	ng		100
38) 1,1,1-Trichloroethane	8.36	97	17743	0.679	ng		99
39) Isopropyl Acetate	9.26	61	23388	No Calib	#		
40) 1-Butanol	8.87	56	389	No Calib	#		
41) Benzene	8.87	78	40383	0.791	ng		99
42) Carbon Tetrachloride	9.03	117	14535	0.635	ng		99
43) Cyclohexane	9.18	84	30960	1.625	ng		99
44) tert-Amyl Methyl Ether	9.56	73	55822	1.450	ng		96
45) 1,2-Dichloropropane	9.82	63	11589	0.947	ng		99
46) Bromodichloromethane	10.04	83	15349	0.742	ng		100
47) Trichloroethene	10.11	130	10682	0.653	ng		99
48) 1,4-Dioxane	10.10	88	8017	0.795	ng		95
49) 2,2,4-Trimethylpentane...	10.20	57	55681	1.073	ng		98
50) Methyl Methacrylate	10.38	100	7296	1.486	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162210.D Vial: 14
Acq On : 16 Nov 2022 14:40 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:45:27 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

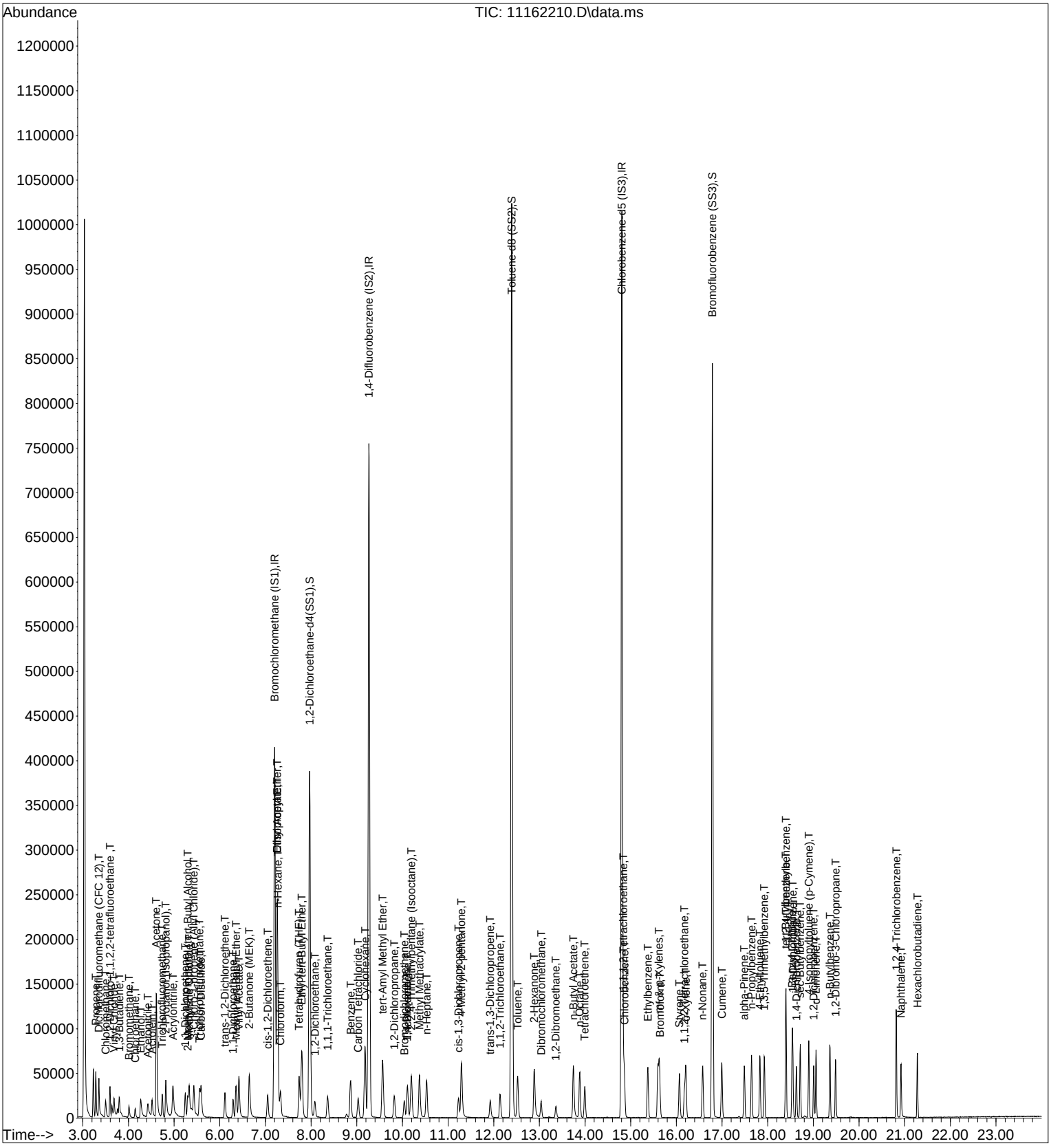
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	10468	0.911 ng		99
52) cis-1,3-Dichloropropene	11.23	75	15932	0.802 ng		100
53) 4-Methyl-2-pentanone	11.29	58	23630	2.178 ng		91
54) trans-1,3-Dichloropropene	11.92	75	13794	0.714 ng		100
55) 1,1,2-Trichloroethane	12.14	97	10400	0.768 ng		99
58) Toluene	12.52	91	40891	0.605 ng		100
59) 2-Hexanone	12.89	43	58275	1.553 ng		95
60) Dibromochloromethane	13.04	129	11923	0.546 ng		99
61) 1,2-Dibromoethane	13.36	107	12237	0.619 ng		99
62) n-Butyl Acetate	13.74	43	60976	1.487 ng		98
63) n-Octane	13.88	57	11576	0.926 ng		97
64) Tetrachloroethene	13.99	166	12118	0.560 ng		100
65) Chlorobenzene	14.86	112	27302	0.597 ng		99
66) Ethylbenzene	15.37	91	47949	0.619 ng		99
67) m- & p-Xylenes	15.62	91	76230	1.196 ng		100
68) Bromoform	15.64	173	9635	0.509 ng		97
69) Styrene	16.07	104	26910	0.618 ng		99
70) o-Xylene	16.21	91	38446	0.611 ng		100
71) n-Nonane	16.57	43	28109	0.849 ng		97
72) 1,1,2,2-Tetrachloroethane	16.17	83	18423	0.694 ng		99
74) Cumene	17.00	105	46318	0.595 ng		100
75) alpha-Pinene	17.49	93	23874	0.634 ng		96
76) n-Propylbenzene	17.65	91	57450	0.619 ng		99
77) 3-Ethyltoluene	17.00	105	46318	No Calib		
78) 4-Ethyltoluene	17.83	105	44662	0.613 ng		99
79) 1,3,5-Trimethylbenzene	17.92	105	38357	0.595 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.00	105	46318	No Calib		
82) 1,2,4-Trimethylbenzene	18.40	105	38729	0.588 ng		99
83) n-Decane	17.00	58	333	No Calib	#	
84) Benzyl Chloride	18.54	91	47583	1.095 ng		96
85) 1,3-Dichlorobenzene	18.55	146	22223	0.557 ng		98
86) 1,4-Dichlorobenzene	18.63	146	21875	0.551 ng		98
87) sec-Butylbenzene	18.71	105	51990	0.605 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	45931	0.598 ng		98
89) 1,2,3-Trimethylbenzene	17.00	105	46318	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	21568	0.549 ng		100
91) d-Limonene	19.06	68	15298	0.736 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	15402	1.059 ng	#	84
93) n-Undecane	17.93	58	1159	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	33287	1.195 ng		99
95) Naphthalene	20.92	128	44789	0.635 ng		97
96) n-Dodecane	18.89	58	1594	No Calib	#	
97) Hexachlorobutadiene	21.28	225	12254	0.567 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.39	119	39430	0.604 ng		98
100) n-Butylbenzene	19.36	91	42216	0.618 ng		97
101) 1,1,1,2-Tetrachloroethane	14.84	131	10319	0.559 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162210.D Vial: 14
Acq On : 16 Nov 2022 14:40 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:45:27 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162211.D Vial: 14
Acq On : 16 Nov 2022 15:12 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:43:56 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	150993	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.27	114	731952	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	184448	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	319874	14.880	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 119.04%				
57) Toluene-d8 (SS2)	12.39	98	824972	10.540	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.32%				
73) Bromofluorobenzene (SS3)	16.79	174	281371	8.326	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 66.64%#				
Target Compounds							Qvalue
2) Propene	3.28	42	25929	1.698	ng		100
3) Dichlorodifluoromethan...	3.35	85	37616	1.323	ng		99
4) Chloromethane	3.49	50	36387	2.435	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	17165	1.182	ng		99
6) Vinyl Chloride	3.68	62	30883	1.862	ng		98
7) 1,3-Butadiene	3.79	54	14916	1.295	ng		94
8) Bromomethane	4.01	94	12711	1.210	ng		100
9) Chloroethane	4.14	64	12384	1.724	ng		99
10) Ethanol	4.27	45	59435	6.001	ng		96
11) Acetonitrile	4.43	41	43986	1.743	ng		98
12) Acrolein	4.51	56	29349	4.222	ng		100
13) Acetone	4.61	58	83595	10.295	ng		90
14) Trichlorofluoromethane	4.74	101	30918	1.121	ng		100
15) 2-Propanol (Isopropanol)	4.82	45	130204	4.335	ng		89
16) Acrylonitrile	4.98	53	63586	4.615	ng		100
17) 1,1-Dichloroethene	5.24	96	16223	1.387	ng		97
18) 2-Methyl-2-Propanol (t...	5.29	59	110712	3.958	ng		94
19) Methylene Chloride	5.33	84	16956	1.397	ng		97
20) 3-Chloro-1-propene (Al...	5.43	41	41412	1.741	ng		88
21) Trichlorotrifluoroethane	5.56	151	16795	1.350	ng		99
22) Carbon Disulfide	5.58	76	108376	2.671	ng		98
23) trans-1,2-Dichloroethene	6.11	61	30745	1.802	ng		100
24) 1,1-Dichloroethane	6.29	63	35895	1.730	ng		98
25) Methyl tert-Butyl Ether	6.35	73	53519	1.451	ng		100
26) Vinyl Acetate	6.42	86	7974	4.126	ng	#	88
27) 2-Butanone (MEK)	6.64	72	23005	3.329	ng		95
28) cis-1,2-Dichloroethene	7.05	61	29655	1.750	ng		99
29) Diisopropyl Ether	7.26	87	28738	3.004	ng	#	70
30) Ethyl Acetate	7.26	61	35665	7.719	ng		99
31) n-Hexane	7.27	57	37663	2.013	ng		99
32) Chloroform	7.33	83	33803	1.433	ng		100
34) Tetrahydrofuran (THF)	7.73	72	21546	3.216	ng		95
35) Ethyl tert-Butyl Ether	7.79	87	40156	2.836	ng		96
36) 1,2-Dichloroethane	8.08	62	30133	1.554	ng		99
38) 1,1,1-Trichloroethane	8.37	97	30066	1.154	ng		99
39) Isopropyl Acetate	9.27	61	23250	No Calib	#		
40) 1-Butanol	8.86	56	578	No Calib	#		
41) Benzene	8.87	78	67948	1.335	ng		98
42) Carbon Tetrachloride	9.03	117	24416	1.069	ng		100
43) Cyclohexane	9.18	84	51394	2.706	ng		98
44) tert-Amyl Methyl Ether	9.56	73	94764	2.470	ng		96
45) 1,2-Dichloropropane	9.82	63	19767	1.621	ng		98
46) Bromodichloromethane	10.04	83	26225	1.273	ng		100
47) Trichloroethene	10.11	130	17826	1.094	ng		100
48) 1,4-Dioxane	10.10	88	13786	1.372	ng		98
49) 2,2,4-Trimethylpentane...	10.20	57	94783	1.833	ng		98
50) Methyl Methacrylate	10.37	100	12531	2.562	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162211.D Vial: 14
Acq On : 16 Nov 2022 15:12 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:43:56 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

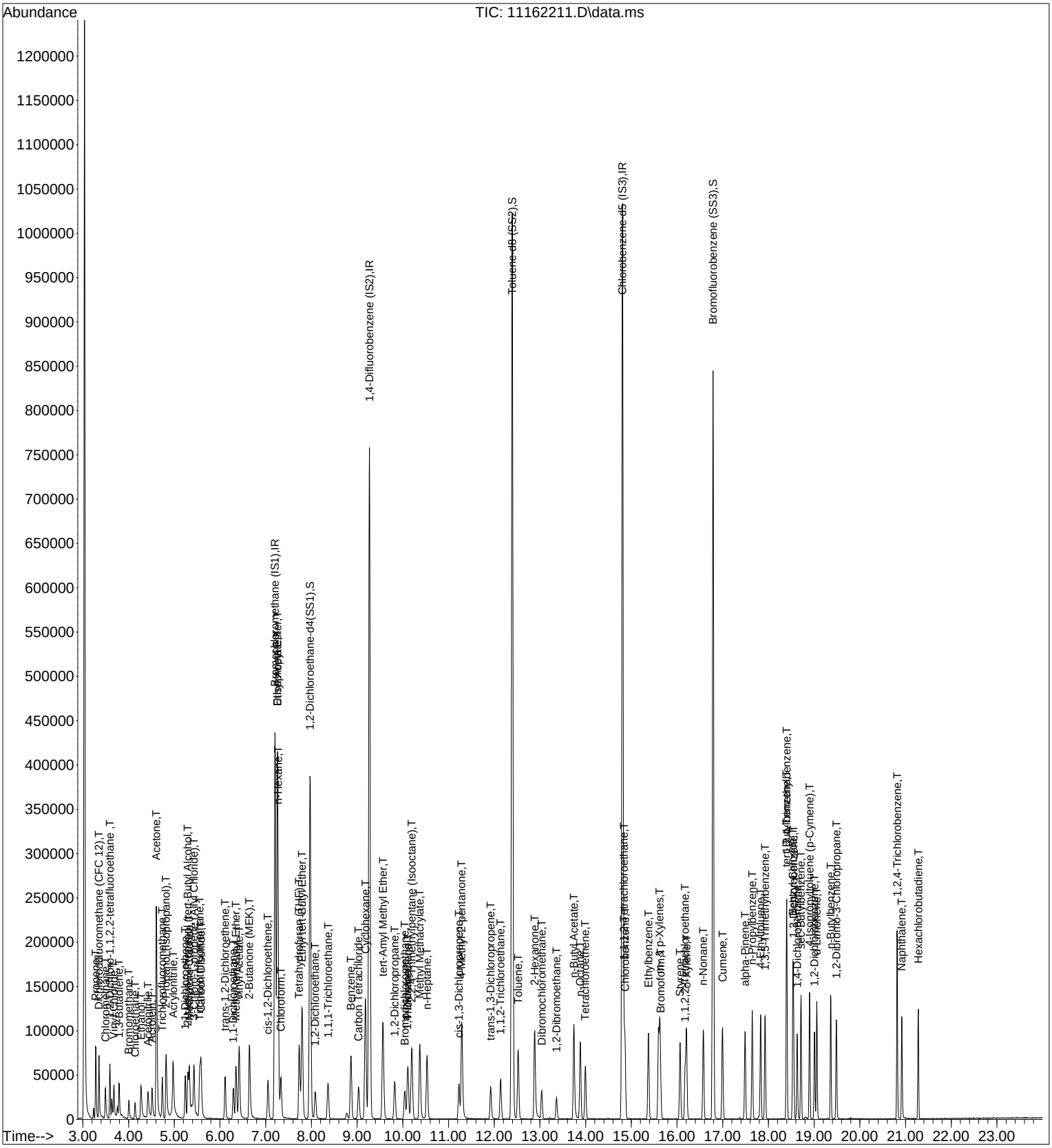
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.53	71	17524	1.530 ng		99
52) cis-1,3-Dichloropropene	11.23	75	27339	1.381 ng		98
53) 4-Methyl-2-pentanone	11.29	58	40998	3.791 ng		90
54) trans-1,3-Dichloropropene	11.92	75	24494	1.272 ng		100
55) 1,1,2-Trichloroethane	12.14	97	17893	1.326 ng		100
58) Toluene	12.52	91	69867	1.016 ng		98
59) 2-Hexanone	12.89	43	102249	2.680 ng		95
60) Dibromochloromethane	13.04	129	20422	0.919 ng		100
61) 1,2-Dibromoethane	13.36	107	21480	1.068 ng		98
62) n-Butyl Acetate	13.74	43	107323	2.573 ng		98
63) n-Octane	13.88	57	19547	1.537 ng		97
64) Tetrachloroethene	13.99	166	20184	0.917 ng		99
65) Chlorobenzene	14.86	112	45437	0.977 ng		99
66) Ethylbenzene	15.37	91	80312	1.019 ng		99
67) m- & p-Xylenes	15.62	91	129268	1.995 ng		98
68) Bromoform	15.64	173	17078	0.887 ng		98
69) Styrene	16.07	104	47163	1.065 ng		99
70) o-Xylene	16.21	91	64519	1.008 ng		100
71) n-Nonane	16.57	43	48848	1.451 ng		95
72) 1,1,2,2-Tetrachloroethane	16.17	83	32236	1.193 ng		100
74) Cumene	17.00	105	78482	0.992 ng		100
75) alpha-Pinene	17.49	93	41412	1.081 ng		99
76) n-Propylbenzene	17.64	91	98745	1.045 ng		99
77) 3-Ethyltoluene	17.00	105	78482	No Calib		
78) 4-Ethyltoluene	17.83	105	77353	1.044 ng		98
79) 1,3,5-Trimethylbenzene	17.93	105	65017	0.992 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.00	105	78482	No Calib		
82) 1,2,4-Trimethylbenzene	18.40	105	65851	0.984 ng		99
83) n-Decane	16.98	58	780	No Calib	#	
84) Benzyl Chloride	18.54	91	86740	1.963 ng		96
85) 1,3-Dichlorobenzene	18.55	146	37540	0.926 ng		100
86) 1,4-Dichlorobenzene	18.63	146	37015	0.916 ng		99
87) sec-Butylbenzene	18.71	105	87148	0.997 ng		98
88) 4-Isopropyltoluene (p-...	18.90	119	76573	0.980 ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	78482	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	37172	0.931 ng		99
91) d-Limonene	19.06	68	26519	1.254 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	26417	1.786 ng	#	84
93) n-Undecane	17.93	58	1761	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	57800	2.040 ng		98
95) Naphthalene	20.92	128	79093	1.103 ng		98
96) n-Dodecane	18.89	58	2548	No Calib	#	
97) Hexachlorobutadiene	21.28	225	20645	0.939 ng		98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.39	119	66597	1.003 ng		99
100) n-Butylbenzene	19.36	91	71422	1.028 ng		99
101) 1,1,1,2-Tetrachloroethane	14.84	131	17492	0.932 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162211.D Vial: 14
Acq On : 16 Nov 2022 15:12 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:43:56 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162212.D Vial: 14
Acq On : 16 Nov 2022 15:44 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:41:55 2022 11/16/22
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	143526	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.28	114	738402	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	188144	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	325708	15.940	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 127.52%				
57) Toluene-d8 (SS2)	12.40	98	833658	10.442	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.52%				
73) Bromofluorobenzene (SS3)	16.79	174	289226	8.390	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 67.12%#				
Target Compounds							Qvalue
2) Propene	3.26	42	135400	9.327	ng		99
3) Dichlorodifluoromethan...	3.34	85	159369	5.895	ng		99
4) Chloromethane	3.47	50	145769	10.263	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	72108	5.223	ng		99
6) Vinyl Chloride	3.66	62	133802	8.488	ng		100
7) 1,3-Butadiene	3.78	54	61405	5.609	ng		96
8) Bromomethane	3.99	94	50953	5.103	ng		100
9) Chloroethane	4.13	64	53043	7.770	ng		100
10) Ethanol	4.28	45	221169	23.493	ng		100
11) Acetonitrile	4.43	41	184711	7.698	ng		99
12) Acrolein	4.51	56	111390	16.857	ng		100
13) Acetone	4.61	58	327698	42.457	ng		90
14) Trichlorofluoromethane	4.73	101	131416	5.011	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	460090	16.116	ng		96
16) Acrylonitrile	4.98	53	265593	20.281	ng		99
17) 1,1-Dichloroethene	5.23	96	65456	5.887	ng		97
18) 2-Methyl-2-Propanol (t...	5.31	59	466378	17.539	ng		97
19) Methylene Chloride	5.34	84	71834	6.227	ng		97
20) 3-Chloro-1-propene (Al...	5.43	41	178800	7.909	ng		88
21) Trichlorotrifluoroethane	5.56	151	70642	5.972	ng		99
22) Carbon Disulfide	5.57	76	460156	11.930	ng		100
23) trans-1,2-Dichloroethene	6.12	61	135223	8.336	ng		99
24) 1,1-Dichloroethane	6.30	63	150039	7.608	ng		100
25) Methyl tert-Butyl Ether	6.34	73	234917	6.699	ng		99
26) Vinyl Acetate	6.42	86	37176	20.238	ng	#	91
27) 2-Butanone (MEK)	6.65	72	100932	15.367	ng	#	92
28) cis-1,2-Dichloroethene	7.06	61	127864	7.938	ng		98
29) Diisopropyl Ether	7.26	87	125264	13.775	ng	#	69
30) Ethyl Acetate	7.26	61	162797	37.065	ng		98
31) n-Hexane	7.27	57	164976	9.276	ng		98
32) Chloroform	7.34	83	144334	6.439	ng		99
34) Tetrahydrofuran (THF)	7.73	72	92690	14.556	ng		96
35) Ethyl tert-Butyl Ether	7.79	87	177853	13.213	ng		96
36) 1,2-Dichloroethane	8.09	62	128398	6.965	ng		100
38) 1,1,1-Trichloroethane	8.37	97	131363	5.000	ng		99
39) Isopropyl Acetate	9.18	61	184	No Calib		#	
40) 1-Butanol	8.81	56	5446	No Calib			
41) Benzene	8.87	78	289685	5.643	ng		100
42) Carbon Tetrachloride	9.04	117	107650	4.674	ng		100
43) Cyclohexane	9.18	84	223095	11.643	ng		99
44) tert-Amyl Methyl Ether	9.56	73	427312	11.042	ng		98
45) 1,2-Dichloropropane	9.83	63	85740	6.971	ng		99
46) Bromodichloromethane	10.05	83	115669	5.565	ng		100
47) Trichloroethene	10.12	130	78131	4.752	ng		99
48) 1,4-Dioxane	10.09	88	61336	6.049	ng		98
49) 2,2,4-Trimethylpentane...	10.20	57	405445	7.771	ng		99
50) Methyl Methacrylate	10.37	100	57594	11.671	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162212.D Vial: 14
Acq On : 16 Nov 2022 15:44 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:41:55 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

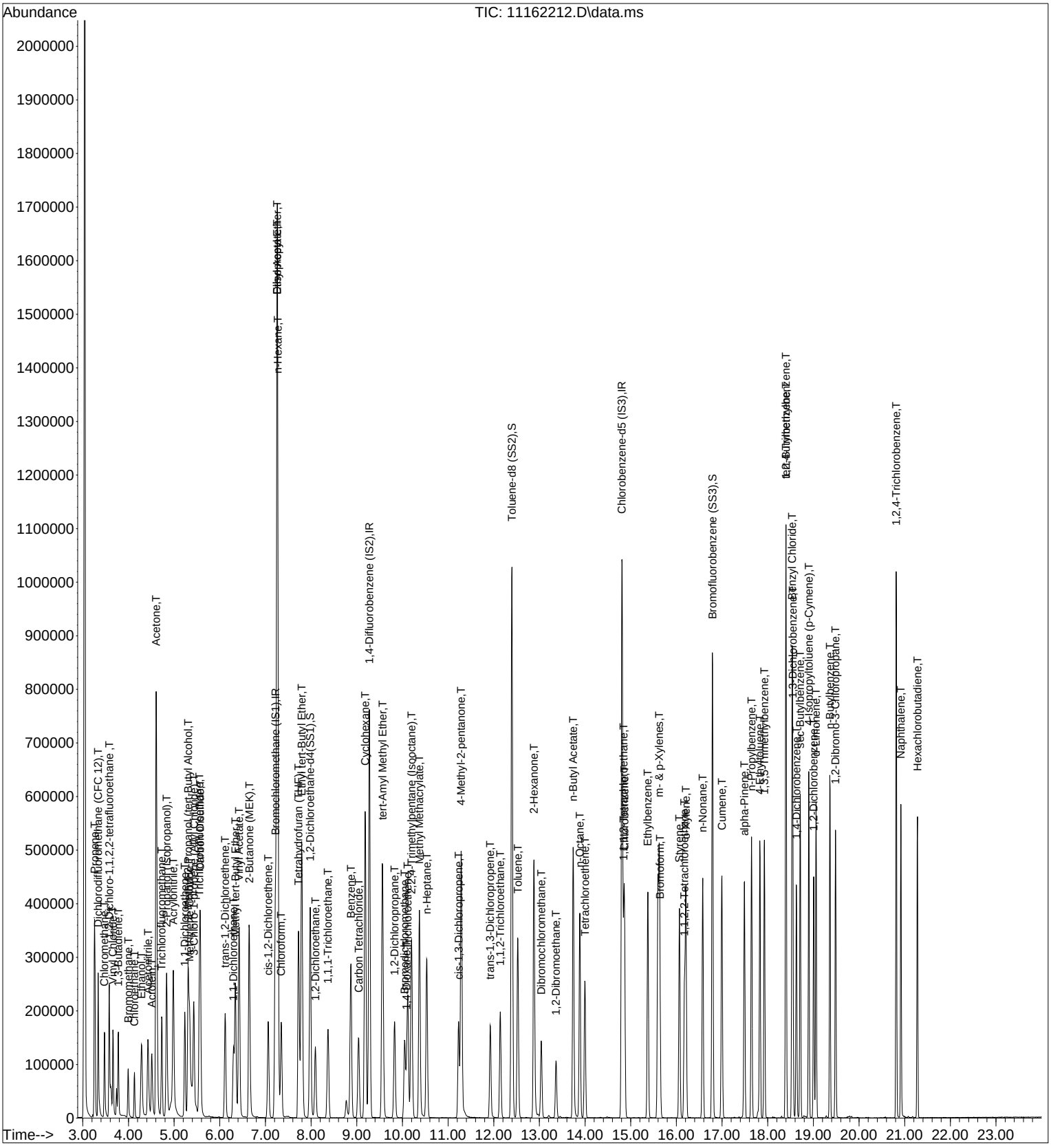
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	74931	6.486	ng		100
52) cis-1,3-Dichloropropene	11.23	75	123281	6.172	ng		100
53) 4-Methyl-2-pentanone	11.29	58	183274	16.801	ng		94
54) trans-1,3-Dichloropropene	11.92	75	112625	5.796	ng		100
55) 1,1,2-Trichloroethane	12.14	97	76856	5.644	ng		100
58) Toluene	12.53	91	297631	4.244	ng		99
59) 2-Hexanone	12.88	43	455150	11.694	ng		96
60) Dibromochloromethane	13.04	129	91389	4.032	ng		99
61) 1,2-Dibromoethane	13.36	107	92197	4.492	ng		100
62) n-Butyl Acetate	13.74	43	485048	11.399	ng		98
63) n-Octane	13.89	57	83310	6.421	ng		99
64) Tetrachloroethene	14.00	166	87596	3.904	ng		100
65) Chlorobenzene	14.86	112	200686	4.231	ng		100
66) Ethylbenzene	15.37	91	347379	4.322	ng		99
67) m- & p-Xylenes	15.62	91	561293	8.491	ng		99
68) Bromoform	15.64	173	80272	4.088	ng		100
69) Styrene	16.07	104	207622	4.595	ng		100
70) o-Xylene	16.21	91	280291	4.291	ng		99
71) n-Nonane	16.58	43	207285	6.037	ng		97
72) 1,1,2,2-Tetrachloroethane	16.17	83	139662	5.068	ng		100
74) Cumene	17.00	105	343712	4.259	ng		99
75) alpha-Pinene	17.49	93	183712	4.702	ng		98
76) n-Propylbenzene	17.65	91	427415	4.436	ng		99
77) 3-Ethyltoluene	17.00	105	343712	No Calib			
78) 4-Ethyltoluene	17.83	105	330433	4.371	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	286568	4.288	ng		99
80) alpha-Methylstyrene	16.99	118	532	No Calib		#	
81) 2-Ethyltoluene	17.00	105	343712	No Calib			
82) 1,2,4-Trimethylbenzene	18.40	105	294002	4.305	ng		100
83) n-Decane	17.00	58	3381	No Calib			
84) Benzyl Chloride	18.54	91	451094	10.009	ng		97
85) 1,3-Dichlorobenzene	18.55	146	167769	4.056	ng		99
86) 1,4-Dichlorobenzene	18.63	146	163698	3.971	ng		100
87) sec-Butylbenzene	18.71	105	382399	4.288	ng		99
88) 4-Isopropyltoluene (p-...	18.90	119	338723	4.251	ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	343712	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	163429	4.012	ng		100
91) d-Limonene	19.06	68	117513	5.447	ng		100
92) 1,2-Dibromo-3-Chloropr...	19.48	157	126141	8.363	ng		90
93) n-Undecane	17.92	58	7581	No Calib			
94) 1,2,4-Trichlorobenzene	20.81	180	266010	9.206	ng		99
95) Naphthalene	20.92	128	363332	4.966	ng		99
96) n-Dodecane	18.90	58	9470	No Calib		#	
97) Hexachlorobutadiene	21.28	225	92595	4.131	ng		100
98) Cyclohexanone	15.17	55	305	No Calib		#	
99) tert-Butylbenzene	18.40	119	291304	4.301	ng		98
100) n-Butylbenzene	19.36	91	318385	4.491	ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	78480	4.098	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162212.D Vial: 14
Acq On : 16 Nov 2022 15:44 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152209 (12/15)

Quant Time: Nov 16 16:41:55 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162213.D Vial: 15
Acq On : 16 Nov 2022 16:16 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 16:40:21 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:40:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	141414	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	736255	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	185679	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	324883	16.137	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 129.12%			
57) Toluene-d8 (SS2)	12.40	98	835936	10.609	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.88%			
73) Bromofluorobenzene (SS3)	16.79	174	294695	8.662	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 69.28%#			
Target Compounds						Qvalue
2) Propene	3.26	42	672523	47.020	ng	100
3) Dichlorodifluoromethan...	3.34	85	851101	31.950	ng	100
4) Chloromethane	3.47	50	818711	58.505	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	384587	28.272	ng	100
6) Vinyl Chloride	3.67	62	717484	46.194	ng	100
7) 1,3-Butadiene	3.78	54	326628	30.279	ng	100
8) Bromomethane	4.00	94	310309	31.541	ng	100
9) Chloroethane	4.14	64	292429	43.477	ng	100
10) Ethanol	4.33	45	1219910	131.519	ng	100
11) Acetonitrile	4.46	41	1001989	42.385	ng	100
12) Acrolein	4.53	56	559813	85.983	ng	100
13) Acetone	4.64	58	1796599	236.248	ng	100
14) Trichlorofluoromethane	4.74	101	690645	26.730	ng	100
15) 2-Propanol (Isopropanol)	4.88	45	2759351	98.098	ng	100
16) Acrylonitrile	5.02	53	1376962	106.716	ng	100
17) 1,1-Dichloroethene	5.25	96	344527	31.449	ng	100
18) 2-Methyl-2-Propanol (t...	5.35	59	2674413	102.076	ng	100
19) Methylene Chloride	5.37	84	403187	35.474	ng	100
20) 3-Chloro-1-propene (Al...	5.45	41	774988	34.792	ng	100
21) Trichlorotrifluoroethane	5.56	151	397309	34.091	ng	100
22) Carbon Disulfide	5.58	76	2605599	68.560	ng	100
23) trans-1,2-Dichloroethene	6.15	61	744831	46.602	ng	100
24) 1,1-Dichloroethane	6.33	63	817973	42.097	ng	100
25) Methyl tert-Butyl Ether	6.36	73	1300147	37.628	ng	100
26) Vinyl Acetate	6.45	86	224287	123.923	ng	100
27) 2-Butanone (MEK)	6.67	72	572718	88.498	ng	100
28) cis-1,2-Dichloroethene	7.09	61	697950	43.978	ng	100
29) Diisopropyl Ether	7.27	87	718439	80.186	ng	100
30) Ethyl Acetate	7.28	61	947043	218.841	ng	100
31) n-Hexane	7.28	57	921280	52.576	ng	100
32) Chloroform	7.38	83	795847	36.034	ng	100
34) Tetrahydrofuran (THF)	7.74	72	524965	83.674	ng	100
35) Ethyl tert-Butyl Ether	7.81	87	1007943	76.000	ng	100
36) 1,2-Dichloroethane	8.12	62	699100	38.487	ng	100
38) 1,1,1-Trichloroethane	8.39	97	723782	27.629	ng	100
39) Isopropyl Acetate	9.20	61	2285	No Calib	#	
40) 1-Butanol	8.80	56	28607	No Calib		
41) Benzene	8.89	78	1597495	31.212	ng	100
42) Carbon Tetrachloride	9.06	117	603050	26.260	ng	100
43) Cyclohexane	9.20	84	1258049	65.849	ng	100
44) tert-Amyl Methyl Ether	9.58	73	2405211	62.335	ng	100
45) 1,2-Dichloropropane	9.84	63	472042	38.492	ng	100
46) Bromodichloromethane	10.06	83	650710	31.396	ng	100
47) Trichloroethene	10.13	130	439417	26.803	ng	100
48) 1,4-Dioxane	10.10	88	355829	35.196	ng	100
49) 2,2,4-Trimethylpentane...	10.21	57	2200994	42.311	ng	100
50) Methyl Methacrylate	10.39	100	338893	68.872	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162213.D Vial: 15
Acq On : 16 Nov 2022 16:16 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 16:40:21 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:40:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

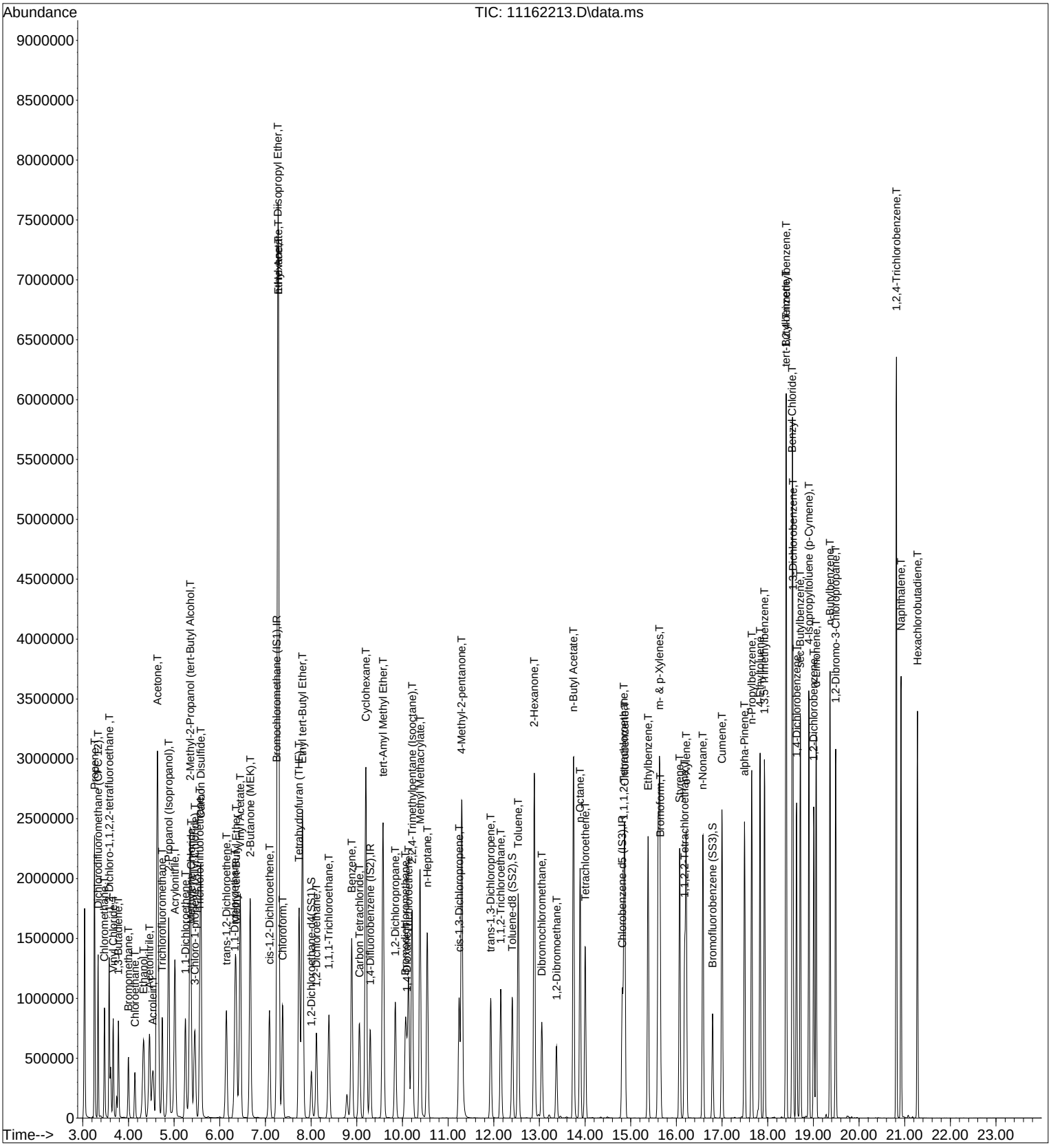
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.55	71	413841	35.926 ng		100
52) cis-1,3-Dichloropropene	11.25	75	702453	35.271 ng		100
53) 4-Methyl-2-pentanone	11.30	58	1042229	95.820 ng		100
54) trans-1,3-Dichloropropene	11.93	75	655789	33.847 ng		100
55) 1,1,2-Trichloroethane	12.15	97	427777	31.506 ng		100
58) Toluene	12.53	91	1657383	23.947 ng		100
59) 2-Hexanone	12.89	43	2635329	68.609 ng		100
60) Dibromochloromethane	13.05	129	530807	23.730 ng		100
61) 1,2-Dibromoethane	13.37	107	520391	25.693 ng		100
62) n-Butyl Acetate	13.74	43	2884868	68.696 ng		100
63) n-Octane	13.89	57	461025	36.004 ng		100
64) Tetrachloroethene	14.01	166	501044	22.624 ng		100
65) Chlorobenzene	14.87	112	1161221	24.807 ng		100
66) Ethylbenzene	15.38	91	1956293	24.660 ng		100
67) m- & p-Xylenes	15.63	91	3235642	49.597 ng		100
68) Bromoform	15.65	173	503204	25.965 ng		100
69) Styrene	16.07	104	1213480	27.212 ng		100
70) o-Xylene	16.21	91	1579369	24.500 ng		100
71) n-Nonane	16.58	43	1117414	32.975 ng		100
72) 1,1,2,2-Tetrachloroethane	16.18	83	791340	29.097 ng		100
74) Cumene	17.00	105	1934239	24.284 ng		100
75) alpha-Pinene	17.49	93	1043183	27.054 ng		100
76) n-Propylbenzene	17.65	91	2425050	25.505 ng		100
77) 3-Ethyltoluene	17.00	105	1934239	No Calib		
78) 4-Ethyltoluene	17.83	105	1933371	25.915 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1638566	24.843 ng		100
80) alpha-Methylstyrene	17.00	118	3323	No Calib	#	
81) 2-Ethyltoluene	17.00	105	1934239	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	1724525	25.588 ng		100
83) n-Decane	17.00	58	18684	No Calib		
84) Benzyl Chloride	18.54	91	3015887	67.807 ng		100
85) 1,3-Dichlorobenzene	18.55	146	1026112	25.136 ng		100
86) 1,4-Dichlorobenzene	18.63	146	1003752	24.672 ng		100
87) sec-Butylbenzene	18.71	105	2191457	24.899 ng		100
88) 4-Isopropyltoluene (p-...	18.90	119	1940915	24.685 ng		100
89) 1,2,3-Trimethylbenzene	17.00	105	1934239	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	969873	24.126 ng		100
91) d-Limonene	19.06	68	687022	32.271 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	777665	52.240 ng		100
93) n-Undecane	17.93	58	42774	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	1726725	60.549 ng		100
95) Naphthalene	20.92	128	2291167	31.731 ng		100
96) n-Dodecane	18.90	58	55252	No Calib	#	
97) Hexachlorobutadiene	21.28	225	563252	25.462 ng		100
98) Cyclohexanone	15.18	55	372	No Calib	#	
99) tert-Butylbenzene	18.40	119	1668615	24.965 ng		100
100) n-Butylbenzene	19.37	91	1856615	26.539 ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	448990	23.758 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162213.D Vial: 15
Acq On : 16 Nov 2022 16:16 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 16:40:21 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:40:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162214.D Vial: 15
Acq On : 16 Nov 2022 16:48 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 17:09:57 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.26	130	133289	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	758786	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.82	54	187336	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	328089	17.290	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 138.32%#				
57) Toluene-d8 (SS2)	12.41	98	851808	10.715	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.76%				
73) Bromofluorobenzene (SS3)	16.79	174	304410	8.868	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 70.96%				
Target Compounds							Qvalue
2) Propene	3.26	42	1474585	109.382	ng		99
3) Dichlorodifluoromethan...	3.34	85	1616730	64.392	ng		100
4) Chloromethane	3.48	50	1484943	112.582	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	728811	56.842	ng		100
6) Vinyl Chloride	3.67	62	1337418	91.356	ng		100
7) 1,3-Butadiene	3.78	54	559180	54.998	ng		99
8) Bromomethane	4.00	94	618198	66.667	ng		100
9) Chloroethane	4.15	64	554168	87.413	ng		99
10) Ethanol	4.35	45	2263537	258.908	ng		100
11) Acetonitrile	4.48	41	1886434	84.661	ng		100
12) Acrolein	4.55	56	991751	161.611	ng		100
13) Acetone	4.65	58	3075011	429.004	ng		92
14) Trichlorofluoromethane	4.74	101	1266838	52.019	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	4279017	161.396	ng		100
16) Acrylonitrile	5.03	53	2532530	208.239	ng		100
17) 1,1-Dichloroethene	5.26	96	632336	61.240	ng		98
18) 2-Methyl-2-Propanol (t...	5.37	59	4807607	194.681	ng		99
19) Methylene Chloride	5.39	84	764658	71.380	ng		96
20) 3-Chloro-1-propene (Al...	5.47	41	1376281	65.552	ng		98
21) Trichlorotrifluoroethane	5.57	151	782639	71.248	ng		99
22) Carbon Disulfide	5.59	76	4695597	131.085	ng		100
23) trans-1,2-Dichloroethene	6.15	61	1424780	94.578	ng		98
24) 1,1-Dichloroethane	6.34	63	1531307	83.613	ng		100
25) Methyl tert-Butyl Ether	6.36	73	2521736	77.431	ng		99
26) Vinyl Acetate	6.46	86	447855	262.532	ng	#	83
27) 2-Butanone (MEK)	6.68	72	1124800	184.403	ng	#	89
28) cis-1,2-Dichloroethene	7.10	61	1318062	88.115	ng		98
29) Diisopropyl Ether	7.28	87	1327047	157.141	ng	#	70
30) Ethyl Acetate	7.30	61	1657820	406.438	ng		96
31) n-Hexane	7.29	57	1549073	93.792	ng		99
32) Chloroform	7.39	83	1518944	72.967	ng		100
34) Tetrahydrofuran (THF)	7.75	72	1025961	173.495	ng		94
35) Ethyl tert-Butyl Ether	7.82	87	1978142	158.246	ng		96
36) 1,2-Dichloroethane	8.13	62	1319568	77.074	ng		100
38) 1,1,1-Trichloroethane	8.40	97	1397980	51.780	ng		99
39) Isopropyl Acetate	9.21	61	4082	No Calib		#	
40) 1-Butanol	8.80	56	56182	No Calib			
41) Benzene	8.89	78	3100771	58.784	ng		100
42) Carbon Tetrachloride	9.07	117	1180750	49.889	ng		100
43) Cyclohexane	9.21	84	2452427	124.554	ng		97
44) tert-Amyl Methyl Ether	9.58	73	4680500	117.701	ng		98
45) 1,2-Dichloropropane	9.85	63	911977	72.158	ng		100
46) Bromodichloromethane	10.08	83	1270249	59.468	ng		100
47) Trichloroethene	10.14	130	873038	51.670	ng		99
48) 1,4-Dioxane	10.10	88	703599	67.528	ng		98
49) 2,2,4-Trimethylpentane...	10.22	57	4180681	77.981	ng		98
50) Methyl Methacrylate	10.39	100	673163	132.742	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162214.D Vial: 15
Acq On : 16 Nov 2022 16:48 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 17:09:57 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

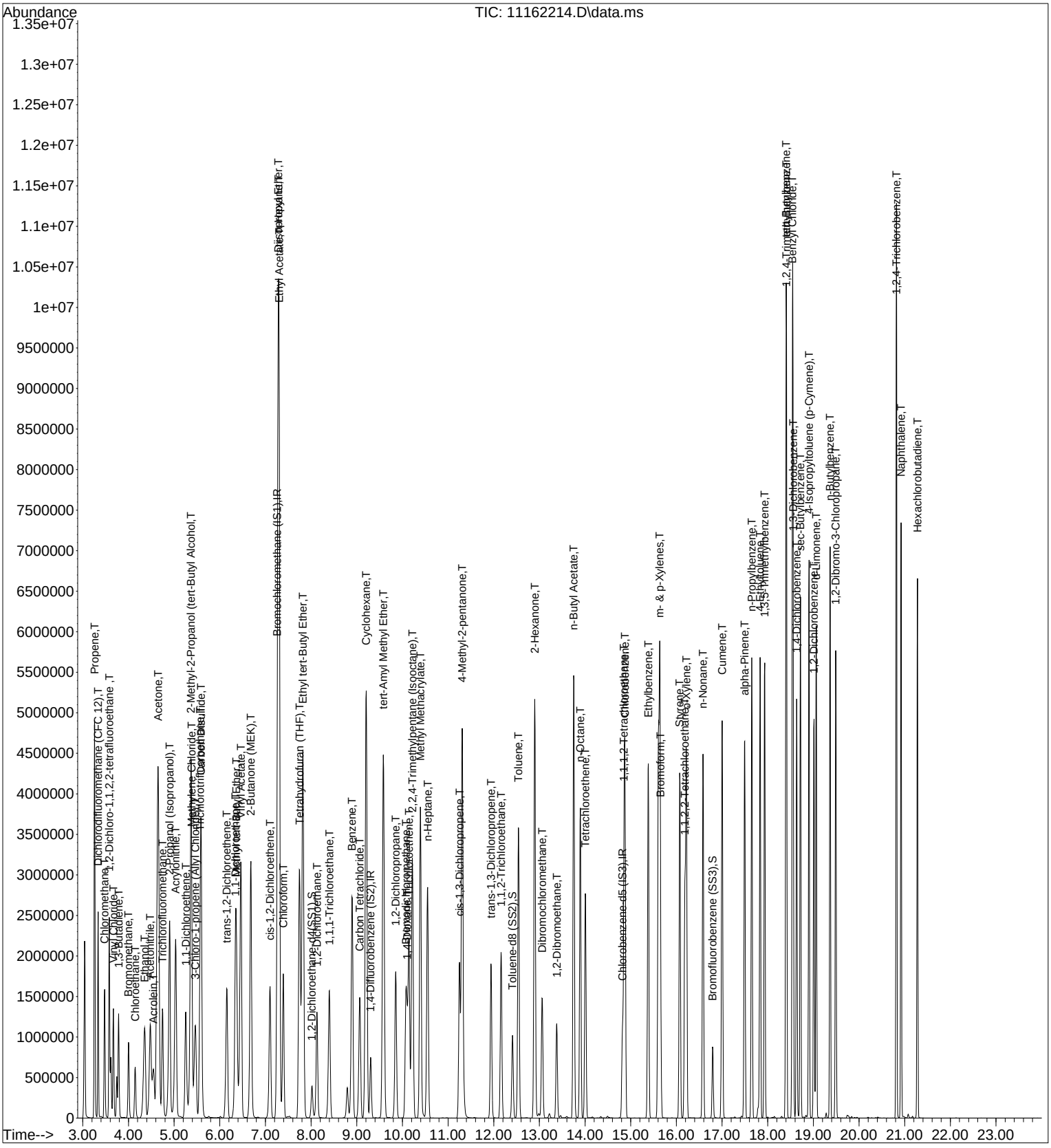
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.55	71	809517	68.188 ng		98
52) cis-1,3-Dichloropropene	11.25	75	1367623	66.631 ng		100
53) 4-Methyl-2-pentanone	11.31	58	1997907	178.228 ng		93
54) trans-1,3-Dichloropropene	11.94	75	1282625	64.233 ng		100
55) 1,1,2-Trichloroethane	12.16	97	838018	59.888 ng		100
58) Toluene	12.54	91	3228942	46.241 ng		100
59) 2-Hexanone	12.90	43	4747570	122.507 ng		96
60) Dibromochloromethane	13.06	129	1042319	46.186 ng		99
61) 1,2-Dibromoethane	13.38	107	1019475	49.889 ng		100
62) n-Butyl Acetate	13.75	43	5196121	122.638 ng		97
63) n-Octane	13.90	57	885149	68.515 ng		98
64) Tetrachloroethene	14.01	166	992903	44.437 ng		99
65) Chlorobenzene	14.87	112	2295307	48.600 ng		100
66) Ethylbenzene	15.39	91	3784329	47.281 ng		99
67) m- & p-Xylenes	15.63	91	6221463	94.521 ng		99
68) Bromoform	15.65	173	1007290	51.515 ng		100
69) Styrene	16.07	104	2388512	53.088 ng		100
70) o-Xylene	16.22	91	3071663	47.229 ng		99
71) n-Nonane	16.58	43	2045773	59.837 ng		96
72) 1,1,2,2-Tetrachloroethane	16.19	83	1549003	56.453 ng		100
74) Cumene	17.00	105	3734044	46.465 ng		99
75) alpha-Pinene	17.50	93	2041965	52.488 ng		99
76) n-Propylbenzene	17.65	91	4639586	48.365 ng		99
77) 3-Ethyltoluene	17.00	105	3734044	No Calib		
78) 4-Ethyltoluene	17.83	105	3778120	50.194 ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	3158138	47.459 ng		99
80) alpha-Methylstyrene	17.00	118	5848	No Calib	#	
81) 2-Ethyltoluene	17.00	105	3734044	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	3187296	46.874 ng		99
83) n-Decane	17.00	58	36444	No Calib		
84) Benzyl Chloride	18.54	91	5574333	124.221 ng		98
85) 1,3-Dichlorobenzene	18.56	146	1959820	47.583 ng		100
86) 1,4-Dichlorobenzene	18.63	146	1970024	47.995 ng		99
87) sec-Butylbenzene	18.72	105	4167709	46.935 ng		99
88) 4-Isopropyltoluene (p-...	18.91	119	3702421	46.671 ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	3734044	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	1902991	46.918 ng		99
91) d-Limonene	19.06	68	1322427	61.568 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	1531355	101.959 ng		94
93) n-Undecane	17.93	58	81558	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	3273852	113.784 ng		100
95) Naphthalene	20.92	128	4454308	61.143 ng		99
96) n-Dodecane	18.91	58	99724	No Calib	#	
97) Hexachlorobutadiene	21.28	225	1122056	50.274 ng		100
98) Cyclohexanone	15.18	55	1250	No Calib	#	
99) tert-Butylbenzene	18.41	119	3102833	46.012 ng		99
100) n-Butylbenzene	19.37	91	3525686	49.952 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	887284	46.534 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162214.D Vial: 15
Acq On : 16 Nov 2022 16:48 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 16 17:09:57 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162215.D Vial: 15
Acq On : 16 Nov 2022 17:20 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 17 07:39:05 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	173715	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.32	114	764235	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.82	54	181973	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.03	65	324858	13.135	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%				
57) Toluene-d8 (SS2)	12.42	98	848070	10.983	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.84%				
73) Bromofluorobenzene (SS3)	16.80	174	309064	9.269	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 74.16%				
Target Compounds							Qvalue
2) Propene	3.26	42	2683845	152.754	ng		98
3) Dichlorodifluoromethan...	3.34	85	3116249	95.232	ng		99
4) Chloromethane	3.48	50	2197829	127.852	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	1678464	100.443	ng		99
6) Vinyl Chloride	3.68	62	2465400	129.215	ng		99
7) 1,3-Butadiene	3.80	54	1693051	127.767	ng		91
8) Bromomethane	4.01	94	1261213	104.358	ng		100
9) Chloroethane	4.15	64	1162004	140.638	ng		99
10) Ethanol	4.38	45	5713999	501.482	ng		100
11) Acetonitrile	4.50	41	4187100	144.183	ng		98
12) Acrolein	4.56	56	2570968	321.457	ng		99
13) Acetone	4.67	58	6788448	726.678	ng	#	76
14) Trichlorofluoromethane	4.76	101	3035757	95.646	ng		100
15) 2-Propanol (Isopropanol)	4.93	45	7754293	224.413	ng		99
16) Acrylonitrile	5.06	53	5526270	348.655	ng		99
17) 1,1-Dichloroethene	5.27	96	1650850	122.674	ng		92
18) 2-Methyl-2-Propanol (t...	5.39	59	5945962	184.746	ng		99
19) Methylene Chloride	5.40	84	1714660	122.813	ng		87
20) 3-Chloro-1-propene (Al...	5.48	41	3044514	111.264	ng		94
21) Trichlorotrifluoroethane	5.58	151	1576878	110.146	ng		96
22) Carbon Disulfide	5.60	76	11197813	239.857	ng		99
23) trans-1,2-Dichloroethene	6.17	61	2778484	141.516	ng		96
24) 1,1-Dichloroethane	6.36	63	3176653	133.088	ng		99
25) Methyl tert-Butyl Ether	6.37	73	4940345	116.393	ng		99
26) Vinyl Acetate	6.48	86	909949	409.279	ng	#	55
27) 2-Butanone (MEK)	6.70	72	2225801	279.986	ng	#	73
28) cis-1,2-Dichloroethene	7.11	61	2605281	133.636	ng		95
29) Diisopropyl Ether	7.29	87	2275590	206.755	ng	#	42
30) Ethyl Acetate	7.32	61	2540878	477.966	ng		89
31) n-Hexane	7.29	57	2253888	104.709	ng	#	98
32) Chloroform	7.41	83	3001515	110.632	ng		99
34) Tetrahydrofuran (THF)	7.76	72	2020557	262.171	ng	#	84
35) Ethyl tert-Butyl Ether	7.83	87	3866166	237.309	ng	#	87
36) 1,2-Dichloroethane	8.14	62	2531792	113.465	ng		100
38) 1,1,1-Trichloroethane	8.41	97	2749514	101.113	ng		98
39) Isopropyl Acetate	9.21	61	7566	No Calib		#	
40) 1-Butanol	8.82	56	108839	No Calib		#	
41) Benzene	8.91	78	6104337	114.901	ng		99
42) Carbon Tetrachloride	9.08	117	2340624	98.191	ng		99
43) Cyclohexane	9.21	84	4732641	238.647	ng		90
44) tert-Amyl Methyl Ether	9.59	73	8897423	222.149	ng		94
45) 1,2-Dichloropropane	9.87	63	1791713	140.754	ng		100
46) Bromodichloromethane	10.09	83	2484348	115.478	ng		100
47) Trichloroethene	10.16	130	1763594	103.633	ng		99
48) 1,4-Dioxane	10.12	88	1406707	134.046	ng		95
49) 2,2,4-Trimethylpentane...	10.23	57	7874391	145.831	ng		96
50) Methyl Methacrylate	10.41	100	1343390	263.015	ng		93

Data File : I:\MS09\DATA\2022 11\16\11162215.D Vial: 15
Acq On : 16 Nov 2022 17:20 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 17 07:39:05 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

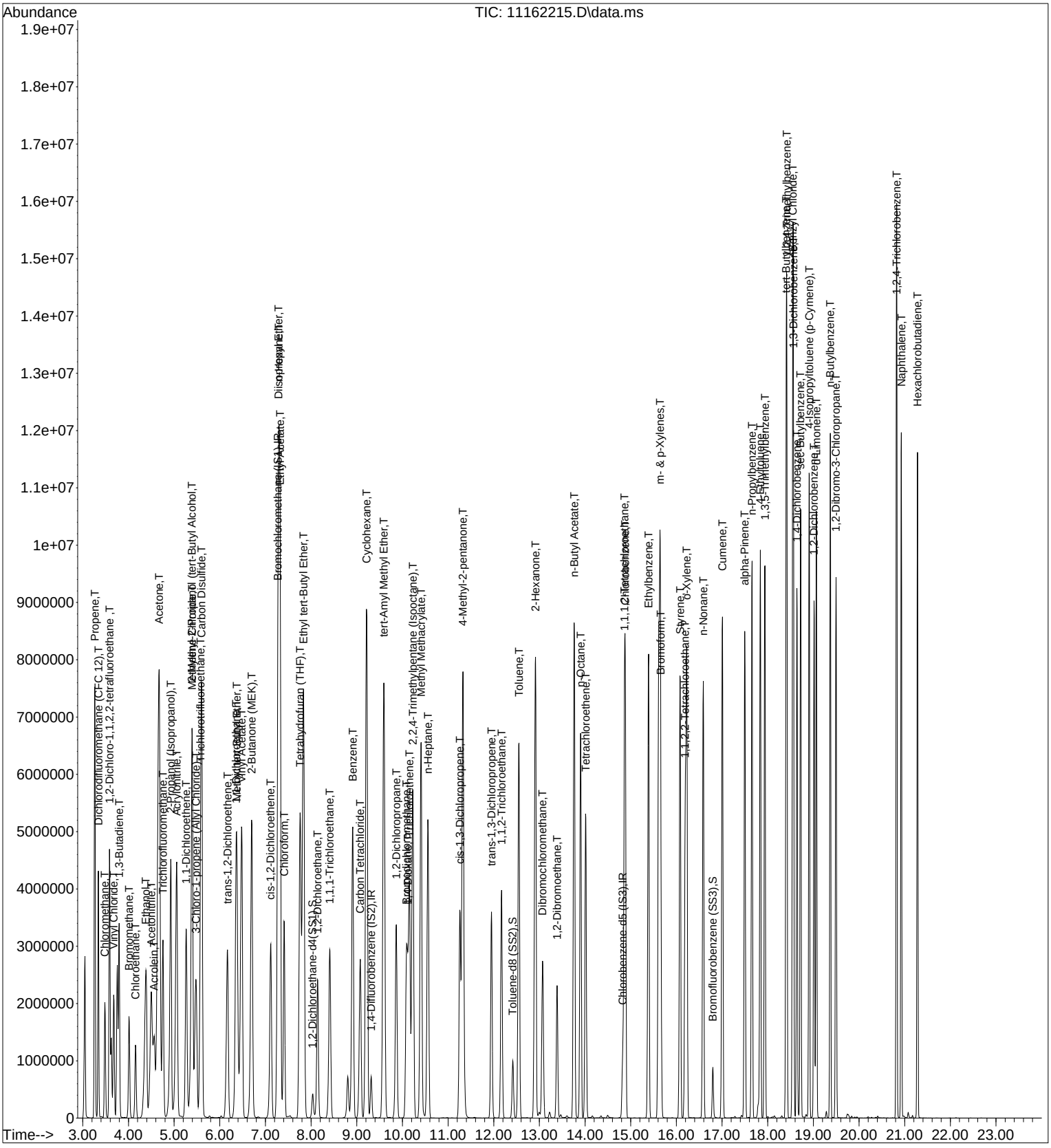
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.56	71	1603361	134.093 ng		96
52) cis-1,3-Dichloropropene	11.26	75	2701869	130.697 ng		99
53) 4-Methyl-2-pentanone	11.33	58	3694583	327.233 ng		84
54) trans-1,3-Dichloropropene	11.95	75	2521327	125.367 ng		99
55) 1,1,2-Trichloroethane	12.17	97	1660049	117.787 ng		100
58) Toluene	12.55	91	6266340	92.383 ng		99
59) 2-Hexanone	12.92	43	8007384	212.714 ng		90
60) Dibromochloromethane	13.07	129	2082475	94.995 ng		99
61) 1,2-Dibromoethane	13.39	107	2022869	101.908 ng		100
62) n-Butyl Acetate	13.76	43	8705988	211.534 ng		92
63) n-Octane	13.90	57	1669409	133.028 ng		94
64) Tetrachloroethene	14.02	166	1987756	91.584 ng		99
65) Chlorobenzene	14.88	112	4442515	96.836 ng		99
66) Ethylbenzene	15.39	91	7175484	92.293 ng		98
67) m- & p-Xylenes	15.64	91	11249096	175.941 ng		98
68) Bromoform	15.66	173	1956283	102.997 ng		99
69) Styrene	16.08	104	4613751	105.570 ng		99
70) o-Xylene	16.23	91	5820341	92.129 ng		98
71) n-Nonane	16.59	43	3512664	105.771 ng		89
72) 1,1,2,2-Tetrachloroethane	16.19	83	3009355	112.907 ng		100
74) Cumene	17.01	105	6992149	89.573 ng		97
75) alpha-Pinene	17.50	93	3886931	102.857 ng		99
76) n-Propylbenzene	17.66	91	8423694	90.400 ng		97
77) 3-Ethyltoluene	17.01	105	6992149	No Calib		
78) 4-Ethyltoluene	17.84	105	6842642	93.587 ng		97
79) 1,3,5-Trimethylbenzene	17.94	105	5837472	90.307 ng		97
80) alpha-Methylstyrene	17.01	118	10985	No Calib	#	
81) 2-Ethyltoluene	17.01	105	6992149	No Calib		
82) 1,2,4-Trimethylbenzene	18.42	105	5364101	81.213 ng		99
83) n-Decane	17.01	58	67719	No Calib		
84) Benzyl Chloride	18.55	91	8877902	203.669 ng		94
85) 1,3-Dichlorobenzene	18.56	146	3399020	84.959 ng		99
86) 1,4-Dichlorobenzene	18.64	146	3763344	94.386 ng		99
87) sec-Butylbenzene	18.72	105	7465597	86.551 ng		97
88) 4-Isopropyltoluene (p-...	18.91	119	6643365	86.211 ng		97
89) 1,2,3-Trimethylbenzene	17.01	105	6992149	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	3653844	92.740 ng		99
91) d-Limonene	19.06	68	2389968	114.548 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.50	157	2900162	198.787 ng		86
93) n-Undecane	17.93	58	144437	No Calib		
94) 1,2,4-Trichlorobenzene	20.82	180	5436640	194.522 ng		99
95) Naphthalene	20.93	128	7967669	112.592 ng		97
96) n-Dodecane	18.91	58	168613	No Calib	#	
97) Hexachlorobutadiene	21.28	225	2130774	98.284 ng		99
98) Cyclohexanone	15.19	55	1447	No Calib	#	
99) tert-Butylbenzene	18.41	119	5298958	80.894 ng		98
100) n-Butylbenzene	19.37	91	6227180	90.826 ng		97
101) 1,1,1,2-Tetrachloroethane	14.86	131	1724347	93.100 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162215.D Vial: 15
Acq On : 16 Nov 2022 17:20 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S35-11152201/S35-11152208 (12/15)

Quant Time: Nov 17 07:39:05 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 16 16:41:45 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162217.D Vial: 16
Acq On : 16 Nov 2022 18:24 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 17 07:54:22 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	156411	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	762080	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	178143	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	321886	11.840	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
57) Toluene-d8 (SS2)	12.40	98	844724	13.008	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
73) Bromofluorobenzene (SS3)	16.79	174	305995	13.475	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
Target Compounds							Qvalue
2) Propene	3.25	42	604715	21.617	ng		100
3) Dichlorodifluoromethan...	3.32	85	856777	23.813	ng		100
4) Chloromethane	3.47	50	783486	22.551	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	411020	24.056	ng		100
6) Vinyl Chloride	3.65	62	717092	23.597	ng		100
7) 1,3-Butadiene	3.77	54	341645	22.383	ng		99
8) Bromomethane	3.99	94	332608	24.832	ng		100
9) Chloroethane	4.13	64	296006	23.862	ng		99
10) Ethanol	4.32	45	1493362	85.280	ng		100
11) Acetonitrile	4.45	41	934430	18.545	ng		100
12) Acrolein	4.53	56	575772	39.946	ng		99
13) Acetone	4.63	58	1761213	111.266	ng		94
14) Trichlorofluoromethane	4.73	101	726989	23.518	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	2732992	46.320	ng		100
16) Acrylonitrile	5.01	53	1318832	43.299	ng		100
17) 1,1-Dichloroethene	5.24	96	370539	24.384	ng		95
18) 2-Methyl-2-Propanol (t...	5.35	59	2579709	50.248	ng		97
19) Methylene Chloride	5.36	84	417523	24.367	ng		91
20) 3-Chloro-1-propene (Al...	5.44	41	717583	19.830	ng		98
21) Trichlorotrifluoroethane	5.56	151	415612	25.722	ng		97
22) Carbon Disulfide	5.58	76	2651924	48.996	ng		100
23) trans-1,2-Dichloroethene	6.14	61	723789	24.479	ng		97
24) 1,1-Dichloroethane	6.32	63	832253	24.490	ng		100
25) Methyl tert-Butyl Ether	6.35	73	1277066	24.359	ng		98
26) Vinyl Acetate	6.44	86	374381	115.165	ng	#	71
27) 2-Butanone (MEK)	6.66	72	572340	49.537	ng	#	86
28) cis-1,2-Dichloroethene	7.08	61	685941	23.961	ng		97
29) Diisopropyl Ether	7.27	87	713230	50.179	ng	#	54
30) Ethyl Acetate	7.28	61	642416	74.056	ng		98
31) n-Hexane	7.28	57	881660	24.432	ng		100
32) Chloroform	7.37	83	808507	24.411	ng		100
34) Tetrahydrofuran (THF)	7.73	72	544582	49.005	ng	#	92
35) Ethyl tert-Butyl Ether	7.80	87	1011742	49.789	ng		94
36) 1,2-Dichloroethane	8.11	62	688931	24.347	ng		100
38) 1,1,1-Trichloroethane	8.38	97	739488	25.142	ng		99
39) Isopropyl Acetate	9.20	61	2068	No Calib		#	
40) 1-Butanol	8.80	56	13451	No Calib		#	
41) Benzene	8.88	78	1637981	25.154	ng		100
42) Carbon Tetrachloride	9.05	117	589846	24.338	ng		100
43) Cyclohexane	9.20	84	1264773	49.541	ng		95
44) tert-Amyl Methyl Ether	9.57	73	2386435	51.259	ng		97
45) 1,2-Dichloropropane	9.84	63	468119	24.286	ng		99
46) Bromodichloromethane	10.06	83	660219	26.096	ng		100
47) Trichloroethene	10.13	130	463778	25.969	ng		100
48) 1,4-Dioxane	10.09	88	358202	26.678	ng		96
49) 2,2,4-Trimethylpentane...	10.21	57	2077542	23.532	ng		98
50) Methyl Methacrylate	10.38	100	345652	55.574	ng		95

Data File : I:\MS09\DATA\2022 11\16\11162217.D Vial: 16
Acq On : 16 Nov 2022 18:24 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 17 07:54:22 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

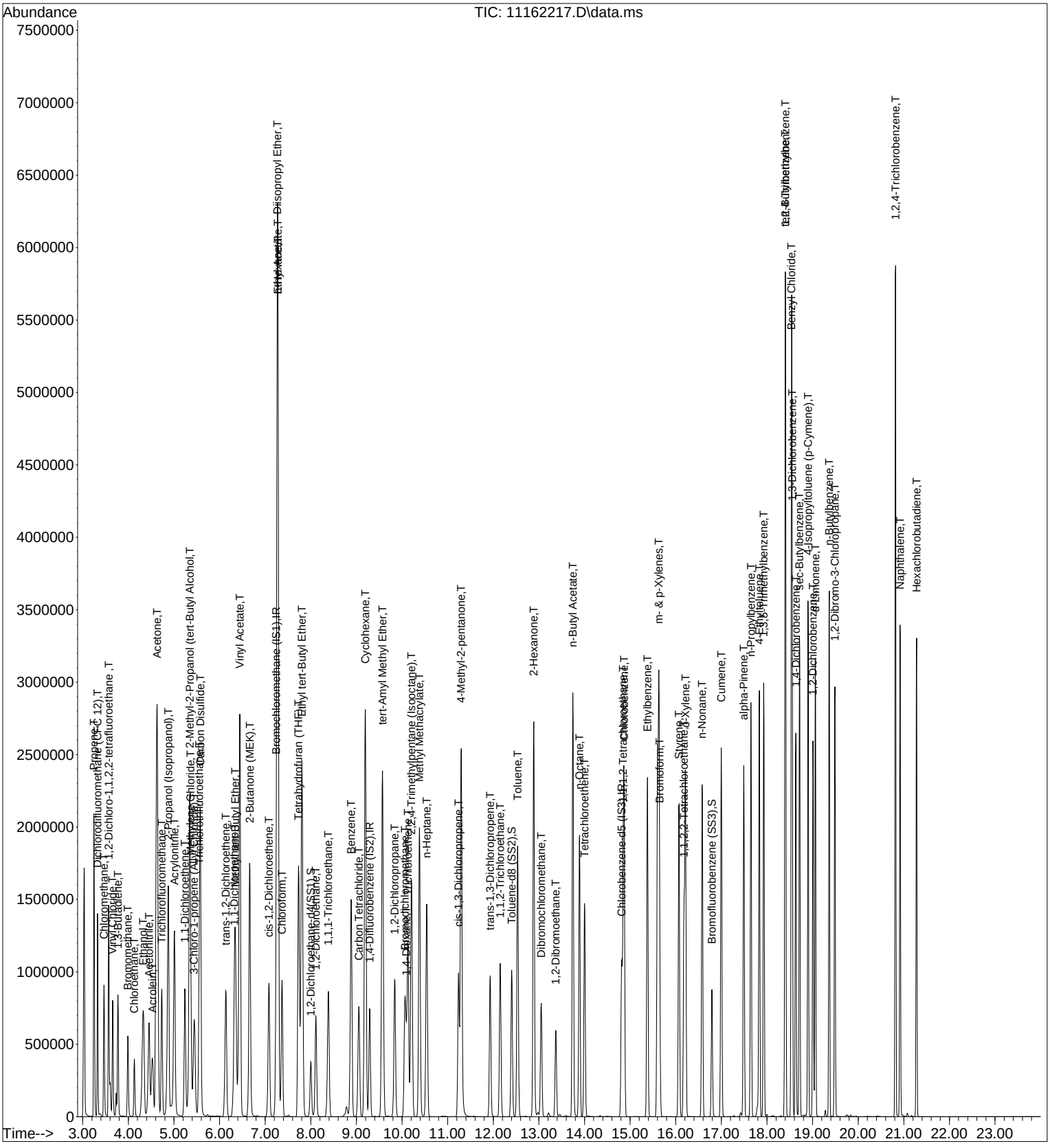
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.54	71	406856	24.246	ng		96
52) cis-1,3-Dichloropropene	11.24	75	702922	26.795	ng		100
53) 4-Methyl-2-pentanone	11.30	58	988404	50.965	ng		96
54) trans-1,3-Dichloropropene	11.93	75	651442	26.472	ng		100
55) 1,1,2-Trichloroethane	12.15	97	435331	25.394	ng		100
58) Toluene	12.53	91	1686998	26.097	ng		100
59) 2-Hexanone	12.89	43	2413074	52.275	ng		98
60) Dibromochloromethane	13.05	129	530063	28.067	ng		100
61) 1,2-Dibromoethane	13.37	107	523073	26.658	ng		100
62) n-Butyl Acetate	13.74	43	2701607	53.236	ng		98
63) n-Octane	13.89	57	438287	25.089	ng		97
64) Tetrachloroethene	14.00	166	525728	27.441	ng		99
65) Chlorobenzene	14.87	112	1177570	27.004	ng		100
66) Ethylbenzene	15.38	91	1980873	26.538	ng		100
67) m- & p-Xylenes	15.63	91	3273838	54.199	ng		99
68) Bromoform	15.65	173	515721	30.818	ng		100
69) Styrene	16.07	104	1214250	27.713	ng		99
70) o-Xylene	16.21	91	1597973	26.804	ng		99
71) n-Nonane	16.58	43	1035575	24.279	ng		97
72) 1,1,2,2-Tetrachloroethane	16.18	83	793079	26.945	ng		100
74) Cumene	17.00	105	1934972	26.913	ng		99
75) alpha-Pinene	17.49	93	1028560	27.498	ng		99
76) n-Propylbenzene	17.65	91	2391841	26.767	ng		99
77) 3-Ethyltoluene	17.00	105	1934972	No Calib			
78) 4-Ethyltoluene	17.83	105	1900725	27.505	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	1643988	27.144	ng		99
80) alpha-Methylstyrene	17.00	118	3334	No Calib		#	
81) 2-Ethyltoluene	17.00	105	1934972	No Calib			
82) 1,2,4-Trimethylbenzene	18.41	105	1723588	28.155	ng		100
83) n-Decane	17.00	58	17578	No Calib			
84) Benzyl Chloride	18.54	91	2996339	66.708	ng		99
85) 1,3-Dichlorobenzene	18.55	146	1055472	29.512	ng		100
86) 1,4-Dichlorobenzene	18.63	146	1030503	28.482	ng		100
87) sec-Butylbenzene	18.71	105	2156797	26.736	ng		100
88) 4-Isopropyltoluene (p-...	18.90	119	1908170	26.421	ng		100
89) 1,2,3-Trimethylbenzene	17.00	105	1934972	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	979177	28.079	ng		100
91) d-Limonene	19.06	68	662516	27.420	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	785635	59.737	ng		95
93) n-Undecane	17.93	58	40727	No Calib			
94) 1,2,4-Trichlorobenzene	20.82	180	1668439	58.653	ng		100
95) Naphthalene	20.92	128	2147967	29.476	ng		100
96) n-Dodecane	18.90	58	52122	No Calib		#	
97) Hexachlorobutadiene	21.28	225	562605	27.914	ng		100
98) Cyclohexanone	15.16	55	187	No Calib		#	
99) tert-Butylbenzene	18.40	119	1677965	27.653	ng		100
100) n-Butylbenzene	19.37	91	1807602	27.404	ng		100
101) 1,1,1,2-Tetrachloroethane	14.85	131	456803	27.669	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 11\16\11162217.D Vial: 16
Acq On : 16 Nov 2022 18:24 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S35-11152201/S35-11152205 (12/15)

Quant Time: Nov 17 07:54:22 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental

LCS Acceptance Criteria

25ng TO-15 ICV STD

	RT
Bromochloromethane (IS1)	7.24
1,4-Difluorobenzene (IS2)	9.29
Chlorobenzene-d5 (IS3)	14.81

Datafile: 11162217.D
Instrument: MS-09
Date: ##########

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
115-07-1	Propene	21.617	26.5	82	56-128	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	23.813	26.5	90	71-112	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	22.551	25.8	87	53-126	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	24.056	25.8	93	62-121	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	23.597	25.5	93	63-123	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	22.383	26.5	84	63-135	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	24.832	25.8	96	71-112	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	23.862	26.0	92	66-117	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	85.280	88.3	97	57-117	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	18.545	22.8	81	59-131	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	39.946	48.5	82	71-123	ok	70-130	ok	62-126	ok
67-64-1	Acetone	111.266	133	84	60-117	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	23.518	26.3	89	71-114	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	46.320	51.5	90	61-124	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	43.299	51.5	84	65-130	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	24.384	27.0	90	74-114	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	50.248	53.3	94	56-135	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	24.367	26.5	92	75-112	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	19.830	26.8	74	57-127	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	25.722	27.0	95	73-114	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	48.996	53.3	92	70-113	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	24.479	27.0	91	76-119	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	24.490	27.0	91	70-114	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	24.359	26.8	91	72-118	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	115.165	70.5	163	56-137	FAIL	70-130	FAIL	56-139	FAIL
78-93-3	2-Butanone	49.537	52.3	95	74-121	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	23.961	26.8	89	73-117	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	50.179	52.5	96	58-124	ok	70-130	ok	70-117	ok
141-78-6	Ethyl Acetate	74.056	107	69	59-161	ok	70-130	FAIL	65-128	ok
110-54-3	n-Hexane	24.432	26.5	92	55-130	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	24.411	26.5	92	71-114	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	49.005	51.5	95	73-114	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	49.789	53.5	93	76-119	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	24.347	27.0	90	71-119	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	25.142	26.3	96	73-119	ok	70-130	ok	68-125	ok
108-21-4	Isopropyl Acetate	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	65-129	#N/A
71-36-3	1-Butanol	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-133	#N/A
71-43-2	Benzene	25.154	27.0	93	72-113	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	24.338	25.8	94	67-123	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	49.541	52.8	94	70-119	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	51.259	53.5	96	74-120	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	24.286	26.5	92	70-118	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	26.096	27.0	97	74-119	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	25.969	26.5	98	74-115	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	26.678	26.5	101	77-124	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	23.532	27.0	87	65-120	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	55.574	53.3	104	78-126	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	24.246	26.5	91	70-119	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	26.795	27.0	99	81-126	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	50.965	54.0	94	73-129	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

25ng TO-15 ICV STD

	RT
Bromochloromethane (IS1)	7.24
1,4-Difluorobenzene (IS2)	9.29
Chlorobenzene-d5 (IS3)	14.81

Datafile: 11162217.D
Instrument: MS-09
Date: #########

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
10061-02-6	trans-1,3-Dichloropropene	26.472	25.8	103	80-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	25.394	26.5	96	78-117	ok	70-130	ok	73-119	ok
108-88-3	Toluene	26.097	26.5	98	70-118	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	52.275	53.3	98	74-132	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	28.067	27.0	104	69-137	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	26.658	26.0	103	76-128	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	53.236	51.3	104	75-134	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	25.089	26.8	94	68-120	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	27.441	26.5	104	63-130	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	27.004	26.5	102	70-118	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	26.538	26.3	101	71-123	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	54.199	52.5	103	67-127	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	30.818	26.8	115	65-149	ok	70-130	ok	66-139	ok
100-42-5	Styrene	27.713	26.5	105	76-132	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	26.804	26.5	101	69-124	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	24.279	26.5	92	64-127	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	26.945	26.5	102	69-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	26.913	26.5	102	69-125	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	27.498	27.3	101	68-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	26.767	26.8	100	70-127	ok	70-130	ok	69-123	ok
620-14-4	3-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-123	#N/A
622-96-8	4-Ethyltoluene	27.505	27.0	102	69-127	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	27.144	26.3	103	66-129	ok	70-130	ok	67-130	ok
98-83-9	alpha-Methylstyrene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	67-128	#N/A
611-14-3	2-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	66-121	#N/A
95-63-6	1,2,4-Trimethylbenzene	28.155	26.0	108	63-142	ok	70-130	ok	66-132	ok
124-18-5	n-Decane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	70-118	#N/A
100-44-7	Benzyl Chloride	66.708	52.5	127	73-145	ok	70-130	ok	50-147	ok
541-73-1	1,3-Dichlorobenzene	29.512	26.3	112	67-136	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	28.482	26.5	107	63-134	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	26.736	26.3	102	68-130	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	26.421	26.3	100	60-139	ok	70-130	ok	67-130	ok
526-73-8	1,2,3-Trimethylbenzene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	60-134	#N/A
95-50-1	1,2-Dichlorobenzene	28.079	26.5	106	64-139	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	27.420	26.3	104	63-137	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	59.737	52.0	115	72-145	ok	70-130	ok	73-133	ok
1120-21-4	n-Undecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	69-123	#N/A
120-82-1	1,2,4-Trichlorobenzene	58.653	51.5	114	62-154	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	29.476	27.0	109	62-156	ok	70-130	ok	57-138	ok
112-40-3	n-Dodecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-147	#N/A
87-68-3	Hexachloro-1,3-butadiene	27.914	26.3	106	55-142	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	61-132	#N/A
98-06-6	tert-Butylbenzene	27.653	26.3	105	61-140	ok	70-130	ok	65-124	ok
104-51-8	n-Butylbenzene	27.404	26.3	104	70-131	ok	70-130	ok	66-130	ok

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 12\29\12292232.D Vial: 2
Acq On : 29 Dec 2022 20:16 Operator: SC
Sample : CCV2 R9122922 5.0ng Inst : MS09
Misc : S35-10052202/S35-11302201 (12/30)

Quant Time: Dec 30 03:10:44 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/30/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	116	-0.03
2	T	Propene	2.236	1.793	19.8	93	0.00
3	T	Dichlorodifluoromethane (CF	2.875	2.529	12.0	112	0.00
4	T	Chloromethane	2.777	2.655	4.4	125	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.365	1.245	8.8	120	0.00
6	T	Vinyl Chloride	2.429	1.861	23.4	94	0.00
7	T	1,3-Butadiene	1.220	1.094	10.3	126	0.00
8	T	Bromomethane	1.070	0.971	9.3	130	0.00
9	T	Chloroethane	0.991	0.992	-0.1	129	-0.01
10	T	Ethanol	1.399	1.405	-0.4	146	-0.05
11	T	Acetonitrile	4.027	3.510	12.8	115	-0.03
12	T	Acrolein	1.152	1.134	1.6	131	-0.02
13	T	Acetone	1.265	1.147	9.3	123	-0.03
14	T	Trichlorofluoromethane	2.470	2.406	2.6	127	-0.01
15	T	2-Propanol (Isopropanol)	4.715	4.415	6.4	131	-0.05
16	T	Acrylonitrile	2.434	2.341	3.8	121	-0.03
17	T	1,1-Dichloroethene	1.214	1.278	-5.3	141	-0.02
18	T	2-Methyl-2-Propanol (tert-B	4.103	3.713	9.5	112	-0.05
19	T	Methylene Chloride	1.369	1.301	5.0	128	-0.04
20	T	3-Chloro-1-propene (Allyl C	2.892	2.600	10.1	103	-0.03
21	T	Trichlorotrifluoroethane	1.291	1.128	12.6	115	-0.01
22	T	Carbon Disulfide	4.326	4.684	-8.3	145	-0.01
23	T	trans-1,2-Dichloroethene	2.363	2.185	7.5	117	-0.03
24	T	1,1-Dichloroethane	2.716	2.578	5.1	123	-0.03
25	T	Methyl tert-Butyl Ether	4.190	0.618	85.3#	19#	-0.01
26	T	Vinyl Acetate	0.260	0.247	5.0	124	-0.02
27	T	2-Butanone (MEK)	0.923	0.857	7.2	118	-0.03
28	T	cis-1,2-Dichloroethene	2.288	2.100	8.2	116	-0.03
29	T	Diisopropyl Ether	1.136	0.996	12.3	113	-0.02
30	T	Ethyl Acetate	0.693	0.676	2.5	117	-0.03
31	T	n-Hexane	2.884	2.660	7.8	113	-0.02
32	T	Chloroform	2.647	2.372	10.4	116	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	2.173	1.885	13.3	97	-0.02
34	T	Tetrahydrofuran (THF)	0.888	0.812	8.6	119	-0.02
35	T	Ethyl tert-Butyl Ether	1.624	1.406	13.4	112	-0.02
36	T	1,2-Dichloroethane	2.261	1.926	14.8	108	-0.02
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	101	-0.02
38	T	1,1,1-Trichloroethane	0.482	0.444	7.9	106	-0.02
39	T	Isopropyl Acetate	0.000	0.000	0.0	174	-0.01
40	T	1-Butanol	0.000	0.000	0.0	117	0.00
41	T	Benzene	1.068	1.099	-2.9	122	-0.02
42	T	Carbon Tetrachloride	0.398	0.353	11.3	102	-0.02
43	T	Cyclohexane	0.419	0.414	1.2	117	-0.02
44	T	tert-Amyl Methyl Ether	0.764	0.778	-1.8	116	-0.02
45	T	1,2-Dichloropropane	0.316	0.330	-4.4	121	-0.02
46	T	Bromodichloromethane	0.415	0.419	-1.0	116	-0.02
47	T	Trichloroethene	0.293	0.288	1.7	116	-0.02
48	T	1,4-Dioxane	0.220	0.224	-1.8	116	-0.02
49	T	2,2,4-Trimethylpentane (Iso	1.448	1.486	-2.6	119	-0.02
50	T	Methyl Methacrylate	0.102	0.109	-6.9	120	-0.02
51	T	n-Heptane	0.275	0.282	-2.5	120	-0.02
52	T	cis-1,3-Dichloropropene	0.430	0.453	-5.3	119	-0.02
53	T	4-Methyl-2-pentanone	0.318	0.331	-4.1	116	-0.02
54	T	trans-1,3-Dichloropropene	0.404	0.434	-7.4	118	-0.01
55	T	1,1,2-Trichloroethane	0.281	0.285	-1.4	118	-0.01

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2022 12\29\12292232.D Vial: 2
Acq On : 29 Dec 2022 20:16 Operator: SC
Sample : CCV2 R9122922 5.0ng Inst : MS09
Misc : S35-10052202/S35-11302201 (12/30)

Quant Time: Dec 30 03:10:44 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	91	0.00
57	S	Toluene-d8 (SS2)	4.557	4.961	-8.9	102	-0.01
58	T	Toluene	4.536	4.889	-7.8	118	-0.01
59	T	2-Hexanone	3.239	3.515	-8.5	112	-0.01
60	T	Dibromochloromethane	1.325	1.438	-8.5	117	-0.01
61	T	1,2-Dibromoethane	1.377	1.509	-9.6	117	-0.01
62	T	n-Butyl Acetate	3.561	4.102	-15.2	119	0.00
63	T	n-Octane	1.226	1.347	-9.9	119	0.00
64	T	Tetrachloroethene	1.344	1.403	-4.4	116	0.00
65	T	Chlorobenzene	3.060	3.251	-6.2	118	0.00
66	T	Ethylbenzene	5.238	5.748	-9.7	119	0.00
67	T	m- & p-Xylenes	4.238	4.573	-7.9	117	0.00
68	T	Bromoform	1.174	1.287	-9.6	118	0.00
69	T	Styrene	3.074	3.351	-9.0	117	0.00
70	T	o-Xylene	4.183	4.516	-8.0	117	0.00
71	T	n-Nonane	2.993	3.209	-7.2	113	0.00
72	T	1,1,2,2-Tetrachloroethane	2.065	2.270	-9.9	118	0.00
73	S	Bromofluorobenzene (SS3)	1.593	1.659	-4.1	98	0.00
74	T	Cumene	5.045	5.435	-7.7	116	0.00
75	T	alpha-Pinene	2.625	2.773	-5.6	113	0.00
76	T	n-Propylbenzene	6.270	6.850	-9.3	118	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	116	0.00
78	T	4-Ethyltoluene	4.849	5.223	-7.7	118	0.00
79	T	1,3,5-Trimethylbenzene	4.250	4.552	-7.1	115	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	156	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	116	0.00
82	T	1,2,4-Trimethylbenzene	4.296	4.693	-9.2	115	0.00
83	T	n-Decane	0.000	0.000	0.0	124	0.00
84	T	Benzyl Chloride	3.152	3.719	-18.0	120	0.00
85	T	1,3-Dichlorobenzene	2.510	2.680	-6.8	116	0.00
86	T	1,4-Dichlorobenzene	2.539	2.748	-8.2	122	0.00
87	T	sec-Butylbenzene	5.660	6.127	-8.3	116	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.068	5.389	-6.3	116	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	116	0.00
90	T	1,2-Dichlorobenzene	2.447	2.627	-7.4	118	0.00
91	T	d-Limonene	1.695	1.837	-8.4	115	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.923	1.052	-14.0	120	0.00
93	T	n-Undecane	0.000	0.000	0.0	121	0.00
94	T	1,2,4-Trichlorobenzene	1.996	2.359	-18.2	127	0.00
95	T	Naphthalene	5.113	6.254	-22.3	130	0.00
96	T	n-Dodecane	0.000	0.000	0.0	154	0.00
97	T	Hexachlorobutadiene	1.414	1.569	-11.0	123	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-15.18#
99	T	tert-Butylbenzene	4.258	4.525	-6.3	113	0.00
100	T	n-Butylbenzene	4.628	5.168	-11.7	119	0.00
101	T	1,1,1,2-Tetrachloroethane	1.158	1.232	-6.4	114	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292232.D Vial: 2
Acq On : 29 Dec 2022 20:16 Operator: SC
Sample : CCV2 R9122922 5.0ng Inst : MS09
Misc : S35-10052202/S35-11302201 (12/30)

Quant Time: Dec 30 03:10:44 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

12/30/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	166961	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.28	114	749088	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	171413	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	314719	10.845	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.80%				
57) Toluene-d8 (SS2)	12.39	98	850337	13.608	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
73) Bromofluorobenzene (SS3)	16.79	174	284447	13.018	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
Target Compounds							Qvalue
2) Propene	3.26	42	125703	4.210	ng		97
3) Dichlorodifluoromethan...	3.34	85	179062	4.662	ng		99
4) Chloromethane	3.47	50	182601	4.924	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	86478	4.742	ng		99
6) Vinyl Chloride	3.66	62	125550	3.870	ng		99
7) 1,3-Butadiene	3.77	54	77471	4.755	ng		99
8) Bromomethane	3.99	94	66123	4.625	ng		100
9) Chloroethane	4.13	64	68247	5.154	ng		100
10) Ethanol	4.28	45	323625	17.313	ng		99
11) Acetonitrile	4.43	41	213336	3.966	ng		100
12) Acrolein	4.51	56	146152	9.499	ng		94
13) Acetone	4.61	58	403737	23.895	ng		92
14) Trichlorofluoromethane	4.73	101	167097	5.064	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	604391	9.596	ng		99
16) Acrylonitrile	4.98	53	320540	9.859	ng		99
17) 1,1-Dichloroethene	5.23	96	92190	5.683	ng		99
18) 2-Methyl-2-Propanol (t...	5.30	59	523208	9.547	ng		95
19) Methylene Chloride	5.33	84	92109	5.036	ng		95
20) 3-Chloro-1-propene (Al...	5.43	41	184084	4.766	ng		99
21) Trichlorotrifluoroethane	5.55	151	81340	4.716	ng		97
22) Carbon Disulfide	5.57	76	666352	11.533	ng		99
23) trans-1,2-Dichloroethene	6.12	61	157575	4.993	ng		100
24) 1,1-Dichloroethane	6.30	63	184194	5.078	ng		100
25) Methyl tert-Butyl Ether	6.35	73	44148	0.789	ng		99
26) Vinyl Acetate	6.42	86	46240	13.325	ng	#	92
27) 2-Butanone (MEK)	6.64	72	119595	9.697	ng		94
28) cis-1,2-Dichloroethene	7.06	61	148652	4.865	ng		100
29) Diisopropyl Ether	7.25	87	141078	9.298	ng	#	84
30) Ethyl Acetate	7.25	61	190520	20.575	ng		98
31) n-Hexane	7.27	57	186563	4.843	ng		99
32) Chloroform	7.34	83	167903	4.749	ng		100
34) Tetrahydrofuran (THF)	7.72	72	110561	9.320	ng		94
35) Ethyl tert-Butyl Ether	7.79	87	199066	9.177	ng		97
36) 1,2-Dichloroethane	8.09	62	138936	4.600	ng		99
38) 1,1,1-Trichloroethane	8.37	97	139570	4.828	ng		98
39) Isopropyl Acetate	9.19	61	321	No Calib		#	
40) 1-Butanol	8.80	56	6392	No Calib		#	
41) Benzene	8.87	78	352303	5.504	ng		99
42) Carbon Tetrachloride	9.04	117	109951	4.616	ng		98
43) Cyclohexane	9.18	84	260328	10.374	ng		99
44) tert-Amyl Methyl Ether	9.56	73	494452	10.805	ng		97
45) 1,2-Dichloropropane	9.83	63	103948	5.486	ng		100
46) Bromodichloromethane	10.05	83	134206	5.397	ng		100
47) Trichloroethene	10.12	130	90526	5.157	ng		100
48) 1,4-Dioxane	10.08	88	71033	5.382	ng		100
49) 2,2,4-Trimethylpentane...	10.20	57	480722	5.540	ng		95
50) Methyl Methacrylate	10.37	100	69227	11.323	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292232.D Vial: 2
Acq On : 29 Dec 2022 20:16 Operator: SC
Sample : CCV2 R9122922 5.0ng Inst : MS09
Misc : S35-10052202/S35-11302201 (12/30)

Quant Time: Dec 30 03:10:44 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

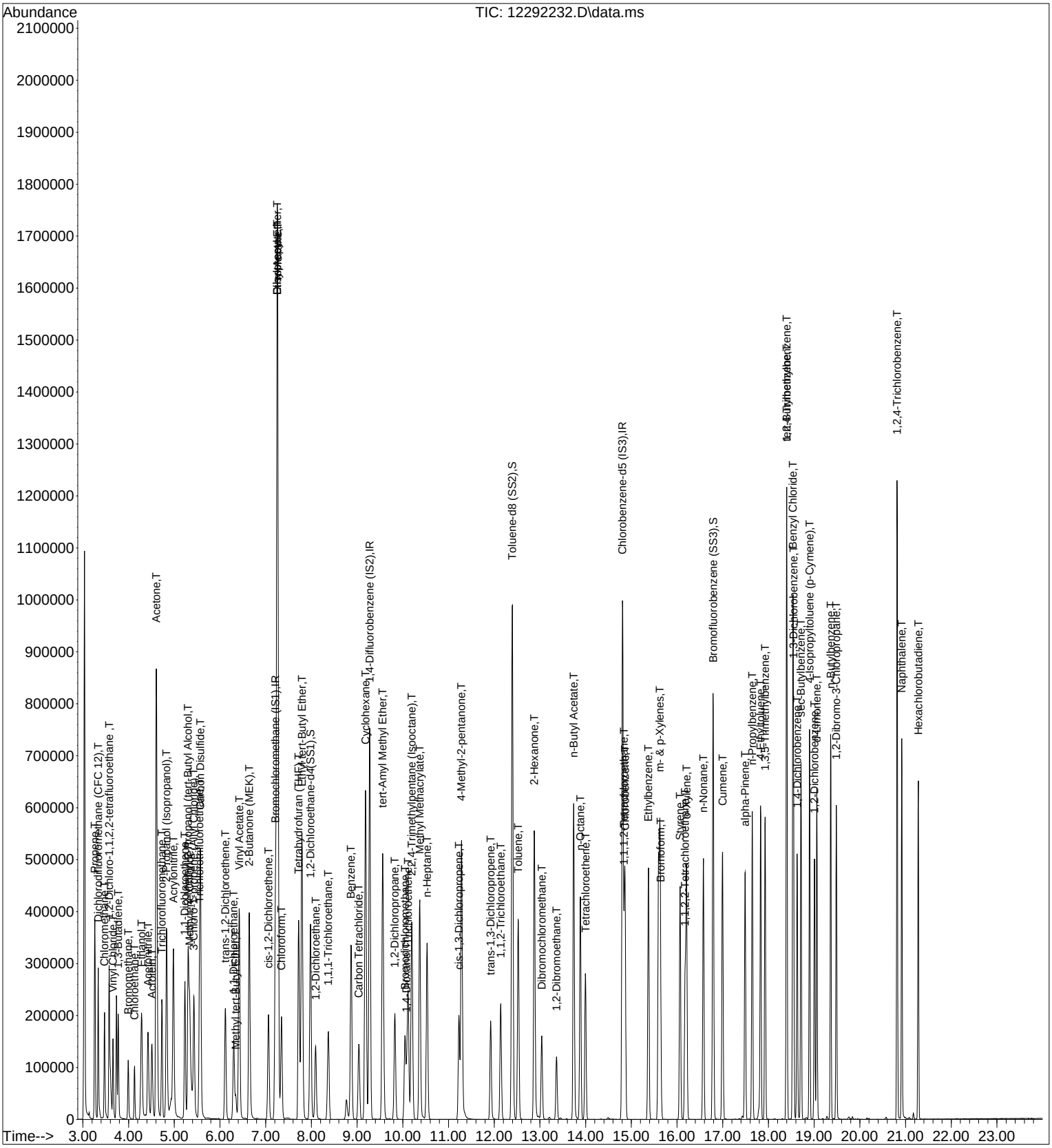
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.53	71	89568	5.430	ng		99
52) cis-1,3-Dichloropropene	11.23	75	146438	5.679	ng		99
53) 4-Methyl-2-pentanone	11.28	58	212916	11.169	ng		97
54) trans-1,3-Dichloropropene	11.92	75	132503	5.478	ng		100
55) 1,1,2-Trichloroethane	12.14	97	90612	5.377	ng		99
58) Toluene	12.52	91	351952	5.658	ng		98
59) 2-Hexanone	12.88	43	510910	11.503	ng		98
60) Dibromochloromethane	13.04	129	106500	5.861	ng		99
61) 1,2-Dibromoethane	13.36	107	107610	5.700	ng		100
62) n-Butyl Acetate	13.74	43	576613	11.809	ng		99
63) n-Octane	13.89	57	98799	5.878	ng		98
64) Tetrachloroethene	14.00	166	101980	5.532	ng		99
65) Chlorobenzene	14.86	112	236255	5.631	ng		99
66) Ethylbenzene	15.37	91	413819	5.762	ng		97
67) m- & p-Xylenes	15.62	91	658440	11.329	ng		97
68) Bromoform	15.64	173	94454	5.866	ng		99
69) Styrene	16.07	104	243519	5.776	ng		99
70) o-Xylene	16.21	91	328223	5.722	ng		98
71) n-Nonane	16.58	43	233254	5.683	ng		98
72) 1,1,2,2-Tetrachloroethane	16.17	83	164967	5.825	ng		99
74) Cumene	17.00	105	398711	5.763	ng		99
75) alpha-Pinene	17.49	93	207262	5.759	ng		100
76) n-Propylbenzene	17.65	91	502512	5.844	ng		98
77) 3-Ethyltoluene	17.00	105	398711	No Calib			
78) 4-Ethyltoluene	17.83	105	390316	5.870	ng		100
79) 1,3,5-Trimethylbenzene	17.93	105	330825	5.677	ng		98
80) alpha-Methylstyrene	17.00	118	832	No Calib		#	
81) 2-Ethyltoluene	17.00	105	398711	No Calib			
82) 1,2,4-Trimethylbenzene	18.40	105	337883	5.736	ng		99
83) n-Decane	17.00	58	4181	No Calib			
84) Benzyl Chloride	18.54	91	540608	12.508	ng		97
85) 1,3-Dichlorobenzene	18.55	146	194757	5.659	ng		100
86) 1,4-Dichlorobenzene	18.63	146	199745	5.737	ng		99
87) sec-Butylbenzene	18.71	105	445270	5.736	ng		99
88) 4-Isopropyltoluene (p-...	18.90	119	391657	5.636	ng		99
89) 1,2,3-Trimethylbenzene	17.00	105	398711	No Calib			
90) 1,2-Dichlorobenzene	19.01	146	192737	5.744	ng		99
91) d-Limonene	19.06	68	134799	5.798	ng		98
92) 1,2-Dibromo-3-Chloropr...	19.48	157	151483	11.971	ng		97
93) n-Undecane	17.92	58	9149	No Calib			
94) 1,2,4-Trichlorobenzene	20.81	180	338112	12.353	ng		99
95) Naphthalene	20.92	128	471670	6.727	ng		99
96) n-Dodecane	18.90	58	14623	No Calib		#	
97) Hexachlorobutadiene	21.28	225	114051	5.881	ng		100
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.40	119	328873	5.633	ng		99
100) n-Butylbenzene	19.36	91	379184	5.974	ng		99
101) 1,1,1,2-Tetrachloroethane	14.84	131	89511	5.635	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2022 12\29\12292232.D Vial: 2
Acq On : 29 Dec 2022 20:16 Operator: SC
Sample : CCV2 R9122922 5.0ng Inst : MS09
Misc : S35-10052202/S35-11302201 (12/30)

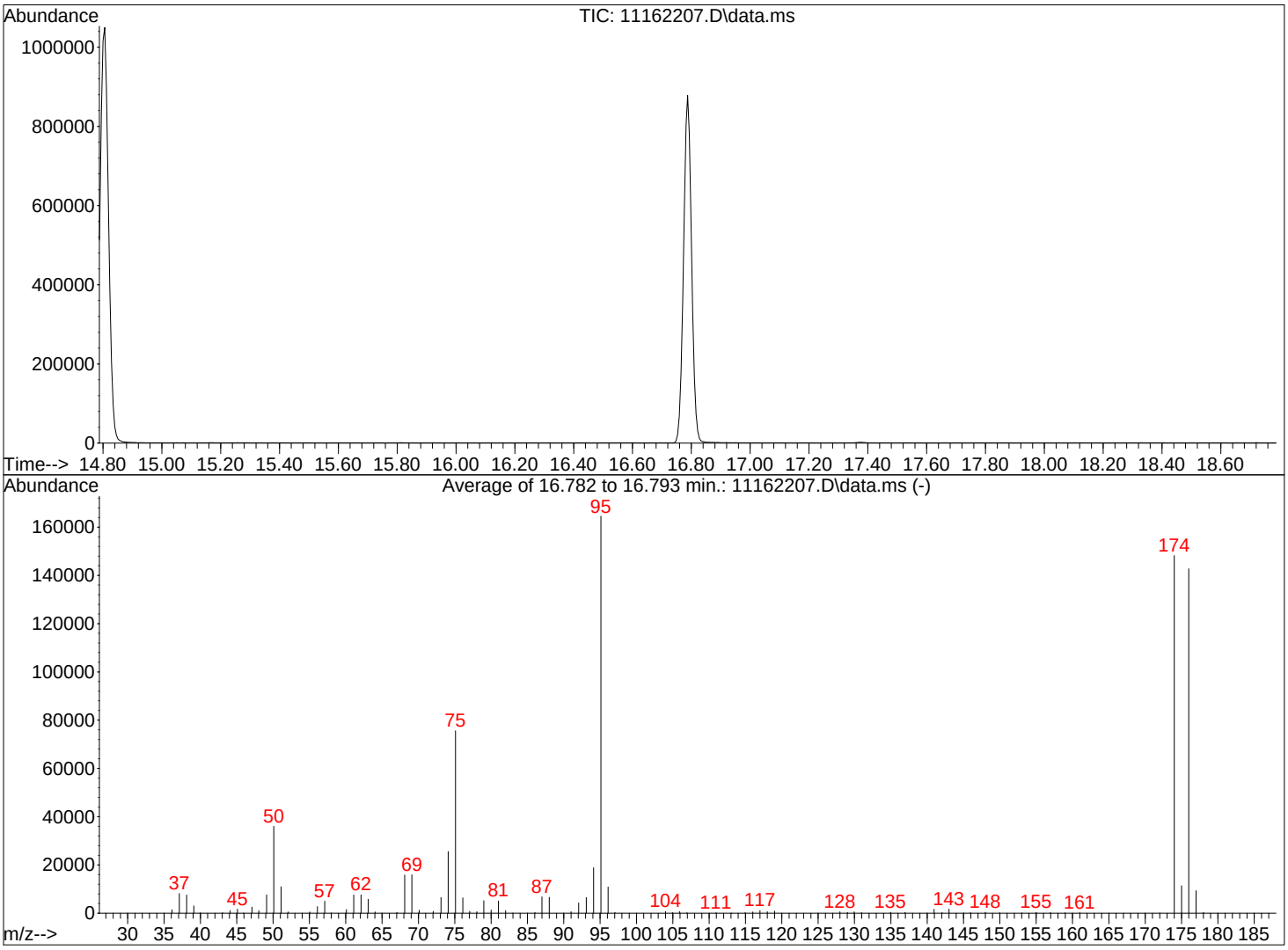
Quant Time: Dec 30 03:10:44 2022
Quant Method : I:\MS09\METHODS\R9111622.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 17 07:45:06 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS09\DATA\2022 11\16\
Data File : 11162207.D
Acq On : 16 Nov 2022 13:04
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S35-11152201
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R9111622.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Nov 16 16:41:45 2022



AutoFind: Scans 2448, 2449, 2450; Background Corrected with Scan 2439

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	21.9	35968	PASS
75	95	30	66	45.9	75581	PASS
95	95	100	100	100.0	164544	PASS
96	95	5	9	6.6	10824	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.1	148224	PASS
175	174	4	9	7.7	11388	PASS
176	174	93	101	96.3	142741	PASS
177	176	5	9	6.5	9340	PASS

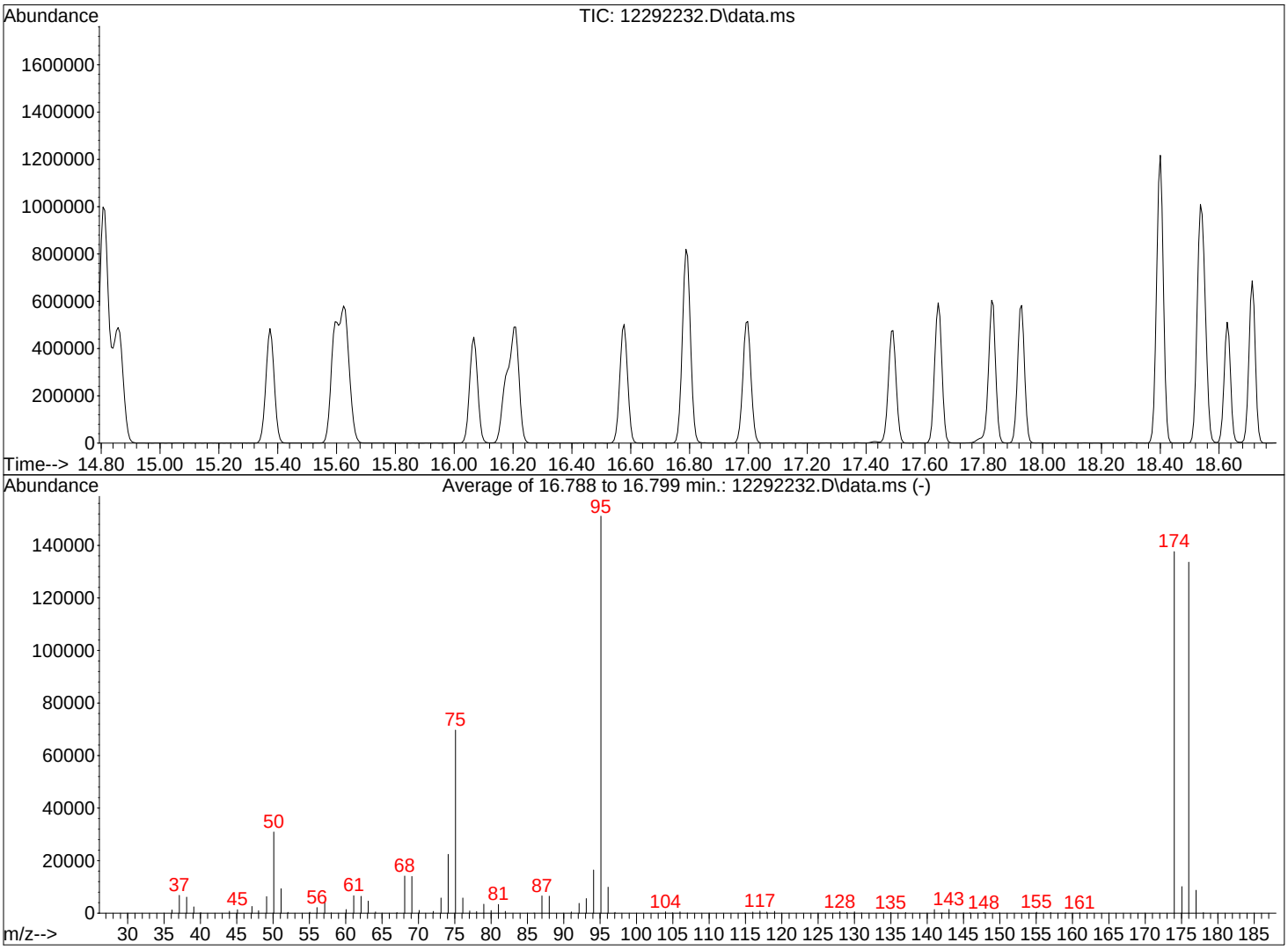
11/16/22

Data Path : I:\MS09\DATA\2022 12\29\
Data File : 12292232.D
Acq On : 29 Dec 2022 20:16
Operator : SC
Sample : CCV2 R9122922 5.0ng
Misc : S35-10052202/S35-11302201 (12/30)
ALS Vial : 2 Sample Multiplier: 1

12/30/22

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R9111622.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Nov 17 07:45:06 2022



AutoFind: Scans 2449, 2450, 2451; Background Corrected with Scan 2440

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.4	30893	PASS
75	95	30	66	46.1	69704	PASS
95	95	100	100	100.0	151125	PASS
96	95	5	9	6.5	9890	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	91.1	137627	PASS
175	174	4	9	7.4	10142	PASS
176	174	93	101	97.1	133592	PASS
177	176	5	9	6.5	8740	PASS

Injection Log

Directory: J:\MS09\DATA\2022_11\16\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
7	11/16/22 13:04	11162207.D	12.5ng TO-15 BFB STD	S35-11152201	SC	2	pass
8	11/16/22 13:36	11162208.D	0.1ng TO-15 ICAL STD	S35-11152201/S35-11152210 (12/15)	SC	13	
9	11/16/22 14:08	11162209.D	0.2ng TO-15 ICAL STD	S35-11152201/S35-11152210 (12/15)	SC	13	
10	11/16/22 14:40	11162210.D	0.5ng TO-15 ICAL STD	S35-11152201/S35-11152209 (12/15)	SC	14	
11	11/16/22 15:12	11162211.D	1.0ng TO-15 ICAL STD	S35-11152201/S35-11152209 (12/15)	SC	14	
12	11/16/22 15:44	11162212.D	5.0ng TO-15 ICAL STD	S35-11152201/S35-11152209 (12/15)	SC	14	
13	11/16/22 16:16	11162213.D	25ng TO-15 ICAL STD	S35-11152201/S35-11152208 (12/15)	SC	15	
14	11/16/22 16:48	11162214.D	50ng TO-15 ICAL STD	S35-11152201/S35-11152208 (12/15)	SC	15	
15	11/16/22 17:20	11162215.D	100ng TO-15 ICAL STD	S35-11152201/S35-11152208 (12/15)	SC	15	
16	11/16/22 17:52	11162216.D	Blank	S35-11152201	SC	2	
17	11/16/22 18:24	11162217.D	25ng TO-15 ICV STD	S35-11152201/S35-11152205 (12/15)	SC	16	pass
18	11/16/22 18:56	11162218.D	25ng TO-15 ICV STD	S35-11152201/S35-10172205 (11/16)	SC	2	not used

11/18/22

Injection Log

Directory: I:\MS09\DATA\2023_01\02\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	12/29/22 19:44	12292231.D	CCV2 C9122922_25ng	S35-10052202/S35-12192207 (1/18)	SC	3	Passed
2	12/29/22 20:16	12292232.D	CCV2 R9122922_5.0ng	S35-10052202/S35-11302201 (12/30)	SC	2	Passed
3	12/29/22 20:48	12292233.D	Blank	S35-10052202	SC	1	
4	12/29/22 21:20	12292234.D	MB2 R9122922_1000mL	S35-10052202	SC	2	Passed
5	12/29/22 21:52	12292235.D	xxxLCS2 R9122922_5.0ng	S35-10052202/S35-12092205 (1/8)	SC	2	not used
6	12/29/22 22:24	12292236.D	xxxLCSD2 R9122922_5.0ng	S35-10052202/S35-12092205 (1/8)	SC	2	not used
7	12/29/22 22:56	12292237.D	P2205677-001 (1000mL)	S35-10052202	SC	9	
8	12/29/22 23:27	12292238.D	P2205677-002 (1000mL)	S35-10052202	SC	10	
9	12/29/22 23:59	12292239.D	P2205677-003 (1000mL)	S35-10052202	SC	11	
10	12/30/22 0:31	12292240.D	P2205677-004 (1000mL)	S35-10052202	SC	12	
11	12/30/22 1:03	12292241.D	P2205677-005 (1000mL)	S35-10052202	SC	13	
12	12/30/22 1:35	12292242.D	P2205839-004 (100mL)	S35-10052202	SC	14	
13	12/30/22 2:07	12292243.D	P2205839-005 (100mL)	S35-10052202	SC	15	
14	12/30/22 2:39	12292244.D	P2205839-006 (100mL)	S35-10052202	SC	16	
15	12/30/22 7:25	12292245.D	P2205802-001 (1000mL)	S35-10052202	SC	4	
16	12/30/22 7:58	12292246.D	P2205802-002 (1000mL)	S35-10052202	SC	5	
17	12/30/22 8:30	12292247.D	P2205802-003 (1000mL)	S35-10052202	SC	6	
18	12/30/22 9:02	12292248.D	P2205802-004 (1000mL)	S35-10052202	SC	7	
19	12/30/22 9:34	12292249.D	P2205802-005 (1000mL)	S35-10052202	SC	8	
20	12/30/22 10:06	12292250.D	LCS2 R9122922_25ng	S35-10052202/S35-12092205 (1/8)	SC	2	Passed
21	12/30/22 10:38	12292251.D	LCSD2 R9122922_25ng	S35-10052202/S35-12092205 (1/8)	SC	2	Passed
22	12/30/22 11:10	12292252.D	RL R9122922_0.5ng	S35-10052202/S35-12072201 (1/6)	SC	16	Passed
23	12/30/22 11:42	12292253.D	system	S35-10052202/S35-12152201 (1/14)	SC	2	
24	12/30/22 12:38	12292254.D	P2205725-001 (400mL)	S35-10052202	SC	9	
25	12/30/22 13:10	12292255.D	P2205725-002 (400mL)	S35-10052202	SC	10	
26	12/30/22 13:42	12292256.D	P2205725-003Dil (25mL)	S35-10052202	SC	11	
27	12/30/22 14:14	12292257.D	P2205725-003dupDil (25mL)	S35-10052202	SC	11	
28	12/30/22 14:46	12292258.D	P2205725-004 (400mL)	S35-10052202	SC	12	
29	12/30/22 15:17	12292259.D	P2205725-005 (400mL)	S35-10052202	SC	13	
30	12/30/22 15:49	12292260.D	P2205868-001 (3.5mL)	S35-10052202	SC	1	
31	12/30/22 16:35	12292261.D	P2205725-004Dil (40mL)	S35-10052202	SC	12	
32	12/30/22 17:07	12292262.D	P2205725-005 (400mL)	S35-10052202	SC	14	
33	12/30/22 17:39	12292263.D	P2205725-003 (250mL)	S35-10052202	SC	11	
34	12/30/22 18:11	12292264.D	P2205725-003dup (250mL)	S35-10052202	SC	11	Passed
35	12/30/22 18:43	12292265.D	P2205725-005Dil (40mL)	S35-10052202	SC	14	
36	12/30/22 19:15	12292266.D	P2205868-001 (20mL)	S35-10052202	SC	15	
37	12/30/22 19:47	12292267.D	System	S35-10052202/S35-12152201 (1/14)	SC	2	
	CCV, LCS/LCSD : MTBE out low (RL checked - pass)						
	LCS/LCSD : ethanol out high, within method						1/3/23

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 30236

Batch Started By: on 11/10/22 0313
Finished Cleaning By: KYLAN.MALLOY on 11/14/22 1046

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AS00786	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/14/22 0907		
AS01114	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/14/22 0907		
AS00665	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/14/22 0942		
AS01597	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/13/22 0848		
AS01743	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/13/22 0848		
AS01357	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/13/22 0848		
AS00323	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/5/22 0128		
AS00987	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY				MS21-11/11/22
AS00618	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/14/22 0942		
AS01735	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/13/22 0848		
AS01175	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/14/22 0907		
AS01599	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/14/22 0907		
AS00685	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/5/22 0128		
AS00640	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/5/22 0128		
AS01728	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/5/22 0128		
AS01256	11/10/22	11/11/22	Pass w/ Conditions	-14.3	11/14/22 1046	KYLAN.MALLOY	-14.0	12/5/22 0128		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 11\11\
Data File : 11112206.D
Acq On : 11 Nov 2022 17:26
Operator : KM
Sample : 111122 AS00987 30236
Misc : SIM + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

11/15/22

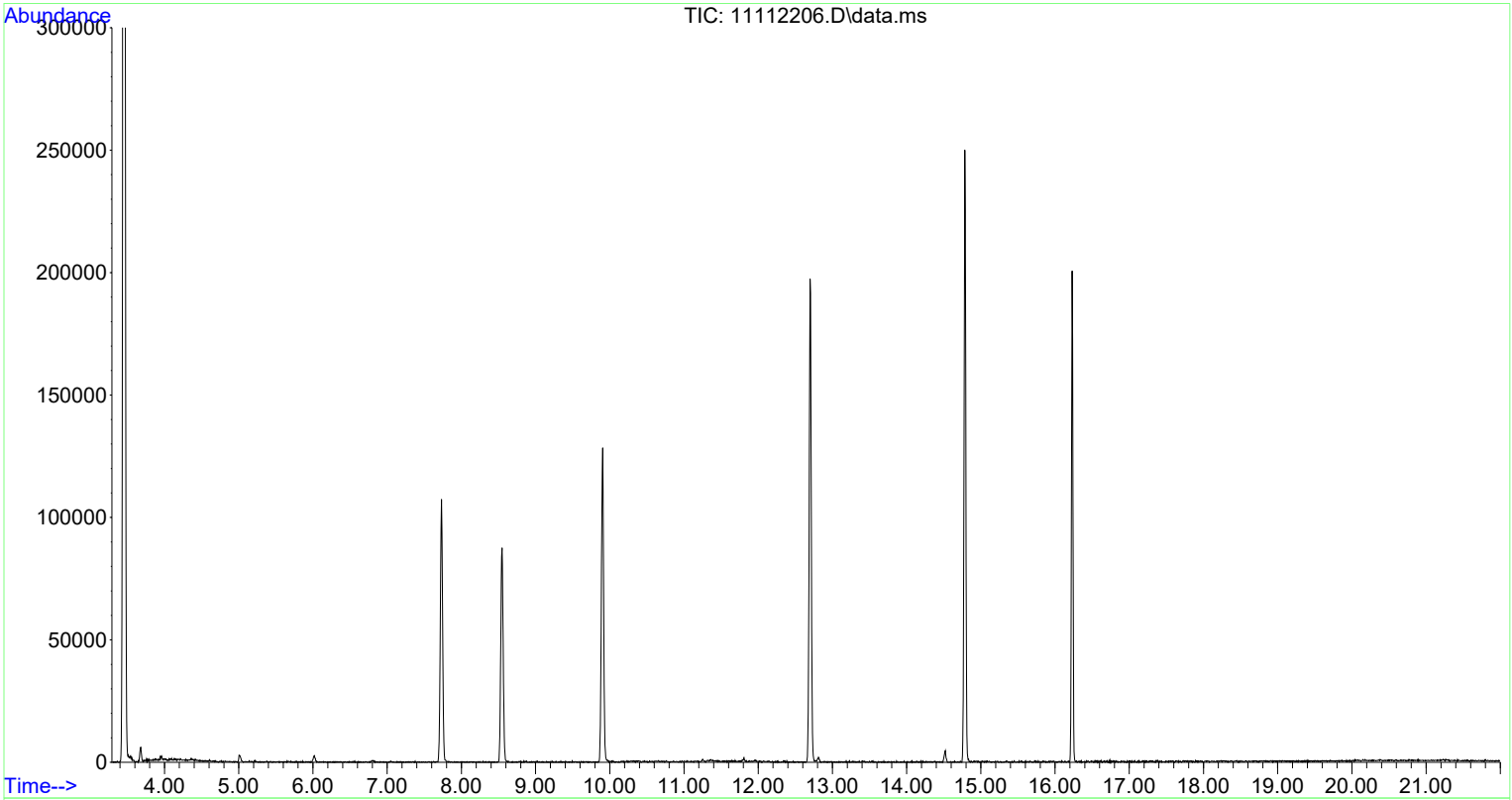
Quant Time: Nov 14 07:41:22 2022
Quant Method : I:\MS21\Methods\F21103122.M
Quant Title : EPA TO-15
QLast Update : Tue Nov 01 07:50:09 2022
Response via : Initial Calibration

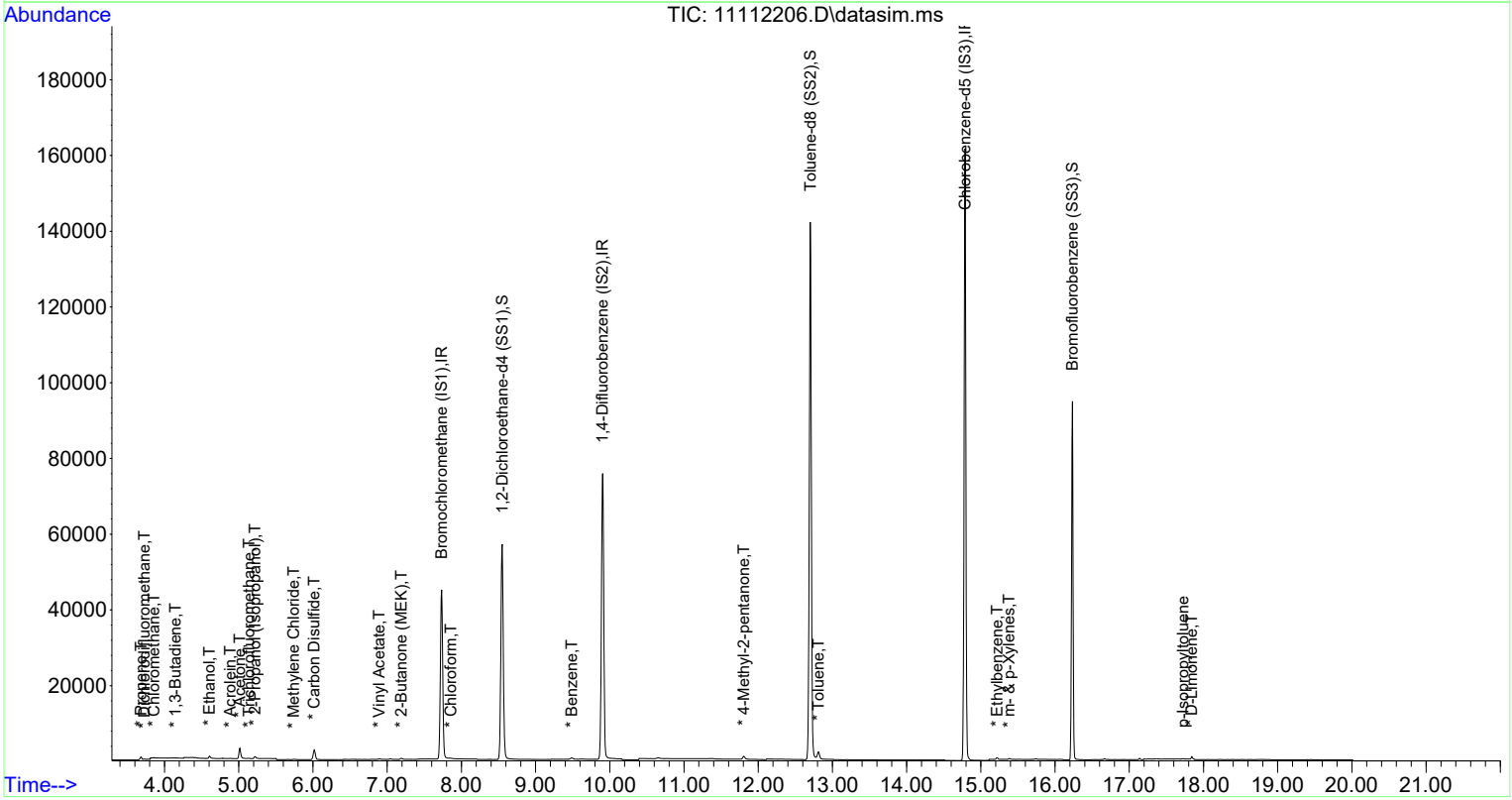
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.734	130	55901	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.901	114	136278	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	25676	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.550	65	86187	996.12	pg		0.00
Spiked Amount 1000.000			Recovery = 99.61%				
57) Toluene-d8 (SS2)	12.702	98	155014	978.10	pg		0.00
Spiked Amount 1000.000			Recovery = 97.81%				
74) Bromofluorobenzene (SS3)	16.233	174	67666	930.61	pg		0.00
Spiked Amount 1000.000			Recovery = 93.06%				
Target Compounds							Qvalue
2] * Propene	3.682	42	294	9.237	pg	#	19
3] * Dichlorodifluoromethane	3.725	85	113	1.190	pg	#	42
4] * Chloromethane	3.856	50	98	3.758	pg	#	40
7] * 1,3-Butadiene	4.147	54	6	0.290	pg	#	6
10] * Ethanol	4.606	45	644	25.450	pg		99
12] * Acrolein	4.884	56	91	5.715	pg		92
13] * Acetone	5.014	58	1242	38.806	pg		91
14] * Trichlorofluoromethane	5.138	101	69	0.502	pg	#	18
15] * 2-Propanol (Isopropa...	5.219	45	538	9.388	pg	#	73
19] * Methylene Chloride	5.739	84	92	1.547	pg		94
22] * Carbon Disulfide	6.016	76	4844	22.906	pg		97
26] * Vinyl Acetate	6.892	86	55	11.782	pg	#	24
27] * 2-Butanone (MEK)	7.189	72	136	6.568	pg		98
32] * Chloroform	7.857	83	57	0.508	pg	#	17
39] * Benzene	9.484	78	379	3.590	pg		99
53] * 4-Methyl-2-pentanone	11.804	58	428	24.920	pg		97
58] * Toluene	12.810	91	2041	11.419	pg		98
66] * Ethylbenzene	15.220	91	523	5.226	pg		99
67] * m- & p-Xylenes	15.381	91	280	3.478	pg		91
91] p-Isopropyltoluene	17.724	119	74	0.853	pg	#	49
93] * D-Limonene	17.843	68	290	12.944	pg		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS21\DATA\2022 11\11\
Data File : 11112206.D
Acq On : 11 Nov 2022 17:26
Operator : KM
Sample : 111122 AS00987 30236
Misc : SIM + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 14 07:41:22 2022
Quant Method : I:\MS21\Methods\F21103122.M
Quant Title : EPA TO-15
QLast Update : Tue Nov 01 07:50:09 2022
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-07
Cycles: 30
Batch: 30347

Batch Started By: **ANAKLOWYCZ on 12/6/22 0854**
Finished Cleaning By: **ALESAICHERRE on 12/7/22 0450**

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuum	Date/Time	User	Vacuum	Date/Time	User	
AC02132	12/6/22	12/6/22	Pass w/ Conditions	-14.3	12/7/22 0450	ALESAICHERRE	-14.0	12/14/22 1149		ms21-12/06/22
AS00092	12/6/22		Pass w/ Conditions	-14.3	12/7/22 0450	ALESAICHERRE	-14.0	12/14/22 0942		
AC01782	12/6/22		Pass w/ Conditions	-14.3	12/7/22 0450	ALESAICHERRE	-14.0	12/14/22 0907		
AS01373	12/6/22		Pass w/ Conditions	-14.3	12/7/22 0450	ALESAICHERRE	-14.0	12/14/22 0907		
AS01090	12/6/22		Pass w/ Conditions	-14.3	12/7/22 0450	ALESAICHERRE	-14.0	12/14/22 0942		
AS01317	12/6/22		Pass w/ Conditions	-14.3	12/7/22 0450	ALESAICHERRE	-14.0	12/14/22 0942		
AC02289	12/6/22		Pass w/ Conditions	-14.3	12/7/22 0450	ALESAICHERRE	-14.0	12/14/22 0907		
AC02344	12/6/22		Pass w/ Conditions	-14.3	12/7/22 0450	ALESAICHERRE	-14.0	12/14/22 0907		
AC01918	12/6/22		Pass w/ Conditions	-14.3	12/7/22 0450	ALESAICHERRE	-14.0	12/14/22 0907		
AS01012	12/6/22		Pass w/ Conditions	-14.3	12/7/22 0450	ALESAICHERRE	-14.0	12/14/22 0907		

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2022 12\06\
Data File : 12062212.D
Acq On : 6 Dec 2022 19:31
Operator : KM
Sample : 120622 AC02132 30347
Misc : LL + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 7 Sample Multiplier: 1

12/7/22

Quant Time: Dec 07 04:36:26 2022
Quant Method : I:\MS21\Methods\F21103122.M
Quant Title : EPA TO-15
QLast Update : Tue Nov 01 07:50:09 2022
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane (IS1)	7.734	130	77848	1000.00	pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.901	114	211978	1000.00	pg		0.00
56) Chlorobenzene-d5 (IS3)	14.787	54	38242	1000.00	pg		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4 ...	8.550	65	122635	1017.79	pg		0.00
Spiked Amount 1000.000			Recovery = 101.78%				
57) Toluene-d8 (SS2)	12.702	98	228736	969.02	pg		0.00
Spiked Amount 1000.000			Recovery = 96.90%				
74) Bromofluorobenzene (SS3)	16.233	174	114537	1057.62	pg		0.00
Spiked Amount 1000.000			Recovery = 105.76%				
Target Compounds							Qvalue
3] * Dichlorodifluoromethane	3.725	85	116	0.877	pg	#	42
4] * Chloromethane	3.851	50	256	7.048	pg		89
7] * 1,3-Butadiene	4.142	54	43	1.491	pg	#	6
10] * Ethanol	4.596	45	8319	236.076	pg		99
11] * Acetonitrile	4.768	41	392	3.596	pg	#	76
12] * Acrolein	4.878	56	2895	130.551	pg		99
13] * Acetone	5.008	58	74644	1674.717	pg	#	32
14] * Trichlorofluoromethane	5.126	101	54	0.282	pg	#	18
15] * 2-Propanol (Isopropa...	5.207	45	8481	106.268	pg		97
18] tert-Butanol	5.754	59	4002	49.946	pg	#	87
19] * Methylene Chloride	5.735	84	197	2.379	pg		96
22] * Carbon Disulfide	6.017	76	12634	42.901	pg		100
26] * Vinyl Acetate	6.888	86	3367	517.935	pg	#	21
27] * 2-Butanone (MEK)	7.169	72	5081	176.216	pg		96
31] * n-Hexane	7.812	57	54	1.012	pg	#	49
39] * Benzene	9.490	78	721	4.391	pg		98
44] TAME	10.190	87	59	2.240	pg	#	1
47] * Trichloroethene	10.699	130	4571	64.221	pg		99
48] * 1,4-Dioxane	10.764	88	154	4.610	pg	#	68
49] Isooctane	10.786	56	138	2.319	pg		99
51] * n-Heptane	11.083	71	66	1.894	pg	#	41
53] * 4-Methyl-2-pentanone	11.793	58	906	33.913	pg		87
58] * Toluene	12.810	91	3347	12.573	pg		100
59] * 2-Hexanone	13.173	58	976	30.190	pg		92
66] * Ethylbenzene	15.214	91	90	0.604	pg	#	42
67] * m- & p-Xylenes	15.381	91	236	1.968	pg		90
70] * Styrene	15.721	104	91	1.239	pg	#	29
71] * o-Xylene	15.822	91	127	1.112	pg	#	29
75] * Cumene	16.358	105	50	0.275	pg	#	48
77] * n-Propylbenzene	16.817	91	77	0.421	pg	#	52
79] * 4-Ethyltoluene	16.904	105	52	0.400	pg	#	44
83] tert-Butylbenzene	17.373	134	96	3.726	pg	#	1
84] * 1,2,4-Trimethylbenzene	17.352	105	98	0.909	pg		99
91] p-Isopropyltoluene	17.724	119	150	1.161	pg	#	49
98] * Naphthalene	19.439	128	379	3.958	pg		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS21\DATA\2022 12\06\
Data File : 12062212.D
Acq On : 6 Dec 2022 19:31
Operator : KM
Sample : 120622 AC02132 30347
Misc : LL + TICS (Sig #1); S35-10142203 (Sig #2)
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 07 04:36:26 2022
Quant Method : I:\MS21\Methods\F21103122.M
Quant Title : EPA TO-15
QLast Update : Tue Nov 01 07:50:09 2022
Response via : Initial Calibration